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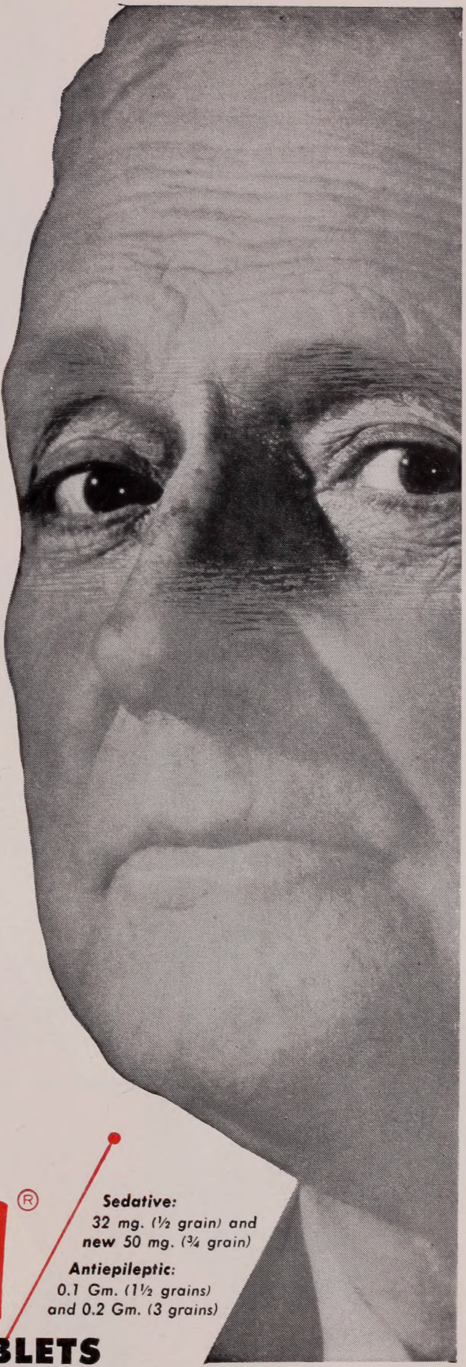

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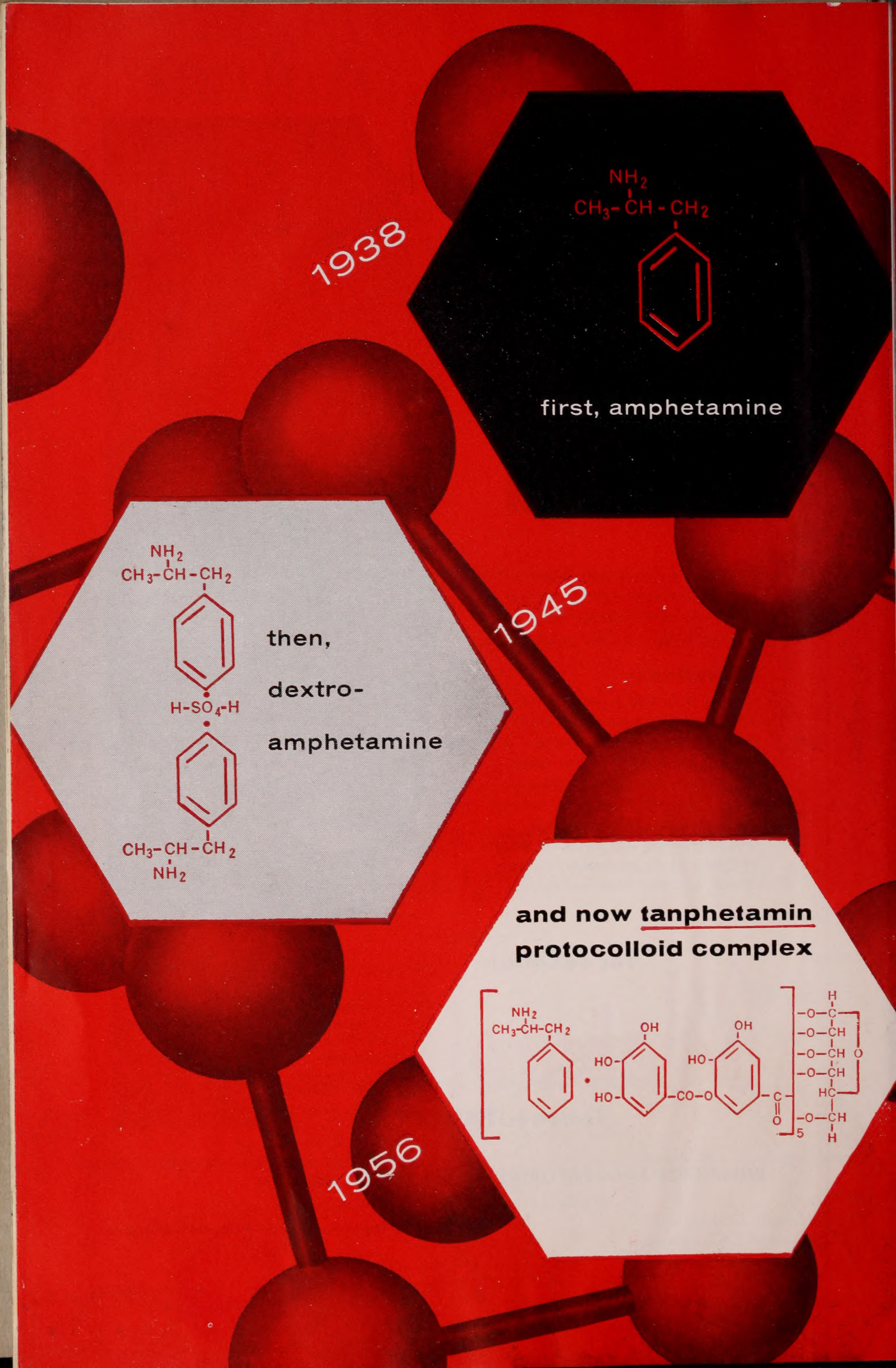
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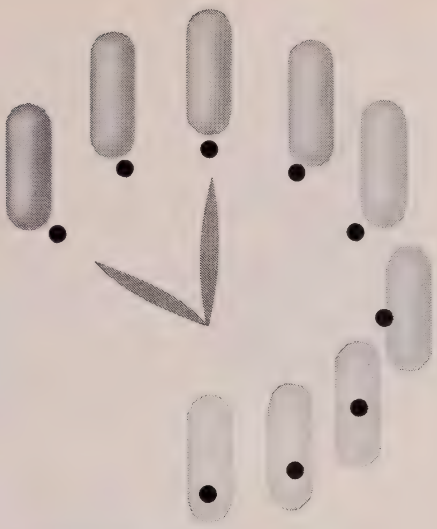

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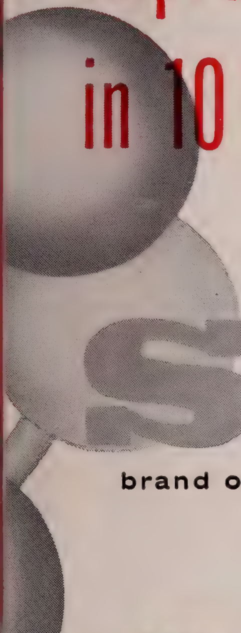

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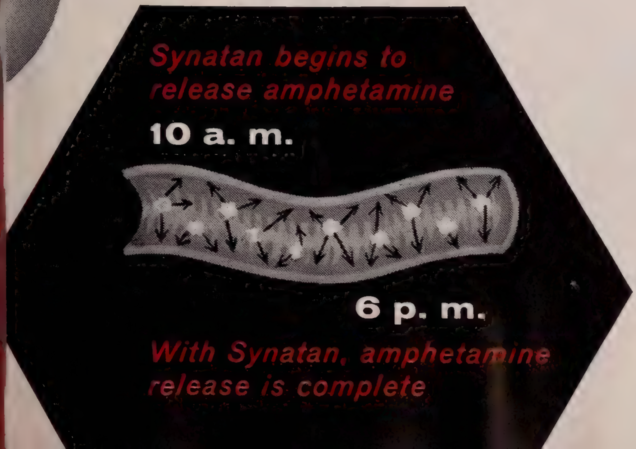
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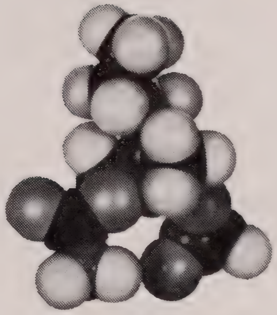

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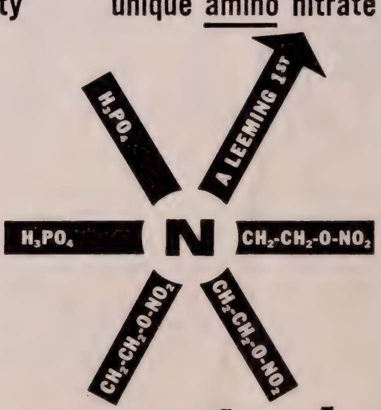

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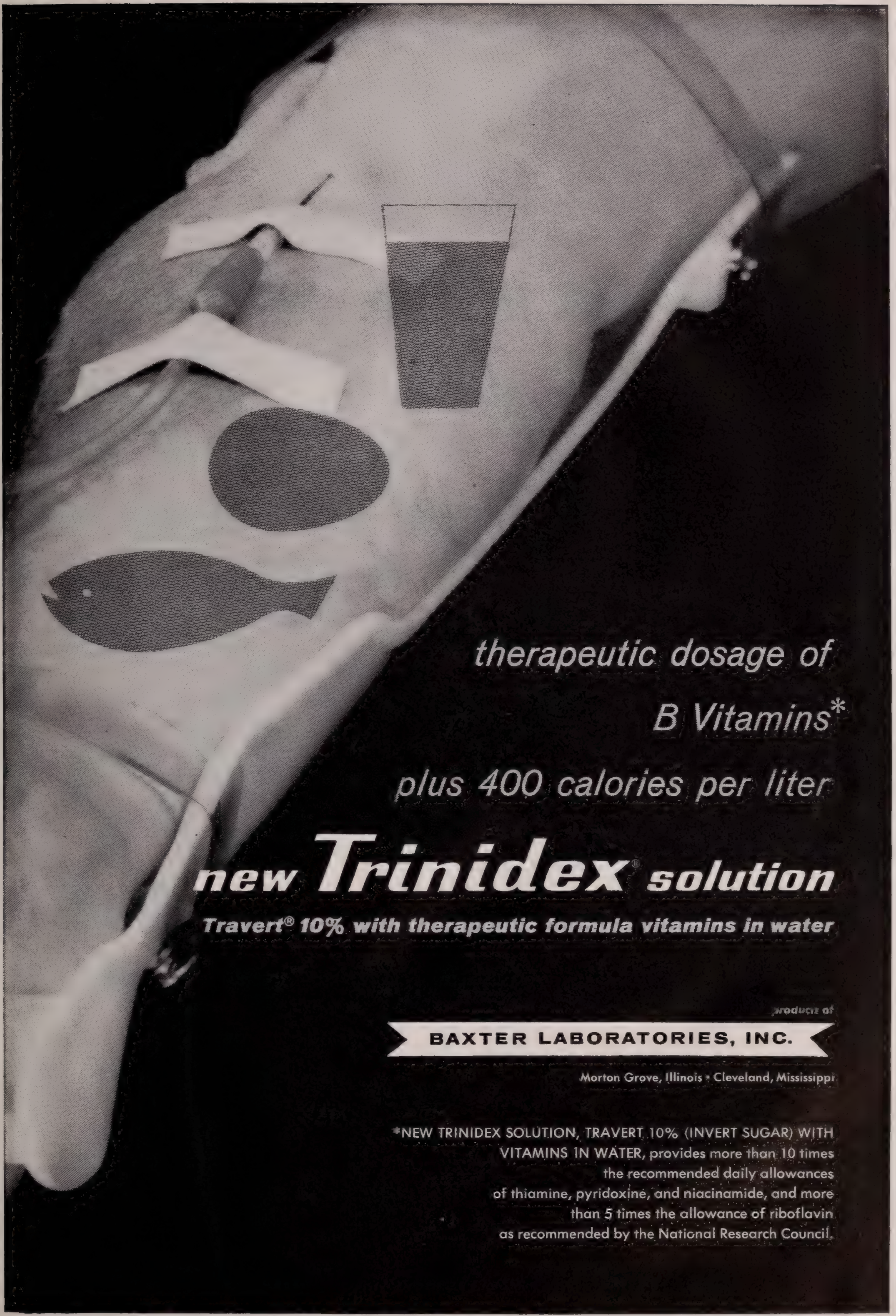

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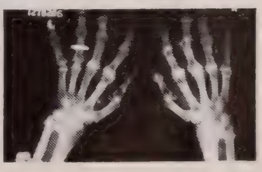

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assures full potency

Separate packaging of dry vitamins and diluent (mixed immediately before injection) assures the patient a more effective dose. May also be added to standard IV solutions.

Dosage: 2 cc. daily.

Each 2 cc. dose contains:

Thiamine HCl (B_1)	10 mg.
Riboflavin (B_2)	10 mg.
Niacinamide	50 mg.
Pyridoxine HCl (B_6)	5 mg.
Sodium Pantothenate	10 mg.
Ascorbic Acid (C)	300 mg.
Vitamin B_{12}	15 mcgm.
Folic Acid	3 mg.

Lederle

LEDERLE LABORATORIES DIVISION
AMERICAN *Cyanamid* COMPANY
PEARL RIVER, NEW YORK

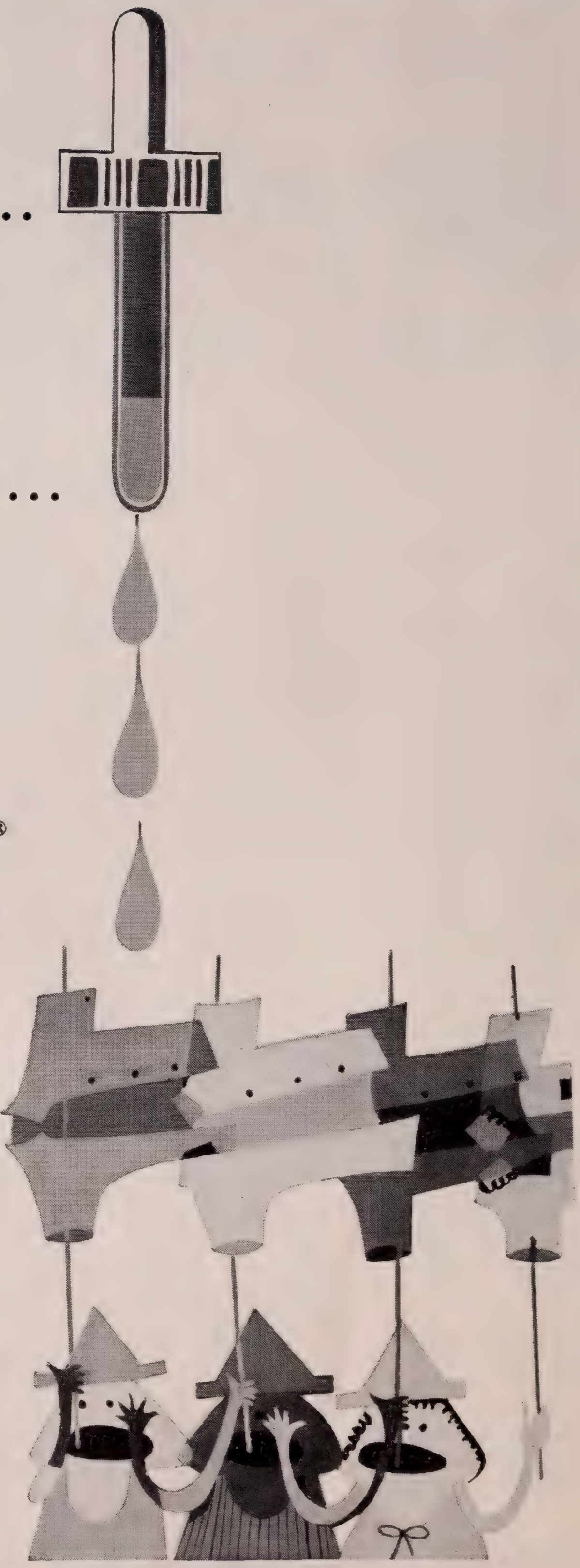
*REG. U.S. PAT. OFF.

just a few drops.....

Diatussin lessens the frequency and severity of cough. Non-narcotic *Diatussin* avoids central depression and gastro-intestinal upset.

and kids surrender...

Rebellious youngsters just naturally give in to easy-to-take *Diatussin*—a few drops directly on the tongue or in milk, cereal or dessert.



drop-dosage
DIATUSSIN®
non-narcotic cough control
Bischoff
DIVISION

Dosage: Children under 5 years...2 to 4 drops, 3 or 4 times daily. Over 5 years...5 drops, 3 or 4 times daily. Severe cases...2 drops every 2 or 3 hours. Adults...up to 7 drops, 3 or 4 times daily.

Formula: Extracts of Thyme and Drosera in an alcoholic menstruum. (Alcohol content 22%)

Supplied: in 6-cc. bottles with dropper.

Also available:

Diatussin Syrup contains in each teaspoonful 2 drops of the extract in an aqueous syrup vehicle—alcohol content 5%.

AMES COMPANY, INC.
ELKHART, INDIANA

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from

Lederle

the first practical

MUMPS VACCINE

An effective immunizing antigen for prevention of mumps in children or adults where indicated. Immunizes for about one year.

Packages: 2 cc. vial (1 immunization)
10 cc. vial (5 immunizations)

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AMERICAN *Cyanamid* COMPANY PEARL RIVER, NEW YORK

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IN STOCK—

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You are assured alterations and fittings as you prescribe because of our interest, and experience gained in serving the medical profession for more than 40 years.

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integrated relief . . .
mild sedation
visceral spasmolysis
mucosal analgesia

TABLETS *(yellow, coated), each containing 50 mg. Trasentine® hydrochloride (adiphenine hydrochloride CIBA) and 20 mg. phenobarbital.*

C I B A
Summit, N. J.

2/2228M

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"Premarin"® (conjugated estrogens, equine) is preferred by thousands of physicians for effective estrogen replacement therapy.

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New York, N. Y. • Montreal, Canada

5509

NEW PRODUCT

Eskaserp*

reserpine, S.K.F.

Spansule†

sustained release capsules, S.K.F.

0.25 mg., 0.50 mg.

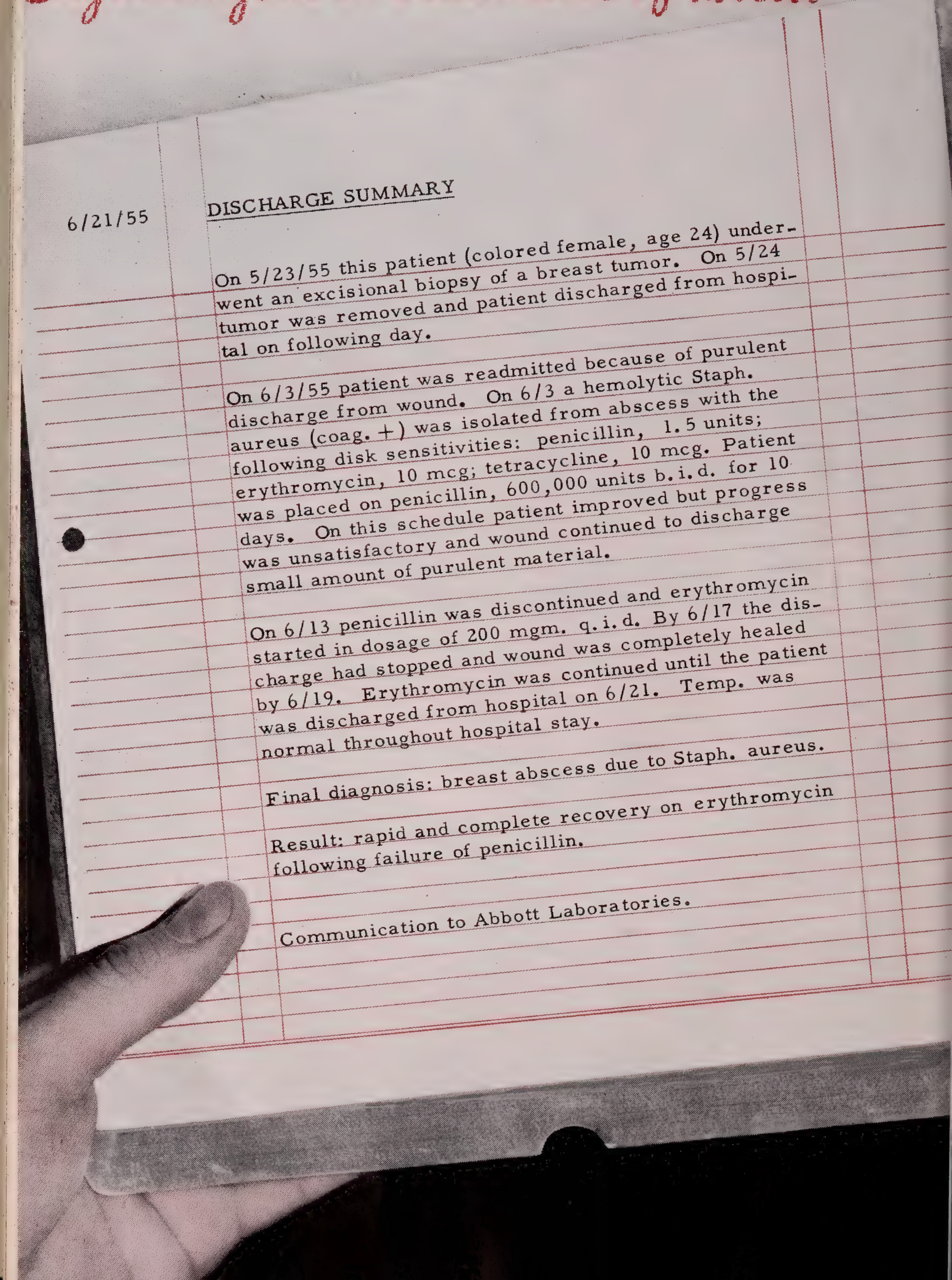
keeps blood pressure down and gently sedates

- maximum patient convenience
- around-the-clock reserpine effect with only one oral dose
- effective therapy with either of two low dosage strengths
- low incidence of side effects

made only by
Smith, Kline & French Laboratories, Philadelphia
first ⧗ in sustained release oral medication

*Trademark †T.M. Reg. U.S. Pat. Off. Patent Applied For

Erythromycin in treatment of abscess



6/21/55

DISCHARGE SUMMARY

On 5/23/55 this patient (colored female, age 24) underwent an excisional biopsy of a breast tumor. On 5/24 tumor was removed and patient discharged from hospital on following day.

On 6/3/55 patient was readmitted because of purulent discharge from wound. On 6/3 a hemolytic Staph. aureus (coag. +) was isolated from abscess with the following disk sensitivities: penicillin, 1.5 units; erythromycin, 10 mcg; tetracycline, 10 mcg. Patient was placed on penicillin, 600,000 units b.i.d. for 10 days. On this schedule patient improved but progress was unsatisfactory and wound continued to discharge small amount of purulent material.

On 6/13 penicillin was discontinued and erythromycin started in dosage of 200 mgm. q.i.d. By 6/17 the discharge had stopped and wound was completely healed by 6/19. Erythromycin was continued until the patient was discharged from hospital on 6/21. Temp. was normal throughout hospital stay.

Final diagnosis: breast abscess due to Staph. aureus.

Result: rapid and complete recovery on erythromycin following failure of penicillin.

Communication to Abbott Laboratories.

specific against coccic infections

Now, you can prescribe an antibiotic (*Filmtab* ERYTHROCIN) that provides *specific therapy* against staph-, strep- or pneumococci. Since these organisms cause most bacterial respiratory infections (and since they are the very organisms most sensitive to ERYTHROCIN) doesn't it make good sense to prescribe ERYTHROCIN when the infection is coccic?

filmtab®

Erythrocin®
(Erythromycin, Abbott)
STEARATE

with little risk of serious side effects

Since ERYTHROCIN is inactive against gram-negative organisms, it is less likely to alter intestinal flora—with an accompanying low incidence of side effects. Also, your patients seldom get the allergic reactions sometimes seen with penicillin. Or loss of accessory vitamins during ERYTHROCIN therapy. *Filmtab* ERYTHROCIN (100 and 250 mg.), bottles of 25 and 100. Abbott

filmtab®

Erythrocin®
(Erythromycin, Abbott)
STEARATE

®Filmtab—Film sealed tablets; patent applied for

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ACHROMYCIN*

Tetracycline
Lederle

widely prescribed because of these important advantages:

1) rapid diffusion and penetration
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3) true broad-spectrum activity (proved effective against a wide variety of infections caused by Gram-positive and Gram-negative bacteria, rickettsiae, and certain viruses and protozoa)
4) negligible side effects
5) every gram produced in Lederle's *own* laboratories under rigid quality control, and offered *only* under the Lederle label
6) a *complete* line of dosage forms

in prolonged illness, prescribe

ACHROMYCIN SF

TETRACYCLINE with STRESS FORMULA VITAMINS

Attacks the infection, bolsters the body's natural defense. Stress vitamin formula suggested by the National Research Council in *dry-filled, sealed* capsules with ACHROMYCIN, 250 mg. Also available: ACHROMYCIN SF ORAL SUSPENSION (Cherry Flavor), 125 mg. per 5 cc.

dry-filled sealed capsules
(a Lederle exclusive!) for more rapid and complete absorption. No oils, no paste, tamperproof!

LEDERLE LABORATORIES DIVISION *AMERICAN Cyanamid COMPANY* PEARL RIVER, NEW YORK Lederle

*REG. U.S. PAT. OFF.

ANNUAL CLINICAL CONFERENCE

CHICAGO MEDICAL SOCIETY

February 28, 29, March 1 and 2, 1956

PALMER HOUSE, CHICAGO

DAILY HALF-HOUR LECTURES BY OUTSTANDING TEACHERS AND SPEAKERS on subjects of interest to both general practitioner and specialist.

PANELS ON TIMELY TOPICS TEACHING DEMONSTRATIONS

SCIENTIFIC EXHIBITS worthy of real study and helpful and time-saving TECHNICAL EXHIBITS

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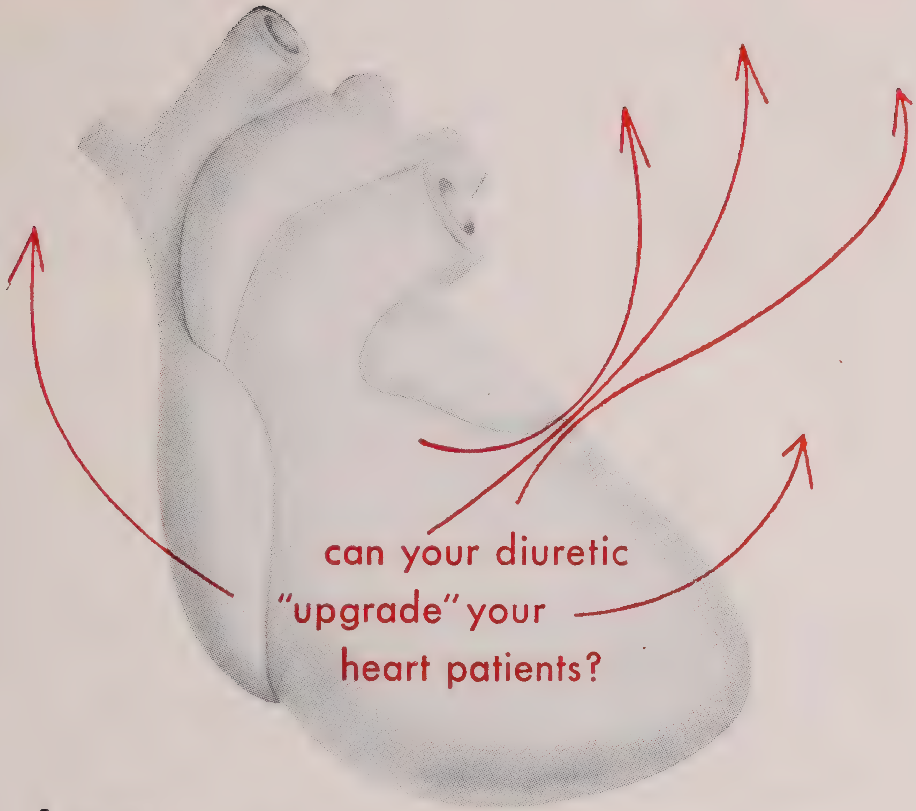

know your diuretic

fewer restrictions of activity are the benefit of prolonged use of those diuretics effective over the entire range of cardiac failure. The organomercurials—parenteral and oral—improve the classification and prognosis of your decompensated patients. Diuretics of value only in milder grades of failure, or which must be given intermittently because of refractoriness or side effects, are incapable of "upgrading" the cardiac patient.

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BRAND OF CHLORMERODRIN

(18.3 MG. OF 3-CHLOROMERCURI-2-METHOXY-PROPYLUREA IN EACH TABLET)

for "...a new picture of the patient in congestive heart failure."*
replaces injections in 80% to 90% of patients

*Leff, W., and Nussbaum, H. E.: J. M. Soc. New Jersey 50:149, 1953.

a standard for initial control of severe failure

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BRAND OF MERALLURIDE INJECTION

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Pork in the Human Dietary

PORK MAY be looked upon as an important factor in America's general health and well-being. The average intake of pork in America is about 46 pounds of lean pork and 20 pounds of bacon and salt pork per person each year.[1] But America's demand for pork goes further than taste appeal and deeper than mere statistics. Pork makes a valuable contribution to day-in-and-day-out nutrition.

Pork rates among the foremost sources of thiamine. As a source of all other B vitamins and many essential minerals, such as iron and phosphorus, pork meat is considered an important dietary constituent.

Lean pork is virtually completely digestible. Its protein serves to promote growth and aid in the maintenance of tissue cells. Like all high quality protein, that of pork aids in the elaboration of protein hormones, enzymes, and antibodies. Pork constitutes a valuable part of the daily diet (Table I), and also contributes importantly to the nutrition of the pregnant woman (Table II).

Pork and pork products have won America's favor by their unique combination of economy, palatability, and nutritional value.

---

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2. Watt, B.K., and Merrill, A.L.: Composition of Foods—Raw, Processed, Prepared, Washington, D.C., United States Department of Agriculture, Agricultural Handbook No. 8, 1950.
3. Bowes, A. deP., and Church, C.F.: Food Values of Portions Commonly Used, ed. 7, Philadelphia, Anna dePlanter Bowes, 1951.
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7. Estimated on basis of protein content of meats. Sherman. H.C.: Food Products, ed. 4, New York, The Macmillan Company, 1948. p. 155.
8. Recommended Dietary Allowances, Washington, D.C., National Academy of Sciences—National Research Council, Publication 302, 1953.

Cooked Pork Chops, Ham, and Pork Sausage
Nutrients and Calories Provided by 3-Ounce Portions

TABLE I

TABLE I	Protein Gm.	Thiamine mg.	Niacin mg.	Riboflavin mg.	Iron mg.	Phosphorus mg.	Calories
Pork Chops, without bone, cooked, 3 oz.[2]	20	0.71	4.3	0.20	2.6	200	284
Ham, without bone, cooked, 3 oz.[2]	20	0.45	4.0	0.20	2.6	202	338
Pork Sausage, cooked, 3 oz.[3]	14	0.42	2.8	0.20	2.1	139	396

3.5 ounces of fresh pork loin, equivalent to approximately 3 ounces of cooked loin, contains 0.47 mg. pantothenic acid;[4] 0.10 mg. pyridoxine;[4] 0.005 mg. biotin;[5] 36 mg. inositol;[4] 0.08 mg. folic acid;[4] 0.0027 mg. vitamin B_{12};[6] 63 mg. chlorine;[7] 0.1 mg. copper;[7] 20 mg. magnesium;[7] 280 mg. potassium;[7] 70 mg. sodium;[7] and 0.01 mg. manganese.[7]

TABLE II

Nutrients and Calories of Cooked Pork Chops (3 ounces) Expressed
as Percentages of Recommended Daily Dietary Allowances[8]

Percentages of Allowances for:	Protein	Thiamine	Niacin	Riboflavin	Iron	Phosphorus	Calories
Girls, 13-15 years of age; weight, 108 lb.; height, 63 inches.	25%	55%	33%	10%	17%	15%	11%
Women, 25 years of age; weight, 121 lb.; height, 62 inches.	31%	59%	36%	14%	22%	17%	12%
Pregnant Women (3rd trimester)	25%	47%	29%	10%	17%	13%	11%

The nutritional statements made in this advertisement have been reviewed by the Council on Foods and Nutrition of the American Medical Association and found consistent with current authoritative medical opinion.

American Meat Institute
Main Office, Chicago... Members Throughout the United States

No other single medication can

HELP YOUR ANGINAL PATIENTS

in all these 7 ways

Pentoxylon®

LONG-ACTING TABLETS CONTAINING PENTAERYTHRITOL TETRANITRATE (PETN) 10MG. AND RAUWILOID® 1MG.

- Reduces incidence and severity of attacks
- Increases exercise tolerance
- Reduces tachycardia
- Reduces anxiety, allays apprehension
- Reduces nitroglycerin need
- Lowers blood pressure in hypertensives —not in normotensives
- Produces objective improvement demonstrable by ECG

Dosage: One to two tablets q.i.d.
before meals and on retiring.

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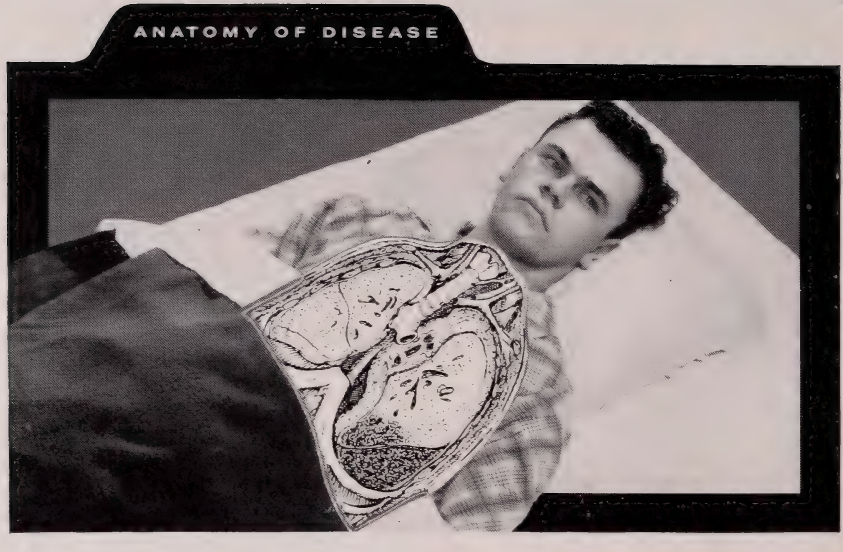

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safety • rapid action • broadest antibacterial spectrum

DELTAMIDE®

THE PREFERRED QUADRI-SULFA MIXTURE

Deltamide combines four sulfas for a better therapeutic effect and remarkable freedom from toxicity. Deltamide assures:

- **effective blood levels in most patients within an hour**
- increased solubility in the urine
- low incidence of sensitization
- broadest spectrum of antibacterial activity

Each Deltamide tablet or 5 cc. teaspoonful of good-tasting suspension supplies:

Sulfadiazine	0.167 Gm.
Sulfamerazine	0.167 Gm.
Sulfamethazine	0.056 Gm.
Sulfacetamide	0.111 Gm.

Tablets:
Bottles of 100 and 1000.

Suspension:
4 and 16 oz. bottles.

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PRESCRIBE DELTAMIDE *w/penicillin*

Each tablet or 5 cc. of the suspension also contains 250,000 units of potassium penicillin G.

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A DIVISION OF ARMOUR AND COMPANY • KANKAKEE, ILLINOIS

Upjohn

Relax

the nervous,
tense,
emotionally unstable:

Reserpoid *(Pure crystalline alkaloid)*

TRADEMARK FOR THE UPJOHN BRAND OF RESERPINE

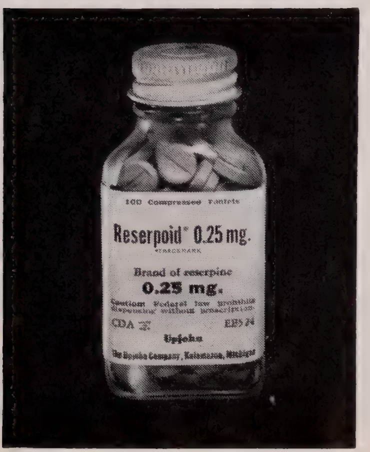
Each tablet contains:

Reserpine . . . . 0.1 mg.
or 0.25 mg.
or 1.0 mg.

Supplied:

Scored tablets
0.1 and 0.25 mg. in bottles of 100 and 500
1.0 mg. in bottles of 100

The Upjohn Company, Kalamazoo, Michigan


100 Compressed Tablets
Reserpoid* 0.25 mg.
Brand of reserpine
0.25 mg.
Upjohn

IN CORTICOID-TREATED PATIENTS

minimize adrenal suppression and atrophy

BY THE REGULAR PERIODIC USE OF

HP*ACTHAR® *Gel*

Stress of surgery, accidents or infections is magnified in patients treated with cortisone, hydrocortisone, prednisone or prednisolone. Adrenal steroids, even in small doses, jeopardize the defense mechanism against stress by causing adrenal cortical atrophy. Concomitant use of HP*ACTHAR *Gel* counteracts adrenal atrophy by its stimulant action on the adrenal cortex.

Dosage recommendations for supportive HP*ACTHAR *Gel* are, inject:

1 a. 100 to 120 U. of HP*ACTHAR *Gel* for every 100 mg. of prednisone or prednisolone.
  b. 100 U. of HP*ACTHAR *Gel* for every 200 to 300 mg. of hydrocortisone.
  c. 100 U. of HP*ACTHAR *Gel* for every 400 mg. of cortisone.
2 Discontinue use of steroid on the day of injection.

*Highly Purified. HP*ACTHAR *Gel* is The Armour Laboratories brand of purified corticotropin.

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A DIVISION OF ARMOUR AND COMPANY • KANKAKEE, ILLINOIS

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Wherever X-RAYS or RADIOISOTOPES are used

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24 Plaza—Park Forest, Ill.

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Each tablet contains: Extract of Rhubarb, Senna, Precipitated Sulfur, Peppermint Oil and Fennel Oil, in a high activated willow charcoal base.

Action and uses: Mild laxative, adsorbent and carminative. For use in indigestion, hyperacidity, bloating and flatulence.

1 or 2 tablets daily ½ hour after meals.
Bottles of 100

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In 30 minutes–
antibacterial
action begins

In 24 hours–
turbid urine
usually clear

*"...it appears that Furadantin is one of the most effective single agents available at this time."**

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BRAND OF NITROFURANTOIN

IN
URINARY
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INFECTIONS

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- excellent tolerance—nontoxic to kidneys, liver and blood-forming organs
- no cases of monilial superinfection ever reported

SUPPLIED: Tablets, 50 and 100 mg. in bottles of 25 and 100.
Oral Suspension, 5 mg. per cc. bottle of 118 cc.

*Breakey, R. S.; Holt, S. H., and Siegel, D.: J. Michigan M. Soc. *54*: 805, 1955.

EATON LABORATORIES, Norwich, N.Y. **NITROFURANS** a new class of antimicrobials neither antibiotics nor sulfas

Mysteclin

STECLIN-MYCOSTATIN
(SQUIBB TETRACYCLINE-NYSTATIN)

WELL TOLERATED BROAD SPECTRUM ANTIBACTERIAL THERAPY PLUS ANTIFUNGAL PROPHYLAXIS

BROAD SPECTRUM ANTIBIOTIC THERAPY, EFFECTIVE IN MANY COMMON INFECTIONS

Because it contains Steclin (Squibb Tetracycline), MYSTECLIN is an effective therapeutic agent for most bacterial infections. When caused by tetracycline-susceptible organisms, the following infections are a few of those which can be expected to respond to MYSTECLIN therapy:

bronchitis
colitis
furunculosis
gonorrhea
lymphadenitis
meningitis
osteomyelitis
otitis media
pneumonia
pyelonephritis
sinusitis
tonsillitis

MYSTECLIN is also indicated in certain viral infections and in amebic dysentery.

BROAD SPECTRUM ANTIBIOTIC THERAPY, WITH A MINIMUM OF SIDE EFFECTS

In clinical use, Steclin has produced an extremely low incidence of the gastrointestinal distress sometimes observed with other broad spectrum antibiotics. Mycostatin (Squibb Nystatin), as contained in MYSTECLIN, is also a particularly well tolerated antibiotic and has produced no allergic reactions, even after prolonged administration.

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Because it contains Mycostatin, the first safe antifungal antibiotic, MYSTECLIN effectively prevents the overgrowth of Candida albicans (monilia) frequently associated with the administration of ordinary broad spectrum antibiotics. This overgrowth may sometimes cause gastrointestinal distress, anal pruritus, vaginitis, and thrush; on occasion, it may have serious and even fatal consequences.

SQUIBB

Each MYSTECLIN capsule contains 250 mg. Steclin Hydrochloride and 250,000 units Mycostatin.

Minimum adult dose: 1 capsule q.i.d.

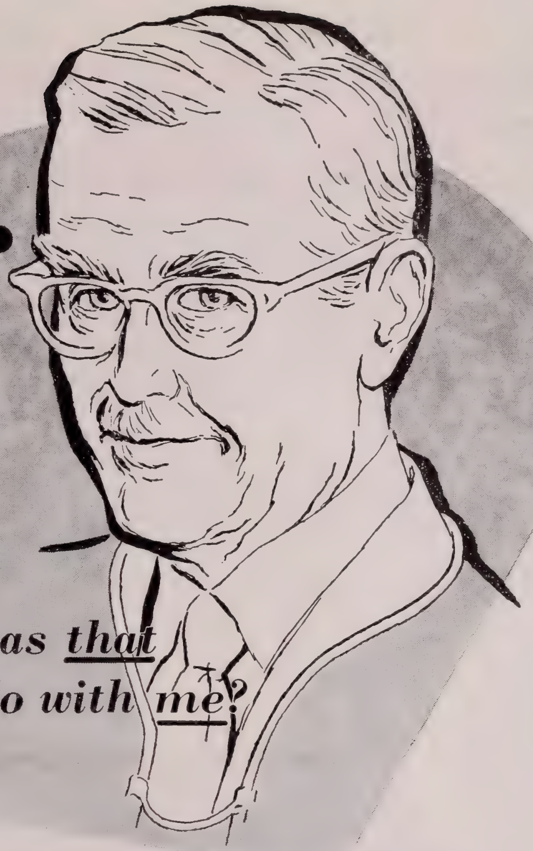
Supply: Bottles of 12 and 100.

'MYSTECLIN', 'STECLIN' AND 'MYCOSTATIN'® ARE SQUIBB TRADEMARKS

Bovie?..

sure, our hospital uses Bovies –

- but what has that to do with me?



That's a question we like to answer, Doctor! No one knows better than you that America's family doctors are finding more and more people dependent on them for a greater-than-ever degree of personally-administered medical care. That's where the OFFICE BOVIE comes into the picture . . . because it provides dependable office electrosurgery to *extend* and *augment* your medical practice.

The "little" Bovie is proving a *big* help to doctors interested in doing *more* for their patients. Have *you* considered the OFFICE BOVIE for use in your office? Thousands of doctors *are* using it daily for a host of useful minor surgical techniques. *We'd like to send you, without obligation, an interesting 6-page illustrated brochure on this important subject . . .*

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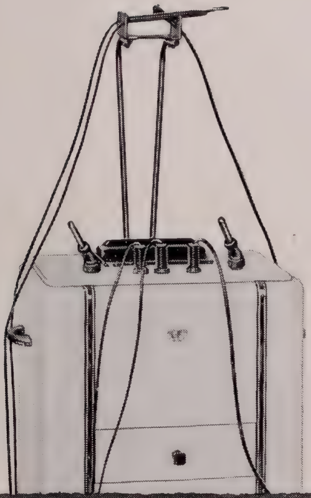

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ELECTROSURGICAL UNIT
—made by Liebel-Flarsheim, makers of the famous Hospital type Bovie Electrosurgical Units.

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CINCINNATI 15, OHIO

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the delta$_1$ analogue of hydrocortisone

Hydeltra' tablets

(Prednisolone, Merck)

5 mg.-2.5 mg.-1 mg.

(scored)

Hydeltra'

Indications:

- **RHEUMATOID ARTHRITIS**
- **BRONCHIAL ASTHMA**
- **INFLAMMATORY SKIN CONDITIONS**

'Hydeltra' *offers increased clinical effectiveness . . . lowers the incidence of untoward hormonal effects.*

'Hydeltra' *is supplied as 2.5 mg. and 5 mg. scored tablets in bottles of 30 and 100.*

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Aluminum hydroxide gel, dried .	0.12 Gm.
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* U.S. Pat. 2,691,662

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2. Roskam, J., VanCawenberge, H.: Abst. in J.A.M.A., 151:248 (1953).
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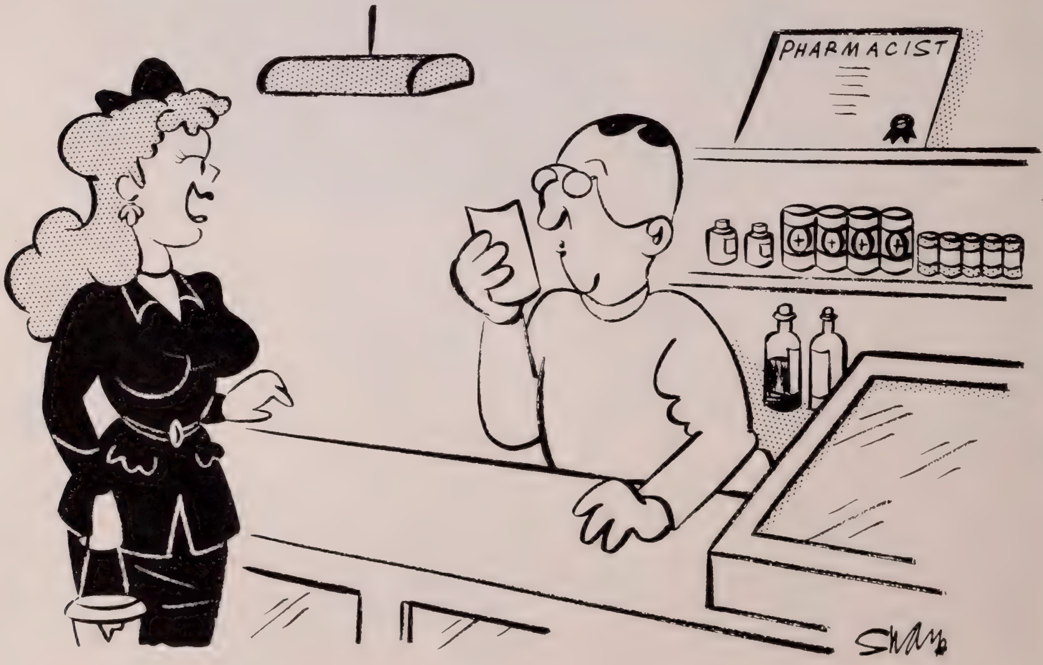

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*Schaefer, F. H.: Ohio State M. J. 51:347 (April) 1955.

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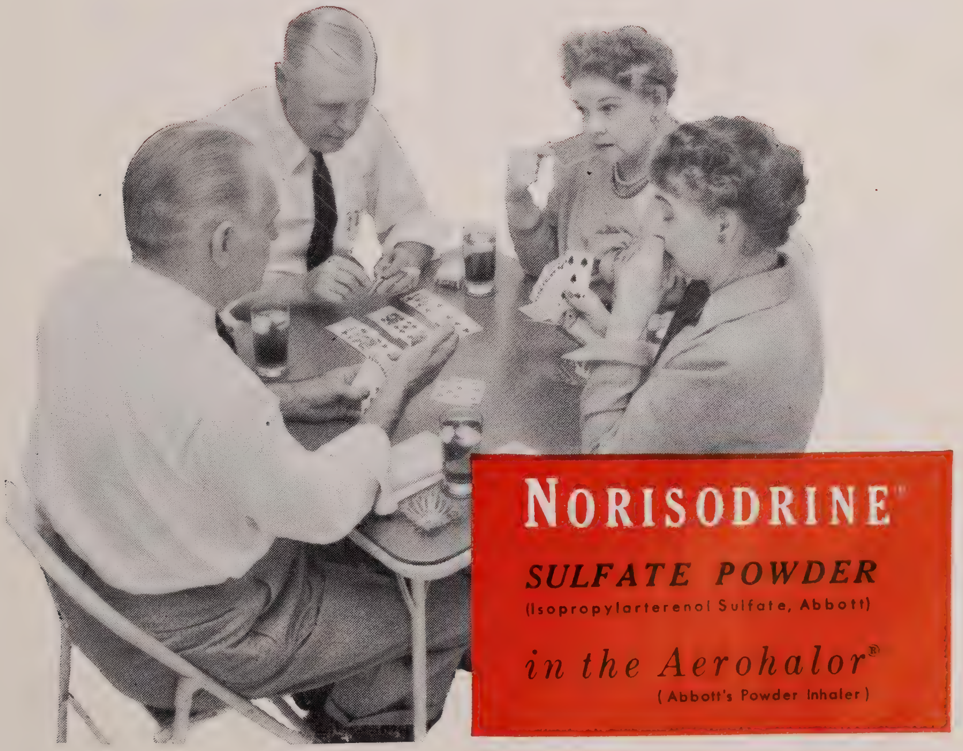

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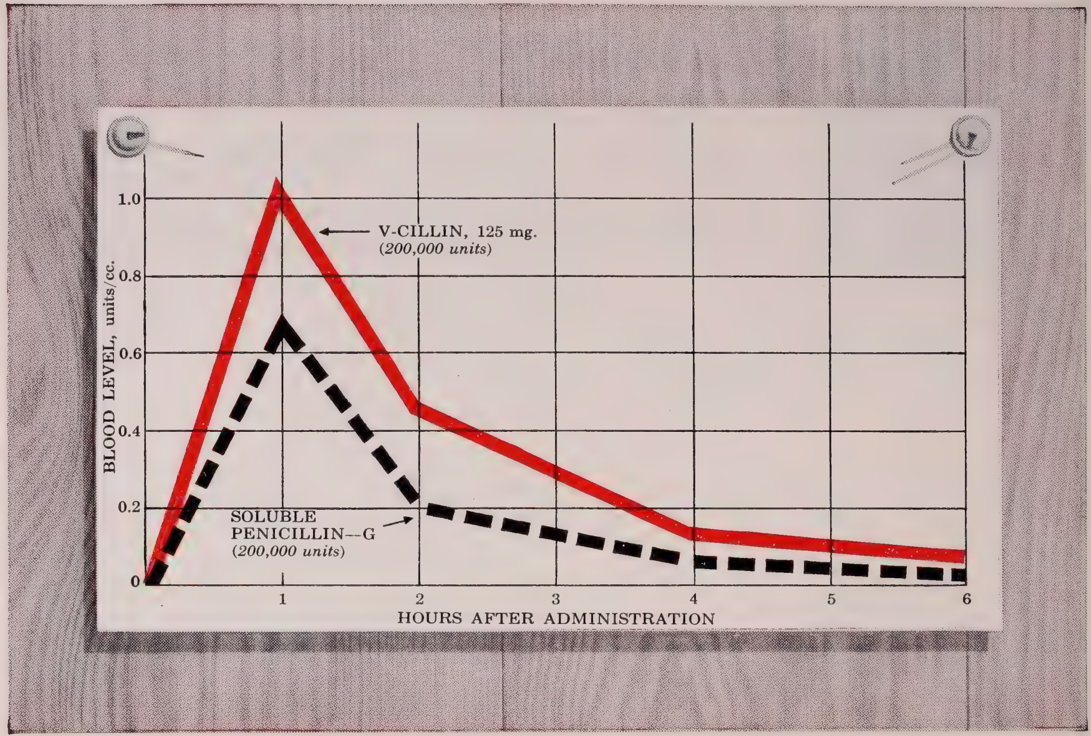

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EDITORIALS

Happy New Year 1956

A happy and prosperous New Year to all from the Publication Committee, the editors, the editorial and advertising staffs of the New York State Journal of Medicine! All signs seem to point to a continued prosperity in this country and in many places abroad. True, nothing may prove to be quite as good as it seems or as bad as the political party out of office would have it appear for publicity purposes, but keeping these observations in mind, we boldly hazard the opinion that prospects look fair for the coming year.

Any thing or condition which is advantageous to the American people furthers the interest of medicine. High employment, better working conditions, fair remuneration for work accomplished, and expanding production have made this country great among the nations of the earth. A reasonable freedom to develop and the support of free citizens, free industry, and business have permitted medicine to progress here in the service of the people and, with their assistance and financial aid, to an extent not encountered elsewhere.

As a result, education in medicine and research and development have flowed freely and produced mightily, not being tied to government and thus to more or less fixed political concepts. Teamwork between medicine, industry, and business with, in some instances, grants-in-aid from government and from the great private foundations has set the pattern for progress.

But the freedom for the pursuit of happiness and the blessings of prosperity have to be earned by constant hard work and eternal vigilance. Complacency and indifference could invite the destruction of the bases upon which our prosperity and the peaceful pursuit of these ideals rest. A happy and prosperous New Year can result only if we make it so.

Anesthesiology

The Publication Committee and the editors of the JOURNAL announce that, beginning on page 105 of this issue, a new series of articles dealing with practical aspects of anesthesiology will appear under the editorial supervision of Dr. Barnett A. Greene. These articles are prepared by the Anesthesia Study Committee of the New York State Society of Anesthesiologists.

The science and art of anesthesiology have made vast strides in recent years. New modalities and new technics have resulted, bringing in their wake a number of problems, some of which will be discussed in the new series. It is anticipated by the editors that these discussions will be of practical value to our readers and that they will prove to be a ready source of reference.

Editorial Comment

Hospitalization for Mental Disorders. Under this title the Metropolitan Life Insurance Company[1] reports that

> More and more people in our country are being hospitalized for mental disorders. The number of first admissions to hospitals for the long-term care of such disorders rose from 106,000 in 1931 to 171,000 in 1951, or more than 60 per cent. A parallel trend is observed for resident patients under care, their number mounting from 374,000 to 590,000 in the two decades. Inasmuch as a substantial part of this increase reflected merely population growth, the rise in hospitalization rates was more moderate; for first admissions the rate rose from 85 to 111 per 100,000 population and for patients resident in mental institutions from 301 to 382 per 100,000.
>
> Males are in the majority among patients admitted for the first time to mental hospitals in the United States. Thus, in 1951 about 95,000 were males and 76,000 females. Furthermore, first-admission rates were higher for males than for females at every age period. In each sex the rates were lowest at the younger ages and highest among the aged.
>
> As would be expected, the proportion released was greatest for the younger patients and decreased with advance in age. Thus, whereas over four fifths of the patients at ages fifteen to thirty-four were released within three years after first admission, at ages fifty-five to seventy-four the proportion was less than half, and at ages seventy-five and over it was only a little more than one-tenth. Prognosis was most favorable for the functional psychoses (which include schizophrenia, manic-depressive, and involutional psychoses). Nearly three fourths of the first admissions in 1946–1950 for functional psychoses were released within three years. The corresponding proportion for patients admitted for the first time in 1916–1925 was little more than one-half. The greater proportion of releases in recent years reflects an increase in recovery rates from these conditions.
>
> Some progress has been made against mental disorders, but many tasks still lie ahead in this field. Among the major needs are more and

---

[1] Statistical Bulletin 36: 3 (Sept.) 1955.

better-trained personnel and more and improved facilities for the prevention, detection, and care of such disorders. Hospitals, physicians in private practice, outpatient clinics for children and adults, family counseling services, school health and occupational health services can play a leading part in meeting these needs. Much can be accomplished through educational programs, both on the professional and the lay level. The general public should have a better understanding of the principles of mental health and should be better informed on the community services available to care for mental disorders. Above all, there is great need for carefully planned, coordinated, and well-supported research on the causes and treatment of mental disease and on the rehabilitation of mental patients.

The Small Arts of Being a Physician

Be clean and neat both in person and in clothing. Always be clean-shaven, always have clean nails, always wear clean linen, never need a haircut. Always have your shoes shined, and never wear shoes run-down at the heel. See that your clothes go regularly to the cleaner. And see that your clothes are in good taste. Good taste permits a wide variation in choice as to cut and color. If you like color, wear it, but be sure you know how to pick colors that do not scream at each other. If there is any doubt in your mind, stick to solid colors. One of the best-dressed doctors I ever knew was never seen in anything but gray flannel suits, white shirt, and solid color necktie. There was a time when it was possible to go into the average small town and have an excellent chance to identify the local doctor by his appearance alone. That day is past—but there is no reason why any physician's appearance should cause him to be mistaken for anything but a gentleman.

That word gentleman implies other things as well. Do not smoke in the presence of a lady—even in your own office—without her permission. Never smoke—nor permit a patient to smoke in your examining room. Do not smoke in a patient's room either in his home or in the hospital without asking permission and preferably not then. Do not chew gum except in the privacy of your room. Public cud chewing is for cows. Do not see a patient in your office, in his home, or in the hospital with the odor of alcohol on your breath. The day of old Doc Thingummy "who really wasn't any good until after a few drinks" is no more. Your patients are intelligent enough to know that your judgment is not as good after even one drink as it was before. Don't let them think that you are offering them anything but your best—manners included. I have spoken of smoking and drinking, I shall touch only lightly on eating. First, food should never be worn. Last, I question the impression on a patient of a physician's advice as to reducing as a help in hypertension, arthritis, and the like if the physician is too markedly overweight himself. To maintain a good figure requires only one thing—self-discipline. Anyone too lazy or too complacent to discipline himself must be a poor advocate indeed of self-discipline for his patients.

Let us now go to your surroundings. There is nothing unethical, illegal, or decadent about having both comfort and beauty in your office. A dozen golden oak chairs will probably hold your patients—but a patient who has been sitting in a comfortable chair in a pleasing room, with a good engraving or picture or two on the wall will enter your consulting room in a better frame of mind than one who had squirmed around on a hard bench in a cheerless cell. It is also a very pleasant idea to subscribe to two or three really good magazines which may be deducted as a business expense and try to get through them at home and then have them in the waiting room by the time they are a week or so old. I would recommend the *National Geographic* very highly in this category since it appeals to all ages, and even to that occasional patient who can't read.

Remember that your patients are people. See them by appointment—office hours as such are relics of barbarism. An appointment system saves your patients time and contributes to your own dignity. It keeps your patient from sitting for thirty minutes between a woman with a crying uriniferous baby on her lap, and a man with a cough and coryza. Your wife wouldn't go to her hairdresser without an appointment—and surely a physician should be able to manage his business as well as a hairdresser.

You are going to spend many hours a day in your consulting room for the rest of your working life. There is no reason why it should not resemble the library or small sitting room of your own home.

When a patient enters your consulting room, stand up and greet him by name. If you know enough about him—and you should about most of your patients—make some personal reference to his way of life. How is his golf? Wasn't it nice his Susie got such a nice writeup for her part in the school play? That immediately makes him an individual in whom you are interested—not just another patient.

While he is in your consulting room give him your undivided attention. Do not fiddle with papers on your desk or look up a phone number or start getting out the sphygmomanometer and stethescope while he is retailing his symptoms. Listen—and listen as though every word he says is important.

Never lie to patients unless you are completely convinced it is for their greatest ultimate good. Learn to judge with whom it is best to be a little nonchalant about the severity of symptoms and when to be a bit of an alarmist, but guard yourself most carefully against a fixed attitude of being either always nonchalant or always an alarmist. Try never to hurry a patient and never refuse to discuss anything he wants to discuss. Also, be honest with him in discussing fees. If he wants to know what some illness is probably going to cost him, try and tell him—and if you know he is hard up, temper the wind to the shorn lamb—you can make it up on someone else next week. When he goes into your examining room, let him find that completely professional. Be as meticulous about the linen of your office as you are about your own. Have an examining table that has a paper covering and see to it that it is changed after each patient. Let each patient see you wash your hands after you have examined him. If instruments or appliances are in view see that they are polished and spotless. Make a point of putting each instrument you have used in the sterilizer so that the patient sees you do it. When he leaves, see him to the door as though he were a departing guest—and tell him that you hope he will feel much better in a day or two.

Now let us go into the patient's home. Leave your galoshes outside or in the vestibule—and don't drop your wet coat or hat on an upholstered chair in the hall. When you are greeted by the lady of the house, it will flatter her if you notice something about her home—she has new wallpaper or new paint—or a new piece of furniture and you admire her taste. When you get in the sick room, pull a chair up and sit beside the bed. Never sit on the bed. And put your bag on the floor—not on a chair or on the clean spread that was just put on the other twin bed in honor of your coming. Let me say again—do not smoke in a sick room—and go to the bathroom and wash your hands before you leave the house.

You may by this time be feeling that I am wasting your time with a host of trivia—that if a patient is ill he needs medical knowledge and you are prepared to give him that, but that if he wants his hand held and his ego flattered, he can just as well go to some Fancy Dan who hasn't your knowledge and has to rely on artifices. If any of you feel so, my heartfelt advice is to get into a specialty as soon as possible—one in which you do not have to see the same patient too many times. You who go into general practice will soon find that a large proportion of your patients are afflicted only with the fear of disease, the fear of some small, unexplained symptom. To these people your interest, your sympathy, your small talk, your reassurance are of paramount importance—and in dealing with them even well-considered and aptly used flattery may be as important as is an antibiotic in pneumonia.

All these things are of value, however, only insofar as you really feel them. Unless you like people, unless you have an overweaning curiosity to know all about your patient, his illnesses, his family problems, his financial problems—and a feeling of real pleasure in occasionally making his burden easier—physically, mentally, spiritually—your interest and flattery will be a mockery which will eventually find you out. When people become really ill, they develop an almost childlike quality of knowing whether you really like them and are truly interested in them. If you are not—then do not even essay a life as a specialist—get a job with some insurance company.

A final word and I will let you go. Never forget that you are the heir of an ancient and honorable tradition. Your profession sets you apart a little from most other men. When you assume the hood of your doctorate, it bestows upon you a dignity which you must not betray. There will be some of your patients who will become your intimate friends and with whom you will be on terms of complete familiarity. But let that be of your choosing. It is possible to bear yourself in such a manner that any patient whom you ask to call you by your first name will be complimented—and that only a brash few will attempt it without your invitation. And it is possible to do this without acquiring a reputation for being upstage or snobbish. Try, from the day you enter practice to cultivate such a bearing and demeanor. If enough of you do so, we may yet put medicine back among the honored professions.—*Eben T. Breed, M.D., Nassau County Medical Society, from How To Make New Members Active Members of A County Medical Society, Public and Professional Relations Bureau, 1954*

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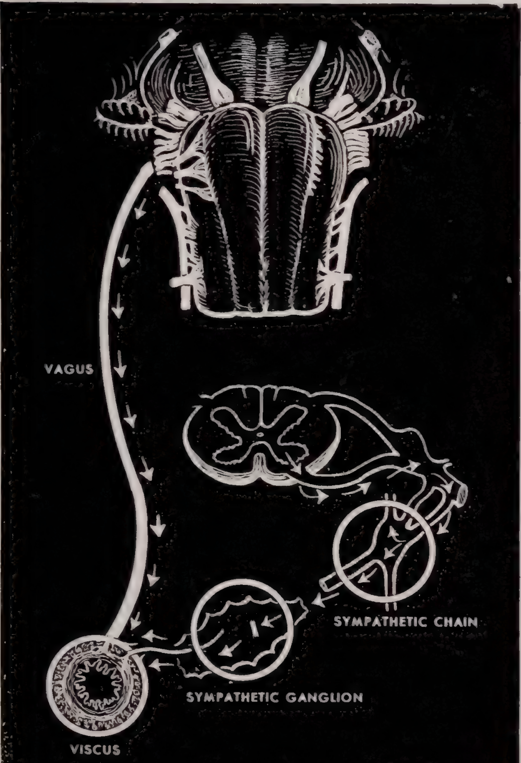

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---

1. Schwartz I. R.; Lehman, E.; Ostrove, R., and Seibel, J. M.: Gastroenterology *25:*416 (Nov.) 1953.
2. Roback, R. A., and Beal, J. M.: Gastroenterology *25:*24 (Sept.) 1953.

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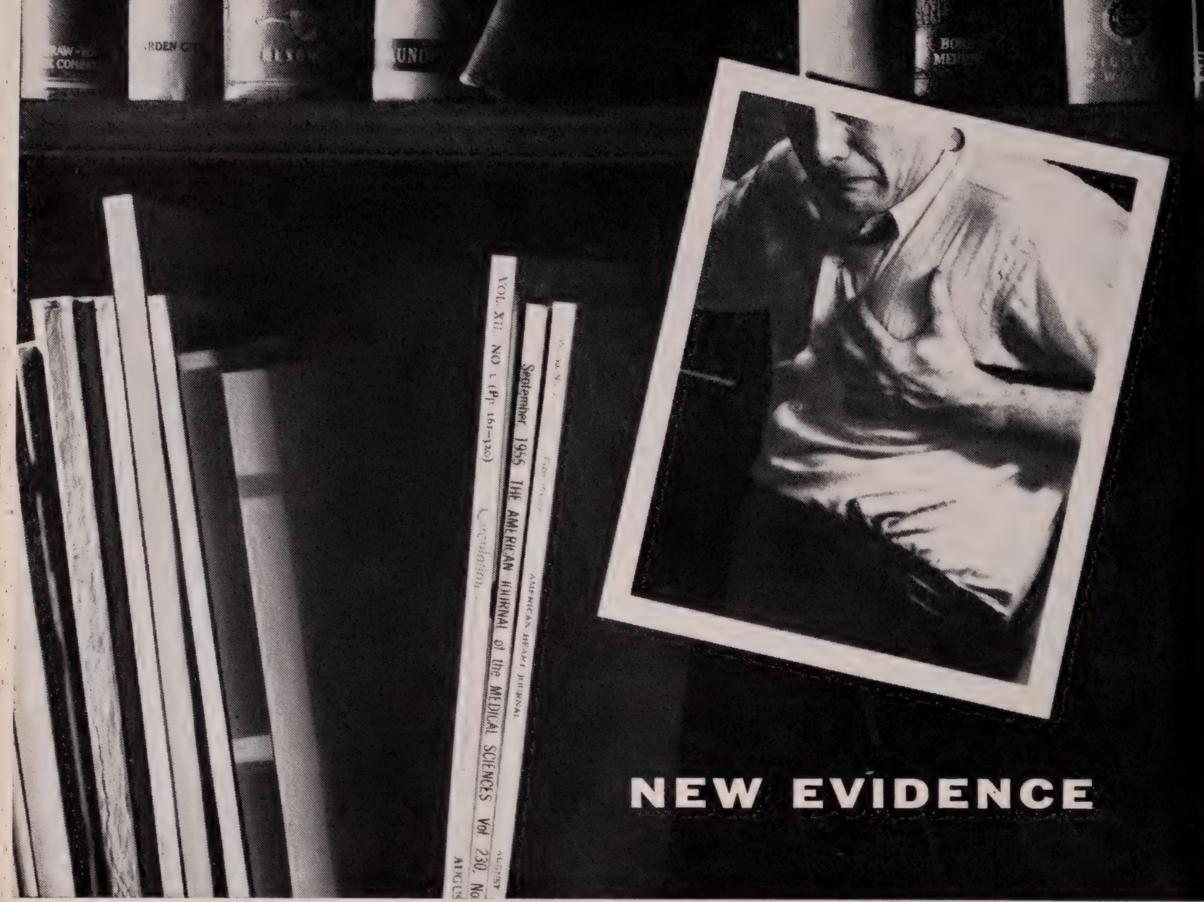
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AMERICAN HEART JOURNAL
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SCIENTIFIC ARTICLES

The Conservative Management of Painful Shoulder

ARTHUR A. MICHELE, M.D., BROOKLYN, NEW YORK

(From the Department of Orthopedic Surgery of the New York Medical College and Flower-Fifth Avenue Hospitals, New York City, and the U.S. Public Health Service Hospital, Staten Island, New York)

A COMPETENT approach to the conservative management of "painful shoulder" has been facilitated by a reclassification of shoulder pathologies and recognition of the frequently bypassed common denominator, the deep cervical fascia.

The following classification is based on the belief that the various pathologic conditions encountered in the painful shoulder can be brought within the scope of a common scheme of conservative management.

INTRINSIC

I. Primary
  A. Tendinitis
    1. Rotator cuff
      (*a*) Degenerative changes
      (*b*) Calcification (subdeltoid and acromial bursitis)
      (*c*) Sprain or tear
    2. Bicipital syndrome
  B. Arthritis
    1. Glenohumeral
    2. Acromioclavicular
      (*a*) Traumatic
      (*b*) Infectious
      (*c*) Degenerative
      (*d*) Metabolic
  C. Scapulocostal syndrome (costoclavicular, cervical rib, whiplash, scalenus, pectoralis major, brachialgia statica paresthetica, trapezius syndrome)
  D. Trauma
    1. Fracture, dislocation
    2. Acromioclavicular dislocation
  E. Tumor
    1. Soft tissue
    2. Bone involvement
  F. Circulatory disorders
  G. Neurologic disorders
II. Secondary
  A. Adhesive capsulitis (periarthritis, frozen shoulder)
  B. Shoulder-hand syndrome
  C. Paralysis of major muscles of shoulder

EXTRINSIC

I. Primary (space-displacing lesions)
  A. Herniated cervical intervertebral disk
  B. Cord tumor
  C. Osteoarthritis (with exostosis)
  D. Traumatic derangement of cervical vertebrae
II. Secondary (reflex)
  A. Cardiovascular
  B. Gastrointestinal
  C. Thoracic
  D. Emotional stress (periarthritic personality)

Tendinitis

ROTATOR CUFF

Degenerative Changes.—The disturbance by degeneration of or trauma to the rotator cuff or the conjoined tendon attachments on the tuberosities of the humerus formed by the tendons of the supraspinatus, infraspinatus, teres minor, and subscapularis muscles is one of the most common and more fundamental causes of pain in the shoulder. The condition usually is met with in the fourth and fifth decades of life. Symptoms commonly begin with a dull aching pain in the

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shoulder increasing as the day goes on, with acute pain and limitation of motion of the shoulder toward the end of the day. Findings disclose tenderness over the shoulder capsule, often with grating or crepitus in the abduction arc of 75 to 100 degrees.

There is pain on extremes of all motions, referred under the deltoid, and particularly limitation of overhead circumduction. Pathologically the shoulder capsule is the seat of degenerative changes with wearing and thinning of the fibers and impairment of the blood supply.

Trauma, even a minor sprain, often is an inciting factor. Usually medical attention is sought when purposeful movements have become restricted and there is increasing difficulty in finding a comfortable position for sleep. As a rule x-rays are negative but may show minute subchondral cysts. Arthrogram of the joint space is negative.

Calcification.—Tendinitis with calcification is still frequently classified as subacromial or supraspinatus bursitis. In the laboring class supraspinatus tendinitis usually is found in the fifth decade. In most cases the onset is acute with the course running for forty-eight to seventy-two hours and the subacute phase for seven to ten days. Inciting agents may be traumatic force or repeated minimal trauma between the acromion and the tuberosity of the humerus. There is severe pain, particularly at night, associated with difficulty in finding and retaining a splinting position of the articulation. Motion of abduction is limited to the range from 60 to 90 degrees. Marked tenderness is noted over the greater tuberosity of the humerus. In the early stages swelling and induration are found about the shoulder joint; later there may be atrophy.

X-rays show calcific deposits overlying the greater tuberosity of the humerus,[1] most commonly in the supraspinatus tendon but sometimes in the tendons of the subscapularis, teres minor, and the infraspinatus.

Calcification of the subdeltoid bursa is caused by a rupture into the bursa. Calcifications about the shoulder are of the consistency of milky fluid or chalky material, usually the color of white toothpaste.

Sprain or Tear.—Sprain or tear (rupture of the rotator cuff) is met with most frequently in the fifth and sixth decades. Injury results from a fall with the brunt of body weight transmitted to a shoulder, producing a wrenching, or occurs when the normal range of movement is exceeded. The shoulder may be swollen, and there may be extravasation of blood into the periarticular tissues. Complete tears rarely produce calcification. The loss of abduction is due to "humping" of the cuff.

X-rays are essentially negative, although small spicules of cervical rim may be shown. Arthrograms usually are positive with spillover of the Diodrast into the subacromial region.

BICIPITAL SYNDROME

The bicipital syndrome is encountered often in the fifth decade in laboring individuals.[2] Wear and tear or trauma produces inflammatory and degenerative changes of the tendon of the long head of the biceps within the narrow intertubercular sulcus of the humerus. Usually there is localized tenderness over the area in conjunction with limitation of shoulder motions, especially those coupled with muscle action of the long head of the biceps in flexion and extension.

A snapping or clicking over the area of the transverse humeral ligament is characteristic of the condition. In many instances associated pain and weakness are noted in resistance to supination and flexion of the forearm.

X-rays of the intertubercular sulcus may show a shallow bed as a cause of translatory play of the tendon or osteophytic projection predisposing the tendon to injury.

Arthritis

GLENOHUMERAL

Trauma.—Trauma plays a great part in the production of arthritic changes of the scapulohumeral articulation. Incongruity of the juxta-articular surfaces following fracture, dislocation, and overstretching of the shoulder by a sudden pull or twist are the most common etiologic factors. In almost all cases the basis for diagnosis is a history of trauma, localized pain, tenderness, and when associated with a fracture, some deformity may exist. X-rays may show the presence of the fracture or decalcification of disuse.

Infectious.—Rheumatoid arthritis is a chronic systemic disease. One or both shoulder joints may be involved, and there may be other joint manifestations. There are morphologic changes in the synovial membrane, periarticular structures, cartilage, skeletal muscles, and the perineural sheaths. The cause is unknown but believed to be related to infection, allergy, metabolic disorders, or endocrine dysfunction. Also considered are recurrent upper respiratory infections, exposure to dampness or cold, and fatigue or trauma of either physical or emotional status.

The lesion is not specific but consists chiefly of leukocytic infiltration with overgrowth of connective tissue. The malady may present itself without apparent predisposition factors; it may be acute with polyarthritis, fever, and prostration. Onset occurs most often in the fourth decade, and males and females are equally vulnerable.

In the acute stage the shoulder joint is warm, occasionally red, with a small amount of intra-articular joint fluid. The individual may show signs of fatigue and weakness; fever may be absent. Commonly pain, discomfort, and muscle symptoms are present on awakening in the morning and subside to some extent with the day's activities. Overfatigue produces greater joint pain the following day. With progress of the disease joint changes of the scapulohumeral articulation become apparent; there is diminution of the joint space due to destruction of the cartilage by pannus formation. With continuing pain and disability of the shoulder area, the muscles are spastic and fixed and later become atrophied. The condition is subject to remissions and exacerbations with a tendency toward chronicity.

X-rays show punched-out areas in the bone close to the joint with general decalcification. Terminal status is bony ankylosis.

Degenerative.—Osteoarthritis of the scapulohumeral joint is noted mostly in the fifth and sixth decades and beyond, and usually there is a familial history. Many individuals attribute their complaints to dampness and cold. Injury often is associated with the degenerative process of the articulation. The cartilaginous surfaces of the joint show evidence of fibrillation and thinning. Osteophytic changes about the articular rim are present.

Clinical findings in the early stages are stiffness and pain after moderate functional use of the shoulder joint, and ready fatigue is a prominent symptom. As the disease progresses with changes within the articular cartilage, the range of movement of the shoulder becomes smaller with pain limiting the possible arc. There may be concomitant swelling and induration over the shoulder joint. X-rays show marginal lipping with spur formation and secondary narrowing of the scapulohumeral articulation.

Metabolic.—Among the metabolic diseases gout affects the shoulder joint in a fair number of cases. Elevation of uric acid may be noted in the serum. X-rays show soft tissue shadows of uric acid deposits, and tophi may be found. As a rule, acute and chronic cases respond to colchicine, and it is popular as a therapeutic-diagnostic agent.

ACROMIOCLAVICULAR

Acromioclavicular arthritis commonly is met with in about the fifth decade and is usually associated with injury and degeneration. It is particularly prevalent among individuals performing work above shoulder level, for it is at this point that the "boom" action of the clavicle is placed under greatest stress.

Clinical examination reveals localized tenderness over the lateral end of the clavicle at the acromioclavicular joint, often concomitant with a cracking or clicking. Acute pain is provoked by abduction of the arm beyond a horizontal plane and on lateral compression with anterior thrust of the shoulder. There may be prominence of the lateral end of the clavicle.

In the majority of cases x-rays show some thickening of the juxtaposed surfaces of the articulation, osteophytic lipping, and narrowing of the joint space with distention of the capsular (soft) tissues. Eburnation and subchondral cysts are noted.

Scapulocostal Syndrome

The term "scapulocostal syndrome"[3,4] (postural fatigue paradox) is one we introduced about five years ago in an effort to explain the phenomenon of shoulder involvement with various pain-pattern distributions in about 50 per cent of all middle-aged individuals presenting shoulder complaints on either a traumatic or nontraumatic basis. It was not our intent to add another diagnosis to an already overcrowded nomenclature but rather to pool many of those presently existing under a common term, identifying a condition in which there are present an underlying phenomenon and pathologic state, and to offer a rational approach to therapy.

The condition embraces a number of bizarre pain patterns about the neck, shoulder girdle, arm, and chest, including unilateral neck and head pain, pain diffusely referred to the deltoid muscle, pain down the arm into the fingers, and chest radiation. I believe that the conditions of

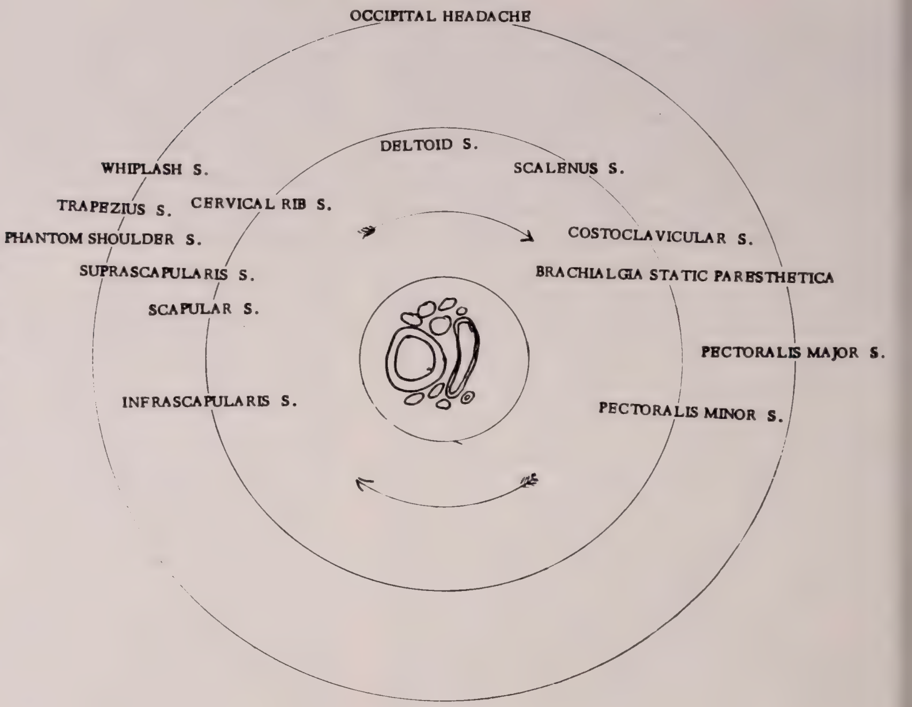

FIG. 1. In these syndromes the etiology and pathomechanogenesis follow a common pattern within the scope of the scapulocostal syndrome, and one plan of therapy is applicable to all.

whiplash, trapezius, cervical rib, suprascapularis, pectoralis major, brachialgia statica paresthetica, costoclavicular, scalenus, etc., syndromes fall within the category of scapulocostal syndrome (Fig. 1).

The location of the disturbed deep cervical (pre- and postvertebral) fascia has been usually ascribed to the muscle or bones of the site. The myofascial structures suspend the shoulder girdle to the neck and trunk, and this suspension is prone to derangement. This definitely is noted in persons with anterior drooping of the shoulder and in those in whom the upper extremity has been induced into and fixed in an increased pronated attitude while standing, sitting, or lying down.

The floor of the cervicobrachial area is "carpeted"[5] with a strong layer of fascia, part of the pre- and postvertebral fascia which envelops like a strong sleeve the vertebral column and the pre- and postvertebral muscles. The cervical nerves leaving the intervertebral foramina and the subclavian vessels leaving the thorax are at first deep to this fascial carpet, which covers the subclavian vessels and the cervical portion of the brachial plexus, providing them with a tubular sheath distally as they enter the axilla.

The deep fascia of the neck is at one site fixed to the anterior aspects of the bodies of the cervical vertebrae with the middle and superficial (preinvesting) layers of the fascia attached to the clavicle. It dips underneath the clavicle into the pectoral fascia and the coracoclavicular ligament into the muscle septa of the deltoid, on to its attachment into the arm. Posteriorly it is fixed to the loosely placed ligamentum nuchae and firmly attached to the periosteum of the spinous process of the seventh cervical vertebra. Above, the deep fascia is attached to the superior nuchal line of the occiput, to the mastoid process of the temporal bone, and to the entire length of the inferior border of the mandible.

Tension on the fascial carpet is influenced by the most mobile portion of the myofascial attachment at the superior medial angle of the scapula. Abnormal postural pull or strain (commonly referred to as "drag") produces, figuratively speaking, a wrinkle in the carpet. This is followed by reflex fatigue, reflex imbalance, and degeneration in the somesthetic system and spinal effector mechanism, later associated with metabolic changes affecting basic connective tissue structures, particularly in "vulnerable shoulder" groups. Tension or "trigger" points are found at the stretch sites of the fixation of the fascia to bone or muscle. The nerve structures piercing the deep fascia or the neurovascular components within the tubular sheath formed by the pre- and postvertebral fascia can be influenced by a pronation drag of the upper extremity.

Adhesive Capsulitis

Any intrinsic involvement of the shoulder may result in a secondary periarticular arthritis or "frozen shoulder," a common sequel in tendinitis. Shoulder movements are attended by pain and discomfort, and subsequently the patient will avoid motion by splinting the arm to his side. Older individuals with vulnerable, i.e., contracted, deep cervical fascia are the most susceptible.

Changes in the periarticular structures, such as the capsule and rotator cuff mechanisms, resulting in adhesive contracture of the shoulder joint produce serous exudate and congestion. Whereas the initial defect of motion is a response to the avoidance of pain, the matting and adhesion of the joint structure produce involuntary restriction and loss of function.

Occasionally adhesive capsulitis follows direct trauma to the hand, Colles' fractures, or simple immobilization by cast or sling. Cardiovascular accident often suffices to set up the pathology within three to four weeks. Markedly susceptible are tuberculars and sufferers from other chronic disease necessitating a long period of confinement to bed with the patient propped up on multiple pillows in poor postural attitudes.

The ensuing secondary pathology is clinically demonstrated by atrophy of the overlying musculature and loss of scapulohumeral rhythm and function. When ankylosis of the shoulder joint is complete, the pain element disappears except where there is fixation in a position producing abnormal tension on the deep cervical fascia with a secondary type of scapulocostal syndrome.

Shoulder-Hand Syndrome

Steinbrocker[6] believes this condition to be due to trophic disturbances allied to Sudeck's dystrophy, a result of sympathetic stimulation producing reflex neurovascular disturbances. I am of the opinion that the malady is an advanced stage of adhesive capsulitis with the addition of sympathetic irritation and hand involvement.

In many cases the disease is self-limiting and may resolve itself within a period of three months, but it may run a chronic course with residual ankylosis of the shoulder and a Dupuytren's type of contracture of the fingers. It is characterized by onset of pain and stiffness of one or both shoulders with associated stiffness of the corresponding hand.

Early in the disease the hand is warm, later cold and sweating. The parts are sensitive, and the patient fears the slightest movement. The presence of the reflex dystrophy often obscures the primary cause. Causalgia may be produced with the additional features of burning, swelling, pain, and smooth tense skin of the hand. The afferent stimuli evoke peripheral and central responses; later there are hyperreaction and hypersensitive properties, and a vicious cycle is set in motion.

Persistent pain irritation produces a primary paralysis which causes vasoconstriction; osteoporosis is due to hyperemia present in the primary stages. It is my conviction that any of the primary intrinsic or extrinsic causes of shoulder pain can precipitate the syndrome and that the condition is basically one of adhesive capsulitis with sympathetic upset.

Cervical Intervertebral Disk

Cervical disk lesions occur frequently in the fifth and sixth decades, also in younger people.[7] As a rule the protrusion is lateral, as compared with the lumbar disk. Trauma most commonly is associated with an unguarded rotation movement of the head. The onset may be insidious with aching neck pain; later there is referred or radicular pain into the scapular area, shoulder, arm, the pectoral region, and finally into the hand and fingers. Pain mechanisms are impingement on the nerve roots or degeneration with irritation changes of the underlying connective tissue of the annulus fibrosis.

The usual findings are limited neck motion, pain, and tenderness over the site of radicular radiation. When nerve root pressure is severe or acutely fixed, muscle spasm fixes the head in an abnormal attitude, and any movement suffices to provoke pain. Lateral flexion and hyperextension are painful. Dermatome patterns of hypesthesia or anesthesia occur. Motor weakness and atrophy are sequelae.

X-rays of the cervical spine may show diminution or reversal of the normal lordosis, degenerative changes associated with diminished intervertebral interspace or with sclerosis and eburnation of adjacent vertebrae, or films may be entirely negative for any significant pathology.

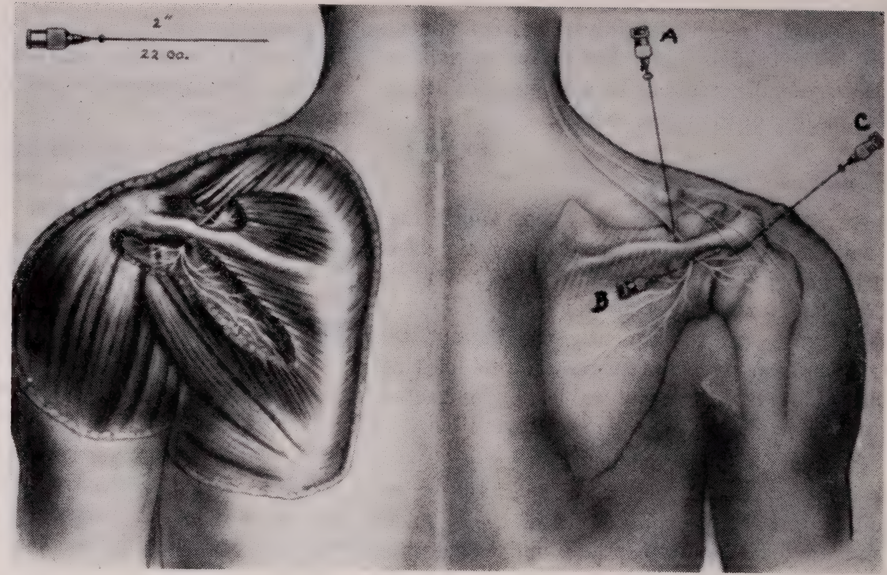

Fig. 2. Treatment of painful limitation of motion of the shoulder joint. Course of suprascapular nerve. Needle A—blocking suprascapular nerve; needle B—infiltration of a typically located trigger zone; needle C—infiltration about the capsule to be followed by manipulation and active exercise in treatment of contracture of capsule. (*Courtesy of Michele and Southworth[7] and J. B. Lippincott Company*)

Osteoarthritis of the Cervical Spine

Osteoarthritis of the cervical spine is a relatively common condition commencing with the fifth or sixth decade The findings, even though advanced, may be innocuous. Steindler[8] states that x-rays of the spine showing osteoarthritic changes and shoulder joints presenting calcification are not in and of themselves diagnostic of clinical disease but only media in delineating the character of the individual. Other points to be determined are the degree of wear-and-tear phenomenon, diminution of vascularity, etc., as compared with those in the average person. Individuals with the head anteriorly pitched, with exaggerated cervical lordosis, invariably present the condition with involvement of the lower three or four cervical vertebrae.

I believe the pathologic changes of the bone structure are not so much to blame as the secondarily contracted myofascial structure emanating from the cervical skeletal attachment and deep cervical fascia, especially at the site of attachment to the periosteum of the spinous process of the seventh cervical vertebra and the base of the skull.

Injury, postural (fixed) cervical strain, poor muscle tone, and postural decompensation are inciting or precipitating agents in pain and discomfort. When complaints are due to intrinsic bony pathology, one notes pain, soreness, stiffness, ache beginning in the early morning, increasing with the day's activities, and worse towards evening; the neck is stiff with localized tenderness. Discomfort due to extrinsic pathology (contracted deep myofascial structures) is alleviated by activity, exercise, and postural readjustment.

Where the osteoarthritic state has progressed to the stage of marginal osteophytic formation, then the cervical picture is that of a space-displacing lesion or discogenic syndrome.

Treatment

Prior to initiation of therapy for pain an accurate diagnosis of the underlying process and identification of the part of the shoulder girdle complex affected must be established.

TENDINITIS

The first steps in approaching the management and care of tendinitis are toward the elimination of pain, preservation of motion, and avoidance of irritating movements. During the acute stage a sling may be used but should be discarded as soon as the patient has acquired a satisfactory pain-tolerance range of motion. Procaine hydrochloride (5 to 10 cc. of 1 per cent solution) is injected at the subdeltoid area, directed towards the greater tuberosity of the humerus; this is followed by passive manipulation through all possible arcs of motion (Fig. 2). Suprascapular nerve block may also be indicated, especially where there is loss of scapulohumeral rhythm and disturbed motion. Iontophoresis with hista-

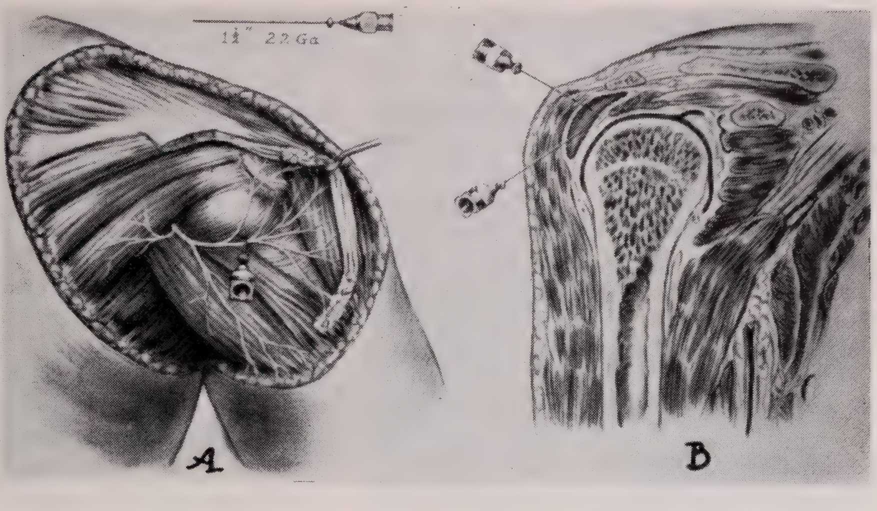

FIG. 3. Treatment of painful shoulder: (*A*) infiltration about the capsule with approximate course of the articular twigs shown; (*B*) drawing to illustrate 2-needle lavage technic for treatment of acute subacromial bursitis. (*Courtesy of Dr. J. Southworth*[9] *and J. B. Lippincott Company*)

mine (Imadyl) or procaine has proved of merit in the chronic stage. Hydrocortone is also used locally.

Degenerative Tendinitis.—The treatment of degenerative tendinitis associated with calcified or subacromial bursitis consists of temporary splinting of the shoulder joint, sedation, procaine injection locally, needle irrigation of the calcified substance, x-ray therapy, diathermy, and active exercises of the shoulder. Passive stretching just past the stage of pain in planes of abduction and external and internal rotation of the humerus on the scapula is carried out. Active exercises should not be deferred beyond three to five days in order to avoid adhesions. If the pain threshold is high, the patient can perform the exercises, but if it is low, they should be carried out by the physician or therapist.

The acute symptomatology is relieved by opiates, also by tying the affected arm to the head of the bed. An icepack may afford some comfort.

If severe pain is not relieved within thirty-six hours by splinting of shoulder and arm or if pain increases, then single or double needle decompression must be considered. In the single needle (number 16) method, procaine hydrochloride (10 to 15 cc. of 1 per cent solution) is used as the irrigating agent. The needle's point is directed to the bursa overlying the greater tuberosity in the vicinity of the anterior lateral quadrant of the humerus as it lies on the side of the chest in neutral rotation. Pressure against the barrel of the syringe is sustained until the bursal sac is sufficiently distended so that the calcified material flows into the barrel when the plunger is released. This is followed by the introduction of Hydrocortone (37.5 mg.). In the double-needle procedure used by many, one needle serves for installation of the irrigating medium (normal saline or procaine), the other as an outlet. (Fig. 3)

If relief is not obtained immediately by decompression, x-ray therapy is undertaken. About 50 r are given over the shoulder at a distance of 20 to 35 cm. Treatments are spread over a period of three or four days; if no definite improvement ensues, a change of therapy is recommended. Local Hydrocortone and antibiotics have proved efficacious. Calcified deposits may disappear after repeated diathermy.

Calcification.—Roentgenologists are enthusiastic about x-ray therapy in the subacute stage of calcified bursitis, but at least 50 per cent of our patients so treated were dissatisfied with the therapy. As far as I can determine, x-ray finds its greatest service in acute cases for relief of pain and absorption of calcifications of the amorphous type.

Diathermy, hot fomentations, gentle massage, each produces a hyperemia. Galvanic iontophoresis occasionally hastens reabsorption of calcareous material. Cortisone orally (100 to 150 mg.) is given daily for about four or five days. Atrophy is corrected by functional exercises of the shoulder joint, such as shoulder-shrugging, wall-creeping, and arm-swinging.

Sprain or Tear.—In cases of sprain or tear the shoulder should be immobilized by placement of the upper member in an abduction splint with a moderate degree of lateral or external rotation. A buildup of accessory shoulder musculature through a program of exercises is a necessity. Continuation of therapy usually is gauged by the extent of tear and its response to conservative treatment.

Bicipital Syndrome.—In the treatment of bicipital syndrome 5 to 10 cc. of 1 per cent solution of procaine hydrochloride are infiltrated in the vicinity of the intertubercular groove and transverse humeral ligament. Local Hydrocortone (25 mg.) has become increasingly popular as a form of therapy. The use of a sling for five to seven days during the acute stage is recommended. Swinging and circular movements while in the sling are encouraged. Sedation in the form of codeine, aspirin, or Acetycol is prescribed. A program of active exercises should be followed.

Glenohumeral Arthritis

Traumatic.—Treatment of traumatic arthritis commences with the avoidance of painful movements by restricting activities to the asymptomatic range. The shoulder is prepared by twenty to thirty minutes of deep radiant heat, hot packs, or shortwave diathermy. This is followed by active manipulation of the shoulder to a point just beyond the asymptomatic range; the amount of exertion depends upon the extent of findings of shoulder-joint derangement.

Infectious.—Rest, avoidance of overfatigue, and correct posture, particularly while at rest, are highly important factors in the treatment of infectious (rheumatoid) arthritis. Management of the active stage of the disease finds two main objectives: (1) We must improve the patient's general health and raise resistance to the disease, and (2) mobility and function of the shoulder joints must be maintained.

Much can be accomplished by a plan of local therapy at home. Hot fomentations should be applied to the shoulder for half-hour periods several times daily. Flaxseed poultices and counterirritants have proved of value. Infrared or a heating-pad may be used. Shoulder motions must be attempted daily after local heat application in order to prevent formation of thick adhesions. Patients usually complain of morning stiffness which decreases with the day's activities; the stiffness can be reduced by hot baths and exercises.

A program of office therapy includes diathermy and iontophoresis. We have used cortisone (compound E), adrenocortical hormone, and adrenocorticotropic hormone (ACTH) and from these have obtained our most gratifying results. Although gold salts have found favor in some clinics for the past fifteen years, we have had little experience in their use.

The main objective in the chronic stage is to correct deformity and help the patient to gain the best possible use from the crippled joints. We must strive to prevent deformity by proper rest posture. A firm mattress should be used and only a small pillow, preferably one fitting the nape of the neck. In acute arthritic conditions the shoulder should be placed with the arm in 90 degrees abduction and full external rotation. This attitude may be maintained by using pillows or an abduction splint and will effectively offset the tendency of the shoulder to droop anteriorly with abduction and internal rotation of the arm which produces a notable deformity.

Degenerative.—In degenerative arthritis the extent of joint pain is in direct ratio to activity. Discomfort increases throughout the day, and symptoms are worse in the evening than in the morning. At night there is difficulty in getting to sleep due to pain and stiffness. Misuse of the damaged shoulder joint should be minimized or avoided. Proper posture alignment, flexibility, and power will prevent abnormal strain on faulty shoulder mechanisms.

Principal media in therapy are simple analgesics, salicylates, aspirin, Acetycol, rest, and physical therapy. Counterirritants have found great favor. In most cases local procaine hydrochloride (5 to 10 cc. of 1 per cent solution) or Hydrocortone (25 to 37.5 mg.) is prescribed. Roentgen therapy has been recommended, but results are inconsistent and benefits only transitory. Radiant, conductive, or convective heat may be used.

When results from conscientious conservative treatment are unsatisfactory, surgical intervention may be considered.

Metabolic.—In metabolic involvement, usually associated with gout, colchicine hydrochloride, $^1/_{100}$ grain three to four times daily for several days, is prescribed. Colchicine is a good therapeutic diagnostic testing medium. ACTH or Acetycol may be used.

Acromioclavicular Arthritis

In cases of acromioclavicular arthritis, irritating stress at the acromioclavicular articulation should be obviated, and this may necessitate avoidance of work performed with the arms above shoulder level. Infiltration of procaine or Hydrocortone is employed in acute injury, and strapping down of the lateral end of the clavicle may prove of some value.

Scapulocostal Syndrome

Treatment of scapulocostal syndrome is based primarily on correction of faulty postural attitudes in sitting, standing, working, and in bed rest. In bed rest a fracture board of $^5/_8$-inch plywood covering the entire surface of the spring should be used underneath the mattress. Visual disturbances should be corrected to avoid anterior projection of the head. Chair levels should be adjusted so as to prevent habitual slouching positions of the spine; this is particularly true where machine operators, typists, bookkeepers, etc., are concerned. Dentists working in a bent-over attitude from behind should adopt a better position. Draftsmen should raise their desks to bring the work closer to themselves.

Females, particularly those with pendulous and heavy breasts, find relief through use of a strapless brassiere. For routine wear, therefore, we recommend a brassiere of this type but with the attachment of shoulder straps having a wide felt base. It should be made certain that the posterior upper margin of the garment is placed a good three or four fingers above the level of the inferior spine of the scapula and held by a heavy elastic binding.

Compression or torsion of the brachial plexus in the supraclavicular region is due to descent of the shoulder girdle from muscle hypotonia and forward placement of the head; hypotonicity is not uniform, and relative imbalance occurs. Improving tone of the hypotonic shoulder girdle reestablishes antigravity activity and correct balances. Shoulder-shrugging in conjunction with circling maneuvers is excellent for strengthening the muscle component of the shoulder girdle and is especially effective when performed against resistance. After the shoulder descent is corrected and habitual relationship with the thoracic cage attained, the proper postural alignment of the cervical spine must be restored. A proptotic abdomen, such as in obesity and pregnancy, accentuates the lumbar lordosis and secondarily that of the cervical spine, and adequate abdominal support should be provided. The proper environment for sleep is of great importance; there should be no drafts, dampness, or chill.

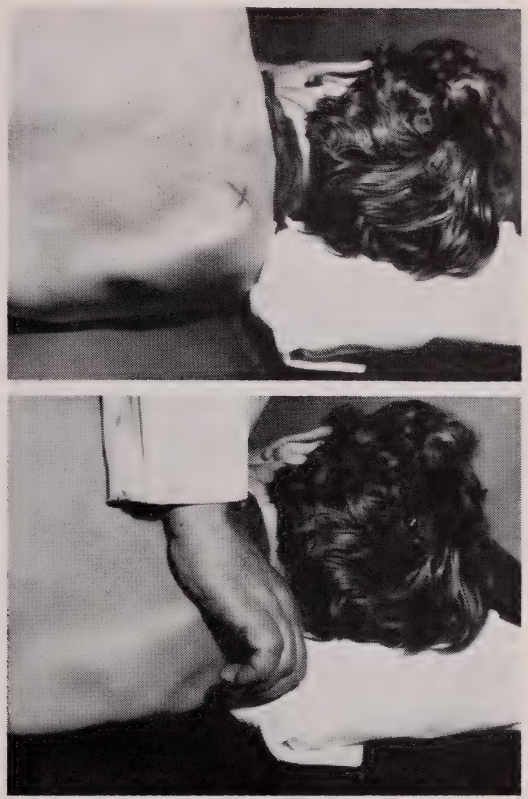

Fig. 4. Manipulative therapy. Traction on the most mobile portion of the deep (postvertebral) cervical fascia at its attachment at the superior medial angle of the scapula; sustained pressure of 40 to 50 pounds for several minutes.

In office therapy deep radiant heat is applied for twenty to thirty minutes prior to deep massage and active exercises. Procaine or Hydrocortone may be used as a preliminary.

We have noted that firm, sustained digital pressure over the area of trigger-point or tension tenderness is often followed by immediate mitigation of the acute symptomatology. Ethyl chloride spray also affords relief. Hydrocortone infiltration is of value in cases where there are nodular formations, especially in myofasciitis. Deep kneading should follow immediately after injection.

In cases of protracted complaints a form of manipulative therapy, tension stretch of the deep cervical fascia, is of proved merit (Fig. 4). In this procedure the patient lies on the affected side, and with the base of the therapist's palm, a downward and outward thrust of the superior medial angle of the scapula is carried out. This maneuver necessitates approximately 40 to 50 pounds pressure.

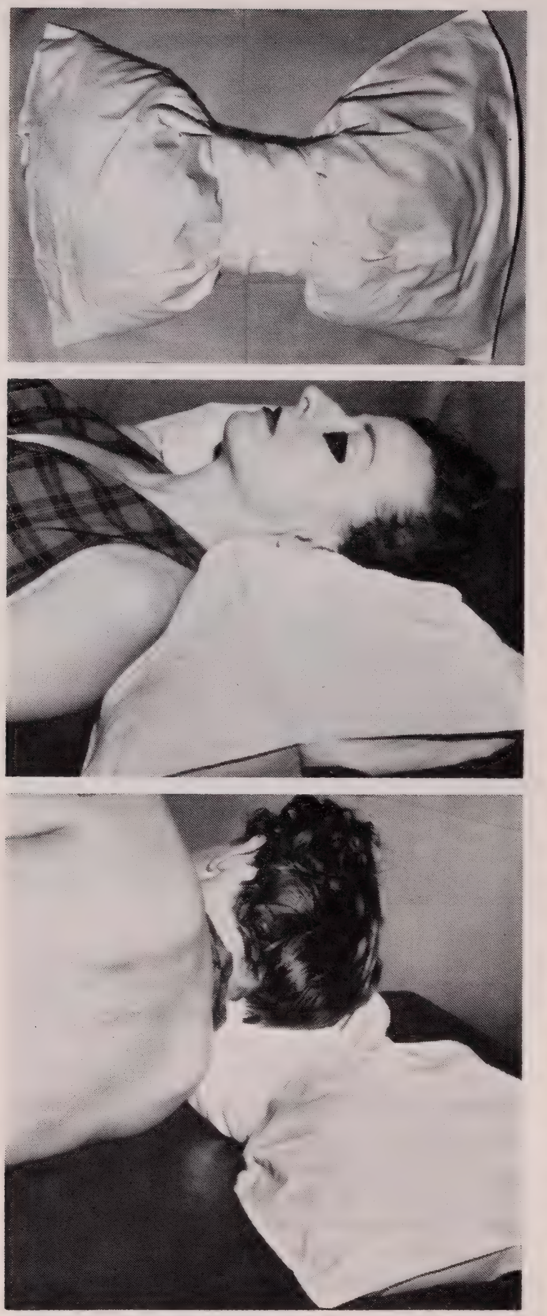

FIG. 5. Cervical contour pillow. Note restful postural cervical lordosis with suspension of weight of head and avoidance of lateral deep cervical stretch when lying on the side.

Cervical traction, either intermittent or continuous, also has been effective. Procaine is infiltrated at the "tacked" portions of the deep fascial structures where the tension points have occurred. Deep radiant heat or hot moist packs are applied for twenty to thirty minutes prior to traction.

Particularly in cases of scapulocostal syndrome and osteoarthritic cervical spines, I have made a "butterfly" pillow (Fig. 5). This is done by constricting the central portion of a hair, foam rubber, or feather pillow by tying around it a band of muslin about 6 inches wide. The area of constriction is placed underneath the nape of the neck, and the extended wings maintain the head at the proper level and attitude when the individual lies on his side.

ADHESIVE CAPSULITIS

Adhesive capsulitis (frozen shoulder, periarthritis) is a secondary condition which may follow any of those discussed above. Therefore, therapy should be directed to the primary cause (tendinitis, scapulocostal or bicipital syndrome) if it is ascertainable. Adhesive capsulitis requires treatment for several months and in many cases for as long as a year.

If there is complaint of night pain, sling immobilization is indicated; however, during the day active functional motion of the arm up to the point of tolerance should be encouraged. Sedation may be required.

In the office program of therapy, deep radiant heat and massage are followed by passive manipulation to the point of tolerance, each maneuver being carried out to a few additional degrees; the extent of increase should be judicious. An important point here is to make certain that the patient captures the increased range through utilization of it, and this is accomplished by exercises. Injection of procaine or Hydrocortone usually is part of the therapeutic regime.

I feel that it is the rare case in which manipulation under an anesthetic is resorted to. I prefer that such manipulations, if they must be done, be carried out in one plane at a time, i.e., abduction, adduction, internal and external rotation, forward and backward flexion, and finally circumduction. Intra-articular injection of Hydrocortone (50 mg.) follows the manipulation.[10] Interim intensive sessions of passive stretching definitely are advised. Often it becomes necessary to place the affected arm abducted to 90 degrees with 6 to 8 pounds traction in a Balkan frame. Active functional use of the member is to be encouraged.

SHOULDER-HAND SYNDROME

Within the scope of treatment in the shoulder-hand syndrome the basic factors are elimination of the primary pathology if possible, interruption of the sympathetic supply by stellate ganglion injection of procaine, and sympathomimetic drugs such as Priscoline or Etamon. For restoration of normal joint function a plan of effective physical therapy is required.

Treatment by stellate ganglion block[9] with or without cortisone orally has been found valuable. Steroid therapy of cortisone and corticotropin (ACTH) is reserved for those failing to respond to the stellate ganglion block and those unwilling to accept sympathetic nerve block therapy.

Herniated Cervical Intervertebral Disk

In the management of herniated cervical intervertebral disk all efforts are of course directed toward release of the pressure of the disk tension on the cervical nerve root. In most cases there is a satisfactory response to a conservative course of therapy consisting of rest, traction, either intermittent or continuous, and immobilization of the neck with a Thomas or turnbuckle collar. Preliminary use of procaine locally at the base (lateral) of the cervical spine facilitates the traction procedure effect on the deep cervical fascia. Sedatives, tolserol, and vitamins are supportive.

Osteoarthritis of the Cervical Spine

Treatment of osteoarthritis of the cervical spine depends on the status attained. The condition is noted in people with degenerative joint disease and in those demonstrating a prominence of the seventh cervical vertebra with forward positioning of the head. If the nature of the pathology is related to the deep cervical fascia, treatment comes within the scope of that outlined for scapulocostal syndrome. If the exostosis is acting like a cervical intervertebral disk, the treatment is the same as that for cervical intervertebral disk.

Conservative management consists of neck traction, massage, and application of heat; local anesthetics such as procaine or pontocaine can be administered to relieve pain and spasm.

Cervical traction with 10 to 20 pounds is applied for ten to fourteen days with total bed rest during that period. Intravenous procaine during the first few days of traction facilitates adjustment to the apparatus. The therapy is followed by a plaster Victorian collar and later a Thomas or turnbuckle collar if indicated.

166 Clinton Street

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Discussion

Harrison L. McLaughlin, M.D., *New York City.*—Dr. Michele's emphasis on the part played by the cervical fasciae in the production of what he has termed the "scapulothoracic syndrome" is intriguing but not entirely clear. I have recognized emotional stress but not faulty posture as a common denominator to this problem and have entertained a less academic but simpler concept of the familiar pain patterns that so commonly radiate from the painful shoulder like the spokes of a wheel. These secondary pains radiating up the trapezius to produce occipital headache, down the neck to produce a displaced tennis elbow at the scapular attachment of the levator muscle across the pectoral group to produce mediastinal discomfort, down the deltoid to produce mid-arm pain at its insertion, and eventually down the dorsal muscles of the extremity to produce pseudoneurologic symptoms, which usually do not enter the hand and which by spillover into the sympathetic mechanism produce variable stigmata of chronic vasospasm—all seem the natural results of chronic and at times subclinical protective spasm. Certainly there is a consistent symptomatic response to relaxation of the muscles involved.

Robert Lee Patterson, Jr., M.D., *New York City.*—Dr. Michele has not only presented a very detailed and comprehensive classification of what he considers the pathologies causing pain in and about the shoulder but has attempted to find a common factor in all the various syndromes reportedly producing shoulder pain, that is, the deep cervical fascia. I am sorry I am unable to follow his line of reasoning which attributes these various pains to the deep cervical fascia. When I see all the names used, such as pectoralis syndrome, trapezius syndrome, costoclavicular syndrome, scapulocostal syndrome, I wonder whether we are missing the real diagnosis. It to me is like a headache; is it due to a brain tumor or to constipation?

I should like to ask Dr. Michele a question or two which might help me:

1. Have any biopsy studies been performed to determine the condition of the fascia, and if so, was any inflammatory reaction noted?

2. If there was evidence of inflammation, why would not this reaction respond to the anti-inflammatory drugs?

3. Can we have localized inflammation, say involving only the deep cervical fascia without involving the rest of the tissue?

4. If the fascia has become controlled, surgical incision should help. When I think of the deep cervical fascia, I like to compare it to the tight, contracted tensor fascia as a cause of sciatica for which Ober devised his operation to relieve the sciatica. A follow-up x-ray on these patients usually shows degenerative disk disease in the lumbar spine.

I approve of any conservative approach to treatment when we are unsure of the diagnosis, and I think Dr. Michele has been conservative and undoubtedly has been of real help to his patients by his suggested therapy, but I must disagree with him on certain points: First, I am firmly against passive stretching just past the stage of pain. Nothing tightens a joint more than the "pain reflex."

Second, the original reason I became interested in the shoulder was seeing the agony of a man in 1932 with an acute shoulder and his wrist tied to the head of the bed. Third, one of the characteristics of a patient with a painful shoulder is that he does not want to lie down, and to be flat in bed is intolerable. If you put a patient to bed, be sure to crank the head of the bed up, put a pillow under the elbow, and use gentle unfixed suspension or traction —but not with the patient flat in bed.

Regardless of my being unable to accept Dr. Michele's theory of the carpet of deep cervical fascia, I do want to finish by saying that in his "Conservative Management of Painful Shoulders," he has stressed thoroughly the one main principle in the treatment of shoulder pain—motion—and whether he uses only heat, drugs, injections, etc., they have been used to make it possible for the patient to get comfortable enough to do exercises. I believe that only with motion can we prevent pain, freezing, reflex dystrophy, and what Coventry at Mayo's calls the "periarthritis personality."

H. Fred Moseley, D.M., *Montreal.*—This presentation by Dr. Michele attempts to classify the many causes of the painful shoulder, and clinicians will find his classification of practical value, especially if they bear in mind the limitations of all such organized data.

His description and conservative treatment of the various accepted lesions around the shoulder agree in general with those of other workers in this field. His personal contribution to the thought on this interesting subject is the attempt to group the many unexplained syndromes under a common term, "the scapulocostal syndrome," attributing the site of such derangements to the deep cervical fascia. This concept will be found by many to be an assistance to their understanding of the conservative treatment of many ill-defined syndromes, since correction of abnormal strains and stresses on this fascia will at the same time relieve the presenting symptoms. Although other workers may prefer to think in terms of tension on the pain nerve endings in this fascia, this is often more difficult than to accept the fascial planes as the present working basis. Those who accept this presumption, however, should remember that the accurate knowledge of shoulder lesions has come from the exact recognition of the underlying pathologic changes, which recognition was initiated by the work of Codman, Meyer, and Bankart and continued by the many other investigators who have followed in their footsteps.

In conclusion, I consider Dr. Michele's insistence on active motion as the key to the treatment of most shoulder disorders and further accept his use of passive motion in that group of patients with a low threshold of pain who, after injury, operation, or any other derangement, tend to develop the syndrome of the stiff and painful shoulder.

Arthur A. Michele, M.D., *Closing Remarks.*—I grant that Dr. McLaughlin's point regarding emotional stress is well taken. However, as far as I can determine, emotional stress is basically an "X" factor. That it may be a precipitating agent in many conditions one cannot deny, but it must be remembered that the scapulocostal syndrome could be precipitated only in posturally vulnerable and, therefore, predisposed individuals. This of course takes us back to the common denominator, the deep pre- and postvertebral fasciae. In the majority of cases the pathology is purely and simply an involvement of the deep myofascial structures. Therefore an "X" factor, in either traumatic or nontraumatic involvement of the shoulder, merely complicates the picture.

Insofar as the scapulocostal syndrome itself is concerned, it is only one small piece in the pathologic pattern which I consider to be within the orbit of a common scheme of management of shoulder pain.

I want to thank Dr. Patterson for his comments, and I will endeavor to clarify the points he has brought forward.

First, let me say that in compiling the classification of shoulder syndromes, it was not my intention to imply that the common denominator therein is the deep cervical fascia but, rather, to group together those conditions in which the common factor is the pattern of management. Certainly not all of them are traceable to disturbance of deep fascia, only those in the scapulocostal syndrome. Here, the line of reasoning is a simple and direct one, for our entire armamentarium of therapy is directed toward the deep myofascial structures, whether in a conservative program or by surgical decompression of the structures involved and, therefore, from the very beginning we must think in terms of fascia.

I fully agree with Dr. Patterson in his thought that we may be missing the real diagnosis because we have been prone to create a special and separate entity at each site or area of discomfort, forgetting completely that all of them are interwoven and can be disturbed by a distressed deep fascia. That, as I have mentioned, was exactly the motive for the introduction of the term "scapulocostal syndrome."

Biopsy studies made in cases of distressed fascia do not present any significant findings, any more than one would expect to find on biopsies of myofascial states of the lower back.

I believe that the question of inflammation and anti-inflammatory drugs can be disposed of by referring to the work of Berkheiser in which it is demonstrated that upper respiratory infections, through hyperemia of contiguous tissues including fascia, can produce subluxation of the cervical vertebrae. This is because of contiguity, and not continuity, of the tissues. Anti-inflammatory drugs may prove of merit in such pathology, but this type is not usually associated with the scapulocostal syndrome.

Ober's fasciotomy has been used with success in indicated cases, but when performed for a herniated disk, it is obvious that incision of the fascia lata plays no part in the relief of nerve root compression, any more than a release of deep cervical fascia would give relief for a cervical herniated intervertebral disk.

I have reserved gradual passive stretching of the shoulder to the cases of adhesive capsulitis where the scapulocostal syndrome may have been the primary cause. Adhesive capsulitis is noted quite frequently in cases of tendinitis with calcification persisting after x-ray therapy, and it requires a preheated shoulder in conjunction with gradual passive stretching. Nothing loosens a joint more completely and eliminates pain reflex more quickly than passive stretching at a point just beyond pain tolerance. It then requires good physiotherapy and exercises to maintain the newly acquired range of function. Adequate office therapy has practically eliminated the need for surgical intervention in cases of adhesive capsulitis regardless of the primary source.

I believe that if we deal with the tangibles, as we must in the management of shoulder pain, rather than with the abstract, we can readily outline a program of attack of the tissues involved and devise or improvise a method by which relief of the affected structures can be obtained. I agree fully with Dr. Coventry's approach to the shoulder problem through the "periarthritic personality." This is the same "X" factor mentioned by Dr. McLaughlin.

Consultants Untangle Knotty Problems

Doctors who answer questions for other doctors today tangled with such knotty problems as: Should football players be given extra vitamins; are colored socks bad for sore feet, and what can be done with a four-year-old child who refuses food?

The consultants came up with the following answers in the October 15 *Journal of the American Medical Association:*

All "mass medicine," including vitamins and iron in daily doses, is bad medicine for athletes. The consultant quoted a resolution by a joint committee from the National Education Association and the A.M.A. It disapproved medicine or oxygen administration because players begin to expect it, and are encouraged to exert themselves beyond the limits they have learned "from instinct and experience." Giving drugs to stimulate athletes to greater activity or lessen the pain of an injury so they can keep playing is "poor medicine and worse education."

About colored socks: a consultant said wearing them while suffering open foot sores "involves no common peril." Wearing white socks—a common recommendation for infections or other sores—is probably not necessary. Sometimes colored socks cause trouble, but only because of an allergy to dye or yarn.

The four-year-old who won't eat unless her parents feed her just needs to make "a new start in life," another consultant said. He recommended giving "a complete change" at mealtime—a new place to eat, different dishes, and even different people to serve her. Giving her favorite foods and a dull-edged knife to practice cutting and spreading will help. So will eating with other children.

A short stay in the hospital—without parents—is a good last resort. Furthermore, there's no real reason to worry, he said. The child probably won't go without food for more than three days anyway.

Fatigue—Diagnosis and Treatment

EDWARD A. BURKHARDT, M.D., NEW YORK CITY

(*From the Second (Cornell) Medical Division of Bellevue Hospital Center, Willard Parker Hospital, and the Department of Medicine of Cornell University Medical College*)

Fatigue is a common presenting symptom of many patients. It is encountered in every field of specialization. The symptom is volunteered or brought out on inquiry in at least 50 per cent of those seen by internists. Essential in the treatment of this complaint is to define "fatigue" as it is used by the patient. The symptom is often referred to as a feeling of "being all tired out," "weakness," "weariness," inability to sustain interest and effort, difficulty in performing tasks, laziness, work decrement, and diminished capacity for living. It is obvious that there is no practical definition of fatigue for its roots lie deep in the fields of physiology, pathology, and psychology.

To understand the symptom more fully, each of these areas must be explored.

Physiologic Factors

Physiologic factors causing fatigue are fairly easy to determine. A simple review of the patient's daily activity may reveal the expenditure of muscular energy to a marked degree. The steel worker or the farmer uses large groups of muscles. The worker in a straight line production may use only a few muscles repeatedly. The ergograph in the finger flexion experiment represents the localized fatigue we have all experienced. More general muscular fatigue can be seen on the faces of those men who sprinted the four-minute mile. Neuromuscular fatigue in the extreme is a symptom reflecting a dominance of catabolic processes, whether it be local or general. Moderate work calls for an expenditure of energy up to three times the normal metabolic rate. Hard work can bring this figure up to eight times the normal. In this group of muscle workers it is rather surprising to find the least number of complaints of fatigue.

Fatigue enters the picture if the caloric intake is reduced below the level of heat and muscle demands. This is easily detected by observation of the weight. Short-term losses are not serious, but weight loss over six months to a year should lead one to question the caloric intake and energy output.

In America we habitually have three meals a day. Many business firms allow a midafternoon "coffee break." We should inquire of our patient as to the time of day their fatigue is more prevalent. The sugar tolerance curve is quite variable, but in most persons the blood sugar returns to normal about two hours after the ingestion of glucose. The intake of carbohydrates, proteins, and fats may delay the return of the blood sugar to fatigue levels.

The person who works from 1 P.M. to 5 P.M. may have a marked drop in blood sugar. At the third hour the blood sugar level may be at the lowest point. At the fourth hour the blood sugar may show a slight rise due to release of liver glycogen. Fatigue and blood sugar levels do not necessarily run parallel. The midafternoon "coffee break" could help in the release from fatigue by augmenting the blood sugar and relieving the strain of continued muscular function or boredom.

Casual observation of a group of longshoremen unloading a ship in London showed a much greater zest for work after a fifteen-minute break for tea and crumpets.

The qualitative and quantitative factors of the patient's diet should be investigated. Starvation is not restricted to the unemployed or low-income groups. Starvation on Park Avenue can be a reality. Dietary deficiencies are often noted in weight-reduction diets or in those persons who fear a gain in weight.

Easily discernible signs of vitamin deficiency may be noted in this group with no other complaint than that of exhaustion. Keys and Henschel[1] reported that the water-soluble vitamins had no effect on muscular strength, endurance, or resistance to fatigue in a person on a well-balanced diet. Supplementary vitamins will reduce fatigue in a person who has been on a previously low vitamin diet.

Presented at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Section on General Practice, May 13, 1955.

Oxygen is essential in the conversion of food to energy. The use of supplementary oxygen in rarefied atmospheres has been well demonstrated in several recent mountain climbing expeditions. At altitudes of 18,000 feet the atmospheric pressure is reduced to one-half of that at sea level. Fatigue is rapidly encountered during physical activity until some physiologic adjustments have been made. There is a physiologic limit to this adjustment as higher altitudes are encountered. Fatigue factors at high altitudes have been extensively studied in our conquest for higher aviation ceilings.

Physiologic fatigue may be encountered in other environmental circumstances. Extremes of cold or heat may heavily tax the thermal-regulating mechanism and render us useless to expend energy for a given task. In cold surroundings the rapid loss of calories and muscular activity expended in keeping warm may lead to serious fatigue. The thermal-regulating mechanism performs more efficiently in cold than in hot surroundings. Water and salt loss can cause severe fatigue and collapse if they are not readily replaced. Even the replacement of these essential factors does not overcome fatigue at high temperatures. Sweating causes water loss in excess of salt loss. Water replacement without salt replacement leads to severe sodium loss and causes muscular weakness, abdominal cramps, anorexia, impairment in renal function, and fatigue.

Fortunately the physiologic factors of fatigue are fairly well understood by most people. The aviator and mountain climber know that they must use oxygen to overcome fatigue. Thirst and hunger force us to replace water and calorie losses. Salt loss and vitamin depletion may not be so well understood.

Pathologic Conditions

Pathologic conditions that interfere with body functions commonly cause fatigue. This is the area in which we can offer the greatest help. Fatigue may be the only presenting symptom of an underlying serious illness. A careful evaluation of the patient's complaints and a thorough physical examination may give us clues in our investigation. The patient may have forgotten his rather recent cold, cough, or fever. The extreme fatigue of four to six weeks following a virus infection may be the only residual factor. The long convalescent period is often discouraging to patient and physician alike.

It is not my desire to bore you with a long list of organic diseases which cause fatigue. A thorough systemic review offers the best routine history procedure in revealing pathologic conditions that cause this symptom. In the physiologic review anoxemia due to altitude was discussed. If we can transfer anoxemia mechanisms to pathologic conditions leading to cellular anoxia, we must think in terms of oxygen exchange. The etiologic factors may lie in the nose, throat, larynx, trachea, bronchus, alveoli, heart, vascular system, hematopoietic system, circulatory blood, serum pH, and the electrolyte concentration of the cell and its surrounding fluid. The pneumonia and the cancer diagnosis is more likely to be obvious, but those elusive diseases which disturb the physiologic balance may reflect on that state of well-being which the patient describes as fatigue.

Diseases of the endocrine system deserve special consideration in any discussion of fatigue. It is the chief complaint in the majority of diabetic patients on their first visit. Hypothyroid patients may complain of symptoms that vary from simple tiredness to physical collapse. In spite of other laboratory tests the basal metabolic rate is still a good functional test. Patient-machine errors are more likely to reveal high rates. Low rates of minus 25 or more are very significant if the soda lime in the machine is not exhausted. Blood cholesterol determinations add validity to the basal metabolic rate. Normal blood cholesterol levels vary from 180 to 225 mg. per 100 cc. of blood. In clinical myxedema the levels may go up to 600 or 700 mg. per cent. The occasional patient will reveal a normal cholesterol if the protein and fat intake has been inadequate.

Serum protein-bound iodine determinations offer the best index of circulating thyroid hormone. Low readings under 4.0 micrograms per cent are significant in the patient who has not had oral iodine medication. This test alone has an accuracy of 80 to 90 per cent.

Radioactive tracer technics demonstrate inadequate absorption of iodine in the thyroid of myxedmatous patients.

Addison's disease is very uncommon but causes extreme fatigue. Blood electrolyte determinations may give the first clue to this diagnosis.

Low sodium and chloride levels and high potassium levels are noted, but of course these may be found in other diseases. These determinations may be used as a screening mechanism to eliminate Addison's disease as a cause for asthenia.

Gonadal deficiencies may cause fatigue. It is more difficult to be scientific in the evaluation of this deficiency since many psychologic factors enter the picture during the menopause. The administration of estrogens is almost 100 per cent effective in eliminating hot flashes, but in the presence of psychic factors this type of therapy is far from specific for associated fatigue. Some form of estrogen should be given on an empiric basis. The response is, in general, fairly satisfactory. Symptoms of ovarian deficiency may occur before the climacteric. During menopause any one of several types of estrogens could be prescribed. Uterine bleeding may occur if 0.5 mg. of stilbestrol, 0.05 mg. of ethinyl estradiol, or 1.25 mg. of natural conjugated estrogens per day is exceeded. Serial vaginal smears for cellular studies offer the best method of controlling dosage. Androgen therapy in the male has been found to be less effective in relieving fatigue.

Psychologic Factors

The psychologic factors of this problem must be considered. A senior physician at Bellevue was asked to state the most common cause of fatigue. His cryptic, one-word response was "attitude." This seems a logical answer when attitude represents that surface manifestation of a deep-seated psychologic pattern. There are positive and negative attitudes, but attitudes that conflict with the attainment of an optimum position within the framework of our moral, physical, and mental positions cause fatigue.

Conflicts, chronically encountered, lead to somatization so that the patient develops symptoms that may be placed in varying anatomic areas with fatigue invariably the prominent feature. Basically we may feel that this is a problem for a psychiatrist; however, many of the cases may be treated by the general practitioner. The development of a technic of personal inquiry is essential in the efficient management of such cases. The patient has established a confidential relationship with his doctor, and perhaps the development of a modest interview technic may save hours of time. It is advisable to attempt to isolate the time of day when fatigue is first noted and then when it is at its peak. The time of the week may also be important in pinpointing conflicts that arise at home or on the job. Variations in the job pattern such as part-time indoor and outdoor work may give a clue to a personality conflict at a given point of contact. Variations in the type of work may show up areas of inadequacy of performance or boredom, both of which result in fatigue. The attempt to determine the time of onset of fatigue may be met with total failure. The latent period for recovery may be short, or the trauma may be of such a magnitude that recovery is not feasible. The very thought of repeating a disagreeable or uninspiring task may lead to continued chronic fatigue. Abnormal fatigue in adults is most commonly the result of conflicts, insoluble intrapsychic conflicts which produce the physiologic basis for the feeling of fatigue and its associated symptoms.

Anxiety produces tension in the muscles. The muscular stimulation, however, results not in movement but in constant submovement contractions which produce fatigue.

The assertion that fatigue arises from conflict demands that we define the term conflict and determine how it eventuates in fatigue. A review of the literature on this subject reveals that the term "conflict" has been used in a variety of ways in an attempt to describe human behavior. Up to the year 1937 the term "conflict" was exclusively used in social, cultural, and anthropologic studies. After 1937 conflict was used to describe something that happens to or within the individual organism. At present the terms frustration, anxiety, and conflict seem to be used interchangeably and seem to be more common labels denoting something happening to individuals. Although experimental studies of individual conflicts are rare, it is obvious that some concept of conflict is evident in various behavioral studies.

Despite the use of terms it is essential in the study of fatigue and its contributory factors to define what is meant by conflict and to understand how the term applies to the problem. Conflict is used herein to refer to the total picture of the individual when a problem or a clash is present, as well as to describe the accompanying anxiety which is present or the precipitating factors of the problem of fatigue.

A standard common concept is the presence of opposing forces, desires, or tendencies. In psychoanalytic usage conflict is a painful emotional state which results from tension between contradictory wishes or desires and is due to an unconscious or repressed wish forcibly prevented from entering the conscious mind. Mental conflict usually refers to the blocking of a drive, while social conflicts refer to those involving problems of social adjustment, and moral conflicts are those in which a sense of guilt is involved. Moral conflicts are also social in that the sense of guilt is believed to arise because of real or imaginary social disapproval. In the study of fatigue and its contributory factors a classification of conflict in this manner seems particularly useful. While some conflicts may be termed moral, perhaps nearly all of them are mental and social.

A fairly common assumption is that all conflicts are detrimental to organismic activity. The study of behavior reveals that this is certainly not the case. Without conflict it is doubtful whether organismic activity would exist. All goal-directed activity would be impossible, as would the existence of creative thought and integration. Sherman[2] contends that conflicts may be detrimental or useful. Detrimental conflicts, he states, are those which detract from the progress of the individual, whereas useful conflicts motivate greater activity and productivity. While it is generally agreed that conflicts essentially result in psychoneurosis, it should also be emphasized that the resolution of conflicts is the basis of normal or superior personality adjustment and development.

An understanding of the dynamics of an individual will invariably reveal the type or kind of conflict. Understanding emotional forces constituting the motivations for behavior and attitudes is a key to personality structure. Conflict between desires and wishes is a most common experience. Such conflict is defined as "the pattern of mental activity characterized by unpleasant emotional attitudes involving a discrepancy between one's desires and the acceptance of social or other restrictions to their attainment, or between two contradictory or incompatible desires."[3]

In summary, the term conflict is viewed as a pattern of mental activity, a subjective experience, an emotional state, the presence of opposition, and to indicate or designate a kind of behavior which may occur at all levels of organic activity. As a result of conflict the organism may present a picture of frustration, which may express itself in an infinite variety of patterns. Fatigue is perhaps the most frequent symptom of conflict and is usually of primary significance in the frustration pattern.

Interest in chronic fatigue and related syndromes includes the tiredness that naturally appears from vigorous or prolonged exertion, the inherently unpleasant tasks, but also the persistent tiredness which becomes so characteristic of the individual as to become a part of his personality. This type of fatigue has become an increasingly important problem in medicine and psychiatry. Chronic fatigue has long been recognized as the common accompaniment of the large majority of human diseases but has been neglected as a clinical picture in its own right.

In attempting to understand and alleviate chronic fatigue, it must be remembered that we must view the whole person in trouble and not just some localized part. At this stage of scientific understanding it is not a simple matter to analyze human states without bearing in mind that the individual consists of the psychologic and the physiologic components, and neither can be treated without a consideration of the other. When confronted with the obvious symptom, it is of importance to inquire into the previous and present health of the individual. If the patient is without any positive symptoms at present, a previous illness may have left some aftermath to which the present symptoms of constant tiredness and weakness may be attributed. It is true that individuals may develop attitudes toward life which may produce these symptoms without any previous or concurrent medical symptoms. The particular environmental circumstances of the case are frequently revealing factors.

Muncie,[4] a psychiatrist, collaborated with internists on cases presenting the vague general complaints characteristic of chronic fatigue. He noted that severe chronic fatigue is likely to occur in relation to certain postinfectious states with gross metabolic disturbances. It is also as likely to occur as the expression of personality maladjustment. The examination of a case of chronic fatigue must take into account at least three factors he says. Mixed states are perhaps the most common; the relative importance of the factors involved vary from patient to patient and are not easily detectable. Muncie pointed out that although considerable fatigue is to be found among the complaints of nearly all common important diseases, it stands prominent among three classes: (1) endocrine-metabolic disorders, particularly hypothyroidism and hypoadrenalism, (2) postinfectious states, especially influenza, undulant fever, and the dysenteries, and (3) emotional and attitudinal states often grouped under the name of neurasthenia. He grouped patients whose main complaint was that of being tired, weak, or exhausted into three categories. In the first category he placed patients who did not feel like doing anything, while those in the second wanted to but seemed unable to continue activity for any sustained length of time. When patients in the first category were forced into activity, a variable amount of fatigue resulted. He made this distinction to indicate that feeling tired and feeling weak are not necessarily the same. He also stated that chronic fatigue may result from a secondary cause of anxiety.

Therapy in fatigue states is of course dependent on a diagnosis. We must attempt to isolate the dominant factor and place it in the physiologic, pathologic, or psychologic category. Etiologic factors could stem from one, two, or all three of these areas. As an example, the muscle worker in a straight line production with sinusitis could have an excess accumulation of lactic acid in his muscles, bacterial infection in his sinuses, and boredom or insecurity in his work.

Two case histories are reviewed to illustrate the psychologic basis of fatigue.

Case 1.—A forty-five-year-old female had been advised to have her gallbladder removed. She complained of epigastric pain with severe fatigue dominating the picture. Re-examination of the gallbladder by x-ray showed rather sluggish emptying without stones. The remainder of the examination was essentially normal. On further inquiry the following facts were obtained. Two years previously she had married a moderately wealthy man. He died six months after their marriage and had not made a will. A long period of litigation followed. Finally she was able to recover an income of only $250 a month. At this period she was responsible for legal fees of $3,000. Three months prior to her visit she married a vice-president of a bank. She had not told him of this debt nor her income. Inquiry about her assets revealed that she had jewelry that could be sold for $2,000. She was advised to consult her lawyer. He agreed to settle for $2,000, whereupon the jewelry was sold. Then she paid her debt and informed her husband of the transaction and of her income. One week later the patient was completely free from fatigue and epigastric pain.

Case 2.—A forty-two-year-old president of a wholesale food company complained of excess fatigue. His behavior while giving a history revealed a belligerent attitude. Relationship at home seemed to be quite stable. On inquiry about his office situation he revealed that he was losing money because of an inadequate sales staff. His attitude toward his salesmen was easily detected. He dealt with his salesmen on an emotional basis. It was suggested that he employ a sales manager who could teach selling technics on an intellectual basis rather than through emotions. The patient's activities were to be confined to the financial matters. In one year sales mounted, and the patient lost his fatigue. Re-educating this insecure, dictatorial man on basic attitudes would take years of therapy which neither he nor the business could afford.

These obvious problems were relatively easy to solve. However, the hypochondriac with a basic inferiority complex is a greater challenge. It is often a question whether the patient or the doctor has the greater degree of fatigue during the interview. Perhaps psychoanalysis would improve this type of patient. This therapy is expensive and may take years to complete. Under these circumstances perhaps it is valid to use mood-lifting drugs for an interval of time. Amphetamine, in 5 to 20 mg. in single or divided doses, seems justified. The exact mode of action of this drug is not completely understood. Normally the enzyme, amide oxidase, acts on certain brain amides and produces aldehydes which depress brain respiration. Mann and Quastel[5] demonstrated that Benzedrine reduces the action of this catalyst which allows normal brain respiration, thus reducing the sensation of fatigue. Amphetamine can be given over long periods of time without toxic manifestations. Small doses of barbiturates often relieve fatigue in those patients who manifest anxiety and depressions. This drug is given in an attempt to cushion the external stimulations that produce these states, but it should be withdrawn if the depression is accentuated.

Some insight into this subject might be gained by studying the slightly obese, hypertensive extrovert who seldom complains of fatigue. In such cases perhaps a study of circulating corticoids might reveal antifatigue factors.

Summary

The discussion has largely dealt with fatigue as a clinical entity or an associated symptom which, therefore, may be regarded as an abnormal state. This is far from the truth. Fatigue is a normal phenomenon experienced by everyone. It is accepted as a normal physiologic condition or state and is easily relieved by rest and sleep, thus allowing the organism the opportunity to reestablish equilibrium and to maintain physical and psychologic integrity. The amount of sleep and rest may vary with the individual and from situation to situation depending on individual circumstances. Some individuals may require ten hours of sleep per night, while others may feel equally refreshed with only six.

The concept of fatigue as a normal response to a normal condition leads one to conclude that fatigue itself is generally a virtue rather than a fault. However, in our present-day civilization, with the many and varied demands placed on us, we may also conclude that fatigue is truly the inalienable right of every American citizen.

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Hearing Loss Needn't Mean "Little Black Button"

When a person's hearing begins to fade, it doesn't necessarily mean he'll end up wearing "a little black button" in his ear, according to an article in the October *Today's Health*, published by the American Medical Association.

Howard A. Carter, director of biophysical investigation for the A.M.A.'s Council on Physical Medicine and Rehabilitation, said there are a number of facilities available for the several million Americans who have some degree of hearing loss.

The first step when hearing begins to fade is to consult an otologist or ear specialist. He can find the extent and cause of hearing loss and decide whether medicine, surgery, hearing aids, or lipreading instruction will help. For most persons the loss is only temporary or slight and is caused by impacted wax, infection, drugs, or infectious diseases such as mumps or a "cold," any of which can be treated by the specialist. For others surgery will help.

While approximately 15 million persons suffer some degree of hearing loss, about four million actually need hearing aids.

However, only about one million now wear them. The rest refuse because of "pride or vanity, the first cost is too high, the upkeep expense is too great or the instrument is a nuisance to carry around."

With the advent of the transistor hearing aid, the hard of hearing person no longer needs to fear the "little black button." The transistor is a substitute for a vacuum tube. The transistor hearing aid costs considerably less to operate than the vacuum type—about 10 cents a week for batteries instead of a dollar. It is much smaller and can even be incorporated into the enlarged frames of eyeglasses. Others are made of flesh-colored plastic and are small. Women may use various types of jewelry to disguise the instrument, or it may be hidden in the hair.

When the ear specialist finds that a patient needs a hearing aid, he may send the patient to one of the 134 hearing rehabilitation clinics in this country or Canada. Most of these centers have a physician or a committee of physicians as medical directors. They make careful examinations and advise about amplification by hearing aid. They do not sell the instruments but refer patients to hearing aid dealers who actually sell and service them. In difficult cases the physicians sometimes recommend that the patients take lipreading courses, taught by trained speech experts at the centers, to supplement the hearing aid.

Information about hearing clinics may be obtained by writing to the Audiology Foundation, Box 21, Glenview, Illinois.

panel discussion

THERAPY IN BRONCHIAL ASTHMA, INCLUDING STEROIDS

Introduction

WILLIAM B. SHERMAN, M.D., NEW YORK CITY

(From the Institute of Allergy and Department of Medicine, Presbyterian Hospital)

There are few diseases for which more different types of therapeutic approach have been used than in bronchial asthma. While many drugs and other forms of treatment have proved useful, none has been universally applicable. This reflects the many different factors involved in the causation of asthma, both the fundamental sensitizing agents—extrinsic allergens and infections—and a multitude of secondary aggravating factors, such as nonspecific irritants, climatic conditions, exertion, acute infections, and emotional stress.

Satisfactory therapy of asthma must be based on an understanding of the relative importance of these factors in the etiology of the individual case.

Our panel, consisting of Dr. Stearns Bullen of Rochester, Dr. Horace Baldwin of New York City, Dr. Emanuel Schwartz of Brooklyn, and Dr. Richard Wiseman of Syracuse, will discuss the principal methods of therapy and their application to the individual patient.

Treatment of the Acute Attack

STEARNS S. BULLEN, SR., M.D., ROCHESTER, NEW YORK

(From the Allergy Clinic, Strong Memorial Hospital, and the Department of Medicine, University of Rochester School of Medicine and Dentistry)

One can arrive at a logical plan for the effective use of the available therapeutic agents for the relief of an acute attack of asthma if he keeps in mind the pathologic changes which take place in the lungs.

The alterations in the total pulmonary capacity and its subdivisions during an acute attack of asthma are shown in Fig. 1.[1] Especially striking is the increase in the total volume resulting from more than double the amount of the normal residual air, which was trapped in the lungs by the ball-valvelike action of the obstruction in the bronchi. With this there is a concomitant reduction in the vital capacity. Almost equally striking is the return to practically normal levels of the total volume, the residual air, and the vital capacity in a few minutes after the subcutaneous injection of a dose of epinephrine, indicating that the airway was opened so that the imprisoned air could escape.

Studies[2] of the lungs obtained at autopsy of a

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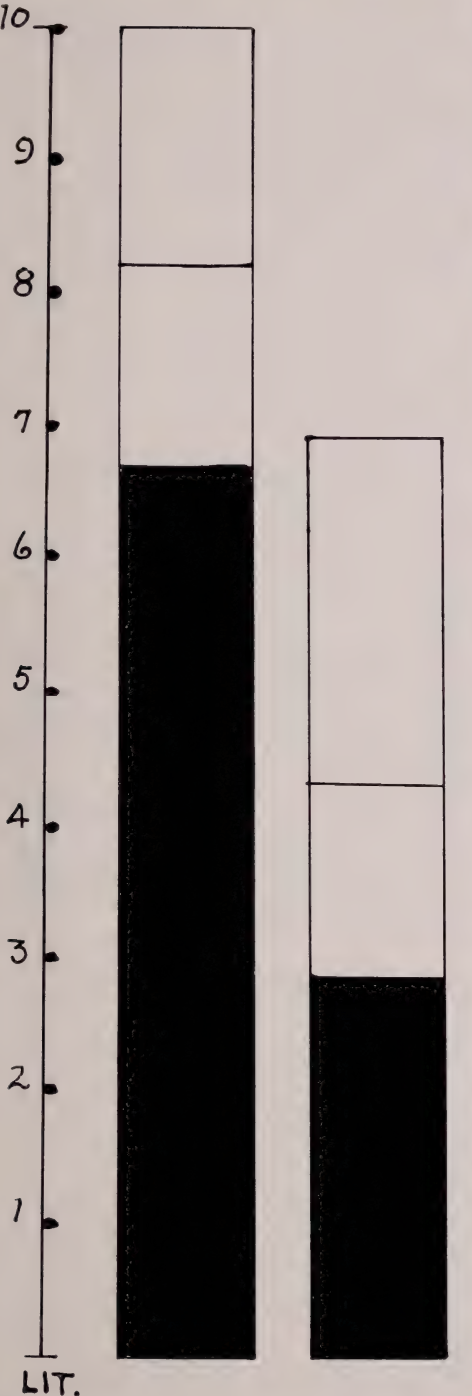

Fig. 1. Pulmonary capacity during the acute respiratory distress of bronchial asthma (*left column*) and soon after its relief by the subcutaneous administration of epinephrine (*right column*). The black area in each column represents the residual air; the white space above is the vital capacity. The line dividing the vital capacity is the mid-capacity level. (*Courtesy of Journal of Clinical Investigation*[1])

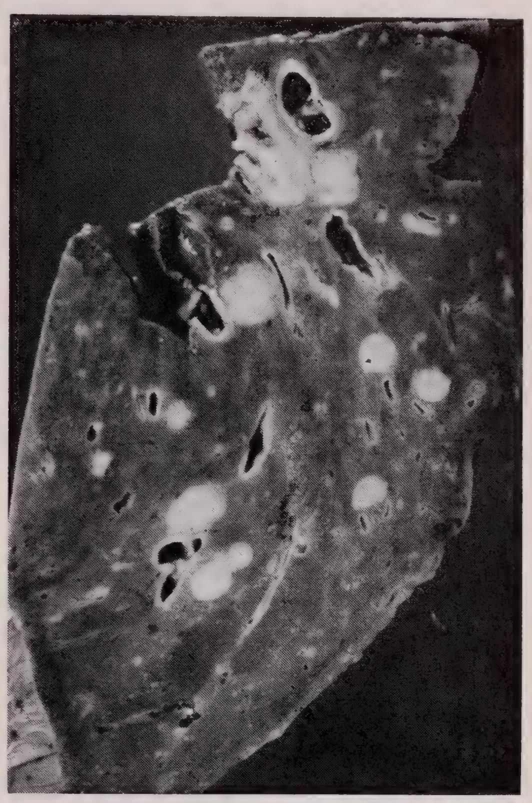

Fig. 2. Lung of woman, aged sixty-two years, who died during an attack of asthma. (*Courtesy of the Journal of Allergy*[2])

group of patients who had asthma as the primary or contributory cause of their final illness or who had a history of having had asthma in the past illustrate the factors which produce the dyspnea and the lung volume changes. In the cases where asthma was present at the time of death, the lungs were greatly distended so that they bulged out of the chest cavities when they were opened.

Figure 2 shows a cross section of the lung of a woman, aged sixty-two. The bronchi, even those of the largest caliber, were plugged with thick, tenacious, inspissated mucus. There was a small fringe of dilated air sacs at the periphery, and the rest of the lung was atelectatic.

Figure 3 shows the lung of a child, aged one and one-half years. Here also the bronchi were plugged with the same type of mucus, some of which extruded from the bronchi when the lung was cut. There were areas of marked emphysema in the upper and lower portions, and the rest of the lung was atelectatic. It is obvious that the same pattern of bronchial obstruction

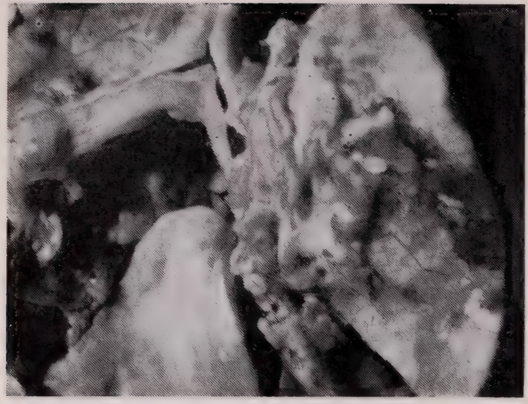

FIG. 3. Lung of boy, aged one and one-half years who died during an asthmatic attack. (*Courtesy of the Journal of Allergy*[2])

occurred in the child and the elderly woman.

The amount of mucus in the bronchi of patients who died of asthma varied from amounts which completely plugged the lumina, as in these cases, to almost none in a few. It was also noted that some of the patients who had had asthma in the past and who died of intercurrent disease or injury with no asthma at the time of death had larger amounts of this type of bronchial secretion than is commonly found in the bronchi of nonasthmatics. In a few cases most of the lung tissue was atelectatic; in several others small atelectatic areas were found on microscopic examination. These findings emphasize the importance of administering therapeutic agents, such as the iodides, which help to liquefy this inspissated mucus.

These gross specimens illustrate very dramatically the part played by the mucous plugs in causing obstruction of the lumina of the bronchi. In addition, there was swelling of the bronchial wall resulting from edema, swelling of the collagen fibrils, thickening of the basement membrane, and cellular infiltration of the mucosa.

From the study of this group of cases the impression was gained that edema of the bronchial wall and the mucous secretion in the bronchi were the chief causes of the bronchial obstruction. Too few blocks of lung tissue were available to make possible an evaluation of the role of spasm of the muscles in the bronchial wall.

The fact that these patients came to autopsy means that they represent only the extremely severe types of asthma and not the average case, because this disease seldom kills.

Edema of the bronchial mucosa with a consequent reduction of the lumen of the tube is the first stage in the production of the dyspnea of asthma. Obviously if it can be checked at this stage, not only will the patient be spared much suffering, but further changes in the tissues of the bronchial wall may be prevented.

The evidence is good that the release of histamine in the allergic reaction is one of the major factors causing dilatation and increased permeability of the small blood vessels which bring about the edema. Therefore, it is logical in the treatment of this condition to use the most potent antagonist of histamine which is available, epinephrine,[3] and, to a lesser degree, its pharmacologic relatives, ephedrine, Isuprel, Norisodrine, etc. Drugs of this group are physiologic antagonists of histamine. They cause constriction of the blood vessels with a consequent reduction of the edema; they also cause relaxation of smooth muscle which histamine causes to contract.

Drugs of the group which have been given the name of antihistamines do have a specific effect against histamine,[3] but allergists in general agree that they are much less effective in the relief of asthma than are the drugs of the epinephrine family.

Feinberg[4] suggests that the relative inefficiency of the antihistamines in asthma, compared to their effect in allergic coryza, may result from the presence of a mechanism in the bronchial mucosa which differs from that in the nose. A more probable explanation, according to Feinberg, is that an excessive amount of histamine is released in the bronchial mucosa which cannot be combated by the amount of antihistamine which the patient is able to tolerate. Furthermore, it is important to remember that the antihistamines may aggravate the asthma by their drying effect on the bronchial secretions.

A large majority of attacks of asthma occur in the home and can often be promptly checked if the patient has at hand one of the available preparations to inhale as an aerosol or one of the ephedrine group of drugs to take at the start of the attack. It is a common experience to have a patient say that "he didn't use the medicine until he just couldn't stand the asthma any longer," because of the mistaken idea that the drug might have a harmful effect or that it might lose its efficiency if he were to use it often.

A very simple demonstration usually corrects this erroneous idea. A chair is tipped slightly off balance, and the patient sees that a very slight push is sufficient to return it to the upright position. The chair is then tipped over onto the floor, and he at once sees that a much greater effort is needed to right it and that the slight push which was sufficient in the first instance has very little effect when the overturn is complete. When he translates this into the treatment of his asthma, he finds that not only is his suffering lessened, but the amount of medicine he needs is diminished.

Epinephrine in a dilution of 1:100, Isuprel 1:200, or some related preparation, with an all-glass or plastic nebulizer, can be carried in the pocket or kept beside the bed for prompt use when necessary. Tablets containing Isuprel, 0.1 Gm., may be dissolved under the tongue with the production of a rapid effect. Preparations of ephedrine or, better, one of the combinations of ephedrine and aminophylline taken by mouth are somewhat slower in action but are valuable.

Enteric-coated tablets containing ephedrine and aminophylline, whose effect is produced only after several hours, may enable a patient who is frequently awakened in the early morning hours by asthma to get a reasonable night's sleep. A rectal suppository containing 0.25 to 0.5 Gm. of aminophylline, inserted at bedtime, may accomplish the same result. Many patients have found that holding the suppository in hot water for a few seconds softens the surface so that its insertion is made easier.

It should be emphasized that while these preparations have great value in relieving the milder attacks of asthma, they should not be depended on for attacks of greater severity. An aqueous solution of epinephrine, 1:1,000, given by subcutaneous injection is much more potent. The initial dose should be small, $^1/_4$ to $^1/_3$ cc. Frequently this amount will give as much relief as a large dose without the disagreeable side-effects which the larger amount may cause. If such a small dose does not give satisfactory relief in ten minutes, it may be repeated.

The question frequently arises as to whether the patient or some member of his family should be taught to administer epinephrine. In my opinion the answer is very emphatically yes. At times there is fear on the part of the patient or his family that this is dangerous because they have heard that epinephrine "may damage the heart." They can be assured that this is not so because many individuals have used very large amounts of epinephrine daily for periods of years without clinical evidence of heart damage, and in the autopsy studies mentioned above there was no pathologic evidence of injury to the hearts from epinephrine which had been used in large quantities.

If epinephrine is available in the household and the principle that a corrective measure should be used early in an attack is followed, the patient may avoid much suffering and, in the long run, will require much less medication.

Epinephrine in oil or gelatin in a 1:500 dilution produces an effect spread over several hours. It is sometimes helpful to give a dose of the aqueous extract at bedtime for its immediate effect and at the same time to administer the oil or gelatin suspension to carry the patient through the night. The oil or gelatin preparations should not be used where a prompt effect is desired.

In a comparatively small number of cases the attacks of asthma continue and become more severe in spite of repeated doses of epinephrine. Aminophylline in 0.25 to 0.5-Gm. doses administered intravenously will usually give relief and will frequently make epinephrine effective again. Intravenous aminophylline should be injected very slowly. If the patient complains of a sense of flushing of the skin, the injection should be stopped until this sensation passes and then continued even more slowly. Intramuscular injections of aminophylline seem unjustified because of the great pain which is produced.

Status asthmaticus where the attack persists for days, with little or only transient relief from the administration of epinephrine and only fair to poor relief from aminophylline, is fortunately rather uncommon in proportion to the total number of cases of asthma. Patients with this condition usually do better in a hospital environment than at home. The continuous presence of trained personnel and the use of therapeutic measures which may not be available in the home may account for a large part of this, but other factors such as an increased feeling of security and perhaps getting away from household dusts, etc., may play a part.

Unless the patient is able to take a reasonable amount of fluid by mouth, he tends to become dehydrated and requires intravenously administered fluid, such as a 5 per cent glucose solution. In very severe attacks the addition of 1 cc. of 1:1,000 epinephrine solution or 0.5 Gm. of aminophylline to 1,000 cc. of the glucose solution given slowly by the intravenous drip method may be very helpful. The intravenous fluid may be repeated as necessary.

It is in these very severe bouts of asthma that the corticosteroid hormones have proved to be of special value. Their use will be discussed by Dr. Schwartz.

Attacks of asthma which last for no more than a half hour or so present no problem so far as the secretion of mucus from the bronchial glands is concerned. However, if such attacks are frequently repeated or if they last for several hours or longer, the tenacious mucus in the lumina of the bronchi seems to be the chief factor in continuing the obstruction. When it can be expelled, the patient promptly feels better. Potassium iodide has stood the test of time as the most efficient agent in liquefying this secretion and making its expulsion easier. Ten drops of a saturated solution, well diluted and taken with or after food, are generally well tolerated. In children syrup of hydriodic acid may be accepted more readily. Ammonium chloride in enteric-coated tablets is a less efficient substitute but may be of value in the individuals who cannot take the iodides. The intravenous injection of sodium iodide is seldom indicated unless the patient is unable to swallow because there is very little difference in the rate of absorption of the oral and intravenous preparations.

The administration of the iodides ranks in importance with that of epinephrine in the treatment of asthma. Too often it seems to be forgotten, perhaps because today we are so overwhelmed by the claims of the great variety of "new" drugs.

Occasionally patients complain that they have a bitter taste in the mouth, especially in the morning, after taking the iodides. This can usually be promptly relieved if a mouth wash, consisting of $^1/_2$ teaspoonful of baking soda in a glass of water, is used.

Naturally patients are frightened when an important function like breathing is interfered with. They deserve to have moderate sedation with such drugs as the barbiturates, chloral hydrate, or paraldehyde. However, one should make sure that the sedative has not caused asthma or other undesirable reactions previously. The patient will sleep if his dyspnea is relieved, and if it is not relieved, he will not sleep unless he is given an overwhelming dose of sedative, which may so reduce his cough reflex that he will fail to get rid of the mucous plugs in his bronchi. Morphine and its relatives should not be used because of the great danger that they will so reduce cough that the mucous plugs will be retained, causing a massive atelectasis. I have seen one case where death resulted from this. It is a time-honored concept of medicine that not only should measures which bring relief be used, but those which may cause damage should be avoided.

Swineford[5] and Black[6] among others have emphasized that oxygen should not be routinely used in the treatment of asthma because not only is it unnecessary in the majority of cases, but it may do harm by drying the bronchial secretion and, occasionally, by reducing the respiratory effort sufficiently to cause a dangerous retention of carbon dioxide. If the patient is very cyanotic and the use of oxygen seems indicated, he should be watched constantly and the oxygen stopped if cyanosis deepens, if mental acuity lessens, or if respiration becomes shallower or slower.

If oxygen is used, it should be remembered that it does not reduce swelling of the bronchial mucosa, nor the secretion from the bronchial glands and, therefore, measures for the relief of these conditions must be continued. I have seen several patients who have been frightened and their asthma made worse when they were cooped up in oxygen tents or when a mask was strapped on the face.

The promiscuous use of the antibiotics belongs in the same category as that of oxygen. They may be of great value in the treatment of an infection complicating asthma—when there is pus in the bronchial or nasal secretions—but they are of no service in an uncomplicated attack. All asthmatics have rales in the chest during an attack, but this does not necessarily mean that a pneumonic process is present. The antibiotics have no effect on the swelling of the bronchial wall nor on the secretion of the mucous glands. It would seem logical to administer first one of the drugs of the epinephrine group. If the asthma is relieved, obviously there will be no need to use an antibiotic.

Summary

The chief causes of bronchial obstruction in asthma are edema of the bronchial wall and the mucus secreted by the bronchial glands.

If, as seems probable, the dilatation of the blood vessels and their increased permeability result from the release of histamine, the logical treatment is to administer the most potent antagonist of histamine available, namely, epinephrine and its pharmacologic relatives.

The antihistamines are not only less efficient but may actually make the asthma worse through their drying effect on the bronchial secretions.

Treatment early in the attack not only reduces suffering but often diminishes the total amount of medication needed.

The routine use of oxygen or the antibiotics in acute asthma is unnecessary and may be harmful.

111 MEIGS STREET

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Infectious Factors in Asthma

HORACE S. BALDWIN, M.D., NEW YORK CITY

(From the Allergy Clinic, New York Hospital, and the Department of Medicine, Cornell University Medical College)

THE physiologic manifestations of asthma may be initiated by a wide variety of stresses and stimuli. The pattern of therapy resolves itself into the determination and control of the sum total of stimuli plus drugs for symptomatic relief. As Selye states, "The abnormal adaptive response to the agent is the major cause of the disease." Thus, in the same patient hypersensitivity to inhalants and foods, bacterial infection and probably bacterial allergy, psychosomatic factors, physical changes, and body fatigue may all be important in calling forth the asthmatic reaction.

Hence, any classification of asthma into extrinsic or intrinsic, hypersensitive or infectious, psychosomatic or climatologic may be artificial and dangerous in that it may prevent an open mind in the continuous search for causes outside of the particular classification. Therefore, at the outset I should like to change the emphasis in my remarks from "infectious asthma" to infectious factors in asthma, their diagnosis and management.

Careful history-taking is important. Infectious factors are more prevalent in the winter months, and since infectious factors often arise from foci in the upper respiratory tract, inquiry should be directed to the symptoms of chronic or acute sinus infection, the presence of purulent nasal discharge or postnasal drip, the history of prior nasal surgery, and in children the occurrence of symptoms referable to infected adenoids and tonsils. Pain over the sinuses is seldom found in chronic infection, and its absence is of little significance. The symptoms of acute bronchial and pulmonary infection, the history of fever, the response to antibiotic therapy are all important.

Physical examination should include a careful look at the nose and pharynx. The presence of purulent nasal secretion, polyps, purulent postnasal drip, or marked septal deviation with poor aeration and drainage should be determined. The purulent character of the sputum, presence of widespread rales and fever, and clubbed fingers indicating bronchiectasis are important.

Laboratory and x-ray facilities should be used. At the New York Hospital we find it useful to x-ray the nasal sinuses and chests of all asthmatics. The roentgenologist should be urged to identify adenoid changes in children, and careful x-ray diagnosis of changes in antral, ethmoidal, and sphenoidal sinuses is necessary. Perfunctory x-ray diagnosis may overlook important evidence of infection. A rise in the leukocyte count and sedimentation rate may be present in acute or subacute infection. However, it is usual in chronic nasal sinus infection to find no elevation of either, and this should be borne in mind. Nasal smears which show a high percentage of polymorphonuclear leukocytes and pharyngeal and sputum cultures may be very important.

Special rhinologic examination by the otorhinologist in conjunction with x-ray studies is necessary in many of these cases. The use of the rhinopharyngoscope with irrigation of antra and sphenoids through the natural openings is a safe and innocuous procedure in the hands of a well-trained specialist and gives important information. The determination of the presence of infected adenoid tissue in children is essential.

At this point it is necessary to stress the importance of completeness in the examination of the asthmatic. All cases, regardless of whether or not infectious factors are present, should be skin tested adequately; psychosomatic factors should be evaluated; emphysema and other damage to heart and lungs should be determined. One should never assume the all-importance of infectious factors without searching for other causes.

The management of infectious factors in asthma is based on the assumption that the more complete and thorough the eradication of the focus of infection, the better are the chances for helping the patient. Nasal polyps may or may not be the result of bacterial infection, but it is self-evident that their presence acts to obstruct the nasal passages and favors retention of the infection. Furthermore, polypoid or hyperplastic membranes within the sinuses are frequently infected. Therefore, nasal polyps should be removed. If infection is present in the hyperplastic sinuses, repeated irrigations of the antra or permanent openings are futile measures to clear up the infection since it is deeply situated in the membranes. In these cases, usually bilateral, the Caldwell-Luc operation is the procedure of choice. Infected upper molars may be important in antral infection and should be removed. Where septal deviation interferes with aeration and drainage of infected sinuses, a submucous resection should be done. Infected adenoids in children should be removed. It should be emphasized with all nasal surgery in asthmatics that control of the sensitivity factors should be instituted prior to the nasal surgery. Finally, in this connection the results of nasal surgery are in direct proportion to the technical skill of the operator and the completeness of the surgery.

The control of acute infection in the respiratory tract and especially the lungs is vital. The recognition of pneumonitis, particularly in conjunction with steroid therapy, may be lifesaving when proper antibiotic therapy is instituted. Here the character of the physical signs, the leukocytosis, and the bacteriology of the sputum are helpful, but when in doubt, the safest procedure is to start antibiotics immediately and follow the course of the patient closely.

Vaccine therapy in chronic infections in the asthmatic may be useful, especially if the infectious foci have been eliminated to as great a degree as possible.

Climatologic change is fraught with danger—and often is an economic and domestic tragedy—if it is substituted for careful management and elimination of infectious and hypersensitivity factors.

There are legitimate differences of opinion among allergists on the importance of management of infectious factors in the asthmatic. It is a subject on which the last word has not been said, and continued research and investigation are necessary.

136 East 64th Street

The Use of Adrenal Cortical Hormones

EMANUEL SCHWARTZ, M.D., BROOKLYN, NEW YORK

(*From the Allergy Clinic, Long Island College Hospital, and the Department of Medicine, State University of New York College of Medicine at New York City*)

CORTICOTROPIN, cortisone, hydrocortisone, prednisone, and prednisolone are valuable therapeutic agents in the treatment of bronchial asthma. Twenty-nine steroids have been isolated from the adrenal cortex. Seven of the corticosteroids have biologic activity, and four of them are of major therapeutic importance: (1) desoxycorticosterone, (2) aldosterone, (3) cortisone, and (4) hydrocortisone.

The chemical structures of the corticosteroids are much alike. They all have a common steroid nucleus. In this nucleus there is a double bond between carbons 4 and 5. A double-bonded oxygen atom is present at C-3. All of the corticosteroids are C-21 oxysteroids and have a ketol group at C-17. These common chemical characteristics are essential for their biologic activity.

The differences in physiologic activity of the corticosteroids depend on alterations of the chemical structure of the steroid nucleus and its side chains. The absence of an oxygen atom or a hydroxyl group at C-11 is associated with the absence of glucocorticoid activity and the presence of mineral corticoid activity. The presence of an oxygen atom or a hydroxyl group at C-11 is associated with glucocorticoid activity and a slight effect on electrolytes and water. The presence of a hydroxyl group at C-17 is associated with anti-inflammatory, antiallergic, and antirheumatic activity. The absence of a hydroxyl group at C-17 is associated with the absence of anti-inflammatory, antiallergic, and antirheumatic activity.

Desoxycorticosterone is characterized by the absence of an oxygen atom or hydroxyl group at C-11 and the absence of a hydroxyl group at C-17 and, therefore, has no glucocorticoid or anti-inflammatory or antiallergic activity. It has mineralocorticoid activity and is useful in the treatment of Addison's disease and is of no value in allergic diseases.

Aldosterone, or electrocortin, lacks the hydroxyl group at C-17 and posesses no anti-inflammatory or antiallergic activity. It has an aldehyde group at C-18. The mineralocorticoid activity of aldosterone is 25 to 100 times greater than desoxycorticosterone. It has been used in the treatment of Addison's disease and is of no value in allergic diseases because it lacks an inflammatory and allergic activity and produces edema due to the marked mineralocorticoid activity.

Cortisone and hydrocortisone are characterized by the presence of an oxygen atom and a hydroxyl group, respectively, at C-11 and the presence of a hydroxyl group at C-17. Their presence is associated with glucocorticoid and anti-inflammatory and antiallergic activity. They are valuable drugs in the symptomatic treatment of allergic diseases.

The introduction of a fluorine atom into the hydrocortisone nucleus at C-9 position (fluorohydrocortisone) increased the anti-inflammatory activity more than ten times that of hydrocortisone. However, its mineralocorticoid activity is 18 times greater than that of desoxycorticosterone. Because of the production of edema, it is contraindicated in bronchial asthma. Applied locally it is useful in the treatment of allergic skin conditions. Biologic activity of fluorohydrocortisone and aldosterone are approximately equal, but fluorohydrocortisone has a longer period of effective action.

The addition of a double bond in ring A between C-1 and C-2 to the cortisone and hydrocortisone structures resulted in the formation of prednisone (metacortandracin) and prednisolone (metacortandralone), respectively. These drugs are several times more potent as antirheumatic, anti-inflammatory, and antiallergic agents than cortisone or hydrocortisone, and the side-effects are less severe.

The corticosteroids suppress the clinical manifestations of allergic diseases, afford symptomatic relief, but do not alter the hypersensitive state. The adrenal cortical hormones do not prevent the antigen-antibody union. They do not inhibit the production of antibody in the usual clinical dosage. In high doses they diminish antibody production but do not entirely suppress the synthesis of antibody. Anaphylaxis is not inhibited in the guinea pig. They do not alter the reagin titer, blocking antibodies, allergic skin wheals, or the nasal or conjunctival tests in allergic diseases. They do not block the action of histamine, and histamine skin wheals are unaltered.

The antigen-antibody reaction acts as a stress, and either alone or with other stressing stimuli, such as infection or psychogenic disturbances, in individuals who have inherited shock tissues it probably causes a release of proteolytic enzymes, or anaphylatoxins, or a substance at the site of the stress area which results in cell stimulation or breakdown. One theory of the mechanism of action of the cortical adrenal steroids in allergic diseases is that they may interpose a block between the tissue cells and the circulating anaphylatoxins which damage the cells. Another theory is that the adrenal steroids act on the cell surface or within the cells, with possible deposition of the hormone within the fibroblasts, and render the cells temporarily less subject to injury by the substances that trigger allergic tissue responses.

A study was undertaken to determine whether prednisone and prednisolone would influence the symptoms of intractable bronchial asthma. Many of the patients had received cortisone and hydrocortisone, and this afforded an opportunity for comparison of clinical responses and side-effects.

Prednisone was administered to 21 patients. In general, therapy was initiated with a daily dose of 10 to 30 mg. and then reduced to a maintenance dose of 5 to 20 mg. daily. The daily dose was administered in two to four divided doses, preferably after meals and at bedtime. Duration of therapy ranged from seven to one hundred and twenty-eight days. Ten patients obtained complete relief of symptoms, eight marked relief, one slight to moderate relief, and two no relief.

Of 21 patients treated with prednisone, 16 had previously been treated with adequate doses of cortisone and hydrocortisone. Of these 16 patients, ten had superior relief with prednisone. Relief of symptoms was more complete and maintained for longer periods with relatively small doses of prednisone. Four patients were relieved equally with hydrocortisone and prednisone. Two patients failed to respond to both hydrocortisone and prednisone. Significantly, no patient who was treated with both hydrocortisone and prednisone obtained any greater relief from hydrocortisone than was obtained from prednisone.

Weight gain occurred in nine patients and fullness of face in three. In one it was less marked than with hydrocortisone and in two the same. In a patient with asthma and diabetes mellitus, glycosuria was less and insulin requirements lower on prednisone than on cortisone or hydrocortisone. The decrease was due to the fact that more satisfactory relief of the asthmatic symptoms was obtained with prednisone, resulting in the elimination of epinephrine injections which previously had increased the glycosuria. In another patient with asthma and nasal polyps, there was considerable decrease in size of nasal polyps, and shrinkage was much more effective and maintained longer with prednisone than with cortisone or hydrocortisone. This patient also developed osteoporosis from prolonged cortisone and hydrocortisone therapy. Prednisone therapy for one hundred and twenty-eight days has not increased the severity of the osteoporosis.

In a patient with congestive heart failure with edema of the lower extremities extending to the knees, a distressing cough, dyspnea, and wheezing of the chest were relieved with prednisone in twelve hours, and with digitoxin, low-salt diet, and Mercuhydrin the decompensation disappeared in one week.

Thirteen patients received prednisolone. Eight obtained excellent relief, three marked relief, one moderate relief, and one no relief. Weight gain occurred in four and fullness of the face in one. Ten had previously received hydrocortisone, and of these, nine had superior relief with prednisolone. The antiallergic potency and side-effects of prednisone and prednisolone seem to be similar. They have a higher therapeutic index than cortisone or hydrocortisone.

295 New York Avenue

Extrinsic Causes of Bronchial Asthma

RICHARD D. WISEMAN, M.D., SYRACUSE, NEW YORK

(From the University and Memorial Hospitals and the Department of Medicine, State University of New York College of Medicine at Syracuse)

I HAVE been asked to discuss the extrinsic causes of bronchial asthma. As allergists, we usually group these factors into several categories such as inhalants, foods, and drugs. We further subdivide the inhalants into pollens, molds, and animal danders. I usually tell patients that allergic conditions have to be handled in a very set manner. Our first job is to find the etiologic factors responsible for the allergy. We gain this information by a most detailed history and by complete skin testing with all the common antigens, including inhalants, pollens, molds, and foods. It is easy for a patient to understand that to treat an illness successfully, the specific causes must first be ascertained. I then explain that the next task is to make every effort to avoid the various substances responsible for the illness. If this could always be completely accomplished, the clinical allergy would quickly cease. That is precisely what happened to many patients with ragweed hayfever during the last war. When they were stationed for several years in Europe, where there was no ragweed pollen to stimulate their immunologic responses each fall, many were permanently cured of their ragweed allergy. I explain further that on many occasions, especially where house dust is a factor, it is impossible to avoid completely all the harmful excitants. Nevertheless, it is still most worth while to do everything practical to curtail one's exposure to the specific allergens as much as possible. The less one is exposed to allergic stimulants, the fewer symptoms can develop. This reasoning makes common sense to most patients.

Since it is usually impossible to avoid all the specific excitants, our next step is to give patients hyposensitizing injections which will lessen their capacity to respond to the materials causing their allergic disease. When the offending allergen is in the atmosphere only a relatively short time during the entire year (such as ragweed pollen), avoidance of the allergen is not as important for successful hyposensitization therapy as when the exposure to the specific allergen is a constant factor throughout the year. When the problem is of this perennial type and the patient does a reasonably good job of avoiding the excitants, hyposensitization will so alter the capacity to respond that ordinary exposure to these materials will no longer cause clinical disease.

The treatment of an allergic patient thus requires the utmost cooperation between patient and allergist. With such cooperation 80 to 90 per cent of the patients will obtain marked relief of their symptoms, and a significant number will eventually obtain a complete clinical cure.

In history-taking it is important to elicit certain information. Since animal dander is probably the most potent allergic stimulant to which human beings are subjected, we always inquire about exposures to animals. Unfortunately for the patient, even though he may not touch the animal himself, allergic stimulation can still easily occur. A good example of this takes place when the animal is kept in the garage and the dander is brought back into the house on the clothing of other members of the family who have had contact with the pet. Animal dander not only may precipitate but also may perpetuate allergic disease.

Crude organic materials are potent allergic excitants, while processed fabrics are relatively innocuous as sources of stimulation. Therefore, we ask about various types of stuffed furniture which might contain the crude materials. These substances are found in pillows, mattresses, upholstered furniture, and stuffed blankets. It is important to know the location of wool rugs and especially felt pads used beneath the rugs. The hair-felt pads are made of the crudest type of cattle hair. Since the patient actually spends about one third of his life in the bedroom, it is important to know the location of the bedroom in relation to the living room where many of the offending allergens are usually located.

A careful dietary history is taken to ascertain what foods in the past may have produced symptoms suggestive of allergic disease. We are also interested in the kind and quantity of foods presently ingested by the patient. We know that many forms of gastrointestinal distress and food intolerance are probably manifestations of food allergy. This information in correlation with results obtained from skin testing, food diaries, and elimination diets enables us to determine the food factors that may be responsible for allergic activity.

It is imperative that a careful drug history be taken in order to learn of past sensitivities and to ascertain what medication the patient can tolerate without unusual reactions. With the numerous new drugs offered the profession each passing day, the subject of drug allergy has assumed tremendous importance and can no longer be considered a minor factor in allergic disease. Dangerous drug reactions appear to be increasing, and since some terminate fatally, it behooves all of us to investigate this subject thoroughly. Penicillin, especially the parenteral form, and aspirin or aspirin-containing drugs are today probably the two groups of medications which most frequently cause anaphylactic reactions. An allergic history must always include information concerning the patient's exposure to these substances. Skin tests are usually of little help in eliciting drug sensitivities except perhaps in penicillin allergy and even here may give most unreliable results. A positive skin test to penicillin is an immediate danger signal, but a negative skin test may give one a false sense of security. A patient's comment, "I can't take or tolerate such a pill," should never be ignored. It may be your only clue which could prevent a reaction with dire consequences.

It is important to emphasize the fact that allergic reactions are usually highly complicated and are caused by many factors rather than by just one particular substance. Almost all pollen or mold-sensitive patients, for example, have a dust allergy which contributes to their clinical disease. They may also have active food or drug sensitivities which are complicating the picture. Even though seasonal symptoms may be the only complaint, it is vitally important, therefore, that we learn as much as possible about a patient's total sensitivities. Thus, whether the complaints be seasonal or perennial, a complete allergic workup of every patient is mandatory if we are to make certain of a successful result.

It is a well-established fact that the younger the patient, the more likely it is that extrinsic factors will cause clinical allergy. Today, however, we realize that even in the older age groups, specific sensitivities can still precipitate allergic symptoms. If the allergies are uncovered, the elderly people can be markedly relieved by intelligent allergic management. Age should never be a criterion for deciding whether allergic investigations can be beneficial.

No discussion of this subject would be complete without a mention of the various types of aggravating or nonspecific factors which can cause flareups or perpetuation of extrinsic allergic disease. In some individuals these factors may be so significant that at times they appear to be even more important than the specific allergic factors in producing the patient's symptomatology. We frequently see the irritating effect of strong chemical odors, such as paint, perfume, gasoline, or camphor, on the allergic mucous membranes. Inorganic dust, infections, emotional factors, and climatic changes can all play an important part in pouring salt on an open wound. These various mechanisms do not cause specific allergic disease but certainly can increase markedly the severity of the patient's illness. Keeping these factors at a minimum will help to speed the patient's recovery.

In closing, I wish to state that I believe extrinsic factors are so important in causing allergic disease that wherever possible, I make an effort to visit every one of my patient's homes. A thorough inspection of the home and a chance to observe personally the patient's exposures at first hand is often worth more than all the hours of history-taking spent in the office. One can't smell a moldy or dusty allergic atmosphere during an office consultation. Information obtained by a home visit can easily make the difference between success and failure in the treatment of allergic disease. It is hoped that this discussion will give you a better picture of the extrinsic mechanisms causing allergic disease.

608 East Genesee Street

Imitation is the sincerest flattery.—Charles Caleb Colton

Dysphagia as a Symptom of Coronary Artery Disease

Its Manifestation as an Angina Pectoris Equivalent

MILTON SCHLACHMAN, M.D., F.A.C.P., ELMHURST, NEW YORK

(*From the Department of Medicine, Metropolitan Hospital Division of New York Medical College, Flower-Fifth Avenue Hospitals, New York City*)

THE typical attack of angina pectoris, as characterized by retrosternal pain of short duration with radiation into the left arm and precipitated by exertion or excitement, presents no problem in diagnosis. However, the pain or pain equivalent may manifest itself in areas so removed from the precordium as to make the determination of its cause quite difficult.

The pain may be felt in the right arm, in a decayed tooth,[1] in the neck, interscapular area, right upper quadrant of the abdomen, or in the epigastric region. In fact, angina pectoris may be provoked by any pathologic or functional disturbance of those organs supplied by the vagus nerve, giving rise to a typical retrosternal pain, or the pain may be transmitted to other parts of the body by commonly shared afferent pathways. The interrelationship of the coronary arteries and those organs supplied by the vagus nerve seems to be a reversible one.

Angina pectoris need not give rise to pain at all. Through autonomic and somatic irradiations, equivalents such as herpes zoster,[2] hyperhidrosis,[3,4] dyspnea,[5] Horner syndrome,[6] and weakness in the arms[7] have been reported as the only indication or accompaniment of coronary constriction.

It is the purpose of this communication to report two cases of coronary artery disease in which dysphagia was the outstanding symptom of myocardial anoxia.

Case Reports

CASE 1.—This patient died suddenly from an acute coronary occlusion. At twenty-nine years of age he had his first attack of right renal colic due to a pelvic stone. At thirty-three years of age a right nephrectomy was done for a calculous pyonephrosis, and at that time it was discovered that he had a staghorn calculus in the left renal pelvis. Frequent attacks of hematuria recurred, and in 1947 he was placed on colloidal aluminum hydroxide therapy in an attempt to produce a constantly alkaline urine with the hope of preventing an increase in the growth of the calculus.

In July, 1948, he began to complain of dysphagia which occurred with breakfast, almost with the first bite of food. Antispasmodics would give only temporary relief, and inasmuch as the patient was taking voluminous doses of aluminum hydroxide, no other antacids were given. These dysphagic attacks were intermittent with periods of several weeks of comfort between the episodes. Numerous esophageal fluoroscopies and two separate esophageal x-ray studies were done, none of which revealed either an organic or functional disturbance of the esophagus. On December 3, 1950, at the age of forty-seven years, he was seized with severe retrosternal pain, vomited, and died within a half hour from an acute coronary occlusion.

It is of interest to note that on several occasions, the patient asked the author whether the dysphagic symptoms were in any way connected with his heart, and he was assured that there was no relationship. The fact that the patient was relieved by antispasmodics is in no way incompatible with the diagnosis of coronary artery disease for placeboes have been known to give relief in attacks of angina pectoris. The intermittency of the attacks of dysphagia was probably due to variations in parasympathetic tone. This periodicity was noted by Soma Weiss in his case of Adams-Stokes attacks due to irritation of an esophageal diverticulum.[8]

CASE 2.—A forty-eight-year-old, unmarried female was seen in September, 1951, complaining of nervousness and severe pain under the "breast bone" with radiation to the back for the past two years. The pain was initiated by exertion and excitement, although at times it would occur at rest. The pain was of such severity on occasions as to cause fainting. Examination revealed an aortic stenosis and insufficiency with a probable mitral stenosis due to rheumatic heart disease. There was moderate enlargement of the left auricle and a wide, dilated aorta. The blood pressure was 170/95. In the following year the patient had numerous typical attacks of angina pectoris. In September, 1952, she began to complain of a severe dysphagia in the mornings, stating that swallowing was so painful that it was impossible to eat. Antispasmodics, antacids, anticholinergic drugs, and benzyl benzoate therapy gave temporary relief. Esophageal x-ray studies were done on January 26 and July 24, 1954, and no pathologic or functional disturbance was noted. The encroachment on the esophagus by the left auricle was minimal.

This patient seemed to sense that the dysphagic symptoms were related to her angina pectoris and that the same mechanism caused both the dysphagia and angina pectoris. When her angina pectoris improved with therapy, her dysphagia would be less troublesome.

Comment

Myocardial anoxia, presumably due to coronary vasoconstriction[9–17] and disturbances in cardiac rhythm,[8,18–23] may be provoked by reflex action*—by any derangement, be it functional or organic, of those organs supplied by the vagus nerve. This myocardial anoxia need not make its presence felt through the painful symptom of angina pectoris.

The operation of a vagovagal reflex was demonstrated by Weiss[8] in a patient who suffered Adams-Stokes attacks because of cardiac standstill due to irritation or stimulation of an esophageal diverticulum by food. The attacks occurred in the morning with the first bite of food, similar to the two cases reported herein, and were intermittent, depending on the varied sensitivity of the autonomic nervous system. Gilbert *et al.*[12,16,23] have shown in animal experimentation that stimulation of the abdominal or esophageal vagus causes a decrease in coronary blood flow, presumably due to coronary constriction. They were able also to induce angina pectoris in patients by means of inflating balloons within the esophagus; the discomfort produced simulated spontaneous clinical attacks of angina pectoris.[12] The onset of angina pectoris with the act of swallowing was known to Heberden.[24]

The Jacksons[25] reproduced attacks of angina pectoris in animals by means of electrical stimulation of the esophageal mucosa and in humans by balloon distention. They concluded that the attacks were not caused by reflex involvement of the coronary arteries but were due to esophageal dysrhythmia or to trapped air in the esophagus or stomach. They looked on angina pectoris and even coronary occlusion as a gastrointestinal disease because vomiting was so often an accompaniment of the attacks and because belching offered relief. However, the vomiting center lies in close proximity to the dorsal vagus nucleus and is easily stimulated by strong afferent impulses from both the vagus and the sympathetics. In fact, the nucleus contains both the vomiting and cardioinhibitory centers.[26] Their conclusion would also seem untenable when one considers that angina pectoris in the susceptible individual may be produced by the inhalation of a low oxygen mixture and is immediately relieved by the rebreathing of pure oxygen (anoxemia test).[27]

The induction of coronary spasm and pain by afferent vagal stimulation has been repeatedly demonstrated by the association of pulmonary embolization with angina pectoris,[28,29] gallbladder disease with angina pectoris,[9,14,15] peptic ulcer with angina pectoris,[30,31] and hiatus hernia with angina pectoris.[9,23] Angina pectoris has been known to disappear after the removal of a diseased gallbladder[9,14] and after the successful medical therapy of peptic ulcer.[30,31] Levy and Boas[31] reported several cases in which angina pectoris appeared one to one and one-half hours after meals, the usual time for a duodenal ulcer to give rise to most discomfort.

This brief review of experimental and clinical demonstrations would seem to prove the existence of a reflex mechanism in many attacks of angina pectoris. Through a reflex mechanism the afferent pain(?) impulses can give rise to substitution manifestations by a reference of these impulses to the autonomic or somatic nervous systems so that vagal, sympathetic, and even somatic reflexes are invoked.

Palmer[3] reported a patient who had several attacks of angina pectoris. He was awakened from his sleep to find his precordium, left shoulder, and left arm drenched with sweat due to a reflex sympathetic phenomenon. No pain accompanied this episode which was diagnosed as a coronary occlusion. Horner syndrome, another reflex sympathetic reaction, has been reported in angina pectoris unaccompanied by pain.[6] Parsonnet and Hyman[2] reported three patients who had both angina pectoris and herpes zoster, a somatic reflex phenomenon. Reflex muscle spasm in coronary artery disease can produce a painful left shoulder with subsequent muscle atrophy (shoulder-hand syndrome).[32-34] Boas[33] explained this complication on the basis that afferent impulses from the heart lead to sensitization of the neurons whose fibers make up the brachial plexus. Edeiken and Wolferth[34] suggested that the sympathetic nerves were responsible for the shoulder pain, drawing an analogy between the shoulder pain and causalgia.

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* A better term might be a disturbance in the synergic adaptability between the parasympathetic and sympathetic nervous systems.

It is believed that the stimulus, which is chemical, for the abnormal pain impulses arises in the heart muscle and is carried by the sympathetic fibers located in the coronary adventitia and pericoronary tissues. These sympathetic fibers join the superficial and deep cardiac plexus, from which the thoracic cardiac nerves join the upper four and five thoracic sympathetic ganglia. Some fibers reach the superior, middle, and inferior cervical ganglia and then descend to the upper four and five thoracic sympathetic ganglia and enter the spinal cord at the upper four or five dorsal thoracic spinal nerves. They reach the thalamic center by means of the spinothalamic tract.[35,36]

One can only postulate on the nervous pathways by which dysphagia is manifested as a symptom of myocardial anoxia. The act of swallowing in a reflex-sensitive individual causes a stimulation of the afferent vagus fibers which reflexly produces activity of the efferent vagus fibers to the coronary arteries with a consequent coronary vasoconstriction. The abnormal pain(?) impulses act on the sympathetic nerve endings in the usual manner. It has been demonstrated that the pharynx and esophagus receive sympathetic fibers from both the superior and inferior cervical ganglia and through communications from the sympathetic cardiac nerves. Many sympathetic fibers join the vagus trunk and go directly to the esophagus.[37] Knight[38,39] has shown in animal experimentation that stimulation of the sympathetics augments the constriction of the upper one third of the esophagus by the vagus and that sympathetic stimulation inhibits the tonus and motility of the lower one third with contraction of the cardiac sphincter. Sympathetic overstimulation may give rise to achalasia by its effect on the cardiac sphincter.

Therefore, it is theorized that the abnormal impulses—and they cannot be called pain impulses unless registered as such in the thalamus—reach the esophagus through a vagovagal-sympathetic reflex or a vagosympathetic dyssynergia, giving rise to dysphagia, instead of entering the spinal cord and hence to the thalamic area via the spinothalamic tract.

The act of swallowing invokes so many nerves that an accurately timed sequence of nervous action is necessary to produce the normally painless act of deglutition. Any harmful stimulus to the esophagus peripherally or to the deglutition center centrally, which connects with the dorsal nucleus of the vagus, upsets this sequence so that the normal progress of esophageal function is disturbed.

Many reports of painless coronary occlusion have appeared in the literature, and the most widely accepted explanation for the absence of pain is degeneration of the sympathetic nerve fibers about the coronary vessels.[40-45] One wonders if the lack of pain is not due to a dissipation of the abnormal impulses through substitution phenomenon so that the impulses never reach the thalamic area.

Summary and Conclusions

1. Two cases of angina pectoris are reported in which dysphagia was a substitution phenomenon for pain. In one case the patient never experienced retrosternal or referred pain but had repeated attacks of dysphagia and died suddenly from an acute coronary occlusion. In the other case the patient experienced both anginal pain and dysphagia at different times, the dysphagia being manifested as an angina equivalent.

2. A vagovagal-sympathetic reflex or a vagosympathetic dyssynergia is postulated to cause incoordinated movements of the pharynx and/or the esophagus or cardia sphincteric spasm. The afferent abnormal impulses from the heart are dissipated by means of this reflex and do not reach the thalamus to be registered there as pain.

89-25 Elmhurst Avenue

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ANNOUNCEMENT

SCIENTIFIC EXHIBITS

1956 ANNUAL CONVENTION MEDICAL SOCIETY OF THE STATE OF NEW YORK

Applications for space for the scientific exhibits should be made directly to the Chairman of the Subcommittee on Scientific Exhibits of the Convention Committee:

William L. Watson, M.D.
340 East 72nd Street
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The Annual Convention will be held May 7 to 11, 1956, at the Hotel Statler, New York City.

No applications can be considered after January 1, 1956.

There will be two groups of awards:

Group I: Awards in Group I are made for exhibits of individual investigation, which are judged on the basis of originality and excellence of presentation.

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W. P. Anderton, M.D., *Secretary*
Medical Society of the State of New York

The Management of Chronic Eczema of the External Ear Canal

FREDERICK REISS, M.D., NEW YORK CITY

(From the Skin Clinic of the Manhattan Eye, Ear and Throat Hospital)

PERIORIFICIAL eczemas constitute a complex problem, not only from the etiologic point of view, but from a therapeutic standpoint as well. This statement applies particularly to periocular, periauricular, and perianal eczemas. The lack of uniform etiology or, at times, the uncritical acceptance of a single etiology may explain the many therapeutic failures.

Eczema of the external ear canal has perplexed otologists and dermatologists as well. In the past, cures have at best been achieved only after years of treatment, involving loss of time and considerable financial burden for the patient.

Since the introduction of antibiotics and adrenal cortical steroid hormones, the treatment and prognosis of external otitis have undergone fundamental changes.

We propose to describe the treatment of a series of 44 patients with external otitis whom we have seen in the clinic and in our private practice during the past two years. Thirty-five of these patients have been followed up for varying periods. Also we will give a short account of our investigations.

Clinical Picture

Itching in varying degrees is a symptom which is very frequently present in all forms of external otitis. Even though only a small area of the integument is involved, the itching causes intense discomfort and at times anguish that can lead to nervous depression. The clinical picture may fluctuate, and it is not unusual to note in the same person phases of scarcely detectable objective changes in the ear canal with periods of an acute weeping, eczematous process. The most common form, however, is the chronic, erythematous, scaly, impetiginous external ear canal. Occasionally the process is complicated by the development of furuncles, fissuring, and excoriation around the external meatus. Frequently (about 50 per cent of our cases) involvement of the ear lobe and of the periauricular area was observed. The retroauricular region is likely to be as resistant to therapy as the ear canal itself. Many patients state that the otic pruritis was preceded by a retroauricular scaliness and itching and that later the pinna and outer ear canal became involved. Microscopic examination of the seropurulent discharge reveals epithelial debris, pus cells, bacteria, and at times fungous elements.

General Considerations

Every type of eczematous process whose etiology is investigated is a challenging problem. It must be borne in mind constantly that the causes of external otitis are as manifold as the causes of cutaneous eczema. The external ear canal is essentially an epithelium-lined cul-de-sac which is exposed to the same sensitizing process as the skin itself. Therefore, contact dermatitis of the ear lobe and external ear canal due to a number of allergens (cosmetics, feathers, etc.) is not infrequent. Similarly psoriasis, atopic dermatitis, and particularly seborrheic dermatitis may cause eczematous external otitis. Because of its high incidence particular attention must be paid to seborrheic dermatitis of the periauricular region. However, the structure of the skin of the external ear canal differs from the skin in general in its possession of the specialized glands that secrete a waxy substance which, when mixed with the secretion of sebaceous glands, represents the well-known cerumen.

The role of cerumen in relation to external otitis is rather controversial. One group of investigators assume that because of the fatty acid content cerumen is fungicidal and bactericidal.[1] Others [2,3] state that "sterile cerumen does not inhibit the growth of organisms that can be isolated from the ear canal."

Our own interest led us to the following investigations: An ether-acetone extract of ear wax was added to blood agar in 5 and 50 per cent concentrations. Before inoculation the plates were kept at 37 C. for twenty-four hours to assure a complete evaporation of the ether-acetone solvent. To test the bactericidal effect of cerumen the following organisms were used: Escherichia coli, Streptococcus hemolyticus, Staphylococcus aureus, and Pseudomonas aeruginosa. Growth in all the plates was as heavy as in the control plates.

Several reports and our own observations indicate the disappearance of ear wax from the ear canal of patients affected with otitis externa. It is also worthy of note that the gradual reappearance of cerumen is a forerunner of clinical improvement and eventual cure. This phenomenon may be interpreted as evidence of a dysfunction of the cerumen-secreting glands. A similar functional disturbance of the sebaceous glands may be the cause of seborrheic dermatitis. A study of a possible interrelationship between the two diseases may contribute to our understanding of their pathogenesis.

Several investigators have been concerned with the lipid fractions and amino acid content of cerumen.[4,5] Recently Akobjanoff[6] attempted to identify the fatty acids of ear wax by paper chromatography. In spite of much effort he failed to separate pure fatty acids from the saponifiable fraction of ear wax.

In addition to the possible role of cerumen in the pathogenesis of otitis externa, attention should also be directed to the factor of pH. It is well known that the pH rises in all inflammatory reactions of the skin. Therefore, it is not surprising to learn that the pH in otitis externa is also elevated, which has been observed by McLaurin[2] and others. The subsidence of inflammation is correlated with the alkali-neutralizing effect exerted by fatty acids in the sweat and the amino acids of the keratin proteins. In our opinion the amphoteric amino acids found in cerumen may play a similar role. The disappearance of the cerumen could, therefore, contribute to the rise of the pH.

Etiology

It is well known that the microscopic flora of the external auditory canal are variable; furthermore, the following investigation questions whether there is an appreciable difference between the bacterial flora of a pathologic ear canal as compared with that of a normal. In ten patients with an external otitis of the right ear and a normal left ear canal the bacteriologic findings were the following:

	Right Ear	Left Ear
Ps. aeruginosa	2	...
Staph. albus	3	6
Diphtheroids	4	3
Staph. aureus	...	1
Aspergillus flavus	3	5
Mucor	2	4

On the basis of these findings no further attempt was made to investigate the bacterial flora of the diseased ear canal since it is our belief that the isolated microorganisms are secondary invaders and not the primary cause of the disease. There is also ample evidence to substantiate our concept that fungi are not the cause of eczematous external otitis and are usually secondary invaders. As in seborrheic dermatitis, the bacteriologic flora in otitis externa play a secondary role. The primary cause is more likely to be some qualitative or quantitative imbalance of the sebaceous and, particularly, the ceruminous glands. However, it is well known that the microorganism may increase the inflammatory reaction and aggravate the condition. But it is of interest that the bacterial flora did not decrease during the treatment with corticosteroids despite the fact that the exudation and itching stopped forty-eight hours after medication was given. Apparently, the glucocorticoids exert the well-recognized, nonspecific, anti-inflammatory effect without antagonizing the metabolism of the offending organisms.

Treatment

Most of the patients who seek medical advice for the eczematous otitis have been treated over a long period and have been subjected to an unlimited trial of a variety of drugs. To alleviate the annoying pruritus is of immediate and paramount importance. In this respect, glucocorticoids have given valuable help. Although exudation and inflammation subsides appreciably with the cessation of pruritus, it is our experience that as soon as steroid hormones are withdrawn, the symptoms recur, sometimes even in a more severe form. Therefore, it was logical to combine oral glucosteroid medication with locally applied antibiotics or bactericidal drugs. The local application of a combination of corticosteroids and antibiotics gave the best results.

The beneficial effect of the locally applied Hydrocortisone ointment in external otitis was first reported by Sulzberger.[7] In the discussion of Sulzberger's report, I indicated that good therapeutic results were obtained with orally administered cortisone combined with the local application of either 1 per cent Vioform Cream or Polysporin Ointment.[8] Recently Baer and Litt[9] reported favorable results in the treatment of external otitis with ear drops containing a suspension of hydrocortisone and neomycin.

Our therapeutic approach has changed from time to time according to the availability of new drugs marking the advance in corticosteroid and antibiotic research during the last two years.

The striking effect of cortisone in the treatment of inflammatory diseases is well known. The symptomatic relief achieved by this therapy, however, was insufficient because after the discontinuation of the drug, symptoms reappeared. The decrease of the inflammation led us to follow this drug with an antibiotic or antimicrobial agent. The dosage consisted of the administration of 25 mg. of cortisone twice daily. This was changed later to 20 mg. of hydrocortisone twice daily.

The local application consisted of either polymyxin-bacitracin (Polysporin, Burroughs Wellcome), oxytetracycline-polymyxin ointment (Terramycin-Polymyxin, Pfizer), or 1 per cent Vioform Cream. Among six patients treated with this combination, five showed an excellent response. One patient treated with 1 per cent Vioform Cream was equally satisfactory. Generally one week of medication with cortisone or hydrocortisone combined with locally applied antibiotics produced not only a cessation of pruritus but also a subsidence of oozing, suppuration, and scaliness. In two instances glucocorticoids were administered for one week, and subsequent therapy consisted of locally applied antibiotics only. We also studied the effects of topically applied hydrocortisone and antibiotics.

The combination of hydrocortisone free alcohol and oxytetracycline (Terra.-Cortril Topical Ointment, Pfizer) was effective in 12 patients. The results were similar with hydrocortisone acetate-neomycin ointment. Three out of 15 patients showed good response. In none of these patients was local sensitization observed. In view of the fact that the lowered pH of the external ear canal may have some importance in the persistence of the disease, the following combination was also given a therapeutic trial in five patients: hydrocortisone 1 per cent and Burow's solution 3 per cent in Polysorb Ointment. Recently a buffered cream has become available (Acid Mantle Cream, Dome Chemical).[10] The combination of hydrocortisone free alcohol with 0.5 to 1 per cent Vioform in a buffered cream proved to be quite efficacious in six patients. One per cent hydrocortisone free alcohol incorporated in a buffered 5 per cent diiodohydroxyquinoline cream (Quinadome Creme, Dome Chemical) was equally useful in two patients. It should be emphasized that periauricular seborrheic dermatitis was simultaneously treated with the same topical agents, and the therapeutic responses were equally satisfactory. In two patients seborrheic dermatitis of the axillae and inguinal region was treated similarly to the otic process.

Among the 14 patients treated with the hydrocortisone-antibiotic ointment for three weeks, eight remained free of symptoms during the observation period (six months).

Clinically we know that resistant organisms may be encountered which offer an explanation for the occasional failure to obtain a therapeutic result with the above-mentioned treatment. It is suggested that in refractory cases sensitivity tests should be made.

Summary and Conclusion

Eczematous otitis externa is considered to be influenced by a dysfunction of the ceruminous glands. The importance of the hydrogen ion concentration of the external ear canal is emphasized. The topical application of antibiotics and hydrocortisone proved to be clinically effective in the treatment of external otitis. The incorporation of antibiotics or antimicrobial agents and hydrocortisone in a buffered ointment base is recommended.

870 Fifth Avenue

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Topical Therapy with an Anticholinergic Agent in Dermatologic Conditions

WILLIAM SAUNDERS, M.D., WATERTOWN, NEW YORK, AND GEORGE BABCOCK, JR., M.D., CLIFTON, NEW JERSEY

IN PATIENTS with certain diseases of the skin, it is essential that moisture be removed from the skin and that high environmental temperature with resultant perspiration be avoided in order to protect against irritation caused by these exposures. Perspiration and excessive sweating may aggravate and delay healing in dermatologic conditions or may cause an exacerbation.[1] This complication occurs especially in intertriginous areas, on portions of the body covered by clothing, and on the hands when rubber gloves are worn to protect a dermatitis.

Sulzberger and his coworkers[2] have conducted studies on sweating which indicate that when the sweat ducts are obstructed while the secreting acini continue to function, sweat is forced into the tissues. These autogenous injections are thought to produce discomfort, pruritus, clinical or subclinical wheals, and thus to maintain or aggravate various dermatoses. The further research of this group has shown that autogenous and thermogenic sweat injected intracutaneously has an urticariogenic effect, which is pronounced in atopic individuals.[2] Evidence from experimental studies in cases of atopic dermatitis suggested to Tuft, Tuft, and Heck[3] that "the sweating mechanism is in some way concerned with the production of the dermatitis."

Sweating can readily be inhibited by anticholinergic drugs administered orally or parenterally,[4] as shown by their control of thermally induced sweating[5] and their use in the relief of hyperhidrosis.[6–12] It was during the use of an anticholinergic drug, diphemanil (Prantal) methylsulfate, in the treatment of hyperhidrosis that Nelson[8] observed more rapid involution of dermatitic lesions after the relief of the hyperhidrosis. Perspiration had retarded healing in cases of contact and neurodermatitis. Extending the use of this drug to other dermatoses, Nelson[13] found its antipruritic and anhidrotic effects to benefit patients with nonspecific pruritus, urticaria aggravated by heat, dyshidrotic eczema, and exudative neurodermatitis.

These effects formed the basis of the concept by Parish[14] of possible benefit of diphemanil methylsulfate in poison ivy dermatitis. When this drug was administered orally to 73 patients with poison ivy dermatitis, itching ceased in the majority in twelve to twenty-four hours. The characteristic weeping usually diminished in two or three days. Any adverse effects of sweat on this condition were avoided by the anhidrotic effect of diphemanil methylsulfate.

The anhidrotic effect of anticholinergic drugs orally has been demonstrated too in other dermatoses.[7,10] Thus, recovery was more rapid in patients with contact dermatitis associated with a dysfunction of the sweat mechanism when an anticholinergic drug was used in conjunction with the usual dermatologic therapy. New dyshidrotic lesions were prevented in miliaria. Other responsive conditions included vesicular dyshidrotic eruptions, neurodermatitis, and intertrigo.

While anticholinergic drugs inhibit sweating, none is selective in its activity with respect to the sweat glands, and therefore, each also exerts effects throughout the parasympathetic nervous system. Their systemic administration in patients with diseases of the skin subjects them to unnecessary and perhaps undesirable effects, as, for instance, on the gastrointestinal tract.

Shelley and Horvath[4] found it impracticable to attempt to produce complete anhidrosis with anticholinergic drugs orally. The large doses required induced widespread parasympathetic paralysis. Because topical administration seemed well suited to the inhibition of sweating and since a high dermal concentration of anticholinergic drug with low systemic levels could be obtained in this manner, the anhidrotic effect of anticholinergic drugs applied topically was investigated. Local sweating in response to thermal stimulation was inhibited by some of the drugs following topical administration of aqueous solutions by iontophoresis. Anhidrosis of long duration was produced by application of a concentrated aqueous solution of hyoscine to the skin.

To be reported are clinical tests conducted

TABLE I.—RESULTS OF TREATMENT OF DERMATOLOGIC CONDITIONS WITH DIPHEMANIL METHYLSULFATE CREAM

		Degree of Improvement							
		Subjective				Objective			
Indication	Total Patients	Excellent	Good	Fair	Poor	Excellent	Good	Fair	Poor
Dermatitis									
Atopic	3	2	1	..	..	..	2	1	..
Contact	8*	5	1	..	1	2	3	2	1
Poison ivy	4	..	2	2	..	..	2	1	1
Seborrheic	3	1	1	..	1	2	..	..	1
Dermatophytosis	1*	..	..	..	..	..	..	..	1
Dyshidrosis	2	..	1	..	1	..	..	1	1
Eczema, dyshidrotic	1	..	..	..	1	..	..	1	..
Hyperhidrosis	2	1	1	..	..	1	1	..	..
Neurodermatitis	7	2	4	..	1	1	1	3	2
Neurodermatitis, exudative	8	3	1	1	3	2	2	1	3
Pityriasis, rosea	1	..	..	1	..	..	..	..	1
Pruritus, intertriginous	1	..	..	..	1	..	..	..	1
Pruritus ani	4	..	1	2	1	..	2	1	1
Psoriasis	3	..	2	..	1	..	..	..	3
Tinea versicolor	1	1	..	..	..	1	..	..	..
Ulcer, varicose	1	..	..	..	1	..	..	..	1
Urticaria	1	1	..	..	..	..	..	..	1
TOTAL									
Number	51†	16	15	6	12	9	13	11	18
Per cent	100	31.4	29.4	11.7	23.6	17.6	25.5	21.6	35.3

* No subjective symptoms in 1 patient.
† Three patients had two diseases each.

with diphemanil methylsulfate to determine its effect on topical application in various diseases of the skin.

Present Study

Diphemanil (Prantal) methylsulfate topically was used in the treatment of various dermatologic conditions, some of which were accompanied by exudation or complicated by sweating and most of which were accompanied by pruritus.

A total of 17 disease conditions were present in the 48 patients treated (Table I). Three patients had two diseases each.

Diphemanil methylsulfate was applied in a cream type of base containing 2 per cent of the agent.* The cream was rubbed gently into affected skin areas three or four times daily at first and less frequently as improvement became apparent. Two patients complained of stinging on application, respectively, to raw skin areas and to an open ulcer. A patient with dyshidrosis complained that the cream irritated after a week's application, but no signs of irritation were apparent.

The earliest effect of the cream was the relief of pruritus, which often occurred immediately. Elimination of the urge to scratch afforded a distinct advantage because it avoided trauma. While the degree of relief varied, in the majority of the patients itching disappeared completely.

Diphemanil methylsulfate cream exerted an anhidrotic effect. For example, the popliteal area in a patient with exudative contact dermatitis became dry after treatment for two days. In a patient with generalized poison ivy dermatitis, dry crusts with only a few small vesicles were evident after five days application. Sweating in hyperhidrosis was reduced, sometimes more effectively than with medications previously employed.

The antipruritic and anhidrotic effects greatly facilitated the involution of lesions. It was not unusual in contact dermatitis, for example, to find the areas dry and scaly after treatment for a week.

The results of therapy are given in Table I. Complete or satisfactory relief of symptoms was reported by 61 per cent of the patients. Approximately 12 per cent reported a fair degree of improvement of symptoms, while 24 per cent had slight or no subjective benefit. Two patients had no subjective symptoms.

Objectively, the response was judged to be excellent with complete alleviation of symptoms and healing in 17.9 per cent of the lesions. Because the lesions on two body areas sometimes responded differently, the percentages of objective responses were calculated from the totals among the 67 affected areas. A satisfactory degree of objective improvement occurred in 32.8 per cent of the lesions, fair or slight improvement in 34.3 per cent, and a poor response or none in 15 per cent.

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* Diphemanil (Prantal) methylsulfate cream was supplied by the Division of Clinical Research, Schering Corporation, Bloomfield, New Jersey.

The results in the various diseases are given in Table I. The best response was obtained in *atopic dermatitis, contact dermatitis, hyperhidrosis, exudative neurodermatitis,* and *tinea versicolor.* Further trial would seem to be warranted in *seborrheic dermatitis.*

The oozing in *exudative dermatitis,* as well as the pruritus, could usually be promptly controlled. One patient with this disease, who had not been benefited by cortisone, improved in three days. In another patient lesions on the low back improved rapidly during the daytime but became worse at night. More frequent application of the cream at night might have maintained more consistent improvement. An affected area on this patient's head cleared completely.

Itching in *pruritus ani* was usually promptly relieved. In one emotionally disturbed patient the results were as good or better than with other local medicaments. In a sixty-five-year-old man a greater degree of relief from itching was also afforded.

Disappearance of pruritus and drying of vesicles occurred in *poison ivy dermatitis.* The benefits compared favorably with those from hydrocortisone ointment in a patient in whom both were tried. Itching in one patient with ivy poisoning was not relieved by the cream and continued despite the use of antihistamines and cortisone orally.

The patients with *neurodermatitis* were moderately benefited. Sometimes no healing occurred in lichenified patches unless they were thin before treatment commenced.

In *dyshidrotic eczema* diphemanil methylsulfate cream proved helpful, but Burow's solution gave better relief of symptoms.

Only slight benefit could be discerned in *dermatophytosis, intertriginous pruritus, varicose ulcer,* and *dyshidrosis.* In *psoriasis, urticaria,* and *pityriasis rosea* itching was relieved, but no effect on the course of the lesions became apparent.

Comment

The topical application of an anticholinergic drug is well suited to the treatment of dermatologic lesions. That absorption occurs through the skin is demonstrated by the effects obtained in the 48 patients in this study treated with diphemanil methylsulfate cream.

The study demonstrates also that diphemanil methylsulfate exerts sweat-suppressing action on local administration, as well as on systemic administration, which conforms with the demonstration by Shelley and Horvath[4] of such activity for anticholinergic drugs by iontophoresis.

That diphemanil methylsulfate exerts anti-inflammatory action makes an interesting speculation. Its antiacetylcholine activity has been demonstrated experimentally.[15] The role of acetylcholine in cell membrane permeability has been studied by Greig and her coworkers.[16-18] They have demonstrated that one factor controlling cell permeability is the acetylcholine-cholinesterase system. In their concept inhibition of the enzyme cholinesterase by substances such as physostigmine or by an excess of acetylcholine renders cell membranes exceedingly permeable so that edema, exudation, and inflammatory changes occur.

If the initial cause of allergy is an excess of acetylcholine, histamine release being secondary,[19,20] the net result by the Greig theory would be increased cell permeability. An anticholinergic drug should attack this biochemical derangement by blocking the excess acetylcholine from the enzyme so that the inflammatory changes are overcome. This could have been a part of the ameliorative effect of diphemanil methylsulfate in the dermatitides described.

Of interest in the light of these theoretic considerations are the excellent responses obtained in patients with dermatologic conditions of the atopic or adaptation type following the administration of a purified human plasma cholinesterase.[21] The ameliorative effect of cholinesterase in hypersensitivity states tends to substantiate the Greig theory of the control of cellular permeability by the acetylcholine-cholinesterase system.

Summary

A cream containing 2 per cent of the anticholinergic agent, diphemanil methylsulfate, was applied topically in the treatment of 17 dermatologic conditions accompanied by exudation or pruritus, or both, and in some instances complicated by sweating. Sixty-one per cent of the 48 patients reported complete or satisfactory relief of symptoms. Objectively, the response was excellent with complete alleviation of symptoms and healing in 17.9 per cent of the affected body areas, and a satisfactory degree of improvement in 32.8 per cent of the lesions. Fair or slight improvement occurred in 34.3 per cent and a poor response or none in 15 per cent. The best results were obtained in atopic, contact, and seborrheic dermatitis, hyperhidrosis, exudative neurodermatitis, and tinea versicolor where the antipruritic and anhidrotic effects of the cream facilitated the healing of lesions. These effects to a lesser degree were apparent in pruritus ani, poison ivy dermatitis, neurodermatitis, and dyshidrotic eczema. Slight benefit was afforded in dermatophytosis, intertriginous pruritus, varicose ulcer, and dyshidrosis. The cream had no effect on the primary lesion but relieved itching in psoriasis, urticaria, and pityriasis rosea.

This study demonstrates the absorption and sweat-inhibiting activity of the anticholinergic agent diphemanil methylsulfate upon topical application. The possibility that the drug may have an anti-inflammatory effect is discussed.

531-535 Woolworth Building
158 Beverly Hills Road

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Outlook Less Grim for Childhood Cancer

"I do not think that there is any doubt that the outlook for cancer in children is less grim than it was twenty years ago and that radiation therapy has contributed to this improvement," a New York City radiation specialist has reported. He is Dr. Ralph F. Phillips, associated with the Memorial Center in New York City. His comments appeared in the October, 1955, issue of *The American Journal of Roentgenology, Radium Therapy and Nuclear Medicine.*

However, Dr. Phillips lifted this warning finger in his report: "It is clear that much more extended observations are required before the place of radiotherapy in pediatrics can be determined, not only as to its actual value in the treatment of childhood cancers, but even more as to its late effects on growth and development."

The study of late radiation effects, he continued, "...introduces another aspect of radiosensitivity, for the absence of any immediate reaction after irradiation does not preclude later manifestations of radiation damage. A big difference between pediatric and adult practice is the much longer life expectancy of successfully treated children, during which unexpected late sequelae of irradiation may occur. In the treatment of cancer such risks must be taken, but they can hardly be justified in nonmaligant conditions."

Some other conclusions advanced by Dr. Phillips: Malignant disease in children, although uncommon, ranks third among the causes of death. The radiosensitivity of normal and malignant tissues is not directly related to the age of the patient. Although the value of radiotherapy is uncertain, it has an essential part in the present management of childhood cancers, together with supportive measures, surgery and chemotherapy.

The late effects of radiotherapy on growth and development are at present not thoroughly understood.

Problems in Early Diagnosis of Carcinoma of the Lung

ARTHUR J. CRACOVANER, M.D., NEW YORK CITY

The purpose of this discussion is to point out the problems involved in making an early diagnosis of carcinoma of the lung. We need not go into the importance of recognizing an early lesion because we know that, for the present, our only hope for cure of carcinoma anywhere in the body is to discover the tumor early enough so that it can be resected.

As bronchoscopists, we are part of a group concerned with the problem of making an early diagnosis in cancer of the lung. The internist, chest specialist, roentgenologist, pathologist, and the bronchologist must combine their efforts more effectively to bring the cases to the thoracic surgeon before it is too late.

At the present time the curability of cancer of the lung is reported as low as 6 to 8 per cent in all cases operated and 40 per cent if the tumor is confined to the lung and resectable. It is obvious then that the technics in diagnosis are thus far inadequate. There is a great increase in the incidence of cancer of the lung, and yet our ability to discover early cases has not improved to any extent.

As bronchoscopists, we make a plea for early bronchoscopy since this is the only certain way of making a diagnosis. We ask the medical men not to procrastinate in the presence of a persistent cough, hemoptysis, or a wheeze. We ask the internists and the roentgenologists to seek bronchoscopy when the x-ray shows any suspicious shadow or even in the presence of a negative x-ray. We now have the help of cytologic examination, and still diagnosis of cancer of the lung is too late in most cases to effect a cure.

What can we do? Let us take each man's job in this fight against cancer of the lung and see what he can do to help. First, the patient. He must be educated to seek medical advice if he has an irritating cough which lasts more than three weeks. He must not neglect the so-called hacking cough and blame it on smoking or a postnasal drip. He will certainly seek consultation if he is spitting blood. In other words, education of the public is of paramount importance.

Next the internist should be suspicious of a cough which lasts more than a reasonable length of time and cannot be definitely explained on examination. He should not be tempted to treat the condition as a bronchitis or an infection and give the patient a trial treatment with antibiotics. Cough, hemoptysis, or wheeze may be an early symptom and must be extensively investigated. After a thorough physical examination he must refer the patient for chest x-rays.

The roentgenologist will take x-rays of the chest, perhaps posteroanterior views and laterals, but frequently this is not enough. Further views on inspiration and expiration, obliques, and possibly planograms may demonstrate a lesion in a case which is suspicious of carcinoma of the lung when the routine films may be negative.

Then too the roentgenologist must learn to overread the x-rays and view with suspicion any slight deviation from normal. Rigler[1] mentions several abnormalities in x-rays that may be overlooked, i.e., segmental or general pulmonary emphysema, minor differences in the size of the root shadows of the two lungs, linear areas of atelectasis, and a nodule in the periphery.

If after thorough x-ray study the findings appear to be negative, it is not necessarily true that a cancer is not present. After all, the lesion may be of a size which creates symptoms of irritation in the bronchus, but it may be so small that it does not create bronchial obstruction and a resulting shadow. So in the presence of a negative x-ray, further investigation is required, i.e., bronchoscopy.

Bronchoscopy may contribute greatly in making or confirming a diagnosis. Through the bronchoscope we are able to visualize a lesion when it is in a main bronchus or for a short distance within the secondary branches. This is relatively easy, and our experience tells us that most of the time it is too late. What we must do

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is to recognize the very early lesion, the slight abnormality which may occur in a beginning cancer of the bronchus. To identify a large fungating growth or rigidity or severe narrowing of the bronchus is not difficult, but a small elevation of the mucosa, a slight roughening or irregularity of the mucous membrane, or a little narrowing of the bronchus—these are the abnormalities that one must be able to discern. An elevation in the mucosa may be flat or may be a small nodule or group of nodules giving a granular or wrinkled appearance. When the surface of the mucous membrane is broken, there is an ulceration which appears as a small, irregular, granular area which bleeds readily when touched with the tube or aspirator. At times one recognizes a change in color. Instead of the usual pale pink appearance of the mucosa, we may see a red or bluish area. Any irregularity in the normal longitudinal folds of the bronchus may indicate a mucosal or submucosal infiltration. Any obliteration of the normal pattern of the cartilaginous rings must be held suspicious of tumor. It takes training and skill to be able to do this, and we must attain that skill and teach it to our younger men.

Besides being able to view the inside of the bronchus and to examine carefully each branch, including the upper lobes, with telescopic lenses, we can take specimens. The biopsy of a lesion which is readily seen is not difficult, but we must obtain specimens of the almost imperceptible lesion and of the secretions of exudate, even though no lesion is seen. We can use a curet if the tissue cannot be grasped with a biopsy forceps. The bronchial mucosa can be swabbed with an applicator and smears made for cytologic studies. Saline may be instilled in the lung and aspirated for study in the hope of being able to recognize abnormal cells if a cancer is present. A forceps or curet may be placed in a suspicious bronchus with the hope of taking a blind biopsy and revealing a tumor. In cases of hemoptysis the blood or blood clots should be carefully followed to determine the branch of origin. Sometimes localization by x-ray will help to lead the bronchoscopist to the branch involved, and specimens can be taken to confirm the diagnosis. Yes, the bronchoscopist has a very important part to play in the diagnosis of the early lesion. He must view everything in the bronchus with suspicion and take many specimens. He must not hesitate to repeat the bronchoscopy in any suspicious case if his first attempt has not proved the presence of the cancer.

A very important member of the diagnostic group is the pathologist. It takes a great deal of time and patience, as well as training and ability, to recognize abnormal cells in the sometimes meager specimens which he is asked to examine. His contribution is most significant, and as time goes on, we are leaning more and more heavily on his help in proving the presence of a cancer.

Is there anything further to be done? Mass x-rays have been disappointing, and yet if people were x-rayed every six months after the age of forty-five, perhaps more cases would be recognized that could be successfully operated. Then, too, sputum examination at regular intervals may reveal some cases that would not ordinarily be discovered. It has been suggested that lung washings obtained with a catheter inserted indirectly, not through a bronchoscope, might reveal added cases. These procedures would have to be done at regular intervals in large surveys, and whether they would be successful is problematic.

One thing we can do is to recommend more freely and regularly that exploratory operation be done in cases which are suspicious of carcinoma of the lung. Our previous reluctance to ask the thoracic surgeons to investigate a lesion is now unfounded since the risk is negligible and the prospect of obtaining a cure so much greater than if we wait for the tumor to increase in size or for a positive diagnosis to be made.

Conclusion

In spite of our present knowledge the curability rate of carcinoma of the lung is low. We have attempted to indicate that the early diagnosis of cancer of the lung is beset with problems. What we can do at present is to educate the public and to train the medical specialists to improve their ability with the technics in diagnosis which are available to us. Mass surveys are not practical for the present.

114 East 72nd Street

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CLINICOPATHOLOGIC CONFERENCE

ROSWELL PARK MEMORIAL INSTITUTE

BUFFALO, NEW YORK

Conducted by JOHN W. PICKREN, M.D.

APRIL, 1955

Case History

Dr. Robert C. McCormick: Mr. J. H. S. was a sixty-one-year-old, white male first seen at Roswell Park in 1943. At that time he gave a fifteen-year history of periodic disturbances of the stomach, consisting of epigastric distress, nausea, and occasional bouts of severe eructation. At the time of admission to the Outpatient Department, however, his complaints were somewhat more persistent and consisted of "sour stomach" and abdominal pain, particularly after meals. Physical examination was essentially negative, and x-rays of his stomach and colon failed to reveal any abnormality. He was gastroscoped, and the only abnormal finding described was the presence of large, hypertrophied rugae along the greater curvature. These were thought to be the result of spasm rather than an intrinsic lesion by the gastroscopist. The patient was placed on an ulcer regime and discharged to the care of his family doctor.

The patient was next seen at the Institute in 1951 for treatment of a very mild leukoplakia of the lower lip. In the meantime he had had a clinical diagnosis of a coronary occlusion, and confirmatory electrocardiograms indicated posterior wall infarction. During this period, 1943 to 1951, this man had never worked but was supported by his wife.

On his third visit to Roswell Park in September, 1952, his main complaint once again was epigastric pain. The pain began in June and consisted of crampy epigastric pain associated with gaseous eructations. This pain developed primarily after meals and awakened him at night. Distribution was primarily epigastric, but he described it as radiating around his right flank into the back. The pain in the back was somewhat indefinite, and at the time of his admission he had no specific complaint of back pain. He denied vomiting and any change in the color of his stool. He also complained of a poor appetite, although his weight loss in the last six-month period was only 10 pounds. It was noted that he had lost about 40 pounds over a fifteen-year period, even though he was inactive.

The physical examination was again essentially negative. There was a slight enlargement of his prostate. There was a slight tenderness in the epigastrium, but no masses were palpable.

He had a total of three gastric x-ray studies done over a period of four months. Cholecystograms were negative, and x-rays of the spine were likewise negative. After further attempts to treat this patient medically and additional x-ray studies to establish a definite diagnosis, he was explored in February, 1953. All laboratory and hematologic tests were considered normal.

Dr. Ru-Kan Lin: Three gastrointestinal x-ray examinations were performed. In September, 1952, an area of irregularity of the greater curvature of gastric antrum was described with persistent spasm observed during fluoroscopy. No definite intrinsic lesion could be demonstrated at that time. Repeat gastrointestinal examinations were performed in November, 1952, and January, 1953, with two-month intervals between each examination. Essentially the same spastic antrum was observed and on each occasion was never observed to dilate fully. This segment was somewhat rigid and deformed (Fig. 1). No air contrast study was done at that time which

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Conference notes edited by Dr. George E. Moore, director, Roswell Park Memorial Institute.

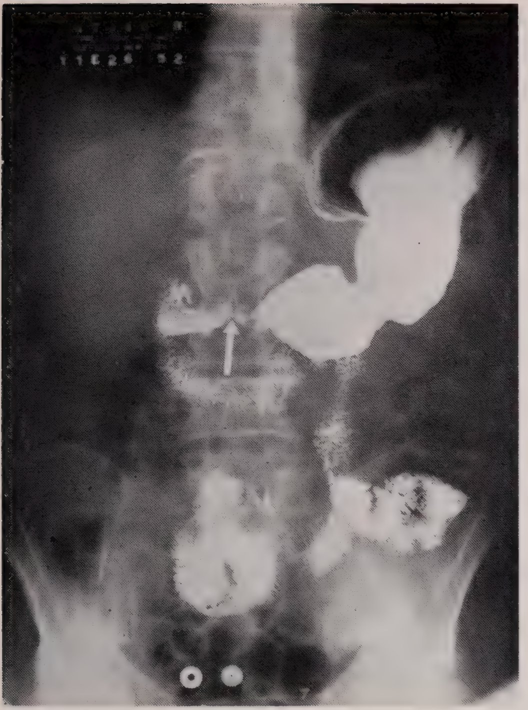

FIG. 1. Antral spasm was demonstrated by several x-ray examinations.

would have helped to differentiate between intrinsic and extrinsic involvement of the gastric antrum. Gallbladder study and spine films were normal.

Discussion

DR. GEORGE E. MOORE: In review, then, this patient had a history of chronic gastrointestinal complaints and a relatively short history of epigastric pain which radiated around the right flank accompanied by a slight weight loss. He had no other localizing signs pointing to any specific organ involvement. Review of his x-ray examinations revealed some evidence of disturbance of the stomach silhouette, presumably from an intrinsic lesion. However, to me the films are not very convincing. If any organic lesion is present, extrinsic involvement seems more likely. Furthermore, the examiners did not notice any masses in the epigastrium, and the stomach is well below the costal margin. If there was as much involvement of the stomach as indicated by the x-ray, it should be palpable. It is noteworthy that all laboratory procedures were normal.

In this particular instance, then, the clinical decision that had to be made was whether or not this patient should be explored on the basis of the symptoms and physical findings present. As surgeons, we have learned that this degree of symptoms, particularly in a patient who has no evidence of neuroses, must be taken seriously and must be explored. The obvious, chronic, multiple complaints of the patient increase the difficulty of arriving at a diagnosis of organic disease. The most frequent finding in a patient with severe epigastric pain radiating to the back is a lesion of the pancreas, either in the body or the tail. Classically, carcinoma of the pancreas is described as accompanied by painless jaundice, but this is only true (and not wholly so) of carcinoma of the head of the pancreas. In lesions of the body and tail, about 80 to 90 per cent of the patients complain of severe epigastric pain, and as the lesion progresses, the pain becomes boring in nature and penetrates through to the back. Jaundice occurs late, if ever. In the mid-1800's DeCosta described this pain and also noted clinically that the patients with such lesions often bent forward in the bed for many hours at a time, apparently to relieve the tension of the celiac plexus which is involved by tumor or inflammatory lesions of the pancreas. The patient has some symptoms similar to those of a patient with a duodenal ulcer. This is one of the very common syndromes associated with a lesion of the pancreas, not only of the body and tail but also of the head. In some cases both lesions are present, and it is not unlikely that the lack of the neutralizing effects of pancreatic juice may potentiate an ulcer diathesis.

I would suggest that in this instance the patient should be operated on to rule out malignancy of the pancreas.

DR. JAMES HOLLAND: What do you think of the fifteen years of symptoms? Do you think they are related to a disease that might be found and cured by operative intervention?

DR. MOORE: No, I do not. My premise is based on the theory that he has developed a new acute disease.

DR. HOLLAND: Would chronic pancreatitis produce the same pain and symptoms if it had not obstructed the common duct?

DR. MOORE: Chronic relapsing pancreatitis would have to be considered in a differential diagnosis, particularly if you have a history of periodic episodes of epigastric distress.

Dr. McCormick: His complaints from 1943 until the present admission were periodic in nature.

Dr. Moore: A history of alcoholism or gastric overindulgence preceding these episodes was apparently not obtained.

Dr. Holland: You seem to be undecided as to which of the two diseases to pick.

Dr. Moore: That is not the point. I don't think that we have to make a specific pathologic diagnosis at this time. The only important thing is to decide whether or not this man should be explored on the basis of his history, symptoms, and chemical and physical findings.

Dr. Banice Webber: Quite often, epigastric pain accompanies coronary disease. If this patient had definite posterior wall infarction, how would you rule out coronary disease as a cause of his pain?

Dr. Moore: I think that's an excellent question which I will refer to our internists. It has been my impression that patients with old infarcts do not have severe pain unless it is accompanied by an episode of anoxia to the muscle itself. I don't think we ordinarily consider that a patient with an old coronary has a disease which is painful or which gives him epigastric pain.

Dr. Holland: Well, I think it is a good point, but I don't want to get away from the pancreas. At another conference you said that it is usually unwise to biopsy the pancreas when one sees pancreatic disease which might be carcinoma of the pancreas.

Dr. Moore: Yes, that is correct. Pancreatic biopsies often give rise to fistulas and other complications, and the histologic diagnosis with the frozen section technic is difficult and inaccurate.

Dr. Holland: So, this individual is a patient over seventy with cardiac disease, an admittedly poor surgical risk. I think there is some purpose in trying to establish in one's own mind whether this is going to be pancreatic disease worthy of attempting an upper abdominal excavation or whether it is going to be pancreatic disease for which nothing can be done.

Dr. Moore: Skillful surgical exploration would be a better phrase, Dr. Holland.

Dr. Robert H. Huddle: Were amylase studies done?

Dr. McCormick: No.

Dr. Holland: Did x-ray examination reveal any enlargement of the pancreas or displacement of the adjacent viscera?

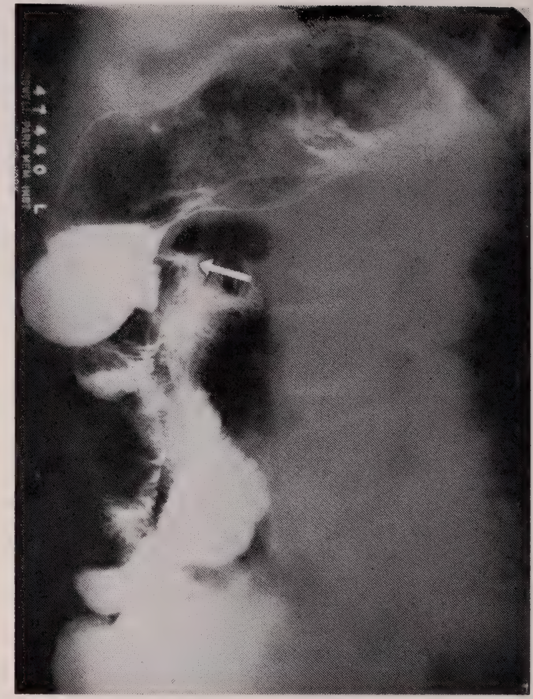

Fig. 2. Anterior displacement which Dr. Lessman felt indicated an enlargement of the pancreas.

Dr. Lin: No, we didn't see any.

Dr. Franz P. Lessmann: I feel that the stomach is displaced anteriorly (Fig. 2).

Dr. Moore: In any event, such findings would be nonspecific. No calcification was noted.

Dr. McCormick: I personally saw the patient in November, 1951, on his third or fourth visit and thought he was neurotic.

Dr. Moore: About 10 to 20 per cent of patients with pancreatic lesions are considered to be neurotic.

Dr. Joseph E. Sokal: I would say that this story of a man thought to be neurotic and being unable to work in ten years is very compatible with a diagnosis of chronic pancreatitis.

Dr. Holland: You placed a lot of emphasis on the fact that he had three successive gastric x-rays, any one of which could be interpreted as antral spasm. Is there anything in any of the films which is indicative of organic disease of the stomach or extrinsic, organic disease pressing on the stomach?

Dr. Lin: Our impression from these three examinations, which demonstrated persistent, antral spasm and rigidity, was that they represent an infiltrative lesion of the antral wall or extrinsic involvement secondary to malignancy of the pancreas. None of our films indicates either a constant extrinsic defect with definite displacement or involvement of duodenal mucosa such as may be seen in late cases of pancreatic malignancy. There was no calcification in the region of the pancreas.

DR. HOLLAND: Could any one of those examinations be interpreted as pyloric spasm or antral spasm? Because if this man, for example, were neurotic or were terribly afraid, he might undergo the emotional stress that causes antral spasm every time he walked into the dark room.

DR. LIN: I don't think I've ever heard of that.

DR. WALTER F. MERDINGER: Chronic pancreatitis has often been known to result in psuedocysts which might explain the x-ray findings.

DR. MOORE: Yes, a pancreatic cyst might displace the stomach and be accompanied by enough irritation to give antral spasm.

DR. JAMES W. QUINN: I think Dr. McCormick said that the pain passed around the flank. Was it around or through?

DR. MCCORMICK: Around.

DR. QUINN: This is an important point. Pains associated with pancreatic lesions are more apt to pass straight through to the back than they are around.

DR. MOORE: That is correct, and if they do radiate, they are more apt to radiate to the left than to the right, as in this instance.

DR. SANDBERG: What was the chloride?

DR. MCCORMICK: All electrolyte studies were normal.

DR. MOORE: It is interesting to note that his blood sugar is relatively normal. In approximately 20 per cent of patients with pancreatic malignancy, there is a history of recent "diabetes" with glycosuria four to five months previous to the time of their diagnosis.

DR. SOKAL: That is also true with about the same percentage, perhaps even more, in patients with chronic pancreatitis.

DR. MOORE: Yes, I would assume that such a finding would not separate the two entities. Are there any more comments?

DR. HOLLAND: If you feel that this patient has chronic pancreatitis, is there any surgical treatment which would be advisable for it?

DR. MOORE: There are a number of procedures for the treatment of chronic pancreatitis reported in the literature, and each is supported by its own group. You can conclude from this that none of them is a perfect method, and that is the situation in this disease. One of the simplest things which can be done is prolonged drainage of the common duct. Another is incision of the ampullary sphincter to prevent regurgitation of the bile into the pancreatic duct. Patients have been subjected to bilateral sympathectomy to relieve the pain from pancreatitis and, presumably, it also has a beneficial effect on the progression of the disease by decreasing vascular spasm, etc. Patients have had either the distal or proximal pancreatic duct reimplanted in the bowel and, finally, the most radical procedure of all, total pancreatectomy.

DR. HUDDLE: Dr. Merdinger said that this man might have pancreatic cyst. Certainly you might want to operate on him in such a case.

DR. MOORE: Yes, a pancreatic cyst is something with which we can do moderately well, either by bringing it to the outside as a fistula (marsupialization) or by anastomosing the cyst to the small bowel. I hope no one here ever entertains the idea of anastomosing pancreatic cysts to the stomach since such an arrangement potentiates gastric secretion and may result in peptic ulceration, gastritis, and massive hemorrhage. This has been well demonstrated experimentally and, unfortunately, confirmed clinically.

Operative Findings

DR. MCCORMICK: This man was explored, and an extensive cancer of the body of the pancreas was found. There were liver metastases, and one of the nodules was removed and diagnosed pathologically as adenocarcinoma. No palliative procedures were entertained.

The patient was discharged from the hospital and continued to suffer from severe pain and increased cachexia and died four months later.

Pathologic Report

DR. JOHN PICKREN: From the pathologist's viewpoint, this case certainly is not difficult. The patient died from a well-differentiated carcinoma of the body of the pancreas which had extended into the head and into the muscular wall of the stomach (Fig. 3). Perineural lymphatic invasion was extensive. Metastases were present in the regional lymph nodes, liver, and lungs.

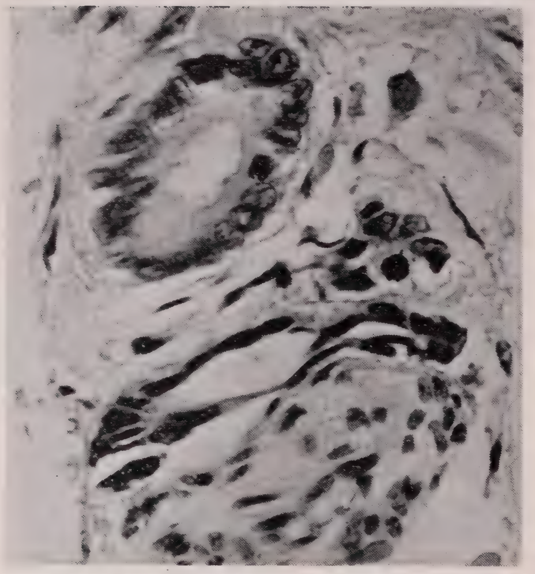

FIG. 3. Photomicrograph of well-differentiated adenocarcinoma. Note perineural invasion as described in discussion.

The firm attachment to the stomach probably caused the puzzling x-ray changes previously noted.

DR. GEORGE E. BLACKMAN: Was the duodenum involved in this case?

DR. PICKREN: The tumor had extended into the head of the pancreas and on into the wall of the duodenum.

DR. MOORE: Was the celiac axis involved in the tumor?

DR. PICKREN: Yes. The tumor had extended into the nerves of the celiac plexus. This factor has to be considered as the probable cause of the patient's pain. It also has to be considered in surgically resected specimens. Perineural lymphatic invasion often defeats surgical cures because the extension along the nerve pathways are beyond the surgical excision. This is true because the extension along the perineural lymphatics does not follow the normal drainage pathways.

DR. MOORE: Do some tumors show an increased tendency to be spread by the perineural lymphatics rather than by ordinary lymphatics, or is it just because they've been studied more thoroughly?

DR. PICKREN: As far as I know, this question has not been thoroughly explored. In certain organs where carcinomas may be extremely well differentiated, such as pancreas and prostate, the pathologist is aided by perineural lymphatic invasion in establishing the diagnosis of cancer. Therefore, in such organs a greater attempt is made to find perineural lymphatic invasion.

In regard to the earlier remarks about the difficulty of making a definite diagnosis from biopsy material, a few remarks are in order. Some pancreatic tumors can be well differentiated and not be diagnosed cancer, particularly from frozen sections. There are a number of cases in the literature on pancreatic carcinomas in which lesions were reported as chronic pancreatitis, but later the patient was definitely proved to have cancer of the pancreas because he had metastases either in the lymph nodes or liver. I recall one instance in which this mistake was made. The patient lived a year and a half after a pancreatectomy. The whole tumor was available for study, and it was diagnosed as chronic pancreatitis, not carcinoma. The patient died with metastases to the liver, and the original specimen was re-examined. Perineural invasion and one minute lymph node metastasis were found. This is why, as Dr. Moore mentioned, surgeons hate to rely on frozen section biopsy material.

DR. MOORE: Is perineural invasion more frequent in some tumors than in others?

DR. PICKREN: I can't answer that.

DR. HOLLAND: Would it be more frequent in prostatic carcinoma?

DR. PICKREN: Well, of course, perineural invasion is one of the things that you have to look for in prostates because a histologic diagnosis is sometimes very difficult to make, and one of the sure things is to find perineural lymphatic invasion by tumor cells. This is one of the few findings which can be depended on when examining frozen sections of the prostate. Again, I think that in the pancreas and in the prostate we are more conscious of the fact that the perineural lymphatics are invaded because we are looking for it in order to make the diagnosis.

Comment and Summary

DR. PICKREN: A brief review of this institution's records reveals a total of 138 cases of carcinoma of the pancreas diagnosed, either by clinical symptoms, by surgical explorations, or by autopsy. There were 23 cases among 2,235 autopsies or approximately a 1 per cent incidence of carcinoma of the pancreas. The male-female ratio was two to one, and the largest percentage

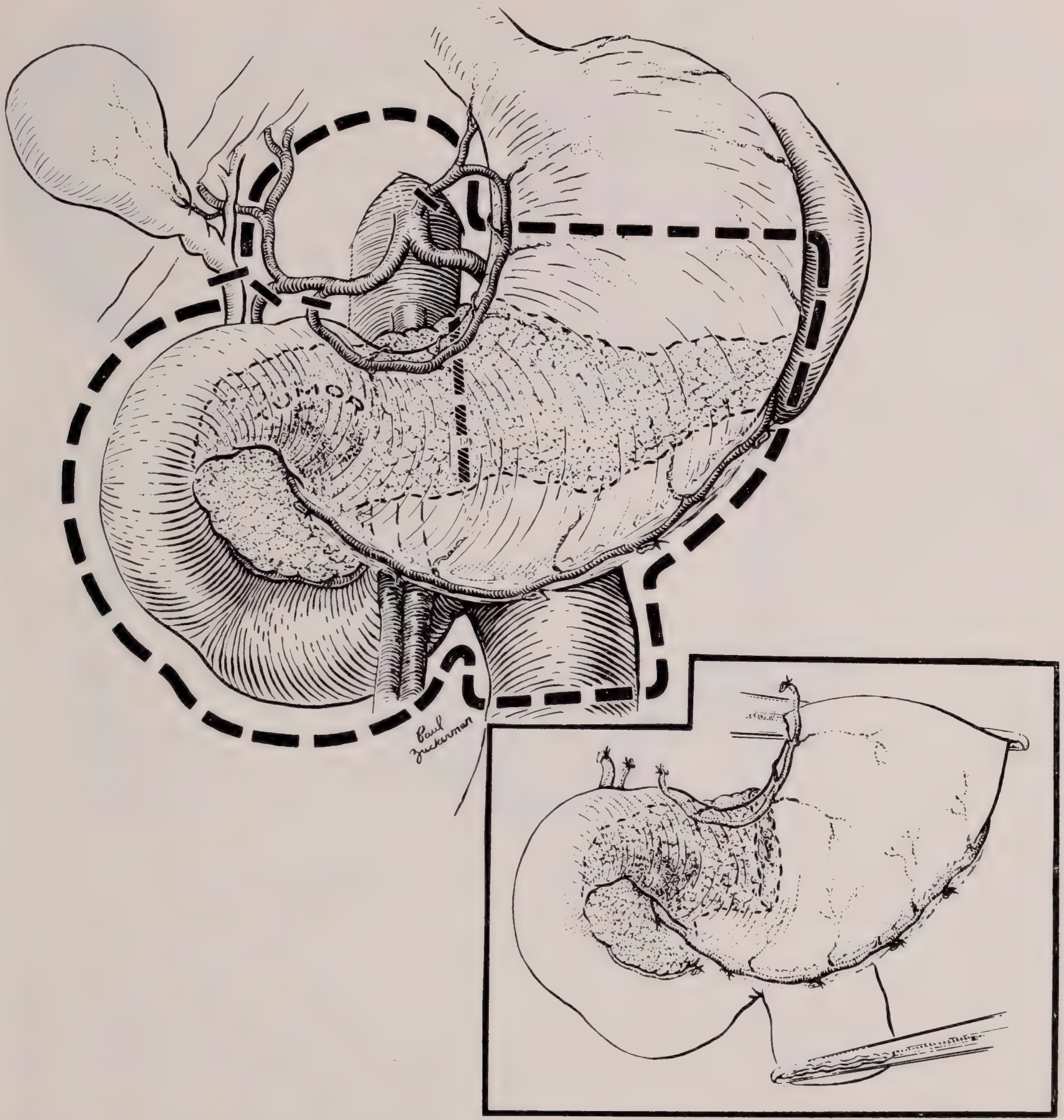

Fig. 4. Drawing depicting extent of radical gastropancreaticoduodenectomy for malignant tumors of the head of the pancreas.

of cases fell in the age groups between forty and seventy. The oldest patient was eighty-one, and the youngest was thirty.

The duration of life following diagnosis is very short. The average duration of life after a diagnosis was established is one hundred and forty-two days. A majority of the patients died within four months with or without therapy. The longest surviving patient died just under two years.

The most frequent anatomic site of carcinoma of the pancreas is the head. Approximately 50 per cent of the tumors are located in the head; approximately 10 per cent are in the body and 10 per cent in the tail.[1] The remaining cases involve the organ diffusely. This cancer metastasizes first to the regional lymph nodes and liver.[2] Metastases are not uncommonly found in the adrenals, spleen, and lung. Generalized metastases are not frequent, probably because the disease is rapidly fatal, as previously mentioned.

Dr. Moore: In conclusion, I will extend Dr.

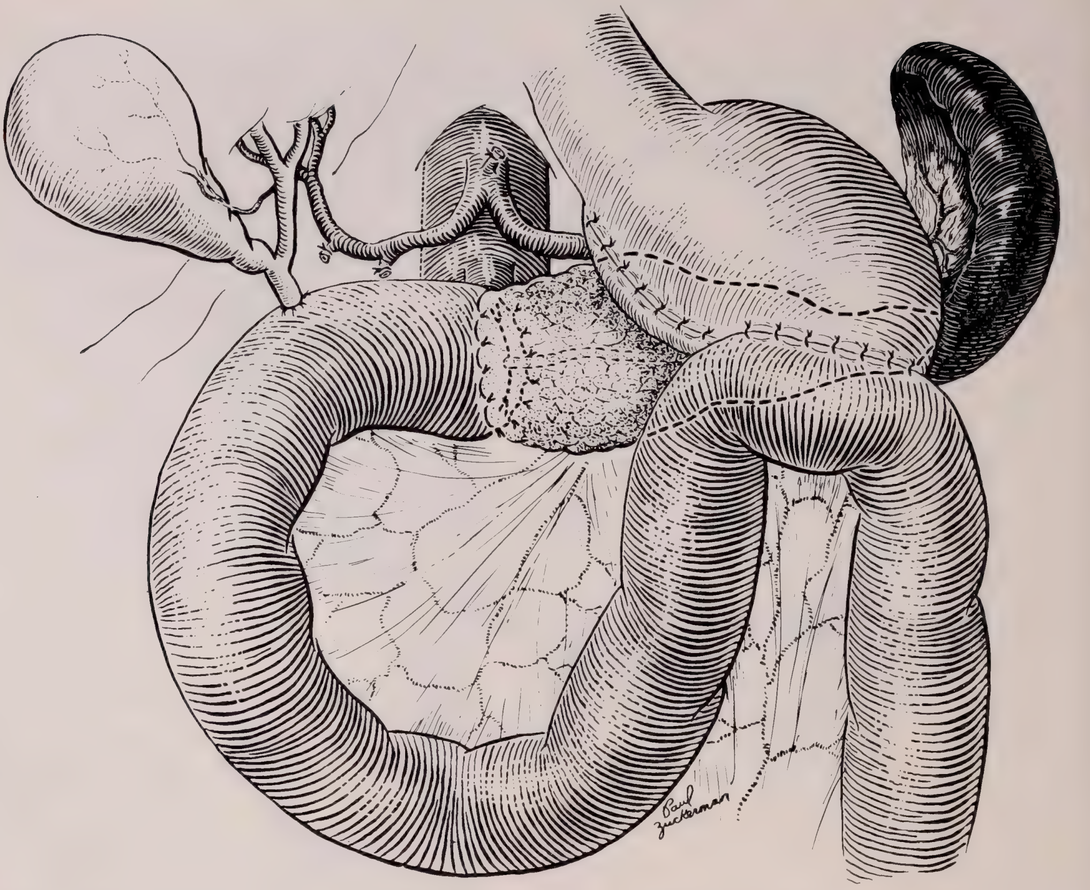

Fig. 5. Surgical reconstruction. It is often advisable to remove the gallbladder and resect the common duct at a higher level.

Pickren's remarks by giving a brief review of the surgical procedures used for removing pancreatic cancer.

Despite an increasingly aggressive surgical attitude toward pancreatic cancer, only about 10 per cent of the patients seen are suitable for a curative radical resection. Even if a radical pancreatoduodenectomy is successfully performed, the prognosis is poor, and very few patients survive one year. The biology of this tumor is characterized by its extreme malignancy, and recurrence may overwhelm the patient in a few months, even though the surgeon has removed all visible tumor. Furthermore, the anatomy of the area defeats any attempt to perform a complete dissection of the regional lymph nodes.[3]

Whipple in 1935 reported three patients with carcinoma of the ampulla treated by a two-stage pancreatoduodenectomy. Subsequently, many variations of this procedure, often called a "Whipple operation," have been reported. In recent years the majority of surgeons have performed the operation in one stage. Figures 4 and 5 illustrate the extent of the dissection and the reparative procedure.

Finally, we, as well as others, have resorted to resection of the superior mesenteric vessels and, in some instances, total pancreatectomy in order to obtain a more adequate dissection.[4] It should be remembered, however, that even though there is a place for such radical resection in a very few cases, it is doubtful whether it will ever substantially affect the cure rate since the limiting factor is the microscopic spread of the tumor rather than the technical skill of the surgeon.

A sobering thought to us surgeons is the circumstance that errors in diagnosis of pancreatitis as carcinoma, with a subsequent radical resection, have probably caused as many (or more) deaths as the number of patients saved by radical resection of pancreatic cancer. Fortunately, the mortality rate of radical pancreatoduodenectomy has been reduced to about 10 to 20 per cent in most clinics. Probably the only unquestioned justification for performing such an operation is for ampullary carcinoma since the possibility of attaining a "cure" is good. These tumors are much less malignant and spread to the regional lymph nodes relatively late.

Early diagnosis by clinical signs and symptoms is not possible, particularly when the cancer is located in the body and tail of the pancreas. Unfortunately, we have no reliable, specific laboratory tests, and exfoliative cytology of duodenal contents has not been of much help. Most roentgenologists admit their inability to detect small pancreatic lesions, and angiography is of little aid.

To conclude, carcinoma of the pancreas must be *suspected* in order to be found early. Patients with unexplained epigastric distress, weight loss, and pain, particularly if it penetrates to the back, must be thoroughly studied and explored, if necessary, since the pancreas is a blind area in our diagnostic armamentarium.

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Two Drugs Are Effective for Amebic Dysentery

A relatively new drug has proved valuable in controlling intestinal amebiasis, according to a report by six scientists in the November 5 *Journal of the American Medical Association.*

The drug, fumagillin (Fumadil) was found to be effective when used during an outbreak of waterborne amebiasis in Sound Bend, Indiana, in 1953, they said. This outbreak among employes of a woodworking plant was the third reported involving civilians in the United States. It presented "a nearly ideal situation" for investigation of methods of treatment.

Previous evaluations of amebacides have been conducted in mental institutions or prisoner of war camps, where the possibility of continued exposure existed. These studies also were retarded by the necessity of treating a small number of persons at one time. In the South Bend outbreak, a large number of persons was infected, which permitted the simultaneous evaluation of two methods of treatment. In addition, the probable source of infection—a contaminated water supply—was removed before treatment began.

The people involved belonged to a relatively stable population, allowing for careful and prolonged study of each individual.

In addition to providing an opportunity to study methods of treatment, the outbreak illustrated the type of teamwork by medical and health agencies available in an American community. This alone would have made the study worthwhile. Cooperating in the study were the county medical society, local and state health agencies, the industrial concern, the union, the personnel of the plant, two pharmaceutical firms, a Federal health agency, and a school of medicine.

Approximately 800 of 1,500 employes were infected with Endamoeba histolytica. Half of the 800 were treated with fumagillin and half with oxytetracycline (Terramycin), a drug already proved by tests in Korea to be effective against the disease. After four months of treatment, the organism was found to be absent from the gastrointestinal tract of 93 per cent of the patients treated. Those still infected were then given the alternate drug. A random survey a year later showed that only two of 178 persons were still infected. The drugs produced similar side effects, but they were usually mild and usually disappeared after completion of treatment.

Making the report were Robert W. Sappenfield, M.D., New Orleans; F. R. N. Carter, M.D., and Carl Culbertson, M.D., both of South Bend; Marion M. Brooke, Sc.D., and Fred M. Payne, M.D., both of Atlanta, Georgia and William W. Frye, M.D., Ph.D., New Orleans.

TREATMENT OF CANCER

IRWIN E. SIRIS, M.D., *Editor*

Subcommittee on Cancer
Council Committee on Public Health and Education
Medical Society of the State of New York

with the cooperation of

Bureau of Cancer Control
New York State Department of Health

Modern Treatment of Carcinoma of the Prostate

WILLIAM A. MILNER, M.D., AND WILLIAM B. GARLICK, M.D., ALBANY, NEW YORK

TREATMENT of carcinoma of the prostate may be divided into two groups: curative and palliative.

Radical prostatectomy, of course, is aimed at curing the disease, even though it may fall short at times. Unfortunately, the vast majority of cancers of the prostate which come to us are beyond any hope for cure by radical measures when first seen. We sincerely believe that radical surgery for cancer of the prostate should be reserved for those patients in whom the chance for cure is excellent. We do not believe that it should be used where the possibility of failure is at all great.

Palliative therapy for carcinoma of the prostate consists of the type of treatment which will make the patient live as long and as comfortably as possible.

Conservative therapy for cancer of the prostate, as we handle it in our clinic, falls into a few definite categories. This is the result of our observations of a large number of cases during the past ten years since the advent of hormonal therapy:

1. If we see a patient who has evidence of cancer of the prostate without urinary symptoms but with signs and symptoms of extension of the disease, we feel that he should be treated by orchiectomy alone. If the patient has urinary symptoms with residual urine, then he should also have transurethral resection.

2. If the patient has cancer of the prostate without evidence of metastases but with urinary symptoms, then he should have transurethral resection alone and be watched closely. At any time that there is evidence of regrowth or extension, then he is treated by either female hormone therapy or orchiectomy. Many patients do well on adequate female hormone therapy.

3. The patient who presents himself with symptoms but no visible signs of metastases from cancer of the prostate should have resection of the gland, and if it is malignant, he should have bilateral orchiectomy.

4. If a patient who has been proved to have carcinoma of the prostate and who has been on stilbestrol therapy complains of nausea from the medication, then he should have bilateral orchiectomy because "human nature" will not allow him to get adequate hormonal therapy for control of his disease.

5. In the case having obvious metastases by x-ray or with an elevated acid phosphatase, the treatment of choice is bilateral orchiectomy with

or without transurethral resection, depending on the presence or absence of urinary symptoms.

It has been our observation that most patients having cancer of the prostate have bladder symptoms and some retention of urine when we first see them.

We all know that after varying periods of time, recurrence of symptoms and regrowth of the gland occur in spite of orchiectomy or hormonal therapy. In our experience we have been able to gain another remission of symptoms by the administration of Cortef, 10 mg. three times a day for two weeks and then 10 mg. twice a day. This drug is given by mouth. We have used it for periods of one year without difficulty in this dosage. Sooner or later, however, all therapeutic efforts fail, and then one must drop back to the old "time-honored" methods of terminal care, opiates, etc.

We have not done bilateral adrenalectomy because published reports have not been too encouraging. Large doses of estrogens seem to offer some little benefit after the patient "starts downhill" again following his original hormone therapy or orchiectomy, but we have not witnessed any prolonged beneficial results from this treatment. The use of radioactive gold and other analogous substances seems to offer rather spectacular results, but this therapy is still somewhat experimental. The value of perineal biopsy is still debatable as a true aid in the treatment or cure of cancer of the prostate. Some observers feel it may be responsible for the spread of the disease.

Pathologists are still divided on what constitutes real microscopic cancer of the prostate. My belief is that atypical cells should not always be misconstrued as cancer for these patients live for many years without signs of cancer. We have followed many of these cases for years without their having developed any sign of malignant disease.

Summary and Conclusions

Only a relatively few cancers of the prostate are actually good candidates for cure by radical perineal or retropubic prostatectomy.

Conservative surgery with hormonal control offers much in the way of palliation, sometimes for many years. Our oldest case has gone twelve years since his diagnosis was made. His only operations were transurethral prostatectomy and bilateral orchiectomy.

Fifteen per cent of the carcinomas of the prostate are not well affected by hormonal therapy. These are the anaplastic types which show little or no tendency to gland formation microscopically.

Sooner or later all types of therapy will probably fail, but in this age group many will succumb to other more natural causes before the carcinoma of the prostate becomes fatal.

We are sure that all patients should be told of their disease. As it progresses, the surgeon or the family doctor is certain to run out of falsehoods, and we believe the patient has a right to suspect anyone who wishes to relieve him of two of his most prized possessions for a disease which has been falsely described as something very minor. The patients do better if they know their problems, and they certainly have more faith in their physicians.

We believe that most of these poor people are far more comfortable and live much longer than they did in the past.

(Number fifteen of a series on Treatment of Cancer)

Doctors Raise Big Families

Despite the rigors of medical practice, physicians are family men, points out the October issue of *Medical Economics*, national business magazine for doctors.

A cross-country survey conducted by the publication turned up the fact that the typical medical father has three children and that 18 per cent have four or more children.

FUNDAMENTALS OF MODERN ALLERGY

A series of special articles sponsored by the New York Allergy Society and written by its members

Editor

SAMUEL J. PRIGAL, M.D.

Associate Editors

MURRAY ALBERT, M.D., JOSEPH FRIES, M.D., WILLIAM B. SHERMAN, M.D.

Differential Diagnosis of Asthma

PAUL F. DE GARA, M.D., NEW YORK CITY

(*From the Pediatric Allergy Clinic of the New York Hospital*)

All that wheezes is not Asthma—CH. JACKSON

WHEEZING, paroxysmal expiratory dyspnea, and cough are typical symptoms of allergic asthma. However, from a differential diagnostic viewpoint, certain other conditions which may be accompanied by similar symptoms must be ruled out. The most important diseases which may be confused with true allergic asthma may be classified into the following groups: (1) mechanical conditions, (2) infections and inflammatory conditions, (3) cardiac and circulatory conditions, and (4) miscellaneous conditions.

As a rule, allergic asthma can be diagnosed correctly on the basis of an accurate history, a complete physical examination, and a few laboratory studies. The latter should always include radiographic examination of the chest, total and differential leukocyte counts, examinations of nasal smears and sputum, and skin tests. While roentgen examination of the chest may not reveal abnormal findings in uncomplicated asthma, nevertheless, it is invaluable for the diagnosis of the complications of asthma (emphysema, bronchiectasis, and others) and in differentiating true allergic asthma from some conditions resembling it. The total number of leukocytes is usually normal in asthma, but the differential count shows an increase in eosinophils ("eosinophilia"), averaging 4 to 8 per cent but occasionally reaching as high as 50 per cent. The eosinophilia is especially marked at the end of an asthmatic seizure. Frequently smears from nasal secretions in allergic asthmatics also contain eosinophilic cells (10 per cent or more). The sputum in asthma is mucoid and colorless (or grayish-white) if there are no complications. With secondary infections it may become mucopurulent, and the color may change to greenish or yellowish or be blood-tinged. Furthermore, the sputum may contain small round granules which are visible to the naked eye ("Laennec's perles"). When viewed against a dark background, one may also notice mucous threads 5 mm. to 2 cm. in length ("Curschmann's spirals"). On microscopic examination hexagonal pyramids ("Charcot-Leyden crystals") and eosinophilic cells are frequently detectable.

Positive skin tests are of considerable significance in the diagnosis of asthma, especially if they can be correlated with the clinical symptoms.

In some instances additional investigations will be required. These may include radiographic examinations of the paranasal sinuses, pulmonary function studies, bacteriologic cultures, bronchoscopy, biopsies, determination of the circulation time, electrocardiograms, and other studies.

Mechanical Conditions Simulating Asthma

Any type of obstruction to respiration may produce symptoms suggestive of asthma.

FOREIGN BODIES.—Particularly in children, the possibility of a foreign body producing dyspnea should always be kept in mind. Usually there is a history of sudden onset of nonspasmodic shortness of breath which is not relieved by ephedrine or epinephrine. In allergic asthma the dyspnea is paroxysmal in character and usually responds promptly to these drugs. Frequently, the physical signs are noted only on the side obstructed by the foreign body, e.g., an aspirated peanut, a tooth broken off from a denture. Roentgenograms may be useful, but if the object is translucent, bronchoscopy must be performed to establish the diagnosis.

ENLARGEMENT OF THE THYMUS.—In this condition symptoms simulating asthma in infancy are caused by compression of the trachea or of a bronchus. The diagnosis can be made with the help of roentgenographic examinations.

SUBSTERNAL THYROID.—Radiographic studies are required to differentiate asthma-like symptoms produced by substernal thyroid from true allergic asthma.

NEOPLASMS OF THE LUNG.—Both primary and metastatic tumors may press on the airways and produce wheezing and dyspnea. Similarly, mechanical factors operate through pressure from enlarged lymph nodes in *lymphosarcoma, leukemia,* and *Hodgkin's disease.* The physical examination, implemented by hematologic, radiographic, and bronchoscopic studies, possibly with biopsy, will establish the diagnoses in these conditions.

ANEURYSM OF THE THORACIC AORTA.—This is another cause of obstruction from without the bronchial tree, apt to produce a picture resembling asthma. The correct diagnosis can be arrived at without great difficulty as a rule.

THORACIC DEFORMITIES.—Dyspnea may be experienced by patients having chest deformities which interfere with the normal respiratory excursions of the lungs.

OTHER CONDITIONS.—Finally shortness of breath may occur as a result of pressure originating below the diaphragm, e.g., in *pregnancy* or with *ascites.*

Infections and Inflammatory Conditions Simulating Asthma

ASTHMATIC BRONCHITIS (OR BRONCHITIC ASTHMA).—This is a clinical entity usually labeled "chronic bronchitis with symptoms resembling asthma." It may occur in childhood, although it is essentially a disease of adults over forty years of age. Generally there is a history of a series of attacks of acute bronchitis with or without fever and with cough productive of purulent or mucopurulent expectorate. Emphysema and bronchiectasis are frequent sequelae. In asthmatic bronchitis dyspnea is often continuous, and it usually occurs *after* a seizure of coughing. In true allergic asthma, however, dyspnea usually *precedes* the cough. Attacks of allergic asthma as a rule run a more rapid course than those of asthmatic bronchitis. Symptomatic treatment with ephedrine or epinephrine is beneficial to both asthmatic bronchitis and true allergic asthma; the relief obtained, however, is more dramatic in the latter. In asthmatic bronchitis, on the other hand, antibiotics are of special value. These clinical differences between asthma and asthmatic bronchitis can be corroborated to some degree by skin testing. Positive skin tests favor the diagnosis of asthma; negative tests point toward asthmatic bronchitis. It should not be forgotten, however, that in some individuals both factors, allergic and infectious, may simultaneously be involved in the production of asthma.

TUBERCULOSIS.—Although this is not very common, asthma and tuberculosis may coexist in the same patient. However, tuberculosis apparently occurs less frequently in asthmatic individuals than in nonasthmatics. Since the symptoms of asthma may mask a tuberculous process, there is a danger that tuberculosis will be overlooked in the asthmatic patient. This can be avoided by carefully observing every patient with asthma for signs of tuberculosis, and when suspected, chest roentgenograms should be taken at regular intervals, along with sputum examinations for the presence of tubercle bacilli. The tuberculin tests should also be performed.

PNEUMOCONIOSIS ("MINER'S ASTHMA") AND PNEUMONITIS.—In both of these conditions there is wheezing and nonspasmodic dyspnea which differentiates them from the spasmodic shortness of breath typical in allergic asthma. In addition, ephedrine and epinephrine are of little value in pneumoconiosis and in pneumonitis. X-ray examination is helpful diagnostically.

Cardiac and Circulatory Conditions Simulating Asthma

Cardiac Asthma.—Since cardiac asthma also causes paroxysmal dyspnea and wheezing, it resembles true allergic asthma more closely than other conditions. Cardiac asthma has its onset usually in middle age. It is due to organic heart disease and occurs in hypertensive patients with sudden left ventricular failure, pulmonary hypertension, secondary pulmonary emphysema, and pulmonary edema. Diseases of the coronary vessels (sclerosis and occlusion) also may cause the clinical picture of cardiac asthma. It occurs mostly during the night.

It is not always possible to differentiate allergic asthma from cardiac asthma inasmuch as both conditions occasionally occur in the same patient. Objective findings favoring the diagnosis of cardiac asthma include hypertension, enlargement of the heart, presence of heart murmurs, and electrocardiographic changes. Furthermore, the sputum in cardiac asthma does not contain eosinophils, Laennec perles, Curschmann spirals, or Charcot-Leyden crystals. Differentiation of cardiac asthma from allergic asthma by determination of the circulation time has been suggested. This method, however, may be dangerous, and several anaphylactic deaths have followed this procedure.

Cardiac Dyspnea.—This occurs in connection with mild cardiac decompensation as contrasted to the paroxysmal nocturnal dyspnea (cardiac asthma) due to acute cardiac failure. Since cardiac dyspnea is continuous and nonparoxysmal and since there is no wheezing and no prolongation of the expiratory phase, the differentiation from allergic asthma should not present difficulties.

Periarteritis Nodosa.—Dyspnea resembling that of asthma may occur if periarteritis nodosa involves the pulmonary vessels. Other clinical manifestations of this disease, as well as hematologic findings and biopsy studies, will differentiate it from allergic asthma.

Miscellaneous Conditions Simulating Asthma

Psychosomatic Conditions.—Psychosomatic conditions may simulate asthma. Before labeling the condition psychogenic, it is essential to conduct a thorough allergic investigation in these patients. If sensitivities can be detected, they should be treated according to the usual methods of avoidance and desensitization. In many asthmatic patients with psychodynamic overtones no special psychiatric therapy is needed, but in some cases psychotherapy may be necessary in addition to antiallergic management. Some asthmatics have been labeled "hysterical," "psychoneurotic," or "malingerers" until skin tests indicated allergic sensitivity. In a recent experience skin testing revealed sensitivity to a dog present in the patient's surroundings. Elimination of this offending allergen was followed by a "miraculous cure" which was not achieved by other therapeutic procedures, including prolonged psychotherapy. One must, of course, remember that a psychosomatic component may be present at one time or another in many patients with asthma. Proper management of the asthmatic patient must, therefore, consider the somatic as well as the psychic aspects of the disease.

Sighing Dyspnea.—This occurs in emotionally disturbed patients and may be mistaken for asthma, which it resembles only in the complaint of dyspnea. The absence of wheezing and the prolonged expiratory phase serve to differentiate the two conditions which may rarely be confused with allergic dyspnea.

Toxemia.—Dyspnea in connection with toxemia may occur, but this is also rarely mistaken for asthma.

Conclusion

Asthmatic symptoms may be caused by allergy, infection, various nonallergic conditions, or by combinations of several of these causes.

Although psychodynamic factors may be important at times and should always be properly considered in the management of the asthmatic patient, on the other hand, their importance should not be exaggerated.

The differential diagnosis of asthma has been discussed. With the aid of clinical and laboratory methods the correct diagnosis can be made in most instances. This is particularly important because successful therapy depends on the cause, or causes, of the asthmatic symptoms.

133 East 58th Street

(*Number five of a series on Fundamentals of Modern Allergy*)

CLINICAL ANESTHESIA CONFERENCE

A Series of Conferences on medical emergencies in the operating room including causes of death during anesthesia

Prepared by the Anesthesia Study Committee of the New York State Society of Anesthesiologists

BARNETT A. GREENE, M.D., *Chairman*

Introduction

This is the first of a series of articles by the Anesthesia Study Committee of the New York State Society of Anesthesiologists, a component member of the American Society of Anesthesiologists.

The special purpose of this group of reports is to analyze abnormal physiologic changes and signs exhibited by patients during surgery and to diagnose the medical conditions represented. Most of these are medical problems met by the internist. The anesthesiologist, in his role of internist in the operating room unit, must diagnose these pathologic states and distinguish them from other attendant conditions related more specifically to anesthesia or surgery. For example, such problems as diabetic acidosis, insulin hypoglycemia, status asthmaticus, coronary occlusion, pulmonary edema, cardiac failure, pneumothorax, atelectasis must be differentiated from the toxic effects of anesthetics, shock, hypoxia, and respiratory acidosis. Prompt and precise diagnosis is necessary for proper treatment. Delayed diagnosis or treatment may result in death.

The tragedy of death during anesthesia focuses attention on the second special purpose of these reports, namely, to assess the mechanisms and causes of death during anesthesia *administered by expert anesthesiologists using methods which conform with standards generally accepted in any community.*

The committee, therefore, intends to accomplish two purposes:

1. To emphasize the vital importance of the clinical practice of "operating room medicine" by the anesthesiologist.
2. To focus attention on the problems in anesthesiologic practice which continue to contribute to death during anesthesia even in expert hands.

These primary objectives will be fully expounded in subsequent publications. Now, however, it is opportune to consider several other points of importance and interest to an anesthesia study committee.

The causes of death during anesthesia may be broadly classified as follows:

1. Errors in commission or omission in the choice or management of anesthesia.
2. Surgical, obstetric, or medical lesions of critical severity which, although recognized and treated well, continue their lethal progression during anesthesia.
3. Accidental or incidental mechanisms which are rare, unsuspected, or obscure.

The Accidental and Incidental Causes of Death During Anesthesia

The last group of causes deserves separate attention because its importance is increasing with the frequency of medicolegal and professional criticism based on the too ready assumption that every death under anesthesia is caused by anesthesia or the anesthetist in the absence of an obvious, catastrophic event such as uncontrollable hemorrhage. Furthermore, these difficult diagnostic problems have been largely disregarded or slighted by investigators of death under anesthesia in spite of the prudence of having such findings recorded and remembered, especially by anesthesiologists. Awareness of these possibilities serves as an incentive to obtain an autopsy or, at least, a postmortem x-ray of the chest or spine or a postmortem puncture of the subarachnoid, peritoneal, or thoracic cavity, as circumstances warrant and permit.

The accidental or incidental causes of death under anesthesia which have come to the attention of the Anesthesia Study Committee include the following:

1. Fracture of a cervical vertebra with compression of the spinal cord in an infant under anesthesia for repair of cleft palate: The neck was excessively hyperextended by the surgeon to have the infant's head rest in the operator's lap. The fracture was revealed by a postmortem x-ray ordered by the anesthesiologist.
2. Acute adrenal insufficiency: Abrupt respiratory and circulatory failure occurred in a middle-aged, white female under an initial small dose of dilute intravenous thiopental. The intended laparotomy was never started. Autopsy showed complete replacement of both adrenal glands by metastatic carcinoma.
3. Acute hypertensive crisis and pulmonary edema due to pheochromocytoma: Under general anesthesia the unknown "renal mass" was repeatedly palpated by several observers before operation, initiating the rapidly fatal chain of events.
4. Pulmonary embolus arising from thrombosed pelvic or femoral veins during unrelated procedures.
5. Spontaneous pneumothorax during pelvic laparotomy.
6. Massive pulmonary atelectasis during spinal anesthesia for subtotal gastrectomy.
7. Myocardial infarction during an entirely normal general anesthesia for colporrhaphy.
8. Air embolism during vaginal and cesarean deliveries.
9. Amniotic fluid embolism during delivery.
10. Fat embolism during surgical trauma to fat-containing tissues.
11. Intracranial hemorrhage during a normal anesthetic course for minor surgery.

Thymic Death

We have not found a case of status thymicolymphaticus. This once-popular explanation for death under anesthesia seems to have disappeared with the detailed charting of anesthetic observations by anesthesiologists. Sudden, unexpected death under anesthesia with negative postmortem findings is not an acceptable basis for the diagnosis of status lymphaticus.

The Need for Accurate Records of Death During Anesthesia

The infrequency of autopsies seriously limits the definitive conclusions of anesthesia study committees. This situation could be readily corrected if every death under anesthesia were subjected to postmortem examination as regularly as is the practice in other deaths due to accidental or unknown causes.

There is great need for accurate registration of deaths under anesthesia by a central official agency. The data on such deaths have been buried in statistical tables, usually in the category of the primary condition for the relief of which the anesthesia and operation were intended. This practice is as valueless to the medical profession as the classification of deaths by automobiles would be to interested agencies if such deaths were listed under fracture of skull, etc., without mention of an automobile accident. Occasionally, but with more frequency recently, deaths associated with anesthesia have been classified as "accidental poisoning by opium derivatives or barbiturates," "inhalation of food or other object causing obstruction," "complications of anesthesia for nontherapeutic purpose," or "therapeutic misadventure in anesthesia" (International List Number E954*). The last group is the only one which clearly denotes deaths under anesthesia. In the report of the National Office of Vital Statistics for 1950, 76 deaths were classified as "therapeutic misadventure in anesthesia." Such are the unrealistic official statistics on deaths under anesthesia. Since 43 "therapeutic misadventures in anesthesia" were listed in the National Summary of Deaths for the year of 1949 (the first year in which they were segregated), one may infer that deaths under anesthesia are being reported more accurately or commonly. We hope that the correct explanation is the former one. In time, however, anesthesia study committees will be able to provide a more accurate picture of the true state of this pattern.

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* National Office of Vital Statistics: Deaths and Crude Death Rates for Each Cause, by Race and Sex: United States 1950, Federal Security Agency, U.S. Public Health Service, Feb. 16, 1953, Vol. 37, no. 6.

(Number one in a series of Clinical Anesthesia Conferences)

ANNOUNCEMENT

PRIZE ESSAYS

The Lucien Howe Prize and the Merrit H. Cash Prize will be open for competition at the next Annual Convention of the Medical Society of the State of New York, May 7 to 11, 1956, in New York City.

The *Lucien Howe Prize* of $100 will be presented for the best original contribution on some branch of surgery, preferably ophthalmology. The author need not be a member of the Medical Society of the State of New York.

The *Merrit H. Cash Prize* of $100 will be given to the author of the best original essay on some medical or surgical subject. Competition is limited to the members of the Medical Society of the State of New York who at the time of the competition are residents of New York State.

The following conditions must be observed:

Essays shall be typewritten or printed with the name of the prize for which the essay is submitted, and the only means of identification of the author shall be a motto or other device. The essay shall be accompanied by a sealed envelope having on the outside the same motto or device and containing the name and address of the writer.

If the committee considers that no essay or contribution is worthy of a prize, it will not be awarded.

Any essay that may win a prize automatically becomes the property of the Medical Society of the State of New York, "to be published as it may direct."

All essays must be presented not later than *February 1, 1956*, and sent to the Chairman of the Committee on Prize Essays of the Medical Society of the State of New York, 386 Fourth Avenue, New York 16, New York.

R. Townley Paton, M.D., *Chairman*
Committee on Prize Essays

Development of Medical Education in Upstate New York, Syracuse Area

WILLIAM R. WILLARD, M.D., SYRACUSE, NEW YORK

History enables us to interpret the present in the light of the past and, within limits, to predict the future. Medical history enables us to see medicine as one of the institutions in society and to understand the role of the physician and the various health organizations in a proper perspective. This helps the physician to be more than a professional man serving the sick, to be also a medical statesman.

The history of medical education in New York State is replete with the names of distinguished physicians who, against great odds and at great personal sacrifice, developed our medical schools and programs. An appreciation of the work of these men leads us to value more highly our heritage.

The history of medical education permits many hypotheses and many predictions. May I present three hypotheses and later discuss them briefly in the light of developments in central New York:

1. The character of university control of medical education has been changing, but it remains and will continue to remain as a vital and constructive force. A corollary to this is that medical school faculties have been and are likely to remain relatively autonomous compared with other divisions of a university faculty.

2. Medical education has been and will remain essentially as a community activity.

3. The trend to full-time teaching, which is not new, will not displace the practicing physician from an important teaching role in our medical schools.

Now to outline developments in medical education in central New York. For eighty-three years this has centered in the College of Medicine at Syracuse, but there were antecedents of interest.

The Medical College of the Western District of New York

The Fairfield Academy inaugurated a course in medicine in 1809 with a grant of $5,000 from the State Legislature. Fairfield officially was the second medical college in the State of New York and the sixth in the United States. Bishop Hobart and the Episcopal Church of New York were interested and contributed $750 annually. The school at Fairfield prospered and in 1834, its largest year, 217 students were matriculated, and 55 were graduated.

Forces were at work which led to the dissolution of the Fairfield program. Bishop Hobart and his church became interested in a college of their own and when Geneva College was chartered in 1825, the friendly contributions of the Episcopalians and the interests of Bishop Hobart were transferred from Fairfield to the new college. Geneva was started in 1834 and the Albany Medical College in 1838. The Fairfield Medical Academy could not meet this competition, and its enrollment steadily declined until it closed in 1840.

The Geneva Medical College

Interest in a medical college in Geneva was stimulated by Dr. David Hosack, a one-time member of the faculty of the College of Physicians and Surgeons in New York City. He parted company with that institution and during the school year 1826–1827 conducted a medical college at New York under the patronage of Rutgers College in New Jersey. Dr. Hosack's

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Presented at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Session on History of Medicine, May 10, 1955.

new school was disapproved by the Regents of the State of New York because it was sponsored by a college outside of the State. Dr. Hosack then persuaded the trustees of Geneva College to sponsor his school. According to the trustees' minutes, the Geneva College was to consist of two medical branches, each having a faculty of six professors, one branch at Geneva and the other at New York City under Dr. Hosack. The New York City school was soon abandoned when the Supreme Court ruled that the charter of this college restricted its educational programs to the village of Geneva. The Geneva branch was not realized for some time, however, because of difficulties which forced one delay after another.

Interest persisted until in August, 1834, the trustees approved a report recommending the establishment of a medical faculty. A "Circular and Catalogue of the Faculty and Officers of the Medical Institution at Geneva College" was issued in September, 1834, under Dean Edward Cutbush, formerly of the United States Medical Corps.

The Medical Institution of Geneva College flourished for a time. With a financial subsidy from the State government, the faculty acquired a handsome four-story brick and stone building. However, prosperity was short lived.

> Beginning with 1851—the year Geneva College became known as Hobart College—things took a turn for the worse. The recent establishment (1846) of a Medical School at the University of Buffalo touched the fortunes of Hobart to a marked degree. So serious did the situation become by 1851 that Dr. Summer Rhoades, one-time a member of the Geneva Medical Faculty, published an open letter in the *Geneva Gazette* advocating the dissolution of that faculty. In its place, Dr. Rhoades favored the founding of an agricultural college. Bishop DeLancey of the Episcopal Church opposed the plan, but when the medical faculty gathered in the fall of 1853 they found no students had registered in medicine. Whereupon, the faculty resigned and for a year no instruction in medicine was offered. In 1854, a new faculty was organized, but even this effort failed to check the downward trend. Enrollment soon fell below the 100 mark and by the close of that decade had dropped to 22. By this time expenses had outdistanced income and the faculty were greatly concerned as to the future.[1]

The Geneva Medical College carried on for twenty-one years in the face of a future which was not only uncertain but looked dark indeed.

The College of Physicians and Surgeons of Syracuse University

Syracuse University was chartered in February of 1870, and it was reported that the trustees intended to promote a college of medicine. The faculty in Geneva saw an opportunity to resolve their dilemma by persuading the trustees of Syracuse University to establish a medical college, using the faculty of Hobart.

Following proper consultation, a committee of five trustees of Syracuse University presented the following report, dated August 30, 1871:[2]

> Whereas, it is deemed desirable to establish a Medical College . . . under the government and protection of (Syracuse University) and,
>
> Whereas, the Dean of Geneva Medical College has . . . purchased the contents of the anatomical museum and library of said College from (Hobart) . . . and has proposed to transfer said museum and library to the Syracuse University on certain conditions, viz.: first, that a Medical College be instituted under the government, influence, and protection of the said Syracuse University; second, that the Medical College . . . shall be a regular school of medicine and surgery as recognized by all the state medical societies, of the United States, and the American Medical Association; third, that the Board of Trustees of Syracuse University shall cooperate with the medical faculty in furnishing suitable rooms for a medical institution, the responsibility for the same resting with the medical faculty.
>
> Therefore, we recommend the following plan of organization:

Then followed a plan in detail of the proposed organization of the school.

A special meeting of the Onondaga County Medical Society was held to learn the views and feelings of the profession in the county with regard to the establishment of the proposed medical college.

> The spirit and animus of this discussion was, if the College was removed (from Geneva to Syracuse) it ought to elevate the standard of culture above the then prevailing standard common in nearly all colleges . . . if a medical department were added to Syracuse University it ought to inaugurate a plan for higher medical education.

> Dr. M. D. Benedict offered the following resolution which was adopted by the society:
>
> Resolved that the Onondaga County Medical Society look with favor upon the establishment of a School of Medicine in connection with Syracuse University to be located in this City. . . .[3]

The outcome was the establishment of the College of Physicians and Surgeons of Syracuse University. It began its first session in the fall of 1872.

Let us sketch rapidly the subsequent development of the college at Syracuse. There were frequent changes in the buildings and facilities during the early years, but by 1896 the University was able to provide a three-story brick structure. In 1914 a building for the Free Dispensary was erected by the university adjacent to the medical college building. It is still in use, and those who struggle with its now inadequate facilities will be amused by a statement in Dean Heffron's report of 1920: "for the practical purposes of a teaching dispensary, the building has almost no superior." In 1915 the university took over the Hospital of the Good Shepherd as its primary teaching hospital, and thus there was assembled the basic physical elements for modern medical education—a medical science building, a university-controlled hospital, and an outpatient department.

The Medical Center Development

In 1922 Herman G. Weiskotten became dean of the college. He envisioned that medical education in the future would be based in a medical center—a medical college affiliated with a variety of hospitals and clinics. Dr. Weiskotten was able to lay out the master plan for a medical center development and to guide the various institutions to their proper place in this center.

At about this time the Women's and Children's Hospital needed a new building. Syracuse University was persuaded to set aside a tract of land for medical center development, and the board of trustees of this hospital were persuaded to locate there. The hospital was opened in 1929 as the Syracuse Memorial Hospital, the first unit of the future medical center on the university campus.

A year later the city replaced its communicable disease hospital on medical center land. It became the second unit of the medical center. Great effort was required to overcome the opposition of those who feared that this hospital would contaminate the surrounding area.

Soon thereafter the State erected a small 60-bed psychopathic hospital on the same site, and thus the third unit of the new medical center became a reality.

Syracuse University borrowed from the Federal government funds for the construction of a new medical science building, and finally in 1937 the school became the physical as well as intellectual center of the development.

Further progress was delayed by World War II, but in the postwar period Syracuse was selected as the site for a new Veterans Administration hospital. The hospital, which opened in 1953, became an integral part of the medical center.

It was apparent by the early 1940's that still other new and additional facilities would be required. The dispensary was isolated from the medical center, remaining downtown. Some of the hospital plants were antiquated. The need for full-time clinical departments was recognized, and they would require laboratories for teaching and research which the existing hospitals could not provide. Furthermore, the hospitals on the hill were too numerous and small. Although close together, they were physically distinct and not integrated for optimal teaching and research.

The State University of New York

In 1946 the State Legislature created the Young Commission to study the need for a State university. This was precipitated in part by the vast number of veterans being discharged from the armed forces, who wanted to pursue higher education. Universities and colleges everywhere were taxed to capacity and beyond, and the State recognized the need for long-term planning for higher education. This commission recommended that a State university should operate and coordinate State institutions of higher education and should develop programs in areas that were not adequately covered. Medical education was seen as one of these areas.

As a result, State University was authorized by the Legislature and the board of trustees appointed by Governor Dewey in 1948. This board at once studied the educational needs in medicine and in the related health fields. It was recommended that two medical centers should be developed by the State of New York; one in the metropolitan downstate area and the other upstate, at least 100 miles from New York City.

It was decided to purchase the Syracuse University College of Medicine as the nucleus for the upstate center because of its central location, its close affiliation with a university, its faculty, and facilities, which would permit the prompt expansion of the student body from 56 to 76. Syracuse University was glad to sell the medical college which was proving to be a heavy financial burden. It was understood that the student body would be increased to 100 when adequate facilities were provided.

State University has owned and operated the college at Syracuse since 1950. A large addition to the basic science building is now under construction. Planning has been undertaken for a University Hospital of 500 beds with an outpatient department and with offices and laboratories for full-time clinical departments. The university is now awaiting the approval of the Budget Office for funds with which to employ an architect to draw the detailed plans.

Other hospitals and clinics in the city have moved toward closer relationships with the college of medicine since the close of World War II.

University Relationships

Ever since the Flexner Report of 1911 we have recognized that a medical school should be part of a university if standards are to be maintained and commercialism avoided.

We are proud in upstate New York that our present medical schools always have been under the egis of educational institutions. However, in central New York effective university relationships have not developed easily, largely because of the financial privation of the parent institution.

At Fairfield, "by covenant between the trustees and the medical faculty, the government, the curriculum, and the financial responsibility of the medical school was turned over wholly to the medical faculties."

The initial faculty appointments at Syracuse were made in 1871 " . . .the understanding being that each member was to serve without expense to the University. Had these gentlemen insisted upon remuneration in whole or in part, there is every reason for believing the establishment of the Medical College would have been postponed. The truth of the matter, as was well known to all, was the stark fact that the Trustees had no funds for a medical college. More disappointing there was no immediate prospect of conditions improving for some time. . . ." [1]

Dean John L. Heffron complained in 1887 of the lack of contact between the University and the College and called attention to the fact that in spite of promises made in 1871 and 1872, no financial help had been given to the medical faculty. "We are gathered," he said, "under her wing once a year and left to scratch for ourselves the rest of the time." [1]

The relative autonomy of medical faculties appears to be associated with a number of factors. There has been the continuing inability of universities to support their medical colleges adequately. In addition, members of the medical profession along with their well-trained colleagues who serve as teachers and investigators in the medical sciences command particularly high prestige in society. Because of their status, there appears to be a tendency for others to accept their decisions without question. Furthermore, most medical teachers are able to attain a higher economic position than persons in other academic specialties. As long as these various factors continue in force, the relative autonomy of our medical school faculties appears likely to continue.

Medical Education Is a Community Enterprise

Regardless of how medical education is financed, it has been and is largely a community enterprise. The medical schools have been dependent upon the local medical profession for many of their teachers and for teaching patients, upon the local hospitals and clinics for places where students can learn clinical medicine, and upon a variety of supplementary official and voluntary health and welfare agencies. These are becoming more important as medical education and practice moves in the direction of "comprehensive medicine"—preventive medicine, early diagnosis and treatment, rehabilitation, and health promotion.

The dependence of the medical college upon the community was clearly illustrated by the history of developments in central New York and will not change significantly in the future even though a University Hospital is provided. However, the concept of the community has been broadening to that of a region, especially since World War II and especially for postgraduate medical education and service.

Full-time Teaching

Although the trend toward full-time clinical teachers seems relatively new, the concept is not really new. Dean John L. Heffron said to the Alumni Association of the Syracuse College of Medicine in 1920: [4]

> We talk much of the present day "whole time

> teachers" in medicine. Most of the men who made up the faculties of those early schools resided elsewhere, gave up their own practice and came to participate in the professional and social activities of those little villages [where the medical colleges were located] during that part of the sixteen-week course which was alloted to them. They were full-time teachers for the time being. Their remuneration never was large. Periods of instruction in the different schools and in different states were purposely arranged to accommodate men who made a profession of teaching and who went from school to school.
>
> The Medical Practice Act of fifty years ago and later demanded that before being admitted to practice a young man must have studied medicine three years under a preceptor in active medicine.... Given the right student and the right preceptor and a course of lectures...a no more ideal plan could be conceived by which a young man could assume generally the duties of a general practitioner....He had the opportunity of seeing the beginning of disease and watching the same clientele for a long period. In the walks and long drives with his preceptor, he had time to think and someone at hand with whom he could thresh out his thoughts....[4]

In Syracuse plans for modern "full time" were formulated in the 1930's, but it was not possible to implement them until after World War II. The Department of Medicine was placed on a full-time basis in 1947. After State University assumed responsibility for the school, psychiatry, pediatrics, and public health and preventive medicine began a strong full-time development. It is anticipated that this full-time movement will be completed in Syracuse in surgery, obstetrics, and gynecology when new facilities are available.

In spite of this development, however, the voluntary faculty continues to be large, active, and influential. Actually it grows as additional community hospitals develop educational programs affiliated with the medical school. This has been the experience elsewhere also.

Some Accomplishments of the College of Medicine in Syracuse

There are certain accomplishments and personalities to which every medical school can look with pride. For Syracuse we will mention three: (1), the graded curriculum, (2), the tradition of admitting women, and (3), the teaching program in public health, preventive medicine, and the social and environmental aspects of health and disease.

Relative to the graded curriculum, quoting again from Professor Galpin's book:

> "It will be recalled that one of the reasons prompting the abandonment of the Hobart medical department...sprang from the department's inability to maintain a sound curriculum and a high academic standard in a small and relatively isolated community....For some time the members of the Hobart medical faculty had been aware of the existence of a three-year graded course at the Chicago Medical College, now an integral part of Northwestern University. Later in 1871, and while plans were under way for the inception of a medical unit at Syracuse University, Harvard announced a graded course of medical instruction. An analysis of the Harvard plan convinced the more progressive men on the Syracuse faculty of the need for a similar undertaking at Syracuse.
>
> An initial move in that direction was made at a January 1872 meeting of the medical staff. At this gathering, and at a later one in June, the Harvard program was discussed with much care and in great detail....Those favoring...carried a motion later made unanimous, endorsing the new curriculum....At the same time the College year which had been set at five months was extended to nine. Generally speaking, the faculty hailed the adoption of the new program, and that in spite of severe outside criticism. The faculty, it was charged, was sacrificing growth and expansion by adhering to standards far in excess of what was necessary.
>
> But to this and other criticisms the faculty replied by placing in the Annual, "those who expect to receive the degree of M.D. by a short and easy way, will not come here, or coming will not remain." Dean Hyde allowed himself to be quoted in the *University Herald* in the following words: "I would rather see this school reduced to six students, to go down with its colors flying, than to return to the old way."[1]

Syracuse was the third medical school in the United States to adopt the new graded curriculum.

Women have been eligible for admission to the College of Medicine at Syracuse since its inception in 1872. There was precedent for this because Dr. Elizabeth Blackwell, who had the distinction of being the first woman in the United States to receive a degree of medicine, studied under the faculty at Geneva, where she was graduated. It has been said that the decision to admit Elizabeth Blackwell was a difficult one which neither the dean nor the faculty would decide themselves. Consequently, they referred the matter to the student body who, it is claimed, accepted Elizabeth Blackwell with great acclaim.

The record will indicate that among other contributions of the college of medicine at Syracuse, an unusually large proportion of its graduates have been interested in the field of public health. "State medicine" (a term for public health and sanitation) was introduced into the curriculum in 1885, two years earlier than pediatrics. Dr. Alfred Mercer, who was professor of clinical surgery, resigned this post in 1884 when his interest in public health induced him to resign surgical teaching and accept the professorship of "State Medicine" in which capacity he served until 1895.

Of more recent history is the long and distinguished career of Professor Oliver Wendell Holmes Mitchell, who taught public health and preventive medicine for many years until his retirement in 1948.

Syracuse was one of the first schools to require students to complete a family case study, part of which involved home visiting. One of the early significant studies on the home care of previously hospitalized patients was directed by Dr. Herman Weiskotten and published by the Commonwealth Fund in a small volume during World War II. This study antedated the experience which has gained such national prominence at Montefiore Hospital on extramural home care and is one of the classics in this field. With current faculty developments, it is our opinion that this college will maintain a prominent place in this field.

Summary

The history of the medical college at Syracuse has been sketched in bare outline and three major contributions of the school mentioned: its unique leadership in (1) developing the graded curriculum, (2) admitting women, and (3) stimulating students to careers in public health. Also it has been indicated, perhaps sketchily, that the medical schools have had and will continue to have a unique independence in the family of university faculties under past and present social and economic conditions, that medical education is highly dependent upon the local community, and that the trend toward full-time teaching is not displacing the participation of the voluntary faculty of practicing physicians.

References

1. Galpin, W. F.: Syracuse University—The Pioneer Days, Syracuse, Syracuse University Press, 1952.

2. Report from a Committee of Trustees of Syracuse University, August 30, 1871.

3. Address given by Dr. Alfred Mercer, June 14, 1883.

4. Heffron, J. L.: Fifty Years of the College of Medicine of Syracuse University, Reprinted from the Syracuse University Golden Jubilee Souvenir, June 12, 1920.

The Humblest of My Patients Today

I noted a cartoon dealing with the cost of medicine. My thoughts wandered to the father and mother looking at the small figure so still in the big bed. It all seemed to have happened very quickly. The small boy coming in from the drenching rain. Next day the sore throat. Then the horrible cough, high fever, nurses, doctors, never-ending vigil, hope and despair, and finally death. Death entered the White House as devastatingly as though it had been a hovel. Eight dollars worth of antibiotics would have had Willie Lincoln well within a week or less.

Not so remote in time, Calvin Coolidge, Jr., blistered his heel on the tennis court. Infection and septicemia followed. Once again death eluded every barrier to invade the White House and carry away the President's son. Five to $10 worth of sulfonamide or broad spectrum antibiotic tablets would have saved a life—a precious child.

William McKinley was struck down by an assassin's bullet. It took him nine days to die. The wound in itself would be considered trifling today. But the President died of the peritonitis that followed.

Warren Harding died of pneumonia, another disease which is rapidly taking its place among the diseases of the past.

What does all this mean to us today? It means that the humblest of my patients today is infinitely better off than were the most powerful in the world just a few years ago. For half a day's pay the laborer of today can buy these precious medicaments which the Lincolns, the Coolidges, the McKinleys, the Hardings, and untold others could not obtain at any price.

Tremendous sums are spent in research. Superhuman effort is spent by countless dedicated men and women so that for a few insignificant dollars all boys and girls filled with the promise for life and loved by their parents, the wives and husbands, the fathers and the mothers, yes, the grandfathers and the grandmothers in my reception room, may live with the least physical and emotional agony. I'm humbly thankful.—*Herman B. Kipnis, M.D., Chicago Sun-Times, May 17, 1955*

SPECIAL ARTICLE

Attendance at Medical Society Meetings

JOHN H. ISELIN, JR., M.D., NEW YORK CITY

(*Assistant to the Secretary of the Medical Society of the State of New York*)

In 1955 the Medical Society of the State of New York made a study of attendance at meetings of its district branches and of its component county medical societies during the year 1954 with the purpose of improving attendance wherever possible. Suggestions were also solicited for improving attendance at the annual State Society meetings.

Each of the nine district branches held annual meetings, with scientific programs and outstanding guest speakers, at all except those of the First and Second. Food was served at all except that of the First. The average attendance was 8.04 per cent. In spite of the two supposed drawing cards (scientific subjects and outstanding speakers), attendance decreased at meetings of the Third, Sixth, Seventh, Eighth, and Ninth District Branches and increased only at meetings of the Second and Fourth. The Fifth District Branch attendance remained the same. The First District Branch meeting consists only of its members of the House of Delegates.

Programs drawing the largest attendance appear to have been those with practical scientific guest speakers and those with appeal to the general practitioner. The Seventh District Branch ascribed its largest attendance to diversified clinics and a clinicopathologic conference. Programs of least appeal were those with local speakers, movies, didactic lectures, and specialty and socioeconomic subjects.

That there should be more meetings of the panel type and more advance and better publicity, listing the important problems to be discussed, seem to be the most practical suggestions that were offered by the district branches as a means of increasing attendance at their meetings.

Suggestions made by some of the county societies regarding attendance at district branch meetings dealt with outstanding speakers, more social meetings, earlier notification of meetings, programs of wide appeal, less business discussions, and better entertainment. It was also suggested that the cost of a meal at each meeting be included in the dues.

One county society suggested that district branch meetings be held earlier in the fall and that each component county society should take turns in arranging the meetings.

Two counties reported little interest in the district branch meetings, and four recommended that they be discontinued.

All but five of the 61 county medical societies in New York State answered our questionnaire. The average attendance at meetings of those societies which showed an increase in attendance in the past year (1954) was 39 per cent, while the average attendance at meetings where the attendance remained the same was 42.7 per cent. Only one county society (Monroe) reported a decrease in attendance.

It is of interest that the poorest attendance (under 15 per cent) occurred in counties within the New York City limits, with the exception of Nassau and Monroe County's attendance of 13 per cent. New York County reported an attendance of only 4 per cent, Queens County 5 per cent, and Bronx County 10 per cent.

Programs drawing the largest attendance, listed in order of frequency, were (1) those of general interest, particularly to the general practitioner, (2) those having panel discussions, (3) clinical subjects, and (4) an outstanding guest speaker. Programs drawing the least attendance were those dealing with scientific and specialty subjects.

Food was served at every meeting of 41 of the county societies and at most of the meetings of six others. This factor did not seem to influence the attendance which increased in 11 of these societies, decreased in one, and remained the same in 33. Two counties did not supply this information.

That there should be more outstanding speakers was suggested by five of the county societies as a means of increasing attendance at meetings. Four others suggested the serving of food. One of these stressed free meals; another suggested that the cost of meals be included in the dues, and two recommended that all meetings should be dinner meetings. Two of the societies suggested scientific programs. Two others stated that too many obligatory hospital meetings curtailed attendance. Two put in a plea for more active committee work. One of these suggested that "specialism" is the biggest problem because "specialism" makes it difficult to find topics and speakers that will be of interest to everybody.

A digest of the many other suggestions received is as follows:

1. There should be more subjects of local interest.

2. Each member should bring a fellow member to the meetings.
3. There should be a better mixture of social and scientific programs, with improvement in the quality of the programs.
4. Business meetings should be shortened and less frequent.
5. Meetings should begin earlier and end sooner.
6. Copies of important committee reports and propositions to be voted on at any meeting should be given to each society member in advance of the meeting or at the door.
7. The secretary should keep a record of the attendance. Every member should be required to attend a certain number of meetings in order to remain in good standing. Cards might be distributed at the beginning of each season, on which pledges could be made to attend no less than a certain number of meetings.
8. Reports should be better prepared. There should be less bickering and less rehashing of subjects.
9. More attention should be given to the social aspects and to the promotion of good fellowship.

Attendance at the annual meeting of the State Society on May 10, 1954, was approximately 12 per cent. The suggestions of county societies concerning the improvement of attendance at the annual meeting of the State Society, apart from the fact that more outstanding scientific guest speakers would be advantageous, had to do with the matter of locations of the meetings and the relationship between the county and State societies. One society recommended that there be a frequent change of location to places other than New York City or Buffalo; another recommended that meetings should be held in New York City more often than in Buffalo, and a third suggested that all the meetings should be held in New York City.

One county society recommended that representatives of the State Society visit each county society more frequently and discuss the aims and purposes of the activities of the State Society, thereby stimulating interest and increasing attendance.

Summary

Programs of greatest interest to both district branches and county society meetings seem, therefore, to be those conducted by outstanding guest speakers and speakers of interest to general practitioners. Programs of greatest interest to county society meetings alone seem to be panel discussions and topics of clinical interest.

For improving attendance at their meetings, the district branches suggested more meetings of the panel type and more advance publicity. The county societies suggested, both for their own meetings and for those of the district branches, that there be more outstanding speakers, earlier notification of meetings, less business meetings, more social meetings, and that the cost of food be included in the dues.

For better attendance at their own meetings, the county societies suggested that there should be fewer obligatory hospital meetings. Suggestions from the county societies for improving attendance at meetings of the State Society had to do with location and with the relationship between the county and State societies.

Conclusions

State Society—Perhaps the annual meetings should be held in New York City oftener than every second year.

District Branches—Since two of the nine district branches reported little interest in meetings and four recommended that they be discontinued, it would appear that perhaps the meetings of the district branches should be dispensed with.

County Societies—From the results of the survey, it seems fair to assume that more than a 40 per cent *average* attendance at meetings cannot be expected but that the attendance at meetings of the counties within the New York City limits and in Nassau and Monroe Counties should be improved. The chief difficulty seems to be that there are too many obligatory hospital conferences and other meetings. It is of interest that Monroe County (attendance 13 per cent) suggested that the number of required hospital meetings be cut down.

Synthetic Cloth Prosthesis in Vascular Surgery

Increased difficulty in obtaining suitable aortic homografts in vascular surgery serves to emphasize the importance of investigations of plastic substitutes. Certain plastic cloth materials have been shown to be as applicable as autografts, with equally good results. In this article, which is essentially a review of the literature, Mr. Dennis M. Rosenberg and Dr. Page W. Acree, Tulane University, summarize the findings of most of the investigators in this field, who report encouraging end results. When ready-made tubes become available they probably will be the most useful prosthesis in vessel replacement surgery. In clinical experience with the cloth graft placed in the aorta, iliac, or femoral vessels, no disruption, aneurysmal dilatation, secondary hemorrhage through the material, or neoplastic changes have been reported. In some instances, the graft has been in place a year or more. This use of plastic cloth prosthesis, say the authors, would appear to be indicated in blood vessel replacement surgery for obliterative arterial occlusion, aneurysms, trauma, and vessel resection for cancerous involvement.—*Bulletin of the Tulane University Medical Faculty, May, 1955*

MINUTES OF THE COUNCIL

The following is a summary of the minutes of the October, 1955, meeting of the Council of the Medical Society of the State of New York

The Council met October 13, 1955, from 9:15 A.M. to 12:20 P.M. at the Manhattan Club, New York City. Dr. Renato J. Azzari, president, presided.

Secretary's Report

Executive Committee.—Dr. Anderton reported on communications considered by the Executive Committee the preceding afternoon:

1. Report from Dr. Andrew A. Eggston on the narcotic problem: "In accord with the request of Senator Price Daniel, and by permission of the Council of the Medical Society of the State of New York, I attended the subcommittee of the Senate investigating narcotics on September 19 in the Federal Court Building at Foley Square, New York City. My testimony consisted of data in regard to the history and action of the House of Delegates of the Medical Society of the State of New York and of the American Medical Association, resulting in the appointment of a special subcommittee of the Council on Mental Health of the American Medical Association, which held its first hearing in Chicago on September 10, which I attended by invitation.

"No report has been made of the committee or the Senate subcommittee of today. I found both hearings interesting and stimulating and feel sure that the opening of the entire narcotics problem by Dr. Berger's resolution and the action of the Medical Society of the State of New York has been very useful.

"I wish to thank the Council for its directive to attend these meetings."

2 and 3. Two communications from the counties of Nassau and Suffolk, which wrote to the Council requesting permission for the Second District Branch to abandon its annual scientific program and substitute a business meeting of the delegates of the Nassau and Suffolk Medical Societies at the annual meeting of the State Society.

"In reply your secretary has written the president of the Nassau County Medical Society as follows:

> Your favor of September 29, 1955, will be presented to the Council of the Medical Society of the State of New York, October 13.
>
> My personal opinion is that the Council does not have the power "to grant permission to the Second District Branch to abandon its annual scientific program and to substitute therefor a business meeting to be held at the time and place of the Annual Meeting of the State Society." The change desired seems contrary to the Bylaws of the State Society, Chapter XIII, Section 4, which states: "The objects of the district branches shall be to promote the scientific, social, cultural, and other interests of the medical profession within the district and to cooperate with the Council of the Medical Society of the State of New York in any way which that body may advise."
>
> Allow me also to quote the bylaws of the Second District Branch, Chapter I, Section 2: "The purpose of the Second District Branch shall be to bring into one compact organization the medical profession of these counties; to provide educational opportunities for and promote the scientific interest of the medical profession; to diffuse knowledge of the achievements of scientific medicine to the public; to aid and conserve the public welfare by participating in all appropriate civic enterprises, and to cooperate with the Medical Society of the State of New York in all possible ways."
>
> It strikes me that the way to accomplish the desires of the Nassau County Medical Society would be to ask appropriate amendments to the Bylaws of the State Society and of the Second District Branch. Since this is only my personal opinion, please do not give it much weight.
>
> I will let you know the action of the Council about a fortnight after it meets.
>
> Acknowledgment is made of the nomination by your society of Dr. Stuart T. Porter for the 1955 State Society award as the outstanding general practitioner of the year. It is being submitted to the Medical Licensure and Medical Service Committee.

"Mr. President, may the secretary request that the Council approve of that letter as an expression of its opinion and direct the secretary to send a similar letter to the Medical Society of the County of Suffolk."

Approval *was voted.*

4. Two letters about the proposed issue of $750,000,000 bonds of New York State for improvement of the highways. One communication came from the Citizens Committee for Better New York State Highways and the other from the New York Good Roads Association. Both wish our Society to endorse the proposed issue of bonds. One included a resolution which they hoped this body would pass.

After discussion a motion to approve the resolution *was defeated.*

5. Letter of October 5, 1955, from the Broome County Medical Society requesting approval of a proposed distribution of a booklet, "What's the Answer," on child safety, "imprinted on the back as being distributed through the courtesy of the Binghamton Rotary Club and the Broome County Medical Society." The rotary club will assume the

cost of distributing the booklet. Dr. Anderton's reply raised questions as to the necessity for obtaining permission to issue reprints of the booklet, originally published by the Maricopa County Medical Society (Arizona) and sponsored by Lederle Laboratories.

The Executive Committee voted to refer this matter to the Council.

> After discussion it *was voted* that the Council give permission to the Broome County Medical Society to distribute this booklet.

Dues Remissions.—The Council voted to remit 1955 dues of seven members because of illness; 1953 dues of one member, 1954 dues of one member, and 1955 dues of 13 members because of military service, and to rescind its earlier remission of 1955 dues of one member who has returned to practice after an illness. The Council also voted to request remission of American Medical Association dues of one member for 1954 and of 11 members for 1955.

General.—Dr. Anderton reported: "With much chagrin and a red face, your secretary apologizes for referring to the Judicial Council of the American Medical Association a matter which the House of Delegates referred to you. The House voted reconsideration of the findings regarding alleged unethical conduct by Dr. Ben E. Landess, of the Medical Society of the County of Queens. Your secretary has notified the Judicial Council of the American Medical Association of his error and respectfully suggests that you request President Azzari to refer this allegation of new evidence to a special committee, to report to you."

> After discussion it *was voted* that this matter be referred to the Chair for the appointment of a special committee to report their findings to the Council at the next meeting.
>
> The Chair, with the approval of the Council, *appointed* Dr. Thurman B. Givan, chairman, and Dr. Frederic W. Holcomb.

Dr. Anderton continued: "It is a pleasure to report that the Board of Trustees on September 8 acceded to your recommendations regarding changes in the budget and in regard to insuring the Society against liability for personal and property damage by employes' automobiles when used for Society business. The trustees authorized Mr. Joseph Linder to survey and report regarding malpractice insurance, county by county, and also for their chairman to sign the proposed contract with A-V Tape Libraries, Inc. for tape recording of medical papers.

"You are all cordially invited to the annual conference of county medical society secretaries at the Syracuse Corinthian Club (courtesy of Dr. Leo E. Gibson), 930 James Street, Syracuse, on Thursday, November 17, 1955, from noon until 3:30 P.M.

"On September 14 and 15, your secretary accompanied President Azzari to the Second and Third District Branch meetings at Smithtown and Hudson, respectively. On September 16 he attended the Commission for the Improvement of the Care of the Patient, on which a news release was courteously distributed by your Public and Professional Relations Bureau. September 19 found your president and secretary in Pittsburgh, Pennsylvania, where President Azzari delivered a pithy address to the House of Delegates of the Medical Society of the State of Pennsylvania. Dr. Azzari also attended the joint Vermont and New Hampshire Medical Societies annual meeting at Bretton Woods, New Hampshire, on October 1. On September 21 your secretary attended a meeting of the General Practice Subcommittee of the Public Health and Education Committee and, on September 23, a meeting of the Convention Committee.

"Your secretary attended the Eighth District Branch meeting at Niagara, September 28; the Seventh District Branch meeting the following day at Rochester; the fall conference of the Woman's Auxiliary committee chairmen and officers at Poughkeepsie on October 4; the Ninth District Branch dinner at West Point on October 5; the Public Relations annual conference, October 8; and the Budget Committee, Publication Committee, Office Administration and Policies Committee, Executive Committee, and Malpractice Insurance and Defense Board, yesterday.

"On October 3, at the request of Commissioner of Motor Vehicles Joseph P. Kelly, I called on him at 80 Centre Street, New York City, in regard to difficulties with certain people whose applications for motor vehicle licenses have been refused on account of physicians refusing to recommend them. Such refusals are because the doctor believes the applicant is not physically qualified to drive a motor vehicle; there is a question on the back of the application blank as to whether the person ever had epilepsy, Bright's disease, diabetes, heart trouble, hypertension, or certain other diseases. Several applicants have appealed to the Commissioner of Motor Vehicles on account of being disqualified by a physician, and the Commissioner would like to have the help of the State Medical Society. He has already conferred with Commissioner Hilleboe of the Health Department and Assistant Commissioner Henry Brill of the Department of Mental Hygiene.

"Your secretary feels that this is a matter for the Public Health and Education Committee, and it seems to me the best way would be to invite Dr. Brill and Mr. Kelly to the next meeting of this committee, which is scheduled for next Thursday. Also, it has occurred to me that this committee might make the following recommendations:

"1. That dissatisfied rejected applicants have a consultant medical opinion;

"2. Each county medical society have one or more committees of three to five members to review, after consultant's opinion, and report to the Commissioner of Motor Vehicles when requested by the rejected applicant or by the Commissioner, and that a copy of each report be filled with the county society secretary;

"3. That the Commissioner of Motor Vehicles have a medical advisory board (advisory to himself).

"These three are just suggestions to the committee, and I don't think the Council needs to take any action on them."

It *was voted* to approve the Secretary's report to this point.

Dr. Anderton continued: "Mr. President, the last item I have to report is that on October 10 Dr. Trussell, who is head of the Public Health and Administrative Medicine School of Columbia University, called at the State Society office in regard to a study of medical insurance plans in New York State, which his department is undertaking for a committee of the Legislature, under the chairmanship of Senator Metcalf. Since Mr. George Farrell is an authority on such matters, Dr. Trussell conferred with Mr. Farrell at length, and Mr. Farrell has a complete report in his supplementary report of Dr. McClintock's Economics Committee."

The secretary's report as a whole *was accepted.*

The Treasurer's report was accepted.

Reports of Committees

Blood Banks Commission.—Dr. James Greenough, chairman, presented the following report (NIH refers to National Institute of Health): "A meeting of the Blood Banks Commission was held in the office of the Blood Banks Association of New York State, 386 Fourth Avenue, New York City, on September 9, 1955. The first business was discussion of financial affairs.

"It is evident that the Blood Banks Association has effected economies stipulated by the House of Delegates and that the deficit is such that the association should stay within the appropriation approved by the House of Delegates of $18,000 until January 1, 1956.

"In order to have the Blood Banks Association approach solvency, income must be increased. In the discussion, several matters were considered:

"1. For intrastate blood exchange, NIH license is not necessary. NIH will not license a bank not sending blood over state lines.

"2. A bank licensed by NIH will not lose its license by using blood from a bank which is unlicensed. Such blood, however, cannot be shipped out of the state by the licensed bank.

"3. Dr. John Clemmer stated that standards for member banks in procurement, storage, and shipping had been established by the Blood Banks Association.

"4. Such standards of procedure are ineffective without inspection. No method of inspection has been established.

"5. Methods of inspection were suggested as follows:

"(*a*) By teams from the Blood Banks Association. Expense of such a program would be almost impossible.

"(*b*) Dr. Russell proposed that the county medical society blood bank chairman could act as inspector. Objections to this were the expense and also that some chairmen are not hematologists.

"(*c*) The State Department of Health might be approached for assistance in inspection. Dr. Miller pointed out this would necessitate additional personnel in the department, and no provision could be made in the budget before fiscal 1957. Also Dr. Miller said that in the sanitary code the department is concerned with identification and testing of donor and recipient, rather than in blood collection, storage, and transfer.

"6. Without proper inspection, banks and especially Red Cross would be reluctant to accept blood from other banks. Dr. Markel explained that Red Cross standards are high and that the attitude of Red Cross toward the assurance program would only change if proper standards and inspection were adopted by the Blood Banks Association.

"7. Dr. Clemmer reported that the association is aware of the tremendous problem of standards and inspection. He proposed two solutions: (*a*) to use monetary settlements rather than transferral of blood when paying blood donors and (*b*) to avoid having a local bank collect more blood than it can use. Dr. Clemmer felt that economic as well as scientific standards should be established.

"The chairman recommended that this problem be taken up with the Blood Banks Association since it is evident that its program cannot succeed unless every effort is made to establish inspection. NIH standards have been published and should be followed by all member banks.

"Dr. Winslow moved that the Blood Banks Commission recommend to the Blood Banks Association of New York State, Inc., that they make every effort to establish inspection satisfactory to everyone. Dr. Clemmer seconded the motion, and it was passed unanimously.

"At the time of the meeting no answer had been received from the New York State Department of Insurance regarding the insurance aspect of the blood assurance program. The charter does not permit Blood Banks Association to enter into insurance under section 9-c of the Insurance Law.

The life of the blood assurance program and the decision of the Greater New York Hospital Association to participate in it depend on the Insurance Department's answer.

"The chairman reported that he had a conference with Mrs. Charles Hemphill of the National Blood Foundation the previous evening. She strongly urged that the Blood Banks Association enlarge the State Blood Exchange Center to become the Northeastern Regional Blood Exchange Center. Dr. Clemmer was in accord. The commission advocated the formation of a regional center by the Blood Banks Association.

"Dr. Clemmer stated that the Blood Banks Association was organized to operate on a small scale, but the introduction of the blood assurance program, proposed as a moneymaking project, had caused the association to be in great debt to the Medical Society of the State of New York. He offered the following solutions: (1) reduce the staff to one officer and clerk; (2) discontinue the blood assurance program since it will never pay for itself; (3) establish method of standardization and training for blood banks in order to do business in this State; (4) State Medical Society assume responsibility.

"After discussion Dr. Winslow proposed, seconded by Dr. Sussman, that the work of the association be continued, that the Blood Banks Commission study it after one month, and that a meeting of the commission be called in two months. The motion was unanimously passed.

"A tentative date for the next meeting was set for Thursday, November 10, at 7:30 P.M.

"It was moved, seconded, and passed that an advance of $5,000 be granted the Blood Banks Association to carry it until November 10."

Dr. Greenough supplemented his report: "Since May, in the five months through September 30, the Blood Banks Association has requested and received $10,000 from the Medical Society. In that time their cash on hand is $662 higher than it was in May; their reserves have risen from $874 to $2,338. These reserves are to take care of claims for blood which has to be paid for. The deficits have gradually decreased until in the month of September the deficit was $2,271.

"I met Drs. Geiger and Kenney on October 4, and they are at present endeavoring to set up the Northeast District Blood Exchange headquarters within the framework of the New York Blood Banks Association, which will be affiliated with the American Blood Banks Association.

"The most pressing problem at present is to develop an intrastate blood bank inspection system to facilitate the free exchange of blood. Such a system would enable the Blood Banks Association to do more bleeding and thus increase the income from certificates and exchanges.

"The October expenses will reflect a drop in rent of $425, since the office has moved into smaller quarters, and a further decrease in office salaries. The September expenses include a nonrecurring expense of $166 for moving to smaller quarters.

"There is remaining of the authorized loan $12,000 to cover October, November, and December. I add these figures in order that you should know the present financial situation of the Blood Banks Association."

The report was *accepted* with the changes as requested by Dr. Kenney.

Constitution and Bylaws.—Dr. Frederick W. Williams, chairman, reported: "The medical societies of Cortland, Broome, and Steuben Counties have submitted amendments to their constitutions and bylaws. These have been reviewed by counsel, the secretary, and your committee and have been found to be in keeping with our Constitution and Bylaws. I move the Council approve these amendments."

Approval *was voted.*

Convention.—Dr. Samuel Z. Freedman, chairman, presented the following report: "The Convention Committee of the Medical Society of the State of New York met in the secretary's office at 386 Fourth Avenue, New York City, on Friday, September 23, 1955, from 10:03 until 11:45 A.M. Dr. Samuel Z. Freedman, chairman, presided. Also present were Dr. Maurice J. Dattelbaum, Mr. Thomas E. Alexander, Dr. W. P. Anderton, and, by invitation, Dr. John H. Iselin, Jr.

"The report from the Sesquicentennial Special Committee, referred from the Council, was considered. Many details of this comprehensive report were discussed. It was agreed by the committee to recommend to the Council: (1) that the sesquicentennial celebration be held in New York City; (2) that the sesquicentennial celebration include an elaborate dinner and scientific sessions and be the 1957 annual meeting; (3) that the sesquicentennial celebration be held either early in the calendar year or in the fall because the American Medical Association will meet in New York City in June, 1957; (4) that the 1957 annual meeting of the House of Delegates of the State Society be held in Buffalo the second week of May, 1957, without attendant scientific meetings; and (5) that the report of the Sesquicentennial Special Committee be returned to the committee with the request for revision to live within a sesquicentennial convention and celebration budget, not to exceed $10,000.

"The committee also voted to employ Languild Convention Service at the 1956 annual convention at New York City, provided their fee is reasonable."

It *was voted* to approve the report.

Economics.—Dr. John C. McClintock, chairman reported: "Mr. President, the new two thirds of your Committee on Economics have held one meeting with Mr. Farrell, at which time we were indoctrinated into some of our duties and responsibilities.

"The report of the bureau is attached, and the supplementary report which you received this morning further adds to the secretary's statement concerning the meeting with Dr. Trussell in regard to health insurance and the plans under investigation in the State of New York by the Senate committee."

Report of the Director of the Bureau of Medical Care Insurance, Mr. George P. Farrell.—"Your director attended four district branch meetings. At each the bureau had a display, and your director spoke on progress of Blue Shield plans.

"September 23, 1955—Your director conferred with Dr. John C. McClintock in Albany, chairman of the Committee on Economics.

"October 4, 1955—Your director addressed the Annual Conference of the Woman's Auxiliary to the Medical Society of the State of New York on 'Voluntary Health Insurance in Action.' "

Supplementary Report.—"On invitation, Mr. Farrell was present at a conference with Dr. Ray Trussell, executive officer of the School of Public Health and Administrative Medicine, Columbia University, October 10, 1955.

"Dr. Trussell, under the direction of Dr. Dwight Barnett, is conducting a survey for Senator George R. Metcalf on health insurance, as approved in a New York Senate resolution February 9, 1955.

"The purpose is to determine to what extent people in New York State have purchased voluntary health insurance and how it can be extended.

"The committee will report its findings to the Legislature.

"Your director reviewed with Dr. Trussell material in the Society office and extended our desire to cooperate."

It *was voted* to adopt the report.

Ethics.—Dr. Thurman B. Givan, chairman, reported: "One matter we took up last June, the second part of which was overlooked, from United Medical Service.

"I had this letter from Dr. Raider:

> On May 9, I wrote to you as chairman of the Committee on Ethics for an opinion on two allied problems concerning proration of fees. One dealt with the establishment of specific amounts of proration; the other was a resolution from the Academy of General Practice that the principle of proration be publicized to all subscribers.
>
> Whereas we have received a reply from Dr. Anderton concerning the first problem, we are still in doubt as to your committee's opinion on the second problem.

"In the minutes of the June meeting, the Council approved the committee's report of the first part. It is two small paragraphs which I will read: 'The Committee on Ethics has studied the Medical Policy Committee's request. We agree in many instances there are inequities in fees between physicians who make diagnoses and carry out treatments in aftercare of postoperative patients and surgeons who perform operative procedures; yet to spell out percentages in our opinion would not be ethical. If there is a question of inequities of fees between physicians, mutual agreement, with full knowledge of the patient and all concerned, should be arrived at, fully taking into account the New York State law and the *Principles of Professional Conduct.*'

"It was voted that the recommendations of the committee be approved. Dr. Raider wants to know about the second part, which read: 'Resolved, that the principal of proration of fees be publicized to all subscribers of voluntary health insurance plans concerned.' "

After discussion it *was voted* that the Council has no objection to United Medical Service publicizing the principle of proration of fees to all subscribers of voluntary health plans concerned.

Dr. Givan continued: "At the last meeting we omitted one item. This is a letter which Dr. Anderton received, dated June 23, 1955:

> New York State Medical Society
> 386 Fourth Avenue
> New York 16, N.Y.
>
> Gentlemen:
>
> The Attorney for the Medical Society of the County of Erie, Mr. Joseph Guariglia, has stated that there is no reference to the subject of excessive or exorbitant fees in the Constitution and Bylaws of the New York State Medical Society or the American Medical Association.
>
> There is no reference to this matter in the constitution and bylaws of our County Society.
>
> The situation in brief is that when our Mediation Committee, after due consideration, decides a physician's fee is excessive and requests that it be reduced and the physician refuses, the Mediation Committee and the County Society are helpless to pursue the matter further.
>
> Can you advise me whether the Constitution and Bylaws of the New York State Medical Society refer to this question, and, if so, will you direct me to the proper section?
>
> Yours respectfully,
> Matthew J. Callanan, M.D.
> Vice-President
> Medical Society of County of Erie

"To which Dr. Anderton replied:

> Dear Doctor Callanan:
>
> Although I agree with Mr. Joseph Guariglia that there is nothing in the Constitution and Bylaws of the Medical Society of the State of New York, the American Medical Association, or the Medical Society of the County of Erie regarding excessive or exorbitant fees, nevertheless, I believe that Appendix III, II, Purpose of Grievance Committees, A, and VI, A, of the *Principles of Professional Conduct* of the Medical Society of the State of New York give grievance or mediation committees power to investigate and report to the censors 'to protect the public from the minority of physicians who overcharge.'
>
> Since the above is my personal opinion, it does not represent official judgment of the State Medical Society.
>
> Your letter is being referred to Dr. Thurman B. Givan, chairman of the Committee on Questions on Ethics of the State Medical Society.
>
> Yours sincerely,
> W. P. Anderton, M.D.
> Secretary

"Dr. Wolff and I looked it over and thought Dr. Anderton did a good job in pointing this out. It is probably the better way of handling it. I submit it to you for your action."

It *was voted* to approve the letter that Dr. Anderton wrote to Dr. Callanan.

The report as a whole *was accepted.*

Hospital and Professional Relations.—Dr. Raymond S. McKeeby, chairman, stated: "In regard to the 'Proposed Agreement and Statement of Policy' between the Medical Society and the Hospital Association of New York State, this has been forwarded to the Hospital Association, and I was informed yesterday by Mr. Charles Royle, executive director of the New York State Hospital Association, that this would be turned over to their Committee on Medical Relations for consideration shortly after their board meeting next week. If it is approved, this will be a fitting climax to the work of Dr. Bauer and his committee in drawing up this proposed agreement, along with the Hospital Association.

"In regard to the resolution adopted by the House of Delegates in May concerning coercion exerted on physicians in hospital fund-raising campaigns, this is being investigated. Evidence points to some instances where this is true, but it has not been determined whether the practice is widespread enough for any suggestion of concerted action by the Medical Society.

"The chairman of this committee has been asked to take part in the Accreditation Clinic of the Central New York Regional Hospital Council in Syracuse, October 21 and 22. Full accreditation of hospitals has been impeded oftentimes by some of the following factors: inactivity of required committees, failure of medical staff members to meet the 75 per cent attendance stipulation at medical staff meetings, laxity of some physicians in completing charts within the stipulated time, failure to record on the chart consultations or failure in calling consultations, and a need for more active supervision within the hospital."

Dr. McKeeby read a letter from Mr. Edward A. Askell, executive secretary of the Central New York Regional Hospital Council, and said: "After the chairman attends this meeting in Syracuse and after a meeting of the committee, we may have some recommendations as to how we can enlighten our doctor population in regard to this matter, possibly through the Public and Professional Relations Bureau."

After discussion it *was voted* to accept the report.

Legislation.—Dr. Henry I. Fineberg, chairman, presented the following report:

The executive officer of the Legislation Bureau and your chairman completed their tour of the State on the 29th of last month. Nine cities were visited: Glens Falls, Long Beach, New York, Ogdensburg, Canadaigua, Syracuse, Buffalo, Kingston, and White Plains. In each area we met one or more members of the State committee and county medical society legislation chairmen and discussed our program. The conferences were informal, and participants were encouraged to transmit any opinions, recommendations, and comments they might have. We attempted to create a feeling among the local representatives that they should play a part in our planning and that there should be a close liaison between them and the State committee.

Fifty-six persons attended these conferences, 34 of whom were county legislation chairmen. In addition, we were honored by the presence of two county society presidents, the chairman of the Council Committee on Public Relations, and a number of executive secretaries. Three members of the Assembly were at the meeting in White Plains and added zest to our discussion.

The results may be summarized as follows:

1. Practically unanimous approval was voiced in favor of: (*a*) abolition of the medical practice committee; (*b*) change of place of arbitration of medical fees; (*c*) establishment of panels of specialists; (*d*) amendment which would give to the Medical Appeals Unit full power in appeals rather than advisory power only. These are all proposed changes in the Workmen's Compensation Law.

2. It was agreed that we should sponsor: (*a*) revision of the autopsy law and (*b*) a continuation of the study of the laws relating to dead bodies. These were embodied in last year's program.

3. Everyone was in agreement to support the resolution submitted by Westchester County: that Section 6514, Subdivison 2 (d) of the Education Law be amended to add to the forbidden list of advertising television, newspapers, and other media.

4. No objections were raised to the resolution approved by the House of Delegates that we study the problem created by "books written by physicians and purporting to have been published in the interest of medical science" which "are being freely advertised to the general public throughout this State, by the publishers, in such a manner as to appeal to lewd and lecherous curiosity rather than scientific study."

5. All of the county chairmen were of the opinion that we should continue to fight for (*a*) municipal intern malpractice indemnity and (*b*) the injunction bill.

Our "old friends," free choice of physician and free choice of plan, must again be supported, but in view of our experience in past years, the feeling is that the main battle for these "philosophies" should be conducted in New York City. Without the blessing of the "City Fathers," these bills have very little chance.

6. The majority of our colleagues were not in favor of amending Section 13 C-2 of the Workmen's Compensation Law. Evidently most practitioners are being paid for x-ray services, although at a lower rate than the specialist receives (as announced in the fee schedule), and the general feeling was that it would be best to maintain the status quo.

7. We will still oppose licensing of cultists; establishment of State Board of Physiotherapy Examiners; amendment to Workmen's Compensation Law which would set up rehabilitation clinics; bills liberalizing the requirements for sale of eyeglasses and certain potentially dangerous drugs; amendment to the Education Law which would permit unlicensed residents to practice in proprietary hospitals.

8. On the advice of counsel, we cannot approve the proposed law which would license psychologists as at present constituted because nowhere in the suggested law is the "practice of psychology" defined.

9. A resolution purported to have been adopted by the County of Oneida—which would amend the Civil Practice Act by abolishing suits for malpractice, requiring the plaintiff in a projected suit to prove intent to commit an act of malpractice, and establishing a court of malpractice similar to the compensation court—was referred to our counsel for an opinion. This was not received favorably in any section of the State that we visited.

There was considerable comment about the new automobile drivers' license application blanks. Our physicians cannot ignore the appeals of their patients, but at the same time they feel that the Motor Vehicle Bureau should assume more responsibility in this matter. A number of the men are especially concerned with third party actions and were of the opinion that the problem should be studied by the Malpractice Insurance and Defense Board.

In the near future we will meet the chairman of the Council Committee on Workmen's Compensation and the director of the bureau to review certain features of the proposed changes in the Workmen's Compensation Law.

Your chairman would like to work with (1) a special subcommittee to study laws relating to the dead body and the revision of the autopsy law, (2) a subcommittee to reconsider the bill that would license psychologists, and (3) a subcommittee to investigate and study the problem of obscene medical literature.

A meeting of the Committee on Legislation will be held in New York City on October 28.

Dr. Fineberg supplemented his report by stating: "With your approval we will appoint subcommittees, one to study revision of the autopsy law and to study the laws concerning the dead body, a second subcommittee to study the bill which would license psychologists, and a third to consider Dr. Leonard Schiff's resolution that we investigate the matter of medical literature which is used for obscene purposes.

"In accordance with a recommendation made to Dr. Dorman by a prominent member of the Senate, we are going to try to get our proposals and recommendations, our bills, introduced early this year to members of the Legislature, much before we usually have. The session begins in January, and the complaint has been made that doctors, for some reason or other, wait until the session has started before we do anything, and we put some of our legislators in a very unfavorable light if they have to reverse their original opinions or some of their original proposals. Therefore, in accordance with the recommendation we will submit our program probably late in November or the early part of December."

After discussion it *was voted* to approve the report.

Malpractice Insurance and Defense Board.—The board reported regarding the group plan. There was included a resolution, which the Council approved, that the State Society be represented in an investigation of solicitation of malpractice insurance by certain persons not licensed in the State of New York.

Medical Licensure and Medical Service.—Dr. Leo E. Gibson, chairman, stated: "Mr. President and gentlemen, we have four reports.

"The first is the result of a letter written to Dr. Anderton by Mr. Robert C. Killough, Jr., Assistant Commissioner of Education, in which he said:

> The Legislature in 1953 amended Section 6512 of the Education Law by the enactment of a bill which subsequently became Chapter 802 of the Laws of 1953. All of the text in paragraph (b) on pages 36 to 38 of the enclosed handbook which relates to the issuance of temporary certificates and requires persons serving residencies either to be fully licensed or hold the temporary certificate is new material which was added by the 1953 amendment. I know that you are fully familiar with it and, therefore, shall not dwell at length on the subject.
>
> At a recent meeting of the deans of the medical schools with members of the department and the License Committee of the Board of Regents, the deans expressed the view that graduates of the registered Canadian medical schools should be permitted to serve residencies without the need for a temporary certificate. An examination of our medical practice act will show that we have always endeavored to distinguish graduates of the Canadian schools from the schools of other countries and, where possible, grant preference. Please see the provisions relating to admission to the examination on pages 21 to 23. We have listed the registered Canadian schools on page 111. I would appreciate the views of the State Medical Society and information on whether the Society would support a bill at the next session of the Legislature to effect an amendment to paragraph (b) of subdivision 1, Section 6512, in accordance with the views expressed by the deans of our New York State schools.

"I submitted this proposition to all of the members of the Committee on Licensure, including the advisor to the committee, Dr. Stiles D. Ezell, secretary of the Board of Medical Examiners. He writes his approval and suggests the statement of Mr. Killough, as follows:

> Mr. Killough has suggested that the State Medical Society sponsor legislation to amend Chapter 802, and he has suggested that the following sentence be added to paragraph (b): "Notwithstanding any provision heretofore to the contrary a temporary certificate may be issued to a graduate of a registered medical school of Canada who has been granted the degree of bachelor or doctor of medicine from said school."
>
> This would completely eliminate the present situation in respect to Canadian graduates, and I would not anticipate that there would be any unusual opposition to such an amendment.

"Your committee considered this again last night and wish to submit the following: Your committee recommends that the Medical Society of the State of New York sponsor legislation to amend Chapter 802 of the Education Law, as suggested by Mr. Killough, Commissioner of Education, as follows: 'Notwithstanding any provision heretofore to the contrary a temporary certificate may be issued to a graduate of a registered medical school of Canada who has been granted the degree of bachelor or doctor of medicine from said school.'"

After discussion, it *was voted* to amend the report so that the recommendation reads: "that the Medical Society of the State of New York sponsor legislation to amend Chapter 802 of the Education Law as follows: 'Notwithstanding any provision heretofore to the contrary a temporary certificate may be issued to a graduate of a registered medical school of Canada who has been granted the degree of bachelor or doctor of medicine from said school, providing said school has been approved by the Council on Medical Education and Hospitals of the American Medical Association.'"

Dr. Gibson continued: "The question of the choice of the candidate for the President's Award on Employment of the Physically Handicapped has again come to this committee, and we submit to you a curriculum vitae and a biographic sketch of Dr. Rufus B. Crain, of Rochester, for your consideration.

"Your committee submits Dr. Crain's name as a candidate for this award."

Approval *was voted.*

Dr. Gibson continued: "Dr. Anderton has referred another problem to this committee, which deals with the difficulties of the New York State Society of Anesthesiologists in obtaining permission from the Licensing Committee of the Board of Regents to have the specialty of anesthesiology considered in the same light as other specialties in obtaining permission to take the examination for medical licensure in the State of New York. It says in their report: 'Our best information is that, among other requirements, these applicants are expected to complete two years of a rotating internship. One year of American Medical Association approved residency training in most specialties may be substituted for the second year of this internship. However, applicants have been informed, officially, that approved American Medical Association residency training in anesthesia may not be used for such substitution. This has had the obvious effect of diverting medical people from our specialty at a time when an acute, critical shortage exists.'

"The secretary of the State Society of Anesthesiologists has had conferences with the Licensing Committee of the Board of Regents, and they were told that if they did not hear anything more about their decision, they could consider that their request was granted, that is, the request that the residency in anesthesiology was to be considered in the same light as an internship or residency in any other of the specialties in the hospital training program. To date they have had no reply from the Licensing Committee of the Board of Regents.

"Complying with the advice of Dr. Ezell, who has known something about this problem, your committee after considerable discussion has submitted the following recommendation: Owing to the fact that the educational discipline of present-day anesthesiology encompasses a formidable clinical and didactic body of information in no way comparable to the limited background associated with the specialty in the past; that anesthesiology is accorded full medical specialty status by the Council on Hospitals and Medical Education of the American Medical Association; that the information received from the Department of Education has been somewhat confusing and contradictory, your committee recommends:

"1. That the Council inform the Society of Anesthesiologists that it is in sympathy with the fact that anesthesiology be recognized to the same extent as the other specialty services recognized by the Hospital Training Program.

"2. Recommend to the Board of Regents that they reconsider the problem of anesthesiology and extend the same recognition as it has to the other specialty services in the hospital training program."

After discussion, it *was voted* to approve the recommendations.

"The question of choice for the Annual Outstanding General Practitioner's Award of the Medical Society of the State of New York: We had four names submitted by county societies; Dr. James H. Bennett of Onondaga, Dr. Charles W. Chapin of Chenango County, Dr. Stuart T. Porter of Nassau County, and Dr. Austin J. Stillson of Broome County.

"Your committee has considered these and makes the following report: Dr. Charles W. Chapin had expired at the time of the request. He had been a candidate before. Dr. Stillson of Broome County had also been a candidate before. We then considered the two men, Dr. James H. Bennett and Dr. Stuart T. Porter, and your committee's choice was that of Dr. James H. Bennett of Onondaga.

"He has a long biographic sketch.

"I should add that this man has established a real general practice clinic in Baldwinsville consisting formerly of himself and three other men, and they really do a general practice job."

Approval of Dr. James H. Bennett of Onondaga County *was voted.*

Office Administration and Policies.—Dr. John J. Masterson, chairman, reported: "The regular monthly meeting of the Office Administration Committee was held on October 12, 1955.

"Various personnel matters were approved.

"At a prior meeting of the Board of Trustees, Dr. Leo F. Schiff read a letter to the Board of Trustees regarding the *Medical Directory.* This letter was devoted primarily to ways in which the cost of compiling and printing could be reduced. After discussion it was the sense of the meeting that many of the ideas presented by Dr. Schiff could not be used unless we were to decrease materially the quality of the book. The committee also found that in the long run the proposed saving would not be material unless the book was published every three years instead of every two.

"This letter from Dr. Schiff was referred to the Office Administration and Policies Committee. We have a report, which we shall submit to the Board of Trustees. It contains a lot of information that the Council might wish to hear. It is three pages; I will read the conclusions. 'Dr. Schiff has raised the following points: (1) the possibility of publishing the *Directory* at three-year intervals instead of two, (2) using less expensive paper, (3) using less expensive binding, (4) the possibility of Reuben H. Donnelly Corporation doing the printing, (5) transferring the management of the *Directory* from the Publication Committee to some other committee, (6) elimination of the advertising section, (7) charge members a nominal fee, perhaps as little as $1.00, (8) possibility that the Society might take over the procuring of information for the *American Medical Association Directory* in this State and be paid for doing so.'

"The conclusions are as follows:

> In conclusion, there is no doubt that, based on the 1955 prices, certain savings could be accomplished. When it comes to the cost of materials, you do not get any more than you pay for. We could proceed with some or all of the recommendations of Dr. Schiff. That we could save money is true.
>
> It must be borne in mind that difficulties all along the line will have to be met. There will be unavoidable delays, particularly if an out-of-town printer is used. If it is the desire of the committee and the management of the Society to save money, this can be done, but it must be remembered that the quality of the book will suffer.
>
> The total amount that could be saved in printing

and other costs, by publishing every three instead of two years, based on the 1955 costs would be approximately $20,300 over two years. This represents 16.6 per cent of the cost.

Using a cheaper binding and paper, approximately $3,100 per edition could be saved.

If we printed out of town instead of New York City, based on 1955 rates, we could have saved about $2,900.

Using a cheaper paper and binding, we might save $6,000 or 5 per cent of the total cost."

It *was voted* to accept the report.

Publication.—Dr. Masterson, chairman, reported: "The Publication Committee held its regular monthly meeting on October 12, 1955.

"The editor reported that the processing of material and the delivery of the JOURNAL has continued at a nearly normal rate in spite of vacations and flood damage to the plant of our printer.

"Resignation of Dr. Denver Vickers from the Associate Editorial Board because of his removal to Chicago was accepted with regret.

"It was moved, seconded, and passed to publish an article by Dr. Herbert Berger presenting the Richmond County Plan for the Control of Narcotic Addiction. It was noted that the article had been submitted to Dr. S. Bernard Wortis and that he favored its publication.

"Drs. Anderton, Norton Brown, and Redway were appointed at an earlier meeting to explore the possibility of publishing talks on medical subjects prepared by the New York Academy of Medicine for delivery over FM radio. Progress was reported.

"Approval was voted of advertising copy submitted by the F. H. Strong Co.

"It was noted that an additional clerk-typist, whose time would be divided between the Editorial and Advertising Departments, was needed. It was pointed out that this need was due primarily to the increase in the number of pages in the JOURNAL, as well as the increase in color pages of advertisement. The editor was asked to report further at the next meeting.

"An additional listing in the telephone directory was approved, under the heading 'Journal of the Medical Society of the State of New York.'

"There was a general discussion of the difficulties encountered in the publication of the *Medical Directory* when a doctor's hospital appointment is changed after the completed list of the hospital staff is received in the office. It was moved, seconded, and passed to continue the present policy of not changing the hospital listing under such circumstances.

"The committee approved the recommendation that the advertising rates for the 1955 *Medical Directory* not be changed for the 1957 *Medical Directory*.

"The editor was requested to make a study of cigaret advertising in other publications and report.

"The annual Editorial Dinner was postponed to the spring of 1956 because of the inability of the members of the Associate Editorial Board to select a date in November agreeable to each of them.

"The business manager was requested to determine the cost of printing 'Sesquicentennial Year' in gold on the cover of the 1957 *Medical Directory*."

It *was voted* to adopt the report.

Public Health and Education.—Dr. Theodore J. Curphey, chairman, reported that he had attended seven meetings and arranged 13 postgraduate lectures in ten counties since the September meeting of the Council. He stated:

1. A meeting of the Subcommittee on Physical Medicine and Rehabilitation was held on September 15, at which Drs. Abramson, Carpenter, Holmes, Raus, Snow, Tobis, Deaver, Canning, and Schwartz were present. The following resolution was passed and is submitted to the Council for consideration:

> WHEREAS, there is an extreme and growing shortage of therapists in the field of physical medicine and rehabilitation; and
>
> WHEREAS, the presently existing educational facilities are being used fully; and
>
> WHEREAS, the needs for such personnel in the expanding physical medicine and rehabilitation programs in the State are increasing more rapidly than the recruitment of new personnel; be it
>
> *Resolved*, that the Medical Society of the State of New York use its good offices to stimulate medical schools of the State of New York to set up curricula in physical therapy and occupational therapy; and be it further
>
> *Resolved*, that the Medical Society of the State of New York undertake, with the cooperation of the State Education Department, a program of education and publicity relative to the opportunities that exist in the ancillary medical professions related to physical medicine and rehabilitation, such as physical therapy, occupational therapy, speech and hearing, and vocational counseling.

It *was voted* to approve the resolution.

The committee reiterated its desire that the State Education law be amended to extend from six to twelve months the provisional appointment of physiotherapists admitted to take the licensing examination. This recommendation has been made previously to the Council (March, 1955) and referred by it to the Legislation Committee.

2. Drs. Bratt, Borkow, Fiske, Lester, McLouth, Parsons, and Anderton, as well as your chairman, attended the meeting of the Subcommittee on General Practice on September 21. There was discussion of ways to stimulate use of the Health Examination Form, and it was moved and carried "that a letter signed by Drs. Bratt and Curphey go to all county medical societies urging repeated announcements at county society meetings; that publicity be printed in the *Newsletter* and the JOURNAL; and that the State Health Department be requested to publicize the form through their regular channels of communication with the physicians of the State."

It was reported that the New York State Academy of General Practice will send representatives to the A.M.A. interim session in Boston in November to appear before the reference committee dealing with the general practitioner's status in the hospital. Also, it was agreed that Dr. Fiske should confer with Dr. Gerald Dorman in regard to accreditation restrictions and their relation to the general practitioner in the hospital.

3. At a meeting of the Subcommittee on Cancer on September 29 there were present Drs. Siris, Fitzgerald, Gerhardt, House, Lasner, John G. Masterson, Sanes, and Rosenthal, and your chairman. Dr. Abraham Oppenheim, director of the New York City Bureau of Cancer Control, attended by invitation. There was discussion of the questionnaire for cancer detection and prevention centers which was mentioned at the March 10, 1955, Council meeting and which Dr. Oppenheim wished to circulate among the cancer detection centers in New York City. It was emphasized that the purpose is to collect statistical data on the operation of these clinics. Dr. Gerhardt, as director of the New York State Health Department's Bureau of Cancer Control, also requested permission to conduct a similar survey among upstate clinics. The committee voted to approve the survey among metropolitan and upstate detection centers.

It was stressed that these clinics are intended to be demonstration centers to serve as a source of education for the doctor.

Dr. Rosenthal asked for the endorsement of the committee of a plan by the New York City Health Department to conduct several "open house" programs in the metropolitan area similar to the one held at the Roswell Park Memorial Institute in Buffalo last March. The committee approved.

The report as a whole *was accepted.*

Public Relations.—Dr. Floyd S. Winslow, chairman, presented the following report: During the past month the activities of your committee and the Public and Professional Relations Bureau were concerned with the annual conference of county medical society public relations chairmen, the district branch meetings, and other matters discussed at a committee meeting held on September 8.

Among these were the State Society's Sesquicentennial, a proposed review of emergency call services, and medical assistants training programs. Since Mr. Miebach and his staff reported that one of the major items considered at the recent A.M.A. PR Institute in Chicago was the issue of Social Security and the permanent disability cash benefit provisions of H.R. 7225, your committee agreed that your chairman should invite Dr. David B. Allman, A.M.A. trustee, to discuss this matter at the PR Conference.

Dr. Allman replied that he could not attend. However, Dr. Ernest B. Howard, A.M.A. assistant secretary, informed your chairman that he would be happy to attend the conference in Dr. Allman's place. He advised that Leo Brown, A.M.A. PR director, also would be present. The agenda also included "PR Aspects of Fees," "Medical News from the Reporter's Viewpoint," and "The Use of Radio in Medical Public Relations."

Following the pattern of the past several years, the bureau cooperated with Dr. W. P. Anderton in registration at the district branch meetings. Mr. Miebach supervised dealings with the press at the meetings. Preceding the meetings, press releases giving details of the programs and copies of speeches to be delivered by Dr. Azzari or Dr. Greenough were sent to papers in the branch areas.

Newspaper releases concerning postgraduate lectures were mailed to editors in the following counties: Fulton, Jefferson, Montgomery, Ontario, Steuben, Suffolk, and Tompkins.

With the fall season the field representatives resumed their visits to the county medical societies. Promotion of medical assistants training courses and the "Guide for Cooperation" between the medical profession and information media were among the projects emphasized.

The bureau also assisted the Woman's Auxiliary in an exhibit at the State Fair, planning and securing materials for the Fourth Annual Health Poster Contest, mimeographing the minutes of the 1955 Convention, and bringing the *Distaff* stencils up to date. Articles about the Auxiliary also were submitted to the NEW YORK STATE JOURNAL OF MEDICINE.

Regarding the annual Auxiliary Fall Conference of County Presidents and Presidents-Elect, the bureau worked closely with its chairman and the president in preparing for the meeting, held October 3, 4, and 5 at Poughkeepsie. Mr. Miebach and Mr. Walsh were among the invited speakers.

The Newsletter resumed publication in October after having suspended operations during August and September.

Activities in the fields of radio, television, and magazine writing continued to occupy the bureau's staff. Through their efforts, Dr. George P. Coopernail, of Bedford Village, a member of the Westchester County Medical Society, which worked with the bureau, appeared on the television program "Life Begins at Eighty." Following the news of the President's heart attack, the American Broadcasting Company asked the bureau to obtain a physician to explain coronary thrombosis over its local New York City radio station. Through the cooperation of the New York County Medical Society, the bureau arranged for Dr. Arthur Master, a former member of your committee and well-known heart specialist, to appear on the program. Requests from magazine writers and magazines, notably *Coronet*, for assistance in preparing articles on medical subjects were filled in cooperation with Dr. Curphey's Council Committee on Public Health and Education.

Dr. Winslow added: "Ordinarily I do not take up the time of the Council to discuss the details of the report of the Public Relations Committee, but this time I would like to discuss briefly the meeting which we held last Saturday in this city. This was a meeting of the chairmen of the county public relations committees. It was well attended.

"The program was recorded. A copy will be mailed to each member of the Council and to the public relations chairmen of county societies. I bespeak your utmost interest in reading this very interesting report.

"I should like to point out to the Council how important this meeting was because, on the one hand, we had the men who stand on the firing line of social security of the American Medical Association, and on the other side, we had the chairmen of the public relations committees of the various counties who could take back to their membership the latest facts in this very important subject."

The report *was adopted.*

Veterans Administration, Liaison with.—Dr. Herbert H. Bauckus, chairman, reported: "The Veterans Administration has requested an amendment to our fee schedule. This will be finally decided by the board of directors of the Plan, who usually receive advice from the Liaison Committee, for which I am reporting. Yet I think it would be good to read this proposed amendment. If anyone has any comment, I would like to receive it:

> The schedule of fees of Contract V1001M-1371 is hereby amended to include the phrase "Examination to determine Need for Aid and Attendance, when requested," under Item 0012, Page 3, under Visits and Examinations. The corrected item will read as follows: "0012—Complete general routine physical examination including routine urinalysis (Examination to determine Need for Aid and Attendance, when requested) . . . . . $7.50."

"That is no change in the amount of money it allows; however, the examination of a veteran to determine whether he needs aid and attendance may to some extent increase the work under the outpatient plan.

"I would also like to report that the amount of work we do in the rural areas is about the same as in the last year. We do considerable work.

"We have had the question brought up, and Dr. Kaliski has brought it to my attention also, that the Veterans Administration hospitals at times take care of workmen's compensation cases, and I think the Workmen's Compensation Committee is working on that subject. This will also be brought before our Liaison Committee. Most of these cases are admitted to hospitals on the basis of an emergency. It is my experience, where I have been told about objections, that the doctor states this is an emergency. Then the nonservice-connected illness is apt to be cared for.

"We have had a few questions relating to discipline which have been satisfactorily handled. I object to the Veterans Administration offices removing a physician from the list without a hearing, as they occasionally attempt to do.

It *was voted* to accept the report.

Woman's Auxiliary.—Dr. Dan Mellen, chairman, stated: "The Woman's Auxiliary have made a request for $500 for an issue of the *Distaff* to celebrate the Auxiliary's twentieth anniversary. The Trustees have asked if they would accept advertising in this issue. Mrs. Zadek, president, says this cannot be adequately answered because the meeting that would take care of this follows the projected publication. However, she said that she believes that advertising would be acceptable. This, of course, will not be an annual request. I, therefore, move that we suggest to the Trustees that they grant this request of $500."

It *was so voted.*

Workmen's Compensation.—Dr. Gerald D. Dorman, chairman, presented the following report: A representative of the Workmen's Compensation Board appealed to your director to obtain medical reports from various physicians throughout the State who, it is alleged, failed to respond to previous requests from the chairman of the Workmen's Compensation Board and to the county medical societies for medical report forms in pending compensation cases. Your director, through the cooperation of the secretaries of the affected county medical societies and the chairmen of the workmen's compensation committees, has succeeded in obtaining the necessary reports. A bulletin on the importance of reporting compensation and on the forms will soon be issued in order to obtain the desired cooperation.

We have again brought to the attention of the chairman of the Workmen's Compensation Board the position taken by the State Insurance Fund in their refusal to pay an assistant's fee in hospitals which may have an intern staff but in which the intern staff is not available for private and compensation operations. Representatives of the State Insurance Fund throughout the State have been filing A-1 objection forms to all bills for assistance. We have appealed unsuccessfully to the manager of the State Insurance Fund to pay such bills, as do all other insurance carriers and employers, where it can be shown that no intern was available for assistance at an operation.

We are continuing our investigation concerning the alleged treatment of compensation claimants in Veterans Administration hospitals but so far have not obtained any satisfaction from the medical directors in Washington.

We are pleased to report that through the cooperation of Dr. Floyd Winslow, we succeeded in obtaining a personal interview with Miss Honora Miller, the Corporation Counsel of Rochester. This was held on September 21 and was attended by Miss Miller; two of her associates, including Mr. Danno, who was formerly in charge of medical bills; Dr. Winslow; Mr. Benedict Miller, Administrator of Claims for the Workmen's Compensation Board, and your director. A satisfactory agreement was reached to the effect that the City of Rochester will conform to the provisions of the Workmen's Compensation Law in the future; will object to all medical bills within thirty days (section 13-g) which in their opinion are not fair, and will submit to arbitration all such bills which, after conference with the compensation committee of the Monroe County Medical Society, cannot be settled amicably. We have arranged with the chairman of the local county medical society workmen's compensation committee to cooperate with the Corporation Counsel and the employes of the Department.

We have also submitted to the chairman of the Workmen's Compensation Board a memorandum outlining the agreement reached and requesting the chairman to arrange a conference to consider whether a change could not be made in the fee schedule to set up a fee for the single treatment of a minor injury not requiring a full examination by a surgical or orthopedic specialist. The City of Rochester felt that in these minor cases it was unfair for a physician to charge the full schedule $10 or $15 fee for a simple cut, scratch, or abrasion not requiring more than one treatment.

The chairman of the Workmen's Compensation Board called a meeting on September 22, presided over by Dr. Chester L. Davidson, chairman of the Medical Practice Committee, to consider a change in the standards of qualifications of physicians for specialty rating in physical medicine and rehabilitation. Your director attended, and we have submitted a memorandum covering our views.

The chairman of the Workmen's Compensation Board has also called a meeting of the Special Committee for October 5, 1955, to consider the subject of amendments to Section 25 of the Workmen's Compensation Law as recently amended by Chapter 520 of the Laws of 1955. The chairman of your committee expects to attend this meeting which is concerned with the determination of claims under the Workmen's Compensation Law.

We regret very much to inform the Council that Mr. Henry Sayer, General Manager of the New York Compensation Insurance Rating Board has announced his retirement at the end of the year. Mr. Sayer has been an important figure in the field of workmen's compensation for over three decades.

Dr. Dorman supplemented his report as follows: "I would like to call special attention to the fact that our good friend, Dr. Floyd S. Winslow, was most helpful in helping to settle the matter in Rochester and that we had the marked cooperation of Mr. Bennett Miller, Administrator of Claims for the Workmen's Compensation Board. This matter has been hanging fire for a long time, and we appreciate the help of these gentlemen in getting it straightened out.

"On September 15 I attended the Third District Branch meeting in Hudson, in accordance with the directive of the House of Delegates that we bring up compensation matters at the district branches. Dr. Kaliski will be in Elmira during the latter part of the month at the meeting there.

"On October 5 there was a meeting of the Compensation Board under Miss Angela Parisi in regard to Section 25 of the Workmen's Compensation Law. She requested that the board take up a recodification or a rewording of that section, without making any amendments or changes. That does not affect the doctors directly because it is mostly the question of notification of objections to claims, manner of payment, and such things, but the section has been amended so many times that the wording tends to conflict within the section. There will be further meetings of the committee on that particular matter."

It *was voted* to accept the report as a whole.

New Business

Dr. J. Stanley Kenney presented a resolution, at the request of Dr. Paluel J. Flagg, president of the Society for the Prevention of Asphyxial Death, Inc., to establish a council on pneumatology in the American Medical Association. Action was postponed until the November meeting.

Doctors Good Marriage Risks

The popular belief that medical men are poor bets for marriage is a myth, according to statistics appearing in the October issue of *Medical Economics*, national business magazine for doctors.

In a recent poll of a national cross-section of physicians, the magazine learned that "90 per cent are still sharing bed and board with their original mates." And just 6 per cent have been divorced (compared with a national divorce rate of almost 20 per cent).

NECROLOGY

Andrew John Akelaitis, M.D., of New York City and Pelham, died on November 24 in New York Hospital at the age of fifty-one. Dr. Akelaitis graduated from Johns Hopkins University School of Medicine in 1929. He was an assistant professor of neurology at the Cornell University Medical College. During World War II he served as a commander in the Navy and before the war he was an assistant professor of psychiatry at the University of Rochester. He was an associate in neuropsychiatry at Mount Vernon Hospital, an assistant physician in neurology at New York Hospital, and an attending psychiatrist at New York Hospital Outpatient Department. Dr. Akelaitis was a Diplomate of the American Board of Psychiatry and Neurology, a Fellow of the American Psychiatric Association, and a member of the New York Neurological Society, the New York Society for Clinical Psychiatry, the New York County Medical Society and the Medical Society of the State of New York.

Haig A. Ayvazian, M.D., of Flushing, died on November 28 at the University Hospital at the age of sixty-nine. Dr. Ayvazian received his medical degree in 1912 from the American University of Beirut. For the past ten years he had been a member of the medical department of the United States Lines.

Paul Bellows Brooks, M.D., of Montgomery, died of a heart attack at Middletown on his seventy-seventh birthday on November 19. Dr. Brooks was graduated in 1903 from New York University and Bellevue Hospital Medical College and interned at Bellevue Hospital. In 1915 he joined the New York State Department of Health and remained there until his retirement in 1946. From 1923 until 1946 Dr. Brooks served as Deputy Health Commissioner. In 1919 he was acting director of the Division of Communicable Diseases and from 1919 to 1923 was assistant director of the Division of Laboratories and Research. For fifteen years he was author of the newspaper column "Dr. Jones Says" which was syndicated in 50 newspapers.

Dr. Brooks had been a member of the State Board of Medical Examiners, a member of the U.S. Public Health Service Sanitation Advisory Board, president of the International Association of Milk Sanitarians in 1939 and 1940, a secretary of the Health Officers Section of the American Public Health Association, president of the New York State Association of Dairy and Milk Inspectors, chairman of the Public Health Section of the Medical Society of the State of New York, and a member of the American Public Health Association, the Orange County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

John D. Carroll, M.D., of Troy, died on November 9 in St. Mary's Hospital at the age of sixty-two. Dr. Carroll graduated from Albany Medical College in 1916. He was an attending ophthalmologist and otolaryngologist at St. Mary's Hospital. He was commissioned a lieutenant in November, 1917, and was surgeon-in-charge of the eye and ear department of the hospital at Mitchel Field until his discharge in September, 1919. In 1926 he was appointed to the staff of Troy Hospital and as an instructor of nurses there in diseases of the eye and ear. From 1926 until 1949 he was a consultant on the staff of St. Joseph's Maternity Hospital. He was a member of the Eastern New York Eye, Ear, Nose and Throat Association, the Rensselaer County Medical Society of which he was a past president, the Medical Society of the State of New York, and the American Medical Association.

Albion S. Chance, M.D., of New York City, died at the Montefiore Hospital on November 24 at the age of sixty-one. Dr. Chance graduated from Queen's University Faculty of Medicine, Ontario, in 1922. He was a clinical assistant in dermatology at the Harlem Hospital Outpatient Department and a medical examiner for the United Mutual Insurance Company. He was a member of the Manhattan Central Medical Society.

Frederick Coonley, M.D., Richmond, Staten Island, died in the Bronx Veterans Administration Hospital on December 3 at the age of eighty-one, after a prolonged illness. Dr. Coonley graduated from Yale University School of Medicine in 1900 and interned at Presbyterian Hospital. He had been a consultant in surgery at the Staten Island, Seaview, and Richmond Borough Hospitals. Dr. Coonley was the first president of the medical board of Sea View Hospital, a past-president of the Richmond County Medical Society, a founder and former president of the Staten Island Cancer Committee, and a former president of the Staten Island Social Service. During World War I he served as a captain in the Army Medical Corps. In 1950 he was honored by the Medical Society of the State of New York for his fifty years as a practicing physician. A Fellow of the American College of Surgeons, Dr. Coonley was a member of the Richmond County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Thomas Wallis Davis, M.D., of Utica, died on November 23 in New York Hospital at the age of sixty-four. Dr. Davis graduated from Cornell University Medical College in 1919. He was a retired staff surgeon of the Hospital for the Ruptured and Crippled, St. Clare's Hospital, and Midtown Hospital. For many years Dr. Davis had served as medical director of the Borden Company. He was a Fellow of the American College of Surgeons.

Timothy J. Fay, M.D., of Utica, died on December 3 at the age of seventy. Dr. Fay graduated from Syracuse University College of Medicine in 1912. At one time he had served on the staff of St. Elizabeth Hospital and was later appointed an honorary physician, as well as on the medical staff of Utica General Hospital. He had also been associated with the Utica Free Dispensary and the Utica Visiting Nurse and Child Health Association as consulting physician. In 1918 he was appointed school physician and served the Department of Schools until his retirement in 1952. Dr. Fay was a member of the Oneida County Medical Society and the Medical Society of the State of New York.

Ernest M. Fuld, M.D., of the Bronx, died on November 30 at the Andrew Freedman Home after a long illness at the age of eighty-two. Dr. Fuld received his degree in 1896 from the University of Strasbourg. He was a retired member of the Oneida County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Maude Glasgow, M.D., of New York City, died of a heart attack on November 20 at her home at the age of eighty-seven. Dr. Glasgow graduated from Cornell University Medical College in 1901. She was a former medical examiner for the City of New York Health Department and medical examiner for the Board of Education and chief women's physician for the New York Telephone Company. Retired, she had been a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

J. Hoyt Kerley, M.D., of New York City, died in New York Hospital on November 20 at the age of sixty-eight. Dr. Kerley graduated from Columbia University College of Physicians and Surgeons in 1914. He was a Licentiate of the American Board of Pediatrics and a member of the New York County Medical Society and the Medical Society of the State of New York.

Morley Brown Lewis, M.D., of Sag Harbor, died on December 3 at the age of eighty-six. Dr. Lewis graduated from Baltimore Medical College in 1896. He was one of the founders of the Southampton Hospital and a former Suffolk County coroner. An honorary member of the staff of Southampton Hospital, Dr. Lewis was a member of the Nassau County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

William Gordon Lyle, M.D., of New York City, died on November 25 at his home at the age of eighty-four. Dr. Lyle graduated from Columbia University College of Physicians and Surgeons in 1892 and interned at Roosevelt and Bellevue Hospitals. He was a former head of the Harriman Research Laboratories at Roosevelt Hospital. Dr. Lyle was a member of the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

John Francis McGarrahan, M.D., of Cohoes, died in the Leonard Hospital, Troy, on November 14 at the age of eighty-five. Dr. McGarrahan graduated from Albany Medical College in 1894. In 1898 he was appointed as assistant in surgery at the Cohoes Memorial Hospital and in 1901 attending surgeon. For thirty-eight years he served as attending surgeon and later became emeritus consultant in surgery, where he was closely identified with the establishment of the Cohoes Hospital Training School for Nurses where he also lectured to the nurses on anatomy and surgical technics and was instrumental in securing recognition by the State Department of Education for the Nursing School. He was also consultant in surgery at the Leonard Hospital in Troy. Dr. McGarrahan was a Fellow of the American College of Surgeons and a member of the Albany County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Frederick Carroll Meyers, M.D., of Briarcliff Manor, died on November 20 at the age of fifty-five. Dr. Meyers graduated from Long Island College of Medicine in 1927. He was a retired member of the Westchester County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Joseph Charles Roper, M.D., of New York City and Riverside, Connecticut, died at his home in Riverside on November 19 at the age of eighty-six. He was a graduate of the first class at New York University Medical College in 1897 and in 1899 he graduated from Cornell University Medical College. He interned at New York Hospital. Dr. Roper was a consulting physician at New York Hospital and the New York Hospital, Westchester Division. During World War I he served as medical director of the Atlantic Division of the American Red Cross. From 1901 to 1906 he was assistant pathologist at New York Hospital and from 1908 to 1932, an associate physician, and from 1932 to 1936 attending physician. From 1933 to 1936 he was an instructor in pathology at Bellevue. Earlier he had been an assistant instructor in histology and professor of clinical medicine at Cornell Medical College. Dr.

Roper was a member of the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

George Robert Shapiro, M.D., of Brooklyn, died on October 10 at the age of sixty-three. Dr. Shapiro graduated from the Medical College of Virginia, Richmond, in 1917. He was a member of the Kings County Medical Society and the Medical Society of the State of New York.

Henry D. Sherman, M.D., of the Bronx, died on December 5 at the Montefiore Hospital after an illness of several months, at the age of sixty-two. Dr. Sherman graduated from Fordham University School of Medicine in 1919.

Charles Wulf Siegel, M.D., of Brooklyn, died in December at the age of forty-five. Dr. Siege graduated in 1937 from the Royal College of Physicians and Surgeons of Edinburgh. He was an assistant physician and gastroenterologist at Maimonides Hospital Outpatient Department, and an assistant in peripheral vascular diseases at the Coney Island Hospital. He interned at the Israel Zion (Maimonides) Hospital, Brooklyn. Dr. Siegel was a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Edward M. Smith, M.D., of Washington, D.C., formerly of New York City, died on November 11 at his home in Washington, at the age of seventy-five. Dr. Smith graduated from Jefferson Medical College, Philadelphia, in 1912. During World War I he served as a medical officer in France and later as a staff physician at the New York Athletic Club.

MEDICAL MEETINGS

Greene County Medical Society

The Greene County Medical Society will meet on January 12, cosponsored by the Greene County Chapter of the Academy of General Practice. The meeting will take place at 8:00 P.M. at the Green County Memorial Hospital in Catskill, and Dr. Rudolph Ruedemann, Jr., associate professor of dermatology and syphilology at Albany Medical College, will be the guest speaker.

Sullivan County Medical Society

The Sullivan County Medical Society will meet on January 18 at 8:30 P.M. at the Liberty Maimonides Hospital in Liberty.

Dr. I. D. Bobrowitz, of New York City, will speak on "The Management of Tuberculosis Under Home Conditions."

Psychoanalysis Association

The Association for the Advancement of Psychoanalysis will hold its regular meeting at the New York Academy of Medicine, 2 East 103rd Street, New York City, on January 25, at 8:30 P.M. Dr. Harold Kelman of New York City will speak on "The Symbolizing Process," and Dr. Emil A. Gutheil, also of New York City, will be the discussant.

Congress on Medical Education

The role of advanced training in over-all medical education will be discussed during the opening session of the 52nd annual congress on medical education and licensure to be held February 11 through 14 at the Palmer House, Chicago. The meeting will be sponsored by the AMA's Council on Medical Education and Hospitals, the Federation of State Medical Boards of the United States, and the Advisory Board for Medical Specialties.

MEDICAL NEWS

Course on Research Tools—The first university course on the use of scintillation counters as research tools will be offered next spring by the Graduate Division of the New York University College of Engineering. It is intended principally for medical researchers using radioactive tracers.

Dr. Richard Stephenson, authority in nuclear engineering and associate professor at N.Y.U., will conduct the course. He was formerly with the physical instrumentation group at the Atomic Energy Commission's Oak Ridge National Laboratory. A scintillation laboratory has been established at the N.Y.U. College of Engineering.

Further information can be obtained from the Graduate Office, New York University College of Engineering, New York 53, New York.

I.C.S. Examinations—Four oral and four written examinations for Fellows in the United States Section of the International College of Surgeons will be conducted in 1956.

Oral conferences will be held on January 23, April 16, August 6, and October 22. The written examinations will be conducted on January 30 and 31, April 23 and 24, July 23 and 24, and October 29 and 30. These will be held at the Cook County Hospital and Cook County Graduate School of Medicine, Chicago.

For further information, write to the Secretariat of the United States Section, International College of Surgeons, 1516 North Lake Shore Drive, Chicago 10, Illinois.

University of Buffalo—A Harrington Lecture on "Studies on the Mechanism of Fever" was presented by Dr. Ivan L. Bennett, Jr., associate professor of medicine at Johns Hopkins University School of Medicine, before the University of Buffalo School of Medicine on December 7.

Brooklyn Dermatological Society—At the October meeting of the Brooklyn Dermatological Society, the following members were elected to the office for the year 1955–1956: Dr. Frank D. Jennings, Jr., president; Dr. Benjamin D. Erger, vice-president, and Dr. Samuel B. Frischberg, secretary-treasurer. The Society will meet on the second Tuesday of each month at 8:30 P.M. from October to June, at the Brooklyn Hospital Dispensary at Ashland Place and Dekalb Avenue, Brooklyn.

Cardiac Clinic—A new clinic for selected cardiac patients which will also carry out medical research on heart disease has been opened at the Bronx Hospital, 169th Street and Fulton Avenue, New York City.

The clinic will accept only those persons who can benefit from specialized care and have been hospitalized for cardiac failure. A trained staff of four cardiologists, nurses, and social workers under the direction of Dr. Samuel S. Paley, clinic chief, will give close supervision to the medical health of patients.

Electrocardiography Courses—Courses in elementary electrocardiography will be given on January 16 through 21 at Mount Sinai Hospital in New York City, by Dr. Arthur M. Master and his associates. Advanced electrocardiography will be presented January 23 through 28, and cardiovascular disease January 30 through February 10.

Hill-Burton Grants—The Department of Health, Education, and Welfare reports that as of October, 1955, the status of all Hill-Burton grants for the State of New York is: Approved, but not yet under construction, four projects at a total cost of $3,322,208, including $1,107,402 Federal contribution and designed to supply 249 additional beds. Under construction are 16 projects at a total cost of $52,627,137, including Federal contribution of $7,423,316 and designed to supply 1,561 additional beds. Completed and in operation are 73 projects at a total cost of $73,684,913, including Federal contribution of $21,101,404 and supplying 4,029 additional beds.

Commonwealth Fund—Three university medical schools in New York State were among the recipients of a $7,150,000 award from the Commonwealth Fund for the maintenance of creative programs in medical education. Medical schools receiving the grants were: Columbia University College of Physicians and Surgeons, Cornell University, and New York University.

Radioactive Isotopes—A four-month course in the medical uses of radioactive isotopes will be given at the Queens General Hospital in cooperation with the Atomic Energy Commission. The course will begin on February 14, and will consist of weekly four hour sessions covering lectures, laboratory exercises, and clinical management of patients. Enrollment will be limited to 15.

Information and application forms may be obtained from Dr. L. B. Goldman, director, Radiation Therapy Department, Queens General Hospital, 82–68 164th Street, Jamaica 32, New York.

American Medical Education Foundation—New

York State contributors to the American Medical Education Foundation for the month of November were: *Albany*—Drs. Richard T. Becke, James H. Cullen, Marvin B. Rodney, and Jeffrey Wiersum; *Amsterdam*—Dr. Norbert Fethke; *Babylon*—Dr. K. C. Micholas; *Binghamton*—Dr. Alfred Loewenstein; *Bronx*—Drs. H. E. Diamond, Joseph Giuffre, Milton Reisch, Kasiel Steinhardt, and Jacob Taub; *Brooklyn*—Drs. John B. D'Albora, Francis P. Ferrer, H. R. Freund, Gladys M. Muller, Simon Smelensky, and Irving Tarasuk; *Buffalo*—Dr. Willard G. Fisher; *Elmhurst*—Dr. John P. Keating; *Florida*—Dr. Michael Temchin; *Flushing*—Dr. Joseph F. Ascione; *Forest Hills*—Drs. B. Nachtigal and Irving Nachtigal; *Garden City*—Drs. T. J. Curphey and Ben F. Dennis; *Glendale*—Dr. Helmut Zeiger; *Hamlin*—Dr. Paul Marx; *Hollis*—Drs. Samuel R. Coleman and Wallace M. Shaw; *Jamaica*—Dr. James P. McManus; *Kingston*—Drs. Harry C. McNamara and Saul Ritchie; *Lake Success*—Dr. J. C. Greenwald; *Little Falls*—Dr. Fred C. Sabin; *Livingston Manor*—Dr. M. A. Denman; *Mount Vernon*—Dr. H. Wallerstein; *Newburgh*—Dr. William S. Montgomery; *New Rochelle*—Dr. F. H. Lutze.

Also: *New York City*—Drs. Harry Bakwin, David N. Barrows, Edward J. Bassen, Bernard Berglas, Alice R. Bernheim, Everett C. Bragg, K. D. Brownell, S. B. Burk, Albert A. Cinelli, Harry Cohen, I. H. Cohn, G. S. Dudley, John H. Dunnington, Harold B. Eiber, Babbott Foundation, M. L. Freundlich, Stanley I. Glickman, M. E. Golan, Eugenia Ingerman, Alex P. Kaplan, C. R. Kelley, Arnold Knapp, Edmund F. Kohl, Shepard Krech, Maurice J. Lewi, Marrill D. Lipsey, Jere W. Lord, Jr., A. L. Luhby, Arthur M. Master, Parks McCombs, Robert McGrath, Robert B. McGraw, John M. McKinney, Eli Moschcowitz, and John Neilson, Jr.

Also: Drs. F. T. Neuhaus, Carl C. Nussbaum, Kermit E. Osserman, Charles A. Perera, Julius Pincus, P. R. Roen, Paul J. Salvo, Albert J. Schein, Mathew Shapiro, Norman Simon, Samuel F. Thomas, John O. Vieta, and Charles C. Whitsett.

Also: *Oneida*—Dr. Howard Beach; *Plattsburgh*—Drs. Nello Delbel and Leo F. Schiff; *Port Chester*—Dr. Saul Freedman; *Poughkeepsie*—Drs. C. O. Davison and Lloyd D. Harris; *Rhinebeck*—Dr. W. G. Thompson; *Rochester*—Drs. Elroy J. Avery, J. W. Cooney, Martin A. Sander, Albert C. Snell, Jr., and Floyd S. Winslow; *Rome*—Dr. Walter I. Akana; *Saratoga Springs*—Dr. T. J. Goodfellow; *Schenectady*—Dr. Roland L. Faulkner; *Syracuse*—Drs. Charles A. Gwynn, F. N. Marty, and Dwight V. Needham; *Tarrytown*—Dr. C. W. Pierce; *Thiells*—Dr. Harry C. Storrs; *Troy*—Dr. H. A. Boswell and Walter Gunther; *Utica*—Dr. Herman J. Segaul; *Wassaic*—Dr. E. S. Steblen; *White Plains*—Drs. Ralph T. DiPace, Burton P. Hoffman, and Rowland L. Mindlin; *Woodhaven*—Dr. George J. Goldberg; *Woodside*—Dr. A. Dombrowiecki, and *Yonkers*—Drs. Richard Baruch and B. J. Ciliberti.

American College of Surgeons—More than 3,000 surgeons, surgical specialists, nurses, and other medical personnel from Canada and the United States are expected to attend an intensive, four-day sectional meeting of the American College of Surgeons in Philadelphia, Pennsylvania, February 13 through 16, at the Bellevue-Stratford.

Among the doctors participating will be: Drs. Bradley L. Coley, Norman L. Higinbotham, James M. Winfield, Jere W. Lord, Jr., Harold A. Zintel, John J. Conley, John McLean, R. Townley Paton, Henry L. Jaffe, Frank Glenn, George R. Nagamatsu, and Victor F. Marshall from New York City; Dr. Earle B. Mahoney, Rochester; Dr. William F. Finn, Manhasset; Dr. Wendell L. Hughes, Hempstead, and Dr. Frederick vom Saal, Yonkers.

Anesthesiology Assembly—The anesthesiologists of New York State sponsored the ninth postgraduate assembly in anesthesiology at the Hotel New Yorker December 7 through 10.

Among the advances in anesthesiology was a closed circuit telecast from Bellevue Hospital on December 7 showing anesthesiologists employing the most modern technics. On December 8, Dr. Emery A. Rovenstine, professor of anesthesia, New York University Post Graduate School of Medicine discussed the "Management of the Comatose Patients," and Dr. Alfred Gilman, professor of pharmacology, Columbia University, discussed the "Present Advances in Neuropharmacology."

Thomas William Salmon Lectures—The Salmon Committee on Psychiatry and Mental Hygiene held the 23rd in its series of Thomas William Salmon Lectures on November 30 at the New York Academy of Medicine in New York City. Dr. John C. Whitehorn, professor of psychiatry at Johns Hopkins University, spoke on "Psychiatric Education and Progress."

Physicians in Inactive Reserve—New York State doctors who have been appointed by the U.S. Department of Health, Education, and Welfare to the inactive reserve component of its commissioned officer corps, are: Dr. Joseph F. Bivona, clinical instructor in obstetrics and gynecology at Metropolitan Hospital and assistant obstetrician and gynecologist at Misericordia Hospital in New York City, appointed with the rank of surgeon; Dr. Ray E. Helfer, Syracuse, appointed with the rank of Assistant Surgeon, and Dr. John J. Ippolito, surgical assistant resident at Montefiore Hospital in New York City, appointed with the rank of senior assistant surgeon.

Tobacco Research Awards—New York State recipients of Tobacco Industry Research Committee grants amounting to more than $355,000 include: Dr. Frank C. Ferguson, Jr., Albany Medical College, Albany, for research on "Effects of tobacco smoke upon the function of the cardiovascular system in animals and man"; Dr. Charles E. Sherwood, University of Rochester, for "Investigation into the natural history of carcinoma of the lung with particular reference to the radiographic appearance of such processes, the earliest manifestation of cancer on chest x-rays and the tabulation of the relationship of smoking habits and occupation with the incidence of lung cancer," and Dr. Janet Travell, Cornell University Medical College, New York City, for research on "Electrocardiographic effects of nicotine in the rabbit with experimental coronary atherosclerosis."

Medical Officers Examinations—A competitive examination for appointment of medical officers to the Regular Corps of the United States Public Health Service will be held in various places throughout the country on March 20, 21, and 22.

Entrance examinations will include an oral interview, physical examination, and comprehensive objective examinations in the professional field. Application forms may be obtained from the Chief, Division of Personnel, Public Health Service, Department of Health, Education, and Welfare, Washington 25, D.C. Completed application forms must be received in the Division of Personnel no later than February 10.

Personalities

Elected

Dr. Margaret W. Barnard, associate professor at Columbia University's School of Public Health and Administrative Medicine, to the board of directors of the New York Tuberculosis and Health Association...Dr. Harold Brandaleone, medical director of the Third Avenue transit system, as president of the New York State Society of Industrial Medicine, Inc....Dr. Chester O. Davison, former head of Vassar Hospital's Radiology Department, as vice-president of the board of directors of United Medical Service...Dr. James Finlay Hart, adjunct professor of medicine at the New York Polyclinic Medical School, as president of the New York Diabetes Association...Dr. Robert L. Nach, Yonkers, as president of the Junior Medical Board of the Hospital for Joint Diseases in New York City.

Appointed

Dr. Jacob R. Handelsman, New Hyde Park, as director of medicine of the Menorah Home and Hospital for the Aged, in Brooklyn...Dr. Joseph L. McGoldrick, promoted from deputy to chief surgeon of the Police Department of New York City... Dr. Howard A. Rusk, chairman of the Department of Physical Medicine and Rehabilitation at the New York University-Bellevue Medical Center in New York City, as a member of the State Public Health Council...Dr. Arthur Zitrin, assistant clinical professor of psychiatry at New York University College of Medicine, as director of the psychiatric service of Bellevue Hospital Center, succeeding Dr. Lewis I. Sharp.

Speakers

Dr. Virginia Apgar, chief of anesthesiology at Presbyterian Hospital in New York City, before the Geneva Academy of Medicine at the Belhurst in Geneva on December 19, on "Resuscitation and Anesthesia Problems"...Dr. Charles P. Bailey, professor of thoracic surgery at Hahnemann Medical College in Philadelphia, before the Sullivan County Medical Society on December 7 at the Liberty-Maimonides Hospital in Liberty, on "Surgical Treatment of Coronary Disease"...Dr. Jere W. Lord, professor of clinical surgery at New York University Post-Graduate Medical School, New York City, before Rensselaer County Medical Society in Troy on December 15, on "Diagnosis and Management of Obstructive Lesions of the Arteries"...Dr. Eugene L. Lozner, associate professor of medicine at the State University of New York College of Medicine at Syracuse, before the Otsego County Medical Society in Oneonta on December 15, on "Recent Advances in Hematology"...Dr. Nathaniel E. Reich, Brooklyn, at the eighth annual post graduate course sponsored by the American College of Chest Physicians in New York City on November 18, and at the New York Cardiological Society on December 8 on "Atypical Clinical Features of Coronary Occlusion"...Dr. Howard A. Rusk, chairman of the Department of Physical Medicine and Rehabilitation at the New York University-Bellevue Medical Center, New York City, at a dinner commemorating the centennial of the Massachusetts Memorial Hospitals on November 21...Dr. M. L. Tainter, director of the Sterling-Winthrop Institute, Rensselaer, before the New York Academy of Sciences in New York City on December 1, on "Triumph of the Experimental Method"...Dr. Charles F. Wilkinson, Jr., professor of medicine and chairman of the Department of Medicine of the New York University Medical School, and Dr. Harry Gold, professor of clinical pharmacology at the Cornell University Medical College, before the second annual Graduate Symposium on Geriatric Medicine sponsored by the American Geriatrics Society and the Schering Corporation in New York City on November 30.

New Offices

Dr. John A. Bell, New York City, in practice with the Fishkill Medical Group at Fishkill...Dr. Joseph L. Blanchard, Mount Kisco, practice of obstetrics in association with Dr. Donald W. Richie in Croton Falls...Dr. Irving H. Dreishpoon, Poughkeepsie, practice of obstetrics and gynecology in Wappingers Falls...Dr. Manuel Green, general practice in Schenectady...Dr. Deborah B. Kaplan, practice of pediatrics in Potsdam...Dr. William F. Lee, Jr., practice of general surgery in Saratoga Springs in association with Dr. William H. Moore and Dr. Robert Rockwell...Dr. Paul Rist, general practice in Manlius...Dr. Charles Scuderi, general practice in Marlborough...Dr. M. E. Waite, practice of pediatrics in Rochester.

Resigned

Dr. Thomas M. Watkins, as chief surgeon of Massena Memorial Hospital in Massena.

NEWS FROM THE MEDICAL SCHOOLS

Albany Medical College

Awarded—Trustee prizes awarded to six students for proficiency in first- and second-year courses recently are: Rollin M. Galster, Scotia, the Award in Pharmacology; first Daggett Prize in Anatomy to John E. Glennon, Kingston; Townsend Physiology Prize to A. Robert Beck, New York City; second Daggett Prize in Anatomy to Nathaniel Silon, Brooklyn, as well as the Henry Schaffer Trustee's Award in Biochemistry. Trustees Award in Pathology to Robert C. Yates, Great Neck, Long Island, and the Elmer Schacht Trustee's Award in Microbiology to Robert D. Nani, Los Angeles, California.

Elected—Dr. Eldridge Campbell, professor of surgery and chairman, Department of Surgery, has been elected to the chairmanship of the American Board of Neurological Surgery.

Television Show—Dr. Ralph D. Alley, instructor in surgery, Dr. John C. McClintock, assistant clinical professor of surgery, and Dr. Paul F. Formel, instructor in medicine, participated in a live television show "Heart Beat" on November 28.

Annual Alumni Clinical Day—The annual Alumn Clinical Day was held on November 17 and covered the recognition and treatment of the acute rheumatic process in children and the medical and surgical management of the advanced case. Participants in the panel were: Dr. Paul F. Formel, instructor in medicine, moderator; Dr. John F. Filippone, associate professor of medicine and head, Sub-Department of Cardiovascular Diseases; Dr. G. Rehmi Denton, assistant professor of surgery; Dr. John E. Gainor, assistant clinical professor of pediatrics; Dr. John J. A. Lyons, associate professor of medicine, and Dr. Thomas P. Engster, 1942 alumnus from Troy. Dr. Howard R. Craig, director, New York Academy of Medicine, spoke on "What Price Retirement?"

Dr. Philip D. Allen, president, Alumni Association, presided at the luncheon and the speakers were Drs. John L. Edwards, Hudson; Dr. Harold C. Wiggers, Dean, and Dr. Frank M. Woolsey, Jr., associate dean and director, postgraduate education; Dr. Thomas Hale, Jr., director, Albany Hospital.

University of Buffalo School of Medicine

Postgraduate Course—A postgraduate course on "Infectious Diseases" was held on December 7. Participating in the course were: Dr. Ivan L. Bennett, Jr., associate professor of medicine, Johns Hopkins University School of Medicine; Dr. Paul A. Bunn, associate professor of medicine, State University College of Medicine at Syracuse; Dr. George T. Harrell, Jr., Dean, University of Florida College of Medicine; Dr. Kenneth M. Alford, associate in pediatrics; Dr. Wendell R. Ames, associate professor of preventive medicine and public health; Dr. John T. Crissey, assistant clinical professor of dermatology and syphilology; Dr. Donal Dunphy, associate in pediatrics; Dr. David T. Karzon, assistant professor of pediatrics; Dr. Nathaniel Kutzman, assistant professor of urology; Dr. Joseph E. MacManus, associate clinical professor of surgery; Dr. David K. Miller, professor of medicine; Dr. Erwin Neter, assistant professor of pediatrics; Dr. Paul R. Swanson, assistant clinical professor of medicine; Dr. John H. Talbott, professor of medicine; Dr. Louis A. Trippe, assistant clinical professor of obstetrics and gynecology; Dr. Warren Winkelstein, Jr., associate in preventive medicine and public health; and Dr. Ernest Witebsky, professor of bacteriology and immunology.

New York University-Bellevue Medical Center

Symposium—A full-time course of five days duration under the direction of Dr. Edith M. Lincoln and Dr. Margaret M. H. Smith, "Symposium on Tuberculosis and Other Pulmonary Diseases in Childhood," is open for applications. The sessions will be held from March 12 through 16 and June 4 through 8.

A part-time course on "Recent Advances in Tuberculosis in Children" will be given Thursday afternoons from January 12 through March 29 under Drs. Lincoln and Smith. Further information can be obtained by writing to Office of the Dean, Post-Graduate Medical School, 550 First Avenue, New York 16, New York.

State University of New York College of Medicine at New York City

Appointments—Dr. Jacob David Goldstein, formerly associate professor in medicine and bacteriology at the University of Rochester Medical School, took over the joint post of professor of medicine at the College, and chief of medicine at the Jewish Hospital of Brooklyn, in November. This appointment was part of the recent affiliation between the College's Department of Medicine and the Hospital's Medical Service.

Dr. Thomas N. A. Jeffcoate, professor of obstetrics and gynecology at the University of Liverpool, served as visiting professor in the Department of Obstetrics and Gynecology for the month of November. During his stay he addressed the New York Obstetrical Society and the Brooklyn Gynecological Society.

Study of Philippine Medical Education—Dr. Jean A. Curran, associate executive dean for medical education of the State University, and professor of history of medicine at the College, is on a three months leave of absence to conduct a survey of medical education in the Philippine Islands for the World Health Organization. His assignment calls for a study of the 5 Philippine Medical Colleges and of other related health projects, such as nursing and student health. He plans to return to the United States via Formosa, Japan, Korea, and Hawaii.

Grants—The College has been awarded $170,071 in 16 research grants from the United States Public Health Service from fiscal year 1956 funds. These grants were recommended by the National Advisory Councils to the Public Health Service at their last series of meetings in October. The largest grant of $22,766 went to Dr. Herman A. Witkin, associate professor in the Department of Psychiatry, for his research into the relationships between perception and personality. The second largest grant of $21,572 went to Dr. Clarence Dennis, professor of surgery, for his work on the development of an artificial heart-lung apparatus.

Josiah Macy, Jr. Foundation Scholarships in Reproduction—The College has received a grant of $24,000 from the Josiah Macy, Jr. Foundation to support a program of student research scholarships in the field of reproduction. The grant will be divided into five awards of $4,800 to provide eight Josiah Macy, Jr. Foundation Scholarships in reproduction each year for five years.

Medical History Gift—Dr. Frank L. Babbott, former president of the Long Island College of Medicine, the predecessor of the State University College of Medicine at New York City, has donated to the medical history section of the College Library his copies of the plates from Andreae Vesalius' Collections of Icones Anatomicae and Tabulae Selectae. These copies are part of a limited printing made from original wood blocks by the New York Academy of Medicine after the blocks had been rediscovered in Germany about twenty-four years ago.

The William Dock Student Loan Fund—Dr. Samuel A. Levine, clinical professor of medicine at Harvard Medical School, has donated $1,000 to the College to set up a student loan fund in honor of Dr. William Dock, professor of medicine at the College since 1944.

State University of New York College of Medicine at Syracuse

American Public Health Association—Dr. Herbert Notkin, clinical associate professor; Dr. Joseph K. Hill, assistant professor, and Dr. William A. Harris, assistant professor and dean in charge of postgraduate medicine, Department of Public Health and Preventive Medicine, attended the annual meeting of the American Public Health Association in Kansas in November.

Appointed—Dr. Harry A. Feldman, associate professor of medicine since January, 1949, has been appointed chief of a new section of preventive medicine in the Department of Public Health and Preventive Medicine.

Speakers—Dr. Sheila Sherlock, Hammersmith Hospital, Postgraduate Medical School, and Dr. D. Geraint James, Middlesex Hospital, both from the University of London, spoke at the University on December 12 and 13. Dr. Sherlock spoke on "Hepatic Metabolism of Ammonia in Man" and "Blood Ammonia Concentration in Liver Disease," and Dr. James talked on "Sarcoidosis-Clinical Discussion."

Dr. J. Christain Siim, head, virus and toxoplasma division, State Serum Institute, Copenhagen, Denmark, visited the College on November 30 and lectured to the second year class on "Acquired Toxoplasmosis."

Dr. Silvano Arieti, clinical associate professor of psychiatry, State University College of Medicine in New York City, spoke on "The Two Aspects of Schizophrenia" and "Treatment of Borderline Patients" on December 2.

Dr. Alan Burton, professor of physiology and biophysics, University of Western Ontario, visited the College in his position as president-elect of the American Physiological Society and gave a seminar which was sponsored by Dr. Gordon Moe, professor and chairman, Department of Physiology, on "Temperature Regulation."

Dr. Harry A. Feldman, associate professor and chief, section of preventive medicine, Department of Public Health and Preventive Medicine, took part in the symposium on "Some Protozoan Diseases of Man and Animals" which was held in November at the Barbizon Plaza Hotel, New York City, at a meeting of the New York Academy of Sciences. Dr. Feldman spoke on "Congenital Human Toxoplasmosis."

Panel Members—Dr. Irving L. Erschler, clinical professor of medicine, Dr. James A. Halsted, director of professional services at the VA Hospital and associate professor of medicine; Dr. Richard H. Lyons, professor and chairman of medicine, and Dr. William R. Willard, dean and professor of public health and preventive medicine, were on the panel at the second in the Medicine and Society series, November 22, which discussed "What's Ahead in Medical Care?"

Grant—A grant of $5,000 has been awarded for the employment of a teaching and research fellow in chest diseases by a new joint fund for medical education and research established by the State Committee on Tuberculosis and Public Health and the New York Heart Assembly. TB Christmas Seal sales, heart funds, and special bequests and gifts are all contributors to this joint fund. Dr. Gerard Eastman, instructor, has been awarded the grant which is the first to be given in this State and will do his research under the direction of Dr. Attilio D. Renzetti, Jr., and Dr. J. Howland Auchincloss, assistant professor of medicine, in the laboratories of the Veterans Administration Hospital.

CORRESPONDENCE

Formation of Professional Group on Medical Electronics

To the Editor:

We are presently organizing a New York Metropolitan Area Chapter of the Professional Group on Medical Electronics of the Institute of Radio Engineers. Mr. Carl Berkley is the acting chairman and Mr. D. G. Aviv and Mr. W. E. Tolles are acting vice-chairmen.

The lack of liaison between the physicians and the engineers has resulted in a very serious delay between the development of electronics and the use of said advances in electronics in medicine. It is hoped that this group will help to bridge the medical and engineering sciences.

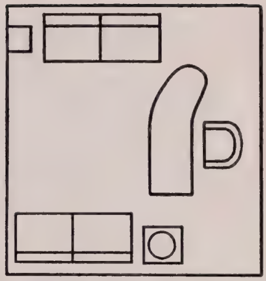
The members of the medical profession who have an interest in the application of electronic methods in medicine are cordially invited to join our group.

Our group plans also to function as a linking member between the physicians and engineers by receiving various scientific problems presented by physicians and submitting them to the members of the group who may be interested in working on the particular problem in question. The members of the medical profession may submit their problems regardless of whether they actually join our group or not.

Please address your communications to the acting secretary of the group at the address given below.

E. E. Sheldon, M.D.
Acting Secretary

509 Fifth Avenue
New York 17, New York



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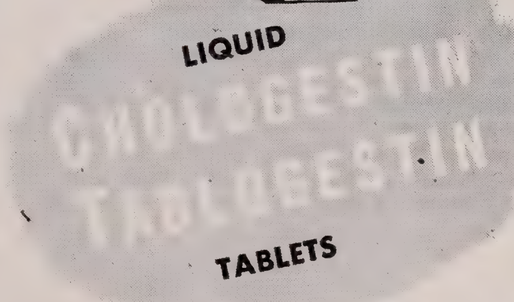

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Woman's Auxiliary
to the MEDICAL SOCIETY OF THE STATE OF NEW YORK

A Review of the Woman's Auxiliary Program

THE prime objectives of the Auxiliary's program for 1955-1956 are to interpret and transmit authentic health information to the general public, to guide the public's use of available health resources, to inform our own membership through the presentation of stimulating programs, and to give service to our communities.

Two new projects the Auxiliary will emphasize this year are child and home safety and problems of the aging. The Auxiliary will demonstrate that protection, supervision, and education help prevent child accidents and that by constantly providing good examples, adults teach children the habit of carefulness.

GEMS (Good Emergency Mother Substitutes), an Auxiliary-sponsored course for high-school students who serve as baby sitters, will also provide valuable training for teenagers and teach them the meaning of personal responsibility.

When talking about home safety Auxiliary members stress simple common sense precautions to eliminate home accidents. We also highlight the great amount of medical manpower which is required to offset the injuries caused by avoidable home accidents.

Problems of the aging is a new project and as yet the Auxiliary plans are still in the formative stage, but we aim, when possible, to provide leadership and to cooperate with other groups whose objective it is to show the community that the problem of the aging is and should be a concern of everyone.

In the field of mental health our county auxiliary chairmen cooperate with community service councils and stress the value of preventive mental hygiene programs.

Our State Auxiliary officers and chairmen always point out that a direct request from a county medical society to its auxiliary for assistance takes precedence over county auxiliary participation in Statewide auxiliary programs.

The State Auxiliary has more than 27 State committees. These committees—ranging from Chairman for the American Medical Education Foundation to the Chairman for Voluntary Health Plans—work very closely with their respective county auxiliary chairmen who in turn coordinate all their plans and programs with those of the county medical society chairmen.

Among the committee chairmen who work very closely with the State and county medical society chairmen are the chairmen of legislation, public relations, and voluntary medical care plans and mental health. Both State and county auxiliary chairmen appeal to the State and county medical societies to keep them informed of their committee's activities so that the Auxiliary members will be prepared to promote them from within at the women's organizations throughout the State.

Those Auxiliary committees engaged in promoting the auxiliary program include the State Fair, Health Poster Contest, Nurse Recruitment and Nursing Scholarships, and Child and Home Safety.

The Auxiliary theme for this year is "Leadership in Action." As Auxiliary chairman of the program committee for the State Auxiliary, I feel certain I speak for all county auxiliary program chairmen when I ask the chairmen of the Advisory Committees to the Woman's Auxiliary of the State and county societies to tell us the type of programs they believe would help advance the progress and practice of medicine in our State and we will see to it that knowledge of these programs reaches all the women of New York State.

MRS. EUGENE F. WOLFF, *Chairman*
Program Committee

The female knee is a joint and not an entertainment.—PERCY HAMMOND

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BOOKS RECEIVED

(The following books were received during the month of November, 1955)

Health, Culture and Community. Case Studies of Public Reactions to Health Programs. Edited by Benjamin D. Paul, Ph.D. Octavo of 493 pages. New York, Russell Sage Foundation, 1955. Cloth, $5.00.

Polio Pioneers. The Story of the Fight Against Polio. By Dorothy and Philip Sterling. Photographs by Myron Ehrenberg and the National Foundation for Infantile Paralysis. Octavo of 128 pages, illustrated. New York, Doubleday & Co., 1955. Cloth, $2.75.

Transactions of the Third Conference on Administrative Medicine, October 6, 7, and 8, 1954, Princeton, N.J. Edited by George S. Stevenson, M.D. Octavo of 172 pages. New York, Josiah Macy, Jr. Foundation, 1955. Cloth, $3.00.

Rheumatoid Arthritis and Psoriasis Vulgaris. Internal and Cutaneous Manifestations of the Permanent Endoparasitism in the Homo Sapiens. Their Common Etiology, Pathogenesis, and Specific Vaccine Therapy. By Tibor Benedek, M.D. Quarto of 308 pages, illustrated. 25 East Washington St., Chicago, The Author, (Chicago, Chicago Medical Book Company), 1955.

Medical Research: A Midcentury Survey. Vol. I. American Medical Research: in Principle and Practice. Vol. II. Unsolved Clinical Problems: in Biological Perspective. Octavo. 765 pages; 740 pages. Published for The American Foundation, New York. Boston, Little, Brown & Company, 1955. Cloth, $15, set of two volumes.

Modern Nutrition in Health and Disease. Dietotherapy. Edited by Michael G. Wohl, M.D., and Robert S. Goodhart, M.D. 55 Contributors. Octavo of 1,062 pages. 80 illustrations. Philadelphia, Lea & Febiger, 1955. Cloth, $18.50.

Reçueil Périodique de l'Encyclopédie Médico-Chirurgicale paraissant cinquante-quatre fois par an, à raison de deux cahiers pour chacune des matières. Section #38–39, Médecine du Travail, Intoxications, Maladies par Agents Physiques. Folio. v.p. Paris, Editions Techniques, 1955.

The Relief of Symptoms. By Walter Modell, M.D. Octavo of 450 pages, illustrated. Philadelphia, W. B. Saunders Company, 1955. Cloth, $8.00.

An Elementary Textbook of Psychoanalysis. By Charles Brenner, M.D. Octavo of 219 pages. New York, International Universities Press, 1955. Cloth, $4.00.

Pathology Seminars. By Lauren V. Ackerman, M.D., Arthur C. Allen, M.D., Col. J. E. Ash, M.D., Arthur Purdy Stout, M.D., and Rupert A. Willis, M.D. Edited by Robert S. Haukohl, M.D., and W. A. D. Anderson, M.D. Quarto of 195 pages, illustrated. St. Louis, C. V. Mosby Company, 1955. Cloth, $10.

Community Programs for Mental Health. Theory, Practice, Evaluation. Edited by Ruth Kotinsky and Helen L. Witmer. Contributors: Barbara Biber, Ph.D., H. E. Chamberlain, M.D., Sol W. Ginsburg, M.D., Robert R. Holt, Ph.D., *et al.* Octavo of 362 pages. Cambridge, Mass., Published for The Commonwealth Fund by Harvard University Press, 1955. Cloth, $5.00.

Planning Florida's Health Leadership. Vol. 5. Medical Education in the University. Edited by Louis J. Maloof, M.A. Octavo of 161 pages, illustrated. Gainesville, University of Florida Pr., 1955. Paper, $1.50.

Selected Readings on Rehabilitation. Compiled and edited by the Staff Development Section of the Office of Methods and Training, Illinois Public Aid Commission. Quarto of 159 pages. Chicago, The Commission, 1955.

How to Reduce Surely and Safely. By Herbert Pollack, M.D., with Arthur D. Morse. Illustrated by Elizabeth D. Logan. Octavo of 157 pages, illustrated. New York, McGraw-Hill Book Company, 1955. Cloth, $2.95.

Classics of Biology. By August Pi Suner, M.D. Authorized English Translation by Charles M. Stern. Octavo of 337 pages. New York, Philosophical Library, 1955. Cloth, $7.50.

Atopic Dermatitis. Edited by Rudolf L. Baer, M.D. Contributors, Marion B. Sulzberger, M.D., Robert R. Kierland, M.D., A. Rostenberg, Jr., M.D., Thomas H. Sternberg, M.D., and Victor D. Newcomer, M.D. Duodecimo of 112 pages, illustrated. New York University Press, distributed by J. B. Lippincott Company, Philadelphia, 1955. Board, $2.50.

The Medical Clinics of North America. Philadelphia Number. November, 1955. Index 1953–1955. Octavo. Illustrated. Philadelphia, W. B. Saunders Company, 1955. Published Bimonthly (six numbers a year). Cloth, $18 net; paper, $15 net.

Of Research People. By George E. Burch, M.D.

[Continued on page 142]

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Quarto of 66 pages, illustrated. New York, Grune & Stratton, 1955. Paper, $3.00.

Obstetrical Practice. By Alfred C. Beck, M.D., and Alexander H. Rosenthal, M.D. Sixth Edition. Quarto of 1,066 pages, illustrated. Baltimore, Williams & Wilkins Company, 1955. Cloth, $12.

BOOKS REVIEWED

Pathology for the Surgeon. By William Boyd, M.D. Seventh edition. Quarto of 737 pages, 547 illustrations. Philadelphia, W. B. Saunders Company, 1955. Cloth, $12.50.

To quote from the preface which is so important, "In rewriting the volume I have in mind the graduate rather than the undergraduate, the surgeon rather than the pathologist, the young rather than the old, in other words, the interne or resident who has to refresh his memory of pathology for the examinations of the specialty boards in the United States and those of the Royal College of Surgeons in Britain, in Canada and in Australia." It is remarkable how much information Boyd has been able to crowd in 711 pages with 547 illustrations, including ten in color. The material is up to date, clear, concise, and so well written that it flows like a story and keeps one interested and eager to know more. This the reader can do if he is anxious and has the time because at the end of each chapter there are references for further study. The volume is divided into general surgical pathology, eight chapters, and special surgical pathology, 26 chapters, covering most of the surgical pathologic problems encountered in any active surgical department of any of the large medical centers.

One has no hesitancy to recommend enthusiastically this interesting and instructive volume.—GAETANO DE YOANNA

Cerebral Vascular Diseases. Transactions of a Conference Held under the Auspices of the American Heart Association, Princeton, New Jersey; January 24-26, 1954. Irving S. Wright, M.D., Chairman, and E. Hugh Luckey, M.D., Editor. Quarto of 167 pages. New York, Grune & Stratton, 1955. Cloth, $5.50.

In January, 1954, the American Heart Association sponsored a conference on cerebral vascular diseases. The papers and discussions are recorded in this volume. The subject is explored from every aspect. The neurosurgical treatment of aneurysms of the intracranial arteries and the medical treatment of thromboembolic complications of fibrillating cardiacs with anticoagulants and of cerebral vascular accidents are thoroughly discussed. The volume is very well edited. It will interest physicians in practically every field of medicine. It is the finest and most enlightening presentation of the subject that has come to the attention of the reviewer.—LEON M. LEVITT

Adaptive Human Fertility. By Paul S. Henshaw, Ph.D. Octavo of 322 pages, illustrated. New York, The Blakiston Division, McGraw-Hill Book Company, 1955. Cloth, $5.50.

The author has written a most interesting and informative book on the problems of human fertility and population growth. Evidence is given of world increase in population which, if continued at its present rate, would result in exhaustion of the sustaining power of the land and degradation of mankind.

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Gestation, Transactions of the First Conference, March 9, 10, and 11, 1954, Princeton, N.J. Edited by Louis B. Flexner, M.D. Octavo of 238 pages, illustrated. New York, Josiah Macy, Jr. Foundation, 1955. Cloth, $5.00.

This volume contains the transactions of the first conference on gestation of the Josiah Macy, Jr. Foundation and covers the following subjects—the functional role of the placenta, sugar transport of the unguate placenta, the anatomy of the placental barrier, and an appendix listing the enzymes of the human placenta.

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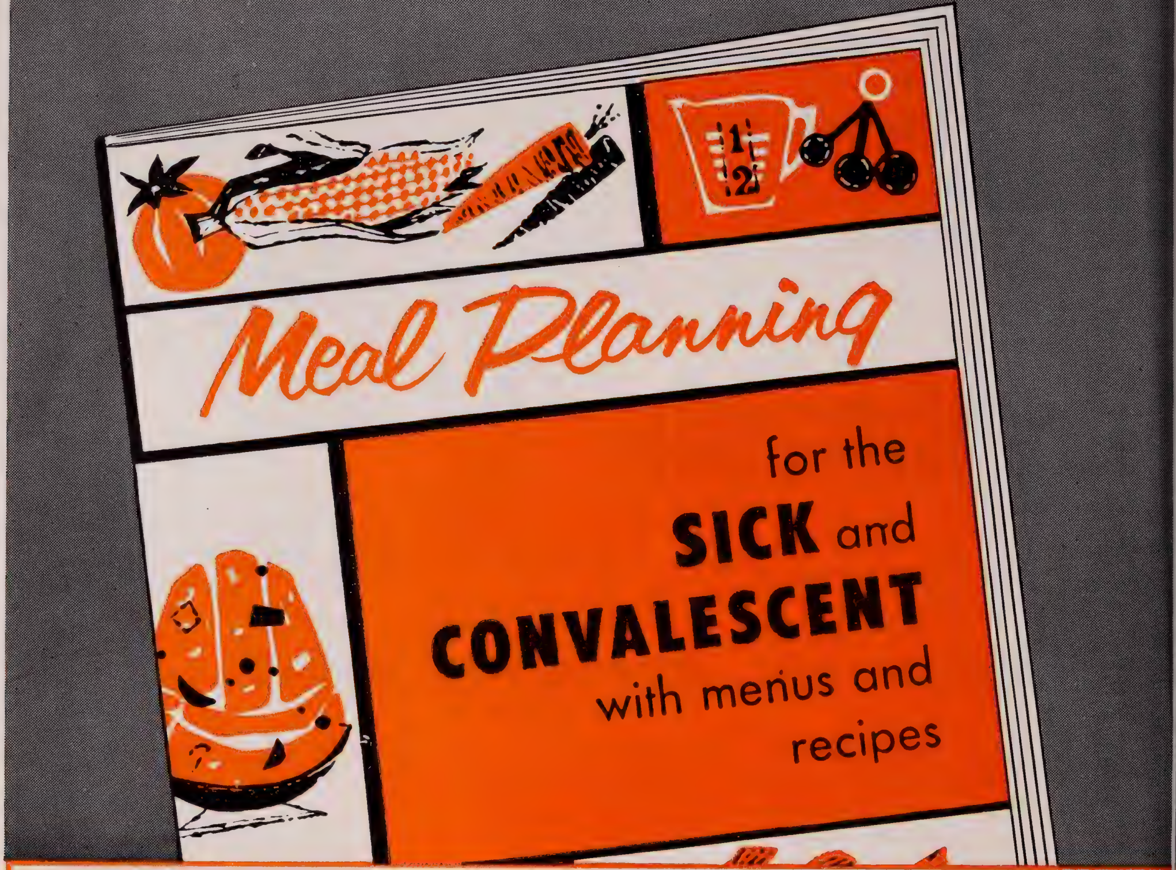
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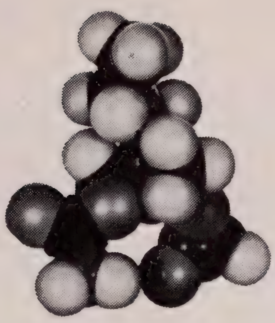

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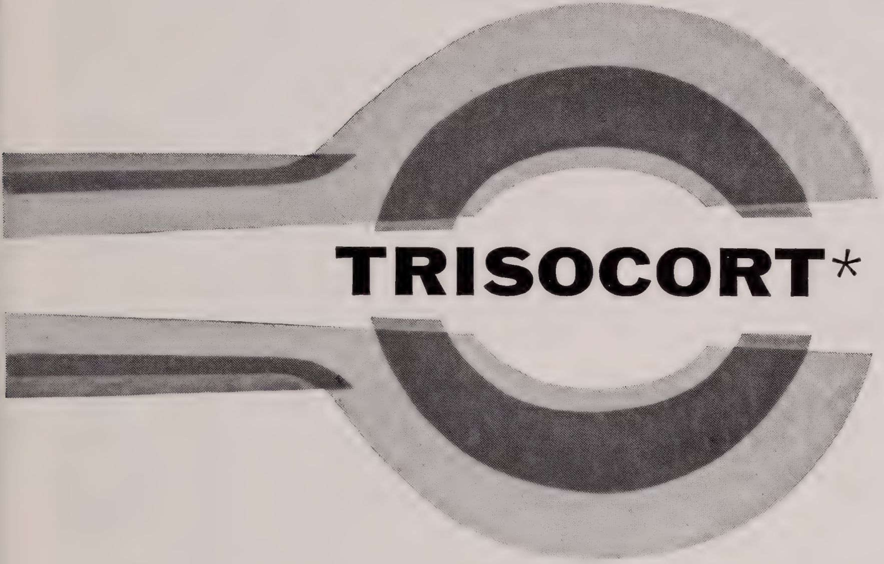

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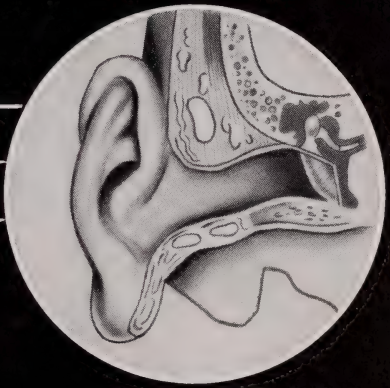

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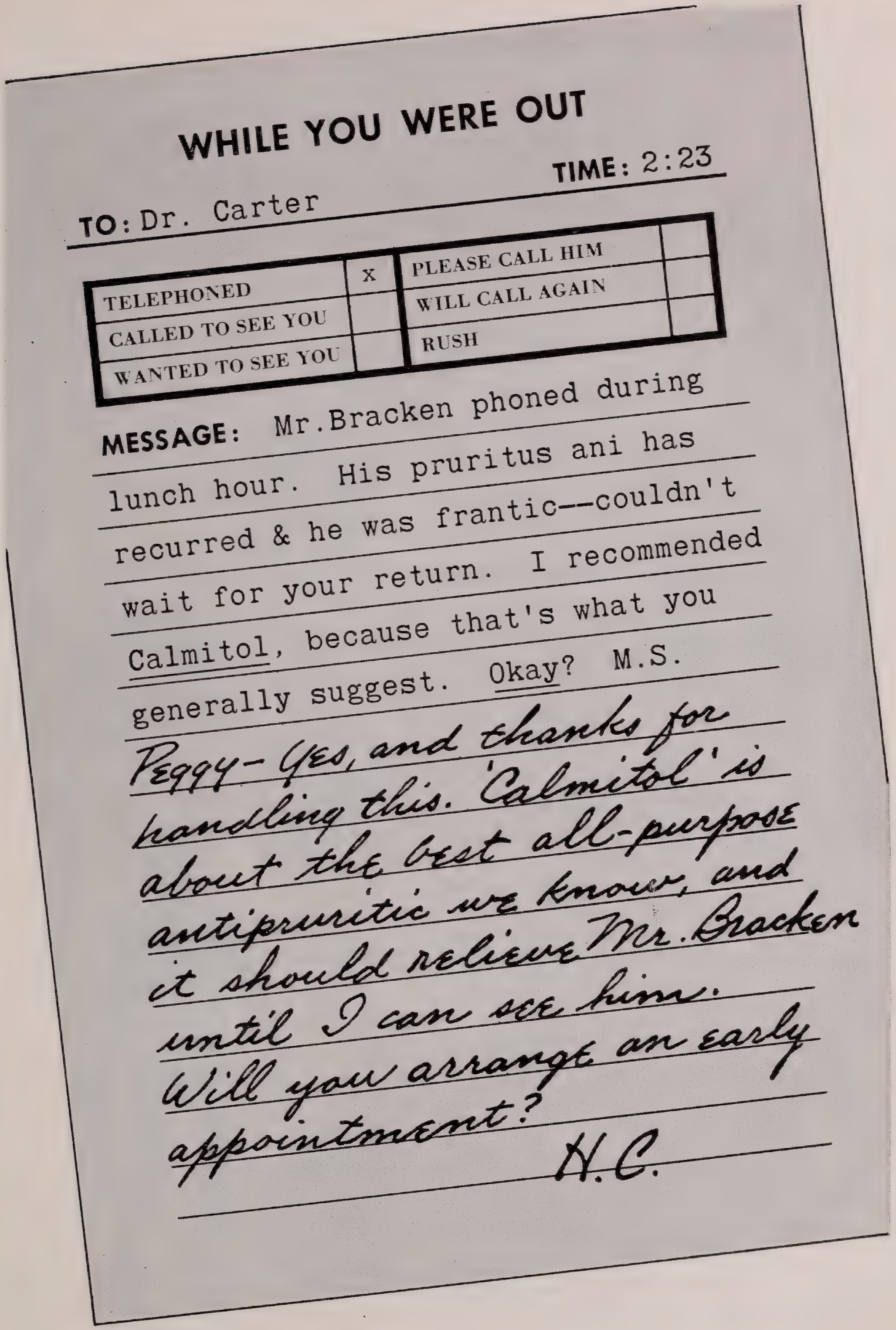

WHILE YOU WERE OUT

TIME: 2:23

TO: Dr. Carter

TELEPHONED	☒	PLEASE CALL HIM	☐
CALLED TO SEE YOU	☐	WILL CALL AGAIN	☐
WANTED TO SEE YOU	☐	RUSH	☐

MESSAGE: Mr.Bracken phoned during lunch hour. His pruritus ani has recurred & he was frantic—couldn't wait for your return. I recommended Calmitol, because that's what you generally suggest. Okay? M.S.

Peggy—Yes, and thanks for handling this. 'Calmitol' is about the best all-purpose antipruritic we know, and it should relieve Mr. Bracken until I can see him. Will you arrange an early appointment? H.C.

✱Calmitol is the non-sensitizing antipruritic supplied in 1½-oz. tubes and 1-lb. jars by Thos. Leeming & Co., Inc., 155 East 44th St., New York 17, N. Y.

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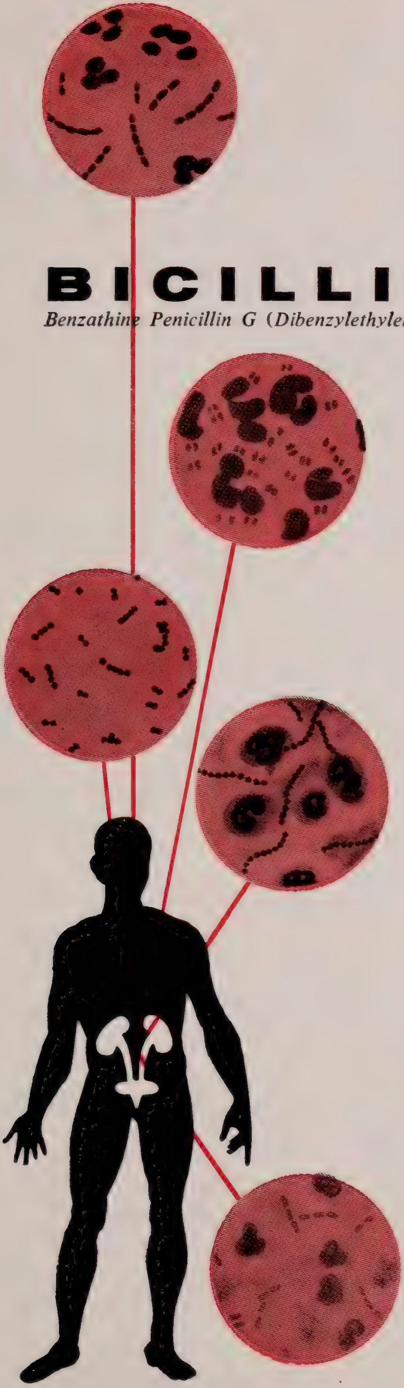

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Benzathine Penicillin G (Dibenzylethylenediamine Dipenicillin G) and Triple Sulfonamides

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*Suspension only

1. Spink, W.W.: J.A.M.A. *152*:585 (June 13) 1953
2. Bush, W.L.: Southern M. J. *45*:870 (Sept.) 1952
3. Berkowitz, D.: Antibiot. &Chem.*3*:618(June)1953

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(*Continued from page 154*)

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THE SOURCE OF
RE-INFECTION CAN BE
THE HUSBAND
IN VAGINAL
TRICHOMONIASIS

"THE available evidence indicates that one of every four or five adult women harbor the parasite."[1] In many cases coitus must be regarded as a method of transfer.[2]

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References: 1. Trussell, R. E.: Trichomonas Vaginalis and Trichomoniasis, Springfield, Ill., Charles C Thomas, 1947. 2. Lanceley, F., and McEntegart, M. G.: Lancet *1*:668 (April 14) 1953. 3. Strain, R. E.: J. Urol. *54*:483 (Nov.) 1945. 4. Karnaky, K. J.: Urol. & Cutan. Rev. *48*:812 (Nov.) 1938.

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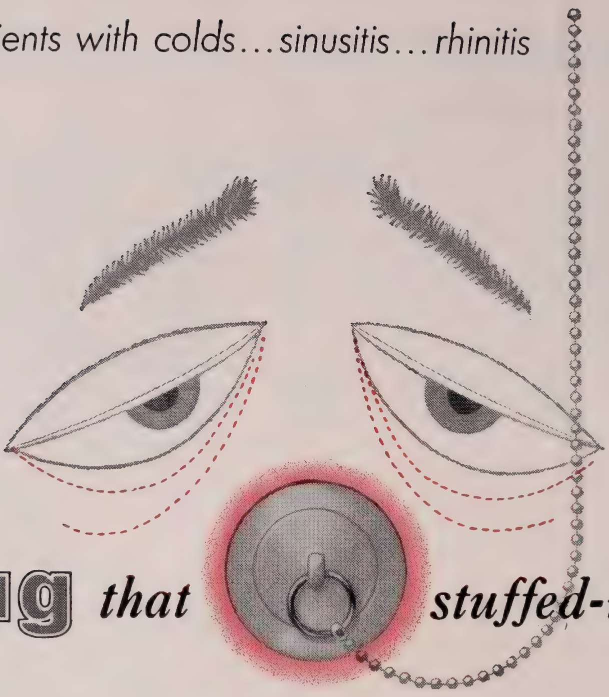
in patients with colds…sinusitis…rhinitis



unplug *that* *stuffed-up nose*

orally *with*

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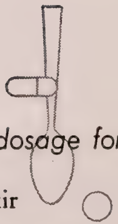

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elixir
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epileptic...
greater
independence

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of
cortisone

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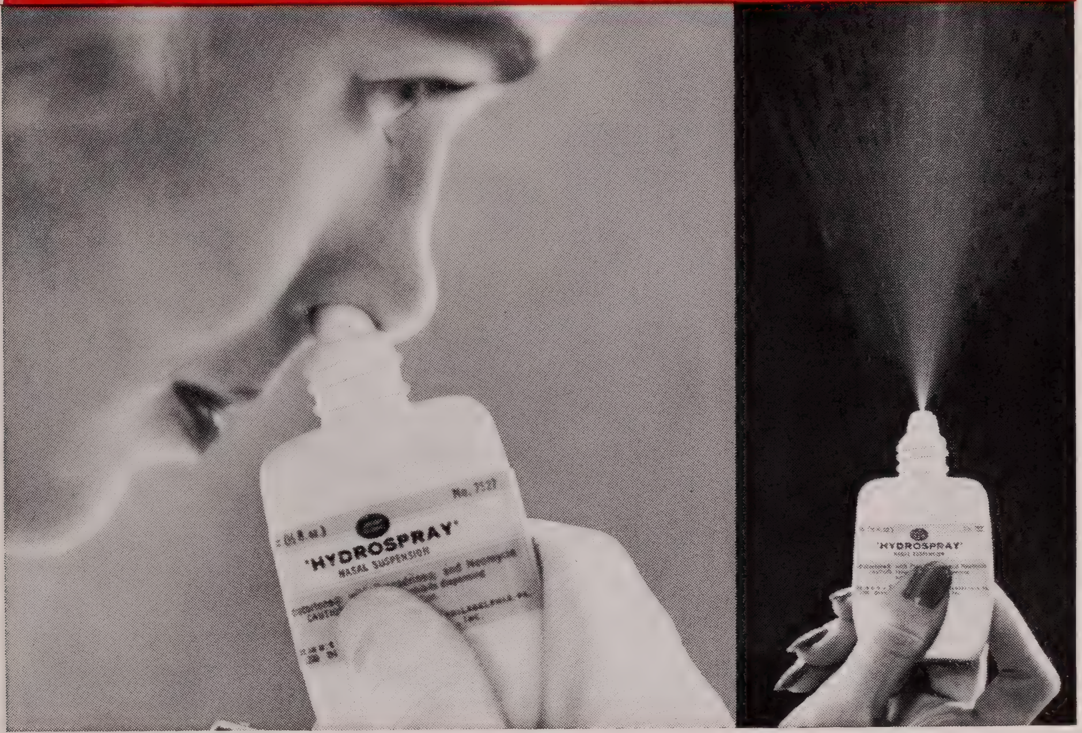

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REFERENCE: 1. Silcox, L. E., *A.M.A. Arch. Otolaryng.* **60**:431, Oct. 1954.

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[1] Cronheim, G., and Toekes, I.M.: Comparison of Sedative Properties of Single Alkaloids of Rauwolfia and Their Mixtures, Meeting of the American Society for Pharmacology and Experimental Therapeutics, Iowa City, Iowa, Sept. 5, 1955.

[2] Moyer, J.H.; Dennis, E., and Ford, R.: Drug Therapy (Rauwolfia) of Hypertension. II. A Comparative Study of Different Extracts of Rauwolfia When Each Is Used Alone (Orally) for Therapy of Ambulatory Patients with Hypertension, A.M.A. Arch. Int. Med. *96*:530 (Oct.) 1955.

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with fastest
tastiest
broad-spectrum
therapy

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[1] Howell, T.H.; Harth, J.A.P., and Dietrich, M.: Practitioner *173*:172.

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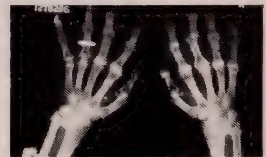

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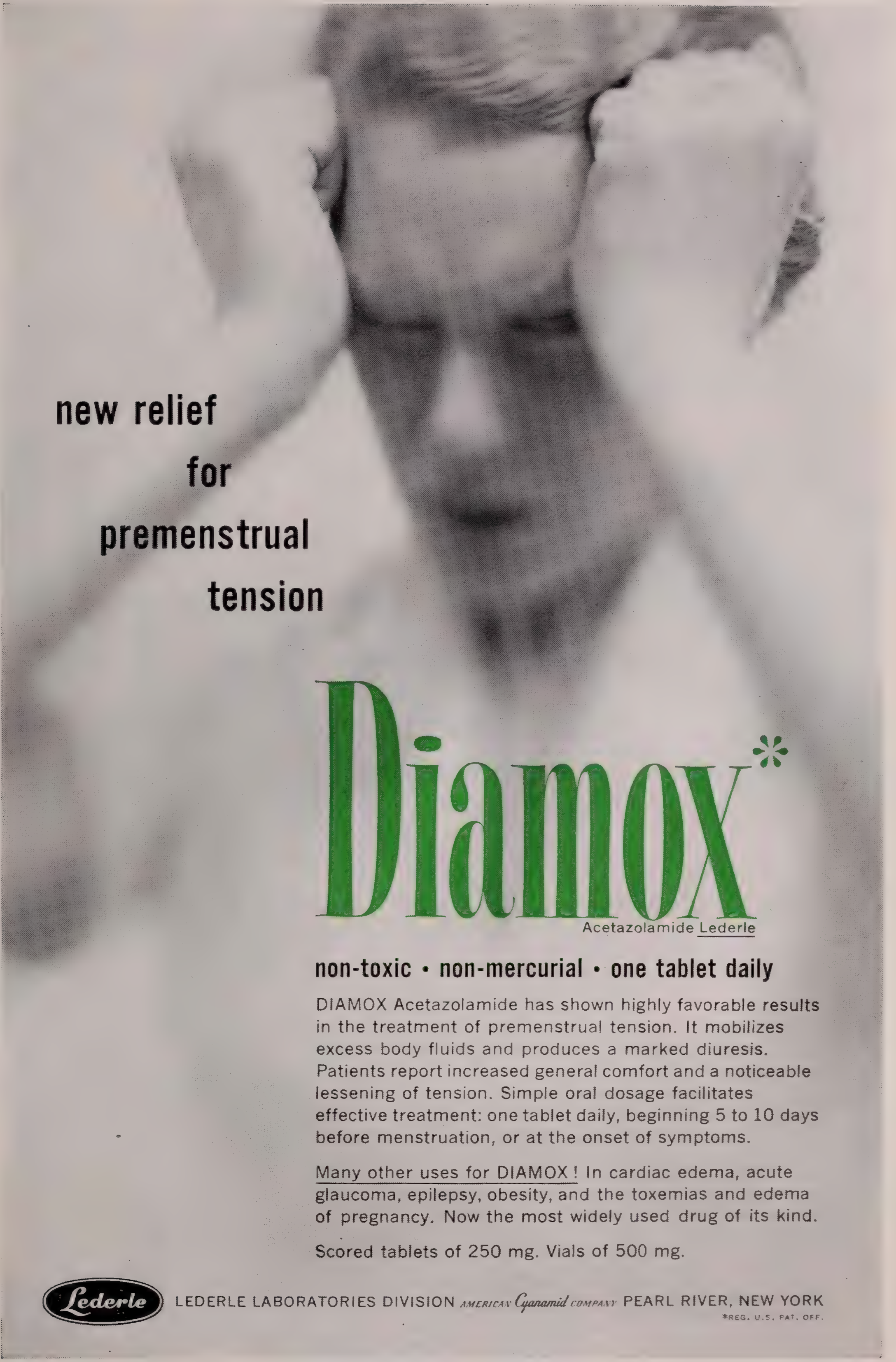

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1. Grayzel, H. G., Heimer, C. B., and Grayzel, R. W.: New York St. J. Med. 53:2233, 1953. **2.** Heimer, C. B., Grayzel, H. G., and Kramer, B.: Archives of Pediatrics 68:382, 1951. **3.** Behrman, H. T., Combes, F. C., Bobroff, A., and Leviticus, R.: Ind. Med. & Surgery 18:512, 1949. **4.** Turell, R.: New York St. J. Med. 50:2282, 1950 **5.** Marks, M. M.: Missouri Med. 52:187, 1955.

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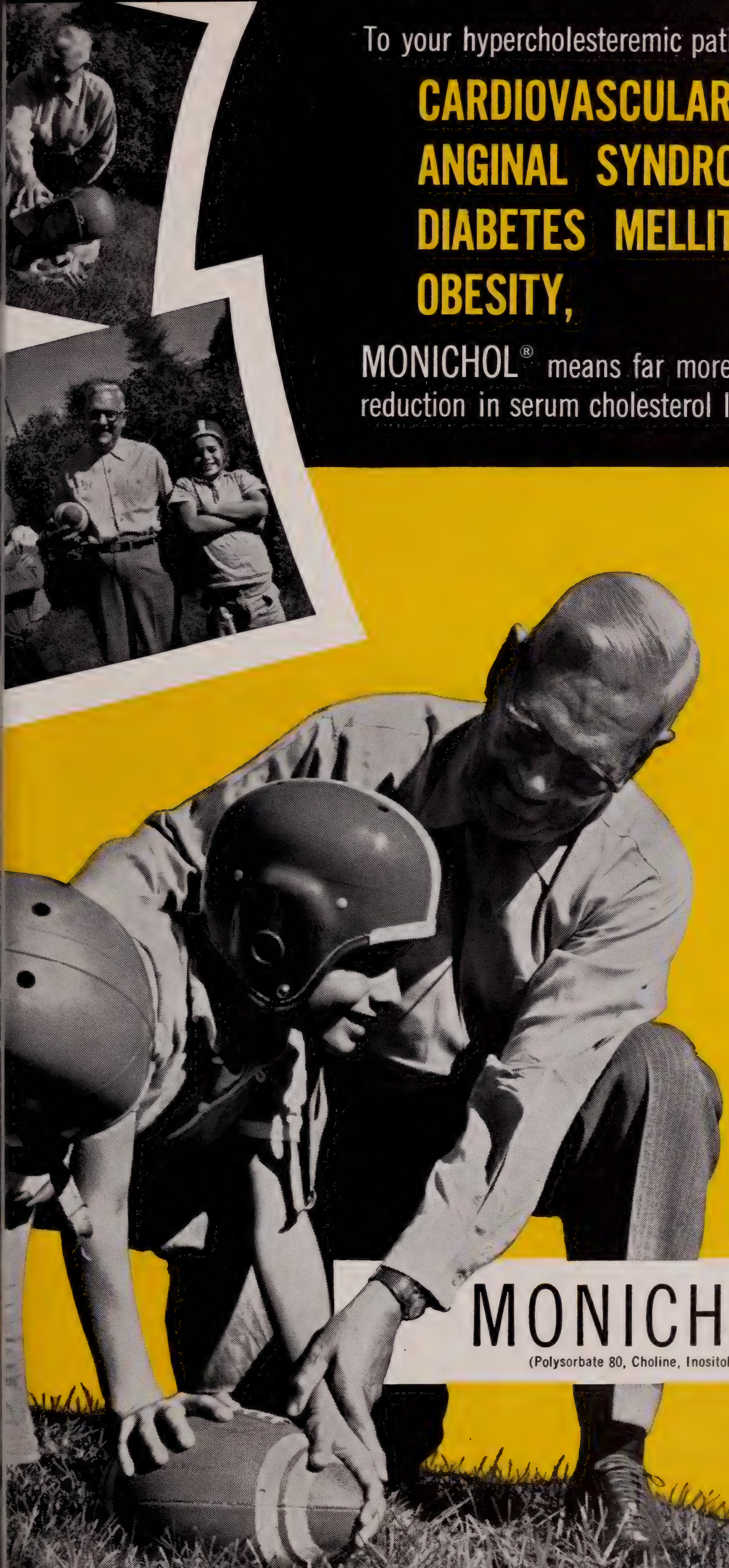

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1. Sherber, D.A., and Levites, M.M.: J.A.M.A. 152:682 (June 20) 1953
2. Albert, A., and Albert, M.: Texas State J. Med. 50:814 (Dec.) 1954.

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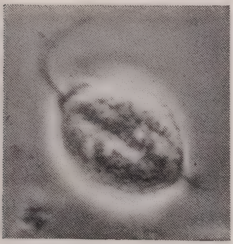

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References: 1. Davis, C. H., and Grand, C. G.: Am. J. Obst. & Gynec. 68:559 (Aug.) 1954. 2. Davis, C. H.: West. J. Surg. 63:53 (Feb.) 1955. 3. Davis, C. H.: J.A.M.A. 157:126 (Jan. 8) 1955.

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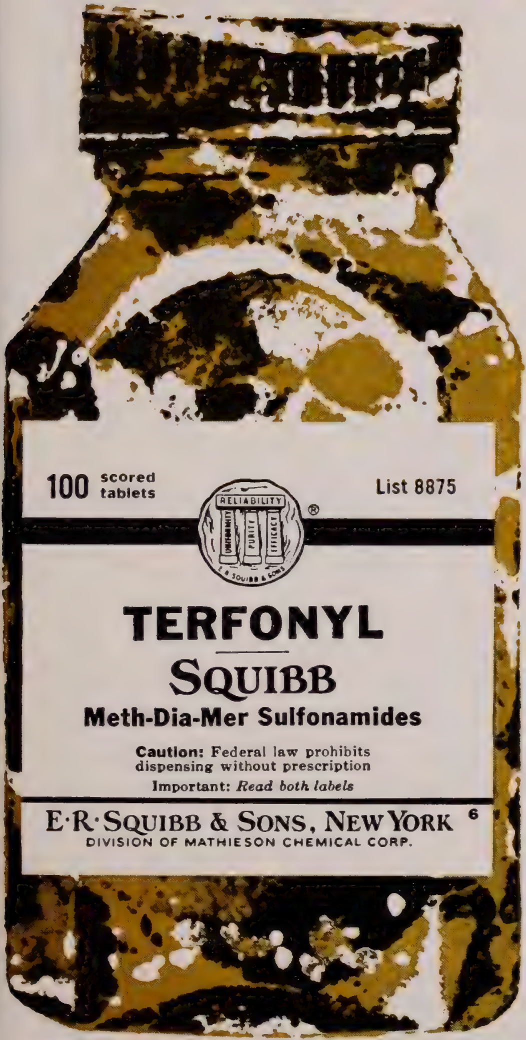
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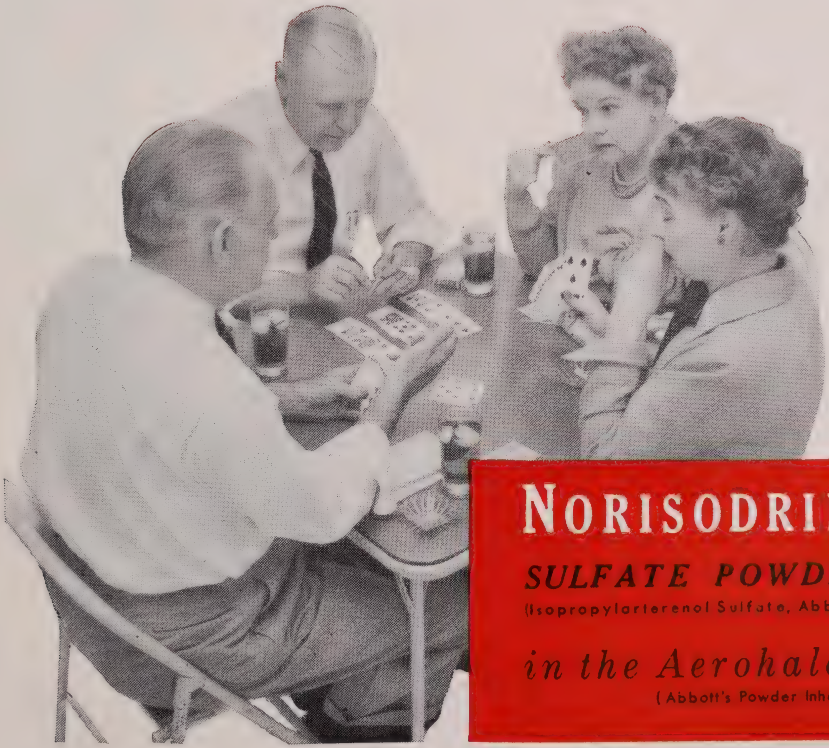

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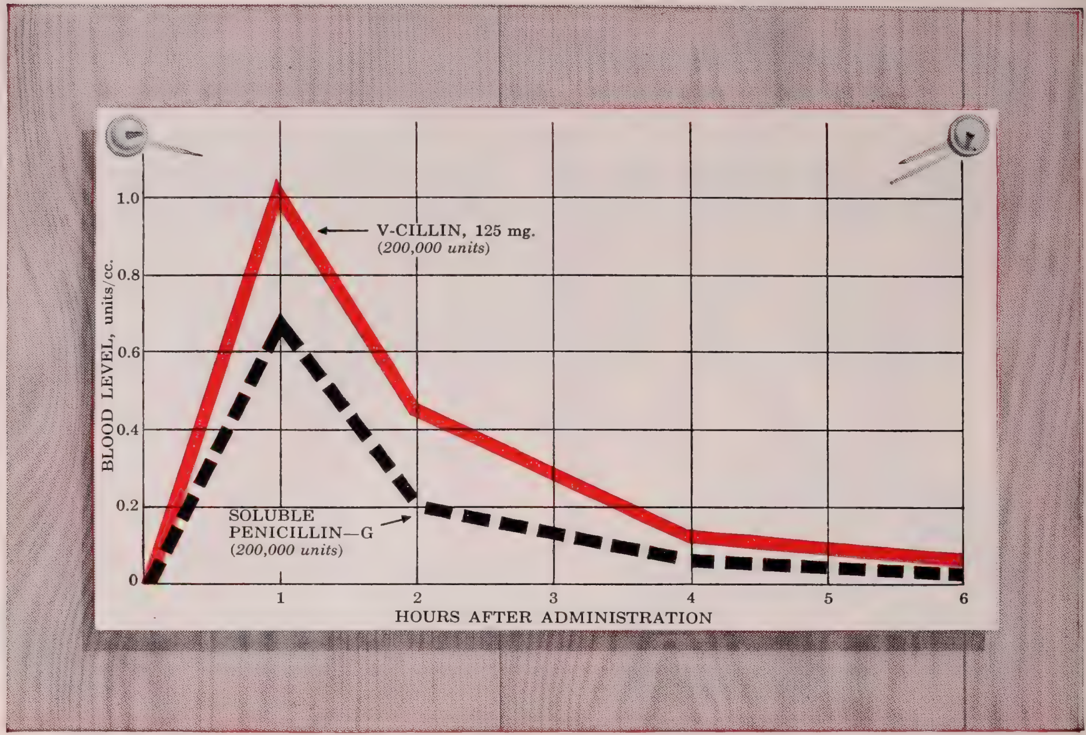

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EDITORIALS

Glaucoma in General Medical Practice

EDITOR'S NOTE.—*The* JOURNAL *is pleased to publish the following editorial contributed by one of New York's leading ophthalmologists and to call attention to the symposium on glaucoma beginning on page 193 of this issue.*

It is not commonly recognized by the general practitioner that he may be an important factor in preventing much unnecessary blindness from glaucoma. The general practitioner is the first recourse of persons in pain, with physical disabilities or discomfort. His patients properly look to him as the responsible adviser in all matters of physical welfare.

Should a patient's illness require the services of a medical specialist, the patient relies on the family doctor to identify the disease and, on his behalf, to arrange for the kind of special treatment which he may require. Within the last few years chronic simple glaucoma, which unfortunately is an insidious disease, has become recognized as a major problem in the prevention of blindness. In the age bracket over forty years, the incidence of glaucoma in the general population is conservatively estimated at 2 per cent. The general practitioner can expect this proportion of glaucomatous cases among his patients in this age group.

Chronic simple glaucoma in its early stages can usually be controlled without serious loss of vision. It is a progressive disease, and the later the discovery, the less likelihood for maintaining useful vision. The bitter thing about the disease is the usual absence of warning signs until the condition has progressed to the point where vision is affected. Usually the only early sign is increase in intraocular pressure or tension. This sign, in turn, is often intermittent in character. When intermittent, it is more likely to be present at periods of stress or emotional anxiety. The patient would be unlikely to call upon an ophthalmologist during the early stages of the disease. The general practitioner is, therefore, his main recourse for early diagnosis.

Examination for glaucoma, even in its early stages, is not an unrewarded effort. The certainty that among his patients the general practitioner will find early victims of glaucoma who can in most cases be saved from serious loss of vision or blindness is a fact of major importance.

The same check for ocular tension will warn him concerning the use of atropine, belladonna, and hyoscine which may exacerbate glaucoma when the disease is present. In respect to glaucomatous patients the physician should also assure himself that there are no allergies to drugs which might otherwise appear to be indicated for topical application to the eye.

Glaucoma in certain stages may be mistaken for iritis and conjunctivitis. Because of this confusion, delay in treating glaucoma properly may result in serious loss of vision.

General symptoms of glaucoma, especially nausea and vomiting, may falsely suggest the diagnosis of gastrointestinal pathology, particularly in instances in which the exploratory type of laparotomy appears to be indicated. As these serious symptoms occur only in acute glaucoma, a delay of even thirty-six hours in administering proper treatment may result in irreparable loss of vision.

The foregoing examples of improper diagnosis are readily resolved in most cases, particularly those with general symptoms, by taking ocular tension. This can be done in approximately three minutes.

More than 400 ophthalmologists are currently cooperating with the Ophthalmological Foundation and offering instruction to physicians in detecting ocular tension and other signs and symptoms relating to the recognition of glaucoma. Undoubtedly many other ophthalmologists throughout the United States can be counted on for similar services. The necessity for this specialized instruction has been more fully appreciated during the last few years in which glaucoma has been recognized as a major cause of visual impairment. Since most patients over thirty years of age may be seen only by general practitioners, it appears to devolve upon them to detect glaucoma in the early stages because the patients may have no symptoms which lead them to suspect the presence of this serious eye disease.

General practitioners have always met their great responsibilities with constructive action, and they may be counted on to cooperate in the detection of glaucoma which is so important to the patient's vision and health.—Conrad Berens, M.D.

Code of Medical Ethics: New Regulations

The Council of the Medical Society of the State of New York has requested that all members be notified of the following new regulations of the Commissioner of Education under the Education Law. Any infraction is a cause for discipline.

Amendment to Article II of the Regulations of the Commissioner of Education

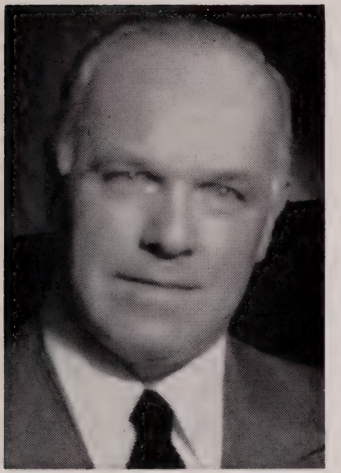
Article II

MEDICINE (INCLUDING OSTEOPATHY)

[Continued on page 190]

PRESIDENT'S PAGE

Training Courses for Physicians' Office Personnel



RENATO J. AZZARI, M.D.

In a recent letter to the editor of the JOURNAL, reference was made to the newly organized schools that provide special courses for girls studying to be medical or physicians' office assistants. Because of the newness of these courses, however, only a portion of the girls presently engaged in doctors' offices have had the benefit of this special training.

To help overcome this situation and also to broaden the scope of our profession's public relations program, the Bureau of Public and Professional Relations is currently conducting a campaign to make it possible for every office assistant in the State to attend one or more of these courses which have been especially designed to outline an office assistant's fundamental responsibilities to the patient, to herself, and to the doctor.

The campaign began with the mailing of a brochure, entitled "How to Conduct Training Courses for Physicians' Office Personnel," to all county society public relations chairmen and executive secretaries. Subsequently, the field representatives visited, and are still visiting, county societies for the purpose of encouraging them to conduct training courses. Designed to present practical information which can be used by the medical assistant in her everyday work, the course includes discussions on medical economics, public relations, and allied subjects. The typical course includes talks on workmen's compensation procedures and forms, Blue Cross-Blue Shield coverage and forms, medical public relations in a doctor's office, county medical society office services to the physician and his patient, medical society-sponsored medical economics bureaus, as well as mutual and private medical care plans.

The popularity of these courses can be best described by a quote from a letter received from one of the girls who attended a three-session course. The assistant wrote, "It is nice to speak to others who are faced with the same problems you are, and it is encouraging to realize that the county medical society is trying to help you, as a doctor's assistant, to cope with some of the many problems you must solve every day." Additional proof of the girls' enthusiasm is noted from the large number of inquiries received at the State Society office. Office assistants in many urban, suburban, and rural areas are seeking information as to when a course will be given by their county society.

Both as students and as doctors of medicine, we have always been interested in learning new methods for handling old problems. Each of us has devoted considerable time and effort to hear an outstanding man describe his technics for surmounting a particular problem. It is not unreasonable to assume that our office assistants also would appreciate an opportunity to hear authorities describe the latest technics which have been developed in their respective fields. Would it not be to the advantage of both you and your assistant for her to have an opportunity to learn how she can make the maximum use of her office time?

The courses, as described in an outline available upon request from the Public and Professional Relations Bureau, may be given in one three-hour session or spread out into three sessions of three hours each.

I suggest that physicians in counties which have not sponsored a course contact their public relations chairman and assure him that they will support any action that will make it possible for their office assistants to have an opportunity to study the latest technics of physician-patient service.

Renato J Azzari

Editorials

[Continued from page 188]

(Amendment Approved by the Board of Regents
October 28, 1955)

A new subdivision added to Section 30 of Article II, to be subdivision 4 and to read as follows:

Par 30. *Definitions*

4. "Unprofessional conduct in the practice of medicine" shall include but not be limited to the following:

(*a*) The failure or refusal of a physician, without adequate cause, to render, or provide another physician to render, necessary medical attention to any patient under his immediate care.

(*b*) Rendering professional services to a patient if the physician is intoxicated or under the influence of narcotic drugs.

(*c*) The revealing of facts, data, or information obtained in a professional capacity relating to a patient or his records without first obtaining consent of the patient or his duly authorized representative, except if duly required by a court of competent jurisdiction.

(*d*) Having been found by a court of competent jurisdiction (within or without the State) to have exercised undue influence on a patient for financial gain.

(*e*) Entering into an arrangement or agreement with a pharmacy for the compounding and/or dispensing of secret formulae (coded) or specially marked prescriptions, except where such prescriptions are to be filled at a hospital-operated pharmacy for hospital or clinic patients.

(*f*) The promotion by a physician of the sale of drugs, devices, appliances or goods provided for a patient in such manner, as to exploit the patient for the financial gain of the physician.

(*g*) Immoral conduct of a physician in his practice as a physician.

(*h*) Performance of a complete or partial autopsy on a deceased person without lawful authority.

(*i*) Wilfully making and filing false required reports.

(*j*) Wilful omission to file or record, or wilfully impeding or obstructing the filing or recording of required reports, or inducing another medical practitioner or other person to omit to file or record such reports.

(*k*) Failure to furnish details of a patient's medical record to succeeding physicians or hospitals upon proper request.

These rules have been implicit in the Code of Ethics for doctors in the State of New York. The great majority of physicians have been bound by them and have conducted themselves accordingly. The law of the State has said that licenses of physicians could be revoked for "unprofessional conduct," but prior to these regulations no one has defined exactly what that phrase meant. Now, the Commissioner of Education in consultation with the Medical Society of the State of New York has set forth in detail in the above categories what constitutes the minimum standards of ethical practice. All physicians in the State will now be bound by the amended regulations to the advantage of the entire profession of medicine and the public.

Thus, many of the provisions of the code of medical ethics presently become legal entities having the force and effect of law. We urge all physicians practicing in the Empire State to read these new regulations carefully.

MICTINE*—NON-MERCURIAL ORAL DIURETIC

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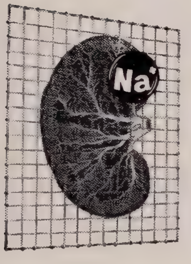

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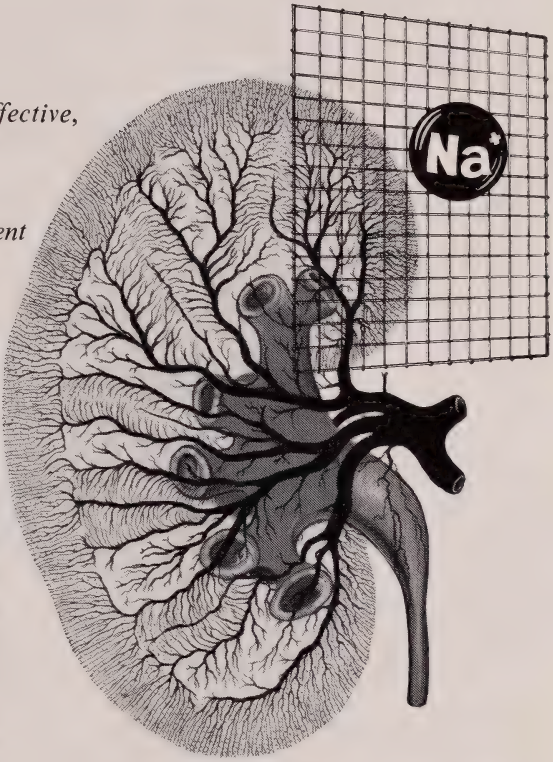
Clinical Field—Mictine is useful primarily in the maintenance of an edema-free state and in the initial and continuing control of patients with mild congestive failure. Mictine may be used also for initial and continuing diuresis in more severe congestive states, particularly when mercurial diuretics are contraindicated.



Increased sodium ion excretion following administration of Mictine indicates the inhibition, or "screening," of reabsorption of this ion, as well as increased elimination of water and chloride.

Administration—The usual dosage for the average patient is one to four tablets daily in divided doses with meals and on an interrupted schedule. The latter may be accomplished by giving the drug on alternate days or for three consecutive days and then omitting it for four days.

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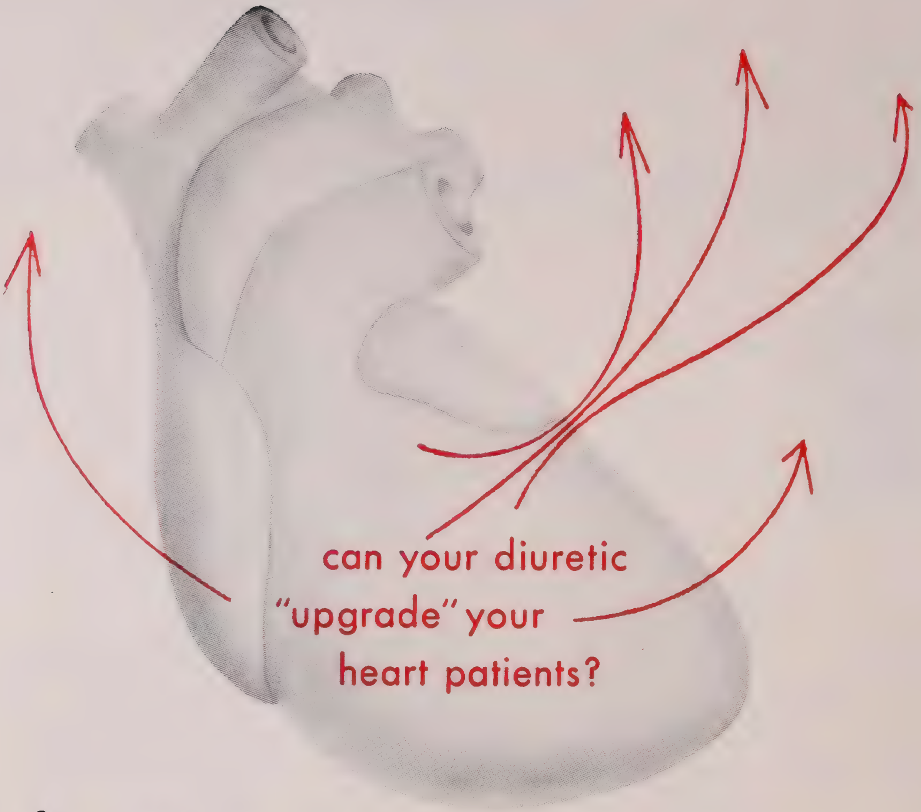

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symposium

MANAGEMENT OF GLAUCOMA IN THE ADULT

Introduction

JOHN F. GIPNER, M.D., ROCHESTER, NEW YORK

(*Chairman of Section on Ophthalmology, Medical Society of the State of New York*)

This is the first meeting of the Section on Ophthalmology of the Medical Society of the State of New York to be allotted a full morning for scientific papers. Heretofore the eye section shared the morning with the Section on Otolaryngology. This increase in time for our meeting should stimulate more interest in the program and the discussion of the papers.

I remember with pleasure a symposium on sympathetic ophthalmia held years ago at the State House in Albany. It was my opinion that a symposium on glaucoma should be equally interesting and profitable. In order to keep within our designated time, I have limited the symposium to the topic "Management of Glaucoma in the Adult."

We are very fortunate to have as our guest speaker the man who has pioneered in measuring the facility of aqueous outflow from the eye. It is a pleasure to present Dr. Morton Grant of Boston, Assistant Professor of Ophthalmic Research, Harvard University, who will speak on the subject "Tonography."

Tonography in Chronic Glaucoma

W. MORTON GRANT, M.D., BOSTON, MASSACHUSETTS*

(*From the Howe Laboratory of Ophthalmic Research, Massachusetts Eye and Ear Infirmary, Harvard Medical School*)

In evaluating and treating glaucoma of all types, the significance of the intraocular pressure, vision, visual fields, and the appearance of the optic nerve heads has long been agreed on. Now, with the development of tonography the question has arisen whether information on the facility of outflow and rate of formation of aqueous humor may also be useful. Tonographic data are readily obtainable clinically, although at the expense of more time and money than is required for ordinary tonometry. For investigative or research purposes there is little question that the data are helpful and informative, but for

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* By invitation.

Presented at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Section on Ophthalmology, May 12, 1955.

regular clinical application it is problematic whether the extra time and expense for tonography are worth while.

Tonographic measurements are obtained by resting an electronic Schiøtz tonometer on the anesthetized cornea and allowing it to remain for four or more minutes. During this time the weight of the tonometer forces aqueous humor out of the eye at a rate which is greater than normal and which is governed by the facility of aqueous outflow. The result is evaluated from the rate of progressive sinking in of the cornea as indicated by the scale readings of the tonometer. The tonometer indications are usually recorded continuously and automatically on a moving paper chart for the sake of convenience and accuracy. From the measurements so obtained, the facility of outflow and rate of formation are determined by means of conversion charts or by calculation. This procedure is reasonably simple to carry out once the technic has been learned and the apparatus has been obtained, set up, and calibrated. However, it has been found that most ophthalmologists require at least two weeks of practice under supervision before they become sufficiently familiar with the procedure to obtain reliable results.

The first practical application of tonography has been in the diagnosis of glaucoma. A disproportion between the facility of outflow and the rate of formation of aqueous humor has been found to be characteristic of glaucoma, and in the open angle variety of this disease a subnormal facility of outflow is ordinarily detectable even during periods of spontaneous normality of pressure. In every case a knowledge of the character of the angle of the anterior chamber, such as obtained by gonioscopy, is essential to proper interpretation of tonographic measurements, just as it is for interpretation of ordinary tonometry. Open angle and angle closure glaucoma differ in character and in treatment, and it is important to be aware that between acute attacks of angle closure glaucoma the tonographic measurements may be entirely normal, although they are persistently abnormal in primary open angle glaucoma. More sensitive detection of open angle glaucoma is provided by tonography than by a single tonometry of the ordinary sort. However, ordinary tonometry performed periodically during the day and night to detect episodes of abnormal elevation of pressure is probably about equally effective for diagnosis. Both methods have their inconveniences, and both yield equivocal results in some cases. It is questionable whether tonography offers significantly more diagnostic accuracy than is obtainable by means of really thorough, repeated tonometric study, provided that the electronic tonometer with its superior sensitivity is employed in both instances. Choice of methods might be based on relative convenience and expense. No adequate comparison can be made with the so-called provocative tests at this time because of insufficient data, but none of the tests currently employed appears to promise superior reliability or convenience.

In treatment of chronic glaucoma, of either open angle or synechial type, determination of facility of outflow and rate of formation of aqueous humor by means of tonography has aided in elucidating the mode of action of various therapeutic measures, but it is doubtful whether tonography has been of much practical assistance in clinical management of therapy. Clinical research based on determination of facility of outflow and rate of formation of aqueous humor has helped establish the manner in which a reduction of intraocular pressure may be accomplished by surgery and by drugs of various sorts. Thus, an improvement in facility of outflow by filtration type operations and by miotic drugs has been demonstrated, and the depressant action of Diamox on formation of aqueous humor has been detected. However, it has not yet been established whether the clinical adequacy of treatment of glaucoma can be ascertained any better by means of tonography than by careful tonometry.

Clinical experience has shown that the vulnerability of the optic nerve head to damage by intraocular pressure may vary greatly from one eye to another. Measurements of pressure, whether by tonometry or tonography, can only indicate whether the pressure would be tolerable or intolerable for an average eye. If the abnormality of pressure is slight, only periodic examination of the nerve heads and visual fields can establish whether for a particular eye the pressure is being adequately controlled. Success in the preservation of the optic nerve heads, vision, and visual fields is, of course, the ultimate criterion of adequacy of treatment, irrespective of the manner achieved. Tonometry and tonography can only signal the existence of pressure conditions which may be hazardous.

Adequate control of pressure, as determined by the preservation of the nerve head, may be achieved in angle closure glaucoma by iridectomy and in open angle and synechial glaucomas by filtration operations, by cyclodialysis or cyclodiathermy, or by means of miotics, epinephrine, or Diamox. These various therapeutic measures may achieve their objective in quite different ways, some by improving facility of outflow, others by decreasing rate of formation of aqueous, and some by a combination of these actions. Treatment may be quite successful from the standpoint of vision without the facility of outflow and rate of formation of aqueous necessarily being returned to normal. As long as the pressure is kept below a level which is injurious to the eye, it makes no difference, as far as is known at present, whether this is accomplished by improvement in the facility of outflow or depression of the formation of aqueous. Accordingly, a return of all tonographic characteristics to normal is not to be considered essential to adequate treatment of glaucoma. Presumably, with study of many eyes over a period of years it would be possible to evaluate tonographic characteristics in terms of the clinical adequacy of various forms of treatment, but this has not been accomplished. Of course, if under treatment the tonographic measurements of a glaucomatous eye do revert to those of a normal eye, this may be taken as presumptive evidence of good treatment.

The author concludes that tonography is still primarily a tool for research, and in this application it has a significant role. In clinical application to the detection and management of chronic glaucoma, tonography seems to offer some advantage in convenience over ordinary tonometric studies and provocative tests for diagnosis. Tonography does not, however, in any way obviate the necessity for gonioscopic examination for accurate diagnosis. In the management of chronic glaucoma, tonography is informative about what is happening to the facility of outflow and rate of formation of aqueous humor, but it has not yet been developed to the extent of providing a reliable guide to what is or is not adequate treatment for preservation of vision. Extensive correlation of clinical results and tonographic measurements will be necessary before a satisfactory evaluation can be made of the possible utility of tonography as an aid in the management of chronic glaucoma.

243 Charles Street

The Management of Acute Narrow Angle Glaucoma and Glaucomatocyclitic Crises

ADOLPH POSNER, M.D., NEW YORK CITY

(From the Glaucoma Clinic, Manhattan Eye, Ear and Throat Hospital)

Acute narrow angle glaucoma and glaucomatocyclitic crises represent distinct clinical entities. Superficial similarities, however, may so blur the line which demarcates them that errors in diagnosis or treatment result. Since both diseases manifest themselves by recurring, acute episodes of elevated ocular tension, they may give rise to similar subjective symptoms insofar as these are the result of increased intraocular pressure. The symptoms are blurring of vision, colored halos around lights, and vague discomfort in and about the affected eye. True congestive attacks occur only in narrow angle, or angle closure, glaucoma and never in glaucomatocyclitic crises. The differential diagnosis between the two entities is usually not difficult provided that careful attention is paid to details in the history, symptoms, and physical findings. In narrow angle glaucoma, gonioscopic examination usually discloses a narrow chamber angle between attacks, and the angle is always found to be closed during an acute attack. In glaucomatocyclitic crises, on the other hand, the angle remains open during the acute attack, and keratic precipitates appear within a few days after the onset of the glaucoma.

Acute Narrow Angle Glaucoma

When the patient is seen during the acute congestive attack, diagnosis usually presents no problem. An attempt should be made to normalize the tension by the use of miotics supplemented by the administration of Diamox. Five hundred milligrams of this drug should be given by mouth as the initial dose, with an additional 250 mg. two or three hours later. If vomiting makes the oral administration impracticable, 100 mg. of Diamox may be injected intravenously. After the tension has been normalized, an iridectomy should be performed. Not only is the acute attack relieved by this simple surgical procedure, but iridectomy may be said to be curative of the disease. Narrow angle glaucoma is a surgical disease, and it should be treated surgically unless the symptoms can be consistently controlled with miotics.

If the patient is seen between acute attacks, the eye may appear to be normal in all respects; in fact, the tension may be even lower than that of the fellow eye. In such a case the diagnosis can be made only if due attention is paid to the history of symptoms and to results of provocative tests. While the mydriasis test with paredrine or homatropine yields a greater proportion of positive results, the dark room test is to be preferred because it is not apt to produce an acute congestive attack. The tension is measured before and after the patient has been in a completely dark room for one hour. Miotics should be omitted for at least twenty-four hours prior to the test. If a dark room is not available, a cataract mask may be applied, and the patient placed in a darkened corner of a room. Since the dark room test is positive only in about 50 per cent of the cases, a negative result does not rule out the diagnosis of narrow angle glaucoma.

When the tension is normal between attacks, tonography as well as the water-drinking and other provocative tests which are useful in the diagnosis of chronic simple glaucoma usually give normal results. The reason for this is that the normal outflow channels are adequate except during the acute attack when aqueous is prevented from reaching them by watertight contact between iris and anterior wall of the angle. The site of angle closure is usually either at the limbus or slightly peripheral to it. Slit-lamp examination and gonioscopy are valuable diagnostic aids. When the patient gives a history of symptoms typical of acute or subacute attacks, the finding of a shallow anterior chamber and a narrow chamber angle constitute important corroborative evidence, even though the tension may be normal and provocative tests negative. It goes without saying that the diagnosis cannot be made on gonioscopic findings alone without considering the rest of the clinical picture. On one hand, the angle may not appear to be unusually narrow between attacks; on the other hand, exceedingly narrow angles have frequently been observed in eyes which are not subject to acute attacks of glaucoma. In several such instances I have observed peripheral iris crypts situated opposite the limbus where the anterior chamber is narrowest. Such crypts, when advantageously located, may help prevent attacks by maintaining a permanent communication between the center and periphery of the anterior chamber, so that the aqueous is assured access to Schlemm's canal, even when the iris is pushed dangerously close to the anterior wall of the angle.[1]

Once an acute congestive attack has occurred or when repeated subacute noncongestive attacks occur in spite of the use of miotics, an iridectomy should be performed promptly. Narrow angle glaucoma may be regarded as a functional derangement of the aqueous circulation resulting from an anatomic anomaly of the filtration angle. This anatomic anomaly can be corrected by an iridectomy which creates a communication between the anterior and posterior chambers and, thus, in effect converts a narrow angle into a wide angle.

Recently, peripheral iridectomy has been advocated in preference to complete iridectomy and even to the so-called "basal" iridectomy. Peripheral iridectomy preserves the normal function of the sphincter muscle and thus gives a better optical result. In therapeutic value it is the equal of a "basal" iridectomy, provided that the opening in the iris is placed far enough peripherally to include the zone where angle closure occurs. In the performance of peripheral iridectomy a 3-mm. conjunctival flap is prepared, and the anterior chamber is entered through an ab-externo incision placed at the limbus. The

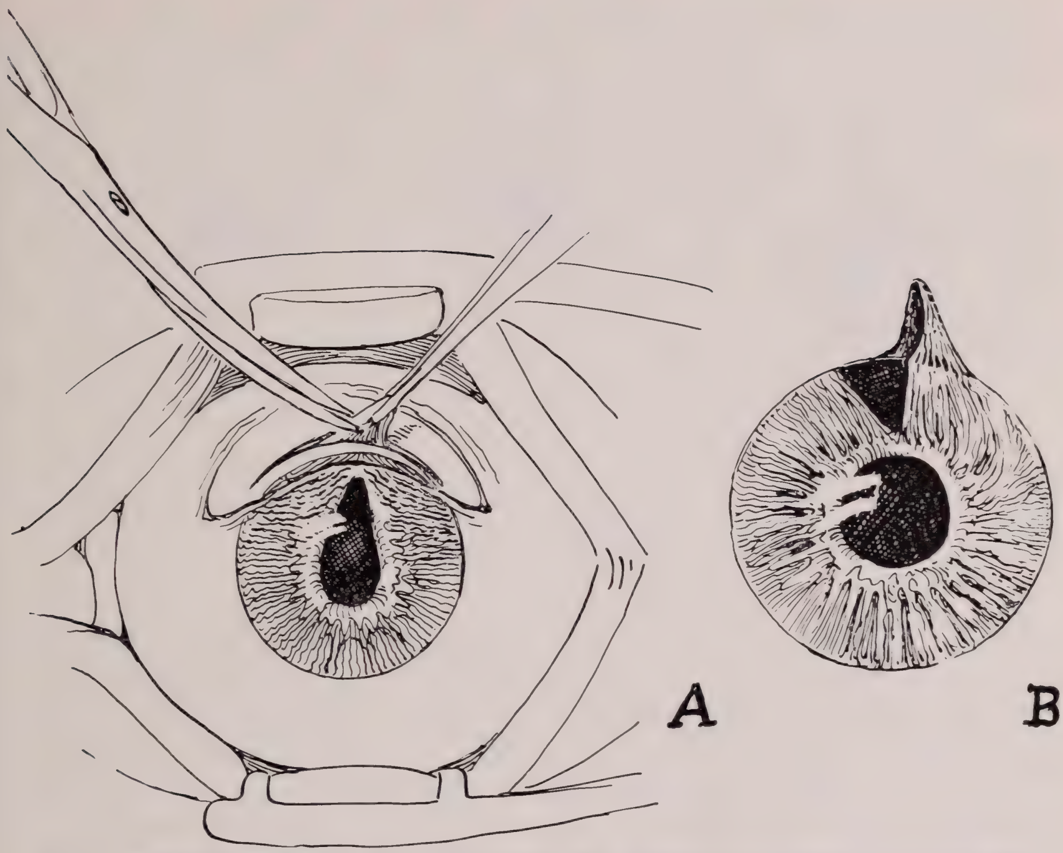

Fig. 1. Peripheral iridencleisis: (*A*) incision of iris; (*B*) schematic view of final appearance of iris.

incision is made perpendicularly to the eyeball with a few strokes of a number 15 Bard-Parker blade. When a knuckle of iris presents, it is grasped with forceps on the side toward its root, and a small piece, not including the sphincter, is excised. A spatula is then passed along the incision to free it of any iris tissue. The pupil should be round and well centered before the conjunctiva is closed with a continuous 6-0 silk suture.

In the case of narrow angle glaucoma of long standing, the possibility cannot be ruled out that the chamber angle has become partially obstructed by the formation of peripheral anterior synechiae. Personal experience and reports in the literature, however, are reassuring on the adequacy of peripheral iridectomy in controlling a majority of longstanding cases of narrow angle glaucoma in which noncongestive attacks have recurred over periods of several years. This clinical observation may be explained by the following considerations· In the absence of inflammatory changes, the normal aqueous and the normal endothelial lining of the anterior chamber are factors unfavorable to the formation of adhesions between apposed surfaces; moreover, since the normal outflow channels have four to five times the capacity required for adequate drainage of aqueous, the presence of partial anterior synechiae need not necessarily result in an abnormal elevation of ocular tension.

Should the tension remain elevated after iridectomy, as is occasionally the case, a fistulizing operation, such as iridencleisis or cyclodialysis, may be performed at a later date. Iridencleisis as the initial procedure should be reserved for those eyes in which the tension remains elevated between attacks. Iridencleisis, at best, gives a poorer optical and cosmetic result than peripheral iridectomy. Occasionally, iridencleisis is followed by malignant glaucoma, a serious complication in which the anterior chamber remains absent postoperatively, while the eye becomes

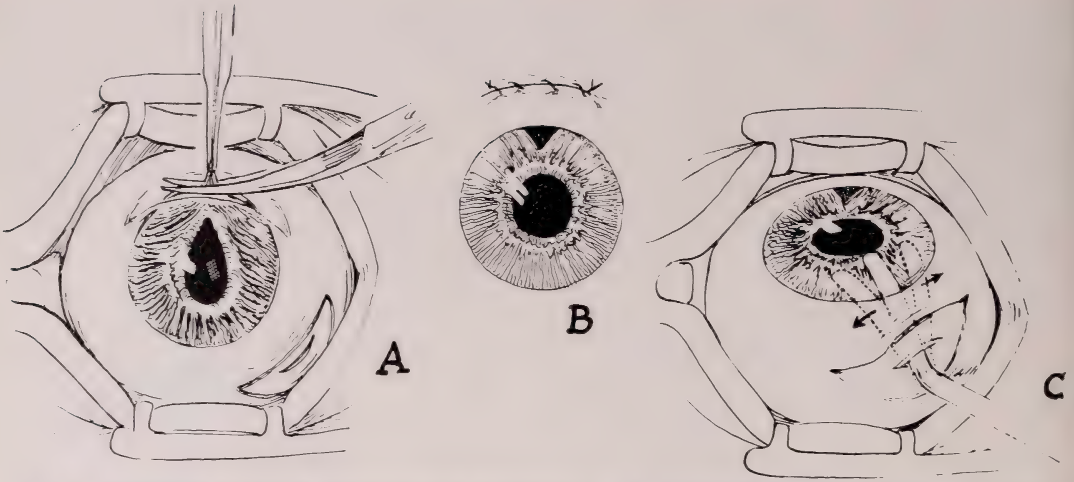

Fig. 2. Combined peripheral iridectomy and cyclodialysis: (*A*) peripheral iridectomy through ab-externo incision after preparatory scleral incision for cyclodialysis has been made; (*B*) appearance of completed peripheral iridectomy; (*C*) cyclodialysis performed with Elschnig spatula.

painful and the tension rises to excessively high levels. Unless the lens is extracted promptly, this complication often results in a blind eye. Following iridectomy, malignant glaucoma has been reported, but its incidence is considerably lower than after fistulizing operations. Since it occurs only when the tension is high at the time of operation, it usually can be prevented by the preoperative use of Diamox. A more common sequela of iridencleisis is persistent hypotension. This condition, while not serious, reduces the functional efficiency of the eye and favors the development of cataract.

In place of the classic iridencleisis, during the past three years I have used peripheral iridencleisis almost exclusively. This operation introduces no added technical difficulties and yields an equally good functional result (Fig. 1). The conjunctiva is incised 8 mm. above the limbus and is dissected down to the limbus. A 4-mm. ab-externo incision is made at the limbus perpendicular to the eyeball using the Bard-Parker knife with number 15 blade. If a knuckle of iris prolapses through the wound, it is grasped with iris forceps and is drawn gently out of the wound at a 45-degree angle. In case the iris does not prolapse, the iris forceps is inserted through the incision, and the iris is grasped at a point directly opposite the incision. The knuckle of iris is incised about halfway across its width at right angles to its edge and close to the tip of the forceps. The forceps is released, and the iris is allowed to retract so as to bring the pupil into the center of the cornea. The portion of the iris which projects through the wound is not handled more than is absolutely necessary. It is left in place with the pigment epithelium forming a partial tube within the stroma layer. The pupil should now be round, and a triangular, peripheral coloboma should be visible through the cornea. If the pupil is pear shaped or if the coloboma is not visible, the cornea may be stroked lightly with an iris spatula. The conjunctival incision is closed with several interrupted 6-0 black silk sutures. One drop of atropine, 2 per cent, is instilled into the eye. A monocular dressing is applied. Peripheral iridencleisis is not a new operation. In fact, it was originally described in 1897 by Holth,[2] the inventor of the iridencleisis operation, as one of the variants of his classic technic.

Cyclodialysis should never be performed as a primary operation in narrow angle glaucoma; it has been found to increase the frequency and severity of acute attacks. This paradoxic result can be explained by assuming that the increase in the rate of outflow of aqueous favors the development of a pressure difference between the posterior and anterior chambers. The relatively increased pressure behind the iris causes the latter to be pushed against the anterior wall of the chamber angle, blocking the outflow of aqueous. However, as a secondary procedure cyclodialysis may be substituted for iridencleisis when iridectomy has failed to lower the tension sufficiently.

Cyclodiathermy is definitely contraindicated in narrow angle glaucoma.

When an iridencleisis is performed on an eye with very shallow anterior chamber and high tension, the danger of a malignant course is especially great. For this reason I have substituted for iridencleisis a procedure which combines cyclodialysis with peripheral iridectomy (Fig. 2). While this involves two separate incisions, the technic is simple, and the results are gratifying. First, the conjunctiva is incised in the lower temporal quadrant 5 mm. from the limbus, and a 3-mm. cyclodialysis incision is made through the sclera, also 5 mm. from the limbus and parallel to it. Next, the iridectomy is performed at 12 o'clock. A 5-mm. conjunctival flap is prepared, and the eyeball is incised at the limbus by the ab-externo method using a Bard-Parker knife with number 15 blade. The peripheral iridectomy is then completed, and the conjunctival incision is sutured. Then, as a final step, an Elschnig spatula is introduced into the anterior chamber through the previously made cyclodialysis incision. The attachment of the ciliary body to the sclera is severed by sweeping the spatula from side to side. The spatula is then removed and the conjunctiva sutured.

One reason for these separate and nearly diametrically opposite incisions is to compel the aqueous to circulate through the anterior chamber before leaving it by way of the cyclodialysis cleft. This procedure may be substituted for iridencleisis because it combines iridectomy with a filtering operation, yet should minimize the danger of malignant glaucoma by favoring early reformation of the anterior chamber.

Recently it has been suggested, particularly by Chandler,[3] that prophylactic peripheral iridectomy be performed on the unaffected eye in patients suffering from unilateral narrow angle glaucoma. That there are differences of opinion in such a matter is only natural, for surgery of any kind involves risks and the benefits should be carefully weighed against possible dangers. If the fellow eye gives no symptoms, in my opinion, it would be best to leave it alone and not even use miotics. But if symptoms of glaucoma should develop, even though they may be completely controlled by miotics, prophylactic surgery should be considered. Peripheral iridectomy is especially indicated when the control of symptoms is dependent on regular and frequent instillations of miotics. In this case peripheral iridectomy is a more definitive treatment and a more certain safeguard against eventual acute congestive glaucoma.

Glaucomatocyclitic Crises

The name "glaucomatocyclitic crises" was first suggested by Posner and Schlossman[4] to identify a group of cases described in 1948 under the title "syndrome of unilateral recurrent attacks of glaucoma with cyclitic symptoms." This syndrome was thought at first to be rare; subsequent experience, however, has established the fact that such cases are relatively common but are frequently diagnosed and treated as primary glaucoma, to which they bear a closer resemblance than they do to secondary glaucoma. When the patient is observed carefully during repeated acute episodes, the special characteristics of the case which stamp it as a separate clinical entity usually become apparent. These characteristics include poor response to miotics, an open chamber angle, and the presence of keratic precipitates, not to mention the lack of response to iridectomy and other surgical procedures. The following outline defines the salient features of the syndrome of glaucomatocyclitic crises:

1. Nearly always unilateral.
2. Pupil larger than that of unaffected eye.
3. Occasionally associated with heterochromia. The affected eye has the lighter iris.
4. Congestion absent in spite of high tension.
5. Accompanied by low-grade uveitis.
6. Chamber angle open during acute attack.
7. History of recurrent attacks frequently elicited.
8. Characterized by uniformity in clinical course.
9. Prognosis is good despite repeated attacks.
10. Attacks are self-limited and last several hours to a few weeks.
11. Response to miotics and mydriatics is not consistent. Cortisone helps the uveitis; Diamox lowers tension.
12. Surgical intervention does not prevent recurrences.
13. Behaves normally to provocative tests and tonography between attacks.

Following is a typical case history.

A middle-aged man had noticed blurred vision in his right eye for the past few days. He had no pain but an uncomfortable sensation in and about his right eye. In the evening he would see colored rainbow rings around lights. He recalled similar episodes of blurred vision, always in the right eye, recurring at irregular intervals for five years. None of these episodes, however, had lasted more than three days, and several had lasted only a few hours. These attacks would come on spontaneously and bore no relation to time of day, emotional disturbances, or physical fatigue. The vision would clear up spontaneously, sometimes after a brief nap. At other times it would remain blurred all day but would be clear again the following morning upon awakening. The patient had never consulted an ophthalmologist during an acute episode. Once, when the attack had lasted more than two days, he had arranged to see an ophthalmologist but was not examined by him until after the attack had subsided and the tension had returned to normal. The past medical history was negative except for hay fever and minor allergies to foods.

On examination the right eye showed slight conjunctival injection. The right pupil was definitely larger than the left, reacted sluggishly to light, but was round and regular. The visual acuity was 20/30 as compared with 20/20 in the left eye. Media were clear. The disk was neither cupped nor pale. The tension measured 50 mm. Hg Schiøtz. On slit-lamp examination the cornea showed moderate bedewing of the epithelium. About ten small, flat, unpigmented keratic precipitates were scattered over the lower half of the cornea. No aqueous ray was visible. The anterior chamber was of intermediate depth. The iris was flat, and no narrowing of the entrance to the angle was noted. No posterior synechiae were present. Gonioscopic examination showed the angle to be wide and open, and no anterior synechiae were present. The peripheral visual field was normal. The blind spot was normal in size, but there was moderate widening of the angioscotoma.

While this typical clinical picture is subject to variations, the striking feature in this syndrome is the remarkable uniformity of both symptoms and course, not only from one acute episode to another, but from one patient to another. In some cases the symptoms appear to follow a virus infection such as virus pneumonia, encephalitis, or the common cold. In these cases, which are relatively uncommon, the glaucoma tends to be more severe and the course more protracted, sometimes lasting several weeks. Occasionally, the patient complains of a slight pain or ache around the affected eye. True scleral congestion and severe pain are never observed. Neither does visual impairment occur to the extent found in congestive narrow angle glaucoma. In evaluating symptoms it is important to differentiate those produced by the disease from those which result from treatment, especially when strong miotics such as eserine and di-isopropyl fluorophosphate DFP, have been used.

It is of utmost importance to differentiate glaucomatocyclitic crises from an attack of acute narrow angle glaucoma. This is especially so because the treatment of narrow angle glaucoma is primarily surgical, requiring iridectomy, whereas surgery should never be performed in glaucomatocyclitic crises. Because symptoms referable to glaucoma frequently dominate the clinical picture, at least at the onset of the attack, this syndrome may easily be mistaken for acute narrow angle glaucoma. Not only may corneal edema make it difficult to see keratic precipitates, but most careful search may fail to reveal them until a few days after the onset of the glaucoma. For this reason the possibility of glaucomatocyclitic crises should be given consideration in the differential diagnosis of every case of acute glaucoma. In a few cases of recurrent glaucomatocyclitic crises, keratic precipitates were absent during some of the acute episodes. It is possible, therefore, that occasional cases which have been diagnosed as acute primary glaucoma in which the angle remains open may more properly belong to this group and actually may be atypical forms of glaucomatocyclitic crises. Hence, one should be circumspect in recommending surgical intervention in any case of acute glaucoma with open angle. In one such patient who had had a noncongestive acute attack of glaucoma in the presence of an open angle, after I had observed the case for two weeks, I performed an iridencleisis. The immediate postoperative result was good, but six months later the patient had a recurrence of the condition in the same eye. Careful slit-lamp examinations had failed to reveal either cells in the aqueous or keratic precipitates during the entire course of the glaucoma. The experience gained from observing cases of glaucomatocyclitic crises has thus helped in understanding and managing the occasional case of acute glaucoma with open angle and has served to establish even more firmly the causal relationship between closure of the angle and elevation of the tension in narrow angle glaucoma.

In an acute attack there is no consistent response either to miotics or mydriatics. The most favorable reaction is usually obtained by the use of mild miotics, such as $^1/_2$ to 1 per cent pilocarpine. This drug may be either combined or alternated with Neo-Synephrine 10 per cent, which produces pupillary dilatation. If the Neo-Synephrine is administered in the office, the eye can then be examined to ascertain whether posterior synechiae are forming. Frequent, careful slit-lamp examinations reassure both patient and doctor that the case is taking a typical and satisfactory course. If corneal edema interferes with the visualization of the deeper structures, 2 drops of glycerin may be instilled after anesthetizing the eye with pontocaine. The hygroscopic property of glycerin serves to clear the cornea. Cortisone acetate, instilled locally, is usually helpful in reducing the intensity of the cyclitis and, indirectly, in lowering the intraocular pressure.[5] When the tension is very high, e.g., 60 mm. Hg or more, Diamox may be administered. This drug has been found more effective in this condition than in chronic simple glaucoma.

If the tension fails to respond to miotics, then mydriatics such as Neo-Synephrine, Euphthalmine, or homatropine may be tried. Atropine should be avoided since its action is irreversible. Paracentesis rarely becomes necessary. Since its effect is temporary, it offers no advantages over Diamox.

In general, the elevated tension need not be considered an alarming symptom since even prolonged periods of high tension have rarely been found to leave evidence of permanent ocular impairment. During the course of the attack the tension shows wide fluctuations, frequently reaching normal or nearly normal levels. This may explain at least partially why the visual field does not suffer permanent damage. The termination of the acute attack, whether spontaneous or induced by treatment, is often signalized by a sharp drop in tension to a level below that of the other eye.

Surgery has no place in the treatment of glaucomatocyclitic crises. It has already been pointed out that paracentesis has only a temporary effect on the tension and that the same result may usually be achieved by means of Diamox. Iridectomy is contraindicated because the glaucoma is not the result of angle closure as found in narrow angle glaucoma. Fistulizing operations are unnecessary, especially since they have not been shown to prevent recurrences.

667 Madison Avenue

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Medical Treatment of Chronic Glaucoma

ROBERT E. KENNEDY, M.D., ROCHESTER, NEW YORK

(*From the Departments of Ophthalmology of Highland Hospital and the University of Rochester School of Medicine and Dentistry*)

CHRONIC glaucoma may be one of the most distressing and difficult conditions to treat for the ophthalmologist in clinical practice. Chronic glaucoma includes the large common group of wide angle glaucoma, constituting about 90 per cent of the primary glaucomas, and the smaller group of chronic narrow angle glaucomas. The same general consideration will apply to both of these groups in this limited review of medical management.

Because the basic nature of wide angle glaucoma is obscure, treatment is somewhat empiric. Response of an eye to treatment, either medical or surgical, is unpredictable and may show wide variations over a long period of time. For these reasons a conservative approach in the treatment of chronic glaucoma is advisable. After diagnosis has been established, medical treatment should be given a thorough trial before resorting to surgery and is indicated as long as the tension is controlled and no progressive changes occur in the visual fields. The value of treatment, both medical and surgical, depends on the stage in the disease when treatment is started. Results are greatly improved in the early stages of the disease before advanced damage has occurred so that early diagnosis is imperative.

Because of the unpredictability and variability in response to treatment over a period of time, it is essential that a patient with glaucoma remain under periodic observation so that the efficacy of the therapeutic regime can be evaluated at frequent intervals. The various visual functions can be tested to determine any gradual changes which may occur if the disease is uncontrolled.

Visual field testing is the best method for determining the efficacy of treatment of glaucoma. Characteristic changes in themselves are of great diagnostic value. Evaluation can be made only through careful and repeated studies under standardized conditions which are easily reproducible. Central field scotomas about the blind spot and in the arcuate pathways extending nasally in the field are the early significant changes. These are best plotted on a meter tangent screen using a test object that includes a radius of 25 degrees. A 2- or 3-mm. white target is satisfactory with good acuity; otherwise a larger object must be used. Opacities in the media, miosis, and lens changes all require large test objects. If evaluation is limited to peripheral perimetric studies, only late defects may be elicited, such as the Rönne nasal step, which may cut in to communicate with the blind spot. Progressive visual field defects are one of the best indications for surgery in preference to continued medical treatment. Without carefully repeated field studies adequate supervision is not being carried out. If progressive changes occur, the glaucoma cannot be considered controlled regardless of tension. A direct relationship between loss of field and level of tension need not exist. If the progress of the disease is far advanced with only central fields remaining or with marked encroachment toward fixation from the nasal side, surgery may seem to hasten further field loss. Kronfeld and McGarry[1] have shown that central islands of vision tend to resist further loss of field, even when the tension is uncontrolled, if the patients are kept on a program of medication. Because vision may remain a long time, they recommend continued medical treatment if the pressure remains under 40 mm. mercury Schiøtz.

No arbitrary figure for ocular tension can be taken to separate normal from abnormal. It is well known that an ocular tension of 30 mm. Hg Schiøtz may be well tolerated by one eye and result in deterioration in another. Tensions higher than 35 mm. Hg will usually lead to deterioration, while tensions below 35 are much safer and require surgery only if visual field loss becomes progressive.[2] The concept put forth by Reese[3] makes use of the terms "base pressure" and "peak pressure," the lower and the upper limits of the range of pressure of recorded tensions taken over many days. This concept can be used as a guide in determining the justification for continued medical management. The difference between the two represents the increase in tension or the lability. A chronically increased base pressure indicates permanent filtration impairment. The base pressure tends to rise, and the two pressures tend to approach each other with more advanced glaucoma until they merge in a state of absolute glaucoma. An increasing base pressure is an indication of poor medical response and consideration for early surgery.

In originally establishing the diagnosis of glaucoma, routine tonometry is the best definite diagnostic procedure. A valuable diagnostic sign is a consistent difference between the tensions recorded in the two eyes of the same person. When this is 4 mm. Hg or more in apparently normal eyes, even though tension readings are within normal limits, it is suggestive of the possibility of early wide angle glaucoma.[4] For justifying the diagnosis the tension evaluation must be shown to have an abnormal pattern. This may require complete tension studies, provocative testing, and a twenty-four-hour curve of tension readings to understand the phasic variation which may be peculiar to a particular patient. Throughout the study of a suspected or newly established glaucoma patient this should include tension readings at various hours when the patient may be seen. Although the tension is characteristically elevated in the early morning hours, a range of tension readings throughout the day will show the actual period of high elevation or "peak pressure" for the particular patient, which might be missed if always taken during limited office hours. This also offers the opportunity of concentrating the schedule of divided doses of miotics in relation to the peak pressure rather than arbitrarily dividing the doses throughout the day.

Optic disk changes are slowly progressive and cannot be used as a measurement of progressive deterioration. Being a late change, if it is present, glaucoma can be considered firmly established. In seeing cases with what is commonly called deep physiologic excavation, a more accurate classification or description should be made. It is well to indicate the size and position of the excavation in relation to the edge of the disk or the width of the rim of the nerve fiber tissue. The disk changes must be differentiated from physiologic and other pathologic changes. Disk changes may develop and progress with little relationship to the height of tension or changes in the visual field. Such changes indicate a poor tolerance of the eye to the increased ocular tension.

Provocative tests can be used to determine the adequacy of therapy in addition to their diagnostic value. For example, an eye with wide angle glaucoma with a positive water-drinking test as evidence of a defective outflow mechanism may have a negative test while under miotic therapy, indicating the effectiveness of treatment. Tonography promises to be an excellent provocative test in addition to being an added means of evaluating therapy. The facility of outflow, which is found to be reduced in untreated glaucoma, tends to increase under miotic therapy, particularly in early glaucoma. As the disease progresses, the facility of outflow decreases, even with medication. Wider knowledge and interpretation of this method of testing will make it more useful for clinical application.

Actual glaucoma therapy consists, first, of an educational program of instruction for the patient. The nature of the disease should be thoroughly explained to him. A simple analogy to the damaging effects of putting too much air into a balloon may serve to illustrate the mechanism of glaucoma. Emphasis should be placed on the lifelong need for treatment and supervision because of the insidious course of the disease. The patient should be told that the prognosis of his disease depends on his cooperation in using drops which do not cure the disease but, at best, simply control its progress. He should be advised of the necessity for periodic evaluations to test the visual functions of fields, acuity, ocular tension, and progress of associated pathology. The need for changing the miotic regime, the frequency of visits, and the possibility of eventual surgery should be mentioned. It is not required to place the patient under unnecessary restrictions. Regular fluid intake should be restricted only to small divided quantities rather than excessive intake at any one time. Alcohol in moderation has not been shown to be harmful.

Proper understanding on the part of the patient will make him realize the significance of his disease and the necessity for complete cooperation with his physician. This will tend to reduce the number of glaucoma patients who do not take the treatment seriously, or who become discouraged thinking that their vision should be improving, and who go elsewhere or discontinue treatment altogether, only to be seen again at a far-advanced stage of the disease. In the general practice of ophthalmology one occasionally encounters the skeptic patient who questions the diagnosis of glaucoma made by another physician or who may feel exploited by frequent office visits with no apparent subjective improvement. Even in the presence of normal tension, the previous diagnosis of another physician should be respected until provocative tests and observation determine the status of the disease. When it is remembered that about 2 per cent of the population over forty years of age have chronic glaucoma, it is a common disease which must be watched for.

A general program of treatment must be started after the patient is educated to his disease. Miotics form the basis for medical treatment of glaucoma. A patient who is to begin on miotic therapy is usually best started on the weakest pilocarpine solution as infrequently as is necessary to control the tension and maintain miosis. There is a definite correlation between the effectiveness of a miotic and pupillary size. The pupil size and reaction should always be noted and can be a guide as to whether the drops are being instilled properly. During the first few weeks of evaluation the patient must be observed at intervals of a few days until his tension is controlled. It is best to see the patient at whatever time has been determined as his "peak pressure," usually early morning. The strength of the miotic and frequency of instillation may need to be increased to produce miosis and control the tension. After tension is controlled, monthly examination should be made with evaluation of the visual fields. These intervals can be increased so that the patient is seen at least every three to six months, with fields taken each time when seen this infrequently.

The miotic drugs may have their effect either by stimulating contraction of the iris sphincter or relaxing the iris dilator muscles. The stimulating drugs may act by directly stimulating the muscle cells. Drugs with this mode of action include acetylcholine, pilocarpine, Mecholyl, and Carcholin and are spoken of as cholinergic drugs. Stimulating drugs may also act by an indirect stimulatory mechanism by inhibiting the action of cholinesterase. The anticholinesterase group, including eserine, prostigmine, and di-isopropyl fluorophosphate (DFP), inhibit cholinesterase which allows physiologic accumulation and action of acetylcholine.

Pilocarpine remains the drug of choice in chronic glaucoma. It may be used in 0.5 per cent solution and up to 3 per cent, which is considered to be the maximum concentration which is usually effective. Subjective discomfort is minimal compared to other miotics, and allergic reactions are rare. Refractiveness to the drug is slow to develop, and alternation with other miotics may allow its continued use. If increased concentrations and more frequent instillations do not control the condition, other miotics or surgery are indicated.

An alternate cholinergic drug of great value is Doryl (carbaminoylcholine or Carcholin) which can be used if the patient fails to respond to pilocarpine or becomes refractory to it. Doryl is effective in concentrations of 0.5 to 1.5 per cent containing Zephiran to facilitate absorption. Pilocarpine may be resumed when the patient again becomes responsive to it.

Eserine is an effective miotic in the anticholinesterase group. This group tends to have a more painful spastic reaction with local irritation and twitching of the lid muscles. Local irritation and allergy are common. Eserine is not a practical miotic when used alone for long periods.

DFP (di-isopropyl fluorophosphate) is the strongest miotic available for control of glaucoma. Because of its instability the best vehicle is an oil base. Tolerance develops rapidly. There is usually considerable subjective discomfort initially. Its use is not without danger for retinal detachments have been reported coincident with its use and acute tension elevations due to the increased congestion in narrow angle glaucomas. Its use in wide angle glaucoma should be with caution. It is of value particularly in aphakic glaucoma, and Swan[5] has recommended it in aphakic glaucoma in an attempt to rupture newly formed peripheral synechiae.

Miotic absorption may be aided by the use of wetting agents. Zephiran lowers the surface tension of water and enhances the penetration of drugs through the cornea. Doryl is commercially available in this combination. Dilutions of 1:3,000 Zephiran are weak enough to minimize irritation. Methyl cellulose added to the solution to make a 0.5 to 1 per cent concentration will result in more persistent drug absorption. This makes the solution more viscid so that it is retained in the conjunctival sac for longer periods.[5] Buffered solutions reduce the irritation of miotics and makes their use more pleasant for the patient.

Miosis may result from the relaxing of the iris dilator muscles. These drugs act by blocking the stimulatory effects of ephedrine and are called adrenergic blocking agents or sympatholytic drugs. In clinical use in chronic glaucoma these drugs, such as dibenamine, have not been satisfactory. However, Swan[5] has suggested that this drug demonstrates that a systemically administered drug could reduce the elevated ocular tension by apparently diminishing aqueous formation. This offered hopeful possibilities in medical treatment whereby the enzymatic processes concerned with aqueous formation might be interfered with.

An exciting new type of drug for glaucoma is acetazoleamide (Diamox), a sulfonamide. This drug has been known as a long term diuretic due to its inhibition of carbonic anhydrase. It reduces the intraocular tension by its inhibition of aqueous secretion. While Diamox appears to be more effective in acute and some secondary glaucomas, in chronic glaucoma its effect, when used in conjuction with the regular miotic therapy, is to lower the tension about one-third.[6] In this way it often controls the pressure where miotics alone will not. Dosage ranges from 500 to 1,000 mg. a day in divided doses. Small repeated doses lead to resistance to the drug with loss of effectiveness which returns after the drug has been stopped for a period. Its effectiveness for long-term use has yet to be fully determined. While most of the side-effects are not serious—

paresthesias, drowsiness, confusion, anorexia, nausea, polyuria, dermatitis, and acidosis—blood dyscrasias have been reported. Diamox should not be used in patients with renal disease. The enthusiasm for Diamox will no doubt lead to the finding of other drugs which have an enzymatic influence on the ocular tension.

While the patient is under miotic therapy, the pupils should be dilated occasionally. This tends to prevent the formation of posterior synechiae which may develop. The media can be evaluated and the disk and fundus studied. Any change or loss of vision can be determined to be due to the glaucoma or other degenerative changes.

Other factors such as the age of the patient influence the type of management. The younger the patient, the more closely the surgical indications should be followed, while in patients over the age of seventy the surgical indications should be much more definite. When glaucoma is seen in patients who are unintelligent, uncooperative, mentally incompetent, or who live geographically distant where it is difficult for them to be followed, medical treatment should give way to early surgery.

These considerations which have been discussed are necessary in the constant evaluation of the medical treatment of chronic glaucoma.

53 South Fitzhugh Street

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Discussion

Dale B. Pritchard, M.D., *Ithaca.*—Dr. Kennedy has succeeded in condensing a considerable amount of information in his paper on the medical treatment of glaucoma. My first impressions after hearing this paper are not of a critical nature. After all, most of the conclusions are rather generally accepted.

Instead, my doubts are raised as to how adequately glaucoma patients are followed. In the rush of a pressing office schedule, the temptation to attempt short cuts in follow-up care is very strong. Yet the success of any mode of therapy depends upon the thoroughness with which it is carried out. Visual fields, particularly, to be of value must be done meticulously and in an unhurried manner. A periodic resolve to be thorough is well taken.

My next thought concerned itself with Diamox and its method of action. The interest in this drug is well deserved if it serves to bring about a better understanding of the mechanism of aqueous formation. The generally accepted theory that Diamox acts by suppression of carbonic anhydrase and so depresses the bicarbonate ion concentration in the aqueous has recently been questioned by Green and coworkers and may not be settled for some time. The often raised fear that lens metabolism may be disturbed by Diamox is a question that perhaps Dr. Kennedy might answer.

As a last thought, possibly insufficient attention is being paid to the psychosomatic elements which affect the intraocular pressure-regulating mechanism. We all realize that they exist, but the difficulties encountered in analyzing them and treating them seem too complex and time consuming—which brings us back to the original plea for unhurried diagnosis and follow-up care.

Anesthesia for Glaucoma Surgery

WALTER S. ATKINSON, M.D., WATERTOWN, NEW YORK

(*From the Department of Ophthalmology, New York University Post-Graduate Medical School, New York City*)

IT IS well known that strict attention to the details of preanesthetic preparation is essential in order to obtain good anesthesia and akinesia for intraocular surgery. This is particularly true when preparing a patient with glaucoma for operation.

FIG. 1. An experienced nurse puts patient at ease.

FIG. 2. A chat with another patient who has a similar operation is convincing.

When an operation is indicated for a patient with glaucoma, it may be advisable to postpone discussing it with the patient until satisfactory sedation and miosis have been obtained, in order to avoid a sharp rise of tension. For patients with painful, acute, congestive, narrow angle glaucoma with high tension, a retrobulbar injection of procaine hydrochloride (Novocain) or lidocaine hydrochloride (Xylocaine) with epinephrine hydrochloride and hyaluronidase, followed by pressure over the eye for at least five minutes, will stop the pain and usually lower the tension.

Diamox (acetazoleamide) may be given to help lower the tension as soon as the patient is able to retain oral medication, or it may be given intravenously when the patient is nauseated.

The psychologic preparation of the patient is an important factor but must necessarily vary with each patient. Each surgeon may have a different psychologic approach and yet reach the same goal, so it is obviously not practical to try to outline a routine procedure. After operation has been advised, an experienced nurse can often put the patient at ease more quickly than the surgeon. Here again the approach may vary. The approach shown is not advocated, but it emphasizes the point (Fig. 1). Often a chat with another patient who has had a similar operation is convincing, but the choice of patient is important (Fig. 2).

For preanesthetic sedation pentobarbital sodium (Nembutal) 0.1 to 0.2 Gm. or secobarbital sodium (Seconal) 0.1 to 0.2 Gm., given one and one-half hours before operation, is advocated unless it is contraindicated, in which case a suppository of chloral hydrate 1 to 2 Gm. is used. Meperidine hydrochloride (Demerol) 75 to 100 mg. by intramuscular injection is given at the same time as a matter of convenience. Its action is more rapid than the barbiturate which is given orally, but since the maximum analgesic effect of the Demerol lasts for several hours, it is advisable to allow sufficient time for the maximum analgesic effect to be well established before the anesthetic is administered. At the same time chlorpromazine hydrochloride (Thorazine) 25 mg. may be given along with the Demerol to try to decrease the incidence of nausea and vomiting. Since it also has some sedative effect, this should be kept in mind when estimating the dose of the sedative.

If satisfactory sedation has not been obtained when the patient arrives in the operating room, secobarbital sodium given orally will usually produce satisfactory sedation by the time the preparation of the patient in the operating room is completed. If a more rapid effect is necessary, an intramuscular or intravenous injection of the sedative may be given. The dose depends upon the patient and amount of sedation already obtained.

Local Anesthesia

For topical anesthesia tetracaine hydrochloride (Pontocaine) 1 per cent is my preference, and at least four instillations at three-minute intervals are made. Epinephrine is usually contraindicated for most glaucoma operations because of the rapid mydriasis that it causes even after strong miotics have been used.

Some glaucoma patients whose tension has been taken repeatedly for years may become sensitive to the anesthetic if the same one is used each time. Sensitivity is less likely to develop if a different anesthetic is used each time for six to eight times. In this way for the average patient with noncongestive open angle glaucoma on whom the tension is usually taken about every three to four months, the same anesthetic would not be used again for about two years.

For injections to produce anesthesia and akinesia, either procaine hydrochloride (Novocain) 2 per cent or lidocaine hydrochloride (Xylocaine) 2 per cent may be used. For years procaine hydrochloride has been generally conceded to be the safest and best anesthetic for injection. However, since the introduction of lidocaine hydrochloride, this new anesthetic has become increasingly more popular, chiefly because the anesthetic effect lasts longer than that of procaine hydrochloride and so minimizes postoperative pain. The anesthetic effect of procaine hydrochloride without epinephrine lasts only about fifteen minutes, while lidocaine hydrochloride lasts several hours, and there is a wider diffusion with lidocaine hydrochloride than with procaine hydrochloride.

For injections to produce akinesia of the orbicularis and retrobulbar injections, sixto ten turbidity-reducing units of hyaluronidase are added to each cubic centimeter of the anesthetic solution to produce greater diffusion of the anesthetic solution. Epinephrine hydrochloride 1:50,000 is added to the anesthetic solution for these injections unless contraindicated. The addition of epinephrine and hyaluronidase to the anesthetic solution and firm pressure exerted over the eye following the retrobulbar injection for at least five minutes tend to lower the intraocular pressure, which is desirable in most glaucoma operations except for corneoscleral trephining. For this operation lowered tension is undesirable because it makes the trephining more difficult, and after the trephine penetrates, the iris is less likely to prolapse, which may be embarrassing.

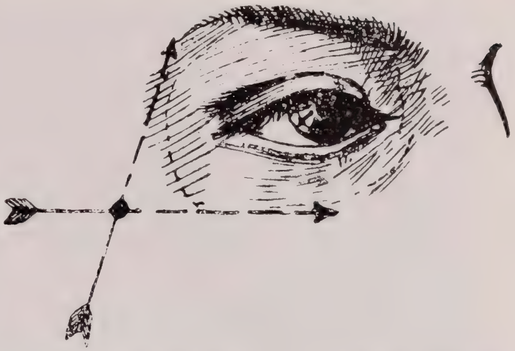

FIG. 3. Arrows indicate site of injection (from van Lint).

For the trephine operation the following anesthetic procedure has been found to be satisfactory: Instillations of tetracaine hydrochloride (Pontocaine) 1 per cent solution, akinesia of the orbicularis, and an injection of lidocaine hydrochloride along the superior rectus muscle so that a bridle suture can be introduced without causing pain. This injection also produces more complete anesthesia of the iris than is obtained with instillation anesthesia alone.

Some surgeons do not consider it necessary to have akinesia of the orbicularis for operations such as trephining, iridectomy, and iridencleisis. However, serious complications do occur as a result of a strong contraction of the orbicularis during these operations. It takes only a few moments to block the facial nerve, particularly if the zygomatic injection is used, and it makes the operation much safer and easier.

All are familiar with the two most common sites for injections to block the facial nerve: (1) injections near the orbital margin, as advocated by van Lint[1] (Fig. 3) and (2), the more proximal site where the nerve crosses the condyloid process of the mandible, as suggested by O'Brien.[2]

The disadvantages most frequently mentioned of making the injections near the orbital margin to block the terminal branches are that ballooning or edema of the lids may be produced, and more of the anesthetic solution is required than for a more proximal block, which increases the risk of a toxic reaction from the anesthetic agent.

The disadvantages of the more proximal injection of the facial nerve as it crosses the condy-

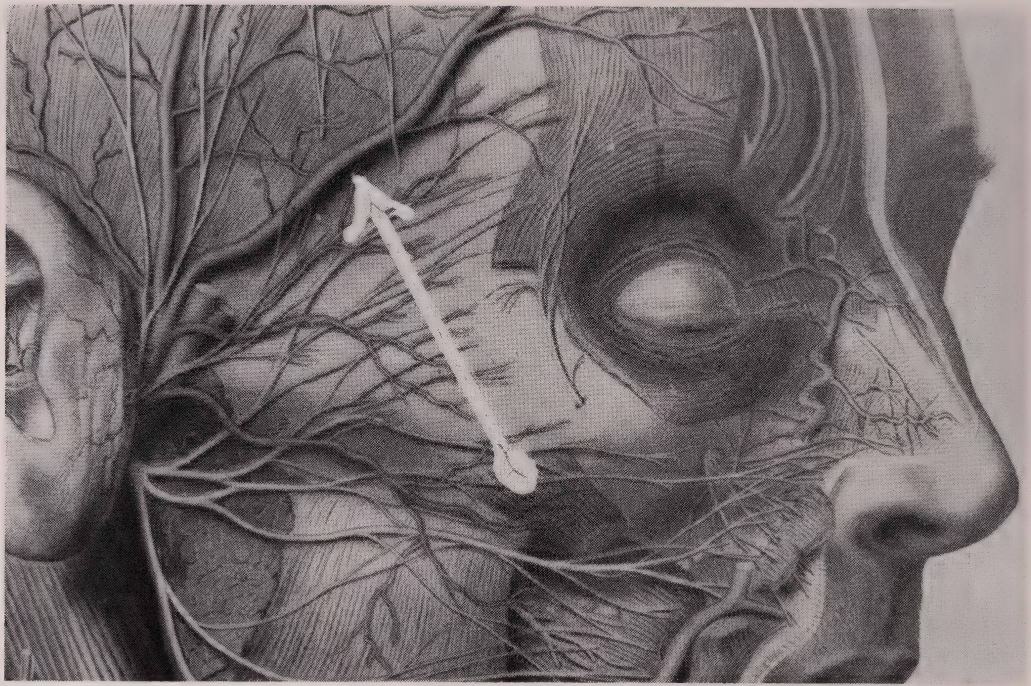

FIG. 4. Arrow shows site of injection to produce akinesia of the orbicularis muscle.

loid process are as follows: (1) Pain is often experienced at the time of the injection and, on moving the jaw, for several days after the injection; (2) the lower branches that supply the lips and face may be blocked, producing a facial paralysis which is disturbing to patients, and (3) the nerve is often missed, particularly if the patient is fat or heavy jowled so that the condyloid process is difficult to palpate.

To overcome these objections, a different site for the injection is recommended which is simpler than the others and in which the bony landmarks are easy to locate. The injection is begun at the inferior edge of the zygomatic bone about in line with the lateral margin of the orbit. The same needle as is used for a retrobulbar injection may be used. The needle is directed upward, close to, and across the zygomatic bone. When this injection was first reported in 1953,[3] the angle of the injection advocated was toward the top of the ear. Since then an angle of about 30 degrees from the vertical has been found to be more desirable (Fig. 4). At this angle less of the anesthetic solution is required. Three or four cubic centimeters of the anesthetic solution are injected as the needle advances, and firm pressure is exerted over the site of the injection to produce a more rapid and complete block. This injection has been used for several years, and in no instance has it failed to produce complete akinesia of the orbicularis.

For operations such as iridectomy, iridencleisis, diathermy, and enucleation a retrobulbar injection is essential to produce more complete anesthesia of the globe, anesthesia and akinesia of the extraocular muscles, and hypotony. Some surgeons object to a retrobulbar injection because of the risk of having an orbital hemorrhage. If the following points are observed, orbital hemorrhage will rarely occur, and good anesthesia and akinesia will usually be obtained:

1. A 3.5-cm., 23-gauge needle with rounded point is used (Fig. 5).

2. The needle is introduced through an intradermal wheal at the inferior temporal margin of the orbit close to the bone (Fig. 6). When the orbital septum is felt with the needle, if the needle is rotated producing a boring effect, it will penetrate easily.

3. The patient is directed to look upward and nasally so as to move the inferior oblique muscle and the fascia between the lateral and inferior rectus muscles forward and upward, out of the way (Fig. 7).

4. The needle is first directed straight back until the point is beyond the globe and fascia

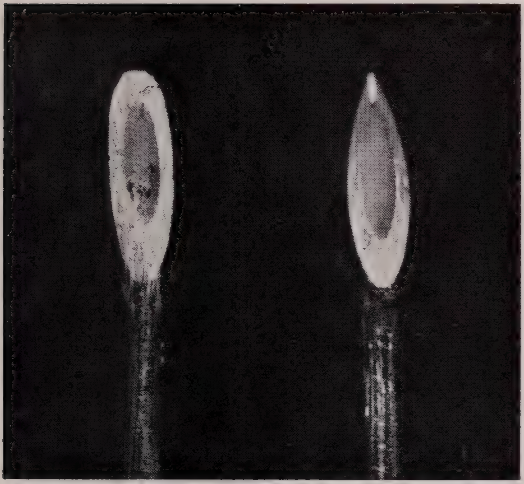

FIG. 5. A regular 23-gauge, 3.5-cm. needle with sharp point (*right*) and one with the point removed and a rounded cutting edge (*left*).

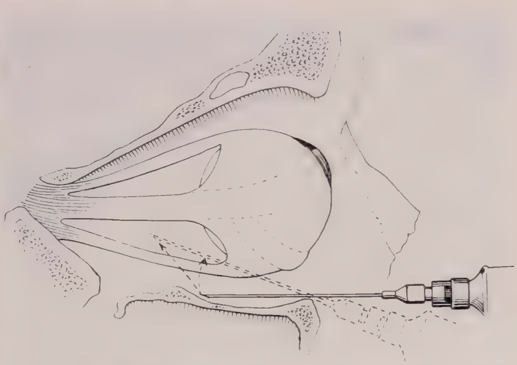

FIG. 7. Retrobulbar injection. The needle is first directed straight back, well away from the eyeball, until the point is beyond the globe. It is then pointed upward toward the apex of the orbit and inserted to a depth of 2.5 to 3.5 cm. depending on the size of the orbit. When injecting the right orbit, the patient is asked to turn the eye upward and to the left so the inferior oblique muscle and fascia between the lateral and inferior rectus muscles are moved forward and upward out of the way.

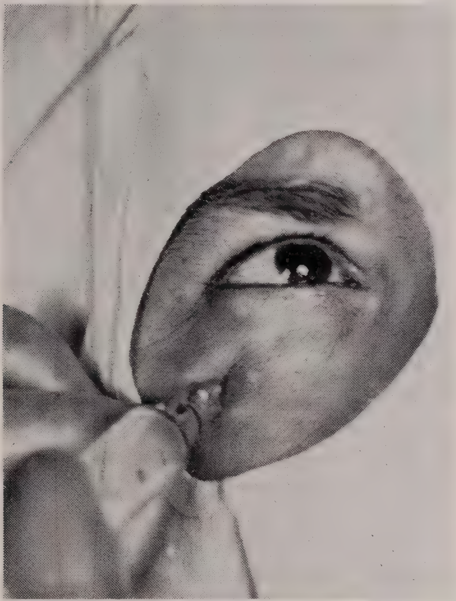

FIG. 6. Retrobulbar injection. The needle is introduced through the skin and orbital septum close to the bone at the inferior temporal margin of the orbit. The patient is directed to look upward and nasally so as to move the inferior oblique muscle and the fascia between the lateral and inferior rectus muscles forward and upward out of the way.

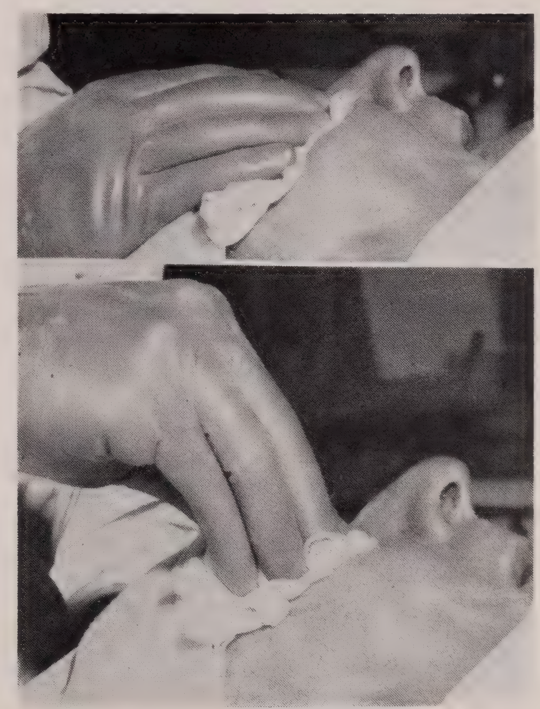

FIG. 8. Pressure on the globe for at least five minutes following retrobulbar injection (*top*). Moving the eye in the orbit to promote diffusion of the anesthetic solution following retrobulbar injection (*bottom*).

before directing it upward toward the apex of the orbit for a depth of 2.5 to 3.5 cm. depending on the size of the orbit (Fig. 7).

Larger cone injections may be safely given if hyaluronidase is added to the anesthetic solution. The hyaluronidase causes greater diffusion of the anesthetic solution which may be injected until there is a noticeable proptosis. The larger volume permeates the orbit thoroughly, and the proptosis quickly subsides. Two to three cubic centimeters may be injected into the average orbit

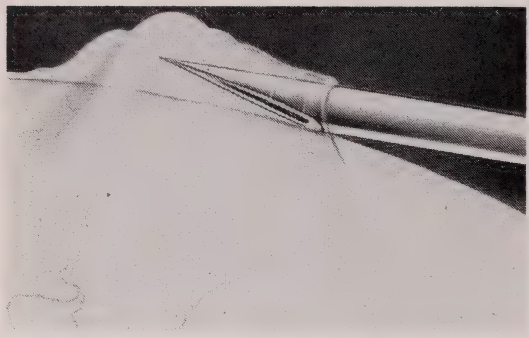

Fig. 9. Subconjunctival injection with bevel of needle toward globe to prevent pricking sclera, which causes bleeding.

for globe operations and 5 cc. or more for enucleation. *Pressure* over the eye combined with moving it in the orbit for at least five minutes to produce better anesthesia and to increase hypotony is of sufficient importance to warrant repetition (Fig. 8). Hypotony may be particularly desirable for operations such as iridectomy, iridencleisis, and diathermy.

When the eye is red and inflamed, as in cases of acute or absolute glaucoma, a subconjunctival injection should also be given since the inflamed conjunctiva is not well anesthetized by topical application and all the nerves that supply the conjunctiva are not blocked by the retrobulbar injection. In making subconjunctival injections, if the first injection is made through the insensitive conjunctiva adjacent to the cornea and succeeding injections are made through blebs produced by the anesthetic, little pain will be experienced. The injection can easily be made without the use of forceps if the needle is slid gently over the conjunctiva until a fold appears in front of the point; the needle is then rotated, which produces a boring effect, and it passes easily through the conjunctiva. If the bevel of the needle is toward the globe, the shoulder of the needle rides on the sclera and prevents pricking it, which causes bleeding (Fig. 9).

General Anesthesia

Since most glaucoma operations can be done safely and painlessly with local anesthesia and most eye surgeons prefer this method, more emphasis has been placed on local anesthetic procedures. When general anesthesia is to be used, it is the surgeon's duty to select a competent anesthetist because whether local or general anesthesia is to be used, the patient's welfare is the responsibility of the surgeon.

For infants, patients with mental disorders, and others for whom local anesthesia is not considered adequate, a general anesthetic is indicated. When an experienced anesthetist is available, the choice of the anesthetic and the method to be used are influenced mostly by the general condition of the patient and surgical requirement. Unfortunately, the choice is often governed to some extent by the experience of the anesthetist. Certainly, if a well-trained anesthetist is not available, the simplest and safest anesthetic and method of administration should be chosen.

If a less experienced individual is to administer the anesthetic, the safest anesthetic is probably ether by the open-drop method. This may be followed by intrapharyngeal administration through a catheter passed through the nose or through a cannula attached to an oropharyngeal airway. Such a device serves the double purpose of maintaining an airway and a means of administering ether or oxygen. The anesthetist with his equipment is out of the way, and it is a fairly satisfactory procedure. However, the jaw often has to be supported by the anesthetist, which may jostle the head and disarrange the drapes.

If an experienced anesthetist is available with the necessary equipment, intratracheal anesthesia may be used. A few advantages of this type of anesthesia are that the anesthetist and equipment are out of the way, and it is not necessary for the anesthetist to hold up the jaw to insure a patent and unobstructed airway. The intratracheal airway relieves laryngeal spasm and provides for controlled artificial respiration. With the closed system and filter to absorb the excess carbon dioxide, the patient is less likely to become dehydrated. The explosion hazard is minimized. The proper level of anesthesia is more easily maintained, and with it the respirations are quiet which is a point of some importance in eye surgery.

Pentothal Sodium (Thiopental Sodium U.S.P.)—*Intravenously:* Thiopental sodium (Pentothal Sodium) given intravenously along with local or general anesthesia is a good combination, provided an experienced anesthetist is available. It should be emphasized that while Pentothal Sodium is a potent hypnotic, it is not an analgesic. In doses large enough to produce so-called anesthesia it is distinctly dangerous;

there is such a small margin of safety between this stage and respiratory arrest. Occasionally one observes operations in which Pentothal Sodium is being administered; the patient moves because pain is experienced, and the surgeon asks the anesthetist "to get him deeper." Here more profound hypnosis might be distinctly dangerous, while a small amount of either a local or general anesthetic agent would be perfectly safe and good anesthesia would be obtained. Less Pentothal Sodium is necessary if good local anesthesia has been obtained or if enough general anesthetic agent is used to produce surgical anesthesia. The rapid induction and prompt recovery with comparatively few undesirable complications, if skillfully used, make Pentothal highly desirable for some glaucoma operations.

Pentothal Sodium is compatible with most anesthetic agents and, as a preliminary measure, makes induction with the anesthetic agent easier and more pleasant. Agents such as ether which cause laryngeal irritation must be used cautiously and by an experienced anesthetist when used in conjunction with Pentothal Sodium because of the possibility of laryngeal spasm. An airway and proper equipment for administering oxygen by insufflation should always be available.

Rectally: The rectal administration of Pentothal Sodium is desirable to produce preanesthetic hypnosis in children with congenital glaucoma for which several operations may be necessary. It practically eliminates all unpleasant recollections of the operation. The night before the operation a cleansing enema of isotonic solution of sodium chloride is given. The enema should be given at least four to six hours before the operation. A soapsuds enema is not used because it affects the Pentothal. Other preanesthetic medication, such as atropine sulfate or scopolamine and Demerol, is given one-half to one hour before the Pentothal Sodium. The atropine and scopolamine are given to diminish the pharyngeal and tracheobronchial secretions and decrease laryngeal spasm.

The dose of Pentothal Sodium is regulated according to the weight and metabolic rate of the patient; 1 Gm. of Pentothal Sodium is given for every 23 to 34 Kg. (50 to 75 pounds) of the patient's weight. A maximal dose of 1 to 3 Gm. is advocated.

Ether, cyclopropane, or nitrous oxide and oxygen may be used with Pentothal Sodium to produce anesthesia. The induction is easier and quicker with cyclopropane or nitrous oxide, but it can also be produced with ether with no unpleasant stage. However, it should be given slowly to avoid disturbing the patient or exciting laryngeal spasm.

Children in whom the anesthetic has been preceded by rectal Pentothal Sodium have less dread of a second operation.

Conclusion

With careful attention to the details of preanesthetic preparation, good anesthesia, and akinesia, fewer complications will occur during and following operations for glaucoma.

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Discussion

Thaddeus M. Witka, M.D., *Buffalo.*—I read Dr. Atkinson's paper with a great deal of interest. At first, it did not seem possible that that much material could be garnered for discussion relative to anesthesia for antiglaucoma procedures. However, his broad experience in the presurgical and anesthetic periods makes him an expert in this field of ophthalmology. I am pleased that Dr. Atkinson discussed the mental adjustment of the patient who requires an antiglaucomatous procedure and the use of appropriate medications—a period before surgery which we may overlook in our busy practices.

Except for the preparation outlined in the paper, no other special course is necessary unless the patient is a diabetic or has high blood pressure, in which case he should be prepared rapidly by diet, insulin, or phlebotomy. Some patients may become disoriented after taking a certain type or any one of the barbiturates, but these symptoms are usually detected the evening before, and such patients are not given barbiturates the following morning. In the meantime one should be equally concerned with the fellow eye. Instillations of pilocarpine are indicated if it shows even the slightest tendency to hypertension since cases are not rare in which the condition becomes bilateral in the course of a few hours, days, or even weeks.

Opinions differ on the extent to which general anesthesia should be used. It is certain, however, that general anesthesia is imperative in operations on children. It is indicated in painful operations or when the patients are apprehensive or have even undergone previous surgery. One should bear in mind, however, that the presurgical preparation with barbiturates or other sedatives and narcosis are very important. Frequently the surgeon has adequate knowledge of what the patient has done previously. In any case the presurgical sedation should be flexible in regard to the age, physical stability, and mental and nervous makeup of each patient. For most operations of an antiglaucoma nature, general anesthesia is not necessary, and local anesthesia may be preferable. By the combined use of topical nerve block and infiltration technics, an effective local anesthesia can be obtained.

There are several advantages of local over general anesthesia, and these may be summarized under the following headings:

1. *Safety:* The greater safety of a properly chosen local anesthetic is well established. For injections into the tissues it is advisable to use comparatively small amounts of drugs of low toxicity. Such anesthesia is much safer than general anesthesia for patients with cardiac disturbances, nephritis, arteriosclerosis, or other general diseases. Rarely an idiosyncrasy to some one anesthetic may exist, but usually the patient is aware of such a condition, and another drug may be substituted.

2. *Cooperation of the patient:* Cooperation is especially desirable in ophthalmic operations and may be secured by local anesthesia.

3. *Sterility of the operative field:* There is no danger of contamination from the hands of the anesthetist or from appliances necessary for general anesthesia. Also, danger of contamination by vomitus is lessened.

4. *Unobstructed operative field:* Masks, inhalers, tubes, and the like equipment in general anesthesia often obstruct the field and make the operation more difficult.

5. *Lessened bleeding:* In nitrous oxide or ethylene and even in ether narcosis, the blood vessels are engorged.

6. *Infrequency of vomiting:* Vomiting is not so often encountered either during or after operative procedures as with general anesthesia. If the patient is known to have this disturbance, we can readily employ such drugs as Thorazine, Phenergan and the like. Consequently contamination of the wound is less frequent, and undue stress on the sutures is rare.

7. *Speed:* A series of operations is more rapidly carried out unless two general anesthetists are available.

8. *Postoperative complications:* Patients are conscious and less excited and, therefore, less liable to damage of the wound.

9. *Absence of postoperative complications:* With the use of local anesthesia there is less likelihood of pneumonia, nephritis, and other conditions which may follow general narcosis.

About the only disadvantage of local anesthesia is its deficiency in highly inflamed tissues where it is more difficult to secure complete loss of sensation, but as a rule this can be done by proper administration of sedatives and topical anesthetics.

The agent of choice for infiltration and nerve block anesthesia is lidocaine hydrochloride (Xylocaine) which can be used in 2 per cent solution. However, procaine hydrochloride (Novocain) still has its many advocates. The van Lint infiltration along the superior and inferior orbital margins usually requires 8 cc. of Xylocaine solution. An O'Brien block of the facial nerve just anterior to the tragus and below the zygomatic process should also be used in conjunction with the van Lint akinesia. Usually about 4 cc. of 2 per cent Xylocaine solution are necessary for the O'Brien block. The retrobulbar injection of about 2 to 3 cc. of 2 per cent Xylocaine solution should be placed in the muscle cone. The van Lint infiltration, the O'Brien block, and the retrobulbar injection of Xylocaine combined with topical tetracaine produce very effective local anesthesia. In glaucoma cases where the tension has not responded to the use of miotics, hyaluronidase and procaine within the retrobulbar space are sometimes useful in lowering the intraocular tension. As in all surgical procedures, familiarity with the anatomy of the parts involved is necessary.

For general anesthesia in adults, intravenous barbiturates are the agents of choice. Pentothal is usually employed. However, with Pentothal anesthesia the patient sometimes develops prolonged coughing spells, and occasionally laryngeal spasm occurs. This can generally be prevented by spraying the pharynx with cocaine solution. Some anesthetists use curare or curare-like preparations intravenously in divided doses in amounts sufficient to overcome these bad effects or just prior to intubation. With Pentothal anesthesia it is sometimes difficult to maintain a constant level of anesthesia. During intraocular surgery the amount of painful stimulation varies. At the time of minimal stimulation there is a tendency for the anesthetist to administer only minimal amounts of the Pentothal, allowing the patient to become lightly anesthetized. However, such periods of light stimulation may be followed quite suddenly by procedures producing painful stimulation. For instance, when turning down a conjunctival flap, or inserting sutures, or making a section, there may be a slight painful stimulation, but these procedures are promptly followed by operations on the sensitive iris. If the patient has been carried lightly during the less stimulating procedure, the manipulation of the iris may be very painful, and the patient may make a quick movement with a resulting unfortunate accident.

Therefore, in using Pentothal the surgeon should always anticipate the degree of painful stimulation which will result with each procedure and should apprise the anesthetist of any change so that anesthesia depth can be adjusted.

Demerol as a preoperative medication is used in dosages of 75 to 100 mg., but if the patient appears apprehensive or very talkative in the operating room or has had several previous ophthalmic procedures, an additional 50 mg. may be administered intravenously. A trained anesthetist should be available for this type of narcosis. Using Demerol in this manner helps the apprehensive patient but is also of benefit to the ophthalmic surgeon where the patient's cooperation is desired. However, it is a good plan to precede intravenous Demerol with the usual topical nerve block, the akinesia, and the retrobulbar injection. I remember distinctly one female patient who, during a fourth surgical procedure, required almost 200 mg. of this Demerol intravenously despite preoperative sedation. When one employs intravenous Demerol, it is a good idea to explain to the patient that this produces a hypnotic narcosis and that a trained anesthetist is necessary. This helps when the question of the anesthetic fee comes up.

The role of curare in intraocular surgery is still undetermined; however, it would be a rare case that would require its use. What effect, if any, it may have on the intraocular tension I do not know. Since other methods for local and general anesthesia are so efficient, it is superfluous to use a drug that has such a depressing action on respiration. The same principle of simplicity should be used in choosing and administering anesthetics as is used in the general preoperative care of the ocular patients.

Surgery of Chronic Glaucoma

HAROLD H. JOY, M.D., SYRACUSE, NEW YORK

(*From the Departments of Ophthalmology of the Good Shepherd Hospital and the State University of New York College of Medicine at Syracuse*)

THE classification of primary glaucoma into narrow angle and wide angle types has done much to facilitate the surgical treatment of this disease. It offers a means of assistance in choosing the operative procedure best suited to the particular case and a guide as to when it should be done. In narrow angle glaucoma the primary lesion is in the ciliary vessels, and congestion and edema of the ciliary processes push the iris forward, obstructing the chamber angle. Together with exudation from the vessels this causes the development of peripheral anterior synechiae which obstruct outflow of the aqueous.[1] Much less is known of the mechanism of wide angle glaucoma. It is probable that the ciliary body is not primarily involved and that the disturbance is caused by obstruction of outflow in or near the angle wall in the trabeculum involving Schlemm's canal mechanism.[2]

It is often difficult to decide if or when surgical intervention is indicated in the treatment of primary chronic glaucoma. One must take into consideration all of the many factors involved and judge each case on its own merits. It should be kept in mind that surgical treatment has many disadvantages. There is always the possibility of immediate serious operative or postoperative complications as well as potential late complications. Moreover, surgical intervention is not always successful in obtaining normal intraocular tension. In fact, it may make the condition worse since the resultant trauma stimulates the development of peripheral anterior synechiae in the chamber angle.[1] If the new channel does not remain patent, the operation may actually accentuate the glaucoma.

Nevertheless, surgical intervention is the treatment of choice in many cases and, when indicated, should not be unduly postponed. It should be resorted to whenever medical treatment fails to halt the progress of the disease, when the patient cannot or will not regularly instill medication, or when the use of miotics seriously handicaps the patient functionally. It is more often indicated in younger and healthy individuals than in the old and debilitated whose life expectancy is not great and in whom the tissues are atrophic. If and when medical treatment fails to control the progress of the disease, surgery should not be delayed since it is obvious that procrastination will result in ultimate further visual loss. In general, the earlier the operation, the better the outcome for there is greater surety of normalization of ocular pressure and less danger of continued progress of field defects after normalization has been attained. Reese[3] has pointed out the reasons for this. Long-continued ocular hypertension stimulates the production of anterior peripheral synechiae which in time may involve even the entire circumference of the globe. Hence, the earlier the operation is performed, the less extensive is the blocking of the chamber angle and the smaller the load on the operative mechanism. According to Reese, the reason why field defects are less likely to progress after normalization of pressure in early cases is because the changes in the retinal vessels which produce them have not yet gained the momentum which they later acquire.

No patient should be subjected to glaucoma surgery until the eyes have been meticulously examined, their functions adequately investigated, and the patient's history, general physical condition, and life expectancy fully evaluated. Useful information can thus be obtained which not only materially assists in deciding if and when surgical intervention is necessary but is also helpful in choosing the operation best indicated in the particular case.

Since the object of glaucoma surgery is to reduce intraocular tension in an effort to prevent progression of field defects, these two conditions should be carefully studied and appraised. It is important to follow closely the pressure curve and to note the effect of medical treatment, including the type of miotic used, its strength, and the frequency of instillation. Repeated studies of the extent and progress of visual field defects are most important since progression in spite of apparently adequate medical treatment indicates the need for surgery. Advanced concentric contraction of the field requires special consideration. Dunnington[4] has called attention to the relative safety of operation if the contraction is uniformly concentric, in contradistinction to the danger of complete visual loss if it is irregular with the nasal border of the defect in close proximity to the point of fixation.

Central visual acuity is likely to vary considerably from time to time regardless of the progress of the glaucoma. Hence, such changes are not necessarily significant. However, a sudden drop in central vision requires immediate investigation. Naturally, the effect of lens opacities and fundus changes on the visual acuity must be evaluated.

Careful examination of the ocular structures assists in revealing the mechanical cause of the hypertension and how it can best be relieved. Since it is important to know whether the glaucoma is of the narrow angle or wide angle type, the anterior chamber should be studied and an effort made to ascertain the reason for any alteration in its depth. Close scrutiny of the iris is particularly essential for its condition may be the determining factor in the choice of operation. This applies to the presence of extensive peripheral anterior synechiae and, since the iris is utilized in most operations, to posterior synechiae and undue atrophy or vascularity.

The condition of the lens must also be carefully considered. It should be remembered that a swollen lens may be the determining cause of glaucoma and may simulate the narrow angle type. The frequent occurrence of lenticular opacities in the glaucoma age group may be a factor in operative choice, for some procedures tend to cause rapid maturation of cataracts and at the same time make subsequent extraction more difficult.

The conjunctiva plays an essential part in all filtrating operations. If it is friable and atrophic with little subconjunctival tissue, the operation is made more difficult, and a satisfactory filtering bleb may not be obtained. Moreover, protection against subsequent intraocular infection is less certain, particularly if the filtering channel is large. Atrophy of the conjunctiva is to be expected in the older glaucoma age group. This atrophy together with the inclination to inadequate healing and other undesirable features in the aged should be carefully appraised before attempting surgery of any kind.

The surgeon should be prepared to perform adequately the type of operation which is indicated in a given case. This may be tempered by his ability to acquire the proper technic for its correct performance. If this has not been mastered, it is better to perform a substitute operation well than the one indicated poorly.

There are two different principles involved in attacking the problem. One concerns the diminution of the formation of the aqueous. This is to be presented by Dr. Knighton. I will confine my discussion to the older principle of facilitating aqueous outflow. This is accomplished by establishing drainage through the anterior chamber angle either into the suprachoroidal space, an internal drainage procedure, or externally into the subconjunctival tissue. It is possible that drainage by itself plays a minor role in the reduction of tension. However, a discussion of the theories proposed to account for it is outside the province of this paper.

Internal Drainage Operations

Iridectomy.—Iridectomy was the first procedure employed to establish internal drainage. However, it became apparent many years ago that it was usually ineffective in reducing pressure except in early cases. The reasons for the failures became clear as the pathologic changes of chronic glaucoma became better understood. It is now quite generally agreed that iridectomy is only useful in the narrow angle type and only in early cases when there are few anterior peripheral adhesions and the tension is still controllable by the use of miotics. Chandler,[5] who has had much success in these cases, precedes the iridectomy by gently freeing the synechiae around the upper half of the globe with a cyclodialysis spatula. Complete closure of the wound is extremely important to prevent delayed restoration of the anterior chamber and resultant postoperative adhesions in the angle and pupil. This may be obtained by a valvelike keratome section or by appositional sutures.

Cyclodialysis.—In cyclodialysis an attempt is made to create a permanent cleft between the sclera and ciliary body through which the aqueous escapes to the suprachoroidal space. A scleral incision is made 6 mm. from the corneal margin and parallel to it. A spatula is inserted, closely hugging the sclera, into the anterior chamber. The attachment of the ciliary body to the sclera is then more extensively broken by sweeping the spatula in an arc.

The tension-reducing potentialities of cyclodialysis are so little that its utilization is limited to comparatively low degrees of pressure. In narrow angle glaucoma it is chiefly suitable as a secondary measure after other operations have failed or in the presence of advanced iris atrophy in which a filtration operation is deemed unwise. Cyclodialysis has its greatest use in wide angle glaucoma. However, its limited hypotonic effect and the marked tendency to closure of the channel are serious disadvantages. Because of its frequent ineffectiveness it has been combined with iridectomy and iridodialysis, and attempts have been made to keep the cleft patent by the incarceration of iris tissue and by various setons such as a nonirritating plastic cannula.

Cyclodialysis is more traumatizing to the ciliary body than is generally believed. This is evidenced by the bleeding which quite regularly occurs. Not only may the hemorrhage block or close the cleft, but if severe, irreparable damage may be done. Dunnington[4] has emphasized the precautionary measures to be taken in attempting to keep the channel free of blood. The operation should be done above the horizontal meridian, air injected into the anterior chamber, and the patient kept in a semiupright position until any hyphema has been absorbed. In spite of all precautions there is a great tendency for the filtration channel to close, often necessitating repeated operations, which, along with its limited hypotonic effect even in successful cases, greatly restricts its applicability.

Subconjunctival Drainage Operations

Operations which establish direct drainage from the anterior chamber to the subconjunctival tissues are the most effective and generally accepted surgical procedures used in chronic glaucoma. An attempt is made to construct a permanently patent channel through a scleral or sclerocorneal opening which is covered by a conjunctival flap. Communication may be provided through a sclerectomy incision or a fistulous cicatrix. One or the other of these procedures is suitable in most cases of chronic glaucoma.

The salient feature of sclerectomy operations is the creation of a relatively large opening in the sclera or sclerocornea. Because of the resultant free drainage which this provides, these operations are generally effective in lowering highly elevated intraocular pressure. However, if extensive peripheral anterior synechiae are present, they tend to block the scleral opening. In addition, the technical difficulties encountered if the anterior chamber is shallow make sclerectomy procedures unsatisfactory in narrow angle glaucoma. On the other hand, if the anterior chamber is of normal depth, the operation is easier to perform, and if uncomplicated by the presence of peripheral synechiae, there is much less chance of closure of the scleral wound. Hence, sclerectomy operations are indicated in wide angle glaucoma in which the tension is highly elevated and particularly in advanced cases.

Anterior Sclerectomy.—LaGrange was the first to perform a satisfactory sclerectomy. In this operation a limbal section is made with a Graefe knife which incises the sclera about 2 mm. back of the limbus and is carried backward beneath the conjunctiva to secure a conjunctival flap. The small piece of sclera adjacent to the cornea is then excised with scissors, and usually an iridectomy is done. This is a difficult operation to perform, and even the most skillful surgeon cannot accurately judge the size of the scleral strip to be obtained and the consequent size of the opening. Moreover, considerable hemorrhage is caused by the scleral incision, and if the section is too deep, there is danger of damage or displacement of the ciliary body, subluxation of the lens, and even loss of vitreous.

The LaGrange operation proved effective in the hands of skillful surgeons. However, its technical difficulties mitigated against its wide acceptance. Hence, the more simple anterior corneosclerectomy or trephining of Elliott, which accomplishes similar results, has largely replaced it.

Trephine Operation.—The keystone of the procedure is the attainment of a permanent, properly placed opening in the sclerocornea covered by as thick a conjunctival flap as possible. Since the conjunctiva in the age group subject to glaucoma is generally thin and fragile, the flap must be prepared cautiously with blunt scissors closely hugging the sclera. This is particularly true in the limbal region where there is the greatest danger of buttonholing the conjunctiva. Careful preparation of the conjunctival flap also lessens the tendency to formation of adhesions which may block filtration. Verhoeff and Chandler[6] have devised a new, unique method which avoids the necessity of making a conjunctival flap. The bulbar conjunctiva is pulled down over the cornea and incised at a point just above the limbus where the trephine opening is made. The conjunctiva is then allowed to retract and the hole in it tightly sutured.

The location of the trephine opening is most important. It must be at the chamber angle anterior to the trabecula and well in the cornea to prevent regeneration and subsequent closure. To accomplish this the cornea must be split for a distance of 1 mm. This is facilitated by the use of a very sharp knife which, after severing the fibers at the line of cleavage, is carried forward parallel to the plane of the cornea. The trephine, which should be extremely sharp, is applied as far forward in the dissected fibers as possible. It is placed perpendicular to the surface and then tilted slightly forward to secure a scleral hinge. It is gently rotated back and forth and its position checked. The same process is continued until loss of resistance indicates penetration. As this occurs, the iris generally bulges into the opening. If pressure is then exerted on the cornea with a cotton applicator, it will not slip back into the anterior chamber.

It is probably less traumatizing to grasp the scleral disk and iris together and excise both with a single snip of the scissors as advised by Elliott.[7] However, the character of the iridectomy can be better controlled if done separately. The iris is pulled gently forward and excised near its base to perform a peripheral iridectomy. If it persists in prolapsing, a complete iridectomy is advisable. The sclerocorneal button is then excised close to its scleral hinge.

Careful suturing of the conjunctiva is an important and sometimes neglected detail. As emphasized by Dunnington,[8] this should include accurate closure of Tenon's capsule to preserve the sub-Tenon capsule space and to prevent subsequent obstruction of the trephine opening by retraction of the capsule. As the last step in the operation the eye is gently massaged over the trephine opening to insure freeing of the iris pillars. A drop of 1 per cent atrophine is then instilled to put the iris at rest and to prevent adhesions.

The chief operative complications are the result of faulty technic. Among the minor ones are buttonholing of the conjunctival flap and loss of the scleral disk in the anterior chamber. The former is corrected by changing the location of the trephine opening or, if it has already been made, by covering with a VanLint sliding flap. If the disk drops into the anterior chamber, it causes little or no reaction and eventually disappears. The mishap can be avoided if a trap-door incision is made by tilting the trephine slightly forward. More serious complications may be caused by unskilled handling of the trephine. Excessive pressure or too rapid cutting may result in sudden penetration and consequent chance of injuring the ciliary body or lens or evoking loss of vitreous. Any of these catastrophes may also occur if the trephine opening is placed too far posteriorly. Moreover, such misplacement is likely to prevent adequate filtration since the opening may be so far back as to provide little or no communication with the anterior chamber or may soon close from scleral regeneration. Another serious complication may be caused by inserting iris forceps or hook through the trephine opening. If the iris does not bulge into the wound as the trephine penetrates or if it falls back before it can be grasped, it is better to omit the iridectomy rather than risk a traumatic cataract by the introduction of instruments into the anterior chamber.

The chief postoperative complications are caused by the surgical trauma, the presence of atrophy of the iris, and the behavior of the trephine opening and its conjunctival covering. Irritation of the iris may set up a low-grade iridocyclitis. The trephine opening may be closed by an atrophic iris, by the development of peripheral synechiae, or, as previously mentioned, by regeneration of scleral tissue if it has been placed too far posteriorly. Subconjunctival drainage may be obstructed by adhesions resulting from the trauma of preparing the conjunctival flap. One of the most disconcerting complications is delayed reformation of the anterior chamber and its consequent tendency to the formation of anterior and posterior synechiae. In these cases a mydriatic should be instilled daily until the anterior chamber begins to reform. If it does not refill within two or three weeks, a posterior sclerotomy over the area of chloroidal detachment may be indicated. The very low tension which not infrequently follows trephining may be caused by postoperative uveitis, or it may be that the new filtration system is working too well. Persistent hypotony is most often the result of a cystoid scar of the conjunctiva and should be corrected surgically since it leads to the rapid maturation of incipient cataracts and other degenerative changes. A much greater danger is the inadequate protection against intraocular infection which this thin conjunctiva provides. The high incidence of late intraocular infections after trephine operations and even following LaGrange sclerectomies is one of the reasons why these procedures have steadily lost favor.

IRIDENCLEISIS.—The idea of deliberate incarceration of the iris in an operative wound was at first viewed askance for it seemed to violate an important tenet of ocular surgery. However, the favorable results obtained by pioneers of this procedure gradually allayed the fears of most ophthalmologic surgeons. An increasing number experimented with its use, largely because of dissatisfaction with the results and the technical difficulties encountered in other filtration operations. Because of its efficacy and its technical simplicity, it is probable that within recent years it has superseded all other filtration procedures in the surgical treatment of chronic glaucoma. It is attended with less operative risk and fewer immediate or potential late complications.

The principle of iris inclusion operations is the creation of a small permanent drainage channel to the subconjunctival tissue which is kept patent by the incarceration of a segment of iris. Iridencleisis has generally been found the most effective method for accomplishing this. The smaller drainage channel obtained in the iris inclusion procedure results in less reduction of intraocular tension than after the trephine or LaGrange operations. On the other hand, it largely eliminates the occurrence of hypotony or late pyogenic infection. Surprisingly enough, troublesome postoperative iritis seldom occurs. Some ophthalmologists still condemn the very thought of iris incarceration because of fear of sympathetic ophthalmia. It is true that this serious complication occasionally follows. Nevertheless, this remote danger appears to be counterbalanced by its effectiveness and the relatively infrequent occurrence of other complications.

The operation is easily and quickly performed. It rarely leads to delayed formation of the anterior chamber or to pathologic hypotony, and generally the complications are less frequent and less severe than with other fistulizing operations. Since the procedure depends on subconjunctival drainage, the formation of conjunctival adhesions should be minimized by cautious dissection of the conjunctival flap. This trauma is much less if the conjunctival and scleral incisions are made in a single step starting the keratome section about 10 mm. above the limbus and carrying it beneath the conjunctiva to the point of scleral incision. However, it is more difficult to secure accuracy in the scleral portion of the section, and this is extremely important. It should start about 2 mm. above the limbus and emerge exactly in the chamber angle. The classic section through the sclera is oblique. Dunnington[8] prefers a perpendicular incision, maintaining that a shelving wound acts like a valve and tends to close more readily and firmly. The point of the keratome must hug the sclera to prevent perforating the underlying uvea and should emerge just anterior to and in a plane parallel with the iris, avoiding its entanglement or injury to the anterior capsule of the lens. This may require considerable caution if the anterior chamber is very shallow. In such cases an ab-externo incision may be advisable.

If the iris does not bulge into the wound as the keratome is withdrawn, great care must be used not to damage the lens on introducing iris forceps or hook into the anterior chamber. This can be avoided if blunt iris forceps are inserted just far enough to grasp the iris near its base. As the iris is withdrawn, incision of the sphincter on either side of the forceps provides a flap for inclusion and minimizes distortion of the pupil. Lukic[9] has suggested a method of obviating distortion by making an oblique iridotomy with preservation of the sphincter and then incarcerating the tongue of the iris in the wound. Whatever method is used, the iris should be manipulated as little as possible. The important factor is the preservation of patency of the drainage channel.

Iridencleisis has a wide applicability in the surgical treatment of chronic glaucoma. It is particularly effective if used early in the disease and if the tension is not unusually high (45 mm. Hg or higher). It produces better results if the iris is relatively normal, is less efficacious if it is thin and atrophic, and is unserviceable in the presence of advanced atrophy.

Unless the tension is unusually high or the iris very atrophic, it is the operation of choice in narrow angle glaucoma. It is particularly indicated when the angle is sufficiently narrowed or crowded to render trephining dangerous to the lens and subject to failure from incarceration of the intraocular structures.[10] Also except in severe ocular hypertension and in far-advanced cases there is probably no more effective surgical procedure in the treatment of wide angle glaucoma. It is particularly useful in elderly patients in whom it is important to have prompt restoration of the anterior chamber and to avoid hypotony. It is also useful in the colored races whose response to other fistulizing operations is notoriously poor.

A small amount of bleeding is likely to follow incision of the iris, but it is rarely sufficient to cause staining of the cornea which is the chief concern. This difficulty can usually be avoided by elevation of the head postoperatively. However, if the hemorrhage is excessive, the anterior chamber should be irrigated. In extremely rare instances operative or postoperative bleeding may be so severe as to cause an increase in ocular tension. If this persists, irrigation or removal of the clot with forceps becomes necessary.

Since some degree of postoperative iritis usually follows iridencleisis, posterior synechiae may develop if the pupil is not dilated. Holth[11] condemned the use of mydriatics because of the fear of inducing an acute attack of glaucoma. Nevertheless, they are routinely employed without apparent deleterious effect by many ophthalmologists. It is my practice to instill a drop of 1 per cent atropine immediately after operation and to continue its use postoperatively for a few days if necessary.

As a rule the surgical reaction is mild, and the anterior chamber generally reforms within a day or two. It rarely completely empties again since the aqueous drains into Tenon's capsule when the tension rises. Massage is started quite early depending on the condition of the filtering bleb. It is continued once or twice daily for several weeks after the operation.

The ultimate favorable effect of an iridencleisis operation may not be apparent for from two weeks to six months. Hence, one should not be discouraged if the tension does not immediately fall to normal levels. In such cases massage is continued and pilocarpine instilled once or twice daily. In properly selected cases which have been skillfully operated the tension should be held within normal limits in the large majority. One should be able to evaluate the results properly after one year, for if the tension is normal at that time, it will probably remain so permanently.

The most common cause of failure of this operation is fibrosis of the drainage channel.[12] This is more liable to occur if the iris is atrophic or if the channel is improperly made. Permanent patency of the channel is most likely to be maintained if the keratome section through the sclera is started well back and exactly enters the chamber angle.

Summary

The classification of primary chronic glaucoma into narrow angle and wide angle types provides material assistance in selecting the proper operative procedure. Narrow angle glaucoma is characterized by the formation of anterior peripheral iris adhesions which block the chamber angle. In the wide angle type the iris plays little or no part, and the impediment probably involves Schlemm's canal mechanism.

The dangers and disadvantages of surgical intervention must always be kept in mind. However, when indicated, it should not be unduly postponed. In general, it is indicated whenever medical treatment fails to halt the progress of the disease, when miotics cannot be used regularly, or when their use seriously handicaps the patient.

No patient should be subjected to surgery until the eyes and their functions have been adequately investigated, and the patient's history, general physical condition, and life expectancy have been carefully evaluated.

The surgeon should be prepared to perform skillfully the type of operation indicated in the case at hand. If this has not been mastered, it is better to perform a substitute operation well than the one indicated poorly.

The principle of most operations is the establishment of aqueous drainage through the anterior chamber angle, either internally into the suprachoroidal space or externally into the subconjunctival tissue. Iridectomy and cyclodialysis are internal drainage procedures. Anterior sclerectomy or corneoslcerectomy and iris inclusion operations function externally by providing subconjunctival communication.

The choice of operation chiefly depends on the presence and extent of anterior peripheral synechiae and to a lesser degree on the height of the intraocular pressure and the stage of the disease. The condition of the ocular structures must also be considered.

In narrow angle glaucoma iridectomy or cyclodialysis may suffice in very early cases when peripheral adhesions are minimal. However, generally an iridencleisis is the most satisfactory procedure unless the tension is very high. In such cases a trephining or an anterior sclerectomy may be indicated, but the tendency to obstruction of the opening by adhesions in the chamber angle must be considered. The presence of an extremely atrophic or vascular iris may preclude its utilization in operating. One must then depend on cyclodialysis.

In wide angle glaucoma one does not have to contend with peripheral synechiae. Cyclodialysis may be efficacious in early cases in which the pressure is relatively low. However, its limited hypotonic effect and the marked tendency to closure of the channel are serious disadvantages. Except in high ocular tension and in advanced cases there is probably no more effective surgical procedure than iridencleisis. It is in these cases that trephining and anterior sclerectomy have their greatest applicability.

109 South Warren Street

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Discussion

W. D. McCusker, M.D., *Newark.*—There is a puzzling question which Dr. Joy touched on and perhaps would talk about for a minute, and that is the marked difference in behavior of field changes in two people who apparently have the same anatomic and physiologic circumstances. One patient will lose field irregularly or rapidly, and the other will maintain quite good fields despite the fact that both patients will be riding along with tensions in the high normal or low pathologic range. This is crucial as far as I am concerned for the following reasons: First, despite the fact that I have had the opportunity for excellent training and do not like to consider myself inept, my surgically treated glaucoma patients, while they do fairly well, almost universally lose one or two or more "Snellen lines" of visual acuity, although in most cases their tension is brought into respectable limits of control. Second, I live in a village, and I look smack dab at my results several times a week—and not always in the office. Therefore, very humbly, I am, I think, becoming more and more reactionary, and correctly or incorrectly, I am carrying more and more of my patients under medical treatment until there is perhaps more than sufficient reason to operate them.

In my necessarily limited experience (both in time followed and number of cases treated), this seems to me to be, for now at least, a wise (perhaps cowardly) choice. It means a closer check of fields and tension, but as noted, for the present I'm reactionary.

As regards the choice of operation, Dr. Joy has said it: I have nothing left to discuss here. There are only one or two things I would like to mention about specific types of surgical procedures as outlined by Dr. Joy.

Concerning cyclodialysis, I have the impression that most men agree with Dr. Joy's remarks and conclusions covering this type of operation. One of my close friends, Dr. Bousquet, is now in Dr. Jack Guyton's department at Henry Ford Hospital where they are doing a large number of cyclodialyses, primarily on wide angle and aphakic glaucomas, and with at least an eight-year follow-up seem to be getting excellent results. Their method of doing the dialysis is somewhat different in small technical changes, although they do use a sweep rather than a series of thrusts, but the main point in their method seems to be the very careful placing and utilization of the air bubble which they feel holds the cleft open, the sine qua non of any successful cyclodialysis.

Their feeling about the physiopathologic changes produced by the procedure are also different from what I previously believed. The lowered tension results from depression of aqueous secretion since the ciliary body becomes and remains detached from the sclera, and this has a depressing effect on the secretory function of the ciliary body. (Kronfeld[a] writes in a very similar manner concerning the action of a successful cyclodialysis.) This of course only happens when there is a good communication between the anterior chamber and the supraciliary cleft. It is interesting to note that on their tonographic studies after successful cyclodialysis there is decreased aqueous outflow as well as the important decrease in production of aqueous (F values, Dr. Grant).

As Dr. Joy says, the complication of hemorrhage following this operation is quite regular, and they themselves say it's pretty frightening (they also have some cases with vitreous loss and corneal edema splitting and edema), and they get hyphema in 70 per cent of their cases. However, the cases do clear, and with the marked attention to the utilization of the air bubble the clefts stay patent.

I think I shall try this procedure after a period of personal observation at their clinic. This may seem paradoxic coming from a self-admitted coward, but as stated, I am not too happy with my other glaucoma surgery.

A short note about Dr. Joy's other specific operations. The trephine operation has worked well for me for a while, but the complication of a big vesicle with a thinning wall which I am beginning to see is not good. A few weeks ago Dr. Angus MacLean at Wilmer Institute described a new wrinkle (literally) to use with this procedure which sounds very promising. To give an oversimplified description—he uses a reinforcing tuck of tenons to cover doubly his trephine opening. He reported on roughly a hundred cases, and I would recommend this to your investigations.

The unhappy results I have had with iridencleisis—and I have not had one of the notorious scar-forming Negroes in my practices—all show a nonfunctioning bleb, or rather no bleb. It may be that I do not start massage, as some good men recommend, the day after operation.

In any case I'm still looking for a couple of good, safe, foolproof operations for glaucoma.

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[a] Kronfeld, P. C.: Tr. Am. Acad. Ophth., 1954, p. 249.

Cyclodiathermy and Cycloelectrolysis

WILLIS S. KNIGHTON, M.D., NEW YORK CITY

(*From the Departments of Ophthalmology of the Presbyterian Hospital and the College of Physicians and Surgeons of Columbia University*)

ANTIGLAUCOMA operations may be said to have started in 1706 when Sir William Read, oculist to Queen Anne, performed a paracentesis of the anterior chamber for the relief of a hard eye. But the practice of surgery seems to have lain dormant until 1830 when William Mackenzie published his treatise on glaucoma and advocated puncture of the vitreous. The big stimulus was provided by von Graefe's iridectomy, and since that time there has been no lack of suggestions purporting to abort or cure glaucoma by operating on, in, and around the eye. Fortunately, an increasing understanding of ocular physiology, particularly as it applied to glaucoma, began to exert its influence in promoting medical treatment and in tempering undue enthusiasm for surgical interference. As a result there is now an increasing tendency to study the glaucoma patient more carefully than ever, before concluding that an operation is necessary.

Once convinced of its inevitability, the surgeon must decide how and where to operate, often on the basis of empiric reasoning alone. Seldom is it possible to explain just how and why certain procedures give the results that they do.

The late Dr. Gradle[1] listed the following objectives of glaucoma surgery:

1. To restore normal internal drainage pathways, as exemplified by iridectomy in angle closure glaucoma.
2. To provide a vicarious internal drainage pathway as, for example, by cyclodialysis.
3. To provide an external pathway as is done by iridencleisis, sclerectomy, and trephination.
4. To reduce the formation of aqueous, effected at present by cyclodiathermy and cycloelectrolysis.

The original idea of cyclodiathermy was to inject a high frequency current into the ciliary body so that the heat generated would destroy the adjacent ciliary processes and thus reduce the total amount of aqueous formed. In theory the idea was intriguing, partly because of the simplicity of the concept and partly because it was not difficult to execute. In practice a number of punctures were made over half the circumference of the eye through the bare sclera, 3 to 5 mm. from the limbus, with a short thin needle carrying about 60 milliamperes of a high frequency current. Today the modifications in technic are so numerous that cyclodiathermy is no longer a single individual procedure. (In the words of Gilbert and Sullivan—and of Berliner[2]—it has become a "most amazing paradox.")

In the first place the generating machines in common use do not have a standard output of current, voltage, and frequency. Changes in any of these values will have a different effect on the tissues. Regardless of standardization, however, the electrical and physiologic resistance of the tissues cannot be calculated. There is always a dispersion of the electrical effect along the paths of least resistance, usually along nerves and blood vessels, and sometimes at quite a distance from the site of application. Even the ingenious use of a thermopile to measure localized heat generation does not solve the problem of stray effects.

In addition, one must consider the number of applications, their duration, the region in which they are made, and the amount of penetration involved. If there is any one outstanding observation to be noted in a review of the literature, it is the lack of uniformity in almost every one of these particulars. The wonder of it is that this indiscriminate cooking is able to bring about beneficial results.

A statistical study cannot rightly ignore these variables, nor can it include them all in a definitive statement. One must rely, therefore, on generalities and impressions not always capable of being proved. It is especially difficult to evaluate cyclodiathermy on its individual merits alone when it has been used as a measure of last resort following previous unsuccessful operations.

Cyclodiathermy was first used at a time when one type of glaucoma was supposed to be due to an excessive formation of aqueous. With that idea in mind it was rational to attempt to reduce the overproduction. But since tonographic studies have all but disproved the theory of too much aqueous, we are left with the thought that an eye with too little of this circulation may become unhealthy as the result of stagnation and lack of nutrition. Perhaps this is the reason why some of these eyes eventually become too soft and go on to phthisis after an apparently successful initial result. Evans[3] in his Schoenberg Memorial Lecture emphasized the importance of this "fourth circulation" of aqueous.

The complications which occur in cyclodiathermy are generally conceded to be due to overenthusiasm: too many punctures too long applied with too much current. Needles which are too long and too thick are often responsible for excessive heat generation. The sites of the applications also have a bearing on the outcome. Benner[4] stated that complications occurred only when the punctures were made too close to the limbus, i.e., less than 3 mm., but others have encountered them even when exercising the utmost care and judgment.

The complications which have been encountered include Tyndall's phenomenon in the anterior chamber, hyphema, hyperemia of the iris and iritis, loss of corneal sensitivity and bullous keratitis, lens changes and increase of a preexisting cataract, transitory myopia, hemorrhage, exudates, destructive coagulation of the retina, sympathetic ophthalmia, and finally phthisis. Some of these are only temporary and clear up within a few hours or days. Others persist longer or develop later depending on the magnitude of the injury.

In 1940 Weekers and his coworkers[5-9] began using nonperforating diathermy in the hope of avoiding some of these complications and in support of their theory that the main effect of cyclodiathermy was to create an intense uveal vasodilatation which was the main factor in lowering the tension. They concluded that this vasodilatation was brought about by destruction of the vasoconstrictor suprachoroidal or supraciliary nerve and advocated directing the diathermy to the region between the ciliary body and the ora serrata.

It has been stated that atrophy of the ciliary body is essential; specifically some of the processes themselves must be destroyed. However, Mar[10] in a histologic study found most of the atrophy in the pars plana and very little damage in the ciliary processes, even when punctures were made 3 to 5 mm. from the limbus.

Recent opinion seems to be irregularly divided between the merits of penetrating or partial-penetrating diathermy and surface coagulation. The few reports purporting to compare the two methods are too general in tone with too short a period of observation to be convincing. Furthermore, there is too much discrepancy in the results obtained to indicate that comparable methods were used. For example, Meesman,[11] after an unusually long follow-up, reported 50 per cent success after eight years using ignipuncture. On the other hand, Mar[10] noted that the tension was controlled for only a short time, only 11 per cent for nine months.

There is of course no question of the ability to lower the tension by applying heat to the anterior segment of the eye. Even timid conservative applications will produce an alteration. If the reduction is too little or too short lived, mild diathermy can be repeated after a proper interval with little apparent damage and with another temporary tension drop. Too much diathermy leads to disorganization and destruction, thus posing the problem of finding the optimum intensity of current and the best method of applying it for the most beneficial hypotensive effect.

Not all types of glaucoma respond well to diathermy. The best results seem to be obtained in secondary glaucoma following uveitis, hemorrhagic glaucoma, aphakic hypertension, and absolute glaucoma. In these it may even be justified as a primary procedure. The relief of pain is a striking feature.

In primary glaucoma, however, its use is generally advocated only after other operations have failed, especially when the anterior chamber is shallow. Most favorable results are obtained when the tension is not over 40 mm. Hg. Acute congestive glaucoma is a definite contraindication. A few surgeons have had the temerity to use diathermy as the first operation in primary glaucoma, but although they have reported some good results, they have not attracted a large following.

What has been said about cyclodiathermy applies to cycloelectrolysis, perhaps to a different degree. In this latter method a relatively small direct current is used to destroy the ciliary body function by the chemical process of electrolysis instead of by heat. In this way the disadvantages of stray currents are minimized, and the effects of necrosis by heat are avoided. The indications and contraindications are roughly the same as for diathermy. In both methods aqueous formation is reduced.

Whatever was responsible for the recent resurgence of enthusiasm for cyclodiathermy and its modifications was apparently not convincing enough to sustain it. Already many operators are returning to their previous skepticism and are holding off until all other methods have failed.

There is undoubtedly a place for a procedure like cyclodiathermy, especially as a secondary or final attempt, but in the present state of trial and error it seems advisable to defer judgment until methods and results become more uniform.

121 East 61st Street

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Discussion

Milton L. Berliner, M.D., *New York City.*—I wish to compliment Dr. Knighton on his very careful appraisal of these operations in the treatment of glaucoma. However, I must admit that I do not quite share his pessimism about this form of therapy, especially as a primary procedure in the treatment of primary glaucoma. I was drawn into this matter after several yearly visits to European clinics where I found a revival of considerable enthusiasm for cyclodiathermy.

I first decided to look through the records of cases of previous years performed at the New York Eye and Ear Infirmary. It soon became apparent that no satisfactory data could be obtained, not only because of poor follow-ups but also because the operation was performed in small numbers by a great many different surgeons each employing varying technics. Diathermy and electrolysis treatments, both surface and penetrating, were done anywhere from 2 to 11 mm. behind the corneal limbus. There was no uniformity in the areas treated, size or length of needle used, and time or strength of dosage applied. For the most part the procedure was relegated to eyes already in a hopeless condition as far as any hope of function was concerned.

I decided to perform cyclodiathermies in a small series of cases from my private practice because in these I could have better control of follow-up and progress. Personally I have had no experience with electrolysis. I began this series late in 1951 and have continued since then. By 1953 I had 68 eyes, of which 53 were primary glaucomas and 15 were classified as secondary. I reported my results in the discussion of Dr. Castroviejo's paper given at the section meeting of the New York Academy of Medicine in the spring of 1954, about a year ago. At this time over 50 per cent of the secondary cases (including aphakic glaucomas, acute inflammatory rubeosis, or cases following several previous unsuccessful surgical interventions) were deemed to have good results by virtue of continuous reduction of pressure under 25 mm. Schiøtz.

However, my greatest interest lay in the 53 cases of primary glaucoma. Of these 60 per cent were considered to be of the chronic simple (open angle) variety. I must admit that even with the goniolens there were several instances of shallow chambers where it was difficult to decide whether the angle was open or not. In one of these I decided to dilate the pupil with one drop of Paradrine 0.5 per cent solution and suddenly was confronted with an acute attack which could not be controlled medically and had to have an emergency operation—a narrow angle case (*sic*)! Since then, when this problem arises, Dr. Cinotti of the New York Eye and Ear Infirmary attempts to help by means of tonography.

These 53 cases of primary glaucoma consisted of eyes having good central vision but in which pilocarpine failed to control pressure adequately or (fewer in number) where there was progression of field defects. I explained to these patients that the proposed treatment (cyclodiathermy) might or might not be the answer to their problem; that if it failed, it might have to be repeated or a more radical intraocular operation would be necessary; that this was a simple procedure (?) following which the patient could be sent home within a few hours with his eye open. I felt justified in this because in over 200 eyes performed by our technic, which is similar to the one recommended by Dr. Castroviejo a few years ago, we have not had any of the dire complications mentioned by Dr. Knighton. In a few cases in these so-called good eyes we found a mild transitory cyclitic reaction (aqueous flare) which lasted for only a few days with no permanent ill effects. However, it is easily conceivable that in hopelessly destroyed eyes (which probably should have been enucleated in the first place), any procedure might encourage such severe reactions.

The results were astonishing. Twelve of these cases were two years postoperative, 20 were at least one and one-half years, and the remainder were from six to eight months (postcyclodiathermy). In only two instances was there obvious failure.

In the same remaining 51 cases a year later, cyclodiathermy was repeated in 17. In these 17 cases iridencleisis had to be performed in three. Iridencleisis likewise had to be resorted to in six of the cases following the original single cyclodiathermy treatment. This means that almost 50 per cent of the cases were controlled from one to three years by a single cyclodiathermy.

It will be interesting to see during the coming year what happens to the 14 cases in which the second treatment seems at the moment to be adequate and also to those that were controlled by the original single treatment.

From the standpoint of an impression only, my feeling at this time is that cyclodiathermy may have a very definite place in the treatment of primary glaucoma. In analyzing the cases successful up to now, it seems that in narrow angle (closed) cases, blockage (peripheral synechiae) was existent in only from 25 to 40 degrees of the angle circumference. In the open (wide) angle cases (chronic simple glaucoma) the operation was successful in those where tonography revealed a facility of outflow of no lower than 0.09. Naturally these are only impressions which may not stand up with time.

As to the technic, a retrobulbar injection of 2 per cent procaine is always done. Depending on the pressure from three to four punctures are performed between the insertions of the recti, a total of 12 to 16 in all, $5^1/_4$ mm. from the corneal limbus as accurately as the calipers permit. A $1^1/_2$-mm. needle is used directly through the conjunctiva. The current is applied for seven seconds. As Dr. Knighton pointed out, no accurate determination of intensity of current employed is possible. I have found out that with the machine we use, 35 milliamperes permits the needle to enter the sclera without pushing or unduly indenting it.

I give the treatments at $5^1/_2$ mm. because I believe at this point it is possible to attack the ciliary plexus. Even after the first three or four punctures to an individual quadrant the ocular pressure begins to rise instantaneously. At the end of the operation it usually is about 80 or 90 mm. Schiøtz. Within one-half to one hour it recedes to below normal.

In three instances when this rapid rise in pressure did not occur, no benefits were noted from the treatments, and this, together with the slight corneal anesthesia remaining, corresponding to the treated quadrants, leads me to think that this form of treatment may act directly on the innervation rather than by resulting atrophy of the ciliary processes and/or the blood vessels.

Secondary Glaucoma

IVAN J. KOENIG, M.D., BUFFALO, NEW YORK

(From the Department of Ophthalmology of Buffalo General Hospital and the Division of Ophthalmology of the University of Buffalo School of Medicine)

THE term secondary glaucoma is an ambiguous description of a complicated condition. It takes in a wide group of cases. The etiology is different in almost every case, yet it is the only type of glaucoma wherein we can usually find and name the cause.

This discussion will be limited to secondary glaucomas which are associated with lens pathology and those which are secondary to a uveitis. All of these cases have one sign in common: increased intraocular pressure. The other signs and symptoms vary a great deal depending on the pathology. The pathology is usually some form of obstruction to outflow of intraocular fluids. Prevention of this pathology means prevention of secondary glaucoma. To prevent it one must anticipate the complications which cause it.

First, let us consider lens pathology which by itself may lead to secondary glaucoma. This group of cases includes congenital or acquired subluxation of the lens, traumatic cataract, intumescent cataract, and the aging lens that thickens. Any of these may cause secondary glaucoma by pushing the iris diaphragm forward. The resulting mechanical irritation can produce a low-grade iritis, forming anterior synechiae, with a subsequent blocking of the angle and an obstruction of aqueous outflow.

Another form of lens pathology is dislocation of the lens into the anterior chamber. Here the lens itself may block the angle, and a simple intracapsular lens extraction will relieve the situation.

A cataract with exfoliation of the anterior capsule should be recognized preoperatively. The pathology seems to be somewhat questionable. Theobold[1] differentiates between two types. One she calls "true" exfoliation, where the lens capsule exfoliates in shreds and the shreds are distributed into the spaces of Fontana, in this way causing obstruction to aqueous outflow. The other she calls pseudoexfoliation. Deposits of some unknown substance appear on the anterior surface of the lens and iris and invade the iris tissue and the trabeculum. The probability of a glaucoma being caused by capsular exfoliation remains an investigative problem. Regardless of this, a cataract with such a visible complication should have a basal iridectomy with intracapsular extraction.

Another large group of cases of secondary glaucoma is comprised of those that follow cataract extractions. Attention should be focused on the surgical or postoperative complications which most commonly lead to secondary glaucoma. Not until we anticipate and prevent these complications will we treat these cases successfully.

I have three general remarks which I want to stress at this time. First, intracapsular extractions have fewer postoperative complications than extracapsular. Second, improved methods of anesthesia with associated use of hyaluronidase have reduced the incidence of complications, especially loss of vitreous which accounted for 37 per cent of secondary glaucomas as reported by Post and Harper.[2] Third, firm wound closure with an adequate number of corneoscleral sutures will eliminate many of the most dire complications leading to secondary glaucoma. We shall consider some of the results of poor wound closure now.

Delayed formation of the anterior chamber is a common cause. Hemorrhage into the anterior chamber is another. Incarceration of the iris with or without prolapse used to be more frequent than it is with present-day methods of wound closure.

Epithelization of the anterior chamber or epithelial downgrowth has been a subject of intense interest in recent years. In 1939 Terry, Chisholm, and Schonberg[3] began to investigate it. Theobold and Haas[4] in 1946 reported on a study at Illinois Ear and Eye Infirmary. Their paper described epithelial downgrowth in 14 out of 75 eyes enucleated after cataract extraction and examined histologically. The incidence in cases operated at Illinois Eye and Ear Infirmary as determined by their study was 0.11 per cent (nine cases in 8,062 cataract operations). Since their paper there has been a good deal of further study of this most dreaded complication of poor wound closure. Dunnington and Regan[5] in 1952 reported an experimental study on laboratory animals. Their photographs of histologic sections illustrate the relation of the depth of corneoscleral sutures to the occurrence of epithelial downgrowth. They concluded that the sutures "should not be inserted to a depth greater than one-half the depth of the incision. Because of the foreign body reaction sutures incite, their number should be limited and their removal not delayed beyond twelve days."

X-ray treatment of epithelial downgrowth is the only one with any degree of success, and success is very limited. The ophthalmologist should work closely with the roentgenologist, reminding him that larger doses of x-ray can be used here than in most eye cases where radiation cataract must be avoided.

So far we have considered complications, any one of which could result from poor wound closure.

Postoperative block between the anterior and posterior chambers, simulating an iris bombé, may develop as a result of adhesions at the pupillary border. As Chandler[6] points out, this can be relieved by an iridotomy alone or combined with an anterior cyclodialysis.

There have been several excellent papers published in the last few years on large series of cases of secondary glaucoma following cataract extraction. We have quoted from some of these. Another was that of Owens[7] at Wilmer Institute. While his grouping of the cases varies somewhat from the others, essentially the list of operative and postoperative complications leading to trouble is the same.

Briefly then we have listed complications of lens pathology and cataract surgery which may lead to secondary glaucoma. In our listing we have included some pertinent points on avoiding the development of factors causing this condition. I have been trying to make it apparent that the subsequent appearance of uveitis accounts for most cases of secondary glaucoma. Throughout our list of complications inflammation of the uveal tract is the actual pathology which eventually produces blocked drainage of the aqueous and, hence, glaucoma. Having failed to prevent the pathology, we must try to treat it.

Treatment of Uveitis Associated with Secondary Glaucoma

During the acute phase of anterior uveitis involving iris and ciliary body with an increase in intraocular tension, it may be necessary to treat both conditions, but above all the inflammatory condition should be our first consideration. The increase in intraocular tension should be a secondary consideration. There is a not uncommon practice which I should like to condemn. That is the alternating of cycloplegics and miotics, depending on the intraocular pressure. I am convinced that more harm is done by not using a strong cycloplegic than by using it, even though the intraocular pressure shows an immediate rise. In most instances after the uveitis comes under control, the tension itself will fall. The most important thing is the diagnosis, which may be difficult.

In addition to our standard drugs for iritis, atropine and hyoscine, we have a great new ally in the form of hydrocortisone and ACTH. We now know that these both act by lessening inflammatory reaction. Hence, they delay formation of synechiae which would lead to secondary glaucoma. This delay gives us a period of grace in which to treat and control the uveitis. Since the development of these remarkable products, incidence of secondary glaucoma due to primary uveitis and postoperative uveitis has shown a dramatic drop.

Before contemplating surgery for the relief of secondary glaucoma in either acute or chronic uveitis, the exact location and extent of the synechiae should be determined with the help of the slit lamp and gonioscope. Are they anterior synechiae in the angle? Are they posterior synechiae? If posterior, are they at the pupillary border or in the peripheral iris tissue? Is there fibrosis of the trabeculum leading to the angle? This differentiation is of utmost importance before choosing the type of treatment to be used.

Surgery of secondary glaucoma should be postponed as long as possible. A fundamental rule we have always followed is not to operate on a red eye. One reason for this is the increased vascularity of the iris during uveitis. If surgery is done while this increased vascularity is still present, hemorrhage and exudate are more apt to develop than in a quiet eye. Hemorrhage or exudate are the complications we want to avoid since each in itself sets the stage for more secondary glaucoma. Therefore, we direct our effort toward decreasing the uveitis first.

If the intraocular tension cannot be controlled and the uveitis continues, I feel we should do a paracentesis. This is one procedure which can be done fairly safely, even in the presence of acute inflammation. It not only gives a temporary decrease in intraocular tension but also results in the formation of plasmoid aqueous rich in antibodies to help combat the uveitis. This procedure can be repeated many times if necessary.

Another procedure which can be done safely in the presence of a secondary glaucoma as a result of repeated attacks of uveitis is indicated in cases with iris bombé. Here we are dealing with synechiae of long standing and no acute inflammation and where we have no hope of altering them by medical treatment. For such cases Berens[8] reported a method of transfixion of the iris with a 27-gauge hypodermic needle attached to a small syringe. This has an advantage over a knife because it is not so apt to puncture small blood vessels of the iris. If a hemorrhage should start, one can usually stop it by injecting air into the anterior chamber from the same syringe. I am aware that this air can aggravate the glaucoma. It has done so on several occasions when air was introduced into the anterior chamber after corneoscleral trephine and after cataract extraction. Theoretically, the air, if it does damage, does so either by plugging the drainage spaces or by getting behind the iris and pushing the iris forward to block the angle.

So much for the treatment in the acute stages of uveitis and secondary glaucoma.

Let us go on to a consideration of the surgical procedures of choice in fully established secondary glaucoma after the acute uveal inflammation has subsided.

Surgery for Relief of Secondary Glaucoma

There is no one operation which is either indicated or contraindicated for all secondary glaucomas. Surgery must be planned to relieve the particular condition which is creating the increase in intraocular pressure. Each case of secondary glaucoma has definite indications for and against surgery. The pathology present must determine our choice of operation. It is folly just to try to think of some procedure which will lower tension.

Since von Graefe's original article in 1857 relative to iridectomy in glaucoma, it has been one of our commonest ocular surgical procedures. The failure of iridectomy can probably be attributed either to faulty technic or to not realizing that an iridectomy was contraindicated. This error will account for many failures in glaucoma surgery. I consider the indications for iridectomy in secondary glaucoma to be as follows:

1. Anterior synechiae; in this type of case an

anterior cyclodialysis should sometimes be done along with the iridectomy.

2. Postoperative iris prolapse.
3. Intumescent lens.
4. Glaucoma secondary to uveitis in a noncongested eye.
5. Partial or complete posterior synechiae.

There are many modifications in performing a basal iridectomy. My procedure in most instances is to make a preliminary conjunctival flap followed by an ab-externo incision with a Bard-Parker knife. By this means we are most apt to remove the root of the iris, and furthermore, we eliminate some of the danger of injury to the lens and other intraocular structures. After the iris prolapses into the wound, the iridectomy is done in the usual way. I frequently try to break up anterior synechiae by passing an Elschnig spatula into the angle on each side of the incision into the anterior chamber. Following this procedure a small sclerectomy is done with scissors at the anterior scleral lip of the wound. This procedure gives an added element of filtration.

Paracentesis of the anterior chamber is a temporary procedure and has already been discussed. It is indicated when secondary glaucoma is associated with an active uveitis. Many "red" eyes can be quieted down with repeated paracenteses, and later other procedures can be done on a quiet eye.

Cyclodialysis seems to be the operation of choice in secondary glaucoma following cataract extraction. The exact nature of its resultant physiology is debatable. It was thought that the cyclodialysis relieved tension by creating a cleft in the suprachoroidal space. There is enough accumulated evidence to show that this space is temporary in nature, and one does not create an additional area for intraocular fluids to be absorbed. This operation has many failures. In cases where intraocular tension is permanently reduced, it may be due to the release of some anterior synechiae and opening the trabeculum which led to the canal of Schlemm. The combining of an iridectomy with a cyclodialysis was advocated by Wheeler.[9] He suggested a probable explanation for success of a cyclodialysis when he stated: "It gives an opportunity for the escape of aqueous, first through the possible re-establishment of drainage through Schlemm's canal by preventing the formation of anterior synechiae, and secondly through a possible permanent detachment of the ciliary body." The latter of course is a debatable situation, but the former seems quite probable. The method of doing a cyclodialysis may have some effect on the ultimate result. It has been the experience of many that the classic textbook description of sweeping of the spatula from side to side in an arc is more apt to injure tissue and create hemorrhage than the method of careful probing to separate the choroid from its scleral attachment.

Filtration operations can be divided into three types: corneoscleral trephine, iris inclusion, and the LaGrange or modified procedures. From a physiologic and also pathologic point of view all three are definitely contraindicated in eyes which are congested or which show any evidence of inflammatory reaction with a slit-lamp examination. The iridencleisis operation should not be done in secondary glaucoma due to uveitis or in eyes which show evidence of iris degeneration. In cases of this type I would prefer an iridectomy with a sclerotomy and, if indicated, what I termed an anterior cyclodialysis. Corneoscleral trephine is used occasionally in a quiet eye in which the glaucoma has resulted from an iritis. In order to establish filtration in any of the last three surgical procedures, several factors are necessary. One is that the filtration sinus, in order to remain open, must be lined with pigment epithelium, as in the iridencleisis or sclerectomy, or else the endothelium of the cornea, as in the corneoscleral trephines. The filtration in such cases fails many times because of improper postoperative care. Such filtration will develop more easily if these eyes are massaged daily following surgery. From my experience massage should begin twenty-four to forty-eight hours postoperatively, and I feel that it is important to do most of the massaging from below rather than over the surgical wound above. Recently we have been placing gel film under the conjunctiva over the potential filtering area to inhibit the formation of scar tissue. Gel film is a substance frequently used by neurosurgeons for that purpose. Cyclodiathermy has also been used with success in cases of secondary glaucoma.

The intumescent cataract as a cause of secondary glaucoma might be given more discussion. An iridectomy, either a peripheral, basal, or a complete basal, usually relieves the glaucoma. Whether the lens should be extracted at the same time can be debated. I would prefer to wait several months after such a procedure before extracting the lens if the intraocular pressure is too high. Otherwise a lens extraction might be done at the same time.

The most unsuccessful cases of glaucoma to combat are the absolute glaucomas. This condition brings about many uncertain problems. Mistakes in judgment can be made because many times such cases come under our observation when it is too late to determine the etiologic factor. Few surgical procedures are successful in such cases. Retrobulbar alcohol injection or cyclodiathermy sometimes saves the globe, but as a rule they are disappointing. After having found several undiagnosed malignant melanomas in such blind eyes that I have removed, I have only one surgical procedure to recommend, and that is an enucleation of the globe.

Conclusion

Secondary glaucoma is a condition created by many pathologic changes in the ocular structure, and its treatment is, therefore, very complex.

Some of these cases will respond medically, some surgically, and some will show no response to anything, not even prayer. The better treatment recommended is to prevent the complication by observing and treating the primary condition with greater care.

675 Delaware Avenue

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Discussion

David F. Gillette, M.D., *Syracuse.*—Dr. Koenig has given us an interesting, instructive, and practical but, of necessity, limited discussion of secondary glaucoma. His topic limited him to glaucoma with lens pathology. This naturally included glaucoma following cataract surgery. I wish that he had had the time to discuss cataract in all its phases following surgery for glaucoma. Incipient nuclear or very immature cortical cataracts often develop rapidly after such, without evidence of trauma. He did not discuss visual fields and their importance in deciding when and if surgery should be the choice of treatment, nor could he estimate a safe standard of tension, for it is relative. The congenitally subluxated lens seldom causes glaucoma unless it becomes incarcerated in the anterior chamber. Even so, surgery may be avoided by allowing the lens to drop back through the dilated pupil, then constricting it.

Glaucoma may follow a sharp blow on the eye, probably the result of acute edema of the ciliary body. These cases often show what appears to be an edema of the anterior surface of the lens, the slitlamp showing a Vossius like ring with a slight elevation of the epithelium within its circle. This area may remain so. Glaucoma often follows a hypermature cataract in those cases with a hard opaque nucleus, especially when it drops in the more fluid cortex. Glaucoma is a complication in sympathetic ophthalmia.

Glaucoma may and does follow either type of cataract extraction; there seems to be little difference. That following extracapsular extraction we assume develops as a complication or result from an accident during extraction. Following intracapsular extractions we sometimes have a narrow anterior chamber due, I have assumed, to the vitreous pushing forward with or without choroidal or vitreous detachment. In either type of operation the vitreous may be caught in the wound and cause an irritation which increases tension.

Glaucoma may result from even a small adhesion of the iris to the cornea, as in any puncture wound. It causes an irritation which results in the secondary glaucoma. Severing the band relieves the pull and lowers tension. Happily Dr. Koenig mentioned cyclodialysis which is a helpful operation, especially with a dislocated lens and after cataract extraction. The tension is more likely to remain low if done slightly more posterior than when the technic is used in an inclusion operation. He suggested paracentesis which is a valuable therapeutic procedure, too often ignored, perhaps because of its comparative simplicity. Secondary glaucoma may complicate a discission of the membrane following an extracapsular extraction. A word of caution: avoid pull on the iris. The slit lamp shows the vitreous protruding through the coloboma into the anterior chamber and, if the iris has been traumatized, a mild iritis. Either or both undoubtedly cause an irritation. Intraocular tension is regulated by two factors: the secretory and the excretory. Anything which causes irritation in the anterior segment of the eye stimulates the secretion of more aqueous. This in conjunction with slowing up of excretory rate results in an increase in tension which again causes more irritation and a further increase in secretion, developing a vicious circle. This balance is sometimes easily upset.

So-called primary glaucoma is of unknown etiology. Perhaps we should assume that all glaucomas are secondary to some intraocular alteration of function or brought about by some general physical change producing the same. After all, glaucoma is a relative term which needs qualifying. Some eyes withstand high tension much longer than others.

A few statistics from the file of the New York State Commission for the Blind add considerable interest to this morning's discussions. They are an analysis of the blind reported in 1953. Unfortunately, the 1954 records are not as yet available. Total number of blind reported in 1953 was 2,372. Of these 539 were cataract, 324 glaucoma, three cataract with glaucoma, and 14 secondary glaucoma. Surgical status is known in but 192 cases as follows:

- Cataracts
  - 104 operated
  - 37 refused operation
  - 398 results unknown
- Glaucoma
  - 25 operated
  - 3 refused operation
  - 23 enucleated (absolute glaucoma)
  - 273 status unknown

Until these "unknown" cases can be cleared, the statistical reports are misleading as well as unfair to our ophthalmologists.

ANNOUNCEMENT

PRIZE ESSAYS

The Lucien Howe Prize and the Merrit H. Cash Prize will be open for competition at the next Annual Convention of the Medical Society of the State of New York, May 7 to 11, 1956, in New York City.

The *Lucien Howe Prize* of $100 will be presented for the best original contribution on some branch of surgery, preferably ophthalmology. The author need not be a member of the Medical Society of the State of New York.

The *Merrit H. Cash Prize* of $100 will be given to the author of the best original essay on some medical or surgical subject. Competition is limited to the members of the Medical Society of the State of New York who at the time of the competition are residents of New York State.

The following conditions must be observed:

Essays shall be typewritten or printed with the name of the prize for which the essay is submitted, and the only means of identification of the author shall be a motto or other device. The essay shall be accompanied by a sealed envelope having on the outside the same motto or device and containing the name and address of the writer.

If the committee considers that no essay or contribution is worthy of a prize, it will not be awarded.

Any essay that may win a prize automatically becomes the property of the Medical Society of the State of New York, "to be published as it may direct."

All essays must be presented not later than *February 1, 1956,* and sent to the Chairman of the Committee on Prize Essays of the Medical Society of the State of New York, 386 Fourth Avenue, New York 16, New York.

R. Townley Paton, M.D., *Chairman*
Committee on Prize Essays

Mechanisms Involved in Anesthetic Deaths

A Survey of Operating Room and Obstetric Delivery Room Related Mortality in the University Hospitals of Cleveland, 1945–1954

ROBERT A. HINGSON, M.D., WILLIAM D. HOLDEN, M.D., AND ALLAN C. BARNES, M.D.,
CLEVELAND, OHIO

(*From the Departments of Anesthesia, Surgery, and Obstetrics and Gynecology of the Western Reserve University and of the University Hospitals of Cleveland, Ohio*)

For the period of 11 decades since the introduction of anesthesia, physicians, physiologists, pharmacologists, chemists, and nurses have directed their attention toward the protection of the patient whose natural defenses are obtunded through narcosis of brain or depolarization of nerve for the obliteration of surgical and obstetric pain. The consultation of the pathologist and the public health statistician are welcomed within the clinical team devoted to the task of the elimination of anesthetic deaths. In view of the facts that eight million people in the United States require surgical anesthesia in the nation's operating rooms, that another four million mothers require either analgesia, or anesthetic drugs, or both during childbirth (not forgetting the four million passive intrauterine passengers who received the identical intravascular toxicologic dosage of drugs across the placenta through the umbilical veins), and that an even larger group received a local injection or an anesthetic gas in dental surgery—we agree with Beecher and Todd[1] that "Anesthesia might be likened to a major Public Health Problem."

It is time for the state medical societies, the national public health facilities, and the research foundations to examine not only the dramatic apex of the problem of anesthetic and operating room mortality, but also the much broader base of the pyramid, the problem of morbidity and the surveillance of recovery from both surgery and anesthesia of these substantial proportions of our population.

The present literature on the subject is both alarming and confusing.[2–7] *Anesthesiology*[8] in 1949 commented that at present there is approximately one anesthetic related death to each 1,000 anesthesias. Brown[9] of the Royal Adelaide Hospital in Australia analyzed 133 anesthetic related deaths in 151,000 anesthesias in the ten-year survey (1941 through 1951) in that hospital. Lyford, Berger, and Shumacker[10] reviewed 75 deaths occurring in the operating rooms during the administration of 51,392 anesthetics in the Johns Hopkins Hospital within the decade 1931–1941. Twenty of these deaths (26.7 per cent) were attributed to a major anesthetic factor. A superficial comparison of these two reports, each covering a period of one decade, would seem to indicate that the death rate on the operating table in the Johns Hopkins Hospital, calculated as one in each 690 operations, was far more unfavorable than the death rate of one in each 1,135 operations in the Royal Adelaide Hospital.

However, one gets a different picture on closer analysis when it is determined that 29 of the 55 deaths thought to be unrelated to the anesthesia occurred during difficult craniotomies. Some of these patients died from hemorrhage, and all were in critical condition from increased intracranial pressure at the time of operation. These deaths included cases of hydrocephalus, tumors of the anterior and posterior fossa, and traumatic cases in which the intracranial pressure had been increasing steadily during the preliminary period of conservative treatment. Sixteen deaths occurred during difficult intrathoracic operations, many of the patients being critically ill at the time of operation. Of these 16 deaths nine occurred during pneumonectomy or lobectomy; one during pulmonary plexectomy in a critically ill patient with asthma; one during repair of an esophagotracheal fistula in an infant three days old; one during resection of lower esophagus and cardia for carcinoma, and three resulted from obstruction of the respiratory tract by material from tuberculous or pyogenic cavities which emptied during operation.

Presented, by invitation, at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Section on Anesthesiology, May 12, 1955.

The Royal Adelaide Hospital, on the other hand, with a much better record in the operating room, did not have such a high incidence of critically ill patients being referred from many hospitals for last resort surgery. However, even here a lesson emerges if we, as a surgical anesthesia team, strive to avoid unnecessary operating room mortality. *Operations of necessity should be performed if the patient is not in extremis.* Through years of experience in many hospitals we are convinced of another axiom in the salvage of operating room life: *The greater the operative and anesthetic risk, the more the prerequisite necessity of having the most skillful and experienced surgical and anesthetic team in the midst of the field teaching by example rather than from the side line.* Our third admonition is: *The nearer the patient is to an exodus lethalis, the shorter the time he must be subjected to either the trauma of surgery or the narcosis of anesthesia. Likewise the quantity of both surgery and anesthesia must be proportionately reduced.*

The surgical, obstetric, and anesthesia literature today very properly includes abundant data to assist us in defining the problem, ascribing a cause, and making recommendations for elimination of anesthesia mortality. However, it is not a single hospital experience for a decade or longer or a comparison of the data from two or more that will give us the final answer, but rather the building of an educational program based on the lessons learned from a survey of these abundant data in order that we may continually train ourselves and our residents to simplify our technics, to eliminate unnecessary delays which prolong the milligram toxicologic uptake of the anesthetized patient, and to provide him with the best physiologic cardiorespiratory balance possible through blood and fluid replacement therapy and adequate ventilation.

In the following tables is presented a survey of operating room actual and related mortality in the University Hospitals of Cleveland for the decade January 1, 1945, through December 31, 1954, in a total of 136,043 patients. These included 1,476 intrathoracic operations (more than 85 per cent on the heart and great vessels in critically ill patients) and 42,789 obstetric deliveries.

There were 127 fatalities from all causes during anesthesia or within twenty-four hours from a determined cause associated with either anesthesia or surgery or both. Cases in which the patient's pre-existing disease or injury caused death after the patients were returned to the division are excluded, but those patients who died as a result of disease during their treatment in the operating room are included.

All patients who died were classified as follows: (1) anesthesia sole factor; (2) surgery or disease sole factor; (3) anesthesia major factor, surgery or disease minor factor; (4) anesthesia minor factor, surgery or disease major factor; and (5) indeterminate (Table I). These conclusions were reached after documenting the autopsy findings in 97 of the 127 cases, as well as the clinical impressions of the surgical mortality conference composed of 20 or more surgeons, and (since 1951) of anesthesiologists or from the obstetric mortality conference. Obviously all deaths resulting from surgical and anesthesia technic or errors in judgment were preventable.

In view of the widespread interest in the survey of ten American university hospitals in the Beecher and Todd report[1] on 697,680 administrations of anesthesia in five years, we have compared our summarized data with those of Beecher and Todd in Tables II and III. Also because of the implications arising from the use of the muscle relaxants, we have compared our data on cases in which curare was used with material from the Beecher and Todd report (Tables IV, V, and VI).

The causes of death in our cases and the incidence of death with multiple agents are shown in Tables VII and VIII. No attempt was made to study incidence of operating room mortality with anesthesia when it was managed solely by nurse anesthetists and surgeons from 1945 through 1950 as against the results of the reorganized department which has seen the increasing use of physician-anesthesiologists and residents in anesthesia since July, 1951. The policy of the departments has been the use of the best available surgical-obstetric anesthesia team for the job at hand.

Table IX records the incidence of deaths from all causes in general surgery, intrathoracic surgery, and obstetrics. Table X records the incidence of anesthetic deaths or deaths in which anesthesia was a sole or major contributing factor. In both of these tables it is obvious that the high incidence of deaths associated with intrathoracic surgery makes it imperative to analyze the results in these three major categories separately in order that the incidence of mortality in each may be determined. Even

TABLE I.—University Hospitals of Cleveland, Ohio,

Year	Total Number of Anesthesias Administered in Surgery and Obstetrics	Total Number of Anesthesias Administered for Intrathoracic Operations	Deaths During Intrathoracic Operations	General Surgery Deaths	Deaths During Obstetric Delivery	Total Deaths	Total and Combined Rate: One Death in	Cause of Death				
								Anesthesia Sole Factor	Surgery or Disease Sole Factor	Anesthesia Major Factor	Anesthesia Minor Factor	Indeterminate
1945	10,648	99	3	6	2	11	1,318[b] 968	2	4	2	3	0
1946	11,949	69	2	9	3	14	990[b] 953	5	3	6	0	0
1947	13,304	85	1	8	2	11	1,329[b] 1,209	3	3	2	2	1
1948	12,544	106	3	6	1	10	1,777[b] 1,792	1	4	2	3	0
1949	12,932	92	2	7	2	11	1,426[b] 1,394	3	4	1	3	0
1950	13,495	114	5	7	0	12	1,911[b] 1,349	2	4	1	3	2
1951	13,482	154	8	7	0	15	1,904[b] 890	2	12	0	0	1
1952	15,650	237	4	10	0	14	1,541[b] 1,118	1	10	1	2	0
1953	15,877	267	9	4	1	14	3,122[b] 1,134	3	7	1	1	2
1954	16,162	253	12	3	0	15	5,303[b] 1,077	1	10	2	1	1
Totals	136,043	1,476	49	67	11[c]	127	1,188 (average)	23	61	18	18	7

[a] All patients who had a lethal crisis in surgery, such as cardiac arrest, major aspiration of vomitus, or profound and prolonged shock, and who were resuscitated but subsequently died on the division are included in this analysis.

[b] Combined death rate in general surgery and obstetrics.

[c] Includes cesarean sections.

[d] Italics indicate deaths with agents listed.

[e] Roman numerals indicate anesthesia deaths with agents listed.

though the incidence of death in intrathoracic surgery in this series is relatively high, the mortality is still below 4 per cent in this group of critically ill patients. Likewise, in surgery the incidence of anesthetic mortality is less than 0.3 of 1 per cent and in obstetrics a little more than 0.1 of 1 per cent.

From this material shown in Table X, we can see that no single agent is the cause of, or is immune to the production of, all of this mortality. More frequently the major cause of anesthetic mortality is directly related to the improper administration of the agents, to faulty technic, to inadequate equipment and resuscitative measures, to the policy of "too little and too late" blood replacement, and to improper management of the postoperative period in which obstructed airway and/or hypoxia are related to depressed ventilation leading to death. In the analysis of 331 maternal mortalities reported by Hellman and Hingson in *Anesthesiology* in 1951,[11] we found the most common cause of death to be aspiration of vomitus in 161 instances. In most of these cases patients without proper premedication or determination of their cardiovascular-respiratory status were anesthetized too soon after having eaten a meal.

Macintosh[12] of England feels that the most common cause of anesthetic deaths in that country is the nursing of the unconscious patient in a faulty position, permitting hypoventilation and airway obstruction. He points out also the unnecessarily high number of anesthetic fatalities resulting from the administration of the wrong drug, a miscalculation of the proper dosage of standard drugs, or incorrectly connected cylinders which substitute a gas for oxygen.

In a single city in the United States with a population of about one million, one of us served on a coroner's committee with an anesthesia mortality commission which reviewed 77 anesthetic fatalities in a single year (1950). In three of these cases nitrous oxide was mistakenly placed in the position of the oxygen cylinder.

Happily, the anesthetic gas producers and machine manufacturers have now developed the

Operating Room and Delivery Room Mortality Study[a]

Anesthetic Agents Used[d]								Age Groups				
Ether	Nitrous Oxide	Cyclopropane	Pentothal	Spinal	Local	Curare	Avertin	0 to 4	5 to 13	14 to 49	50 to 80	Year
9[d]	*3*	...	*1*	...	...	...	*0*					
6,102	3,827	...	1,296	438	...	...	729					1945
9	*5*	*0*	*3*	*4*	...	*2*	*0*					
6,315	5,599	63	2,362	23	...	83	654					1946
7	*3*	*0*	*2*	*1*	...	*1*	*1*					
6,820	6,098	329	2,653	1,767	...	287	402					1947
5	*2*	*1*	*1*	*1*	*0*	*1*	*0*					
6,641	5,505	128	2,542	2,281	2,542	84	200	8	3	27	31	1948
5	*2*	*1*	*1*	*0*	*0*	*1*	*0*					
6,135	5,925	59	2,693	2,577	2,693	100	218					1949
8	*7*	*0*	*0*	*0*	*1*	*6*	*1*					
5,537	5,747	186	2,919	3,122	1,919	204	227					1950
12	*5*	*1*	*3*	*0*	*2*	*5*	*0*					
6,012	4,290	107	2,874	3,148	2,350	374	168					1951
11	*1*	*0*	*1*	*1*	*0*	*4*	*0*					
4,939	4,963	131	2,902	2,933	2,400	1,385	207	16	2	28	12	1952
11	*2*	*0*	*1*	*1*	*1*	*3*	*0*					
5,828	6,763	103	3,911	2,946	2,296	1,548	252					1953
11	*12*	*1*	*6*	*0*	*1*	*7*	*0*					
3,953	6,265	1,657	3,317	3,104	2,556	1,665	88					1954
88	*42*	*4*	*19*	*8*	*5*	*30*	*2*					
58,282	54,982	2,763	27,469	22,339	16,756	5,730	3,145	24	5	55	43	TOTALS
XX[e]	XIII[e]	II[e]	VII[e]	IV[e]	I[e]	II[e]	II[e]					

TABLE II.—STUDY OF INCIDENCE OF OPERATING ROOM DEATHS WITH VARIOUS ANESTHETIC AGENTS

	University Hospitals, Cleveland, 1945–1954			10 American University Hospitals, 1948–1952*
Agent	Number of Cases	Deaths	Rate: One Death in	Rate: One Death in
Ether	58,282	89	655	807
Nitrous oxide	54,982	42	1,309	1,245
Cyclopropane	2,763	4	690	1,321
Pentothal	27,445	19	1,445	1,080
Spinal	22,339	8	2,792	2,000
Local, 1948–1954 inclusive	16,756	5	3,350	6,100
Avertin	3,145	2	1,572	
Curare				
1946–1954 inclusive	5,730	30	191 (Major Surgery 192) ——→	370
Intrathoracic surgery	1,476	22	67	
General surgery				
All cases	4,254	8	532	
Anesthesia sole, major, or minor factor	4,254	3	1,148	
Anesthesia primary (sole or major) factor	4,254	2	2,127 (Minor Surgery 2,134)	

* Data taken from Beecher and Todd report.[1]

TABLE III.—ANESTHESIA DEATHS, PRIMARY AND CONTRIBUTORY

	10 American University Hospitals, 1948–1952*	University Hospitals, Cleveland, 1945–1954
Number of cases	697,600	136,043
Number of deaths	384	59
Rate: one death in	1,560	2,306

* Data taken from Beecher and Todd report.[1]

TABLE IV.—STUDY OF ALL DEATHS IN WHICH PATIENT HAD CURARE

	10 American University Hospitals, 1948–1952*	University Hospital, Cleveland, 1945–1954
Number of cases	44,100	5,730
Number of deaths	118	30
Rate: one death in	370	192

* Data taken from Beecher and Todd report.[1]

TABLE V.—ANESTHESIA DEATHS WITH CURARE

	10 American University Hospitals, 1948–1952*	University Hospital, Cleveland, 1945–1954
Total number of anesthesias	697,600	136,043
Total primary anesthesia deaths	244	41
Rate: one death in	2,680	3,318
Major surgery rate: one death in	192	191
Number of cases with curare	44,100	5,730
Curare rate: one death in	14	24

* Data taken from Beecher and Todd report.[1]

TABLE VI.—CURARE STUDY

Type of Surgery with Curare	University Hospitals, Cleveland, 1945–1954 Number of Cases	Deaths	Rate: One Death in	10 American University Hospitals, 1948–1952* Rate: One Death in
All cases	5,730	30	191	(Major Surgery 192)←——370
Intrathoracic surgery	1,476	22	67	
General surgery				
All cases	4,254	8	532	
Anesthesia sole, major, or minor factor	4,254	3	1,418	←
Anesthesia primary (sole or major) factor	4,254	2	2,127	(Minor Surgery 2,134)

* Data taken from Beecher and Todd report.[1]

safety pin index system, which should prevent this unfortunate experience.

Great progress also has been made in prevention of explosions, but more is needed.

Program for Reducing Fatalities

From these remarks it can be seen that anesthesia related mortality at the present time is unduly high; yet in many instances it is not unrelated to surgical and obstetric factors of preoperative preparation, diagnosis, technical competence, and duration of surgery. Obviously, it would be improper to assign prejudicially the cause of death to any one standard agent or technic, even though a few of them, in the classic remarks of Nosworthy,[13] are "fatally easy to give."

These unnecessary anesthetic fatalities can be reduced by the following procedures.

1. More complete and standard training requirements for anesthetists; more careful selection of qualified applicants.

2. The development of close teamwork between surgeons, obstetricians, and anesthetists who will review the patients' problems together before surgery and as frequently during surgery as required through an interchange of progress reports.

3. The improvement of available lifesaving resuscitative equipment such as: (*a*) mechanical airways and devices for intubation, (*b*) suction apparatus, (*c*) removal of unnecessary resistance in anesthesia apparatus, especially for small children, and (*d*) operating tables maneuverable to prompt Trendelenburg positions.

4. Restorative intravenous fluid and blood infusions prophylactically in operation in almost all cases of major surgery and, most important, the development and maintenance of sufficient anesthesia staffs available for twenty-four hours of service on divided shifts in both surgery and obstetrics.

TABLE VII.—CAUSES OF OPERATING ROOM DEATHS, UNIVERSITY HOSPITALS, CLEVELAND, 1945–1954

Most Frequent Cause	Number	Per Cent
1. Cardiac arrest	32	25.2
2. Aspiration		
Vomit	10	7.0
Blood	2	1.0
3. Uncontrollable hemorrhage	10	7.0
4. Respiratory arrest (includes 4 high spinal blocks, 1 pneumoencephalogram with 100 per cent oxygen, and 1 Rubin's test with air)	9	7.0
5. Vascular occlusion during surgery with intra-auricular thrombus or coronary thrombosis	9	7.0
6. Toxic or traumatic shock without major hemorrhage	9	7.0
7. Intracranial hemorrhage or death during drainage of hydrocephalus	8	6.0
8. Asphyxia and airway obstruction: mucus, kinked intratracheal tube, or tube slipping out during surgery	8	6.0
9. Unclassified and miscellaneous (in this group rare and indeterminate causes of death)*	30	26.8
Total operating room related deaths in 136,043 anesthesias	127	..
Autopsies	97	76.4
No autopsies	30	23.6

* 6 of these deaths were during injection of radiopaque dyes or endoscopy for diagnosis.

5. Use of properly staffed, equipped, and situated postanesthesia recovery rooms.

To augment this program, there must be a careful analysis of anesthesia related fatalities by a scientific team consisting of anesthesiologists, pathologists, coroners and surgeons, and obste-

TABLE VIII.—POLYPHARMACY STUDY, UNIVERSITY HOSPITALS, 1945–1954
INCIDENCE OF USE OF MULTIPLE ANESTHETIC AGENTS RELATED TO PRIMARY ANESTHESIA DEATHS IN CONSECUTIVE CASES

Anesthetic Combinations*	Total Patients	Anesthetic Deaths
1	44	14
2	38	7
3	13	3
4	3	2
5	1	0
Total	99	..

* Agents studied: ether, gases, intravenous barbiturates, curare, spinal, local.

TABLE IX.—COMPARISON OF DEATH RATE IN GENERAL SURGERY, OBSTETRICS, AND INTRATHORACIC SURGERY, UNIVERSITY HOSPITALS, CLEVELAND, 1945–1954

A. ALL CAUSES

Type of Operation	Number of Cases	Deaths	Rate: One Death in
General surgery	93,234	67	1,391
Obstetrics	42,789	11	3,890
Intrathoracic surgery	1,476	49	30

B. ANESTHESIA SOLE OR MAJOR FACTOR

Type of Operation	Number of Cases	Anesthetic Deaths	Rate: One Death in
General surgery	93,234	31	3,007
Obstetrics	42,789	6	7,131
Intrathoracic surgery	1,476	5	295

TABLE X.—INCIDENCE OF SPECIFIC USE OF AGENT IN PRIMARY ANESTHESIA DEATHS, UNIVERSITY HOSPITALS, CLEVELAND, 1945–1954

Agent	Number of Uses of Agent*	Total Uses	Rate: One Death in
Ether	20	58,282	2,907
Gas	13	54,982	4,229
Intravenous barbiturates	7	27,469	3,924
Curare	2	5,730	2,865
Spinal	4	22,339	5,584
Local	1	16,756	16,756

* When anesthesia designated as primary (sole or major) cause of death.

tricians who will document and catalog the accumulating facts to be used in teaching programs, thus permitting experiences and lessons of the past to provide foundations for improved future practice.

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Discussion

Charles F. Becker, M.D., *Buffalo.*—The pathologist accepts, perhaps with a certain degree of trepidation, the invitation of the anesthesiologist to join the clinical team in studying the problem of anesthetic deaths. Because in most instances their occurrence is relatively sudden and unexpected and because of the extreme feeling of personal responsibility attendant on these unfortunate cases, deaths in the operating room always carry with them an almost morbid curiosity and "gossip value" to a far greater degree than the average hospital mortality. News of the occurrence spreads with great rapidity throughout the professional fabric of the hospital, and interest in a postmortem examination usually reaches a fever pitch. The problem of the sudden demise is thus transferred from the operating room, the surgical dressing room, staff room, and hospital dining room to the autopsy room and into the lap of the pathologist. In view of this background and in the light of gross and microscopic findings of seemingly inconsequential significance in many of these cases, the trepidation which the pathologist may feel in facing his problem becomes understandable.

In the authors' decade-long study of the mechanism of operating room deaths, the following causes were found to account for 28 per cent of the fatalities: aspiration of vomitus and/or blood; uncontrollable hemorrhage; cardiac vascular occlusion during surgery by intra-auricular thrombus or coronary thrombosis, and intracranial hemorrhage or death during drainage of hydrocephalus. These constitute cases in which the autopsy prosector could demonstrate, to his own relief and to the satisfaction of his audience, impressive, grossly morbid anatomy accountable for the death.

To these causes might be added the following lesions which have been known to cause sudden and unexplained death in the operating room: massive pulmonary thromboembolism, massive atelectasis in endotracheal anesthesia, air embolism following endotracheal intubation, marked atrophy of the adrenal cortex consequent to prolonged cortisone therapy with apparent adrenal cortical insufficiency, cerebrovascular accidents in hypertensive patients during induction of anesthesia, vascular thrombosis subsequent to fall in blood pressure related to anesthesia, and suffocation from airway obstruction due to foreign bodies or packs in the airways, or, as the authors have mentioned, due to mucus or kinking of the endotracheal tube.

Deaths due to anoxemia following the use of certain types of inhalation anesthesia, especially nitrous oxide, have been well known and are thoroughly documented. Here the gross changes may be of seemingly innocuous nature and may consist only of a generalized hyperemia. Yet microscopic studies of the brain reveal severe, anoxic, regressive changes, usually focally or tending to become confluent in the various lamina of the cerebral cortex. These patients usually survive the surgical procedure but never regain consciousness, and the degree of microscopic damage to the brain generally varies in direct proportion to their length of survival. This damage may include softening of the globus pallidus in cases with long periods of survival. In addition to these cases of severe anoxic brain damage, a few cases are reported in the literature of postanesthetic coma following ether inhalation anesthesia without clinical evidence of anoxia during the anesthetic but with severe microscopic and occasionally gross damage to the brain. In these instances severe lesions are described in the cerebellum, cerebrum including Ammon's horn, basal ganglia, and the white matter of the cerebral hemispheres. It is postulated that the damage in these cases is due either to an unusual susceptibility to ether or to a critical degree of anoxia at the nerve cell level, a so-called histotoxic type of anoxia.

Unfortunately, however, there still remains a considerable percentage of cases in which convincing autopsy evidence of a cause of death is not demonstrable. The largest number of these cases are those who die of so-called "cardiac arrest," a functional disorder in which the pathologist is able to demonstrate only changes secondary to acute circulatory failure such as congestion of the lungs, liver, spleen, gastrointestinal tract, and kidneys. True, atherosclerosis of the coronary arteries may be present to a distinct degree in these cases; often, however, even this may be absent. A second group consists of those patients who succumb from depression of the respiratory center or from a precipitous fall in blood pressure with irreversible shock following spinal anesthesia. In these instances, aside from generalized congestion, pathologic findings may be insignificant. Still other victims are those occasional unfortunate patients who exhibit abnormal drug sensitivity and die suddenly following the administration of average therapeutic or even smaller doses of anesthetic drugs or sedatives. In all of these instances the pathologist fails to demonstrate in a positive way an anatomic cause for death, and the value of his prosection lies in ruling out the manifold lesions mentioned.

It is hoped that with the intense current interest and expanding investigative work in the field of histochemistry and with the development of histochemical staining reactions, perhaps significant alterations in intracellular enzyme systems may be demonstrated consequent to the narcosis of anesthetic agents. Then the morphologist at last will be able to show clear-cut histologic changes in those cases of anesthetic deaths which presently are so frustrating.

Specialist Seeks Help in Heart Attack Survey

Dr. Paul Dudley White, Boston heart specialist, recently asked his colleagues to help him find out how many other Americans have had heart attacks like that of President Eisenhower. In a letter published in the November 12 *Journal of the American Medical Association*, Dr. White asked physicians to send him information about their own cases of acute coronary thrombosis, which is more in the limelight than it ever was before the President's illness.

He asked the doctors to supply the following information:

The number of patients with unquestionable acute coronary thrombosis in their practices who became ill during the month following the President's attack—September 24 to October 23, 1955, inclusive; the sex, age, occupation, and national origin of each patient; and the length of time between onset of illness and any deaths.

Dr. White asked the physicians to answer even if they had had no cases during the period. He also asked them to give details about patients who became ill with coronary thrombosis before June 25, 1955.

Early Detection of Gastric Carcinoma

HARRY L. SEGAL, M.D., AND GERALD L. GLASER, M.D.,* ROCHESTER, NEW YORK

(From the Division of Cancer Research, the Department of Medicine, Strong Memorial, Rochester Municipal and Genesee Hospitals and the University of Rochester School of Medicine and Dentistry)

OSLER's statement[1] in 1900 that a hopeful outlook in the treatment of gastric cancer depends on two things, early diagnosis and operation, still has the same significance in 1955. The United States statistics of 1952[2] reveal that gastric carcinoma accounted for 23,466 deaths, approximately 10 per cent of that year's 223,277 deaths due to malignant neoplasms. The annual death rate from gastric cancer, however, has been estimated as surpassing 40,000 per year.[3] Although this picture is not one of optimism, various statistical studies have shown a progressive, although slight rise in the over-all five-year postoperative survival rate, the latest average ranging from 7 to 10 per cent[4,5] and as high as 14 per cent in one report.[6] A postoperative five-year cure rate of 50 per cent has been found by Wangensteen[7] in those cases without lymph node involvement at the time of surgery. This last observation emphasizes the importance of early diagnosis in this disease.

The purpose of this paper is to evaluate the possible etiologic background of gastric carcinoma and to use such evidence in selecting individuals in the cancer age group for appropriate investigative studies. The hope is to increase the percentage of early diagnosis.

Etiology

Ivy[8] has recently discussed in detail many of the experimental observations on the etiology of gastric carcinoma. This paper will limit itself to those factors more frequently predisposing to or at least concurrently associated with gastric carcinoma in man.

AGE AND SEX.—Gastric carcinoma is a disease of middle and late life. It begins to be of significance after forty years of age and doubles in incidence with each succeeding decade. In the United States it is approximately twice as frequent in the male.[9]

GASTRIC SECRETION.—Achlorhydria and hypochlorhydria have a significant association with gastric carcinoma. The incidence of achlorhydria, similar to that of gastric cancer, increases with age.[3] In the achlorhydric group gastric cancer also occurs three to four times more frequently than in the acid-secreting group of comparable age. Its incidence (6.9 per cent[10]) has been found to be ten times more frequent in a pernicious anemia group examined frequently by x-ray. Its autopsy occurrence in pernicious anemia cases has been reported to be 12.3 per cent.[11]

Achlorhydria is present in 60 to 70 per cent and hypochlorhydria in about 10 to 15 per cent of individuals already afflicted with gastric carcinoma.[3] Comfort, Velsey, and Berkson[12] have reported that a low acid secretion was noted as early as the third decade in many patients destined to develop gastric carcinoma at a much later age.

GASTRIC POLYPS.—Since about 85 per cent of patients with gastric polyps have achlorhydria,[13] it seems reasonable to suspect that structural mucosal changes provide the proper soil for the development of a polyp. The incidence of gastric polyp is much less than that of gastric carcinoma. Although 7 to 14 per cent of gastric polyps are malignant when discovered[13,14] and although benign polyps are at times associated with gastric carcinoma elsewhere in the stomach, the majority of gastric polyps are not or do not necessarily become malignant.

GASTRIC ULCER.—Although a benign gastric ulcer need not be a direct precursor of gastric carcinoma, a chronic or recurring gastric ulcer may be an irritant factor contributing to the development of gastric carcinoma. The clinical problem is not whether a demonstrable gastric ulcer is a precursor of carcinoma but whether the ulcer is benign or malignant at the time of its discovery. Successful therapy depends on the proper diagnosis.

HEREDITY.—Recognition of the role of heredity in some cases of gastric cancer offers an opportu-

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* Fellow of the American Cancer Society.

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nity for improvement in diagnosis. Videbaek and Mosbech[15] in a controlled study of 3,000 relatives of gastric carcinoma patients found gastric carcinoma in 4 to 5 per cent, an incidence four to five times that expected. The relationship of achlorhydria was not discussed in this study. Mosbech[16] reported gastric carcinoma to be approximately three times more frequent in relatives of pernicious anemia patients. Macklin[17] in a careful study of 800 families suggested that the frequency of gastric carcinoma among the offspring and siblings of gastric carcinoma patients was 4.8 times that expected in the general population of the same age and sex. Ivy[8] is of the opinion that hereditary factors are not sole determinants but rather act by increasing the susceptibility to other influences.

Other Factors.—Environmental, climatic, dietary, and other conditions have been considered among the many possible causes. Ivy[8] believes that environmental factors are undoubtedly concerned in the origin of gastric carcinoma. He has also discussed the possible dietary factors and the effect of both nonspecific and specific carcinogens and the resulting morphologic changes which occur in the development of a carcinoma.

Many differences in the frequency of occurrence have been noted. The number of gastric carcinomas in Japanese persons autopsied at Los Angeles County Hospital was more than three times that in Caucasoids.[9] The incidence is higher in northern than southern United States and greater in urban than in rural areas.[18] The latter may be partly due to differences in population density and diagnostic facilities. There is evidence suggesting a lower frequency both of gastric cancer in African than in American Negroes[9] and of gastrointestinal cancer in Italian-born males in certain districts of Pittsburgh.[19] The fact that gastric cancer is about twice as common in the male, even though achlorhydria is slightly more frequent in the female, points to the existence of other factors, possibly hormonal and psychogenic.

Diagnostic Procedures

Gastrointestinal Series.—This is the most important means of detecting early gastric carcinoma. Because of this fact several large-scale screening studies have been made on unselected groups of individuals by using routine gastrointestinal series or an adaptation, such as photofluorography.[20–22] In all of these series there was an incidence of only 0.1 to 0.2 per cent of asymptomatic gastric carcinoma. This reveals the impracticability of the mass employment of the gastrointestinal series in a nonselective population.

Tubeless Gastric Analysis.—Since gastric carcinoma occurs significantly in achlorhydric or hypochlorhydric individuals after the age of forty, various investigators have limited the gastrointestinal series and other investigative procedures to this group. Wirts and his associates[23] found only one patient with asymptomatic gastric carcinoma in a study of 233 achlorhydric patients. Hitchcock, Sullivan, and Wangensteen [24] in the Minneapolis series of 1,747 achlorhydric patients screened from a group of 6,967 subjects found an incidence of 0.3 per cent of gastric polyp and 1.08 per cent of gastric carcinoma. At operation half of the cancer patients were free of metastases. Rigler and Kaplan[10] reported an incidence of 6.9 per cent of gastric carcinoma and 6.6 per cent of gastric polyps in 259 pernicious anemia patients studied over several years.

These investigations suggest that one of the significant steps in the early diagnosis of gastric cancer is the screening of asymptomatic subjects over forty years of age for achlorhydria. The intubation technic is obviously impractical for such a mass survey. This difficulty has been surmounted by the tubeless gastric analysis technic introduced by Segal, Miller, and Morton in 1950.[25] Recently Segal, Miller, and Plumb have developed a newer indicator resin compound with an azure A dye as the indicator ion. The oral administration of this compound* makes it possible to determine the presence, absence, or borderline secretion of gastric acid by merely appraising the color change in the urine. The rationale and application of the azure A resin compound has been described in detail.[26,27] The achlorhydric individuals over age forty so detected can now be subjected to annual gastrointestinal series. This should be mandatory in pernicious anemia individuals and should be repeated frequently in any achlorhydric person with symptoms not adequately explained.

Stool.—The importance of testing the stool for occult blood in the presence of gastrointestinal symptoms is obvious. Hitchcock[24] of the Wangensteen group has reported that the examination of the stool for occult blood is not of much aid in selecting individuals for further investigative studies.

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* To be marketed as Diagnex-Improved by E. R. Squibb & Sons, New York City.

Gastroscopy.—In experienced hands this technic is of value in equivocal lesions, gastric ulcer, and pyloric antral lesions. It is also indicated in patients with symptoms suggesting gastric carcinoma and/or in unexplained cases of upper gastrointestinal bleeding in whom the gastrointestinal series is negative.

Cytology.—This procedure is still in the formative stage and requires trained personnel. It may be of special aid in equivocal lesions in which gastroscopy is contraindicated. To date cytology has been most successful in the desquamating type of tumors which are usually demonstrable by x-rays.[28] It must be emphasized that a negative report has no significance in ruling out a gastric carcinoma. Rubin, Klayman, and Kirsner[29] have described the advantages and disadvantages of the various cytologic technics. Their results with the chymotrypsin method are impressive.

Uropepsin.—There have been numerous reports describing the place of uropepsin in the diagnosis of gastric disease. Uropepsin excretion is considered to parallel the pepsinogen-secreting activity of the gastric mucosa[30] as exemplified by its absence or extremely low value in achylic patients. Because gastric cancer occurs ten times more frequently in patients with complete mucosal atrophy, the absence of uropepsin excretion should suggest an increased susceptibility to gastric carcinoma. It is hoped that the present laboratory technic may be simplified for more general application.

Management of Symptomless Patients with Significant Etiologic Factors

Gastric Polyp.—As already stated, polyps tend to develop in achlorhydric stomachs. A single polyp, even though benign, is probably best removed without resecting the stomach. This should be stressed in any achylic individual. A gastric examination alone may not always differentiate between a benign and malignant polyp. Hence the decision to remove only the polyp or to resect the stomach may require frozen section at the time of surgery. Polyposis or recurrence of polyps should be an indication for resection.

Gastric Ulcer.—The relationship of gastric cancer to gastric ulcer has already been discussed. The problem is one of therapy. Stout[31] has reported that the carcinoma present in the case of gastric ulcer is frequently of the superficially spreading type. This would suggest that it may only become invasive at a late date. Thus intensive medical therapy for four to six weeks is permissible, provided the patient can remain under constant observation not only during this short period but also during a follow-up of at least one year after the apparent healing of the ulcer. Any immediate recurrence of symptoms or niche demands immediate surgery. At least 1 to 3 per cent of the lesions which apparently disappear in four to six weeks with medical therapy may still be malignant.[32] The average 3 to 5 per cent mortality in gastric resection added to the 10 per cent of postoperative sequelae also justifies this medical trial.

Gastroscopy may decrease the number of diagnostic errors. A gastric ulcer which recurs months to years after healing permits another medical trial only if the location of the lesion necessitates total gastrectomy. Gastroscopy, if at all feasible, is indicated before a medical regimen is repeated in such a case.

The absence of free hydrochloric acid with a gastric niche, although suggestive, does not necessarily indicate carcinoma. If achlorhydria is revealed by the tubeless technic, intubation gastric analysis with histamine stimulation might be instituted to learn the exact pH of the gastric contents. A gastric juice with a pH between 3.5 and 4.0 may have sufficient proteolytic activity for ulcer formation.[33] The achlorhydria of a benign gastric ulcer is usually temporary.[34] If achlorhydria persists after the apparent disappearance of the ulcer niche, carcinoma must still be suspected. The absence of uropepsin and cathepsin in the urine is indirect evidence of complete mucosal atrophy and favors surgery.

Management of Symptomatic Patients with Negative Gastrointestinal Series

Any individual over forty years of age with gastrointestinal symptoms, such as poor appetite and weight loss, whose gastrointestinal series is negative should be subjected to repeated x-ray and possibly gastroscopic examinations until the symptoms are adequately explained. An error in diagnosis can still be made in spite of all such studies.

A family history of gastric carcinoma or pernicious anemia must be considered in the final evaluation of the total picture.

Summary

This report has evaluated the relationship of possible etiologic or associated factors such as heredity, achlorhydria, gastric polyp, and gastric ulcer in the over-all picture of gastric carcinoma. The management of individuals with or without symptoms manifesting such factors has been described.

The gastrointestinal series is considered the most important means of detecting early gastric carcinoma. Since gastric carcinoma occurs three and ten times more frequently in achlorhydric and achylic individuals of middle and late life, the value of selecting such subjects for annual gastrointestinal series has been stressed.

A tubeless gastric analysis technic has been described. This simplifies the screening of achlorhydric individuals. The technic consists of appraising the color change in the urine after the oral administration of an ion exchange compound containing an azure dye.

The usefulness and limitations of gastroscopy, gastric cytology, and uropepsinogen levels have been discussed. The absence of proteolytic enzyme activity is indicative of complete mucosal atrophy and points to an increased susceptibility to gastric carcinoma.

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Pectus Excavatum: Its Surgical Treatment

Pectus excavatum, or funnel chest, is a congenital and developmental condition which may be recognized as early as the second month of life, but usually is detected when the infant is four to six months old. When treatment is indicated it should be undertaken early (preferably before the age of six months) to prevent a more complicated condition. Delay leads to a deformity characterized by a depression of the sternum and defect of the lower portion of the thoracic cage. Dr. Haven M. Perkins, Charleston General Hospital, Charleston, describes two types of surgical procedures—one for the infantile type and one for the adult type—which differ with respect to the extent of the procedure, the latter being the more involved.—*West Virginia Medical Journal, August, 1955*

Recommended Dosage Regimens of Various Antimicrobial Agents in Management of 25 Common Infections

GERARD EASTMAN, M.D., ELLEN COOK, M.D., AND PAUL BUNN, M.D., SYRACUSE, NEW YORK

(From the Department of Medicine, State University of New York Upstate Medical Center at Syracuse)

THIS review of treatment schedules has been designed solely for the physician practicing in New York State. The 25 infections have been chosen arbitrarily by the authors for it is our experience that they represent those most likely to be seen in temperate zones. In no sense should the list as a whole be construed as a complete one; it seems impracticable to devise one of broader scope and yet retain any semblance of simplicity.

The recommendations for therapy must of a necessity be personalized. It is inconceivable that any physician or group can derive a universally acceptable regimen for any single infection; the medical literature, advertising, habits, and prejudices are too multitudinous and confusing to believe that such can ever again be accomplished. We have, therefore, reviewed our own experiences and scanned the literature carefully. From these sources our recommendations are derived. The final decision in each case was determined after consideration of the antibacterial efficacy of the drug or drugs, palatability, ease of administration, safety, and cost. We agree that other programs might be as good as those described, but it is unlikely that we have missed a truly superior one for any of the infections. Included herein is a partial review of the literature, which also may not be complete enough to satisfy even a majority of readers; it too was chosen arbitrarily.[1-41]

Certain few drugs are listed by proprietary name for the sake of simplicity and to avoid confusion, e.g., Gantrisin for sulfisoxazole and triple sulfonamide mixture for the preparation containing equal parts of the three pyrimidines, diazine, merazine, and methazine. In the case of broad-spectrum agents, however, we believe that generic terminology is essential. Therefore, we have avoided the use of commercial names. Chlortetracycline for aureomycin, oxytetracycline for Terramycin, chloramphenicol for Chloromycetin, tetracycline for Steclin, Panmycin, Tetracyn, Polycycline, or Achromycin are used exclusively. Because the antibacterial activities, dose, toxicity, and cost of the four available tetracyclines are similar, we have chosen to use the term tetracycline in each infection in which any one of them is equally efficacious.

Upper Respiratory Infections

COMMON COLD.—No available antimicrobial agent exerts any beneficial effect on the natural course of the common cold with coryza in the human. Neither is there a drug which has any dependable prophylactic value in reducing the incidence of common cold in the community or of preventing secondary bacterial events in those infected. The infection then must be and can only be treated symptomatically. Aspirin remains the drug of choice.

ACUTE RESPIRATORY DISEASE (WITH OR WITHOUT ACUTE BRONCHITIS).—This group is separated arbitrarily from other upper respiratory infections because there is now apparently a number of specific viruses which can be isolated from patients, although the clinical syndromes are generally inseparable. The recently discovered "adenoidal-pharyngeal-conjunctival" viruses which cause an important number of upper respiratory infections are resistant to all antimicrobial drugs. Like the common cold, therefore, no specific therapy is available to treat them, and none should be prescribed.

INFLUENZA, VIRUSES A, B, AND B′ (WITH AND WITHOUT PNEUMONITIS).—No currently available drug is effective in influenzal infections regardless of which member virus causes it. If secondary bacterial infection does occur as a complication (only occasionally does one de-

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velop), it should be treated specifically according to the organism recovered in the sputum by smear or culture. If the patient has received antibiotics, the common organisms anticipated as secondary invaders are Hemophilus influenza, other gram-negative bacilli, or rarely Monilia. If no drug has been used prior to development of the contaminant, pneumococcus or streptococcus appear. The Hemophilus can be treated either with 1.5 or 2 Gm. daily of chloramphenicol or a tetracycline or with 4 Gm. daily of a sulfonamide. Penicillin in small amounts is the drug of choice for the latter two organisms, 2 ml. of procaine penicillin parenterally or two to three 500,000-unit tablets.

ACUTE BRONCHITIS ASSOCIATED WITH CHRONIC NONINFECTIOUS PULMONARY DISEASE.—The presence of acute bronchitis complicating chronic pulmonary disease such as emphysema or asthma, particularly in the aged patient, may deserve specific antibacterial therapy. The infectious complication is characterized by purulent sputum, fever, and other findings of infection. Isolation of specific microorganisms determines which drug is proper. A chronic cough without concomitant production of purulent sputum or other clinical evidence of infection is not an indication for antibacterial therapy, whether or not there is underlying chronic and permanent pulmonary pathology. Prophylactic or continuous antibiotic therapy is contraindicated in patients with pulmonary disease without infection.

Generally penicillin in small to moderate doses, 600,000 units of procaine penicillin daily, is the drug of choice. Tetracycline, erythromycin, or chloramphenicol, 1 to 1.5 Gm., may also be useful as second choices.

The antibiotic should be accompanied by administration of bronchodilators and expectorants.

Upper Respiratory Infections Due to Streptococci (Including Scarlet Fever)

Group A beta hemolytic streptococci cause striking disease in the upper respiratory tract: tonsillitis, acute otitis media, and acute nasopharyngitis. Occasionally any one of these can be accompanied by a toxic, diffuse erythema (scarlet fever); its presence does not alter therapy.

Penicillin is the drug of choice for all streptococcal infections. The broad-spectrum drugs can be used effectively, but their prescription probably should be limited to cases of known penicillin hypersensitivity. Suggested regimens include 600,000 to 900,000 units of procaine penicillin in aqueous suspension or with 2 per cent aluminum monostearate; 500,000 units penicillin given orally every eight or twelve hours, each dose given with stomach empty; or aqueous penicillin 250,000 units four times daily intramuscularly. Erythromycin, 400 mg. three times daily, or any one of the tetracyclines, 500 mg. three times daily, are also effectual.

Primary Atypical Pneumonia

Primary atypical pneumonia is probably a virus infection which occurs in young adults and is generally associated with a rise in the titer of cold agglutinins during the second or third week of illness, and sputum cultures are usually negative for pathogenic organisms. It is doubtful whether any currently available antibiotic has any effect on the course of the ailment. Significant secondary bacterial infection following viral pneumonia is quite uncommon and develops only in those most severely ill, in those with prior lung disease, or in those who are debilitated because of age or serious associated illness.

If the diagnosis of primary atypical pneumonia can be made with certainty in an otherwise healthy individual, no antibacterial drug is indicated or needed. Since the diagnosis can often be made only in retrospect or after various laboratory and x-ray reports have been received, antibacterial therapy may be initiated early and continued for as long as the specific diagnosis remains vague. The choice of agent is the same as for any mixed nonspecific bacterial pneumonia, and our choice is a broad-spectrum drug in standard dosage: any one of the tetracyclines (1.5 Gm. daily orally in three divided doses), chloramphenicol (2 Gm. daily in three divided doses), or erythromycin (1.2 Gm. in three divided doses). In the rare instance in which a serious degree of illness is causing great concern, parenteral penicillin (10,000,000 units daily) and streptomycin (1 Gm. once daily) offer the best broad-spectrum protection.

Pneumococcal Pneumonia

The broad-spectrum antibiotics (the tetracyclines, erythromycin, chloramphenicol) are satisfactory for the treatment of pneumococcal pneumonia, but penicillin remains the drug of choice and should be used routinely. Although they provide satisfactory therapy for most pneumococcal pneumonias, the broad-spectrum drugs have proved less effective in those with a serious or complicated infection.

Three regimens of therapy with penicillin have proved equally efficacious, and we have no preference: aqueous penicillin intramuscularly, 250,000 units four times daily; oral penicillin 500,000 units two or three times a day, each dose given on an empty stomach (if gastric function is not impaired); and procaine penicillin suspended in either oil or water, 600,000 units intramuscularly daily.

Broad-spectrum antibiotics are indicated in the presence of a known penicillin allergy or a positive intracutaneous skin test for penicillin hypersensitivity. Suitable doses of the tetracyclines, chloramphenicol, and erythromycin are 1.5 to 2 Gm. per day in three divided doses.

Acute Klebsiella (Friedländer's) Pneumonia

Friedländer's pneumonia is uncommon, comprising less than 4 to 5 per cent of all bacterial pneumonias, but its mortality rate in the untreated case is extraordinarily high (95 per cent). Significant improvement in recovery rates can be anticipated only with its early recognition and institution of effective therapy. Relative efficacy of different drugs or combinations of drugs cannot be described precisely for the organism may vary with respect to drug sensitivities, but it is recognized that a significant lowering of acute morbidity, complications, and mortality can be achieved only if effective treatment is instituted within twenty-four hours of its onset. Two programs of therapy have proved valuable. The regimen of choice, because in our own experience it is successful in more than one half the cases, is combined penicillin and streptomycin. A significant number of strains of Klebsiella are sensitive in vitro to high concentrations of penicillin, in the order of 5 to 25 or more units of penicillin per ml. If the in vitro measurement is less than 50 units of penicillin, the patient is best treated with massive amounts of aqueous penicillin (10,000,000 units daily) and streptomycin (2 Gm. daily). All of our patients are started on this outline, and change in the regimen is made only after the sensitivities indicate that another would be better, i.e., after about forty-eight hours.

When bacterial sensitivities indicate, after isolation and in vitro testing, that the Klebsiella are totally resistant to penicillin, an appropriate change of therapy is made promptly. The following schedules are suggested: chloramphenicol or any of the tetracyclines 0.5 Gm. every four to six hours together with 2 Gm. streptomycin daily.

The treatment of chronic Friedländer's infection of the lung is a less urgent problem. It is safe to wait for sensitivity reports before starting any specific drug regimen. Definitive resectional surgery is often indicated.

Bronchiectasis

Antibacterial therapy without adequate measures to promote tracheobronchial drainage is of little help in the long-term management of bronchiectasis. When used, they are chosen on the basis of culture findings of sputum. They should be used only for an acute exacerbation of infection.

Useful bacteriologic findings in sputum of patients with bronchiectasis are Neisseria catarrhalis, nonhemolytic streptococci, staphylococci, H. influenzae, and beta hemolytic streptococci. The majority of the potential pathogens are penicillin sensitive, and it is the drug of choice.

In the less common cases in which Bacillus proteus, Pseudomonas pyocyaneus, or fungi are present in the infected sputum, broad-spectrum agents can be used. Because of the danger of major shifts in the bacterial flora with their use, it is suggested that the broad-spectrum drugs be used only for short courses.

It must be emphasized that the major therapeutic procedure in long-term management of bronchiectasis is adequate drainage from the tracheobronchial tree. This can be accomplished in a number of fashions, postural drainage being the best. The use of bronchodilators, such as vaponephrine or Isuprel as inhalants, and the use of expectorant drugs, such as ammonium chloride, iodides, and perhaps a nebulized detergent, are also useful. Antibacterial drugs should be used only for an acute exacerbation of infection as manifested by grossly purulent sputum and, perhaps, fever. Dosages of antibacterial schedules are as follows: procaine penicillin 600,000 units intramuscularly daily, aqueous penicillin 250,000 units four times daily parenterally, or oral penicillin 500,000 units three times daily. For infections with predominating gram-negative bacilli in sputum, tetracycline or chloramphenicol in

TABLE I.—CHOICE OF ANTIBACTERIAL AGENT IN THERAPY OF COMMON URINARY TRACT INFECTIONS

1. When infecting microorganisms are not known or when there are multiple species present, sulfonamide is the first drug of choice. Chloramphenicol, the tetracyclines, and streptomycin may also be used effectively.
2. When infecting microorganisms are known:

	Drugs		
Microorganism	1st Choice	2nd Choice	Combination
A. aerogenes	Sulfonamide	Tetracycline or chloramphenicol	....
Ps. aeruginosa	Sulfonamide	....	Polymyxin plus tetracycline
E. coli	Sulfonamide	Tetracycline or chloramphenicol	....
S. fecalis	Penicillin and streptomycin	Sulfonamide or erythromycin	....
K. pneumoniae	Penicillin and streptomycin	Tetracycline or chloramphenicol	....
B. proteus	Sulfonamide	? Tetracycline or chloramphenicol	Penicillin and chloramphenicol work well together

doses of 1.5 to 2 Gm. daily are effective. Finally a combination of 0.5 to 1 Gm. streptomycin and 600,000 units procaine penicillin in combinations offer broad antibacterial activity.

Lung Abscess

The general principles determining therapy for lung abscess are about the same as for bronchiectasis or for an abscess anywhere. Early drainage of the cavity must be attained by whatever surgical or medical means seem most feasible. Antibacterial therapy is important but is ineffective if the abscess is blocked or undrained. Bronchoscopy becomes an important adjunct to assure drainage or to recognize the cause of bronchial obstruction.

Organisms infecting an acute pulmonary abscess are generally mixed and include spirochetes, fusiform bacilli, nonhemolytic streptococci, anaerobic streptococci, staphylococci, and N. catarrhalis. Penicillin is the treatment of choice. Because blood supply to the involved lung may be poor, thus requiring greater amounts of drug for adequate penetration into pulmonary tissues, aqueous penicillin, 2,000,000 to 4,000,000 units per day in divided doses, is satisfactory. The long-acting penicillins are not recommended because the required high serum levels are difficult to attain with their use. Streptomycin, 1 Gm. daily, is a wise adjunct to therapy. If penicillin cannot be given because of hypersensitivity, one of the broad-spectrum drugs is indicated.

Treatment should be continued until there is x-ray disappearance or stabilization of the residual cavity. If doubt exists as to persistence of a cavity, bronchography should be done. Eventual excisional surgery is recommended for removal of residual cavities, the timing of the procedure being determined by the surgeon.

Urinary Tract Infections

Antibacterial therapy alone achieves little if associated obstructive factors in the urinary tract are not corrected. Choice of a drug is dependent on the organism present and its response to available agents. For mild infections not associated with serious underlying disease, one of the sulfonamides or broad-spectrum drugs is usually satisfactory; standard dosage is needed. Our choice of drugs, in order of preference, are triple sulfonamide mixtures, Gantrisin, or sulfadiazine, 1 Gm. every four to six hours; one of the tetracyclines or chloramphenicol in doses of 1.5 Gm. per day. A urinary antiseptic, such as mandelamine or mandelic acid or Furadantin, is also of value, and streptomycin 0.5 Gm. every twelve hours may be effective initially, but bacterial resistance to it develops rapidly.

Coliform organisms are generally present in urinary tract infections. They respond equally well to any of the above agents. Other organisms may also be involved, and correct choice of agent for them is completely dependent on bacteriologic findings of urine collected under close to aseptic conditions. Unless such technics are employed, the choice of drug becomes guesswork. With good cultures and with a knowledge of the organism's sensitivity to various drugs, the initial therapy may be changed and the achievement of therapeutic success accomplished. The other organisms and recommended therapy for them are as follows (Table I):

1. Streptococcus fecalis: aqueous penicillin 10,000,000 units per day in divided doses plus streptomycin 0.5 Gm. every twelve hours.

2. Pseudomonas aeruginosa (B. pyocyaneus): polymyxin B 25 mg. intramuscularly per day plus tetracycline 2 Gm. per day in divided doses;

or streptomycin 0.5 Gm. every twelve hours plus one of broad-spectrum drugs or a sulfonamide; or if the infection is serious or even overwhelming, polymyxin B in doses of 2 mg. per Kg. of body weight per day intramuscularly may be given for three or four days. Since this drug is nephrotoxic, blood nonprotein nitrogen or blood urea nitrogen levels must be followed daily and the drug stopped with its rise.

3. Proteus vulgaris: penicillin 600,000 units daily plus chloramphenicol 2 Gm. daily orally; or chloramphenicol 2 Gm. per day or sulfonamide with streptomycin 0.5 Gm. every twelve hours; or polymyxin may be used in dire situations as noted above.

4. Aerobacter aerogenes: streptomycin plus one of broad-spectrum drugs or a sulfonamide. Other possibilities depend on in vitro sensitivities, and polymyxin B in full dosages may be needed rarely.

5. Staphylococcus aureus: See later section on "Staphylococcal Infections."

It must be pointed out that these exceptional regimens are not usually required and that sulfonamides and broad-spectrum agents generally are effective. Only in their failure are the above required. It is emphasized also that in presence of infection within parenchyma of the kidney or deep in the wall of any part of the drainage system, the best drug is that which is most highly concentrated in the tissue by way of blood supply. Many drugs are excreted in urine, but unless the infection is all on the surface of the system, even high concentration of drug in the fluid flowing over the infected area is not necessarily best therapy.

Gonorrhea

The treatment of acute gonorrheal urethritis is simple. Penicillin is the agent of choice. Penicillin-resistant gonococci have not appeared. Other drugs are effective but less so than penicillin. The order of choice of drugs is as follows: procaine penicillin in aqueous or oil suspension, one dose of 600,000 or 900,000 units intramuscularly or oral penicillin 500,000 units three times daily for two or three days.

In patients unable to tolerate penicillin, erythromycin 1.2 Gm. daily orally for two or three days or tetracycline or chloramphenicol 2 Gm. per day for two days in divided doses may be substituted.

Occasionally septic complications occur. Penicillin given in larger amounts for longer periods is recommended.

Cellulitis and Erysipelas

The etiologic agent of erysipelas and most cases of cellulitis is commonly group A beta hemolytic streptococcus, and therapy is designed to eradicate it. The organism is extremely sensitive to penicillin, and good results are obtained promptly with 600,000 units of procaine penicillin intramuscularly daily or 500,000 units of penicillin orally at eight-hour intervals. If the patient is allergic to penicillin, sulfadiazine 4 to 6 Gm. initially and 1 Gm. every four hours thereafter is suitable therapy. In the occasional extremely fulminating case where patient response is poor, penicillin dosage should be increased. The tetracyclines, chloramphenicol, and erythromycin are also excellent drugs and can be used safely in standard 1.5 to 2-Gm. oral dose daily.

In certain instances the pathogenic organisms causing a cellulitis may not be isolated or identified. A combination of streptomycin and penicillin may, therefore, be needed: 1 Gm. streptomycin daily and 250,000 units aqueous penicillin four times daily or 600,000 to 900,000 units procaine penicillin once daily.

Staphylococcal Infections (Abscesses, Carbuncles, Purulent Cellulitis, Sepsis)

There has been an impressive increase in number of infections, both mild and severe, caused by penicillin-resistant staphylococci, and this is particularly true in hospitalized patients. The mild infections can usually be controlled by local measures alone, drainage being the single important procedure.

The clinical picture of more serious staphylococcal infections with yellow pus has not changed appreciably, but antimicrobial therapy has. As each antibacterial drug has come into use, a proportion of staphylococci eventually become resistant to it. Indeed staphylococci have been shown, both in vivo and in vitro, to develop an overwhelming resistance to all the tetracyclines, erythromycin, and penicillin. Obviously then there is no one good drug for these infections. A general plan of therapy derived from our own experiences and from that of others can be described. In order to prevent their spread, the patient should be isolated. Surgical drainage of all suppurating and necrotic tissues is important. Isolation of the infecting organism and in vitro testing of sensitivity, preferably by tube dilution methods with incubation for forty-eight hours, is essential. (Disk tests can be misleading.) Treatment with single or combinations of antibiotics known to be clinically effective can be designed wisely only with such information, although therapy may have to be initiated without that knowledge. The adjustment of the regimen can be made later when the information about the sensitivities is learned. Treatment should be energetic, uninterrupted, and prolonged for as long as the inflammation persists for relapses occur even in cases showing early, marked clinical improvement.

Our preference for first choice is somewhat dependent on our estimation of the seriousness of the infection. We choose either erythromycin 1.2 to 2 Gm. daily or chloramphenicol 2 Gm. daily singly for simple abscesses. A combination of the two is frequently prescribed from the first, each given in standard doses. A combination of chloramphenicol and a tetracycline, each in 2-Gm. oral doses, is second choice. Tetracycline-resistant strains are becoming common, and therefore, we consider that chance alone makes erythromycin or chloramphenicol the more logical first prescription. Bacitracin, 20,000 units intramuscularly every six hours, if there is no renal impairment, plus erythromycin and chloramphenicol is a triad of drugs which is our choice for therapy of the most severe of the staphylococcal infections. Other combinations can also be used: penicillin 500,000 units intramuscularly every three hours and erythromycin 2 to 3 Gm. per day by mouth in divided doses; and/or chloramphenicol 2 Gm. daily; streptomycin 2 Gm. per day intramuscularly in two doses with erythromycin or chloramphenicol or penicillin 1,000,000 units every two hours intramuscularly. In cases receiving bacitracin, daily urinalyses and nonprotein nitrogen determinations must be made and the drug stopped if signs of renal damage appear.

Acute Peritonitis and Intra-abdominal Abscess

The treatment of peritonitis depends on whether it is primary or secondary to concurrent abdominal disease because organisms present are different in the two situations. Primary peritonitis is a medical disease, usually caused by pneumococcus, beta hemolytic streptococcus, gonococcus, or the tubercule bacillus, and it occurs as a complication of a systemic infection. Penicillin is the drug of choice for therapy in most cases. Dosage of from 800,000 to 1,000,000 units of aqueous penicillin in divided intramuscular doses or procaine penicillin 600,000 to 900,000 units intramuscularly daily is required. Erythromycin, the tetracyclines, or chloramphenicol in doses of 1.5 to 2 Gm. per day by mouth can also be used with satisfactory results, although their prescription should be restricted to those in whom a known allergy to penicillin exists or in whom the precise bacteriologic diagnosis is not secure.

For tuberculous peritonitis, treatment with drugs must be carefully planned and given for a long term. On occasion drugs may be combined with appropriate surgical measures, i.e., extirpation of pelvic lesions. Isonicotinic acid hydrazide, 5 mg. per Kg. body weight by mouth per day in divided doses, with para-aminosalicylic acid, 12 Gm. per day by mouth in divided doses, or streptomycin 1 Gm. intramuscularly daily with para-aminosalicylic acid are the two most acceptable regimens. After a few months streptomycin may be given two to three times per week. It is suggested that drugs be continued for about a year.

Secondary peritonitis, appendiceal abscess, and subdiaphragmatic abscess are mixed infections with the organisms spreading initially from the intestinal tract. The most important pathogen is the fecal streptococcus, although Escherichia coli is more commonly cultured. Often welchii, staphylococci, bacteroides, and other gram-negative bacilli are also present. Although all of these organisms play an important role in prolonging the infection, treatment should be directed primarily toward those which produce the most damage, namely, the fecal streptococci. With localized abscesses surgical drainage must accompany drug therapy when feasible. The infection requires massive therapy. Aqueous penicillin 10,000,000 units per day intramuscularly in divided doses and streptomycin 0.5 Gm. intramuscularly twice daily is by all reported experience the most effective, lifesaving regimen. The tetracyclines or chloramphenicol in doses of 2 Gm. per day by mouth are generally not adequate alone, although their use has been recommended by some. Occasionally treatment must include one of them as a third drug, particularly in instances in which bacteroides are prevalent.

Acute Bacterial Meningitis

In management of meningitis choice of proper drug is wholly dependent on immediate recovery and identification of the causative organism since early errors and delay in specific therapy may be fatal. Most antimicrobials fail to diffuse through the central nervous system tissue in adequate amounts when given parenterally in the usual amounts. Consequently doses exceeding the in vitro susceptibility levels are needed in every case. If parenteral scheduling of drugs is proper, intrathecal administration is neither needed nor warranted. Therapy should be extended for a minimum of two weeks or until remission is certain except in the case of tuberculous meningitis in which therapy must be extended for longer than one year regardless of clinical course. Because the common pathogens causing meningitis require different therapies, descriptions of individual regimens are needed:

1. *Meningococcal meningitis:* Either sulfonamide or penicillin or the two together are satisfactory, and bacterial resistance is not a problem. Aqueous penicillin 1,000,000 units every two hours intramuscularly and/or sulfadiazine 2 Gm. every four hours or as required to maintain blood levels of 10 to 15 mg. per cent are the basic regimens. Five grams of sulfonamide may have to be given intravenously initially or periodically until coma subsides.

2. *Pneumococcal meningitis:* Penicillin is unquestionably the agent of choice, and there is no adequate substitute. Neither is a second agent needed. The recommended regimen is aqueous penicillin 1,000,000 units intramuscularly every two hours. Although an initial intrathecal dose of 10,000 units is recommended by some, we do not believe it necessary. Another satisfactory manner to administer large daily doses of penicillin is by continuous subcutaneous clysis. Five or six million units of cystalline penicillin G are dissolved into 250 to 500 ml. of saline. By using a single, 22-gauge, long needle inserted deep subcutaneously in one thigh and by adjusting the drops appropriately, the total can be given in about ten hours. The dose is then repeated in another site in the thigh after a two-hour rest. This method has been eminently satisfactory in our hands, and the patients often prefer it to 12 single intramuscular doses each day. The clyses can be continued almost indefinitely without injury to the thigh muscles or fascia.

3. *Hemophilus influenzal meningitis:* Chloramphenicol is our drug of choice. Streptomycin is as effective actually, but bacterial resistance to it develops and limits its use. The initial oral dose of chloramphenicol is 10 to 15 mg. per Kg. body weight. Subsequent doses of 50 mg. per Kg. body weight given in four equal daily amounts maintains adequate spinal fluid levels. Chloramphenicol can be given intramuscularly if necessary. Other regimens have also proved effective, e.g., streptomycin 20 mg. per Kg. per day intramuscularly in divided doses, plus one of the tetracyclines (50 mg. per Kg. orally or parenterally).

4. *Tuberculous meningitis:* The best treatment of tuberculous meningitis cannot now be described. Streptomycin, PAS, and isoniazid probably should be used in combination. Because relapses are common and drug resistance of Mycobacterium tuberculosis is enhanced by intermittent therapy, the drug should be continued for at least one year. Isoniazid 10 mg. per Kg. body weight per day in divided doses plus streptomycin 1 Gm. per day intramuscularly (one dose) plus 12 Gm. daily of para-aminosalicylic acid are the proper dosages.

In certain instances, particularly in cases of pneumococcal meningitis, the inflammatory changes in the central nervous system become severe, and pus derives which is highly viscid. Its presence delays resolution and prolongs the period of morbidity. A single, sometimes two, doses of streptokinase-dornase intrathecally dissolves the pus and coagulum rapidly. A repeat lumbar tap is required eight to twenty hours after installation of from 20,000 to 100,000 units of streptokinase-dornase. Many authors suggest that the natural course of any type of meningitis in the human can be altered favorably by the concomitant administration of an adrenal steroid and antibiotic. This perhaps is so, although the final definition of the precise role and effect of ACTH and/or cortisone cannot be given at this time. We can recommend, however, that cortisone or compound F (hydrocortisone) be added to the therapy of those infections which fail to do well initially with antibiotics or in those cases of meningococcal meningitis who show evidences of the Waterhouse-Friderichsen syndrome (peripheral vascular collapse, shock, bacteremia). The hormone is given parenterally in doses of from 100 to 200 mg. daily. It is stopped whenever the patient's course improves and always several days before cessation of antibiotic therapy.

Whooping Cough (Pertussis)

Hemophilus pertussis, the etiologic agent of whooping cough, is sensitive in vitro to most of the broad-spectrum drugs. Tetracyclines and chloramphenicol in doses of 30 to 50 mg. per Kg. body weight per day may lessen the severity of the disease. Similarly because of its in vitro activity against H. pertussis, erythromycin might be expected to be of some help in doses of 25 mg. per Kg. per day, but adequate experience has not been accumulated to verify this.

None of these drugs may be expected to abort the disease completely. They may modify its course and are useful in treating secondary bronchopneumonia and other bacterial complications.

Subacute Bacterial Endocarditis

The aim of the treatment in subacute bacterial endocarditis is to eradicate the infecting microorganism from deep in the vegetations in a situation where host response is of no appreciable therapeutic assistance. Bactericidal drugs must be used in high dosage for long periods in order that there be proper penetration of drug into the avascular valvular lesion. Therapy can only be designed with knowledge of the organism and its sensitivity to appropriate antimicrobial agents; it is thus necessary that the causative organism be isolated and that its sensitivity be studied as promptly as is feasible.

Penicillin with few exceptions is the basic therapeutic agent. Before sensitivities have been determined, dosage is best set at 12,000,000 units in each twenty-four-hour period. Adjustment may be made later according to organism sensitivity or, lacking this, where the clinical course suggests changes.

For penicillin-susceptible organisms, i.e., at the level of less than 1 unit of penicillin per ml. of serum, approximately 1,000,000 units of penicillin per day are required. No less than 500,000 units of penicillin should ever be prescribed, and insoluble preparations of penicillin are never indicated (procaine penicillin).

When the organism is relatively resistant, i.e., over 1 unit of penicillin per ml. of serum, therapy should be increased to 12,000,000 units per twenty-four hours. There is evidence that streptomycin 1 Gm. per day given over a one to two-week period increases treatment effectiveness by acting in synergism against fecal streptococcal endocarditis.

Broad-spectrum antibiotics and sulfonamides, if used alone, are inadequate in the vast majority of cases. In cases where organisms are totally resistant to penicillin, there may be some therapeutic hope offered in the use of mixtures of antibacterials, as suggested in other sections, e.g., staphylococci, proteus. The proper regimen can be recommended only by measuring the organism sensitivity to the various agents and by clinical response. As yet, such exceptional therapy must be individualized, and no over-all general program can be described.

Therapy should be continued at least three weeks after subsidence of active infection and then should be gradually tapered. Most patients require from thirty-five to forty-two days of therapy.

Therapeutic levels of drug should be maintained around the clock. When large doses are needed, the use of constant intramuscular or deep subcutaneous drip is frequently considered more comfortable. Similarly, Benemid may also be given to increase drug blood levels; 2 to 4 Gm. daily by mouth delay the urinary excretion and thus enhance blood levels.

Bacillary Dysentery

Shigellosis or bacillary dysentery is usually an acute disease, although chronic carrier states exist. The latter are more resistant to therapy and may require more prolonged treatment. Sulfonamides were formerly the drugs of choice, but recently sulfa-resistant organisms have lowered their efficiency. Suggested drug schedules in order of preference are tetracycline, chloramphenicol, chlortetracycline, oxytetracycline, and sulfadiazine, each used in full dosages.

Neomycin orally may also be of value in some cases. Doses of from 1 to 2 Gm. given four to six times daily are recommended.

Acute Osteomyelitis

Hemolytic staphylococci cause osteomyelitis most frequently. Their recovery from patients with the infection can be made by blood culture in about a third of cases or by aspiration of local areas of bone necrosis in others. With antimicrobial treatment there is an effective tissue barrier to diffusion of any drug from serum to center of the lesion. Because of this, dosage schedules which supply large amounts of drug are needed. Isolation of the organism and determination of drug sensitivities are also essential because staphylococci have varying susceptibilities to the many agents.

The following schedules are arbitrary; they may be adjusted when culture and sensitivity results are known. Aqueous penicillin 100,000 to 200,000 units intramuscularly every three hours and streptomycin 0.5 mg. intramuscularly every twelve hours is first choice. The tetracyclines, erythromycin, and chloramphenicol have also been shown to be effective in cases in which the *causative* organisms are *penicillin resistant.* In particularly severe cases of staphylococcal infections associated with positive blood cultures, regimens as outlined in the section on "Staphylococcal Infections" can be used.

Chronic Osteomyelitis

Treatment of chronic stages of the disease usually require both surgical repair and antibacterial drugs. Bone necrosis and sequestration preclude adequate tissue concentrations of drug, and antibacterial drugs alone are unsatisfactory for they are nonreparative by nature. Drugs then should be given only as an adjunct to the required surgical procedure. Maximal therapy must be given at least one to two days preoperatively and for two weeks postoperatively. Any of the broad-spectrum drugs, oxytetracyline, chlortetracycline, tetracycline, or erythromycin, in doses of 2 to 4 Gm. per day is adequate. Despite their effectiveness we believe that a combination of penicillin 250,000 units every six hours and streptomycin 0.5 Gm. every twelve hours is better. With staphylococcal infections of bone the recommendations described above are also in order.

Brucellosis

Evaluation of the efficacy of drugs in brucellosis is difficult because of the variability of the natural course of the disease in man and its high relapse rate. Probably the most efficient regimen to date is a combination of streptomycin with one of the broad-spectrum drugs, each in the usual dosage. The following agents also have some effect at least: sulfonamides, streptomycin, tetracycline, oxytetracycline, and chloramphenicol. Sulfonamide (4 Gm. daily) combined with streptomycin (1 Gm. daily) is quite effective. Chloramphenicol, tetracycline, chlortetracycline, or oxytetracycline alone are moderately effective, but the relapse rate is high with them. Treatment should be prolonged for at least a month or more, even in the presence of an early, impressive clinical remission.

Gas Gangrene

Antibacterial therapy is simply an adjunct to surgery and antiserum in the therapy of infections caused by organisms of the gas gangrene variety. Wide and adequate surgical débridement is the prime therapeutic measure. The use of polyvalent gas gangrene antitoxin is also essential. This is administered in doses of 20,000 to 25,000 units intravenously, and care about allergy to horse or rabbit serum must be taken. The same dose of antiserum should be given every twelve hours until the infection is controlled. Aqueous or procaine penicillin is recommended in doses of 1,000,000 to 2,000,000 units.

Tetanus

Like gas gangrene, therapy for tetanus is combined serum, surgery, and drugs. The necrotic wound in which the B. welchii thrive must be débrided to prevent continued growth of the organisms. Tetanus antitoxin 300,000 units intravenously is suggested as an immediate initial dose with proper precautions against allergic reactions. Repeat doses of 100,000 units should be given daily or every other day for as long as any muscular rigidity persists. Penicillin therapy should be used, particularly if the surgically débrided wound appears infected. A muscular relaxing agent such as curare is also a valuable adjunct to therapy if respirations are weakened by spasms of the muscles of respiration. Sedation and maintenance of adequate airway are of course needed additional therapies.

Diphtheria

While a number of drugs have a beneficial effect upon Corynebacterium diphtheriae in vitro, none has any effect on diphtheria toxin nor, therefore, in control of the early infection. Diphtheria antitoxin is indicated in initial doses of 5,000 to 200,000 units either intravenously or intramuscularly. Repeat doses of 20,000 to 40,000 units should be given on the second and fourth days if the clinical course suggests the need. Penicillin is added and will inhibit further growth of organisms and thus aid in prevention of secondary invaders. Dosage of 600,000 units of procaine penicillin once daily is adequate.

In treatment of diphtheria carriers procaine penicillin 300,000 units per day should be used.

Rickettsial Diseases

The broad-spectrum drugs, tetracycline, chlortetracycline, oxytetracycline, and chloramphenicol, all exert rickettsiostatic effects. Clinically they appear to be of about equal potency in the treatment of any of the rickettsial diseases, i.e., epidemic or murine typhus, scrub typhus, Rocky Mountain spotted fever, Q fever, rickettsialpox, and African tickborne typhus.

Treatment should be continued at least twenty-four hours after disappearance of fever. Chloramphenicol by mouth, 3 to 4 Gm. initially followed by 50 mg. per Kg. body weight per day in divided doses every four to six hours, is recommended. It can also be used parenterally: 2 mg. per Kg. "loading" dose and 5 to 10 mg. per Kg. per day in divided doses.

Oxytetracycline, chlortetracycline, and tetracycline in oral doses of 2 Gm. initially followed by 30 to 40 mg. per Kg. per day in divided doses are also effective. They too can be given parenterally in doses of 10 mg. per Kg. per day initially with maintenance dose of 5 to 10 mg. per Kg. per day.

Syphilis

Penicillin is the drug of choice in the management of all stages of syphilis. Some of the broad-spectrum antibiotics are reported to be effective (chlortetracycline, erythromycin, oxytetracycline, and chloramphenicol) on an experimental basis, but they have no place in routine treatment of lues.

In planning penicillin therapy the stage of the disease and presence of complications should be considered. Suggested schedules are as follows:

Primary and secondary syphilis (suggested total dose 4,800,000 units): In seronegative or seropositive cases the initial dose of procaine penicillin or benzathacil should be 1,200,000 units intramuscularly. Thereafter, at four-day intervals, 600,000 units for six more doses are prescribed.

Latent syphilis (all types except neurosyphilis): Total required dose is 6,000,000 to 10,000,000 units. Procaine penicillin in oil or suspended in water, 600,000 units every other day for 10 to 14 doses or benzathacil, 1,200,000 units weekly for two months, is effective.

Neurosyphilis (asymptomatic or otherwise): Total dose required is 9,000,000 to 12,000,000 units. The same regimens are prescribed, but the course of treatment is extended appropriately.

Syphilis in pregnancy: In first and second trimester, procaine penicillin in oil, 600,000 units twice a week for four weeks, is suggested. In the third trimester, procaine penicillin, 600,000 units daily for eight days, is indicated. If syphilis is discovered at time of imminent labor, 2,400,000 units in one dose is recommended in order to sterilize the infant of spirochetes.

Congenital syphilis: If discovered in children less than two years of age, procaine penicillin 10,000 to 15,000 units per pound body weight daily for ten days or twice weekly for four weeks is endorsed. When diagnosed at a later age, total required dose of 6,000,000 units in one of the schedules above is recommended.

Typhoid Fever

At this time chloramphenicol is the most reliable drug available. Other agents, including streptomycin, penicillin, chlortetracycline, oxytetracycline, and polymyxin B, have in vitro effects on the organism but are apparently not satisfactory in vivo. Recommended initial dosage of chloramphenicol is 50 to 100 mg. per Kg. body weight by mouth. This is followed by doses of 50 mg. per Kg. body weight per day in divided doses at eight or twelve-hour intervals, continued for from two to three weeks.

Even with the proper dosage schedule of chloramphenicol, disappearance of fever and toxicity may not take place for several days, and relapses may still occur. This may be due to the suppressive effect of the drug on the organism which in turn prevents an adequate immune response by the patient. To combat this defect, the following suggestion has been made: intermittent drug therapy, i.e., five days of treatment followed by five days with none. This schedule is continued for three to four weeks. Intermittent scheduling of drug is an exciting advance in chemotherapeutics, but at this time its precise definition cannot be given.

Tuberculosis

Specific antituberculous therapy is complicated and requires caution in its design. Careless prescription of valuable drugs may injure the prognosis in a patient. There are many active agents capable of interrupting the growth of tubercle bacilli: streptomycin, isoniazid, para-aminosalicylic acid, Viomycin, pyrizinamide, and, perhaps, cycloserine. In general, two drugs are better than one for the major reason that the second prevents the early emergence of tubercle bacilli resistant to the first drug. The common combinations are streptomycin-PAS, isoniazid-PAS, streptomycin-isoniazid-PAS, pyrizinamide-isoniazid, and others whose usefulness are less well defined. All but streptomycin must be given in daily divided doses; it is needed three times weekly. Pyrizinamide and Viomycin have an inherent toxicity to human tissues, bone marrow, and liver which prevent their being administered injudiciously. Because it is our clear opinion that the therapy of any patient with tuberculosis should be outlined and followed by a physician trained in the field, details of the regimens cannot be described. The only advice needed is that once a schedule is started, the commitment should include an extension of the drug for many months, even a year or more, regardless of clinical course or response.

Miscellaneous

The final paragraph includes a number of infections for which specific therapy is not available or in which the available agent is dangerous and not easily prescribed without intimate knowledge of its actions or of laboratory data concerning the microorganism.

Infectious hepatitis, poliomyelitis, herpes zoster or simplex, measles, mumps, chickenpox, and lymphocytic choriomeningitis are viral infections which cannot be treated specifically. There are no available agents which have any effect in altering beneficially the natural course of any one of them in the human. Similarly trichinosis and histoplasmosis are untreatable for no known antagonist is presently available.

Stilbamidine is useful in therapy of systemic blastomycosis, but its intravenous administration is quite dangerous, and the outline of therapy with it must be undertaken with care. Bacteroides, cryptococcic, monilial, and actinomycotic infections are also treatable, but there is no standard regimen of antimicrobial therapy. Laboratory information is required before any drug can be given wisely in these infections.

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Cirrhosis Reported in Children

Cirrhosis of the liver—a condition commonly associated with alcoholism in adults—occurs more frequently in children than is generally thought, according to three Boston physicians.

However, cirrhosis—the progressive destruction of liver cells—is quite different in children than in adults. The most common adult form is caused by alcoholism and its resulting nutritional disturbances, while the childhood forms in the United States are usually caused by a liver infection (hepatitis) or by malformation of the liver and its parts which exists at birth.

The physicians reported 98 cases of cirrhosis of the liver seen at Children's Medical Center, Boston, between 1924 and 1953. Sixty-one were caused by obstructions and deformities of the liver, while 30 were associated with hepatitis. Seven resulted from miscellaneous causes, including heart, blood, and bile duct disorders.

The frequency of cirrhosis associated with hepatitis is "surprising and important," the physicians said, suggesting that hepatitis is not entirely harmless among children. It emphasizes the need for recognizing mild cases of hepatitis without jaundice and the careful follow-up of known cases after signs and symptoms have disappeared. They noted hypothetically that hepatitis in infants may be acquired before birth from mothers who have been infected through blood transfusions but show no symptoms themselves.

The Boston cases of cirrhosis differ greatly from those of children in India, Africa, and the West Indies, where the disease apparently is caused by nutritional deficiencies. None of the American children were suffering from protein or vitamin lack.

The symptoms of the disease and the changes in the liver vary with the different forms of cirrhosis. No signs of the common "alcoholic" cirrhosis appeared in the children. Instead of becoming damaged and replaced by fibrous tissue over a long period of years as in the common adult form, the child's liver either degenerates rapidly or makes a quick recovery.

The report in the September issue of the *American Journal of Diseases of Children*, published by the American Medical Association, was made by Drs. John M. Craig, Sydney S. Gellis, and David Yi-Yung Hsia of the Departments of Pathology and Pediatrics at Harvard Medical School and the Children's Medical Center.

Lipoid Pneumonia

HOLLIS K. RUSSELL, M.D., JEAN-PIERRE GAUDY, M.D., AND SAMUEL L. BERANBAUM, M.D.,
NEW YORK CITY

(*From the Department of Pathology, St. Barnabas Hospital for Chronic Diseases*)

THE first reports on lipoid pneumonia in the literature are those of Guieysse-Pellissier[1] in 1920 and of Corper and Freed[2] in 1922. Both record the results of intratracheal injections of olive oil, chaulmoogra oil, and liquid petrolatum in rabbits and dogs. The latter authors point out the danger of intratracheal application of oily substances inasmuch as small amounts of oil given to rabbits were readily aspirated into the alveoli where they produced mild proliferative pneumonitis. In 1925 Laughlen[3] reported the occurrence of lipoid pneumonia in infants and children following nasopharyngeal application of menthol and argyrol in an oil base. The articles on this subject during the next decade were chiefly concerned with experimental work and case reports in children. In 1937 Ikeda[4] reviewed the literature and summarized 106 cases of lipoid pneumonia, more than half of which involved infants and children. A further review is found in an article by Sweeney[5] in 1943 who collected 264 cases. In addition to isolated case reports, we mention the excellent reviews by Bishop[6] and by Sodeman and Stuart.[7] A search of the European literature revealed no mention of lipoid pneumonia for over a decade following the fundamental experimental work of Guieysse-Pellissier.[1] Single case reports were recorded during the next decade.[9-12] In 1948 a series of 27 cases was published by Even, Lecoer, and Sors.[8]

In general, these authors have indicated that the disease is more prevalent in men and produces few symptoms other than occasional bouts of pneumonitis. The most common symptoms recorded have been chronic cough with or without production of scanty sputum, mild dyspnea, and occasionally chest pain. The most prominent physical findings have been fine or coarse moist rales over right lower or both lower lobes and some dullness to percussion over these areas. The finding of lipoid material in the sputum has been noted by numerous authors, and aspiration of material from the involved areas has also produced confirmatory evidence.

According to Volk *et al.*[13] the x-ray findings are characteristic in some instances. Ten per cent of his cases had extensive bilateral basal infiltration involving especially the right lower lobe and particularly the medial and cardiodiaphragmatic segment. Involvement of the upper lobes was only present in very extensive disease. In five instances he described circumscribed areas resembling neoplasm.

Mineral oil has proved to be the major etiologic factor in the cases reported. In our series this agent was implicated in 55 per cent of the cases.

Material

In 1946 routine autopsy material revealed the presence of an appreciable number of cases showing lipoid pneumonia. Because of this and in view of the type of admissions to a chronic disease hospital, a study of this material was considered justified. A review of 440 consecutive autopsies revealed 47 instances of lipoid pneumonia.

Selected Case Reports

CASE 1.—A seventy-five-year-old, white female was admitted with a diagnosis of generalized arteriosclerosis and old compression fractures of several vertebrae. Previous admissions to other hospitals in 1947 and 1949 were mainly for low back pain. X-ray examination on entry led to a diagnosis of osteoporosis of lumbar spine with compression of the first to third lumbar vertebrae. An x-ray report in 1947 mentioned shadows of increased density in right base and right mid-lung field, but no abnormal physical findings were noted. Three weeks after entry she developed fever up to 100.5 F. and findings of consolidation in the right lower lobe. X-ray examination revealed diminished illumination in the right lower lobe with fibrosis and a slight degree of bronchiectasis. The response to penicillin was poor, although the temperature subsided gradually within eight days. Cytologic examination was negative for tumor cells. During this episode she developed a dry cough with scanty sputum.

A month later all physical signs had disappeared, but a chest x-ray at this time revealed fibrotic changes in the right lower lobe. The following five months were uneventful. She then developed a fever ranging from 100 to 101 F. and complained of diffuse pain in the chest. The physical findings revealed dullness over both lower lobes, diminished bronchial sounds over right lung, bronchial breathing, and fine crackling rales over left lower lobe. A chest x-ray showed diffuse bronchopneumonia, more accentuated in the central areas. The leukocyte count was 20,500 with 91 per cent neutrophils. In spite of penicillin therapy the patient's condition did not improve, and she expired.

The autopsy revealed irregular areas of consolidation in both lower lobes. These areas cut with increased resistance and presented a yellowish cut surface. In the periphery of the lower lobes there was some dilatation of the bronchioli, and small abscesses measuring up to 7 mm. were found. Both lower lobes showed diffuse fibrosis which in some areas was quite dense. Microscopic examination revealed various stages of lipoid pneumonia with superimposed secondary infection. Special examinations for acid-fast organisms and for fungi were negative.

Case 2.—A seventy-two-year-old, white female was admitted with the diagnosis of generalized arteriosclerosis and osteoarthritis of three years duration. On admission the physical examination was negative with respect to the lungs. Six months after entry a routine chest x-ray revealed a large area of infiltration extending from the right hilus toward the right base. There were no clinical symptoms at that time.

During the next year on several occasions she showed evidence of pulmonary congestion, apparently due to hypertensive vascular disease. However, she also had from that time temperature elevations up to 102.6 F. on several occasions and clinical findings of pneumonia mostly in the right lower lobe, occasionally more diffuse in both lower lobes. X-ray examination revealed gradually increasing infiltration of both lower lung fields extending from the hilus downwards and peripherally. Along with the episodes of fever she had attacks of dyspnea and cyanosis. During the next few months although she was asymptomatic, she continued to have x-ray findings. She again developed fever, dyspnea, and cyanosis and expired.

The autopsy revealed firm consolidation of the lower lobes with partial consolidation of the right middle and upper lobes. The cut surface was brownish yellow in color. Microscopic sections revealed lipoid pneumonia.

Morbid Findings

In typical cases the lung involved is heavy and shows irregular, often confluent areas of induration which are sometimes spongy to palpation. Occasionally patchy areas of yellow color are noted on the pleural surface. Often the cut surface shows a picture comparable to the various classic stages of pneumonic infiltration. However, when a certain degree of lipoid infiltration is reached and the process has persisted over a prolonged period of time, the cut surface presents a characteristic appearance. It is smooth and fairly solid, and the color is yellowish white, canary yellow, or orange yellow. Frequently these infiltrated yellow areas are found in more or less confluent patches. Often the gross picture is obscured by secondary infection which may lead to hemorrhage, necrosis, and abscess formation. When the cut surface is scraped with the knife, many oil droplets are noted.

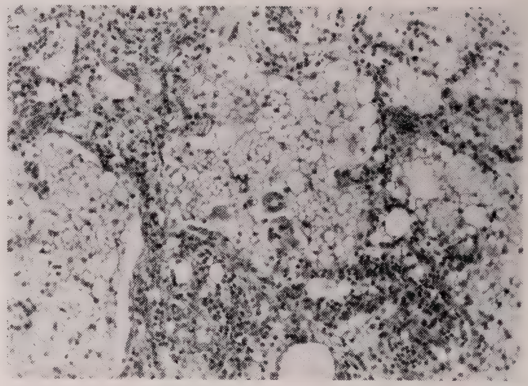

Fig. 1. Early lesion showing alveoli filled with lipophages with early fibrosis of the alveolar walls.

On microscopic examination several different stages of the disease may be recognized in most cases. Droplets of mineral oil entering the lungs through the upper respiratory passages reach the alveolar spaces in more peripheral parts of the organ. The tissue reaction is similar to that produced by any foreign body. Monocytic phagocytes appear and engulf the emulsified fat. The appearance of these phagocytes is at first foamy with several small fat globules in the cytoplasm. Later the small globules merge, and the phagocytes may resemble ordinary fat cells. Often whole groups of alveoli are found completely filled with oil-laden phagocytes and droplets of free fat. According to Nathanson *et al.*[14] these large, irregularly shaped cells may remain unchanged for a long time until later disintegration.

In this early stage, along with the appearance

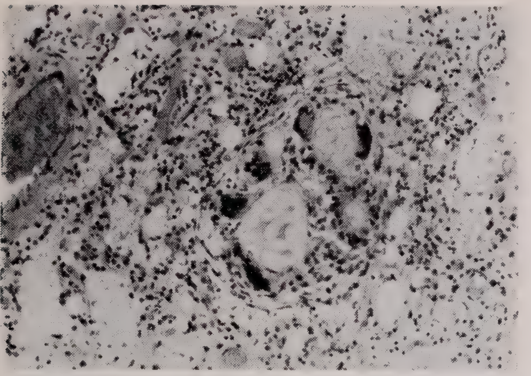

FIG. 2. Central hyaline mass surrounded by giant cells and chronic inflammatory cells. Lipophages still present in many alveoli.

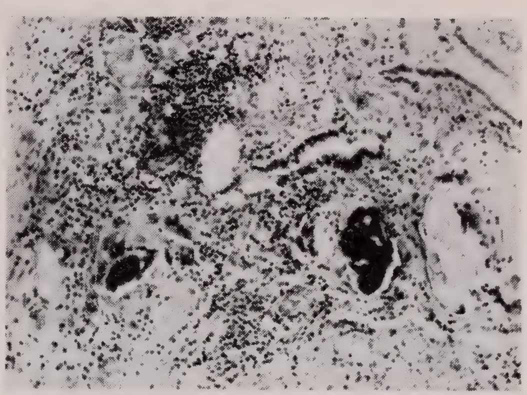

FIG. 3. Complete calcification of one hyaline mass and partial calcification of another. Lymphocytic aggregates and interstitial fibrosis.

of the phagocytes, there may be a transformation of the alveolar epithelium into a low cuboidal type with beginning thickening of the alveolar walls by proliferation of the fibrous tissue (Fig. 1). These lipophages may at this stage, as well as at later stages, invade the septal and interstitial tissue, and through the lymphatic channels and capillaries they may enter the general circulation reaching distant structures such as lymph nodes and spleen. In several of our cases lipophages could be demonstrated in the hilar lymph nodes and in three cases were found in the spleen.

Along with the increasing phagocytosis giant cells of the foreign body type, sometimes containing fat droplets, are produced within the alveoli. Associated with the giant cells there is an accumulation of chronic inflammatory cells and occasionally collections of epitheloid cells, so that the resulting lesion resembles a tubercle. As the process resolves, the central portion of the lesion may gradually be transformed into a hyaline mass surrounded by numerous giant cells (Fig. 2).

The septi became thickened due to accumulation of chronic inflammatory cells and gradually increasing fibrosis. This is followed by proliferation of generalized septal and interstitial fibrous tissue, often leading to dense interstitial fibrosis accompanied by small, completely acellular spaces varying in size from 20 to 40 microns. Shortly after the formation of giant cells, many reveal minute deposits of calcium. Eventually the giant cell may be replaced by an increase in this calcification. In some instances the tubercle-like lesion may show small deposits of calcium surrounded by numerous giant cells. It is not clear what has elicited this calcification process or whether the deposits of calcium always start in the giant cells (Fig. 3). Aggregations of lymphoid cells involving the interstitial tissue are found in most well-advanced lesions (Fig. 3). In the advanced lesion fibrosis may be extensive with accompanying distortion of large areas of the pulmonary parenchyma including entire lobes. Secondary infection is frequently seen, not only involving the early lesions, but also involving more advanced lesions where the blood supply has been greatly diminished by fibrosis, leading to diffuse purulent pneumonitis and areas of necrosis accompanied by microabscesses.

Etiology

The etiologic agent in our cases was predominantly mineral oil. In 55 per cent a definite history of exposure to mineral oil was obtained. This is in accord with the reports of Ikeda,[4] Volk *et al.*,[13] and Burger and Wilbur[15] who record mineral oil as by far the most common factor in lipoid pneumonia. In the infantile type Ikeda[4] has incriminated certain other oily substances such as cod liver oil and milk fat. Experimental work has been undertaken to determine whether oil substances of vegetable origin may produce this picture. Conflicting reports regarding these substances have appeared in the literature.[1,2,11,16–19] Fats of animal origin have regularly produced chronic inflammatory changes with subsequent fibrosis and even necrosis. Most authors stress the point that mineral oil is bland, nonirritating, and produces little or no cough reflex.[7] Nineteen of our patients either had some mental confusion, were semicomatose, or had other condi-

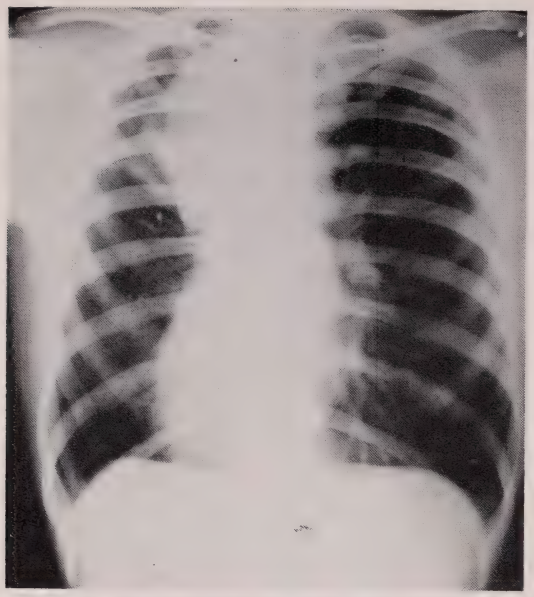

Fig. 4. An example of lipoid pneumonia after diagnostic pneumothorax. There is a mass arising from the left hilus extending along the superior mediastinum to the subclavicular region and continuing into the mid-lung field. Radiographically this mass is indistinguishable from a tumor. The final diagnosis was made at operation. (*Courtesy of Dr. Walter L. Evans*)

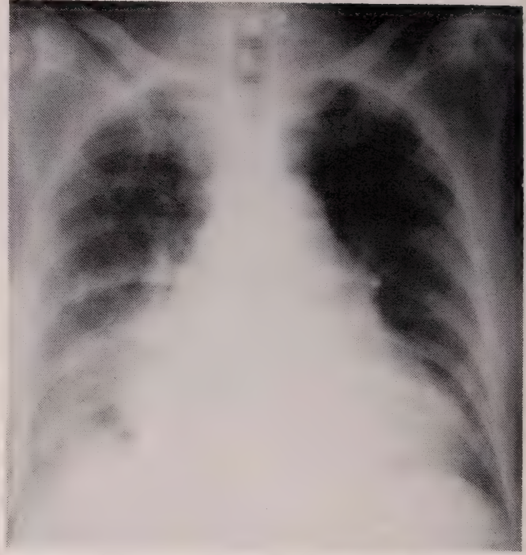

Fig. 5. Localized right basilar lipoid pneumonia extending to the peripheral and mediastinal pleural surfaces. The acute terminal episode with this roentgen picture suggested a pulmonary infarct. Even the gross pathologic specimen with evidence of congestion was considered an infarct until the microscopic picture established the diagnosis of lipoid pneumonia.

tions which might contribute to poor cough reflex.

Diagnosis

The differential diagnosis is concerned primarily with tuberculosis and pulmonary neoplasm. The former is manifested in its early stages in the upper lobes, whereas lipoid pneumonia, unless widespread, is more likely to be confined to the lower lobes. This similarity has been discussed by Pinkerton[20] and by Pierson.[21] Confusion of lipoid pneumonia with pulmonary neoplasm has been reported by Brown and Biskind,[22] Singer and Tragerman,[23] Stokes,[24] and Volk *et al.*[13] The x-ray picture of circumscribed lipoid pneumonia may closely resemble that of neoplasm (Fig. 4). A paucity of symptoms in spite of extensive radiologic evidence in individuals who have been exposed to mineral oil would suggest lipoid pneumonia.

The diagnosis of lipoid pneumonia may be established by examination of the sputum for lipophages or by aspiration of material from the lungs which are studied in a similar manner.[13,14,25] Volk and his coworkers have described a method for the detection of lipoid material in the sputum. The patients are given a fat-free diet, and sputum examinations are performed on several consecutive days. Smears are stained with Wright's blood stain and have revealed the characteristic lipophages. Sudan III or IV may also be used to indicate the lipoid nature of the vacuoles. We have recently used the method of Papanicolaou with brilliant staining results.

The distribution of mineral oil pneumonitis follows the law of gravity with the descent of the free fluids towards the bases. The upper lung fields and apices are rarely involved.

The circumscribed lesion is much less common. Only one of our cases should be classified as localized. A diagnosis of infarct was made clinically, and even the gross autopsy specimen resembled an infarct. It remained for the microscopic examination to clarify the situation (Fig. 5).

The anatomic diagnosis presents little difficulty except in early lesions. A new approach has been made by Wolman and Bayard[26] who report a fluorescence of the lipoid deposits by examining the gross material under ultraviolet light. A relatively simple chemical method for the identification of mineral oil in the autopsy material has been reported by Donnelly and Hecht.[27] This procedure involves extraction and identification of mineral oil by its physical and chemical properties.

Treatment

The only treatment is prophylactic. In dealing with the aged and those with poor reflexes, oily substances should not be used. In infants and in debilitated patients where tube feeding is necessary, mineral oil should not be applied to the tube. In diagnostic procedures, such as gastric analysis and duodenal drainage, mineral oil should not be employed. The practice of using nose drops or mentholated vaseline in the upper respiratory passages should be abandoned. In debilitated patients mineral oil applied to the lips to combat dryness should be discontinued.

Summary

A review of 440 consecutive autopsies in a chronic disease hospital has revealed 47 cases of lipoid pneumonia, an incidence of over 10 per cent. In more than half of the cases the probable etiologic agent was mineral oil. In 28 there was a history of repeated attacks of pneumonitis or definite bronchopneumonia. The gross and microscopic morbid findings are described in detail and are illustrated. Methods of diagnosis are discussed. It would seem advisable that ingestion or instillation of oily materials in the aged or debilitated should be discontinued.

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Eyestrain May Be Product of Civilization

Eyestrain, and the bleary look that sometimes goes with it, may be a product of civilization and not of disease or defect. An item in the November 20 issue of the *J.A.M.A.* said that eyestrain is considered to be mostly muscle fatigue, resulting not so much from total expenditure of energy as from constant shifting and changing adjustments in a "futile groping" after a perfect picture.

Biologically the eyes were adapted "for relatively simple purposes—to look for enemies and for food," a consultant said in answer to a query to the *Journal.* Although the conditions in which we live today are accepted as normal, the eyes may not have evolved enough to meet the demands of "unremitting close work imposed on them by a highly complex and artificial civilization."

Some eyestrain is due to the tiring of higher perceptual processes, such as interest and attention, and some is mental-emotional rather than biologic. "Many a patient with bitter complaints concerning eyestrain and difficulty in carrying out the day's activity is but manifesting his hostility to his work, his home, or other factors beyond his control," the consultant said.

The Occurrence of Malignancies in Children

VINCENT H. HANDY, M.D., AND IRVING D. GOLDBERG, M.P.H., ALBANY, NEW YORK

(From the Bureau of Cancer Control and the Division of Medical Services of the New York State Department of Health)

Malignant tumors in children occur often enough so that the physician must always bear their possibility in mind. He should condition his thinking to such an extent that the malignancies of childhood are included in practically each differential diagnosis.[1] Cases cannot be discovered early or proper treatment started immediately if the physician is not alert to the possibility of this diagnosis.

A review of the literature furnishes considerable evidence of the occurrence of these tumors.[2-9] However, few if any institutions are observing a representative cross section of all types of tumors in children.[10] The type of case admitted may be dependent on the reputation of the institution's staff in attracting patients with that particular disease, thereby distorting the true picture of the occurrence of the disease in that community.[1] With present-day treatments survivorship is increasing in many forms of childhood malignancy.[1,11] The study of mortality data under present-day conditions can give a misleading picture as far as the true occurrence of the disease is concerned. Concentration on reliable morbidity data will give more accurate information and is a more positive approach, such as is used in thinking of the infectious diseases, rather than the more negative one of linking deaths with malignancy in childhood.

Cancer has been a reportable disease in New York State, exclusive of New York City, since 1940, and physicians and laboratories have cooperated excellently in such reporting.[12] The completeness of cancer reporting compares favorably with that of other reportable diseases in the State. As required by law, the physician sends in a report card for every case of malignancy coming to his attention.

It is felt to be worth while, therefore, to present the occurrence of childhood malignancies as reported to the State Health Department with the hope that the appreciation of the frequency of cancer in early life will lead to earlier diagnosis, more adequate therapy, and consequently improved survivorship.

Incidence

The number of reported cases of malignancy, including leukemia and Hodgkin's disease, in children under fifteen in New York State, exclusive of New York City, since 1942 together with the incidence rates is given in Table I. The incidence rates show a steady decline from 1943 to 1947 after which the rate rises successively through 1952. The nature of this trend is unaltered after adjustment is made for differences in the age distribution (zero to four, five to nine, and ten to fourteen years) over the period of study.

It should be noted, however, that the incidence rate for malignancies in children may be appreciably affected by sudden changes in the birth rate. A sudden rise in the birth rate, for example, would inflate the denominator (population on which the rate is based), while almost all the cases comprising the numerator would be drawn from the population of the preceding years when the birth rate was lower; this situation would tend to deflate the incidence rate. The sudden changes in the birth rate in New York State, exclusive of New York City, during the 1940 decade[13] may partly explain the odd pattern of the observed trend in childhood malignancy rates, particularly since, as shown later in Tables II and III, the greatest contribution to these rates comes from children under five years of age.* While the apparent rise since 1947 in the incidence rate for malignancies in children may be artificial, there is no evidence or suggestion of any decline in the occurrence of this disease.

Table I also illustrates an interesting observation regarding the occurrence of childhood malignancies according to sex. The incidence rate among boys under fifteen was higher in every year studied, except 1951, than that for girls of

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* The birth rate in New York State, exclusive of New York City, declined steadily to an all-time low in 1936, with little change through 1939. Then an upward movement started in 1940, and by 1943 the rate had reached a fifteen-year peak. Following a decline in 1944 and 1945, the rate increased sharply and in 1947 was higher than in any of the previous twenty-nine years.[13] After falling in 1948, the birth rate showed a gradual rise.

TABLE I.—Number of Cases and Incidence Rates of Malignancies by Sex Reported in Children Under 15 Years of Age in New York State, Exclusive of New York City, 1942–1953

Year	Number of Cases			Rate per 100,000 Population		
	Male	Female	Total	Male	Female	Total
1942	79	65	144	11.7	10.0	10.8
1943	90	80	170	13.0	12.1	12.6
1944	88	72	160	12.5	10.7	11.6
1945	91	67	158	12.7	9.8	11.3
1946	88	67	155	11.9	9.5	10.7
1947	83	61	144	10.8	8.3	9.6
1948	95	60	155	11.8	7.8	9.8
1949	97	90	187	11.5	11.2	11.3
1950	115	81	196	13.2	9.7	11.5
1951	106	110	216	11.3	12.3	11.8
1952	124	109	233	12.6	11.6	12.1
1953	135	92	227	13.0	9.3	11.2

TABLE II.—Annual Average Age Distribution and Incidence Rates for Malignancies in Children in New York State, Exclusive of New York City, 1951–1953

Age Group	Annual Average 1951–1953		
	Number of Cases	Per Cent of Total Under 15 Years	Rate per 100,000 Population
0 to 4	111	49.1	14.0
5 to 9	69	30.5	10.6
10 to 14	46	20.4	9.3
Total	226	100.0	11.7

the same age. Although there was some variation due to the small numbers involved, the higher rate among boys appeared to hold for each of the age groups—zero to four, five to nine, and ten to fourteen years.

Further study of the age distribution of childhood malignancies reveals that the zero to four-year age group accounts for approximately half of the total cases reported under fifteen years of age as shown in Table II.

In the three-year period 1951–1953, 49 per cent of the cases under fifteen years occurred before the fifth birthday, 31 per cent were in the age group five to nine, and only 20 per cent were in the ten to fourteen-year age group. This decrease with age is also borne out by the age-specific incidence rates.

Sites of Malignancy

There were 599 cases of childhood malignancy reported during the years 1949–1951; of special interest is the site distribution of these malignancies. By far the most common were the leukemias, which accounted for 35.7 per cent of all cases, followed by malignancies of the brain and kidney and adrenal. Table III shows the distribution of the reported cases by age group

TABLE III.—Site Distribution of Reported Cases of Childhood Malignancy by Age, With Annual Average Incidence Rates in New York State, Exclusive of New York City, 1949–1951

Site	3-Year Total Number of Cases				Under 15 Years of Age	
	Under 5 Years	5 to 9 Years	10 to 14 Years	Total Under 15 Years	Per Cent of All Sites	Annual Average Rate*
Leukemia	114	67	33	214	35.7	4.2
Brain tumors	36	24	13	73	12.2	1.4
Kidney and adrenal tumors	46	10	1	57	9.5	1.1
Lymphosarcoma (including reticulum cell sarcoma, other lymphoma)	18	10	11	39	6.5	0.8
Digestive system tumors	20	2	7	29	4.8	0.6
Sarcomas of soft tissue	15	4	3	22	3.7	0.4
Bone tumors	3	8	8	19	3.2	0.4
Hodgkin's disease	0	8	7	15	2.5	0.3
Skin tumors	5	4	6	15	2.5	0.3
Eye tumors	13	1	0	14	2.3	0.3
Buccal cavity tumors	3	2	4	9	1.5	0.2
Other central nervous system tumors (excluding brain)	5	2	1	8	1.3	0.2
Bladder tumors	5	0	1	6	1.0	0.1
Respiratory system tumors	4	0	2	6	1.0	0.1
Breast and genital organ tumors	1	2	2	5	0.8	0.1
Other and unspecified sites or unspecified nature	42	17	9	68	11.4	1.3
Total	330	161	108	599	100.0	11.7

* Rate per 100,000 population under 15 years of age.

and the annual average incidence rate per 100,000 population for the three-year period 1949 through 1951.

Although Table III shows that almost all forms of malignancy in children tend to occur more frequently in the very young, the malignancies are not similarly distributed by age for each site. For example, almost all of the eye tumors reported in children during this period were diagnosed before the fifth birthday, while tumors of the bone and Hodgkin's disease appeared to be more common after five years of age. The most significant observation, however, from this distribution is the preponderance of leukemia cases in each age group.

Summary

The incidence of reported cases of malignancy in children under fifteen years of age for the period 1942 through 1953 in New York State, exclusive of New York City, is presented. There is no evidence of any decline in the incidence of these malignancies.

The age group most affected by these malignancies is the very young, namely, the zero to four-year age group. By far the most frequently occurring form of malignancy in each of the age groups (zero to four, five to nine, and ten to fourteen) is leukemia.

It is hoped that as physicians become more aware of the frequency of malignant disease in early life, particularly in the very young, the diagnosis will be made sooner. This in turn will allow more opportunity for therapy and will enhance the possibility of improved survivorship.

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New Method for Aorta Surgery Described

When the aorta, the main trunk of the circulatory system, needs surgery, physicians face the problem of performing the operation without cutting off circulation. The problem is especially difficult in the arch and descending aorta, the parts lying in the chest, for "irrevocable damage" to the spinal cord may occur if the blood flow is shut off too long.

However, a Boston physician, Dr. Herbert D. Adams, reported in the November 19 *Journal of the American Medical Association* that he successfully performed two operations on the thoracic aorta without once stopping the flow of blood. He used a method already found successful in operations on the abdominal aorta. Both operations were for the removal of aneurysms, sac-like bulges in the sides of the aortic walls.

In his operations, Dr. Adams used an aortic graft which he inserted as a shunt or by-pass around the aneurysm. While the graft was being inserted, the blood continued to flow through the aorta. After the shunt was in place and the blood was flowing through it, the aorta was clamped shut and the aneurysm removed.

In one of the cases, involving a "huge" aneurysm, the two ends of the aorta were closed and the shunt left as the permanent passage for the blood. In the other case, a second graft was placed between the ends of the aorta as a replacement for the diseased portion and the shunt removed. In both cases the grafts functioned successfully, Dr. Adams said.

CLINICOPATHOLOGIC CONFERENCE

ST. JOSEPH'S HOSPITAL, ELMIRA, NEW YORK

Conducted by DAVID KAPLAN, M.D. JANUARY 12, 1955

Discussed by JOHN R. PAINE, M.D.*

Case History

The patient was a seventy-one-year-old, white female who was admitted to the hospital complaining of vomiting, abdominal pain, and leg cramps.

She had been feeling unwell for about three weeks, complaining at first of anorexia and malaise. During this period she did not eat properly. Two weeks prior to admission after partaking of a fatty meal, she began to vomit. The bouts of vomiting were profuse and frequent. They occurred suddenly without nausea, and the vomitus was at first greenish and later yellow, never fecal. After about a week she began to have upper abdominal pain which was crampy and intermittent. On the day of admission the vomitus had a coffee-ground appearance. Her bowel movements had been regular, and her stools had appeared normal. She had a bowel movement the day before admission. Leg cramps started about three days before admission and became worse on the day of admission. The patient had no similar incident previously.

Past History.—There had been some type of pelvic operation several years ago. She had complained of fat intolerance for some time in the form of vague distress.

Physical Examination.—The patient was an obese, white female who appeared acutely ill and slightly confused. Head and thorax were negative. The abdomen was soft, not distended, tender in the midepigastrium and right upper quadrant. There was no rebound tenderness. Normal peristalsis was present. Rectal examination was negative. Extremities showed moderate pitting edema of the ankles. The temperature was 98.2 F., pulse 90, respirations 26, and blood pressure 180/90.

X-ray of the chest and flat plate of the abdomen were essentially negative. Red blood cells were 5,500,000, hemoglobin 17.3 Gm., white blood cells 16,000 with polymorphonuclears 84, stabs 8, lymphocytes 8; sedimentation rate was 1. The vomitus was positive for occult blood.

Course.—Treatment consisted of a Levine tube and Wangensteen suction, 1,000 cc. of 10 per cent invert sugar in water, and sedation. During the night the patient's blood pressure dropped to 105/60; pulse was 100. She was given another 1,000 cc. of 10 per cent invert sugar in water. During the first eighteen hours the urine output was 300 cc.

Second Hospital Day.—The abdomen was less tender, but there was still some tenderness in the right upper quadrant. A tap water enema was given, and the solution was returned with little fecal material. White blood cells were 23,400, hematocrit 52, and blood pressure 122/80. She received 2,000 cc. of Ionosol (modified Darrow's solution). Urine output was 100 cc., Wangensteen output 2,050 cc. At 6 P.M. the Levine tube was removed. Because of repeated vomiting, the Wangensteen was started again at 2 A.M.

Third Hospital Day.—Blood pressure was 148/90, pulse 120, hematocrit 50, blood sugar 153, nonprotein nitrogen 59, blood protein 5.8, albumin 3.6, globulin 2.2, serum bilirubin 3.1, icteric index 16, thymol turbidity 5.1. Stool was negative for occult blood. The patient received 1,000 cc. invert sugar with Solution BC, and 1,000 cc. of Ionosol. The urine output was 90 cc., specific gravity 1.020, albumin trace, sugar negative, acetone positive; microscopic examination showed

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* Professor of Surgery, University of Buffalo School of Medicine.

6 to 8 hyaline casts and 8 to 10 granular casts. Wangensteen output was 2,100 cc. There was an emesis of 1,225 cc. Late that night the Wangensteen suction was closed and opened alternately every hour.

Fourth Hospital Day.—Blood chlorides were 372, carbon dioxide combining power 50, sodium 137 mEq., potassium 3.5 mEq. The patient received 3,000 cc. 10 per cent invert sugar with Solution BC, 500 cc. of Ionosol, and 400 mEq. of ammonium chloride (the latter was started late in the day). Urine output was 320 cc., Wangensteen output 1,210 cc. An enema gave good results with passage of brown semiformed stool. About 11 A.M. the Levine tube was removed. Examination of the abdomen revealed a definite succussion splash. Later she complained of hiccups and began to vomit again. The Levine tube was reinserted about 11 P.M. The patient appeared to be in critical condition.

Fifth Hospital Day.—About 4 A.M. the patient displayed convulsive movements of the upper extremities; her eyes were staring, and she did not respond. She then had a convulsive seizure. She was given calcium gluconate intravenously. Penicillin SRD was started. She received 1,000 cc. of Ionosol and 200 mEq. of ammonium chloride. Urine output was 1,500 cc., Wangensteen output 1,625 cc. Blood findings were as follows: blood sugar 330, carbon dioxide combining power 71 per cent, bilirubin 1.6, amylase 107. During the day the Wangensteen fluid became fecal-like. The patient had marked diaphoresis. There was no abdominal distention. X-ray of the chest showed no change. Flat plate of the abdomen showed a little gas scattered throughout the colon. That night she appeared much better.

Sixth Hospital Day.—The patient was much improved. Leg cramps had disappeared. She had a small emesis of greenish fluid about the tube. She received 1,000 cc. of Ionosol with calcium gluconate, 500 cc. of 0.2 per cent ammonium chloride, 1,000 cc. 10 per cent invert sugar in normal saline, 1,000 cc. 5 per cent glucose in normal saline with 20 units of regular insulin and Solution BC; also 40 mEq. of potssaium chloride. Urine output was 1,800 cc., blood chlorides 531, carbon dioxide combining power 75. During that night she received a continuous infusion of 10 per cent invert sugar with Solution BC and potassium chloride.

Seventh Hospital Day.—Blood pressure was 142/82, temperature 98.6 F., pulse 104, respirations 26. Urine output between 7 A.M. and 4 P.M. was 350 cc. In the morning a barium swallow with tube in place disclosed the stomach to be empty and peristalsis normal through the pylorus; the cap was normal. The duodenum was slightly distended proximally and became more so in the distal third. The barium went no further after three hours. One had the impression of a small diverticulum in the second portion of the duodenum. Several films showed an "outpouching to the right in the duodenal cap area which was difficult to explain" (Fig. 1). At 4 P.M. an operation was performed.

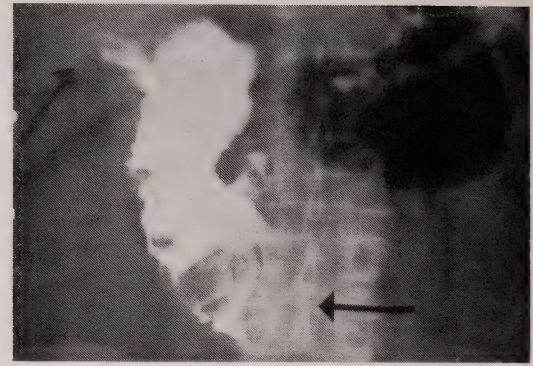
FIG. 1. Dilated duodenum with apparent obstruction (*lower arrow*) and fistulous tract suspected *upper arrow*.

Discussion

DR. JOHN R. PAINE: This seventy-one-year-old lady impressed me, initially, as having been made of pretty "good stuff" to have survived this critical illness. She had been unwell for about three weeks. After about a week of mild symptoms of anorexia and malaise, she began to vomit. This occurred after a fatty meal. That immediately brings up the possibility that this woman might have been suffering from some disorder of the gallbladder or the biliary ducts. This vomiting persisted, so whatever was bothering her was of a persisting nature. Then she began to have upper abdominal pain which was described as crampy and intermittent. To my mind, that brings up the possibility that perhaps, as a complication or as a primary situation, an obstruction of her bowel had occurred. The leg cramps, I believe, are best explained on the basis of her profuse vomiting. We know that with loss of gastrointestinal tract fluids, alkalosis develops. With alkalosis there is a decreased ionized blood calcium, as a consequence of which muscular cramps occur. I feel that we shouldn't be misled too far by those leg cramps but should consider them as a sequel to her vomiting and her disturbance in blood electrolytes. She continued to have bowel movements up until the time of her admission to the hospital. So, if she was obstructed, her obstruction was probably partial. We know that patients can be completely obstructed and have bowel movements for a day or two until they clear out the gastrointestinal tract below the point of obstruction. After that they should have obstipation if the obstruction persists.

When one goes back into her past history, there is very little to help us unless we want to seek a cause for obstruction in the previous pelvic operation. She may have had some adhesions. I have the impression, however, that a person who vomits as profusely as this patient did would probably have the obstruction in the upper part of the gastrointestinal tract. I think it is properly postulated that the lower the obstruction, the less the amount of vomiting. Certainly we see patients with complete obstruction of the colon who never vomit. Beginning in the ileum and coming back up higher and higher in the small bowel, one finds vomiting to be more and more profuse. If this patient was obstructed, I feel that her obstruction was probably in the upper intestine and that this pelvic operation and any adhesion which it might have produced was playing no part in the present episode. She had a history of fat intolerance, which would lend some support to the initial thought that her disease probably involved her biliary system.

On physical examination she had tenderness in the epigastrium and in the right upper quadrant. This lends further support to the thought that the primary lesion was gallbladder or biliary duct pathology. The "normal" peristalsis might be disturbing if one were trying to make a diagnosis of obstruction high up in the bowel, say in the duodenum or pylorus. I don't think that one should be too upset about the fact that we don't hear the classic increased borborygmi which we hear in patients with small bowel obstruction.

From the laboratory information I think there is pretty good evidence of rather marked dehydration—the increased red count and the higher than normal hemoglobin. The increased white blood cell count with distinct left shift would indicate that there was definite inflammation somewhere. She had occult blood in her vomitus. Should we assume that this was due to some ulceration in the upper gastrointestinal tract, or should we assume that it was due to the continuous vomiting? I think that either might explain the presence of occult blood in a person who had been vomiting for two weeks.

As to the treatment she was given, it seems to me that for the first day or more she was not given the proper care. I feel that anyone vomiting as much as this patient had would have lost a lot of chlorides. One of the things that I would have been anxious to get into her as soon as possible would have been some salt solution. She was given fluids, to be sure, 2,000 cc. of invert sugar. I see no evidence that she was given any salt. Her dehydration was becoming more pronounced so that she was able to put out only 300 cc. of urine during the first eighteen hours. Her blood pressure dropped during the night, and I think that was further evidence of inadequate hydration. I would consider that drop in pressure as some type of shock, basically dependent on hydration.

On her second hospital day again she was receiving fluid without enough salt. As confirmation of that, I would point out that she had a urine output of 100 cc. One notes that she lost more from her stomach by way of the tube than she was given by vein. So we can't consider that she has had any effective therapy for her dehydration up to this point.

On her third hospital day the nonprotein nitrogen was up. I feel that that can be explained by dehydration. The blood proteins were somewhat lower than normal. Whether or not that is significant I don't know. It may have been due to the relative starvation or lack of proper diet for the previous three weeks. She was definitely jaundiced with a serum bilirubin of 3.1 mg. and an icteric index of 16. So this lady, on top of her right upper quadrant pain, her vomiting, and her dehydration, became jaundiced. None of the information up to this point would lead me away from trying to explain her condition on some pathologic process in her biliary system. She was getting more sugar, and she was putting out less urine. She had acetone and casts in her urine due to dehydration. Notice that she was still putting out more from her stomach than she was being given into her veins. She had a loss that day of 3,325 cc. from her upper intestinal tract and was given 2,000 cc.

On her fourth hospital day a serum sodium chloride was 372, markedly lowered from the normal of 570, and her carbon dioxide combining power was up. She was alkalotic, in other words. Her serum sodium of 137 mEq. was a little low; she was low on potassium. Again, she was getting a lot of sugar, but at this point she began to get some chlorides. I think that with this fourth hospital day the patient's condition started to improve, although the improvement wasn't fully evident for another forty-eight hours. She was given another enema, and she passed brown stool on this, the fourth day. I think this means that she had a partial obstruction rather than a complete obstruction. She still had evidence of stasis in her gastrointestinal tract, a succussion splash and vomiting.

On the fifth hospital day she had convulsive movements. I would tie this up with the lack of ionized calcium which gave her leg cramps. She seemed to improve after she was given calcium gluconate. When she was given a blood transfusion and fluids and chlorides in adequate amounts, see what happened to the urine volume. It came up to 1,500 cc. Apparently there was a change in the character of the gastric and upper gastrointestinal tract contents inasmuch as they became fecal-like. Perhaps her obstruction became complete at that time. She was not distended; one might ask how a patient can be obstructed and not be distended. She had neither borborygmi nor distention, two of the cardinal signs of intestinal obstruction. With high obstruction one would not expect the abdomen to be distended for only that portion of the gastrointestinal tract proximal to the point of obstruction can partake in the distention.

That night she was better. After the calcium was given, you see that the next day she had no more leg cramps, convulsive seizures, or twitchings. She was given increasing amounts of potassium chloride. I certainly think that was in order. You see that she continued to have a good urine output, 1,800 cc., and that her serum chlorides were much improved over what they had been forty-eight hours before. On the other hand, her carbon dioxide combining power was higher. Why should that be? She was getting a considerable amount of sodium lactate in the form of modified Darrow's solution, and that sodium lactate was making her alkalosis worse. What she needed was less lactate and more potassium, I would judge.

On the seventh day she was well enough to have x-rays attempted in the hope of making a diagnosis. I can imagine that the doctors had been anxious to do that for several days. Will Dr. Burch show the significant x-rays?

Dr. Hobart A. Burch: We found the stomach empty and peristalsis normal through the pylorus. Our impression was that the trouble was not in the stomach. The duodenum was slightly distended proximally. It became more so in the distal third. In this film you can see the point of obstruction and also something that we didn't see under the fluoroscope (Fig. 1). There was an outpouching to the right of the duodenal cap. One must think of fistula, but it did not appear to extend into the biliary tree.

Dr. Paine: It is my impression that the most likely diagnosis was that this patient had had an acute inflammatory process in her gallbladder and had sloughed a gallstone into her duodenum, and it had become stuck. I am not entirely happy with such an explanation, but I can explain more things on that basis than by any other diagnosis. The thing that bothers me is the fact that there was no gas in the biliary tree. Our x-ray department tells me that they have never seen a gallstone obstruction where they haven't been able to demonstrate gas in the biliary tree. Well, this is the first case then. Another point against that diagnosis might be that, in patients who have gallstone obstruction, the stone usually lodges in the ileum. I don't think I have ever seen a patient who had a gallstone obstruction in the duodenum. So, despite the fact that I am not entirely pleased, I will have to sink or swim by saying that I think this patient had a fistula with the gallstones sloughing into the duodenum and causing obstruction.

Question: Shouldn't a gallstone of that size be laminated and show up on a flat plate?

Dr. Paine: In the cases of gallstone obstruction with which I have come in contact, I have been able to see the stone in the bowel on only two occasions. They usually don't show by x-ray.

Diagnoses

Clinical.—*Intestinal obstruction in the duodenum, possible gallstone ileus, and possible carcinoma of the pancreas.*

Dr. Paine.—*Obstruction of the duodenum due to gallstone and cholecystoduodenal fistula.*

Postoperative.—*Obstruction of the duodenum due to gallstone and cholecystoduodenal fistula.*

Operative Findings

Dr. J. George Gladstone: At operation evidence of longstanding inflammation was found in the right upper quadrant. Adhesions had to be freed to get down to the duodenum where a large hard mass was found. It seemed to be at about the point where the superior mesenteric vessels cross over the duodenum. When the duodenum was opened, a gallstone the size of an orange was revealed, together with a second gallstone somewhat smaller. These were removed, and the operation was terminated as rapidly as possible. After operation she was never in any serious difficulty and left the hospital symptom-free. As far as I am aware, she remains in good health up to now.

Summary

Dr. Paine: Up to fairly recent times the mortality of gallstone obstruction was extremely high, well over 50 per cent. The situation is better at the moment. In our experience in Buffalo since 1945, in a series of eight gallstone obstructions there was one death. Gallstone obstruction is a relatively rare condition. The usually accepted figure is that it accounts for 4 or 5 per cent of obstructions of the small bowel.

ANNOUNCEMENT

SCIENTIFIC EXHIBITS

1956 ANNUAL CONVENTION
MEDICAL SOCIETY OF THE STATE OF NEW YORK

Applications for space for the scientific exhibits should be made directly to the Chairman of the Subcommittee on Scientific Exhibits of the Convention Committee:

William L. Watson, M.D.
340 East 72nd Street
New York 21, New York

The Annual Convention will be held May 7 to 11, 1956, at the Hotel Statler, New York City.

No applications can be considered after January 15, 1956.

There will be two groups of awards:

Group I: Awards in Group I are made for exhibits of individual investigation, which are judged on the basis of originality and excellence of presentation.

Group II: Awards in Group II are made for exhibits which do not exemplify purely experimental studies and which are judged on the basis of presentation and correlation of facts.

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Medical Society of the State of New York

TREATMENT OF CANCER

IRWIN E. SIRIS, M.D., *Editor*

Subcommittee on Cancer
Council Committee on Public Health and Education
Medical Society of the State of New York

with the cooperation of

Bureau of Cancer Control
New York State Department of Health

Treatment of Tumors of the Testis

JOHN A. BENJAMIN, M.D., ROCHESTER, NEW YORK

(*From the Department of Surgery (Division of Urology), University of Rochester School of Medicine and Dentistry*)

THE treatment of tumors of the testis of germ cell origin can probably be best approached by considering briefly the symptoms, findings on physical examination, laboratory and x-ray data, and the pathology. Before continuing, one can dispose of the treatment of benign tumors of the testis, such as some interstitial cell tumors, by recommending surgical removal of the involved testis.

The clinical recognition of testicular tumors in terms of symptoms and physical examination is a matter of exclusion because, generally speaking, they have no pathognomonic signs or symptoms. Thompson[1] pointed out in an informative clinical report that if the chief complaint is related to other organs than the testis, then the prognosis is poor; in addition, the prognosis is poor if the symptoms are over a year duration. The first symptoms are usually painless swelling of the testis, and the patient may have a sense of fullness. On palpation one may feel a smooth, hard testis, or it may be nodular and irregular. Hardness is generally present unless one has necrosis and cystic formation. Furthermore, physical examination is important because of metastases which might involve the regional lymph nodes and present as an abdominal mass or as an enlarged left cervical node, indicating the need to search for lung or mediastinal metastases. The presence of gynecomastia with a positive pregnancy test for chorionic gonadotropic hormone is of help in certain tumors such as chorioepithelioma or other types of tumors with chorioepitheliomatous elements in them. Pyelography may demonstrate displacement of the ureters away from normal position by enlarged carcinomatous retroperitoneal lymph node. A chest x-ray is a must. X-rays of the long bones, pelvis, and the dorsal and lumbar vertebrae are helpful in the search for possible metastases. In some patients elevated values for alkaline phosphatase (usually over 4 Bodansky and 12 King-Armstrong units) indicate that bone might be involved.

One of the most important guides to the treatment of tumors of the testis is the pathologic findings. We have found the classification of tumors of the testis by Friedman and Moore[2] to be most useful. They studied 922 tumors of the testis collected at the Army Institute of Pathology and found four fundamental struc-

TABLE I.—INCIDENCE OF VARIOUS TUMORS ACCORDING TO FRIEDMAN AND MOORE[2]

Type of Tumor	Number of Cases	Per Cent
Seminoma	321	35
Teratocarcinoma	321	35
Embryonal carcinoma	179	19
Teratoma	64	7
Miscellaneous	37	4
TOTAL	922	100

tural patterns either alone or in combination: (1) seminoma, (2) embryonal carcinoma, (2A) chorioepithelioma, (3) teratoma, and (4) teratocarcinoma. Over 96 per cent fell into these categories, while 1 per cent were interstitial cell tumors and about 3 per cent were rare or unclassifiable varieties (Table I).

Seminoma

Thirty-five per cent were seminoma. Seminoma is made up of rounded polyhedral cells with sharp borders and often clear cytoplasm. The nucleus is usually round and centrally placed, and the nucleolus generally is single. The cells are remarkably uniform. There may or may not be lymphocytic infiltration. Seminomas do not as a rule invade as aggressively as embryonal carcinoma.

Embryonal Carcinoma

Nineteen per cent were embryonal carcinoma. The cell type of this tumor shows considerably more variation from tumor to tumor or in the same tumor. They sometimes form differential glandular or papillary structures and at times unorganized solid sheets of epithelial cells, cuboidal or columnar. One can often see resemblance to syncytial and trophoblastic tissue, and the tumor may be associated with gynecomastia.

Chorioepithelioma

Chorioepitheliomas resemble the architecture of placental villi and are composed of cytotrophoblastic cells and giant multinucleated syncytial structures, and in some patients they are associated with the production of chorionic gonadotropic hormone and gynecomastia.

Teratoma

Seven per cent were teratoma. They are made up of epithelial masses, glands, and cysts and are sometimes organized into such tissue as cartilage or specialized mesenchymal structures. Squamous cell nests, masses of neuroepithelium, enteric glands or cysts, smooth muscle, and lymphoid tissue may also be found. The term teratoma is loosely used to designate the growth in which differential "adult" structures were seen.

Teratocarcinoma

Thirty-five per cent were teratocarcinoma. They comprise a large group of pleomorphic tumors with differential teratoid and malignant structures. Friedman and Moore[2] found that 78.5 per cent of teratocarcinoma were mixtures of teratoma, embryonal carcinoma, and/or chorioepithelioma. Five per cent were composed of teratoma and seminoma; 15 per cent had seminomatous, embryonal carcinomatous, and/or chorioepitheliomatous elements, and 2.5 per cent were a heterogenous group.

Treatment

The treatment of tumors of the testis has two large divisions, surgery and radiation either alone or in combination. Chemical and hormone therapy are not as yet developed to a degree that their effectiveness can be properly evaluated in the treatment of testicular tumors.

Since seminoma is very sensitive to radiation and if there is no demonstrable metastasis after orchiectomy, radiation is the treatment of choice. This is the type of tumor seen in cryptorchids and atrophic or maldeveloped testis. Orchiectomy can be performed through the scrotum or inguinally and as early as possible. In the study by Lewis,[3] 23 per cent of the patients with seminomas had metastases on admission. This evidence supports the consideration of radical surgical removal of the retroperitoneal lymph nodes which drain the testis. The surgical procedure of choice is that of Cooper, Leadbetter, and Chute[4] which is a thoracoabdominal approach to remove retroperitoneal lymph nodes. The incision starts at the angle of either the tenth or eleventh rib and proceeds obliquely downward over the abdomen until it meets the inguinal incision which has been previously used to explore and remove the involved testis. The pleura is opened and the diaphragm transsected to give excellent exposure to remove the lymph nodes about the region of the renal pedicle. The fat, Gerota's fascia, and the lymph nodes are removed

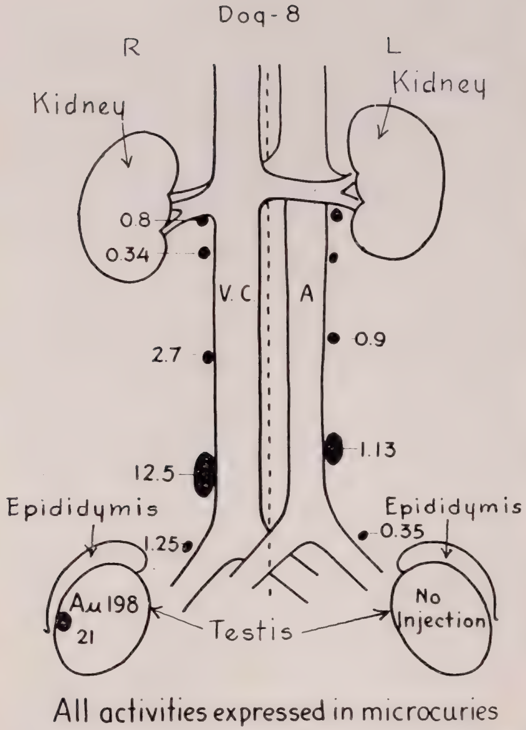

FIG. 1. The distribution of radioactive gold (Au^{198}) to the regional lymph nodes after being injected interstitially into the right testis. Note the distribution of Au^{198} to the nodes opposite to the site of injection.

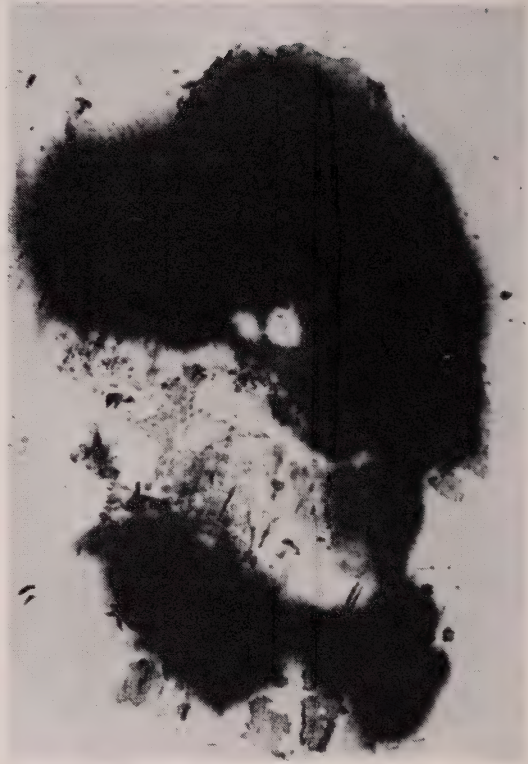

FIG. 2. The automicroradiograph of a lymph node removed from the region of the right renal pedicle of dog 8 (from unpublished studies by Benjamin, Mermagen, and Ritter).

in toto. On the right side if the nodes are large, they might involve the vena cava superficially, and this may make the dissection difficult; in certain cases a segment of the vena cava may need to be resected. Leadbetter *et al.*[5] in their series of 44 patients with testicular tumors performed ten thoracoabdominal operations for retroperitoneal lymph node dissection and found positive glands in seven of these ten patients.

If the patient has seminoma, the Department of Radiation of the University of Rochester School of Medicine and Dentistry uses 3,000 r to the lymph node region over a period of four weeks. The radiation is distributed evenly and begins at about the level of the bifurcation of the aorta and extends to the diaphragm. Naturally, if there is evidence of lung involvement or other nodes, such as the left cervical nodes, the involved tissues receive radiation also. It is to be noted that this dosage is to the involved tissues. Lewis[3] stated that the advantage of the supervoltage machine (1,000,000 volts) is that this equipment can deliver the same radiation in two weeks that it takes a 200 kilovolt machine six weeks to deliver. Lewis' studies revealed that only 8 per cent of the patients with seminoma who have had radical surgery in addition to radiation have died. Lewis has performed 169 radical node resections without operative mortality which agrees with the results of Cahill.[6]

In regard to embryonal carcinoma, teratoma, and teratocarcinoma, excision of the involved testis with regional node removal is indicated, unless general metastases are present, in addition to 3,500 to 4,000 r distributed over a period of four weeks. Again this is tissue and not air dosage.

In chorioepithelioma radical node resection and radiation dosage up to 5,000 r might be indicated. If metastases are present, generally radiation therapy alone is indicated.

One may say with the use of surgery and radiation, alone or together, that the prognosis of seminoma and adult teratoma is good, while that of chorioepithelioma is almost hopeless. Under the same conditions teratocarcinoma and embryonal carcinoma have a discouraging prognosis with chance of a five-year arrest somewhere between 20 and 50 per cent.

It is of interest to reflect that in the future isotopes might be used along with surgery and radiation therapy in the treatment of selected cases of tumor of the testis. For example, when radioactive gold is injected interstitially into the testis of a dog, it will distribute itself to the draining lymph nodes and could possibly be useful in radiating tumor cells which might have been distributed to these retroperitoneal lymph nodes (Figs. 1 and 2). However, surgery and radiation, either alone or in combination, remain dependable and proved methods for the treatment of tumors of the testis.

In closing, the use of Thorazine* in the treatment of radiation sickness deserves mentioning. Generally the adult dosage is 25 mg., three to four times daily by mouth. A word of caution—transient eosinophilia and jaundice which mimics the obstructive type may develop during the administration of Thorazine[7] and disappear following withdrawal of the drug.

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* Thorazine is the trademark of Smith, Kline & French brand of Chlorpromazine.

(*Number sixteen of a series on Treatment of Cancer*)

Doctors' Own Health-Check Program Proves Successful

Doctors who don't have time for physical check-ups might take a glance at what their colleagues in Williamsport, Pennsylvania, are doing. The physicians there make the time, and they're glad they do.

On one of two well-publicized days every April, the Williamsport M.D.s receive check-ups, and, as a result, they stay healthy. The story of the program they've established appears in the November issue of *Medical Economics*, national business magazine for doctors.

It's entitled "These 80 M.D.s Get Annual Check-ups."

The program is now in its fifth year. Here's how it works, according to *Medical Economics:* "The doctors are asked to report in advance for a complete blood count, urinalysis, serology, sedimentation rate check, chest x-ray, and electrocardiogram." And there are several additional procedures.

On examination days, the doctors take nine more tests, and they're checked by their own colleagues. The tests require about two hours, the magazine reports, and, as soon as the doctors have completed them, "the results are studied by an examining board. Then—sometimes even before the participant has left the building—the board drafts a letter to him listing all positive findings and recommendations. In any case, each physician gets the results within two weeks."

The cost of the program is slight. Some examiners bring along their own aides and pay them themselves, but the rest of the expense is borne by the hospital. That expense averages $23.75 for each man examined.

So successful has been the voluntary program, emphasizes *Medical Economics*, that it now boasts 80 per cent participation. And, say its backers, it's saved several doctors from serious illness.

FUNDAMENTALS OF MODERN ALLERGY

A series of special articles sponsored by the New York Allergy Society and written by its members.

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Symptomatic Treatment of Bronchial Asthma

LAURENCE FARMER, M.D., NEW YORK CITY

(*From the Allergy Clinic of the Lenox Hill Hospital*)

CONSIDERABLE progress has been made in recent decades in the treatment of bronchial asthma. In speaking of this progress the main emphasis is usually placed on the recognition of the etiologic importance of hypersensitiveness in this condition and on the ensuing advances in the causal therapy of asthma. Little mention, however, is made of the progress achieved during this period in its symptomatic treatment. How much has been added here also becomes evident from a perusal of the 1901 edition of Osler's *Practice of Medicine.*

Inhalation of a "few whiffs" of chloroform and spirits of chloroform in hot whisky; injections of morphine, cocaine, pilocarpine; smoking of tobacco and "asthma cigarets"; belladonna and lobelia by mouth; inhalation of oxygen, and finally potassium iodide (of which Osler says there is "no remedy as useful . . . in preventing the recurrence of attacks") formed the extent of the physician's armamentarium in the treatment of bronchial asthma.

In 1903 a turning point was reached with the introduction of epinephrine which has remained, superseded by none, the supreme drug in the symptomatic treatment of the asthmatic attack. Its action is rapid, and a subcutaneous injection of 0.3 to 0.4 cc. of a 1:1,000 aqueous solution can usually be counted on to terminate even the most severe paroxysm. The comparatively short duration of its effect often necessitates a second or third injection or the additional intramuscular administration of 0.5 to 1 cc. (1 to 2 mg.) of a 1:500 suspension of epinephrine in oil. The suspension is longer acting but slow in onset and should not be used in an emergency. For milder attacks oral inhalation of a concentrated (1:100) aqueous solution will often suffice.

Besides epinephrine a number of other sympathomimetic drugs are of definite value in the treatment of bronchial asthma. One of the newest members of this group, isopropyl-norepinephrine, marketed under various trade names such as Isuprel, Norisodrine, Aludrine, etc., has proved to be very effective when used sublingually (10 to 15 mg.) or by inhalation. It is also often effective in patients who have become adrenalin-"fast."

Bronkephrine (ethyl-norepinephrine), 0.5 to 1 cc. subcutaneously, although not so potent as epinephrine, is often efficacious. It has less pronounced pressor action and makes the patient much less "jittery."

Ephedrine (hydrochloride or sulfate) which has found wide use, especially in the treatment of protracted asthma, is one of the main components of many proprietary compounds. It can be given parenterally, but it is commonly used orally in doses of 25 to 50 mg. ($^3/_8$ to $^3/_4$ grain) three to four times a day. Propadrine hydrochloride by mouth in the same dosage is preferred by many patients in whom ephedrine produces palpitations and nervousness.

Next to the subcutaneous administration of epinephrine, the intravenous injection of aminophylline (theophylline ethylenediamine), 0.25 to 0.5 Gm. in 10 or 20 cc. of water, affords the most rapid relief of asthmatic dyspnea. To avoid possible untoward reactions aminophylline must be injected very slowly. Intramuscular injection of 0.5 Gm. in 2 cc. of solution relieves paroxysms more slowly and less dramatically but still very effectively. Glucophylline (theophylline methylglucamine) is less painful than aminophylline on muscular injection and equally efficacious (0.732 mg. in 2 cc.).

On parenteral administration the concentration of aminophylline in the bloodstream rises rapidly but is not maintained very long. Where it is desirable to have higher blood levels for a prolonged period of time, aminophylline should be given orally (0.2 Gm. three to four times a day) or by rectal suppository (0.5 Gm. two to three times a day). Numerous patients complain of rectal irritation following the use of these suppositories. Rectal instillation of 0.5 Gm. of aminophylline dissolved in 15 to 30 cc. of tap water usually overcomes this difficulty.

The inhalation of oxygen, long used in the treatment of asthma and still widely prescribed, preferably by BLB mask or nasal catheter, is very efficacious in relieving dyspnea. Although this form of therapy is generally thought to be innocuous, it should be pointed out that infrequently, mental confusion, stupor, coma, and death may occur during the inhalation of oxygen in bronchial asthma associated with chronic emphysema. The explanation offered is that the high oxygen concentration of the inspired air rapidly and fully saturates the arterial blood and abolishes the anoxic stimulus to breathe in patients who are already laboring under the effects of an elevated carbon dioxide blood level. The ensuing decrease of ventilation and failure to eliminate carbon dioxide in turn results in further increase of blood carbon dioxide to dangerous and even fatal levels.

To minimize and obviate such occurrences, the administration of oxygen should be carefully supervised and periodically interrupted.

Atropine and morphine, formerly widely used in the treatment of asthma, have come into disrepute. Morphine especially is regarded as absolutely contraindicated. In their place Demerol, an atropine-like drug with strong analgesic action, has found great favor, and its parenteral administration in severe asthma has become an almost routine procedure in some quarters. The pronounced mental confusion we have seen in several instances following the injection of Demerol has made us question the wisdom of using this drug.

Reassurance and sedation of the often apprehensive asthmatic patient are of prime therapeutic importance. In prescribing sedatives, especially in chronic cases complicated by emphysema, recourse should be had to drugs which do not depress the respiratory center. Chloral hydrate 0.5 to 1 Gm. as a soporific or in doses of 0.25 Gm. three times a day as a daytime sedative should be used more widely than is customary at present. By the same token greater restraint should be exercised in the use of the barbiturates.

The antihistamines, in contrast to their efficacy in other allergic diseases, are of little value in the treatment of bronchial asthma.

The often profuse production of copious, tenacious sputum tends to augment the asthmatic's dyspnea and frequently contributes greatly to his discomfort. Inspissation of the sputum and blocking of the bronchioles can even endanger his life. Evacuation of the sputum is one of the most important measures in the symptomatic treatment of asthma. Potassium iodide, one of the oldest antiasthmatic drugs, has proved to be one of the most efficacious and has not been replaced by any of the newer expectorants. Ten to fifteen drops of a saturated solution (equivalent to 1 to 1.5 Gm.) two to three times a day often works wonders. Osler's view that potassium iodide "sometimes acts like a specific" is undoubtedly shared by most of those who have had wide experience with it.

Where iodides are contraindicated, as in pulmonary tuberculosis, or where they are poorly tolerated, syrup of ipecac may be tried. It is often very effective. Terpin hydrate, so widely prescribed in chronic cough, lessens abundant sputum and, therefore, should not be used in patients with tenacious sputum. In cases where the patient is unable to empty his bronchi actively, suction by catheter introduced through a bronchoscope has a definite place and has been lifesaving.

The greatest boon to the asthmatic since the introduction of epinephrine is the advent of the corticosteroids and of corticotropin. Cortisone and its congeners and ACTH, although purely symptomatic in their actions and without curative value, frequently afford so great a degree of relief that they are truly a blessing for the harassed sufferer in status asthmaticus. The use of these hormones in allergic diseases, their indications and limitations, will be discussed in another article in this series. However, it should be stressed that these drugs should not be used for the emergency treatment of bronchial asthma. Here, as in the past, aqueous epinephrine remains the drug of choice.

993 Park Avenue

(*Number six of a series on Fundamentals of Modern Allergy*)

Lower Mortality Among Americans

Prevailing mortality among Americans in the middle and later ages is much lower than two decades ago, according to the statisticians of the Metropolitan Life Insurance Company.

This trend is reflected in the experience of the company's industrial policyholders. Among those insured the death rate from all causes for white men at ages forty-five to seventy-four fell from 29.9 per 1,000 in 1935 to 22.5 in 1954, a decline of 25 per cent.

The corresponding decrease among white women was even greater—from 21.6 to 12.2 per 1,000 or nearly 45 per cent.

For each sex, the relative improvement in mortality was somewhat greater at ages forty-five to fifty-four than at the later ages.

The greatest reductions in mortality have been recorded for the infectious diseases, reflecting the revolutionary advances made in their treatment with the newer drugs and antibiotics. The death rates from pneumonia and influenza and from tuberculosis at the ages past midlife have fallen to fractions of what they were twenty years ago.

Considerable progress has also been made in reducing the mortality from diseases of the heart and kidneys as a group. Between 1935 to 1939 and 1950 to 1954, the decrease was about 30 per cent among the insured women in each age group within the forty-five to seventy-four range. Among the men the reduction in the death rate from these diseases amounted to 5 per cent at ages fifty-five to sixty-four and 16 per cent at ages sixty-five to seventy-four.

The mortality from cancer decreased fully one sixth among the insured women in the forty-five to seventy-four age range, the statisticians note. Among the men, however, the cancer death rate increased somewhat, reflecting the sharp upward trend in the recorded mortality from respiratory cancer.

The death rate from accidents has improved considerably over the twenty-year period in the insurance experience.

CLINICAL ANESTHESIA CONFERENCE

A series of conferences on medical emergencies
in the operating room including causes of death
during anesthesia

Prepared by the Anesthesia Study Committee of the
New York State Society of Anesthesiologists

BARNETT A. GREENE, M.D., *Chairman*

Death from Bronchial Asthma

THIS report describes a death caused by bronchial asthma under spinal anesthesia. Although the technical aspects of this anesthesia were correct and generally acceptable, the anesthesiologist failed to prevent this death by omitting the application of medical principles to the practice of anesthesiology in an asthmatic patient.

Case Report

A thirty-one-year-old, white, married woman was admitted late in the evening before operation. Her complaints were severe low abdominal pain of two days duration with nausea and vomiting. She had borne one child and had been entirely well except for chronic, marked bronchial asthma in the past two years.

The patient was of small and slender habitus. Sibilant and sonorous rales were evident throughout both lungs. Blood pressure was 95/75 mm. Hg. The heart was normal; the radial pulse was 84 per minute and regular. The abdomen was tender in the right lower quadrant. Her temperature was 99.6 F. Urinary findings were normal. The erythrocytes were 4,380,000 per cu. mm., hemoglobin 13.5 Gm. per 100 cc. of blood, leukocytes 12,400 per cu. mm., differential cell count normal. She slept well that night with the aid of 0.1 Gm. of secobarbital sodium.

At 8:30 A.M. of the day after admission, she was premedicated with 0.1 Gm. of secobarbital sodium by mouth and 0.4 mg. of atropine sulfate by subcutaneous injection. In the operating room at 10 A.M. she was very drowsy but not dyspneic despite the presence of a markedly "wet" cough and asthmatic rales. She was given spinal anesthesia with 150 mg. of procaine hydrochloride dissolved in 3 cc. of spinal fluid. Five minutes before the puncture she received a subcutaneous injection of 50 mg. of ephedrine sulfate as a vasopressor and bronchial dilator. The level of spinal analgesia was judged to be at thoracic 8 or 7. During anesthesia the blood pressure ranged between 110/76 and 90/64 mm. Hg; the pulse rate remained between 90 and 100 beats per minute. Intravenous ephedrine sulfate, 10 mg., was given at the start of the operation when the systolic pressure fell to 90 mm. Hg. Although she did not receive any other medication, she slept without dyspnea or cyanosis while the surgeon removed a mildly inflamed appendix and resected a part of each ovary. At the end of the operation, forty-five minutes from the start of anesthesia, the patient coughed and showed asthmatic dyspnea for the first time. She was markedly pallid; even though her lips were pink, oxygen was administered. The pallor and dyspnea did not improve during twenty minutes of observation in the operating room. The blood pressure now was 100/76 mm. Hg, pulse rate 100. The anesthesiologist left her in her bed at 11:20 A.M. Within a few minutes dyspnea and pallor became extreme, and the peripheral pulse was feeble. The anesthesiologist was summoned and responded within a few minutes. She died at 11:30 A.M. despite endotracheal administration of oxygen with artificial respiration, "bag breathing," and intracardiac injection of epinephrine.

A postmortem examination, although rejected by the medical examiner, was obtained through the cooperation of the husband. The significant findings were the following: The skin was not cyanotic. The tracheal mucosa was congested and covered with a thick mucous exudate. The bronchial tree, from the main bronchi down to the smallest branches that could be followed, was completely filled with a thick, gelatinous, partially translucent fluid containing many entrapped air bubbles. The bronchial mucosa was slightly congested. The lungs were well aerated, pinkish red, and markedly emphysematous. Microscopic examination noted an increase of eosinophils in the tracheal wall, liver, spleen, lymph nodes, and gallbladder; the adrenal glands were congested but otherwise normal.

Comment

The choice and management of anesthesia were those which many anesthesiologists regularly prefer. Others believe, however, that general anesthesia is better for asthmatic patients because it prevents emotional initiation of a paroxysm, facilitates the control of ventilation, and permits the use of ether for its bronchial-dilating effect. In this case, however, spinal anesthesia was not responsible for the fatal outcome, nor was the debatable use of atropine a significant factor.

The primary fault in the management of this patient was the failure of the anesthesiologist to appreciate that the tracheobronchial tree required cleansing despite the employment of spinal anesthesia. The pathologic changes in the bronchi during asthma are spasm, edema, and exudation. In any given case one of the abnormalities is usually more pronounced than the others. In this patient bronchial obstruction by secretions was the prominent factor. When the patient exhibited a severely "wet" cough before anesthesia, the tracheobronchial passages should have been cleansed by postural drainage, nasotracheal intubation, or bronchoscopic aspiration. Certainly a tracheobronchial "toilet" was urgently indicated when the patient was dyspneic at the end of the operation.

The ideal management of this patient for a not too urgent operation would have been postponement until improvement and control of the asthmatic state had been obtained with the therapeutic measures available at that time. Today, of course, this would include large parenteral dosage with ACTH or the adrenocortical agents which are effective in asthma. Even without these, however, medication with an antihistamine, aminophylline, and epinephrine is often helpful before, during, and after anesthesia.

(*Number two of a series of Clinical Anesthesia Conferences*)

AMA Forms New Committee on Geriatrics

Problems of the aging will be up for careful scrutiny by a newly-formed committee on geriatrics of the AMA's Council on Medical Service. The group was expected to hold an organizational meeting in Boston following the ninth clinical session. The following members have been selected so far: Drs. Henry Mulholland of Charlottesville, Virginia (a member of the Council), chairman; Edward L. Bortz, Philadelphia; Theodore J. Klumpp, New York City, and Wingate M. Johnson, Winston-Salem, North Carolina. Three others will be appointed later, bringing the total committee to six plus a chairman.—*American Medical Association News Notes, November, 1955*

SPECIAL ARTICLE

Polio Ahead: The Reasons Behind the 1956 New York March of Dimes

HART E. VAN RIPER, M.D., NEW YORK CITY

(*Medical Director, National Foundation for Infantile Paralysis*)

ALTHOUGH the Salk vaccine has proved to be a major weapon against paralytic poliomyelitis, as New York State records already show, it has not yet won the war against this disease. In spite of the Salk vaccine more cases of poliomyelitis were reported in New York State in 1955 than in 1954.

New York will still have polio problems to meet in 1956. We are at the point now where there must be continuing cooperation of physicians, both in administering the vaccine and in caring for patients already paralyzed and *who will be* paralyzed in spite of the vaccine. The Salk vaccine is not 100 per cent effective, and it will take considerable time yet, perhaps years, before all individuals most susceptible to paralytic poliomyelitis can be fully immunized against it.

Nevertheless, with some help from the National Foundation for Infantile Paralysis and its 58 local chapters in the State, New York has made great progress toward the control of paralytic poliomyelitis and toward management of its more serious after-effects, especially respiratory difficulties. More March of Dimes money for patient aid has been spent in New York than in any other state except California.

The following brief review of what the National Foundation, supported by its January March of Dimes, has already done to help meet polio problems in New York State gives an idea of the tasks that still lie ahead. Since 1938, when the National Foundation was organized, these things have been accomplished:

Over $18,560,000 have been spent by local chapters in New York State for the care of polio patients.

Three respiratory centers devoted to demonstrating and teaching the best possible care for poliomyelitis patients with breathing difficulties have been established by the National Foundation in New York State. They are located at Mount Sinai Hospital and Goldwater Memorial Hospital in New York City and at the University of Buffalo. Toward the support of these centers the March of Dimes has already contributed over $500,000.

A total of 783 National Foundation scholarships and fellowships has been awarded to New York residents.

Professional education grants, in addition, to New York institutions have totaled over $1,019,000.

A very large amount of fruitful research in virology and in the treatment of after-effects of poliomyelitis has been conducted in New York State. Toward this research the March of Dimes has contributed over $2,307,000.

A great number of institutions in New York State have shared in March of Dimes grants and appropriations for research, professional education, polio prevention, and medical care demonstration. Among the institutions currently having March of Dimes grants are Columbia University, Cornell University, Mary Imogene Bassett Hospital (Cooperstown), Mount Sinai Hospital, New York University, Russell Sage College and Albany Medical College, and the University of Buffalo.

Among the New York institutions which have previously received March of Dimes grants (in addition to those already named) are the City of New York Department of Health, Edward J. Meyer Memorial Hospital, Grasslands Hospital, Hospital for Joint Diseases, Hospital for Special Surgery, Jewish Hospital of Brooklyn, Knickerbocker Hospital, Long Island College of Medicine, New York Botanical Garden, New York Medical College, New York Orthopedic Hospital and Dispensary, Public Health Research Institute, Protein Foundation, Society of New York Hospital, State of New York Department of Health, State University of New York at Syracuse, and the University of Rochester.

Emergency aid in dollars and in equipment for polio patients has been generously supplied. In the year 1954, for example, a total of $231,400 in emergency aid was sent to 14 New York chapters by the national headquarters of the National Foundation.

A total of 38 tank respirators, 78 chest respirators, and 41 rocking beds was sent into New York State as emergency shipments in the first eleven months of 1955. The previous year New York got 115 respirators and 54 rocking beds.

Furthermore, 1,246,000 cc. of Salk vaccine were given to New York State without charge by the National Foundation to initiate its State-wide vaccination program in 1955. (The National Foundation is no longer distributing vaccine.) In addition 435,000 cc. of gamma globulin were supplied to the New York State Health Department.

The results of the use of the Salk vaccine in 1955 in upstate New York have been the subject of a preliminary report by the New York State Department of Health. Among 448,569 vaccinated children in the six to ten age group, the attack rate of *paralytic* poliomyelitis was 4 per 100,000. Among 282,000 *unvaccinated* children, the rate was over five times as high, 20.9 per 100,000.

The results already reported from the use of the Salk vaccine in New York and elsewhere are most encouraging, but they must not be allowed to blind the eye of the medical profession to the road which still lies ahead. There remains a great need for additional research to improve the Salk vaccine, to determine the duration of immunity it effects (and conversely to determine the need for "booster shots"), and to provide the best possible treatment for patients already or yet to be involved with paralytic poliomyelitis. There is also a vast need for the professional education of young men and women who will contribute to the necessary research and help give the needed treatment.

To pay for research, education, and aid to polio patients, the March of Dimes needs $47,600,000 in 1956. New York physicians, knowing both the need and the record, will want to support and urge their patients to support the 1956 March of Dimes in their own communities.

120 BROADWAY

Picture of An American Wife

The typical American wife is relatively young, lives in an urban area—not with in-laws or other relatives—and is busy raising a family. At the same time, a large number of married women are gainfully employed outside of the home.

These facts emerge from a statistical profile of the American wife presented by the statisticians of the Metropolitan Life Insurance Company. The picture is sketched largely from data from the Bureau of the Census.

Amplifying details set forth in the statisticians' report include the following:

Married women in the United States numbered about 40,000,000 in April of 1954. This total represented an increase of $2^1/_3$ million since 1950, and of $9^3/_4$ million since 1940.

As to age, almost two fifths of all wives are under thirty-five, and an additional one fourth are in the thirty-five to forty-four age group. This reflects our tradition of early marriage as well as the upsurge in marriages during and immediately after World War II.

Almost one half of all the wives in our country have married since 1940.

Only about six per cent of all married women live apart from their husbands, and in most of these cases it is not because of marital discord. Many husbands are away from home because of their employment, and about 446,000 are in the Armed Forces.

Although the majority of husbands still bear sole responsibility for supporting the family, an increasing number of wives are in gainful employment. Currently, wives with jobs number about 10.7 million, or 27 per cent of all married women.

"It has long been customary for young wives to work until the baby came," the statisticians point out, "but recently more and more of them are returning to employment after the children grow up. The fact that two out of three married women live in urban areas enables many to take advantage of employment opportunities in industry."

Although a large proportion of employed wives work only part time or intermittently, their earnings contribute appreciably toward the family budget. In view of this, the report considers it "not surprising" that large numbers of women purchase life insurance to protect their dependents and to build a savings fund.

The total amount of life insurance in force on the lives of women in the United States, it is reported, now exceeds $50 billion and is rising rapidly.

MINUTES OF THE COUNCIL

The following is a summary of the minutes of the November, 1955, meeting of the Council of the Medical Society of the State of New York, as approved December 8, 1955.

The Council met November 10, 1955, from 9:15 A.M. to 12:30 P.M. at the Manhattan Club, New York City. Dr. Renato J. Azzari, president, presided.

Dr. Azzari stated: "Before we start the meeting, I would like to make an announcement. A few days ago there passed from our midst a stalwart, devout, resourceful, and highly principled gentleman, a past-president of our State Society, and a devoted member of our State Society. The Society was represented at the services of the late Dr. Simpson by Dr. Anderton, Dr. Masterson, Dr. Mellen, and Dr. Winslow. May I ask that we stand for one moment in silent meditation of his memory."

The Council arose and stood for one minute in silence in memory of the late Dr. Leo F. Simpson.

It *was voted* that the secretary send Mrs. Simpson a copy of the above remarks.

Secretary's Report

Executive Committee.—Dr. Anderton reported on communications considered by the Executive Committee on November 9, 1955, as follows:

1. Letter of November 3, 1955, from Mr. Robert C. Killough, Jr., Assistant Commissioner for Professional Education of the State Department of Education, requesting publication of Section 30 of the Regulations of the Commissioner of Education defining unprofessional conduct in the practice of medicine.

> Amendment to Article II of the Regulations of the Commissioner of Education, Article II, Medicine (including osteopathy)
>
> Amendment approved by the Board of Regents October 28, 1955.
>
> A new subdivision added to Section 30 of Article II to be Subdivision 4, and to read as follows:
>
> "Section 30. Definitions.
>
> "4 Unprofessional conduct in the practice of medicine shall include but not be limited to the following:
>
> "(*a*) The failure or refusal of a physician, without adequate cause, to render, or provide another physician to render, necessary medical attention to any patient under his immediate care;
>
> "(*b*) Rendering professional services to a patient if the physician is intoxicated or under the influence of narcotic drugs;
>
> "(*c*) The revealing of facts, data, or information obtained in a professional capacity relating to a patient or his records without first obtaining consent of the patient or his duly authorized representative, except if duly required by a court of competent jurisdiction;
>
> "(*d*) Having been found by a court of competent jurisdiction (within or without the State) to have exercised undue influence on a patient for financial gain;
>
> "(*e*) Entering into an arrangement or agreement with a pharmacy for the compounding and/or dispensing of secret formulae (coded) or especially marked prescriptions, except where such prescriptions are to be filled at a hospital-operated pharmacy for hospital or clinic patients;
>
> "(*f*) The promotion by a physician of the sale of drugs, services, appliances, or goods provided for a patient in such manner as to exploit the patient for the financial gain of the physician;
>
> "(*g*) Immoral conduct of a physician in his practice as a physician;
>
> "(*h*) Performance of a complete or partial autopsy on a deceased person without lawful authority;
>
> "(*i*) Willfully making and filing false required reports;
>
> "(*j*) Willful omission to file or record, or willfully impeding or obstructing the filing or recording of required reports, or inducing another medical practitioner or other person to omit to file or record such reports;
>
> "(*k*) Failure to furnish details of a patient's medical record to succeeding physicians or hospitals upon proper request."

It *was voted* that copies of these new regulations be sent to the secretary of each county medical society.

2. Correspondence regarding application for transfer of Dr. Alex Uljanov from the Medical Society of the County of Livingston to the Medical Society of the County of Genesee.

It *was voted to approve this transfer*.

Dues Remission.—The Council voted to remit annual State dues of one member for 1954, of 14 members for 1955, and of one member for 1948, 1949, 1950, 1951, 1952, 1953, 1954, and 1955 because of illness and of one member for 1954 and ten members for 1955 because of temporary military service. It was voted to request remission of American Medical Association dues of one member for 1950, 1951, 1952, and 1953, of three members for 1954, of 23 members for 1955, and of 11 members for 1956 and to request that 12 members be exempt from further payment of American Medical Association dues because they are more than seventy years of age. The Council also voted to reverse the action of the 1955 House of Delegates electing Dr. Benjamin Rosenbluth, of the Medical Society of the County of New York, to retired membership, as requested by Dr. Rosenbluth and his county society.

General.—Dr. Anderton reported: "The Board of Trustees voted favorably on your October recommendations:

"1. To increase the appropriation for Administration—New Equipment by an amount not to exceed $260 for bookcases.

"2. An additional $500 to the Woman's Auxiliary for *Distaff*, to be added to the State Society budget.

"3. The payment of $75 cash for a desk to be used by the Public Health and Education Committee and purchased from the Blood Banks Association of New York State, Inc.

"4. To increase the budget for the year ending June 30, 1956, for the Blood Banks Commission, from $250 to $350; and to increase JOURNAL Advertising salary budget $156, for payment of a salary increase which has been approved.

"Since your last meeting, the secretary attended the Sixth District Branch meeting at Elmira on October 26 and the Fifth District Branch meeting at Utica the following afternoon. He also attended a meeting of the Executive Committee of the Fourth District Branch at Glens Falls, October 19. It was impossible to arrange a meeting of the whole district branch for that date.

"In different parts of the State, interest in district branch annual meetings varies from a desire to abolish, on the one hand, to enthusiastic approbation, on the other. Both the component county societies in the Second District Branch have expressed a desire to have their annual meeting consist of a meeting of their delegates to the State Society during the meeting of the House of Delegates, as is done by the First District Branch. The latter functions actively throughout the year through regular meetings of its Executive Committee, known as the Coordinating Council of the Five Metropolitan County Medical Societies. Some of the county societies in the Ninth District Branch desire an annual meeting primarily of a social nature, while one county society desires abolition of the branch. The Third District Branch seems satisfied with the usual meeting. The Fourth District Branch leans toward the type of meeting advocated by the Second. There is considerable advocacy of a similar meeting for the Fifth District Branch. The Sixth, Seventh, and Eighth have enthusiasm for an annual meeting and committee activity throughout the year. I believe district branch meetings will be discussed at the House of Delegates. Your secretary's feeling is that bylaws should be changed so as to continue the district branches that so desire. However, it seems to me not entirely just for a district branch that only has a meeting of its executive committee once or twice a year to be represented by its president in the House of Delegates.

"On October 15 the Program Subcommittee of your Convention Committee met in New York City. Under Dr. Alfred P. Ingegno's guidance, an interesting and attractive program is being arranged for next May. I attended a meeting of your special committee regarding the reopening of the Landess case, November 1. October 17, your secretary, with Dr. Andrew A. Eggston, viewed the installation of Judge Mary Donlon as a member of the U.S. Customs Court. October 18, I attended a delicious dinner and interesting celebration of the tenth anniversary of Sloan-Kettering Institute for Cancer Research in New York City. On October 20 your secretary visited Beth David Hospital, New York City, and was shown some records and patients who have received the Ravici treatment for cancer. This deserves investigation by a competent government body. On October 29 there was an interesting American Medical Association regional legislation meeting in New York City. It was devoted mainly to consideration of Social Security for physicians. The following day, the American Medical Association's Law Department presented a medicolegal symposium, also at the Hotel Statler, New York City.

"Your secretary attended the funeral service for the late Dr. Leo F. Simpson on November 3, in Rochester, and attended meetings of the Publication, Office Administration and Policies, and Executive Committees at the State Society headquarters, November 9."

After discussion it *was voted* to refer to the Committee on Public Health and Education the portion of the secretary's report which dealt with the Ravici treatment for cancer.

The report of the secretary *was adopted.*

The treasurer's report was accepted.

Reports of Committees

Economics.—Dr. John C. McClintock, chairman, presented the following report of the director of the Bureau of Medical Care Insurance, Mr. George P. Farrell:

"October 5, 1955—Your director attended a conference of New York State Blue Shield plans at United Medical Service, New York, at which time a uniform State-wide contract for New York civil service employes was discussed. The following day a joint Blue Cross-Blue Shield conference was held at the Associated Hospital Service office, 80 Lexington Avenue, for further discussion of the same matter, plus a major provision for catastrophic illnesses.

"October 8, 1955—Attended Public Relations Conference of State Society at the Hotel Biltmore.

"October 26, 1955—Acted as moderator for panel discussion on medical care insurance, at the Sixth District Branch meeting in Elmira. Discussants on the panel were Drs. Henry B. Marshall, C. Franklin Sornberger, William F. Tague, and Mr. John Clancy who substituted for Dr. Leo P. Larkin.

"October 27, 1955—Conferred with Mr. Frank Van Dyke who represented the School of Public Health and Administrative Medicine of Columbia University in making a survey for Senator Metcalf.

"October 29, 1955—Attended Regional Legislative Conference of American Medical Association; and next day the Medicolegal Symposium by the American Medical Association, at the Statler Hotel."

Dr. McClintock stated: "The Economics Committee has not met in the past month, but the chairman has endeavored to establish contact with the chairman of our two subcommittees. The Subcommittee on Public Medical Care will meet on December 14 in Albany. I have not been able to contact the Subcommittee on Medical Expense Insurance."

It *was voted* to accept the report.

Ethics.—Dr. Thurman B. Givan, chairman, stated: "I have three reports.

"One applies to a letter from Dr. James A. Stringham, secretary-treasurer of the Ontario County Medical Society, Inc.:

> For some time hospitals in our area have taken x-rays at the request of local, licensed, registered osteopaths, and given the doctors an interpretation of the same. The question has been raised as to whether this is or is not in accordance with the *Principles of Professional Conduct.*
>
> At the annual meeting of our Society held this afternoon this whole matter was discussed at some length. Some of the thinking on the part of the physicians which went into their action that the matter be tabled until the next meeting and the secretary write to the Medical Society of the State of New York and the American Medical Association in order to ascertain their views are as follows: (1) The American Medical Association has been working for some time with the American Osteopathic Association to bring about a closer cooperation between physicians and osteopaths. (2) At the recent meeting of the State Society a similar line of thought was discussed. (3) Doctors of osteopathy are licensed to treat workmen's compensation cases. (4) Doctors of osteopathy are licensed to practice in the State of New York. (5) There is nothing that we are able to find in our *Principles of Professional Conduct* of the Medical Society of the State of New York which would indicate such was not in accordance with good medical practice. (6) Barring any such reasoning we would be inviting just criticism and promoting poor public relations to make any change in our practice at the present time.
>
> Since I have been instructed to obtain your viewpoint and advice on the matter prior to our December meeting, I would appreciate it very much if you would favor us with your opinion on the matter.
>
> Thank you very much.

"Our committee submits the following report: We feel that until the Medical Society of the State of New York changes Chapter II, Section 1, of its *Principles of Professional Conduct*, which coincides with Chapter II, Section 1, of the Principles of Medical Ethics of the American Medical Association, osteopaths are cultists; hence members of component medical societies of the State of New York should comply with these principles in their dealings with osteopaths."

It *was voted* to approve.

Dr. Givan continued: "Mr. Nicholas Gesoalde, secretary of the New York State Pharmaceutical Association, sent letters and a resolution to all our county medical societies and to the State Society. The letters and resolution cite action taken by the American Medical Association House of Delegates in 1954 and 1955 regarding the ethics of participation by a physician in the ownership of a drug store. They request the Medical Society of the State of New York and all its component county societies to go on record as opposing physician-owned pharmacies and favoring the continuation of the separation of functions between medicine and pharmacy.

Your committee reported: "The Executive Committee of the Medical Society of the State of New York referred to us for report to the Council: (1) a resolution adopted by the Executive Committee of the New York State Pharmaceutical Association; (2) letters regarding the resolution from Mr. Nicholas S. Gesoalde, Mr. J. Louis Neff, and Dr. Reuben T. Lapidus; (3) copy of letter to Mr. Nicholas S. Gesoalde from Mr. Harold P. Jarvis, executive officer of the Medical Society of the County of Erie; (4) copies of the replies by Dr. Walter P. Anderton.

"Inasmuch as several county medical societies of the State of New York have taken action on the ideas embodied in the resolution and since the answer given to Mr. Nicholas S. Gesoalde, secretary of the New York State Pharmaceutical Association, by Mr. Harold P. Jarvis, executive officer of the Medical Society of the County of Erie, so clearly states our position, we ask the Council to approve Mr. Harold P. Jarvis' letter as coinciding with ideas of this Council. Furthermore that this letter be and is the answer of the Council of the Medical Society of the State of New York to the resolution above referred to.

"Mr. Jarvis' letter follows:

> October 3, 1955
>
> Dear Mr. Gesoalde:
>
> Your letter of August 25 along with the copy of the resolution adopted by the Executive Committee of your Association was presented by me to the recent September monthly meeting of the Comitia Minora (Executive Committee) of the Medical Society of the County of Erie. This resolution set forth the opposition of your Executive Committee to the stand taken by the House of Delegates of the American Medical Association at its June Annual Meeting in Atlantic City in declaring ethical the participation by a physician in the ownership of a pharmacy in his medical practice area. The same resolution asked the Erie County Medical Society, along with all other constituent county societies of the New York State Medical Society, to go on record against physician-owned pharmacies, notwithstanding the action taken by the House of the A.M.A.
>
> I joined with counsel to our County Society in pointing out to the Comitia Minora that Article V, Section 1 of the Bylaws of the Erie County Medical Society provides as follows: "Members shall conduct themselves in accordance with the *Principles of Professional Conduct* of the State Medical Society as they are now or may hereafter be constituted.
>
> Chapter I, Section 6, of the *Principles of Professional Conduct* of the New York State Medical Society contains the following language: "An ethical physician does not engage in barter or trade in the appliances, devices, or remedies prescribed for patients but limits the sources of his professional income to professional services rendered the patient.
>
> The Comitia Minora agreed that the Erie County Medical Society and all the members thereof are

bound and governed by the language of the *Principles of Professional Conduct* of the New York State Medical Society, as just quoted, and, therefore, until such time as the State Medical Society may amend its *Principles of Professional Conduct* to make the same coincide with the Principles of Medical Ethics of the A.M.A., as revised at the 1955 session of its House of Delegates, the Committee on Ethics of the Erie County Medical Society will hold that physician-participation in the ownership of a pharmacy is an "unethical act." Any "intentional violation shall be cause for discipline."

You requested that I advise you as to the disposition of your letter-resolution by the policy-making body of our County Society, and I have done so.

With kindest regards,

Most sincerely,
Harold P. Jarvis
Executive Officer

After discussion a motion to table this part of the report *was lost.*

The motion to approve it was put to a hand vote and *was carried* by a count of nine in favor and five opposed.

Dr. Givan continued: "At the last meeting of the Council Dr. Frederic W. Holcomb and myself were appointed a special committee to review the case of Dr. Ben Landess, as requested by the House of Delegates.

> WHEREAS, the House of Delegates of the Medical Society of the State of New York, at its annual convention in May, 1954, upheld the decision of its Board of Censors in the matter of Dr. Ben E. Landess; and
>
> WHEREAS, such action was taken by the House of Delegates after due processes as prescribed by the Constitution and Bylaws of the Medical Society of the State of New York; and
>
> WHEREAS, Dr. Ben E. Landess was adjudicated as being unethical in that he violated Section 4 of Chapter 1 of the *Principles of Professional Conduct* of the Medical Society of the State of New York· and
>
> WHEREAS, Article VI, Section 10, of the Constitution of the Medical Society of the State of New York reads as follows: "Section 10. The House of Delegates shall consider and decide the appeal on the data submitted to it, and may affirm, modify, or reverse the decision so appealed from. Such decision of the House of Delegates shall be final and binding"; and
>
> WHEREAS, said member appealed to the Judicial Council of the American Medical Association; and
>
> WHEREAS, said council reversed the decision of the Medical Society of the State of New York; and
>
> WHEREAS, such action is in violation of the Constitution and Bylaws of the Medical Society of the State of New York; therefore, be it hereby
>
> *Resolved,* that the Medical Society of the State of New York take such necessary action as to enforce its Constitution and Bylaws.

"The amended report as proposed by Dr. George J. Lawrence, Jr. of Queens County was unanimously carried, as follows:

'. . . That this resolution be referred to the Council and that the Council make a careful study of the decision of the American Medical Association Judicial Council in order to answer the following questions and take appropriate action:

'1. Should lawyers be allowed to attend hearings before the Judicial Council of the State Society and the American Medical Association?

'2. Should the Judicial Council of the American Medical Association act in appeals when the question is one to be decided by the courts?

'3. Should the Judicial Council limit the appeal to questions of procedure, leaving out consideration of the facts?

'4. The Council should also study whether the threat of action by the Justice Department of the Federal Government concerning possible antitrust law violations is threatening the free and honest opinion of the Judicial Council of the American Medical Association in questions of Ethics.'

"This Special Committee Regarding House of Delegates Action Pertaining to Matter of Dr. Ben E. Landess vs. Queens County Medical Society and the Medical Society of the State of New York reports as follows:

'Your special committee met November 1, 1955, from 2 until 4:40 P.M. In addition to members of the committee, Drs. Thurman B. Givan, chairman, and Frederic W. Holcomb, there were present ex officio Renato J. Azzari and W. P. Anderton and by invitation Drs. Edward R. Cunniffe, Ezra A. Wolff, and Aaron Kottler, and Messrs. William F. Martin, John R. Burns, and Charles Margett of legal counsel.

'The committee reviewed these matters referred by the Council from the House of Delegates, Section 138 of the minutes of the 1955 House of Delegates, appearing on pages 105 and 106 of Part II of the September 1, 1955, NEW YORK STATE JOURNAL OF MEDICINE, Volume 55, Number 17.

'A resolution, as amended by the House of Delegates, was referred to the Council, and it stated: "Resolved, that the Medical Society of the State of New York request that the Judicial Council of the American Medical Association reconsider this matter so that an opportunity may be had to present additional information in regard to the ethics involved."

'Your committee reports that at the time of the Ben E. Landess, M.D. appeal, the Board of Censors first heard an appeal at the State level, and its decision could be appealed to the State Society House of Delegates. The right of appeal from the decision of the House of Delegates of the State Society to the American Medical Association's Judicial Council was assumed to exist. However, the Board of Censors of the State Society has been abolished, as has the right of appeal to the House of Delegates of the State Society. Chapter VI of the current Bylaws of the Medical Society of the State of New York, relating to the State Society's Judicial Council, describes in Section 6 the order of appeal, and in part reads: ". . . . which decision shall be final and binding, except that a member of the American Medical Association shall have the right of appeal to the Judicial Council of the American Medical Association."

'Your committee considered Dr. Aaron Kottler's plea that the Judicial Council of the American

Medical Association be requested to reconsider the matter of Ben E. Landess, M.D. vs. the Queens County Medical Society and the Medical Society of the State of New York. The decision was reached that the alleged new evidence was not pertinent because it consists of publications which appeared in print subsequent to the determination of the Judicial Council of the American Medical Association in this matter.

'The House of Delegates voted "that the Council make a careful study of the decision of the American Medical Association Judicial Council in order to answer the following questions and to take appropriate action." Your committee studied these four items seriatim:

'1. Should lawyers be allowed to attend hearings before the Judicial Council of the State Society and the American Medical Association?

'It is the opinion of your committee that a physician brought up on a disciplinary procedure should have the right to be accompanied by counsel. Counsel may not, however, participate in questioning of witnesses.

'2. Should the Judicial Council of the American Medical Association act in appeals when the question is one to be decided by the courts?

'The committee feels this question should be decided in each case. It is impossible to generalize.

'3. Should the Judicial Council limit the appeal to questions of procedure, leaving out consideration of the facts?

'If this relates to the Judicial Council of the State Society, it is covered in Chapter VI, Sections 5 and 6, of the Bylaws of the Medical Society of the State of New York. If it relates to the Judicial Council of the American Medical Association, it is covered by Article XI, Section 10 (a) (3), of the bylaws of the American Medical Association. The former states:

> *Section 5.* Upon filing a notice of appeal, the appellant and the component county medical society shall submit to the secretary of the Judicial Council all records, minutes, letters, papers, and all written evidence, including a digest of all testimony not stenographically reported relating to the matter. All data so submitted shall be available only to the judicial councillors.
>
> *Section 6.* The Judicial Council shall consider the appeal on the data so submitted to it and may affirm, modify, or reverse the decisions so appealed from, by a majority vote of the members present and voting. If, in its opinion, the taking of further evidence is advisable, the Judicial Council may summon witnesses and proceed to take such evidence in such manner as it may deem proper and render its decision by a majority vote of those present and voting, which decision shall be final and binding, except that a member of the American Medical Association shall have the right of appeal to the Judicial Council of the American Medical Association.

'The bylaws of the American Medical Association, Chapter XI, Section 10 (a) (3), state:

> The Council shall have appellate jurisdiction in questions of law and procedure but not of fact in all cases which arise between a constituent association and one or more of its component societies, between component societies of the same constituent association, between a member or members and the component society to which said member or members belong or between members of different component societies of the same constituent association. The period of time within which appeal to the Council may be taken shall be limited to the six months immediately following the date of decision by the constituted authority of a constituent association.

'4. The Council should also study whether the threat of action by the Justice Department of the Federal Government concerning possible antitrust law violations is threatening the free and honest opinion of the Judicial Council of the American Medical Association in questions of ethics.

'Although your committee acknowledges its importance, we regretfully report insufficient clairvoyance to be able to answer this item.' "

After discussion it *was voted* that this portion of the report be adopted and that the report as a whole be adopted.

Legislation.—Dr. Henry I. Fineberg, chairman, stated: "Your chairman visited Staten Island on October 18 and spoke to the members of the First District Branch of the Woman's Auxiliary on the current legislative program of the State Medical Society. The ladies exhibited a keen interest. The group and Mrs. Zadek, president of the State Auxiliary, pledged their support.

"On October 28 a conference was held with the chairman of the Committee on Workmen's Compensation and the director of the Bureau. Dr. Jacob L. Lochner, Dr. Harold B. Smith, and Dr. W. P. Anderton were also present. Matters pertaining to workmen's compensation were discussed, and moot problems were clarified before presentation to the Legislation Committee.

"The Committee on Legislation met in New York City the same evening. Fourteen members, the president, the secretary, our executive officer, our committee's legal counsel, counsel of the Society, the chairman of the Committee on Workmen's Compensation, the director of the Workmen's Compensation Bureau, and the director of the Public and Professional Relations Bureau attended.

"The committee agreed that the following bills should be introduced and that we work vigorously for their passage:

"I. Workmen's Compensation

"A. Abolition of the Medical Practice Committee in counties with a population over one million and to restore the functions of this committee to the county medical society compensation committees. It was pointed out that Erie and Nassau Counties are rapidly approaching populations of one million.

"B. Change of place of arbitration of medical fees so disputed medical bills will be arbitrated in the county in which the medical service was rendered rather than in the county in which the claimant resides.

"C. Establishment of panels of specialists with the advice and cooperation of the president of the

Medical Society of the State of New York. This amendment would require the chairman of the Board to set up the panels.

"D. Medical Appeals Unit should have real appellate jurisdiction and power, and its decisions should be final and binding. At present the recommendations of this unit are only advisory to the chairman of the Board.

"II. A revision of the autopsy law which would permit one 'next of kin,' acting on behalf of all, to authorize autopsy. If indicated, a petition in favor of this amendment will be submitted to the Governor.

"III. An amendment to the State Education Law, in accordance with a resolution introduced by Dr. Henry E. McGarvey of Westchester County, which would add to the list of advertising or solicitation for patronage by practitioners of medicine the terms 'television, newspapers . . . or any other printed publications, means or mediums.' The cooperation of the county medical societies and the woman's auxiliaries will be enlisted in the fight for this legislation.

"IV. Municipal Intern Malpractice. An amendment to the General Municipal Law which would cause municipal corporations to save harmless any intern or resident, in a public institution, from damages for malpractice. This bill was passed by both houses at the last session of the Legislature but was vetoed by the Governor. It has the support of the Commissioner of Hospitals of the City of New York.

"V. Injunction Bill. An amendment to the Education Law, which would allow the Attorney General power of injunction against violators of the law.

"VI. Medical Care Insurance

"A. Free Choice of Physician. An amendment to the insurance law, so that prepayment medical plans must allow free choice of physician or dentist.

"B. Free Choice of Plan. An amendment to the insurance law to allow subscribers, part or all of whose premiums for medical expense or hospital service are paid by a municipality, choice of plan.

"It was decided that although these two bills will be supported in Albany, the major battle will be fought in New York City."

After discussion it *was voted* that this portion of the report be approved.

Dr. Fineberg continued:

"I. The committee approved a bill which will be presented by the New York State Health Officers' Association to increase the compensation of local health officers.

"II. The committee approved, in principle, any bill which will be introduced to prevent the practice of medicine by hospitals, similar to the Friedman bill of previous years.

"III. An amendment to the Workmen's Compensation Law which would make it possible for practitioners, other than roentgenologists, to be compensated for x-ray work within their competence, was thoroughly discussed. This had been referred to the Committee on Legislation by the House of Delegates. However, because of the opinions registered throughout the State at the regional meetings with county legislation chairmen and after careful consideration, your committee voted that we recommend no action this year and that a status quo be maintained. This decision also has the approval of the chairman of the Committee on Workmen's Compensation and the director of the Bureau of Workmen's Compensation.

"IV. According to a letter received from the State Charities Aid Association, a bill calling for a committee to study licensure in the healing arts will probably be introduced. After some deliberation, it was voted that we take no part in this activity, especially in view of the experience we have had with this proposed legislation in the past.

"V. A resolution purported to have been adopted by Oneida County Medical Society, which would amend the Civil Practice Act—by abolishing suits for malpractice, by requiring the plaintiff in a projected suit to prove intent to commit an act of malpractice, and by establishing a court of malpractice similar to the compensation court—was disapproved.

"VI. A suggested law that would license psychologists was not endorsed, mainly because in its present form it contains no definition of the practice of psychology. The counsel of our Society is of the opinion that the proposed legislation, as now constituted, 'will lead to definite confusion as to the scope of work a licensed psychologist can undertake and in all probability will lead to encroachment on the practice of medicine.' "

It *was voted* that this portion of the report be approved.

Dr. Fineberg also said:

"VII. The committee voted to strongly oppose the following bills should they be introduced:

"A. An amendment to the Workmen's Compensation Law which would establish rehabilitation clinics. This bill is unnecessary. It has been pointed out that employers and insurance carriers are not taking advantage of present opportunities for rehabilitation under the law.

"I might add that all of these bills concerned with workmen's compensation were discussed with the chairman of the Workmen's Compensation Committee.

"B. The licensing of chiropractors, naturopaths, bioanalysts, x-ray technicians, etc.

"C. An amendment to the Education Law which would establish a State Board of Physiotherapy Examiners. The 'basic concept of the original licensing law was that physiotherapists should function as auxiliaries to, and under the supervision of, the medical profession.' The examination, licensing, and discipline should remain with the medical examining board and grievance committee. (That statement is a quote from a report issued last year by Dr. James Greenough.)

"D. Proprietary Medicine Bill. An amendment which would liberalize the sale of certain potentially dangerous medications without proper supervision.

"E. An amendment to the Education Law permitting the sale of magnifying spectacles in any store without prescription.

"F. An amendment to the Education Law to allow unlicensed interns and residents, holding certificates of eligibility to take the licensing examination, to practice in proprietary hospitals."

It *was voted* to approve this portion of the report.

Dr. Fineberg continued: "Dr. Leonard J. Schiff's resolution, calling for an investigation of the situation whereby scientific books, written by physicians, are being used by publishers to arouse 'lewd and lecherous curiosity' has been referred to a subcommittee.

"Your chairman attended the Regional Legislative Conference of the American Medical Association at the Statler Hotel in New York City on October 29. This was a very worth-while and interesting meeting and, in the opinion of your chairman, should be held more often.

"Since it is our feeling that all the members of our State Society should be acquainted with the legislative problems of the American Medical Association, it is our intention to transmit a copy of the proceedings of the conference (a mimeographed report will be made available to every one who attended) to each of the 61 county legislation chairmen, with the recommendation that the contents be made known to all their colleagues.

"Your chairman was also present at the medicolegal symposium, sponsored by the Law Department and Committee on Medicolegal Problems of the American Medical Association, which was conducted in the Hotel Statler on October 30. This was a joint meeting of physicians and lawyers—also a very instructive session.

"The executive committee of your Committee on Legislation will meet at the State Society office on the afternoon of the 22nd of this month in order to reconsider the proposed licensing of psychologists. A number of specialists in the fields of psychiatry and psychology have been invited to participate in the deliberations.

"A meeting of a subcommittee to study the laws governing dead bodies will be held on December 6. We have asked a few pathologists and others who are concerned with this subject to be with us."

It *was voted* to approve the report as a whole.

Executive Officer.—Dr. Harold B. Smith reported: "I wish to report on two matters which have been considered in meetings in Albany. One meeting was convened by the State Education Department during the summer to consider problems relating to physiotherapist licensing, and the other was the hearing held by the Joint Legislative Committee on Industrial and Labor Conditions on October 27.

"Although the first-mentioned meeting was not called specifically for the purpose of considering the recommendations of a committee of the State Interdepartmental Health Conference, most of its time was devoted to a consideration of these recommendations. The committee of the Interdepartmental Conference devoted much of its time to the study of certain proposals by Dr. Howard Rusk and at the conclusion of its studies recommended as follows:

"1. Reciprocity or mutual endorsement between New York State and other states which license physical therapists should be established upon a selective basis with those states whose standards are the equal of those of New York State.

"2. The State Education Department should take active steps to register all schools of physical therapy which meet its requirements, rather than depend upon the action of the schools themselves to apply for such registration.

"3. The State Education Department should register one or two-year courses leading to certification of physical therapy offered by acceptable colleges and universities, provided such courses contain adequate content and require acceptable preliminary training for admission.

"4. The State Education Department should inform schools offering the four-year curriculum or offering one or two-year courses in physical therapy the reasons why such educational programs may not be acceptable and the ways by which acceptance may be achieved.

"5. The State Education Department should accept applications for the licensing examination sufficiently in advance of the termination of the conclusion of a course, so that the person may know upon graduation that he will be accepted for the licensing examination (contingent, of course, upon the successful completion of the course).

"6. Applicants should be given the reasons for any denials of their applications, and the State Education Department should, when indicated, be able to assure the applicants with deficiencies that their applications will be accepted after the correction of such deficiencies. Processing of all applicants should be expedited to the greatest extent possible, whether action is necessary by the administrative staff of the State Education Department or by the Board of Regents.

"The opinion was expressed at the meeting called by the Education Department that many of the above recommendations already were department policy and procedure. As to the balance of the recommendations, I understand that the department does not contemplate any change in law or regulations, except for the one change made since the meeting. Pursuant to the latter, it now is not necessary for an applicant to await the approval of the Regents for waiver of a technical defect in prerequisites in order to be permitted to commence practice under supervision of a designated type, for a provisional period of six months. It is thought that the effect of this change will make it possible for hospitals and clinics to obtain the services of physiotherapy graduates shortly after graduation when they are available. Apparently the Education Department does not think that extending the provisional period from six months to twelve months would be advisable since six months is the period used in other practice acts and is a sufficient period of time for the applicant to make his application, have his credentials approved by the Regents on an equivalency basis if necessary, take the examination, and receive a license.

"The meeting of the Joint Legislative Committee on Industrial and Labor Conditions considered various proposals by organized labor for the amendment of the workmen's compensation law. The only such proposal of direct interest to the Medical Society was one that the departmental regulations or the law be amended so as to require that a copy of all workmen's compensation medical reports be sent to the claimant or his authorized representative.

"Spokesmen for organized labor claimed that the workman or his representative required such reports so that there would not be discrepancies between what a physician told a claimant and what the same physician reported to the workmen's compensation board. It also was said that if the claimant or his representative received copies of all reports, there would be a corresponding check on the timeliness with which physicians submitted reports. Both the labor representatives and certain members of the committee made extensive remarks to the effect that great inconvenience and cost were incurred by reason of the necessity of adjourning hearings because medical reports were not submitted in a timely fashion.

" At the request of the Committee on Workmen's Compensation of the Society, your executive officer made a statement at the hearing which in substance was that the Medical Society was not in favor of the proposal because:

"1. All medical reports now are available to the workman or his representative in the offices of the workmen's compensation board.

"2. That the proposed change in the law would place an additional strain on physicians already overburdened with paper work.

"3. That providing copies of compensation reports to patients in many cases would prove psychologically and therapeutically unsound.

"4. That such a procedure would make even more difficult the position of the physician who had to deal with his patient diplomatically, yet provide accurate information to the Workmen's Compensation Board.

"The chairman of the Workmen's Compensation Board stated that she was in favor of furnishing medical reports to the claimant or his authorized representative, and I would guess from the statements made at the hearing that the committee is sympathetic with the proposal."

Office Administration and Policies.—Dr. John J. Masterson, chairman, reported: "The regular monthly meeting of the Office Administration and Policies Committee was held November 9, 1955.

"The office manager reported employments and separations. The committee approved. He also commented on his time spent on Blood Banks Association work during the past month. There was discussion of the hidden costs to the Society for services of other members of the staff."

It *was voted* to approve the report.

Publication.—Dr. John J. Masterson, chairman, reported: "The regular monthly meeting of the Publication Committee was held November 9, 1955.

"Reports of the editor and business manager were accepted.

"An additional clerk was employed November 1, 1955, to work half time for the Editorial Department and half time for the Advertising Department. Because there was no provision in the budget to cover the salary for this new employe, it was voted to ask the Council to request the Board of Trustees to increase the JOURNAL budget $2,050.

"The committee discussed present advertising rates and, as we expect an increase in the cost of paper and printing, asked the business manager to prepare a schedule of revised advertising rates for the next meeting.

"There was discussion of printing the cover of the 1957 *Medical Directory* in imitation gold instead of the usual silver because of our sesquicentennial.

"After discussion of exchanges with certain foreign journals, it was voted that the editor be authorized to use his discretion up to a total of 20.

"The committee approved inserting the following resolution in the minutes:

> WHEREAS, Leo F. Simpson, M.D., a former president of the Medical Society of the State of New York, has for many years served as associate editor of the NEW YORK STATE JOURNAL OF MEDICINE among other distinguished services to the Society; and
>
> WHEREAS, in this capacity his foresight, scholarship, and high standards of critical judgment have notably contributed to the present elevated standards of its editorial and scientific contents; be it therefore
>
> *Resolved*, that the Publication Committee of the Medical Society of the State of New York desires to inscribe upon the minutes of the Committee its sincere regret at his passing on October 31, 1955, at Rochester, New York, on its own behalf and that of the editorial staff of the JOURNAL.

"The committee voted to approve a free advertisement in the JOURNAL for the American Medical Association's pamphlet, 'To All My Patients,' subject to the approval of the Public Relations Committee.

"The committee voted to approve the request of the Schering Corporation to publish abstracts of certain articles appearing in the JOURNAL in their publication, *Medicine in the News*.

"There was an extensive discussion of accepting advertising of products which are directly advertised to the public.

"The committee discussed advertising of contraceptives, and it was voted that the editor continue such copy as long as it remains in good taste and that it be kept to a minimum.

"It was noted that although the number of pages in the JOURNAL in recent issues had been increased, the ratio between text and advertisements was unfavorable. The editor was authorized to increase text pages.

"The business manager was requested to obtain an estimate of the cost of a certificate for each associate editor."

It *was voted* to accept the report.

Planning Committee for Medical Policies, Permanent Headquarters Subcommittee.—Dr. Samuel Z. Freedman, assistant treasurer, stated that the Medical Society of the County of New York might look favorably on moving into the same building with the State Society if a site were purchased.

Public Health and Education.—Dr. Theodore J. Curphey, chairman, stated that he had attended four meetings and arranged 14 postgraduate lectures in eight counties since his last report to the Council.

He reported: "I. On October 5 the Subcommittee on Diabetes, Dr. Leonard J. Schiff, chairman, considered a program for expanding diabetes activities in New York State, which had been drawn up by Dr. Frank Reynolds, director of the Bureau of Chronic Disease and Geriatrics of the State Health Department. There was vigorous opposition to the premise that the 'control' of diabetes falls within the province of the department. It was recognized, however, that the profession itself is not doing as good a job of diabetes detection as it should, judging by the lack of activity on the part of at least half of our county medical societies. Dr. Reynolds agreed to rewrite the program on the basis of the committee's suggestions and to resubmit it.

"II. On October 18, 19, and 20 Dr. Curtis T. Prout, chairman of the Subcommittee on Mental Hygiene, attended the Governor's Conference on the Aging, in Albany. This meeting was participated in by physicians, businessmen, clergy, and others. Recommendations were made to the Governor.

"III. On October 19 the members of the Council Committee met Drs. Hilleboe and Larimore of the State Health Department at the Department's offices at 270 Broadway in New York.

"A. Dr. Henry Brill, Assistant Commissioner of the Department of Mental Hygiene, and Mr. Joseph Kelly, Commissioner of Motor Vehicles, attended because of Mr. Kelly's request to the State Society for assistance in handling applications for operators' licenses, in the hope of diminishing accidents. Dr. Edmund Prince Fowler was also present as chairman of the Subcommittee on the Hard of Hearing and the Deaf.

"The problem was discussed, and it was agreed that this matter be presented to the Council as follows: In view of the fact that regulations now existing in New York State (and only four other states) relative to epileptics applying for operators' licenses have not kept pace with medical knowledge and that the Commissioner of Motor Vehicles has approached the Medical Society for assistance in handling approximately 24 such applications, approval of which is being deferred, it is recommended: 'That there be selected three specialists in neuropsychiatry to meet the Commissioner of Motor Vehicles, the Commissioner of Health, and the Assistant Commissioner of Mental Hygiene to determine modern standards of eligibility for epileptics as drivers.'

"Furthermore, inasmuch as the need has been demonstrated for a complete re-evaluation of the laws concerning physical and mental fitness of drivers, and inasmuch as the American Medical Association has evinced a profound interest in accident prevention, it is recommended: 'That a committee be established of representatives from the Departments of Health and Mental Hygiene and of the Medical Society of the State of New York to study the over-all problem of accident prevention.' "

In this connection Mr. Joseph P. Kelly, State Commissioner of Motor Vehicles, and Dr. Granville W. Larimore, Deputy Commissioner of Health, appeared before the Council. They gave a clear explanation of the difficulties involved in this problem and requested the cooperation of the State Society in establishing standards and methods of determining physical and mental fitness to drive.

After discussion it *was voted* that a subcommittee of the Public Health and Education Committee on epilepsy be appointed to determine modern standards of eligibility for epileptics to receive motor vehicle operators' licenses.

With the approval of the Council, the president appointed the following members: Dr. S. Bernard Wortis, chairman, Dr. Abraham M. Rabiner, and Dr. H. Houston Merritt.

It *was voted* that the problem of covering all fields of medicine to help the Commissioner and to advise the State Department of Health on medical matters of traffic safety be referred to the Public Health and Education Committee.

"B. Protests received from Clinton County physicians revealed that they desired to have included, under the State Health Department's Medical Rehabilitation Program, referrals to physicians in Montreal and Vermont. The Health Department expressed willingness to honor such referrals and to reimburse the physicians involved if the State Medical Society so desired.

After discussion it *was voted* to approve the recommendation, subject to the approval of the Medical Society of the County of Clinton.

The report continued:

"C. Dr. Larimore informed the committee that a new section in the Sanitary Code (Chapter 16) provided for blanket exemption to licensed practitioners with respect to the amount of radiation they are permitted to give in x-ray treatment. Another section applies to "competent persons." Dr. Larimore wished to let the committee know that the Health Department is not going to include chiropractors under the exemption. Unless they can prove special competency in the use of x-ray, they cannot legally use it.

"D. Dr. Hilleboe was anxious to report the favorable results of this year's inoculations with the Salk vaccine. Among cases of poliomyelitis which had been vaccinated (80 per cent had *one* shot only) the rate of paralytic incidence was 3.7 per 1,000, whereas in the six to ten age group who had not received at least one shot, the incidence was 23.3 per 1,000. (Dr. Hilleboe also reported that 753,865 cc. of vaccine had been received in New York State, which is being distributed according to the recommendations of the State Advisory Committee, i.e., 20 per cent for commercial distribution.) It was of further significance that the incidence of paralytic polio among those who received only one shot in 1955 was the same as among the 80,000 who were vaccinated in 1954 with three shots."

Dr. Henry I. Fineberg in discussion stated: "You will note that in Section D, Dr. Hilleboe also reported that 753,865 cc. of vaccine had been received in New York State, which is being distributed according to the recommendations of the State Advisory Committee, i.e., 20 per cent for commercial distribution. At a meeting of the Coordinating Council held two days ago, Bronx County complained about the method of distribution. It had no quarrel with the percentages; in other words, it is willing to go along with the 80 per cent allotment to the Health Department and similar agencies and 20 per cent to the private physicians. However, the representatives of the Bronx told us that they have been informed by Dr. Greenberg, Chief of the Bureau of Preventable Diseases of the New York City Health Department, that first the 80 per cent will be distributed and then the 20 per cent. They would prefer that both the doctors and the health departments receive their vaccine at the same time. As long as it has already been determined that 80 per cent will go to the Health Department and 20 per cent to the doctors, why can't they both receive it at the same time?

"Then they complained about the fact that the Health Department has designated that Queens County will receive the vaccine before the other counties, and the other counties will come in progression. The Bronx is last on the list, and they are complaining. They feel that there should be a more equitable distribution. Why can't all counties receive their allotment at the same time? They have asked that we bring this to the attention of the Council, maybe for referral to your Public Health and Education Committee."

Dr. Curphey stated: "I think I can speak with some intelligence on the first part of the question, and none on the second. As for the distribution commercially, at the last meeting of the Polio Advisory Committee in Albany about three weeks ago, that matter was discussed—the question of the release of vaccine in commercial channels—and we were told that because of the relatively small amount on this apportionment assigned to the drug houses at the moment, they did not feel that it was economically feasible to distribute so small an amount, that they are waiting until a larger amount of material is assigned to them or more vaccine is available. That is, the vaccine is coming through more rapidly now than it did a few months ago. As you recall, the vaccine comes on the market only after it has been rechecked by the National Institute of Health under the new methods of testing, and I understand from Dr. Hilleboe that with the total amount of vaccine now available and assigned to the State by the Federal Government, that 20 per cent for commercial channels is so small that the commercial people are reluctant to release it. As soon as the amount swells up, I suppose depending upon the volume released by the Federal people, and when the volume commercially, that is on the 20 per cent ratio, is sizable, then the drug houses will distribute it on the open market.

"As far as the Bronx situation goes, our committee has nothing to say about it because New York City is a law unto itself as far as the health department, and that is a matter I think that has to be taken up with Dr. Baumgartner."

The report continued: "E. Dr. Larimore wished to let the committee know that the Health Department feels obliged to include osteopaths on the mailing list of Department bulletins, particularly with regard to poliomyelitis since there have been complaints from the osteopaths that they are not given the latest information so that they may treat their patients accordingly."

Dr. Curphey added: "The other item I have to report is the request from the State Health Department for approval in principle of a proposed amendment to Chapter III of the Sanitary Code by inserting a new Regulation 18c to become effective July 1, 1959, and requiring that after that date pasteurized milk for sale to consumers will originate in brucellosis-free herds. This regulation would read: 'Whenever milk or milk products are to be sold, offered for sale or delivered to consumers after pasteurization, all herds producing such milk shall be Brucellosis-free in accordance with the applicable Rules and Regulations of the New York State Department of Agriculture and Markets or in accordance with Rules and Regulations adopted by the corresponding State Agency having jurisdiction over animal health for the area in which the herd is located, which are accepted by the New York State Department of Agriculture and Markets as equivalent to the Rules and Regulations adopted by that Department. This Regulation shall take effect July 1, 1959.' "

It *was voted* to approve this regulation.

The report as a whole *was adopted*.

Public Relations.—Dr. Floyd S. Winslow, chairman, presented the following report: "Although your chairman reported briefly to the Council at its last meeting on the conference of county society public relations committee chairmen, I should like to make a few supplemental remarks. In reviewing the attendance at the conference held at the Hotel Biltmore, New York City, October 8, the Bureau reports that 53 persons, including county medical society chairmen, executive secretaries, and guests were present. Several were from out of state, including Dr. Ernest B. Howard, American Medical Association assistant secretary; Mr. Leo Brown, American Medical Association public relations director; and Mr. James Burch, public relations director, Connecticut State Medical Society. The consensus received by the Bureau was that the meeting was well worth while.

"The field men and director have attended district branch meetings, which came to a close late in October and handled local publicity. Advance publicity concerning programs and speeches by Dr. Azzari and Dr. Greenough were mailed to newspapers in the branch areas. The field representatives also continued their activities with the county

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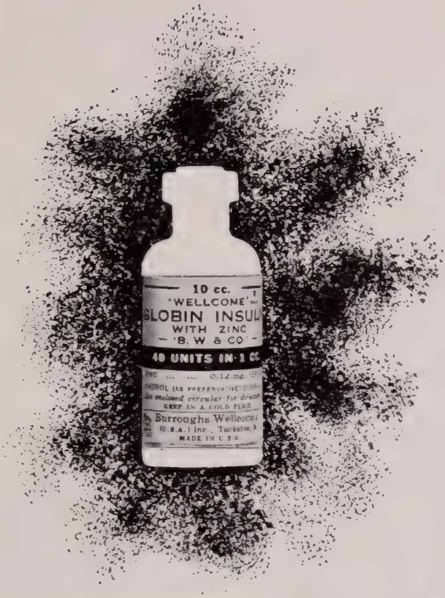
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medical societies in the territories assigned to them.

"As a result of an order blank for 'Seven PR Pointers for Medical Personnel,' published in the October *Newsletter*, the Bureau has received numerous requests for this pamphlet; 441 orders for 1,698 pamphlets have been received. Many requests also were received for copies of the 'Guide for Cooperation' and the 1955 Health Insurance Council report mentioned in the same *Newsletter*.

"Another activity that continued to flourish was the Bureau's liaison service with writers. A proposed article entitled 'The Salt Free Diet is Dangerous,' intended for publication in *Coronet* magazine, was submitted to the Bureau for review. The article was referred to a special Board of Review.

"During the past month there was much activity in liaison activities with other groups. On October 17 Mr. Miebach and Mr. Tracey attended the opening session of the Seventh Annual Scientific Session of the New York State Academy of General Practice held at the Hotel Statler, New York City, where Dr. Azzari spoke. On October 29 Mr. Miebach was present at the American Medical Association's Regional Legislative Conference, Hotel Statler, New York City, and also took in the American Medical Association's Medicolegal Symposium the following day. At the request of the Council on Public and Professional Relations of the Dental Society of the State of New York, Mr. Tracey addressed the group on October 30, at the Hotel Statler, New York City, regarding public relations phases of the topic, 'Teamwork in the Health Professions.'

"Your chairman and the director were guests at the Council Committee on Legislation's meeting in New York City, October 28.

"In mid-October the exhibit your committee jointly sponsored with the American Medical Association at the Hall of Springs, Saratoga, was shipped to the Broome County Medical Society. This group will sponsor the display at the Roberson Memorial Museum in Binghamton. According to a report received by the Bureau from Mr. Leon M. Woodworth, information secretary, Saratoga Springs Authority, 'the Hall of Springs at the New York State-owned Saratoga Spa was visited this past season by 90,008 persons who saw your exhibit.' "

It *was voted* to accept the report.

Sesquicentennial.—Dr. Samuel Z. Freedman, chairman of the Convention Committee, stated: "I met Dr. A. H. Aaron, chairman of the Sesquicentennial Committee, yesterday, and I hope by the December meeting to have something concrete that we will request."

Workmen's Compensation.—Dr. Gerald D. Dorman, chairman, stated: "On October 24 I met the Advisory Committee and Miss Angela Parisi for the second meeting on revision of Section 25 of the Workmen's Compensation Law. That is a recodification, and the purpose of it is to clarify that section of the Workmen's Compensation Law.

"On October 26 your director of compensation was at Elmira for a round table discussion of compensation problems. There were about 150 at that meeting, well attended and well supported.

"On November 1, I attended a meeting with Miss Angela Parisi on her compensation advisory committee. At that time she authorized the State Society through its director of compensation Bureau to proceed with a reclassification of the fee schedule with the modern nomenclature so that there is a more up-to-date basis for the nomenclature and fees. The fee schedule will have revisions which will be taken up with the carriers and representatives of employers and resubmitted to the Advisory Board.

"On November 2 your chairman met Miss Angela Parisi on the Advisory Committee on Disability. Problems under the Temporary Disability Law of New York State were considered.

"The chairman and the director met the Legislation Committee on October 24 and considered changes in the Workmen's Compensation Law which we are going to request. Our four items are as follows: (1) The abolition of the medical practice committee. (2) The adjudication of disputed medical bills in the county in which the accident occurred. (The problem there has been that people who work in the Catskills or in Erie during the summer are taken care of by local doctors. Then the claimants return down State for the winter. When the cases come up for arbitration of medical bills, either the doctor has to come down here himself or practically waive his claim. It is not worth while for a doctor to come down State for an $8 or $10 bill. The patient in these cases does not come into the dispute. He does not have to be present. The dispute is between the carrier and the doctor, and to make the doctor come to where the patient is then living causes hardship.) (3) We recommend panels of specialists, and (4) we recommend that the medical appeals unit be so constituted that it has appellate power. At the present time it consists of three doctors, whose opinions are merely advisory to the chairman of the Compensation Board who originally passed on the material before sending it to the medical appeals unit.

"I would also report that the chairman and director of compensation will be present at the Kings County Medical Society on November 15, with Miss Angela Parisi, for a round table discussion of compensation problems.

"In the October 15 JOURNAL of the Society there is an article on compensation by the director of the Bureau. It has been suggested that as a public relations activity we distribute reprints to the counties and keep 2,000 for new members. Ten thousand reprints would cost $211.89. We do not have anything in the budget of the Compensation Bureau to cover that item, and I move that the Trustees be urged to appropriate $211.89 for reprints of this article for our membership."

It *was voted* that the Council request the Board of Trustees to appropriate a sum not to exceed $300 to pay for 10,000 reprints of the article on compensation in the October 15 NEW YORK STATE

[Continued on page 290]

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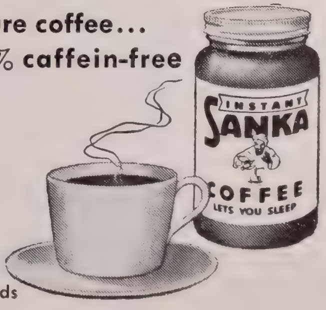
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[Continued from page 288]

Journal of Medicine.

The report as a whole *was adopted.*

Unfinished Business

International Congress of Criminologists.—Dr. Herbert Berger, vice-president, reported: "I had the opportunity and honor to represent this Society. I was met by Sir John Dent, of the British Medical Association, who was kind enough to show me a great many considerations.

"The British Parliament was considering at that time the abolition of the manufacture of heroin in Great Britain, and they were very anxious to hear of our experience with this prohibition in this country, which of course has been in existence for thirty years. Through Sir John Dent and Dr. Geoffrey Bishop, of the British Medical Association, an audience was arranged with the Home Minister, Mr. David Lloyd George, with whom I spent several hours discussing the problem. Following this discussion the material was placed in the hands of a special parliamentary committee, the chairman of which was a Lord Jowitt, with whom I had some further conferences.

"The meeting at the International Congress of Criminology was attended by representatives of some 60 nations. Our report was well received."

Narcotics Problem.—Dr. Berger stated: "Subsequently I had the opportunity to appear before the American Medical Association and, within the last two days, before the Subcommittee of Narcotic Legislation of the Ways and Means Committee of the House of Representatives. They asked for a regular report, and I will give you a copy of that for the record."

Dr. Berger's report is on file at the Society office.

Council on Pneumatology.—Dr. J. Stanley Kenney, trustee, stated: "At the last Council meeting I presented, at the request of Dr. Paluel Flagg, president of the Society for the Prevention of Asphyxial Death, a resolution to establish an American Medical Association Council on Pneumatology. I had Dr. Flagg circularize the members of the Council with supporting material. A similar resolution was introduced into the House of Delegates of the American Medical Association ten years ago but lies dormant. Dr. Flagg and his group are very interested in reactivating it, and while they are requesting in their resolution the establishment of a Council, I told him that was quite beyond anything he might expect; that I would request that the State Society have his resolution reintroduced."

After discussion it *was voted* not to take any action on the resolution, to send our delegates uninstructed, and to refer the matter to the Committee on Inhalation Therapy for study.

New Business

Appointment to Nominating Committee.—The president stated that owing to the resignation of Dr. Denver M. Vickers, there was a vacancy for the Fourth District in the Nominating Committee. With the approval of the Council, he appointed Dr. Alfred A. Hartmann, of Malone.

The Preservation of Blood for Transfusion: Effect of Plastic Containers on Red Cells

Before the general use of plastic containers for this purpose can be recommended certain standards of manufacture are apparently necessary. These standards should relate to preparation of the basic material as well as the several steps which modify its properties, such as plasticizers, stabilizers, mold release agents, fungicides, and detergents. Such containers have been recommended on the basis chiefly of their physical properties: lightness, resistance to breakage, and nonwettable surfaces. In several series of experiments (1951 to 1954) Dr. Max M. Struma, Miss Louise S. Colwell, and Miss Katherine Ellenberger, Bryn Mawr Hospital, Bryn Mawr, Pennsylvania, found that where some types of plastic containers were used, erythrocytes stored as whole blood did not show as good post-transfusion survival as that of erythrocytes stored as whole blood in glass bottles. However, effects of the plastic containers on red cells were variable. While some appeared to damage the red cells so that post-transfusion survival rates were reduced, others apparently exerted a beneficial effect. These differences, report the authors, can be detected between different lots of plastic containers from the same manufacturer.—*Journal of Laboratory and Clinical Medicine, August, 1955*

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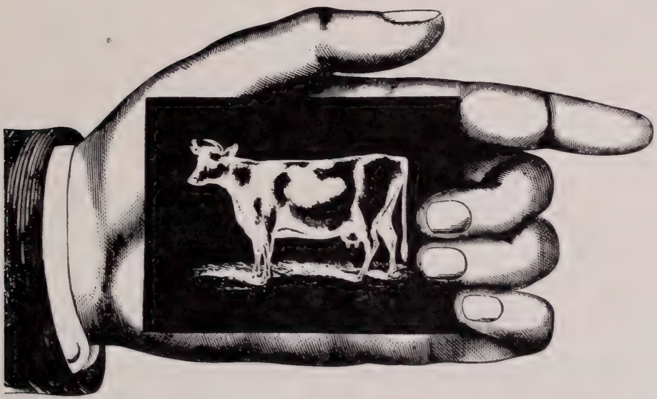

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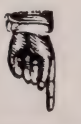

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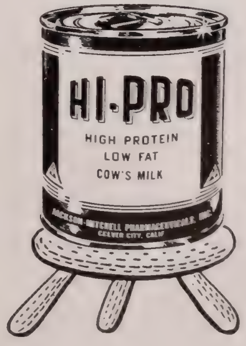

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NECROLOGY

Charles William Caccamise, M.D., of Rochester, died on November 21, 1955, in Strong Memorial Hospital at the age of sixty-one. Dr. Caccamise graduated in 1918 from the University of Buffalo School of Medicine. He was an associate attending physician at the Park Avenue Hospital and had been senior medical examiner for the State Compensation Commission since 1927. Dr. Caccamise was a member of the Rochester Pathological Society, the Monroe County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Wesley Youngs Culver, M.D., of Katonah, died on July 11, 1955, at the age of forty-six. Dr. Culver graduated from Vanderbilt University School of Medicine in 1937 and interned at Flushing Hospital and Dispensary. He was a Diplomate of the American Board of Psychiatry and Neurology, and a member of the American Psychiatric Association, the Westchester County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

John Henry Evans, M.D., of Buffalo, died in Buffalo General Hospital on November 27, 1955, at the age of seventy-nine. Dr. Evans was graduated from the University of Buffalo School of Medicine in 1908. He was active in the organization of the Associated Anesthetists of the United States and Canada, later the International Anesthesia Research Society, of which he was chairman of the Board of Governors for sixteen years and president in 1941. One of the world's first physician-specialists in the field of anesthesia, Dr. Evans devoted many years of research to oxygen therapy. He was a consultant in anesthesia, until his retirement last fall, at the Children's and Buffalo General Hospitals and for many years taught anesthesiology in the Medical School at the University of Buffalo, becoming professor emeritus fifteen years ago. At one time, the *British Medical Journal* dedicated a whole issue to him. Dr. Evans was a member of the American Society of Anesthesiologists, Inc., the Buffalo Academy of Medicine, the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Max Freydberg, M.D., of Mahopac, retired, died on July 5, 1955, at the age of sixty-two. Dr. Freydberg received his medical degree from the Imperial University of Odessa, Russia in 1915.

Frederick M. Kach, M.D., Jackson Heights, died in December at the age of sixty-seven. Dr. Kach received his medical degree in 1913 from the University of Munich. He was a member of the Queens County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Thomas Allen Killips, M.D., of Lyons, died on December 6, 1955, at the age of seventy-seven after a long illness. Dr. Killips graduated from Jefferson Medical College in 1908. He served as mayor of Lyons in 1926.

David Latte, M.D., of New York City, died on July 29, 1955, at the age of seventy-seven. Dr. Latte received his medical degree from the University of Konigsberg in 1904.

Paul Loewy, M.D., of New York City, died on December 11, 1955, after a brief illness in the Neurological Institute, Columbia-Presbyterian Medical Center at the age of sixty-seven. Dr. Loewy received his medical degree in 1913 from the University of Vienna. He was an assistant attending neurologist at the Neurological Institute where he had been on the staff since 1948. The author of several papers, Dr. Loewy from 1912 to 1913 served as a demonstrator and assistant neurologist at the Neurological Institute of the University of Vienna, was a captain in the Austro-Hungarian Army medical service in World War I; from 1914 to 1917 served on the Russian front and later was director of the neurologic and psychiatric departments of military hospitals in Poland and Trieste and was attached to the brain lesion department of the veterans' hospital in Vienna. In 1919 he served as a neuroanatomist and neuropathologist at the University of Vienna Neurological Institute and from 1919 to 1925 was chief resident of the Rothschild Foundation for Nervous and Mental Diseases Hospital at the Maria-Theresien Schloessel in Vienna. In 1938 he escaped from Vienna after its occupation by the Germans.

Dr. Loewy was formerly on the staffs of Beth Israel and Mount Sinai Hospitals and had been a field physician for the Veterans Administration. He was a Diplomate of the American Board of Psychiatry and Neurology and a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Harold Nexsen, M.D., of Brooklyn, died on December 7, 1955, at the age of sixty-nine. Dr. Nexsen graduated from Long Island College Hos-

[Continued on page 294]

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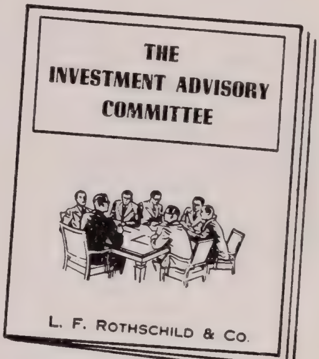

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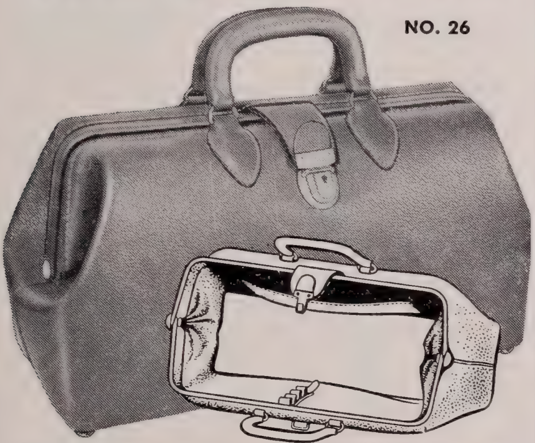

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[Continued from page 292]

pital in 1910 and interned at St. John's Episcopal Hospital.

Frank Preston, M.D., of Binghamton, died in December at the age of eighty-three. Dr. Preston graduated in 1903 from the University of Vermont College of Medicine. He was a member of the Binghamton Academy of Medicine, the Broome County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Morris Sandler, M.D., of Brooklyn, died on December 15, 1955, in the Long Island Hospital, after a short illness, at the age of fifty-six. Dr. Sandler graduated from the Long Island College Hospital Medical School in 1925. He was an associate attending psychiatrist at the Brooklyn Women's Hospital. Dr. Sandler was a member of the Kings County Medical Society and the Medical Society of the State of New York.

Murray Serlen, M.D., of Long Island City, died of a heart attack in his home on December 6, 1955, at the age of forty-one. Dr. Serlen received his medical degree in 1941 from the Royal Faculty of Physicians and Surgeons of Glasgow and the Royal Faculty of Physicians and Surgeons of Edinburgh. He was a member of the Queens County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Walter Eugene Vogt, Jr., M.D., of Brooklyn, died on December 12, 1955, at the age of forty-four. Dr. Vogt graduated from Cornell University Medical College in 1937. He was an assistant attending surgeon at the Queens General and Bushwick, Brooklyn, Hospitals, and clinical assistant attending surgeon at the Evangelical Deaconess Hospital, Brooklyn. He was a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Health Examination Form Available

At a recent meeting of the Subcommittee on General Practice of the Council Committee on Public Health and Education of the Medical Society of the State of New York, it was voted to call to the attention of all county medical societies the availability of the Health Examination Form.

Some apparent advantages, especially to general physicians, in the use of this form in daily practice are as follows:

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1. Hyman, S., and Rosenblum, S. H.: Illinois M. J. 104:257, 1953.
2. Piper, C. E., and Nicklas, F. W.: Indust. Med. 23:510, 1954.

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THE MONTH IN WASHINGTON

The second session of the 84th Congress is under way, and in medical legislation—as in all other fields—this promises to be much livelier than last year's deliberations.

For one thing, neither the Republican administration nor the Democratic party, which is in control on Capitol Hill, got anywhere near as much as it wanted last year in medical legislation.

For another thing, and something that shouldn't be lost sight of at any time, both parties this year will be legislating with one eye cocked toward next November when the voters make a choice between the two parties. Try as they might to pass laws for the good of all the people, neither party can afford to ignore the political realities of the situation; each will want to take credit for any legislation with popular appeal or, where that is impossible, at least to see that the other party doesn't get the credit.

In front of this political mosaic, these are some of the medically-important issues that will be fought out in Senate and House:

1. *Federal guarantee of mortgages on health facilities.*—This has been on the Congressional calendar for two years; it was pushed hard in 1954 and was given some consideration in 1955. It would mean that the Federal government would underwrite mortgages for hospitals, clinics, and nursing homes, under certain conditions, thereby allowing some sponsors to obtain loans they couldn't otherwise get or to obtain them on longer terms and with lower interest.

2. *Federal grants for research facilities.*—Under this plan, approved last session by the Senate, the U.S. would make outright grants to laboratories, medical schools, and clinics for building facilities for research in specific diseases, such as cancer and heart disease.

3. *Federal aid to medical education.*—This perennial project probably is closer to Congressional enactment now than ever before. The most popular bill is one restricting the Federal role to grants for building and equipment, with a financial incentive held out to those schools willing to increase their enrollment. This bill may be tied in with some other grants bill, such as the one for research.

4. *Salk vaccine.*—Legislation authorizing Federal appropriations for the purchase of Salk poliomyelitis vaccine (30 million dollars for the current year) expires February 15, virtually insuring Congressional action of some sort before that date. One issue is whether the Federal government should continue the grants; more controversial is the question of whether the U.S. should move in to control the allocation and distribution of the vaccine. Allocation and distribution now are handled under a voluntary program supervised by the U.S. Public Health Service.

5. *Increases in Federal appropriations for medical research.*—Over the last few years, since the National Institutes of Health came of age, Congress repeatedly has increased research grants over the amounts the Budget Bureau allowed Public Health Service to request. Indications are that this year the Budget Bureau may have to give way and allow important increases to be requested of Congress. Congress probably would want to add on its own special additions anyway, resulting in more money than ever before available for work on cancer, heart disease, mental illness, arthritis, blindness, and the many other conditions.

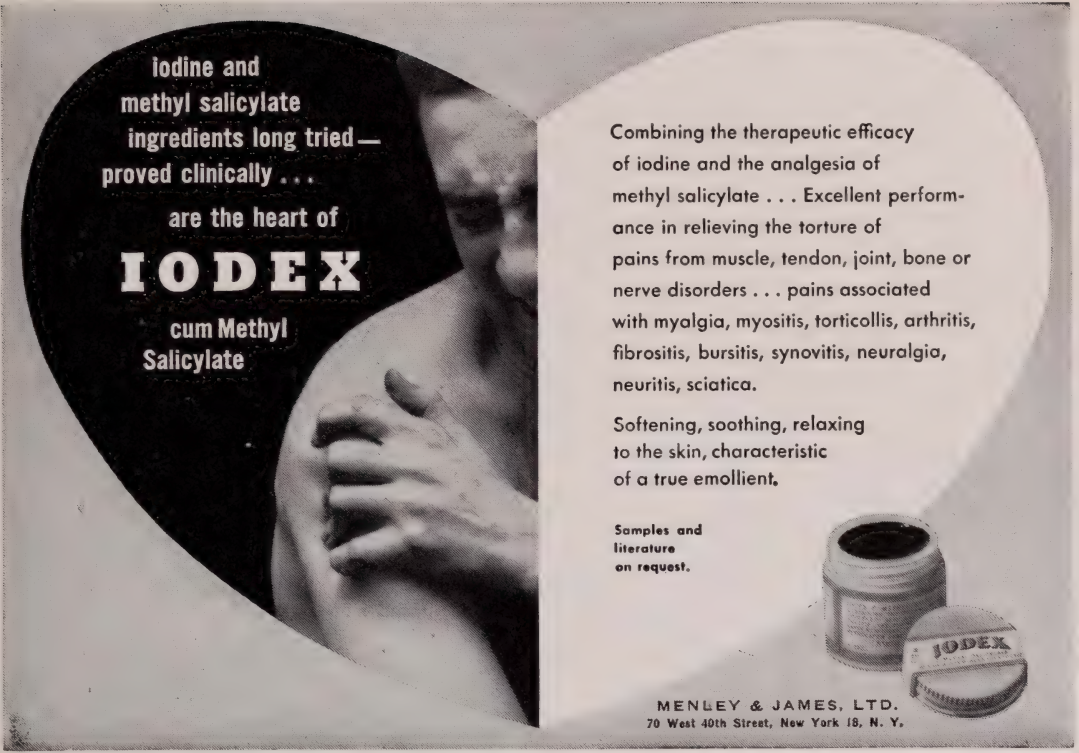
6. *OASI-covered persons could receive payments beginning at age 50 if determined to be disabled.*—Under present law retirement payments for all are available at age sixty-five. The bill containing this provision (H.R. 7225) passed the House last session by an overwhelming margin. It is now before the Senate Finance Committee, where the next phase of the legislative contest will be fought out in 1956.

The lopsided House vote on disability payments may be discounted in part because of the parliamentary maneuvering by sponsors of the legislation. House members had only forty minutes to debate this bill and no opportunity to amend it. It was a case of accepting the whole bill, which contains a number of other social security liberalizations not of medical significance, or being politically damned as opposed to social security per se.

The American Medical Association maintains that the present expanding rehabilitation programs would be undermined by cash payments for disability, that the financial and other long-range aspects of the disability payments plan have not been thoroughly studied, and that the machinery for disability payments would inevitably project the Federal government deeply into the medical care picture.

Prepared by the Washington Office of the American Medical Association, Washington, D.C.

Labor disgraces no man; unfortunately you occasionally find men disgrace labor.—ULYSSES S. GRANT



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MEDICAL NEWS

Pediatrics Refresher Courses—Intensive refresher courses in pediatrics are being offered at the University of Buffalo School of Medicine under the sponsorship of the Medical Society of the State of New York and the Bureau of Maternal and Child Health, New York State Department of Health. These courses, designed especially to meet the needs of general practitioners, will be held from May 21 through May 25, and June 11 through June 15.

Application for enrollment in either course must be made prior to May 1. Enrollment requests may be made to the offices of County or City Departments of Health, to State District Health Offices, or directly to the Bureau of Maternal and Child Health, New York State Department of Health, 39 Columbia Street, Albany 7, New York.

Psychiatric Institute—The New York State Psychiatric Institute, 722 West 168th Street, New York City, will exhibit a portion of the material held in the Freud Memorial Room of its library. The exhibition will open on January 16, and continue through February 10. This is the first of such exhibitions which will be held by various institutions during 1956, the centenary of the birth of Sigmund Freud.

The exhibition will include Freud's early neurologic publications, holograph manuscripts, inscribed books, letters, documents, and photographs.

American-Polish Medical Alliance—The annual general meeting of the American-Polish Medical Alliance was held on November 2, 1955, at the Olcott Hotel in New York City. The following officers were elected for the year 1956: president, Dr. E. Stein; vice-president, Dr. L. Merkin; secretary, Dr. Z. Turyn, and treasurer, Dr. E. Fox.

New York Allergy Society—Newly elected officers of the New York Allergy Society are: president, Dr. Murray M. Albert; president-elect, Dr. Samuel J. Prigal; vice-president, Dr. Leoni N. Claman; secretary, Dr. Aaron D. Spielman, and treasurer, Dr. Joseph H. Fries.

Medical Society Plaque—A plaque, 12 inches in diameter, made of light-colored government bronze, sculpted by William Ehrich, nationally-known artist, and with inscription composed by Professor Emeritus John R. Slater, Ph.D., was presented to radio station WHAM (NBC affiliate), Rochester, by Dr. Gordon M. Hemmett, president of the Monroe County Medical Society, on December 13 at the Rochester Academy of Medicine. The plaque was accepted for WHAM by William Fay, vice-president and general manager of WHAM, AM and TV.

Dr. Slater's inscription reads "To WHAM from the Medical Society of the County of Monroe for twenty-five years of public service in broadcasting weekly talks 'Speaking of Health' for the good of all."

Nervous and Mental Disease—At the 35th annual meeting of the Association for Research in Nervous and Mental Disease held in New York City on December 9 and 10, 1955, the following officers were elected for the year 1956: president, Dr. Harry C. Solomon; first vice-president, Dr. Stanley Cobb; second vice-president, Dr. Wilder Penfield; secretary-treasurer, Dr. Rollo J. Masselink, and assistant secretary, Dr. Lawrence C. Kolb.

Personalities

Elected

Dr. Eldridge Campbell, professor of surgery and chairman of the Department of Surgery at Albany Medical College, as chairman of the American Board of Neurological Surgery. . .Dr. David Kershner, director of surgery at Jewish Chronic Disease Hospital, Brooklyn, as president of the medical board of that hospital . . . Dr. Irving M. Pallin, director of the Department of Anesthesiology at Jewish Hospital in Brooklyn, as president-elect of the American Society of Anesthesiologists . . . Dr. Edward H. Robitzek reelected as director of the medical service, and Dr. David Bosworth as director of the orthopedic service of the Sea View Hospital in Staten Island.

Appointed

Dr. Harold Abramson, New York City, promoted to professor of clinical pediatrics at New York Medical College and Flower and Fifth Avenue Hospitals, to attending pediatrician at Flower and Fifth Avenue Hospitals, and to visiting pediatrician to the new Metropolitan Hospital and Bird S. Coler Hospital . . . Dr. DuMont Elmendorf, Jr., Albany, as assistant director for clinical research in the Division of Laboratories and Research of the New York State Department of Health . . . Dr. Norman S. Moore, assistant editor of the New York State Journal of Medicine, reappointed to a six-year term on the State Public Health Council . . . Dr. John Murray

[Continued on page 300]

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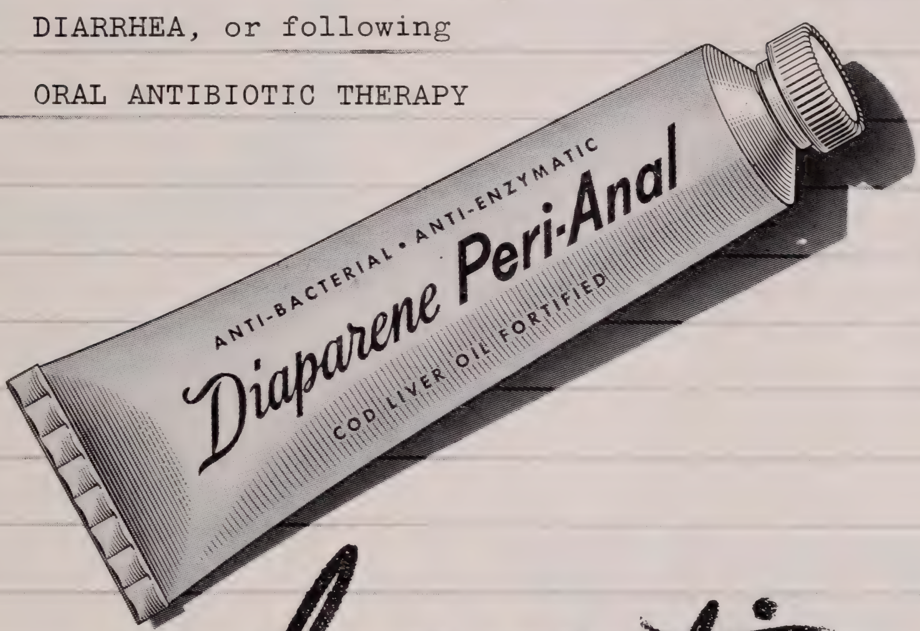
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[Continued from page 298]

Steele, professor of medicine at New York University's College of Medicine, as director of the Masonic Medical Research Center at Utica.

Speakers

Dr. A. Wilmot Jacobson, clinical professor of pediatrics at the University of Buffalo School of Medicine, before the Medical Society of the County of Schenectady on January 10, on "The Treatment of Endocrine Deficiencies in Children" . . . Dr. William Nelson, assistant professor of medicine at Albany Medical College, in a round table discussion of "Electrolytes" before the Schenectady County Medical Society and the resident and intern staffs of Ellis and St. Clare's Hospitals on January 7, in Schenectady . . . Dr. Robert O. Gregg, professor of surgery at the State University of Medicine at Syracuse, before the Jefferson County Medical Society on December 20, on "Management of Intestinal Obstruction" . . . Dr. George T. Pack, New York City, as moderator on a symposium on the diagnosis and treatment of neoplastic diseases, and lecturer on "The Management of Primary and Metastatic Tumors of the Liver" before the Los Angeles Midwinter Medical Convention on January 3, 4, and 5 . . . Dr. Milton Rosenbaum, professor and chairman of the Department of Psychiatry at the Albert Einstein College of Medicine, Yeshiva University, New York City, before the hospital staff of the Veterans Administration Hospital at Northport on December 13, on "The Doctor's Relationship With Patients With Emphasis on Psychosomatic Disorders" . . Dr. Harold G. Wolff, professor of neurology, Cornell University Medical College, New York City, before the Veterans Administration Hospital staff at Northport on December 9, on "Recent Advances in the Study of Headaches."

Honored

Dr. Henry L. Barnett, professor of pediatrics at the Albert Einstein College of Medicine, at a luncheon of the Nephrosis Foundation of New York and New Jersey on December 9.

New Offices

Dr. Harry B. Fermaglich, Spring Valley, general practice in Monsey.

Motorcycle Accidents

Accidents involving motorcycles account for approximately 1,000 deaths yearly in the United States, statisticians of the Metropolitan Life Insurance Company report.

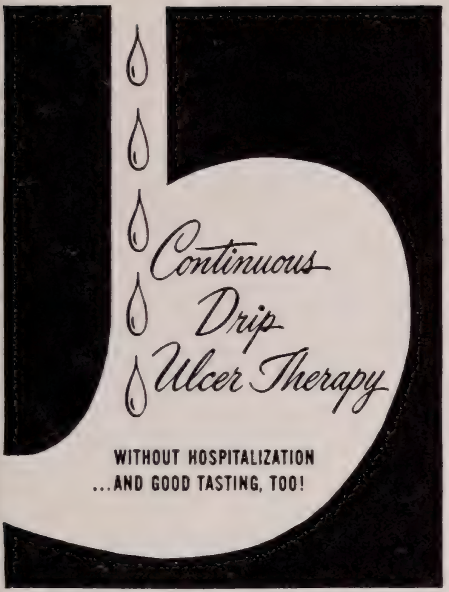
About 800 of these deaths result from injuries sustained by motorcyclists or motorcycle passengers, and most of the remainder are among pedestrians killed by motorcycles. In addition, a few deaths each year occur among riders of bicycles and occupants of automobiles in collisions between these vehicles and motorcycles.

In the life insurance company's experience among its industrial policyholders, the highest death rates from motorcycle accidents, as might be expected, are among young males—ages fifteen to twenty-four.

Somewhat over half of the policyholders fatally injured while riding motorcycles died as a result of collisions with automobiles, trucks, or other motor vehicles. An additional two fifths lost their lives when their motorcycles overturned or ran off the road; in the latter event the riders sometimes hit trees, posts, or fences. The remainder of the death toll resulted from motorcycles colliding with bridges or obstructions on the highway.

The yearly loss of life could be appreciably reduced, the statisticians note, if motorcyclists exercised greater caution against traffic hazards, especially hazardous road conditions such as wet and icy surfaces, ruts, and loose gravel.

"Motorcycles when properly used," the statisticians point out, "can be a safe and efficient means of transportation."



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*Steigmann, F., and Goldberg, E.: Ambulatory Continuous Drip Method in the Treatment of Peptic Ulcer, Am. J. Digest. Dis. *22*:67 (Mar.) 1955.

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MEDICAL MEETINGS

Pediatric Section

The Pediatric Section of the Medical Society of the County of Kings and the Academy of Medicine of Brooklyn will hold a scientific session on January 23 at 8:45 P.M. at 1313 Bedford Avenue, Brooklyn, on "The Etiology of Infantile Diarrhea with Special Reference to the Role of E. coli and Certain Viruses." Dr. Horace L. Hodes, director of the Department of Pediatrics at the Mount Sinai Hospital in New York City, and clinical professor of pediatrics at Columbia University in New York City, will be the guest speaker.

New York Cancer Society

The fifth meeting of the New York Cancer Society will be held on February 7 at the New York Academy of Medicine, 5th Avenue and 103rd Street, in New York City, at 8:30 P.M. "Intra-Epithelial Carcinoma of the Uterus" will be the topic of the meeting.

Clinical Ophthalmology

The New York Society for Clinical Ophthalmology will hold a participating conference at the Waldorf-Astoria Hotel in New York City on April 13 and 14. Registrants will be able to participate in seminars led by prominent members of the Society. Registrations must be received by February 1. Address: Miss Gloria Benabo, 737 Park Avenue, New York 21, New York.

Hawaii Medical Association

The members of the Hawaii Medical Association will celebrate their organization's 100th anniversary on April 22 through 29. After the professional program, entertainment will include a centennial celebration pageant and a traditional luau (Hawaiian feast) with Polynesian entertainment.

All physicians are invited. For reservation application forms, write to the Hawaii Medical Association, 510 South Beretania Street, Honolulu 13, Hawaii.

International Academy of Proctology

The eighth annual teaching seminar of the International Academy of Proctology will be held at the Drake, Chicago, Illinois, April 23 to 26. There will be special emphasis on anorectal presentations, and on panel discussions, as requested by those who attended the New York meeting in 1955. All physicians and their wives are invited to attend the annual teaching seminars of the International Academy of Proctology, whether or not they are affiliated with the Academy.

International Fertility Association

The International Fertility Association will hold its second world congress on sterility and fertility in Naples, Italy, from May 18 to 25. About 180 scientific papers covering all phases of infertility are scheduled to be presented. All interested physicians are invited to attend.

For information regarding travel, registration, and hotel accommodations, write to Dr. Maxwell Roland, Chairman, Liaison Committee, 1141 Eastern Parkway, Brooklyn 13, New York.

Symposium on Venereal Diseases

The first international symposium on venereal diseases and the treponematoses will be held at the Statler Hotel, Washington, D.C., from May 28 through June 1, according to Surgeon General Leonard A. Scheele. The symposium will be sponsored by the Public Health Service, U.S. Department of Health, Education, and Welfare, and the World Health Organization.

The symposium is open to all physicians, scientists and professional health workers interested in participating. Anyone interested in submitting a paper for consideration by the program committee should send an abstract of his paper to Dr. C. A. Smith, Medical Director, Chief, Venereal Disease Program, Division of Special Health Services, Public Health Service, Department of Health, Education, and Welfare, Washington 25, D.C., as soon as possible. Accepted papers may be presented in person or by an alternate. All abstracts to be considered for the program must be received no later than February 1, 1956.

Education is a thing of which only the few are capable; teach as you will only a small percentage will profit by your most zealous energy.—GEORGE GISSING

"They that drinke wyne customly with measure, it doth profit them much and maketh good digestion..."

—Bullein, W.: Government of Health, 1595.

Through the centuries wine has been traditionally regarded as a valuable food and medicine; acclaimed not only as an aliment but as a pleasant aperitif, whose taste and bouquet add zest to a meal and favorably influence both appetite and digestion.

In recent years, however, there has developed within the medical profession a demand for more fact and less conjecture regarding the virtues and values of wine in clinical practice.

Accordingly extensive research programs have been in progress for some 15 years, studying the chemistry of wine, its physiological action in the body and hence its true clinical rationale.

In consequence, we now have evidence to show why a glass of Port, Sherry, Burgundy, Rhine Wine—depending on individual taste—can actually stimulate the lagging appetite and digestion of your geriatric, post-surgical, sick or convalescent patient.

Similarly, there is evidence to show that wine can provide safe as well as effective sedation in many patients and thus has proved invaluable for the treatment of the insomniac, the irritable, the restless or depressed patient.

Reports on these, and on many other medical attributes of wine, have been condensed into a small, readable brochure entitled—"Uses of Wine in Medical Practice." A copy is available to you—at no expense—by writing to: Wine Advisory Board, 717 Market Street, San Francisco 3, California.

Medical Sound Books

As a means of providing a new and wider distribution of medical information and educational materials, the Medical Society of the State of New York has inaugurated a project known as *Medical Sound Books.*

These are recordings of selected lectures, articles, and papers approved by the editorial staff of the NEW YORK STATE JOURNAL OF MEDICINE. Dr. Laurance D. Redway, editor of the JOURNAL, and Dr. Theodore J. Curphey, chairman of the Council Committee on Public Health and Education of the Society, have been appointed to supervise the project.

The first release of the *Medical Sound Books* is currently available for distribution. It represents the contributions of 30 authors grouped in nine units and covers a broad and varied field.

The first release is in the form of prerecorded tape operating at $3^3/_4$ inches per second, dual track. This medium has been selected because surveys show that many doctors own tape machines for both professional work and pleasure. If there is sufficient interest, however, *Medical Sound Books* will also be issued on 12-inch microgroove disks for use on long-playing phonographs.

All of the first releases are recorded in the personal voices of the authors and have been selected from field recordings made at the 149th Annual Meeting of the Medical Society of the State of New York.

T5501 **Symposium: Treatment of Burns**

Initial Treatment
WORTHINGTON G. SCHENCK, JR., M.D., Buffalo

Parenteral Therapy
J. FREDERICK EAGLE, M.D., Buffalo

Definitive Treatment
HARRY W. HALE, JR., M.D., Buffalo

Physical Restoration by Means of Physical and Occupational Therapy
HENRY V. MORELEWICZ, M.D., Buffalo

Late Reconstructive Problems
LESLIE B. BACKUS, M.D., Buffalo

T5502 **Delirium, Cation Exchange Resins, and Liver Disease**
S. MOUCHLY SMALL, M.D.,* Buffalo
JEROME MAURIZI, M.D., Buffalo

Treatment of Intracranial Carotid Aneurysm by Extracranial Ligations
WILLIAM F. BESWICK, M.D.,* Buffalo
IRVING HYMAN, M.D., Buffalo
WILLIAM R. KINKEL, M.D., Buffalo

T5503 **Round Table Discussion: Diagnosis and Treatment of Gastrointestinal Conditions**
M. LUTHER MUSSELMAN, M.D., Buffalo, *Moderator*
A. H. AARON, M.D., Buffalo
MURRAY S. HOWLAND, M.D., Buffalo
ELMER MILCH, M.D., Buffalo
JERE W. LORD, M.D., New York City
NORMAN HEILBRUN, M.D., Buffalo

T5504 **Critical Evaluation of Drug Therapy of Hypertension: Experience with Reserpine, Apresoline, Hexamethonium, and Ansolysen**
MARVIN MOSER, M.D., Scarsdale

Sympathectomy in the Treatment of Essential Hypertension
FREDERICK G. STOESSER, M.D., Buffalo

Present Status of Retrolental Fibroplasia
LEWIS M. FRAAD, M.D., New York City

T5505 **Allergic Reactions to Antibiotics**
SHEPPARD SIEGAL, M.D., New York City

Laboratory Aids in the Diagnosis of Pediatric Problems
PAUL R. PETERSON, M.D., Albany

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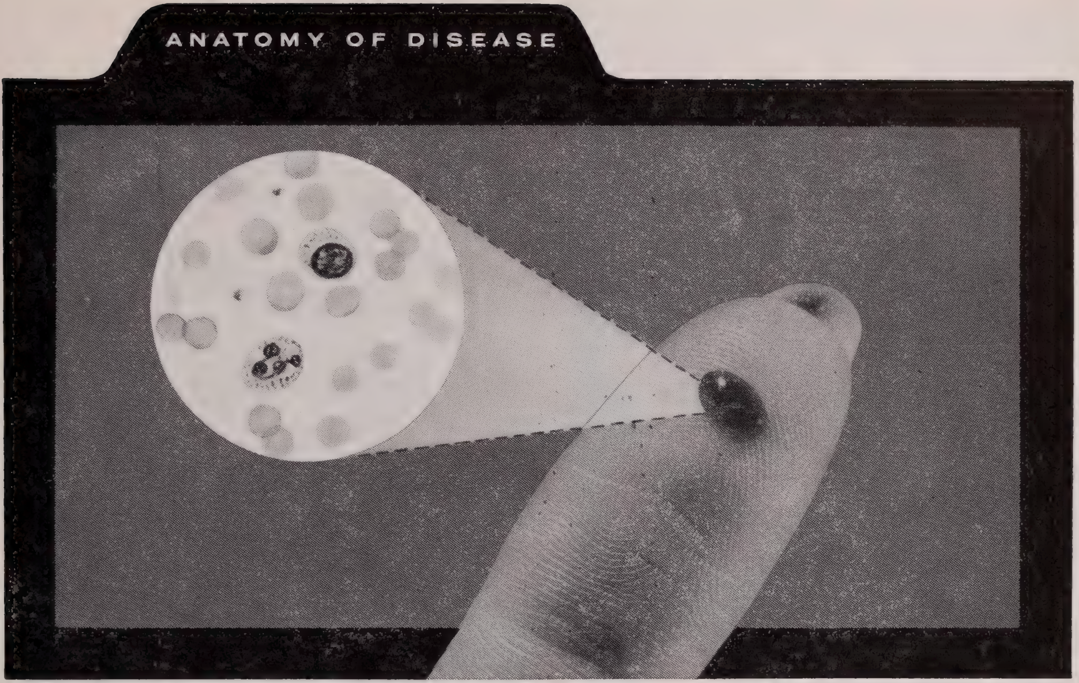
* Paper read by this author.

[Continued on page 306]



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[Continued from page 304]

T5506 **Cutaneous Manifestations of Systemic Diseases**
Maurice J. Costello, M.D., New York City

Bacterial Sensitivity
Abraham S. Gordon, M.D., Brooklyn

T5507 **Why Is Your Patient Dizzy ?**
Gordon D. Hoople, M.D., Syracuse

Delay in Diagnosis of Carcinoma of Colon
John H. Remington, M.D., Rochester

T5508 **Urticaria**
John M. Sheldon, M.D., Ann Arbor, Michigan

Role of Infection in Asthma
Will Cook Spain, M.D., New York City

Prophylaxis in Allergic Disease of the Newborn
Jerome Glaser, M.D., Rochester

T5509 **Bedside Considerations of Pituitary Diseases**
Thomas H. McGavack, M.D., New York City

Fatigue: Diagnosis and Treatment
E. A. Burkhardt, M.D., New York City

Recording, processing, and distribution of *Medical Sound Books* will be carried out by A-V Tape Libraries, 730 Fifth Avenue, New York 19. Mr. Miller McClintock is the director of the project, under contract with the Medical Society of the State of New York, and the project is under the editorial supervision of Drs. Redway and Curphey.

Each tape unit, as listed above, and containing approximately fifty minutes of material will sell for $5.00. The disks, if and when issued, will have the same price. They are for sale only to bona fide members of the medical profession.

Arrangements have been made for nation-wide distribution of *Medical Sound Books,* and they are also immediately available for sale throughout Canada. Negotiations are under way for British distribution.

Members of the profession who are interested in obtaining *Medical Sound Books* should write directly to Miller McClintock, Director, Medical Sound Book Division, A-V Tape Libraries, 730 Fifth Avenue, New York 19.

New Air Force Medic History

A 1,027 page history entitled, "Medical Support of the Army Air Force in World War II," has just been completed by the Office of the Surgeon General, USAF. The volume was authored by Mae Mills Link, Ph.D., and Hubert A. Coleman, Ph.D., with a foreword by Maj. Gen. Dan C. Ogle, Surgeon General, United States Air Force. It is available through the Government Printing Office, Washington 25, D.C.

This book, which required over ten years to compile, write, edit, and print, tells how military medicine was propelled into a new dimension as it became airborne. It contains valuable reading for military and civilian planners concerned with manpower, and every doctor will gain new insight into how the talents of the medical profession are forged into the iron framework of command to meet a national emergency. At the same time the volume is interesting general reading because the human element is never lost.

Each chapter is thoroughly documented, with footnotes at the end of every chapter for easy reference. The volume is well illustrated with charts, diagrams, and photographs and includes extensive tabular data. There is a detailed index.

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Lockwood, James H., Cmdr., MC, USN
U.S. Naval Hospital, San Diego, Cal.
Bulletin of the Association of Military Dermatologists, June 1955, p. 2

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BOOKS REVIEWED

Amphetamine in Clinical Medicine, Actions and Uses. By W. R. Bett, M.R.C.S., Leonard H. Howells, M.D., and A. D. Macdonald, M.D. Duodecimo of 78 pages. Edinburgh, E. & S. Livingstone (Baltimore, Williams & Wilkins Company), 1955. Cloth, $2.75.

In their preface the authors present this monograph as "a guide to the general practitioner." The amphetamines are discussed as stimulants of the central nervous system and as sympathomimetic substances. Their mode of action has still to be explained. Their use as supportive drugs in combination with low-caloric diets in treating overweight is approved. In insomnia cases the effect of possible wakefulness may be overcome by combining it with simple sedatives. A fall of systolic blood pressure (3.5 mm. of mercury for every 10 pounds of weight loss) has been observed. The dosage varies from 2.5 to 10 mg. twice or three times daily. Many report good results from its use as relieving fatigue or states of chronic exhaustion, but in severe depressions the results obtained may be of temporary benefit.

The amphetamines appear to have shown good results in their judicious use in conditions such as narcolepsy, alcoholism and other addictions, psychopathic states, enuresis and other behavior disorders in children.

Although this monograph is small in size it is very condensed, offers in detail many therapeutic suggestions, and should be of much value to the general practitioner.—Hirsch L. Gordon

An Outline of the Treatment of Fractures. By the Committee on Trauma. Fifth edition, revised. Octavo of 93 pages, illustrated. Chicago, American College of Surgeons, 1954. Paper, $1.00.

This new edition of the old fracture manual is a welcome aid to fracture therapy. The suggestions on proper positioning for x-rays are particularly desirable.

As for the individual fractures, the emphasis is properly placed on conservatism and attention to details in reduction, proper plaster and bandage mobilization.

The fracture aphorisms should be prominently displayed in every hospital emergency room in sufficiently large and clear type for every intern and nurse to follow. The *Outline* itself should also be available in hospital emergency rooms.—Max S. Rabinowitz

Diagnostic Laboratory Hematology. By George E. Cartwright, M.D. Octavo of 104 pages, illustrated. New York, Grune & Stratton, 1954. Cloth, $3.00.

There is no question but that this is a most comprehensive laboratory manual. It will probably be useful not only to the technician but to the doctor in charge of the laboratory. No important or useful procedure is omitted. The laboratory and clinical interpretations which accompany each procedure serve a highly desirable purpose.

There is one glaring omission which could make this work complete and that is how to render an overstained Wright smear completely usable even when it is woefully precipitated. It would be welcomed by the host of technicians who are bound to use this manual. It consists simply of adding additional stain for five to ten seconds and rinsing in water. Undoubtedly the next edition will avail itself of this feature.—Maurice Morrison

Forceps Deliveries. By Edward H. Dennen, M.D. Octavo of 228 pages, 91 illustrations. Philadelphia, F. A. Davis Company, 1955. Cloth, $6.50. (Obstetrics and Gynecology, a series of monographs.)

Dennen briefly reviews forceps, in general, and describes the classical instruments. He then gives in considerable detail the advantages and disadvantages of the most widely used instruments with concise instruction for their use.

The book is liberally illustrated with photographs and line drawings. The summary adequately reviews the scope of the work. This volume is a valuable addition to the library of the practicing obstetrician.—Sanford Kaminester

Essentials of Orthopaedics. By Philip Wiles, M.S. (Lond.) Second edition. Quarto of 538 pages 7 colour plates and 393 text figures. Boston, Little, Brown & Company, 1955. Cloth, $10.

As a teacher of orthopedic surgery for many years we found the first edition a most welcome addition to available texts. The new (second) edition has added a number of improvements to this excellent presentation of orthopedic surgery for the student and general practitioner as well as a ready reference for the orthopedic surgeon. The text is a very readable one; the type and illustrations are excellent, and the arrangement of the subject matter according to the regional pathology and treatment makes for easy access to information. One is especially impressed, for example, by the treatment of the subject of back derangements, which is unusually comprehensive, easy to follow, and in the opinion of this reviewer, thoroughly authoritative, without being dogmatic. Other subjects are similarly well handled, and many of the newer clinical concepts have been included.—Max S. Rabinowitz

[Continued on page 310]

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[Continued from page 308]

Tumours of Lymphoid Tissue. By George Lumb, M.D. Quarto of 204 pages, illustrated. Edinburgh, E. & S. Livingstone, (Baltimore, Williams & Wilkins Co.), 1954. Cloth, $8.00.

This volume of 204 pages is essentially the presentation of the pathology of tumors of the lymphoid tissue. The leukemias are excluded as is also mycosis fungoides. The presentation is concise, well thought out, and clearly given. The illustrations are excellent. This volume contains little or nothing which is new, but is a valuable, orderly, and clear presentation of pathology and histologic differential diagnosis of a very complex and uncertain subject. The chapter on therapy is too brief to be more than suggestive. This book is highly recommended as a treatise on the pathology of the lymphoid tumors.—ASA B. FRIEDMANN

Sandoz Atlas of Haematology. Quarto of 91 pages, illustrated. Loose-leaf. Basle, Switzerland, Sandoz, Ltd., 1952. Cloth, $7.00.

This work is divided into three parts. Part one takes up general considerations, stressing the fundamental principles of hematology. Part two consists of a survey systematically arranged of the morphology of the blood corpuscles. Part three is the *Atlas* proper embellished by explanatory notes. The translation from the original German was ably done by Piney and Woolman. The original was written and compiled by Undritz under the direction of Rothlin. Suffice it to say that this is the most authoritative and most comprehensive atlas in the English language today. A hematologic bookshelf is not a bookshelf without it.—MAURICE MORRISON

Psychotherapeutic Intervention in Schizophrenia. By Lewis B. Hill, M.D. Octavo of 216 pages. Chicago, University of Chicago Press, 1955. Cloth, $5.00.

The author draws his conclusions from his own active practice of thirty-five years, hence his pages abound with sparks of practical life wisdom. He emphasizes the special traits and attitudes needed in the therapist to effect good results. The common primary qualities of schizophrenia are two, a peculiarity of thought and a disturbance of feeling. The shrunken ego is invaded by outside forces. The author describes very lucidly the personality which is prone to schizophrenic episodes, his infancy and his parents, and suggests practical methods for psychotherapy, outlining the parts which each, the patient and the therapist, must contribute.—HIRSCH L. GORDON

Perinatal Mortality in New York City. Responsible Factors. A study of 955 Deaths by the Subcommittee on Neonatal Mortality, Committee on Public Health Relations, The New York Academy of Medicine. Analyzed and Reported by Schuyler G. Kohl, M.D. Octavo of 112 pages. Cambridge, Mass., published for The Commonwealth Fund by Harvard University Press, 1955. Cloth, $2.50.

The book is concerned with the results of an intensive study of a sample of 955 newborn deaths by the Subcommittee on Neonatal Mortality of the New York Academy of Medicine. That such a study is needed is made apparent by the constancy of the national death rate for the newborn despite the reduction of maternal death rates and those for children under one year of age.

The committee was particularly fortunate in obtaining the services of Dr. Schuyler G. Kohl in the analysis and reporting of the results of the study. Dr. Kohl's special interest and high degree of training in both obstetrics and biostatistics have made him peculiarly fitted for this undertaking.

The results of the study are important and of great interest and value to all concerned with reducing mortality of the newborn. The summary emphasizes that 35 per cent of the deaths were preventable, that the greatest number of deaths occurred in the nonteaching municipal hospitals whereas the least occurred in the voluntary teaching hospitals, that the house staff were identified with the greatest number of deaths with obstetricians the least, that 40 per cent of the deaths associated with cesarean section could have been prevented by wiser use of this procedure, and that a high degree of inaccuracy in death certificates exists in regard to the actual causes of death.

The author intends to pursue further the solution of some of the problems encountered in the study and enumerates valuable suggestions for future, pertinent studies. The book is highly recommended.—ALEXANDER H. ROSENTHAL

Cardiology Notebook. For Preliminary Instruction in Medical Curricula. By Columbia University College of Physicians and Surgeons. Quarto of 97 pages, illustrated. New York, Grune & Stratton, 1955. Cloth, $2.50.

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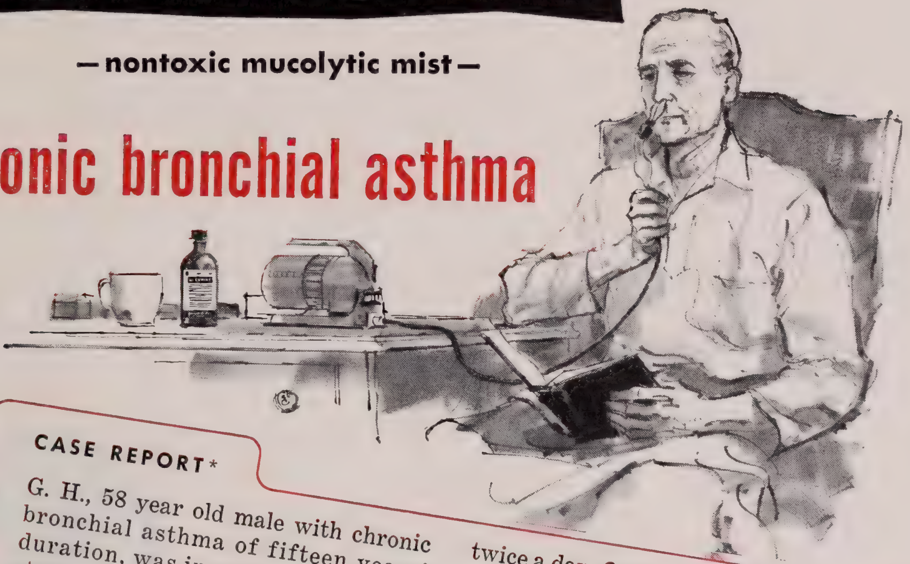

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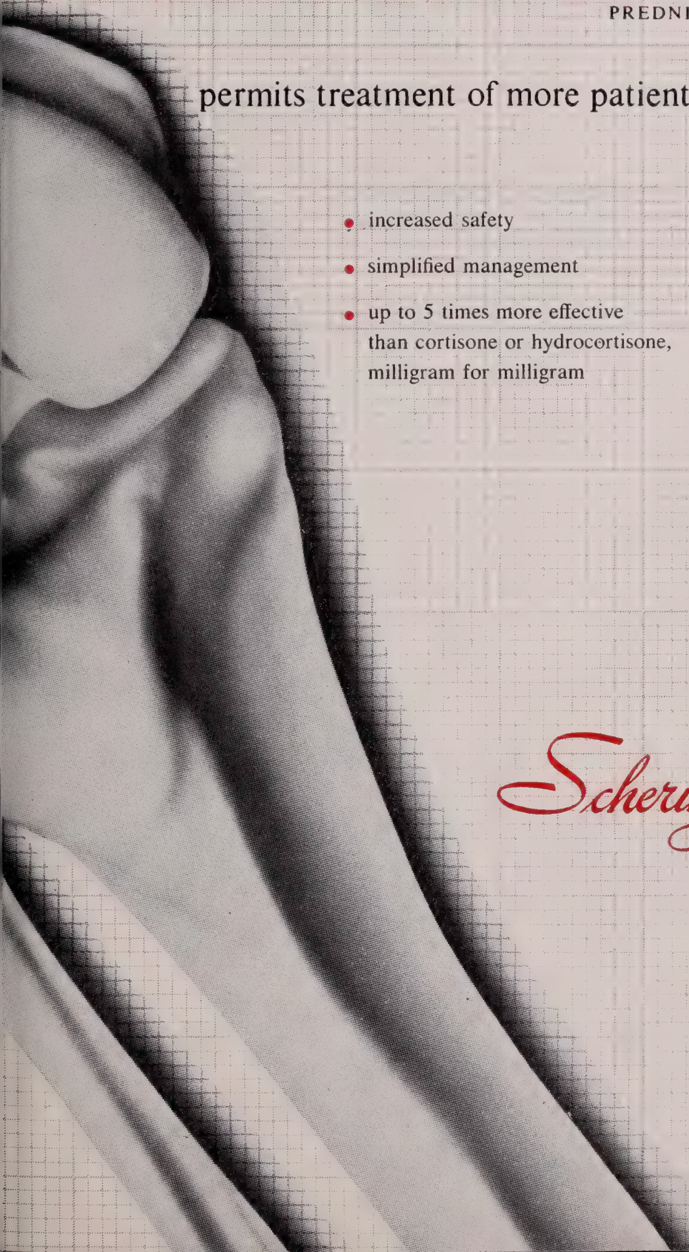

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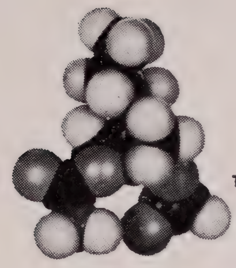

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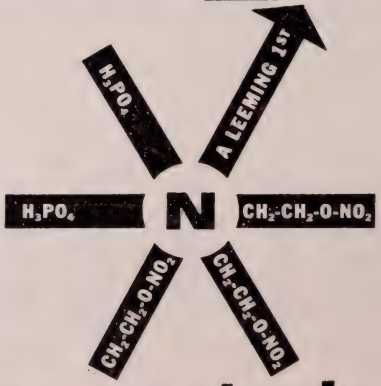

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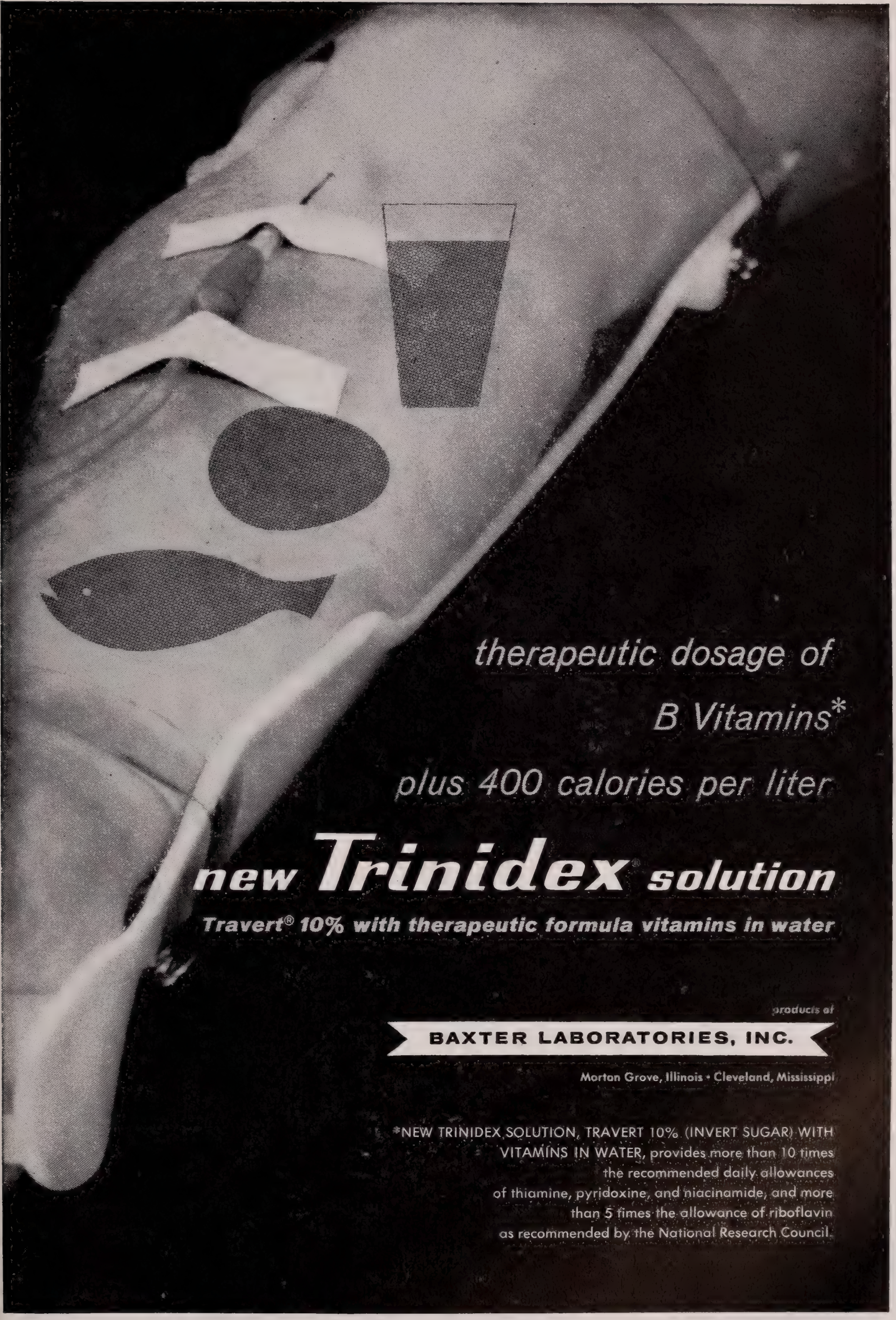

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(HYDROCORTISONE TERTIARY-BUTYLACETATE, MERCK)

gives the arthritic patient more days of freedom from joint symptoms—in many patients the anti-rheumatic effect persists 2 to 10 times longer than after injection of hydrocortisone acetate. Its action is local and without systemic effect.

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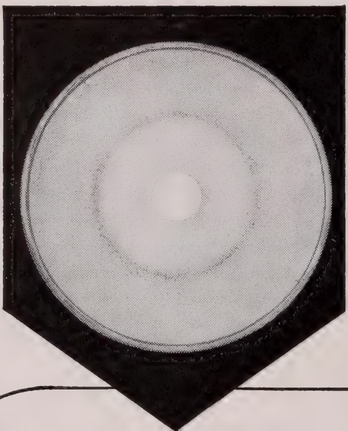
DIVISION OF MERCK & CO., INC.

SUPPLIED: SALINE SUSPENSION HYDROCORTONE-TBA—25 MG./CC., VIALS OF 5 CC.

the only broad spectrum antibiotic preparation that...



1 provides the antimicrobial activity of tetracycline

Because it contains Steclin (Squibb Tetracycline), the well tolerated broad spectrum antibiotic, MYSTECLIN is an effective therapeutic agent for many common infections. Most pathogenic bacteria, as well as certain large viruses, certain Rickettsiae, and certain protozoans, are susceptible to Mysteclin.

2 protects the patient against monilial superinfection

Because it contains Mycostatin (Squibb Nystatin), the first safe antifungal antibiotic, MYSTECLIN acts to prevent monilial overgrowth frequently observed during broad spectrum antibiotic therapy. Manifestations of this overgrowth may include some of the diarrhea and anal pruritus associated with antibiotic therapy, as well as vaginal moniliasis and thrush. On occasion, serious and even fatal infections caused by monilia may occur.

Mysteclin

STECLIN-MYCOSTATIN
(Squibb Tetracycline-Nystatin)

Each MYSTECLIN Capsule contains 250 mg. Steclin (Squibb Tetracycline) Hydrochloride and 250,000 units Mycostatin (Squibb Nystatin).
Minimum adult dose: 1 capsule q.i.d. *Supply:* Bottles of 12 and 100.

SQUIBB

'MYSTECLIN', 'STECLIN' AND 'MYCOSTATIN'® ARE SQUIBB TRADEMARKS

most patients need both

Often a marginal or substandard response to nutritional therapy can be due to the formula's lack of important minerals.

In fact, the minerals "are recognized as performing functions of major importance,"[1] and, as McLester points out, "serve as necessary components of enzyme systems."[2]

To make sure your patients get the extra protection of both vitamins *and* minerals, prescribe VITERRA: 11 important minerals and 10 vitamins in every capsule.

each VITERRA® capsule contains:

MINERALS

Calcium (from Dicalcium Phosphate)	213 mg.
Cobalt (from Cobaltous Sulfate)	0.1 mg.
Copper (from Cupric Sulfate)	1 mg.
Iodine (from Potassium Iodide)	0.15 mg.
Iron (from Ferrous Sulfate)	10 mg.
Manganese (from Manganous Sulfate)	1 mg.
Magnesium (from Magnesium Sulfate)	6 mg.
Molybdenum (from Sodium Molybdate)	0.2 mg.
Phosphorus (from Dicalcium Phosphate)	165 mg.
Potassium (from Potassium Sulfate)	5 mg.
Zinc (from Zinc Sulfate)	1.2 mg.

VITAMINS

Vitamin A (Palmitate)	5,000 U.S.P. Units
Vitamin D (Irradiated Ergosterol)	500 U.S.P. Units
Vitamin B12 U.S.P.	1 mcg.
Thiamine Hydrochloride U.S.P.	3 mg.
Riboflavin U.S.P.	3 mg.
Pyridoxine Hydrochloride U.S.P.	0.5 mg.
Niacinamide U.S.P.	25 mg.
Ascorbic Acid U.S.P.	50 mg.
Calcium Pantothenate	5 mg.
Mixed Tocopherols (equivalent to 2.3 Int. Units Vitamin E Activity)	5 mg.

In bottles of 30 and 100 soft, soluble capsules.

VITERRA®

When therapeutic potencies are indicated, specify

VITERRA® THERAPEUTIC.

1. Food and Nutr. News, vol. 25, p. 3 (1954).
2. McLester, J. S. and Darby, W. J.: Nutrition and diet in health and disease. W. B. Saunders Company, Philadelphia, 1952. p. 107.

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more than 42,000,000 doses of ACTH have been given

HP* ACTHAR® *Gel*

The Armour Laboratories brand of purified adrenocorticotropic hormone—corticotropin (ACTH)

Unsurpassed in safety and efficacy

In a series of patients treated continuously with Armour ACTH for at least 5½ years[1] . . .

- Each responded with a maintained increase in cortical function
- Major and minor surgical and obstetrical procedures caused no incidents
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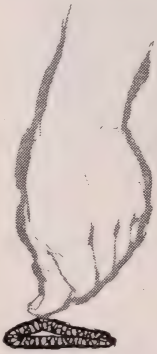

. . . and HP*ACTHAR *Gel* should be used routinely to minimize adrenal suppression and atrophy in patients treated with prednisone, prednisolone, hydrocortisone and cortisone.

HP*ACTHAR *Gel* is the most widely used ACTH preparation

*Highly purified

1. Wolfson, W. Q.: Mississippi Valley M. J. 77: 66, 1955.

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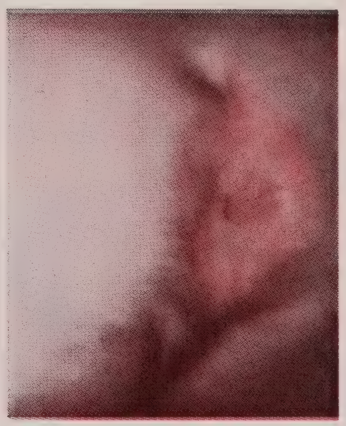
New Relief from the Enigmas of Pruritus Ani

CASE — MALE, 55 YEARS

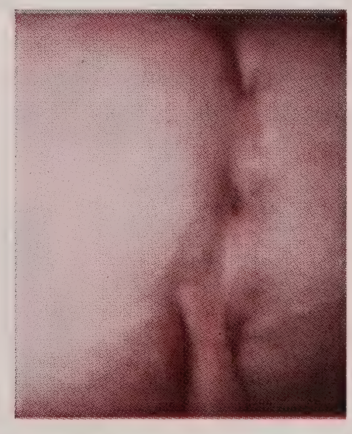
Hydrolamins Ointment, an isotonic, specially selected combination of amino acids, offers a new answer to the baffling problem of ano-genital pruritus.

Therapy is based on the observation[1,2,3] that this non-irritating protein counteracts the protein-precipitating irritant responsible for the pruritus and is protein-sparing to perianal tissue.



BEFORE

Rectal itch for 20 years; itching in rectal area extending across perineum to scrotum in wide area. Red scratches in perineal region. Severe erythema. Areas sensitive, painful, tender.



AFTER

Hydrolamins applied 3 times daily to whole area. No irritation developed. Itching relieved immediately, and healing was complete in three weeks.

FORMULA:

Hydrolamins offers an isotonic, specially selected combination of amino acids derived from lactalbumin, in a vehicle of polyethylene glycol 1500.

SUPPLIED:

1 oz. (28 Gm.) and 2.5 oz. (70 Gm.) tubes with peel-off label.

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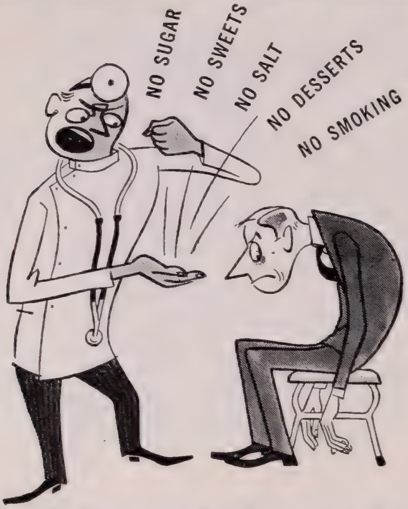
REFERENCES:

1. Bodkin, L.G.. Amino Acid Therapy for Pruritus Ani, Am. J. Surg. 82:557 (Nov.) 1951.
2. Bodkin, L. G., and Ferguson, E. A., Jr.: Successful Ointment Therapy for Pruritus Ani, Am. J. Digest. Dis. 18:59 (Feb.) 1951.
3. McGivney, J.: Recent Advances in Proctology, Texas J. Med. 47:770 (Nov.) 1951.

Say "Yes" for a change, doctor



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- All the natural flavor and zest of regular soft drinks!
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WITHOUT SUGAR

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When hypertension
is no longer mild...

**Treatment can still be
Effective...Safe...Easy**

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In moderate to severe hypertension

Each slow-dissolving tablet contains 1 mg. Rauwiloid (alseroxylon) and 3 mg. Veriloid (alkavervir)...permits lower, better-tolerated doses of Veriloid to exert full effect. Initial dose, one tablet t.i.d., p.c.

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In severe, otherwise intractable hypertension

Provides smoother, less erratic response to oral hexamethonium and permits greatly reduced dosage of the latter drug (up to 50% less). Each tablet contains 1 mg. Rauwiloid and 250 mg. hexamethonium chloride dihydrate. Initial dose, ½ tablet q.i.d.

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Tetracycline
Lederle

widely prescribed because of these important advantages:

1) rapid diffusion and penetration
2) prompt control of infection
3) true broad-spectrum activity (proved effective against a wide variety of infections caused by Gram-positive and Gram-negative bacteria, rickettsiae, and certain viruses and protozoa)
4) negligible side effects
5) every gram produced in Lederle's *own* laboratories under rigid quality control, and offered *only* under the Lederle label
6) a *complete* line of dosage forms

in prolonged illness, prescribe

ACHROMYCIN SF

TETRACYCLINE with STRESS FORMULA VITAMINS

Attacks the infection, bolsters the body's natural defense. Stress vitamin formula suggested by the National Research Council in *dry-filled, sealed* capsules with ACHROMYCIN, 250 mg. Also available: ACHROMYCIN SF ORAL SUSPENSION (Cherry Flavor), 125 mg. per 5 cc.

dry-filled sealed capsules (a Lederle exclusive!) for more rapid and complete absorption. No oils, no paste, tamperproof!

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a new medical motion picture

"The Value of Succinylcholine Chloride in Electroconvulsive Therapy and Laryngospasm"

16 MM full color

demonstrating the effect of Quelicin during electroconvulsive therapy

from a sequence of unusual endoscopic shots showing the control of laryngospasm by Quelicin

in two versions: with sound, 12 minutes; silent, with subtitles, 25 minutes

602103

by
George J. Thomas, M.D.
Raymond L. Rau, M.D.
Robert J. Hudson, M.D.
of
St. Francis General Hospital
and Rehabilitation Institute of
University of Pittsburgh School of Medicine

with endoscopic scenes through the courtesy of,
and based on the original work presented by:
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J. C. McClowery, M.D.
Veterans Administration Hospital
Leech Farm Road, Pittsburgh
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Shows electroconvulsive therapy with and without the use of amnesic and muscle relaxant agents. Use of Pentothal Sodium (thiopental sodium, Abbott) to accomplish light anesthesia and amnesia of the event, as well as the use of Quelicin Chloride (succinylcholine chloride, Abbott) to reduce the convulsive contracture of skeletal muscles.

Abbott

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now!
enzymatic debridement safe and convenient for office practice

Panafil ointment

4 oz. AVOIR
Rystan
Panafil
OINTMENT

- Effective in resistant skin lesions...including wounds, burns and ulcers.[1,2]
- Simultaneously promotes wound healing.
- Convenient, ready-to-apply as continuous dressing.
- Nonirritating, even when dressings are not changed for several days.

PANAFIL Ointment combines three active ingredients to provide

safe, controlled debridement plus healing action

1–PAPAIN...Efficient debriding enzyme...harmless to viable cells.

2–UREA...Augments Papain's debriding action, especially in encrusted lesions.

3–CHLOROPHYLL DERIVATIVES...Control inflammation and promote healthy granulation.

PANAFIL Ointment contains papain powder 10%, urea crystals, U.S.P. 10%, and water-soluble chlorophyll derivatives, N.N.R. 0.5% in a hydrophilic ointment base. Available *on prescription* only in 1-ounce and 4-ounce tubes.

References: 1. Miller, E.: New York State J. Med., to be published. 2. Reports to Clinical Research Division, Rystan Company.

Literature and samples for clinical trial available on request.

Rystan RYSTAN COMPANY
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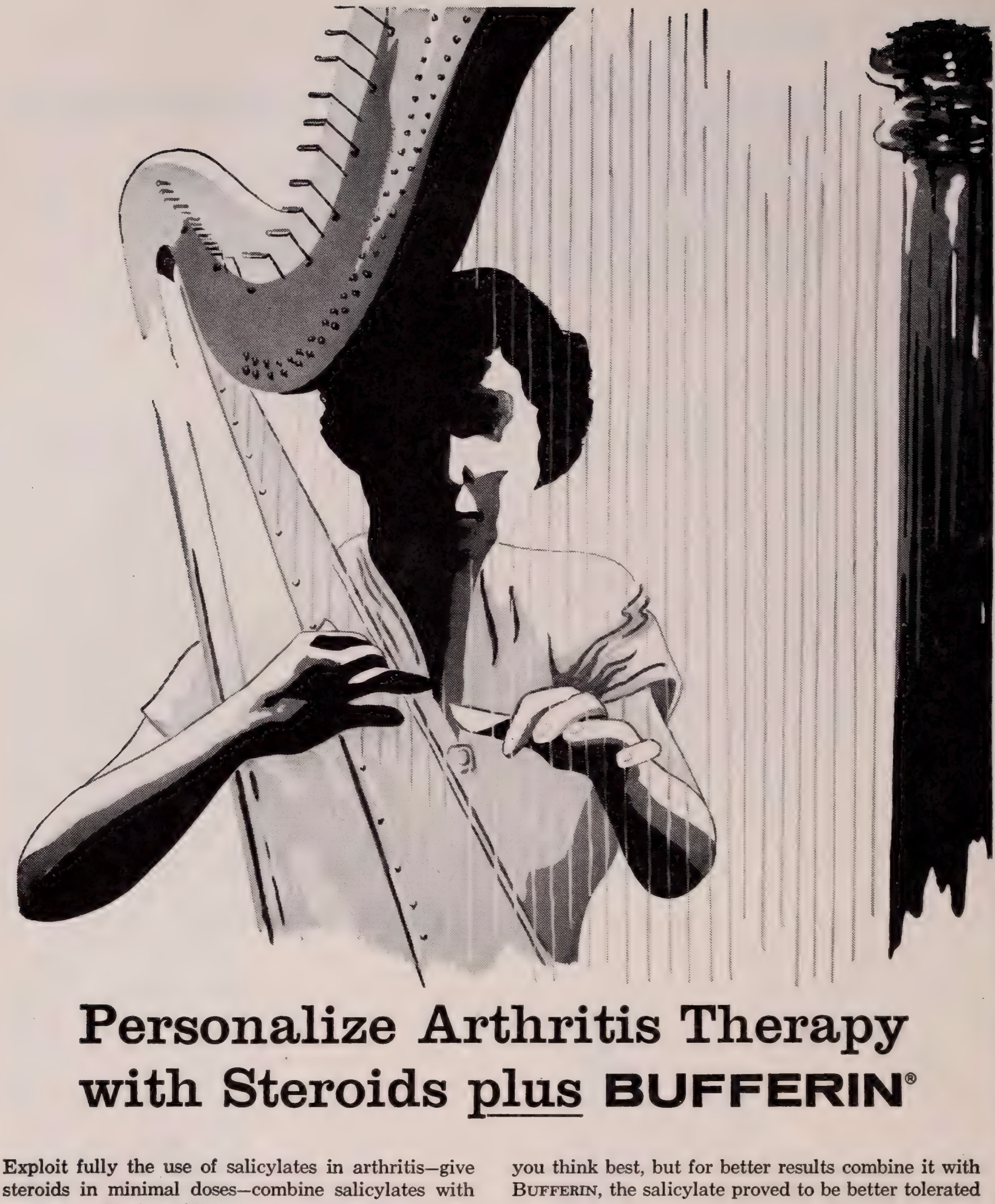

Personalize Arthritis Therapy with Steroids plus BUFFERIN®

Exploit fully the use of salicylates in arthritis—give steroids in minimal doses—combine salicylates with corticosteroids for additive antiarthritic effect—this is the program Spies[1] advocates in a recent article in the Journal of the American Medical Association.

Treatment of rheumatoid arthritis demands a "highly individualized program," Spies[1] writes. The additive action of salicylates permits use of smaller amounts of hormones, thus lessening or eliminating their well-known side effects. "A proper mixture of salicylates and corticosteroids produces an effective antirheumatic agent in many cases."[1]

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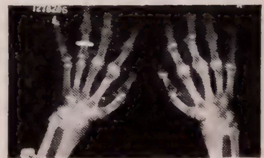
BUFFERIN contains no sodium, a marked advantage when cardiorenal complications make a salt-restricted diet necessary.

Each BUFFERIN tablet contains 5 grains of acetylsalicylic acid and the antacids magnesium carbonate and aluminum glycinate.



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1. J.A.M.A. 159:645 (Oct. 15) 1955.
2. J.A.M.A. 158:386 (June 4) 1955.

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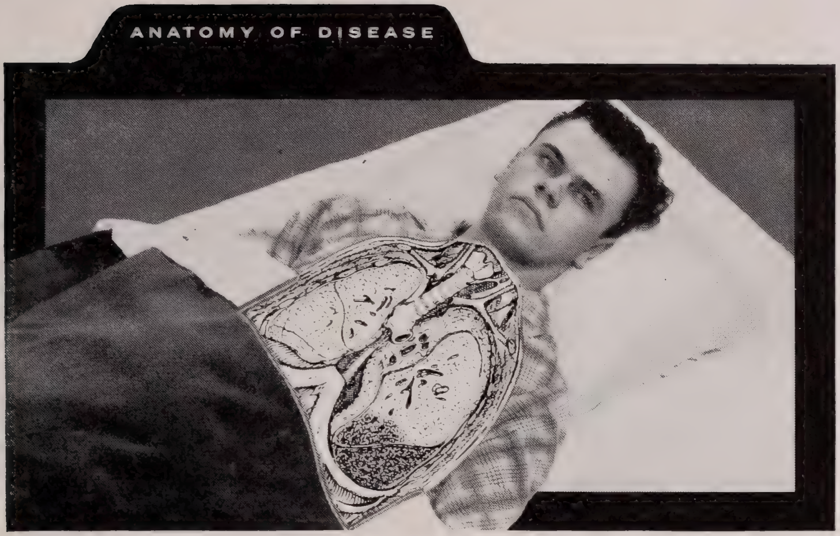

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safety • rapid action • broadest antibacterial spectrum

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- **effective blood levels in most patients within an hour**
- increased solubility in the urine • low incidence of sensitization
- broadest spectrum of antibacterial activity

Each Deltamide tablet or 5 cc. teaspoonful of good-tasting suspension supplies:

Sulfadiazine	0.167 Gm.
Sulfamerazine	0.167 Gm.
Sulfamethazine	0.056 Gm.
Sulfacetamide	0.111 Gm.

Tablets:
Bottles of 100 and 1000.

Suspension:
4 and 16 oz. bottles.

WHEN THE SITUATION CALLS FOR SULFONAMIDES WITH PENICILLIN—

PRESCRIBE DELTAMIDE *w/penicillin*

Each tablet or 5 cc. of the suspension also contains
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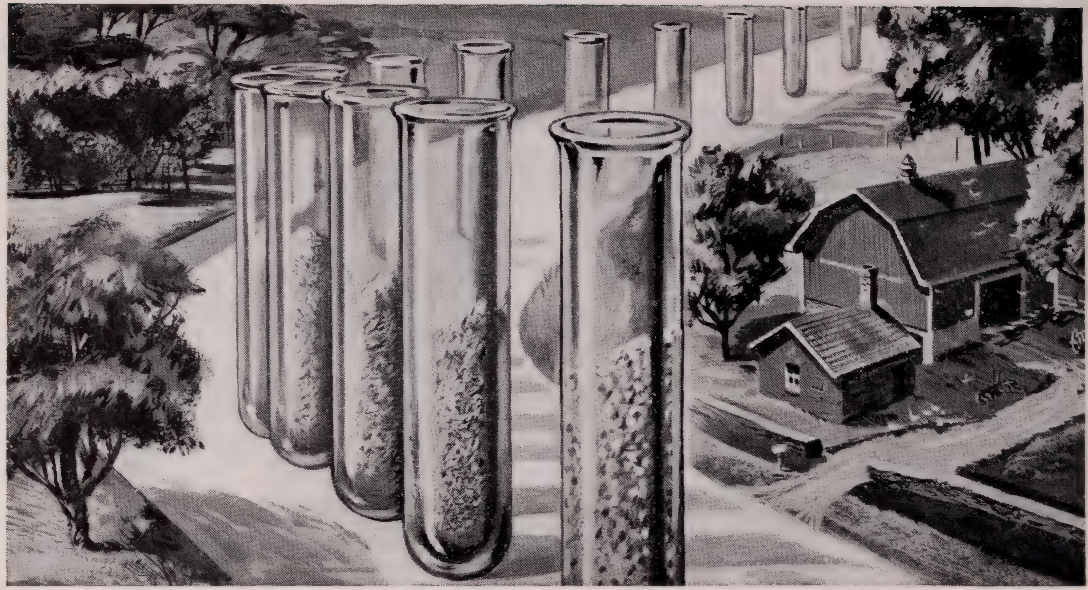
SECOND REPORT



LECITHIN RESEARCH—AT THE BEND OF THE ROAD

The Therapeutic Usefulness of Lecithin – a natural phospholipid

Because lecithin, a natural, edible food constituent, is an excellent emulsifying agent its application in diseases characterized by disturbed fat absorption and metabolism is logical. Research has proved its value in facilitating intestinal absorption of fats and fat-soluble substances such as Vitamin A.[1-5] For this reason it suggests itself as worthy of trial in treating underweight and steatorrheal diseases (sprue, celiac disease, etc.).

Encouraging results were also achieved in the management of psoriasis, together with dietary and topical measures,[6] and in fatty livers.[7] In the treatment of diabetes, lecithin together with vitamin E has reduced insulin requirements in certain patients.[8] Research on its potentially useful role in the management of the more complicated forms of deranged lipid and cholesterol metabolism – as encountered in essential hyperlipemia, idiopathic familial hypercholesteremia, xanthomatosis, diabetes, etc. – is now being actively conducted.

An excellent source of lecithin is Glidden's "RG" Oil-free Soya Lecithin, a highly purified extract containing a minimum of 95% phospholipids. It is packed in a specially designed 8 oz container to maintain its purity and freshness and is available at your drugstore.

Dosage: Investigators of lecithin have used quantities from 7.5 to 30 grams daily in divided doses. (3 teaspoonfuls equal 7.5 grams.)

Administration: "RG" Lecithin is presented in palatable granules which may be taken plain, in milk, in orange juice or other citrus juices, or sprinkled on cereal.

Literature available on request.

Bibliography: 1. Adlersberg, D., and Sobotka, H.: J. Nutrition *25*:255 (March) 1943. • 2. Adlersberg, D., and others: Gastroenterology *10*:822 (May) 1948. • 3. Adlersberg, D.: New York J. Med. *44*:606 (March 15) 1944. • 4. Adlersberg, D., and others: Am. J. Digest. Dis. *16*:333 (Sept.) 1949. • 5. Augur, V.; Rollman, H. S., and Deuel, H. J., Jr.: J. Nutrition *33*:177 (Feb.) 1947. • 6. Gross, P., and Kesten, M. B.: New York J. Med. *50*:2683 (Nov. 15) 1950. • 7. Schettler, G.: Klin. Wchnschr. *30*:627 (July) 1952. • 8. Dietrich, H. W.: South. M. J. *43*:743 (Aug.) 1950.

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THE GLIDDEN COMPANY • CHEMURGY DIVISION
1825 North Laramie Avenue, Chicago 39, Illinois

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Here is the most compact form of inhalation therapy your bronchial asthmatics can use.

It's NORISODRINE in the AEROHALOR . . . the only inhalation treatment that asthmatics can self-administer, even in public, without attracting attention to themselves. Carried in pocket or purse, it's ready for instant use at the first sign of an attack.

Even severe cases are relieved in a minute or two, after just a few inhalations—almost as rapidly as with intravenous or intramuscular therapy. Yes Doctor, all types and degrees of bronchial asthma respond to NORISODRINE—often where other commonly-used bronchodilators fail. Side effects? Minimal, because there is no systemic pressor action of any significance.

Do you keep a supply of NORISODRINE in the AEROHALOR in your office? Not a bad idea, because you'll want to demonstrate its proper use and get your bronchial asthmatics started without additional delay. Abbott

can you spot

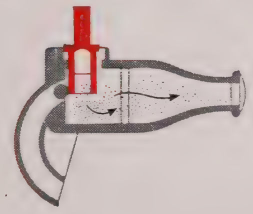
the bronchodilator,

Doctor?

NORISODRINE®

(ISOPROPYLARTERENOL SULFATE, ABBOTT)

SULFATE POWDER



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(ABBOTT'S POWDER INHALER)

602125

Arthralgia and myalgia due to estrogen deficiency are frequent complaints not only at the time menstruation ceases but all through the period of declining ovarian function.

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Montreal, Canada

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for more precise dosage

NEW 1 mg. pink tablet | 5 mg. tablet

MOST POTENT
ANTI-RHEUMATIC

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Both tablets are deep-scored and of the **SAME DISTINCTIVE "FINGER-GRIP" SIZE AND SHAPE** for ease of handling and breaking by arthritic fingers.

anti-rheumatic / anti-allergic / anti-inflammatory

supplied: **Pink,** 1 mg. oral tablets, bottles of 100.
White, 5 mg. oral tablets, bottles of 20 and 100.

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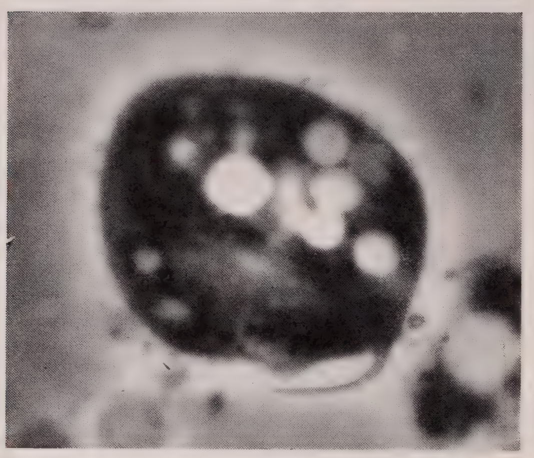

Phase-contrast microscope shows a trichomonad in a mucinous vaginal smear.

MANY trichomonacides failed in years past largely because they reached only the parasites swimming freely in the vaginal canal—not those hiding under epithelial cells deep among the vaginal rugae. In fact, some agents actually coagulated the albuminous material lining the surface and protected the trichomonads![1]

Success at last. Today, however, you can overcome this problem because VAGISEC jelly and liquid quickly penetrate to trichomonads' hideaways. You can now treat vaginal trichomoniasis successfully, using the Davis technic. Carl Henry Davis, M.D., eminent gynecologist and author, and C. G. Grand, research physiologist, introduced VAGISEC liquid as "Carlendacide" and had it tested by over 100 well-known obstetricians and gynecologists. Dr. Davis states, ". . . over 90% of apparent cures have been obtained. . . ."[2]

Overpowering action. Three surface-acting chemicals in VAGISEC liquid, acting synergistically, not only reach trichomonads but explode them![3] A chelating agent complexes and removes the calcium of the calcium proteinate. A wetting agent removes lipid materials. A detergent denatures the protein. The parasites imbibe water, swell and explode.

The Davis technic.† Dr. Davis recommends a combination of office treatments and home treatments, using both VAGISEC jelly and liquid in home treatments. "A few women have infected cervical, vestibular or urethral glands and require other types of treatment. . . ."[2] It is well to remember the role of the male as carrier of the organism and prescribe protection against re-infection from the husband.[2]

Office treatment. Expose vagina with speculum. Wipe walls dry with cotton sponges and wash thoroughly for about three minutes with a 1:250 dilution of VAGISEC liquid. Remove excess fluid with cotton sponges. Dr. Davis recommends six office treatments, three the first week, two the second, and one the third.

Home treatment. Patient inserts VAGISEC jelly each night and douches with VAGISEC liquid (2 teaspoonfuls in 2 quarts of warm water) each morning except on office treatment days, through two menstrual periods. Continued douching two or three times a week helps to prevent re-infection. Pregnant women should have office treatments only.

Summary. The unique synergistic action of three agents comprising VAGISEC liquid reaches and explodes hidden as well as surface trichomonads. This therapy has a high rate of success and results in fewer flare-ups. VAGISEC jelly and liquid are non-toxic and non-irritating, and leave no messy discharge or stain.

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Active ingredients: Polyoxyethylene nonyl phenol, Sodium ethylene diamine tetra-acetate, Sodium dioctyl sulfosuccinate. In addition, VAGISEC jelly contains Boric acid, Alcohol 5% by weight.

1. Davis, C. H.: Am. Jour. Obst. & Gynec. 68:559 (Aug.) 1954.
2. Davis, C. H.: West. J. Surg. 63:53 (Feb.) 1955.
3. Davis, C. H.: J.A.M.A. 157:126 (Jan. 8) 1955.

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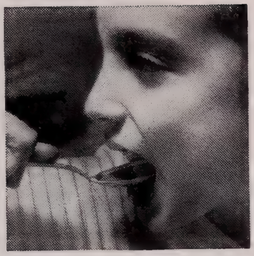

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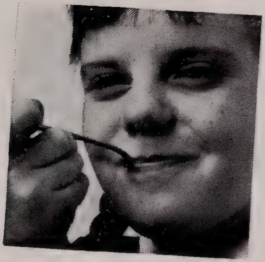

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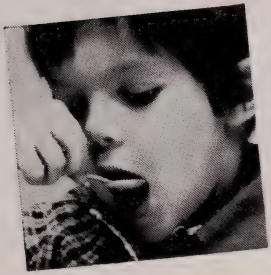

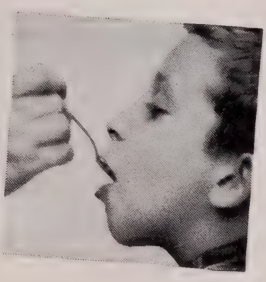

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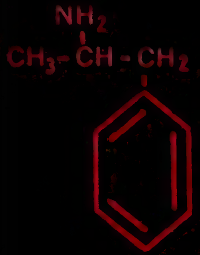
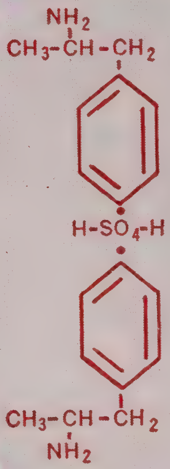


first, amphetamine

1945



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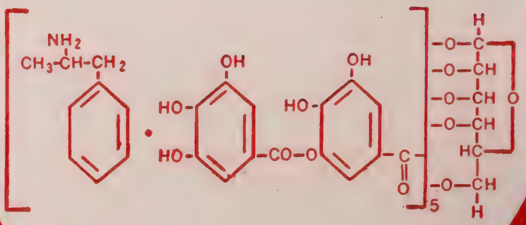

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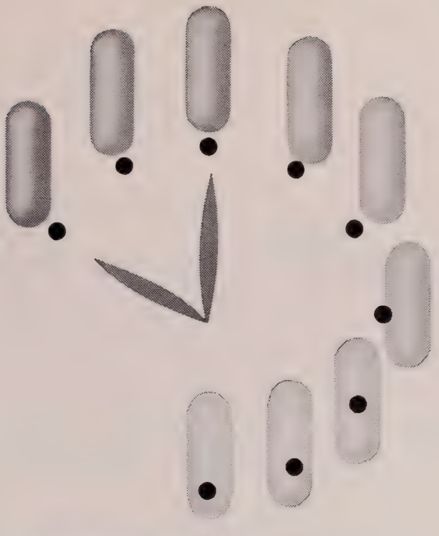

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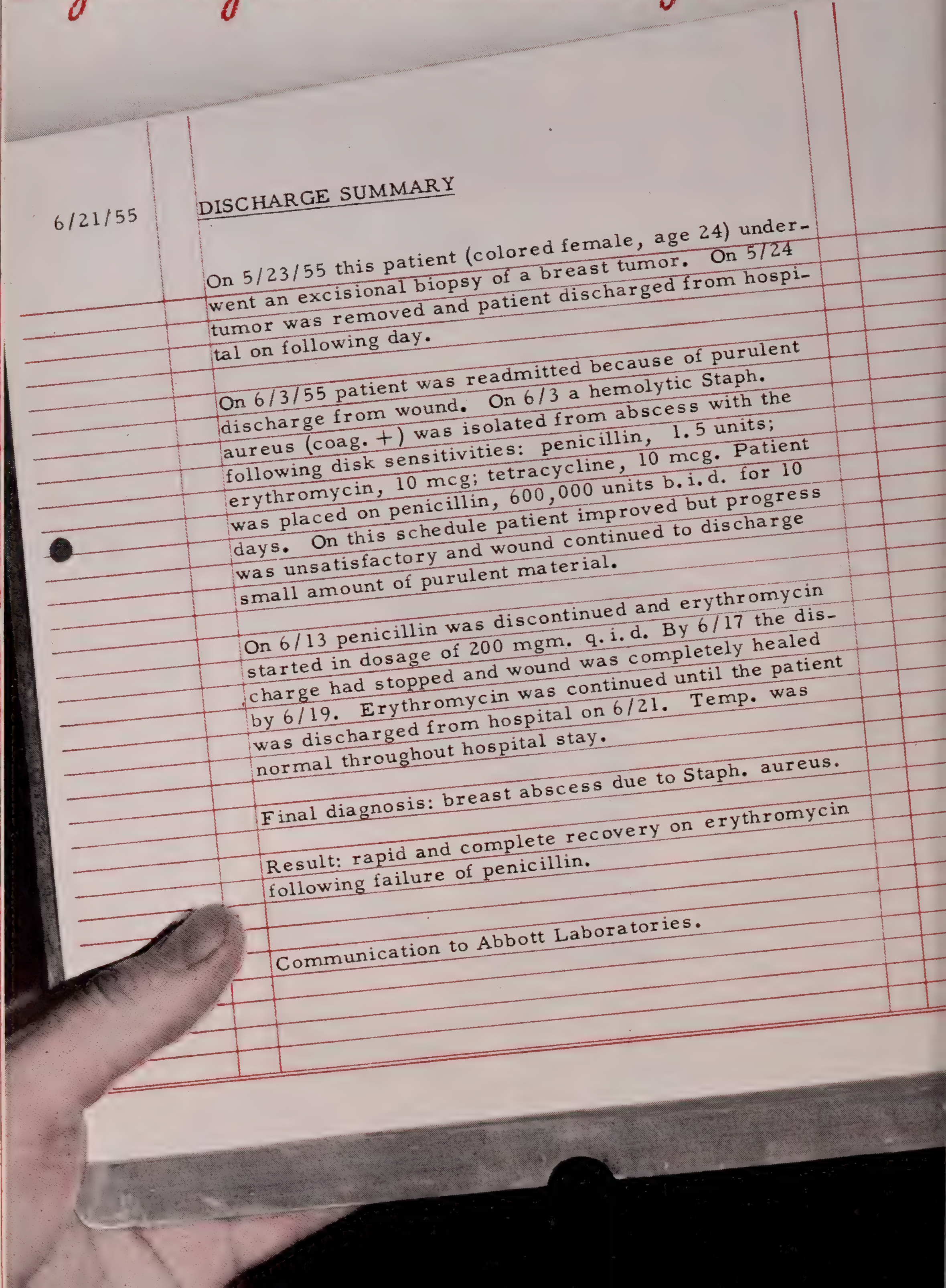
Erythromycin in treatment of abscess



6/21/55

DISCHARGE SUMMARY

On 5/23/55 this patient (colored female, age 24) underwent an excisional biopsy of a breast tumor. On 5/24 tumor was removed and patient discharged from hospital on following day.

On 6/3/55 patient was readmitted because of purulent discharge from wound. On 6/3 a hemolytic Staph. aureus (coag. +) was isolated from abscess with the following disk sensitivities: penicillin, 1.5 units; erythromycin, 10 mcg; tetracycline, 10 mcg. Patient was placed on penicillin, 600,000 units b.i.d. for 10 days. On this schedule patient improved but progress was unsatisfactory and wound continued to discharge small amount of purulent material.

On 6/13 penicillin was discontinued and erythromycin started in dosage of 200 mgm. q.i.d. By 6/17 the discharge had stopped and wound was completely healed by 6/19. Erythromycin was continued until the patient was discharged from hospital on 6/21. Temp. was normal throughout hospital stay.

Final diagnosis: breast abscess due to Staph. aureus.

Result: rapid and complete recovery on erythromycin following failure of penicillin.

Communication to Abbott Laboratories.

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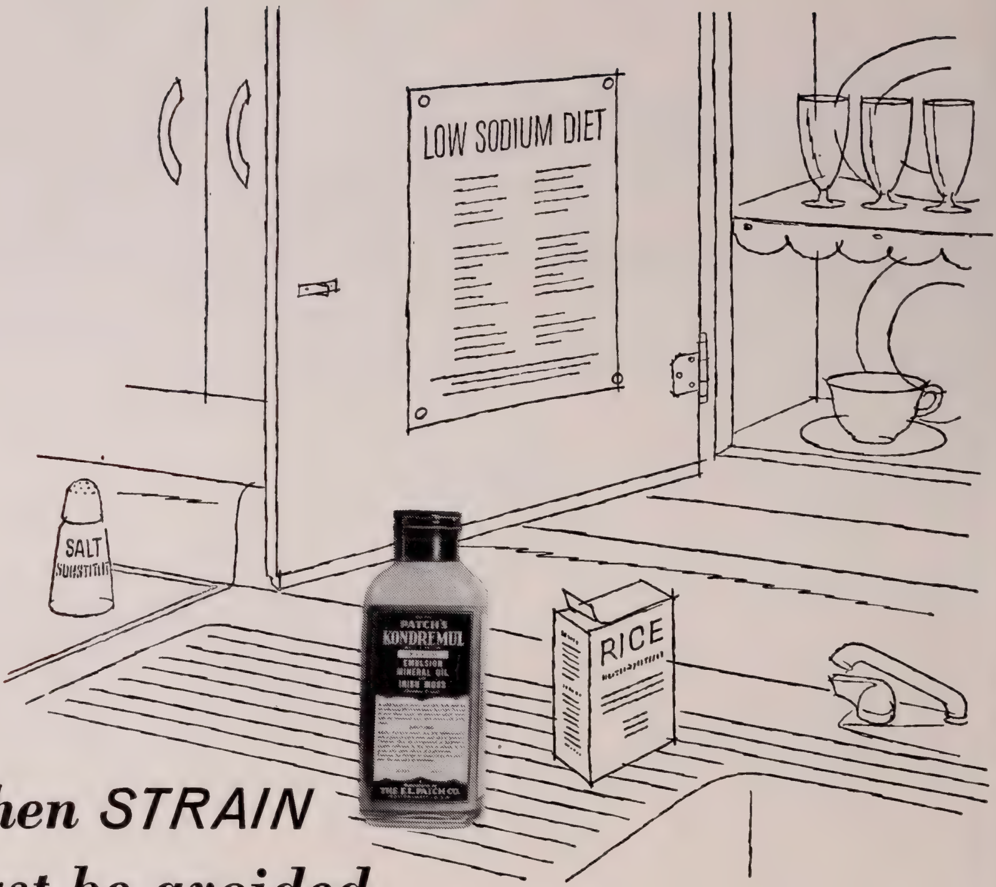
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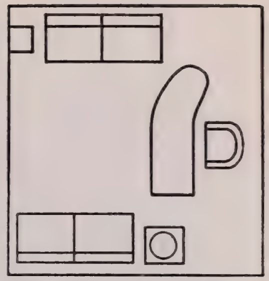

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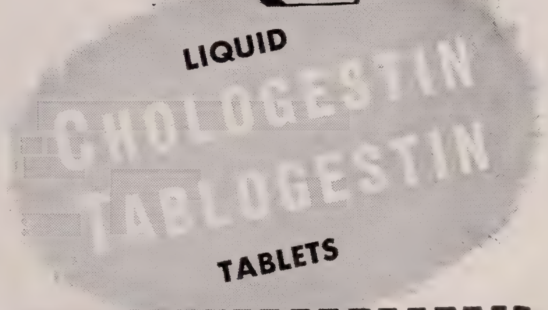

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EDITORIALS

The Annual Meeting

The 150th Annual Meeting of the Medical Society of the State of New York will be held in 1956 at the Hotel Statler in New York City, May 7 to May 11. Hotel accommodations will be at a premium, and all who plan to attend are urged to make their hotel reservations early.

The JOURNAL will carry on its cover the date of the meeting from now on as a reminder to the membership. It is hoped that all who can will plan to attend and will participate in the scientific meetings.

The Issue of Social Security

In 1956 all citizens will be confronted with a timely issue in which they should take an active interest since it involves the future of the country. That issue is H.R. 7225, a bill passed by the United States House of Representatives last summer near the end of the Congressional session. This bill, known as the Social Security Amendments of 1955, was first rushed through the House Ways and Means Committee *without public hearings*. Then it was passed in the House, by a vote of 372 to 31, under a suspension of the rules which barred amendments and limited debate to forty minutes. The Senate Finance Committee, however, refused to take hasty action on a bill of such major importance. After hearing the many serious questions raised by Mrs. Hobby, then Secretary of the Department of Health, Education and Welfare, the committee decided to hold public hearings during the second session of the 84th Congress.

These hearings will doubtless commence shortly. A study of the main provisions of the bill may provide a clue as to why the House majority leadership was so set upon avoiding open hearings and normal debate on the question in 1955.

What are the main provisions of the bill? This is the legislation which would lower the Social Security retirement age for women from sixty-five to sixty-two; extend monthly benefits for permanently and totally disabled children beyond the age of eighteen; expand compulsory social security coverage to all self-employed professional groups except physicians, and raise social security taxes over and above the increases already scheduled for the next twenty years. Those provisions alone demand careful study of their effects on the philosophy, scope, and financial stability of our social security system.

The most controversial section of the bill, however, is the one which would make permanently and totally disabled persons eligible to receive their social security retirement benefits at age fifty instead of sixty-five. It is this section which is of particular concern to the medical profession. It is of far greater weight than the question of voluntary or compulsory coverage of physicians under the social security system. Why? Because it necessarily involves physicians in the determination of questions relating to such disability. Thus, the plan to institute a national system of permanent and total disability benefits has far more serious implications for medicine and the country than that of voluntary or compulsory coverage of physicians which will not be here discussed.

Is there any real need for a Federal program? What are the facts on permanent and total disability? Won't this duplicate or overlap existing programs of assistance and rehabilitation? Won't this extend Federal control over physicians? And, finally, how will this affect the future of medical practice? Will this lead, step by step, to the lowering and eventual elimination of the age fifty eligibility requirement; then, cash benefits for the dependents of those who are permanently and totally disabled; then, a temporary disability benefits program; then, cash benefits or direct government payments for hospital or medical costs, and then, ultimately, a full-fledged system of government health insurance?

These are but a few of the many grave questions which already have been raised concerning this legislation. As physicians, we must be concerned over the medical aspects of the problem. As citizens, we also must be concerned over the trends and implications in the never-ending expansion of our social security system. The minority report of the House Ways and Means Committee expressed it this way: "We do not believe that our committee has discharged its obligation to either the Congress or to the American people by its brief and closed-door consideration of this vital legislation. We have sought to point out the grave social and economic implications of the bill. We have dwelt at some length with the staggering ultimate costs of this developing program, because we do not believe that either the Congress or the public has any conception of its magnitude."

Editorial Comment

Continuing Committee on Medical Practice. Among the many actions taken by the House of Delegates of the American Medical Association at its ninth Clinical Meeting November 29 to December 2, 1955, at Boston, the House passed a substitute resolution offered by the Reference Committee on Insurance and Medical Service to implement the findings and recommendations of the Committee on Medical Practices (Truman Committee), which studied the basic causes leading to certain unethical practices and unfavorable publicity. The resolution, adopted with the proviso that it is subject to review by legal counsel, includes the following points:[1]

> "That a Continuing Committee on Medical Practice be created in the American Medical Association to conduct a study of the relative value of diagnostic, medical and surgical services and to report its findings and recommendations to this House in the same manner as is now followed by other committees and councils of the Association;
>
> That this committee shall consist of five members of the House appointed by the Speaker, three of whom shall be general practitioners; . . .
>
> That this committee be directed to utilize all possible means to stimulate the formation of a department of general practice in each medical school;
>
> That the American Medical Association approve of the medical school teaching programs which afford the medical student opportunity for experience in the general practice of medicine;
>
> That the representatives of the American Medical Association on the Joint Commission on Accreditation of Hospitals be instructed to stimulate action by that body leading to the warning, provisional accreditation or removal of accreditation of community or general hospitals which exclude or arbitrarily restrict hospital privileges for generalists as a class regardless of their individual professional competence, after appeal to the Commission by the County Medical Society concerned;
>
> That this committee cooperate in every way and assist the Public Relations Department of the American Medical Association to present a program of public education designed to bring about a better understanding of all fields of medical practice, and
>
> That this committee use its full influence to discharge any arbitrary restrictions by hospitals against general practitioners as group or as individuals.

In a complementary action on the same subject, the House also approved a supplementary report of the Board of Trustees which included the following suggestions:

1. All nonsurgical groups should be asked for their suggestions and cooperation in carrying out a public education program on the value of diagnostic and medical work.
2. The various specialty boards should be encouraged to reappraise the practice restrictions on their board diplomates.
3. The American Medical Association should continue to discourage arbitrary restrictions by hospitals against general practitioners.
4. Organized medicine is "ready, willing and able to solve satisfactorily its own problems, and such assurance should be given to the American Hospital Association or any other group concerning itself with such problems."

This brief summary of the action taken by the House of Delegates on this substitute resolution and the supplementary report of the Board of Trustees seems to us to be the kind of dynamic approach to matters of singular importance to the profession not always followed by the House in the past.

The public, as well as the doctors, are interested in the progress of medicine. This applies not only to advances in science but also to the relationships of the profession with governmental agencies, hospitals, and its own educational institutions. It seems to us that a strong leadership, as evidenced by the actions of the House of Delegates, well publicized both to the profession and the public is indispensable to win and retain public interest, respect, and confidence. The action of the House and of the Board of Trustees, above cited, plainly and forcefully exerts such dynamic leadership.

---

[1] Memorandum from the office of the Secretary-General Manager of the American Medical Association, Dec. 2, 1955.

If proper and open hearings on these questions are held in the current session of the Congress, the matter can be decided in our traditional fashion.

Our social security system now has reached the point where any further changes may have a profound influence on the nation's economic, social, and political future. The time has come to face up to the question of just what social security should accomplish and just where it should stop. The American Medical Association strongly *urges* that the social security issue be taken out of the arena of politics, that there be an objective, thorough study of social security in all its present and future aspects, and that the facts and realities emerging from such a study be used as the basis for a sound national decision on this vital issue. It especially protests precipitate action on the complex question of disability without thorough investigation of alternative mechanisms.

In our opinion, that is a reasonable, responsible policy which deserves the moral and intellectual support of every physician.

ANNOUNCEMENT

PRIZE ESSAYS

The Lucien Howe Prize and the Merrit H. Cash Prize will be open for competition at the next Annual Convention of the Medical Society of the State of New York, May 7 to 11, 1956, in New York City.

The *Lucien Howe Prize* of $100 will be presented for the best original contribution on some branch of surgery, preferably ophthalmology. The author need not be a member of the Medical Society of the State of New York.

The *Merrit H. Cash Prize* of $100 will be given to the author of the best original essay on some medical or surgical subject. Competition is limited to the members of the Medical Society of the State of New York who at the time of the competition are residents of New York State.

The following conditions must be observed:

Essays shall be typewritten or printed with the name of the prize for which the essay is submitted, and the only means of identification of the author shall be a motto or other device. The essay shall be accompanied by a sealed envelope having on the outside the same motto or device and containing the name and address of the writer.

If the committee considers that no essay or contribution is worthy of a prize, it will not be awarded.

Any essay that may win a prize automatically becomes the property of the Medical Society of the State of New York, "to be published as it may direct."

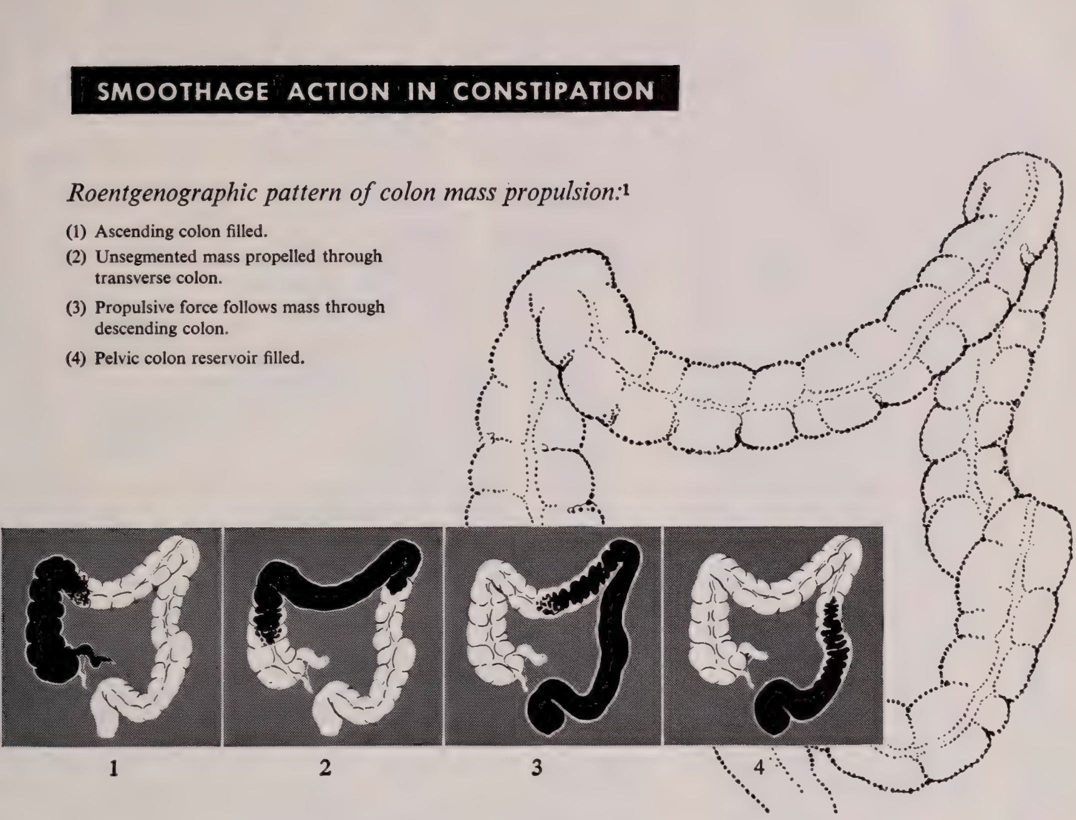
All essays must be presented not later than *February 1, 1956*, and sent to the Chairman of the Committee on Prize Essays of the Medical Society of the State of New York, 386 Fourth Avenue, New York 16, New York.

R. Townley Paton, M.D., *Chairman*
Committee on Prize Essays

SMOOTHAGE ACTION IN CONSTIPATION

Roentgenographic pattern of colon mass propulsion:[1]

(1) Ascending colon filled.
(2) Unsegmented mass propelled through transverse colon.
(3) Propulsive force follows mass through descending colon.
(4) Pelvic colon reservoir filled.



Reestablishing Bowel Reflexes with Metamucil®

Nervous fatigue, tension, injudicious diet, failure to establish regularity, too little exercise, excessive use of cathartics—all factors which contribute to constipation.[2]

Sufficient bulk and sufficient fluid form the basic rationale of treatment of constipation with Metamucil.

Metamucil (the mucilloid of Plantago ovata) produces a bland, smooth bulk when mixed with the intestinal contents. This bulk, through its mass alone, stimulates the peristaltic reflex and thus initiates the desire to evacuate, even in patients in whom postoperative hesitancy exists.

Such gentle stimulation is of distinct advantage in reeducating and reestablishing those reflexes which control bowel evacuation. Many factors may pervert the normal reflexes, causing finally chronic constipation. Among them are: nervous fatigue and tension, improper intake of fluid, improper dietary habits, failure to respond to the call to stool, lack of physical exercise and abuse of the intestinal tract through excessive use of laxatives.[2]

Correction of constipation logically, therefore, lies in the suitable adjustment of these factors. The characteristics of Metamucil permit the correction of most of these factors: it provides bulk; it demands adequate intake of fluids (one glass with Metamucil powder, one glass after each dose); it increases the physiologic demand to evacuate; and it does not establish a laxative "habit." Metamucil, in addition, is inert, and also nonirritating and nonallergenic.

The average adult dose is one rounded teaspoonful of Metamucil powder in a glass of cool water, milk or fruit juice, followed by an additional glass of fluid if indicated.

Metamucil is the highly refined mucilloid of Plantago ovata (50%), a seed of the psyllium group, combined with dextrose (50%) as a dispersing agent. It is supplied in containers of 4, 8 and 16 ounces. G. D. Searle & Co., Research in the Service of Medicine.

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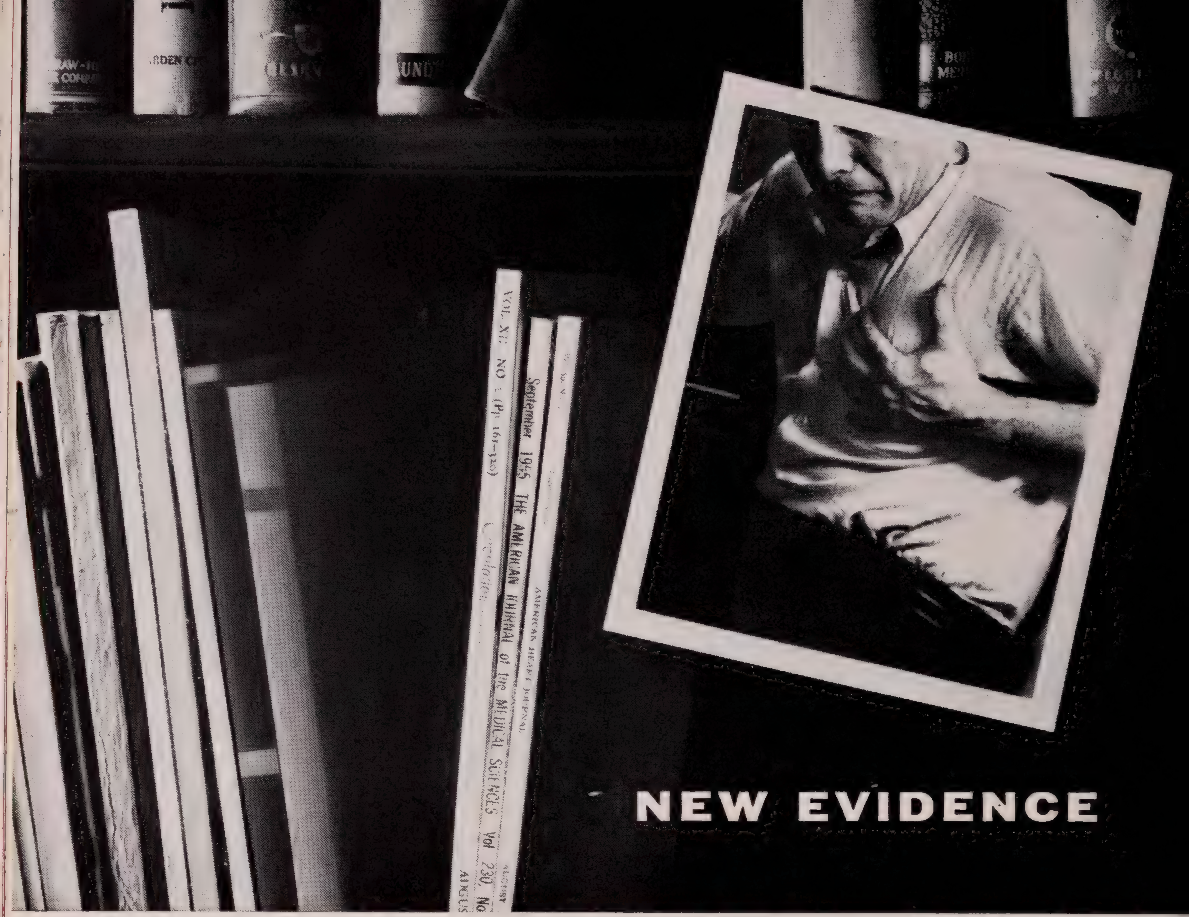
SEARLE


NEW EVIDENCE
VOL. XII NO 2 (Pp 161-320)
Circulation
September 1955 THE AMERICAN JOURNAL of the MEDICAL SCIENCES Vol 230, No
AMERICAN HEART JOURNAL
AUGUST

How you can prevent attacks of angina pectoris

Three new studies have recently been added to the extensive investigation of Peritrate's effectiveness in preventing attacks of angina pectoris:

For some patients, state Rosenberg and Michelson, Peritrate "may mean the difference between complete, or almost complete, absence of symptoms, or a prolonged illness with much suffering." *Am. J. M. Sc.* 230*:254 (Sept.) 1955.*

"Impressive and sustained improvement" was also observed in a small number of patients treated by Kory *et al. Am. Heart J.* 50*:308 (Aug.) 1955.*

Among anginal prophylactic drugs evaluated by Russek's group "only this agent [Peritrate] appears worthy of the designation, 'long-acting coronary vasodilator.'" *Circulation* 12*:169 (Aug.) 1955.*

By prescribing Peritrate on a continuous daily dosage schedule (10 or 20 mg. 4 times a day) you can diminish the number and severity of attacks . . . reduce nitroglycerin dependence . . . increase exercise tolerance . . . improve abnormal EKG findings.

Usual dosage: 10 to 20 mg. *before meals* and at bedtime.

Five convenient dosage forms: *Peritrate* 10 mg. and 20 mg.; *Peritrate Delayed Action* (10 mg.) for extended protection at night; *Peritrate with Phenobarbital* (10 mg. with phenobarbital 15 mg.) where sedation is also required; *Peritrate with Aminophylline* (10 mg. with 100 mg. aminophylline) in cardiac and circulatory inadequacy.

Peritrate®

(BRAND OF PENTAERYTHRITOL TETRANITRATE)

WARNER-CHILCOTT

Obstruction of the Vesical Neck in Children

HOWARD T. THOMPSON, M.D., ROCHESTER, NEW YORK

(*From the Urological Service of the Rochester General Hospital and the Genesee Hospital*)

In retrospect, my interest in the problem of so-called nonobstructive pyelonephritis or recurrent infection of the urinary tract stems from student days in pathology. When chronic pyelonephritis was determined as the cause of death in a young person, the etiology was not explained satisfactorily when obstruction could not be demonstrated. That obstruction did not exist is now open to question. Forgotten for some time in the wake of many other activities, it again presented a problem in the study of urologic pathology. Accepted, theorized, but not investigated until recently, it remained one of the unanswered, enigmas of urology.

Many articles have reported in the literature the marked obstructions of the lower urinary tract and the various etiologic factors concerned, as well as the resultant pathologic changes. These cases are rather easily diagnosed by urologic investigation, intravenous pyelography frequently giving ample evidence of urologic disease and cystoscopic and retrograde studies confirming the impression. Infection in these instances seems readily understandable.

Yet in the experience of every pediatrician there are one or more instances where a recurrent or chronic pyuria has been returned to him with a negative urologic investigation and no obstruction demonstrated. Herein lies the crux of the problem and the key to so-called nonobstructive pyelonephritis. Let me digress for a moment and discuss the forms of obstruction and my thoughts concerning them.

Infection of the urinary tract should not occur in the absence of obstruction. Obstruction may be present but not demonstrable by the means used for examination or the methods presently available. For the most part all urologic procedures (exclusive of new growths) are directed toward the demonstration and relief of obstruction.

Obstructions of the urinary tract may be categorized as follows:

I. Pathologic; progressive, permanent, primary
    A. Positive: anatomic obstruction, i.e., vesical neck contractures, ureteral strictures, urethral strictures
    B. Negative: neurologic, i.e., spinal cord disease, injuries, tumors
II. Physiologic; regressive, temporary, secondary
    A. Positive:
        1. Postoperative
        2. Bed rest
        3. Casts
        4. Constipation
    B. Negative:
        1. Medication
        2. Inanition

The physiologic obstructions account for the infections which are precipitated by incidental happenings in the course of existence and usually are not repeated. In the presence of pathologic obstructions, these physiologic occurrences may establish infection which is then perpetuated by the pathologic state. The advanced hydronephrosis of the adult, present and progressive since birth, which is suddenly brought to the attention of the patient and the physician by an acute

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Presented at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Section on Pediatrics, May 12, 1955.

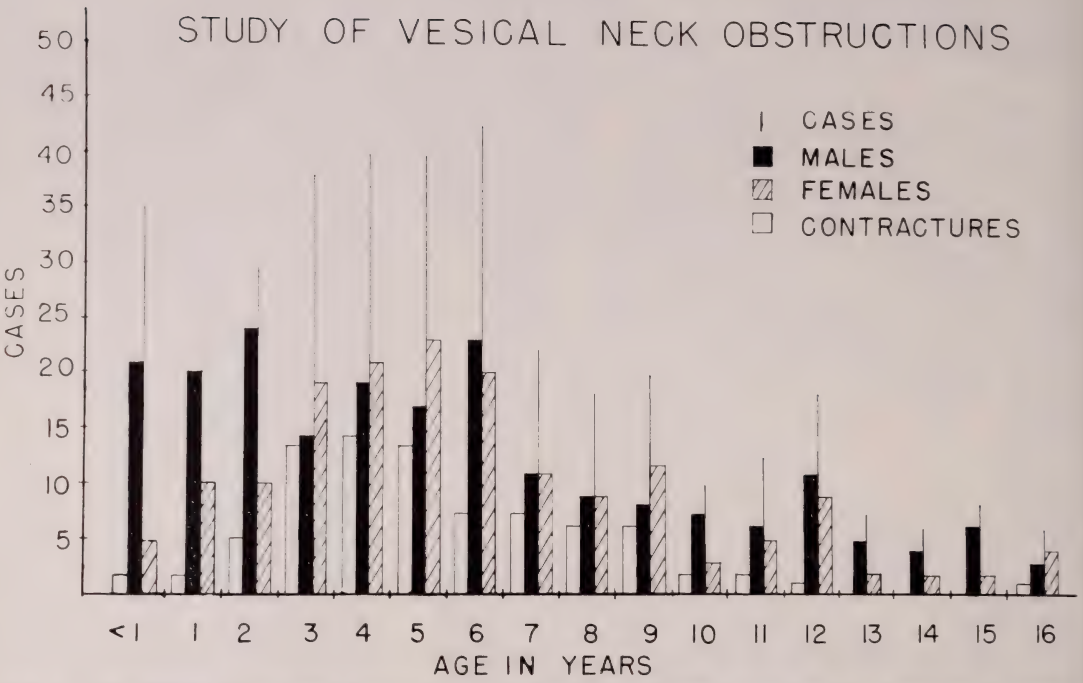

Fig. 1. Distribution of males and females relative to the number of cases studied and the instances of vesical neck obstruction are shown in this graph.

pyelonephritis occurring after a minor infectious insult is familiar to all.

The pathologic obstructions frequently are silent, or their symptomatology is overshadowed by other organ systems. When manifested in the field of urology, the use of the term enuresis is too often and too easily applied. The diagnosis of cystitis or pyelonephritis is akin to saying a person has fever. Pyelonephritis is an infection involving the pelvis and parenchyma of the kidney. It becomes clinically significant and useful only when its etiologic factor is determined. Pyelonephritis due to ureteral stricture or ureteropelvic obstruction carries the weight of cause and effect relationship. We cannot be satisfied with diagnoses of effect.

Psychiatry with its concern with fixations, complexes, and maladjustment has done great harm in deterring adequate investigation and treatment where the genital organs are concerned. It is most disturbing to have a family object to investigation and treatment because their psychiatrist, or pediatrician, or their own poorly interpreted reading raises the question of psychologic maladjustment or genital fixation. Chronic infection of the urinary tract is a high price to pay for a well-adjusted child who is chronically ill.

Obstruction of the vesical neck in children is a condition poorly appreciated and frequently unrecognized. The true incidence is not known, for as Campbell[1] states, "most cases in childhood pass unrecognized." In contrast to Campbell's experience where he noted 80 per cent in males and 20 per cent in females, the present study reveals 13 per cent in males and 87 per cent in females. He believes, however, that the incidence should be equal, but it is unrecognized.

Abernethy and Tomlin[2] reported their experience with 19 female enuretics and noted pathology in all. The commonest lesion was a narrow urethra with a resultant edema of the bladder neck and low-grade trigonitis, and in many the bladder wall had become trabeculated to overcome the narrow urethral outlet. In 15 of the cases urethral strictures required dilatation with sounds before a cystoscope could be introduced. Trabeculation was noted in nine of the children. In none of these children was there evidence of bilateral renal damage, and pyelonephritis was demonstrated on one side in two children.

Burns, Pratt, and Hendon,[3] reporting on the management of bladder neck obstruction in children in a series of 81 patients, noted 78 to have contracture of the internal vesical orifice. In their experience it was the most common type

TABLE I.—Significant Symptoms and Chief Complaint in 77 Cases

	Number of Cases	Per Cent
Symptoms		
Abdominal pain	24	31
Enuresis	43	57
Frequency	39	50
Nocturia	9	12
Straining	13	17
Dysuria	31	40
Hematuria	2	3
Irritability	34	34
Chief complaint		
Straining to urinate	4	5
Acute retention	1	1.3
Fever with or without pyuria	16	21
Abdominal pain with or without fever, frequency	11	14.5
Wetting (day, night, or both)	29	37.5
Pyelonephritis or cystitis (recurrent)	12	15.6
Loss of appetite	2	2.6
Frequency, dysuria	2	2.6

of obstruction encountered. Their patients obviously were individuals with rather marked obstruction in that they state there is no nonoperative treatment for bladder neck obstruction in children. They feel that dilatation of the bladder neck with bougies is not only impractical but unsound. It is impractical because proper dilatation requires some type of anesthesia and procedure must be repeated at frequent intervals; it is unsound because the benefits from it are questionable and are only temporary at best.

Material for Study

Histories of 387 private patients referred for urologic evaluation were reviewed. Fifty-five per cent were males, and 45 per cent were females. The age distribution, male and female incidence, and occurrence of vesical neck obstruction are shown in Fig. 1. In 82 cases (21 per cent) some type of vesical neck obstruction was established. Thirteen per cent were males, and 87 per cent were females. Seventy-seven cases could be analyzed. The significant symptoms and the chief complaints are listed in Table I. Fifty-two patients were subjected to cystoscopy; the remaining patients were evaluated by urethral calibration. Fifty-nine patients were studied by intravenous pyelography, and 26 had retrograde examinations. The residual urines varied between 1 and 170 cc. The obstructions in the female were treated by urethral dilatations, fulguration, or transurethral resection. In the male transurethral resection was utilized. Chemotherapy or antibiotics were used as indicated. Concomitant difficulties such as vaginitis and constipation were oriented. Three cases will be reported in detail to exemplify certain phases of this problem.

Case Reports

Case 1.—A female child, A. H., age ten, was seen on August 20, 1952, referred by her family physician with the diagnosis of recurrent pyuria. She had previously been evaluated by another urologist. An intravenous pyelogram had been reported as negative, and cystoscopy and retrograde studies had been done without any definite finding. She suffered from recurrent fevers, being acutely ill at times with temperatures ranging up to 105 F. She had had several of these attacks. There was no complaint of burning or pain upon urination. She arose at night to urinate and wet the bed, and these symptoms were worse with acute attacks. She voided every two to three hours during the day and occasionally noted dribbling of urine. There was urgency of mild degree. She had never noted blood in the urine, and no straining to urinate or hesitancy had been observed. The past history was essentially negative and noncontributory except for the presence of constipated bowel movements.

On physical examination she was a well-developed and well-nourished, somewhat lethargic child in no acute distress. Neither kidney was palpable or tender. The bladder could not be palpated as such. The vagina was very definitely injected and irritated. A moderate amount of vaginal discharge was noted, and although the patient did not complain of any symptoms of vaginitis, the objective findings were definite. Calibration of the urethra revealed it to be essentially normal. A catheterized urine was filled with pus cells, and Escherichia coli was found on culture. Review of the intravenous and retrograde pyelograms showed them to be essentially normal. A cystoscopy was performed in the office under local anesthesia. Examination of the bladder revealed generalized, marked, chronic injection of the entire mucosa. About the vesical neck and extending around and out laterally, there was extensive cystitis cystica with slight whitish elevations of the mucosa suggestive of epithelial hyperplasia. Minimal coarse trabeculation was noted. At the vesical neck there was marked injection with edematous mucosal folds. Injection was present along the entire extent of the urethra. Many dilated blood vessels were present in the submucosa.

She was treated over a period of six months with urethral dilatations and chemotherapy by mouth, gradually reducing the dose from two tablets four times a day to one tablet a day. For a period of one year she was followed every two months with urethral dilatations without chemotherapy. She was discharged one and one-half years after being first seen with a negative urine and completely asymptomatic. Only once, four months after first being seen, was there any sign of infection. She never at any time experienced recurrence of her chills and fever, and her symptomatology entirely cleared.

Case 2.—A female child, J. R., age nine, was referred by her pediatrician with the following note accompanying the patient: "This child has had pain in her abdomen for five years. She is nine years of age. She did not walk until she was two years of age. She has been in two other clinics. She has been cystoscoped, and the kidney tract has been x-rayed. She is up frequently at night to urinate. She complains of pain in the left side and may vomit at times. She is not doing well in school and at present is in the fourth grade. She is not having any chills or fever. Nothing was noted on physical examination. I thought she might have an obstruction at the neck of the bladder."

This child was first seen on January 2, 1953, with a history of abdominal pain over a five-year period. On physical examination she was a well-developed and well-nourished, somewhat pale, lethargic, white female of nine years. Neither kidney was palpable or tender. There was no suprapubic discomfort. There was tenderness, however, along the entire large bowel. Rectal examination was negative. Calibration of the urethra revealed it to be very tender and tight to a number 20 sound. Urine examination was negative throughout. A urine culture was negative. An intravenous pyelogram revealed a stricture near the ureterovesical junction on the left side. The bladder seemed rather large in size, and it was thought that this might be the result of obstruction. A cystoscopy and retrograde study were performed. A stricture was noted at the left ureteropelvic junction. However, this was minimal, and drainage was good. There was contracture of the vesical neck with severe trigonitis. Fulguration of this area was carried out. She was treated with repeated dilatations of the urethra with complete clearing of symptomatology. She was last seen on August 22, 1953, at which time the urine was negative. She was completely asymptomatic and was discharged. She had increased her ability to work at school, her marks had come up a great deal, and her appetite had improved.

Case 3.—A female child, J. H., age twelve, was first seen on February 11, 1950, with a chief complaint of abdominal pain accompanied by nausea and vomiting, chills, and fever. The pain was confined to the lower abdomen and usually occurred in the afternoon. Almost invariably, the next day she was free of discomfort. She had been seen on several occasions and had been studied in the hospital over a period of one year without a definite diagnosis being made. Recently she had developed frequency and voiding in small amounts with some burning. Her mother had noted staining of the underwear. Although she had some urgency, she voided with ease. No blood had been noted in the urine. There was no nocturia, bed wetting, or other urinary symptomatology. Her past history was essentially normal and noncontributory.

On physical examination she was a well-developed and well-nourished white female in no acute distress. Physical examination was entirely within normal limits. Calibration of the urethra revealed it to be essentially normal. The urine examination in the office revealed: pH 5.0; albumin negative; sugar negative; wet examination showed 2 to 6 white blood cells per high-power field; stain showed rodlike bacteria. A urine culture revealed Escherichia coli. Intravenous pyelogram was essentially within normal limits, and there was good function bilaterally. There was no evidence of obstruction. A cystoscopy was carried out under local anesthesia. Examination of the bladder revealed early coarse trabeculation and hypertrophy of the trigone. The entire base of the bladder was involved in a diffuse cystitis cystica. There were changes in the epithelium suggestive of epithelial hyperplasia. Both ureteral orifices appeared essentially normal. On withdrawing the cystoscope into the urethra there was minimal but definite obstruction of the neck of the bladder. The patient was treated with urethral dilatations, chemotherapy, and antibiotics as indicated. On only one occasion, six months after being seen, did she have any recurrence of pain, and this only lasted for two days. From that time on she was completely free of her pain and asymptomatic from the urinary standpoint. She had several minor recurrences of infection which cleared rapidly with chemotherapy. Active treatment was stopped one year after she was first seen. Two further appointments, one at a six-month interval and one at a fourteen-month interval, revealed her to be negative and asymptomatic. She was last seen on March 3, 1952. The patient moved to Texas, but correspondence with the mother reveals that she has been completely asymptomatic since last seen over three years ago.

Comment

It is to be emphasized that minimal obstructions of the vesical neck are being presented. The pathologic significance of these states has not been appreciated as the cause of recurrent infection of the urinary tract. That these will be present with normal pyelographic studies is emphasized by the presence of only one patient out of 77 who manifested upper urinary tract findings as a result of a vesical neck obstruction. Six of the 59 intravenous pyelograms and seven of the 26 retrograde studies revealed structural abnormalities of the upper urinary tract, but only two have proved to be of clinical significance. The obstructions in the female have been due to contractures of the vesical neck, enlarged mucosal folds, median bars, and constricted urethras. In the male we have noted contractures, median bars, slight enlargement of the prostatic lobes, and in one case a hypertrophied verumontanum. Cystoscopy revealed trabeculation in 50 per cent of the cases.

Twenty-six patients had urinary infections when first seen, and 32 gave a history of previous infection. Only one male patient had urinary infection when seen, and there was no history of infection in the remaining nine males. In 42 per cent of the cases infection was, had been, and would have continued to be a problem. The remaining 58 per cent were potential candidates. The results of treatment were good in 49 cases, fair in 21 cases, and poor in five cases. Some of the fair and poor results were the result of not resecting some cases that should have been or the unwillingness of the family to submit the child to the procedure. I agree with Burns, Pratt, and Hendon[3] that for the severe obstructions of the vesical neck the treatment should be operative. This has been done where it was thought to be indicated. In the minimal obstructions of the female, urethral dilatation as an office procedure is the treatment of choice. Anesthesia is rarely necessary. Dilatation is not employed in the male child.

How then are we going to recognize this condition and prevent the destruction of renal tissue? Examination of Fig. 1 reveals that more than 57 per cent of the obstructions occur between the ages of three and five years of age, but they may be present at any age. The youngest patient seen was three weeks of age, and the oldest was sixteen years. It is also noted in the age group of three to five that the female patients predominate, whereas in most other age groups the male is the predominant patient seen.

Evaluation of the symptoms and chief complaints listed in Table I seems to make it very simple. Most of the symptoms are obviously urinary in origin and should be easily appreciated. Enuresis occurred in 57 per cent of the cases and abdominal pain in 31 per cent. The enuretic is probably the most maltreated, maligned, and poorly investigated pediatric patient. In most instances it is at the insistence of the family and not the physician that they are investigated. I recently resected the vesical necks in two adult enuretics, one nineteen and the other twenty-five years of age. Both had wet the bed every night as long as they could remember. Cystoscopy revealed contracted vesical necks and trabeculated bladders. Intravenous pyelography was negative in each instance. Their histories were conspicuous by the absence of any other urinary symptomatology.

Many children have abdominal pain at some time or other. Persistence of this symptom demands evaluation, and the urinary tract must be studied in the course of this investigation. Other anomalies may cause abdominal pain. It must be emphasized that a normal intravenous pyelogram does not complete this examination or rule out the urinary tract as an etiologic factor. Case 3 exemplifies this point.

The repeated diagnosis of cystitis or pyelonephritis and the continued, prolonged use of chemotherapy or antibiotics are to be condemned. Etiology must be determined and the obstruction eliminated, with antibiotic therapy as adjunctive rather than primary treatment. Recognition and appreciation of significant symptomatology with adequate urologic investigation will prevent unnecessary recurrent infections and progressive degeneration of functioning renal tissue.

Summary and Conclusions

1. Three hundred and eighty-seven private pediatric patients referred for urologic investigation were found to have obstruction of the vesical neck in 21 per cent of the cases.
2. In all instances except one, this has been a minimal obstruction with negative pyelographic studies.
3. Minimal obstruction of the vesical neck in children is a clinically important pathologic state and may well be the answer to the so-called nonobstructive chronic pyelonephritis of the young adult.
4. Symptomatology is almost invariably referrable to the urinary tract except for abdominal pain or unexplained fever.
5. Complete urologic investigation is indicated.
6. Treatment will lead to the amelioration of the symptoms in the majority of the cases.

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Discussion

Edgar A. Slotkin, M.D., *Buffalo.*—The treatise by Dr. Thompson should stimulate the pediatrician's interest in obstructions of the vesical neck in children. It is important to note that the urine analysis can be negative and the intravenous pyelograms normal, and still pathology can be present. The diagnosis can be made only by cystoscopic examination.

The article, referred to by Dr. Thompson, in the *Journal of the American Medical Association* of January 12, 1955, by Edgar Burns and associates, stated that there is no nonoperative treatment for vesical neck obstructions in children. Certainly, he does not include the strictures of the urethra and obstructions due to changes in the vesical neck caused by chronic infection, but rather contractures of the vesical neck, posterior urethral valves, and hypertrophy of the vera.

The etiology of cystitis cystica is commonly thought to be chronic infections. One sees cystitis cystica not only at the vesical neck but also throughout the entire mucosa of the bladder. One such case of mine had repeated attacks of chills and fever after each dilatation, even when covered by adequate doses of antibiotics or chemotherapeutic agents. In spite of lack of local treatment during the past few years, the recurrences seem to be fewer, and the intervals between attacks are lengthening. Also there has been improvement, as demonstrated by intravenous pyelograms.

I have enjoyed hearing Dr. Thompson's remarks concerning enuresis and psychiatrists. I have three cases who were enuretics up to the ages of eight, ten, and twelve years, respectively. All three had had psychiatric treatment. Since that time they have had periodic attacks of frequency. On cystoscopic examination the three cases all had contractures of the vesical neck and varying amounts of residual urine.

I would like to describe briefly two cases of minimal obstruction that produced marked changes in the urinary tract.

CASE 1.—The first case, a child two years old, had posterior urethral valves with no history of urinary infection. The only symptoms were straining and forcing to urinate. These valves were removed by cystoscopic fulguration. There has been no difficulty in voiding since.

CASE 2.—The second case is a boy, eight years old, with periodic attacks of infection. Intravenous pyelograms showed a marked deformity of the bladder with elevation of the vesical neck, large trabeculations, and cellules such as one sees in chronic obstruction. Transurethral resection was done. Postoperative x-rays seven months later showed a much more normal bladder with good filling. The patient has had one attack of infection postoperatively and now has no residual urine.

Dr. Thompson's paper should serve to emphasize the need for an awareness of urologic problems in the young, even where there are normal urinalysis and normal excretory pyelograms.

The Use of Drugs in the Management of Hypertension

Along with comments on the pathogenesis, diagnosis, and therapeutic agents other than drugs, Dr. Samuel S. Riven, Vanderbilt University, Nashville, sorts out and classifies available drugs for relief of hypertension. While use of these drugs carries certain risks, they are useful in selected instances and will have to do until something better turns up. Classified according to pharmacologic mechanism, these drugs may be listed under (1) central depressors, (2) peripheral blocking agents, (3) humoral antagonists, and (4) specific vasodilators. Where these drugs are indicated (most patients with hypertension do not need treatment) intelligent use alone or in combination with other therapy will usually bring blood pressure under control.—*Journal of the Tennessee State Medical Association, July, 1955*

Practical Consideration of Anesthesia in Bronchoesophagology

CLYDE A. HEATLY, M.D., ROCHESTER, NEW YORK

(*From the Department of Surgery, Division of Otolaryngology, University of Rochester School of Medicine and Dentistry*)

THE advances made in thoracic surgery during the past decade have been accompanied by a tremendous expansion of the entire field of bronchoesophagology. The demand for early diagnosis and precise description of regional disease has been met by constant improvements in endoscopic technic as well as in instruments and visual aids. Advances in anesthesia including the introduction of new anesthetic agents have also been widely accepted as a means of increasing the ease and comfort of endoscopic procedures.

All this, however, must not be permitted to obscure the basic responsibility of the endoscopist for the safety of his patient. He must be constantly alerted to the inherent dangers of the anesthetic agent which he employs. He must establish a technic which reduces to a minimum the chances of unfavorable reactions, and at the same time he must be constantly prepared to treat such emergencies if they should arise.

Inquiries concerning the methods of anesthesia used by well-qualified endoscopists have always revealed considerable variations. These are to be expected since they depend on many variables which include the experience and dexterity of the operator, the availability of trained anesthetists and assistants, and the facilities of the hospital itself. The author does not presume to present a definite program for anesthesia in endoscopy but rather to emphasize certain practical considerations which may assist in increasing the ease of the examination, as well as the safety and comfort of the patient.

Preoperative Preparation of the Patient

The importance of proper preparation of the patient for endoscopic procedure is universally recognized. The objects of such preparation are to allay anxiety, to lessen secretions, and finally to protect the patient against possible toxic reactions. More and more consideration is now being directed to the psychologic management of anesthesia, and the value of a preoperative visit to the patient by the endoscopist is worthy of emphasis. Much can be accomplished by such an interview in allaying fears and in gaining the confidence of the patient.

Morphine sulfate continues to be the most important analgesic drug used for preanesthetic medication and is usually given one hour before examination. It is well tolerated by children but should not be used in the presence of actual or potential respiratory obstruction or marked debility. Pantopon is recommended for patients giving a history of nausea following morphine. Because of its spasmolytic action Demerol is preferred for asthmatics. Atropine sulfate or scopolamine is regularly added to lessen secretions. Scopolamine has the advantage of counteracting the nausea as well as the respiratory depression caused by morphine but should not be used in young children or elderly patients; in the latter group it may produce excitement and delirium.

The use of the barbiturates, chiefly pentobarbital sodium (Nembutal) or secobarbital (Seconal), given two hours before endoscopy to counteract the stimulative effects of local anesthetics, is now well established as an essential part of the preoperative preparation. Seevers,[1] however, has emphasized that the usual dose administered is entirely inadequate to protect the patient against the more severe toxic manifestations of these drugs so that no relaxation in the careful administration of topical anesthetic agents can be permitted. The barbiturates in appropriate doses are also helpful in preparing children for endoscopy. A capsule punctured at each end and inserted into the rectum one hour before examination will frequently permit satisfactory instrumentation without additional anesthesia.

Use of Topical Anesthesia

For many years topical anesthesia has been

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the mainstay of endoscopic procedures. The ideal agent combines the virtues of prompt and lasting local anesthesia with freedom from irritation and toxicity. Unfortunately there is no drug which possesses all of these advantages. The two preparations now in common use in endoscopy are cocaine and tetracaine (Pontocaine). Both produce prompt and adequate local anesthesia, and both are capable of causing severe or fatal reactions. Milligram for milligram, tetracaine is the more toxic, but its anesthetic potency is correspondingly greater so that a smaller amount is necessary to produce satisfactory anesthesia. Both Ireland[2] and Jackson and McReynolds[3] have noted greater irritating effects from the local use of tetracaine than with cocaine. Thomas and Fenton,[4] Clerf,[5] and others have also called attention to the apparently greater toxicity of tetracaine in allergic patients. Rubin and Kully,[6] however, on the basis of their extensive experimental and clinical investigations on the relative toxicity of these drugs, conclude that when either cocaine or tetracaine is used with proper precautions, there is "little to choose between them" and that "much more evidence must accrue before undisputed superiority of one can be established." A questionnaire reported by Ireland in 1951 indicated that cocaine continues to be more commonly employed in the large medical centers in the United States and Canada.

In the study of topical anesthetics certain facts have emerged which are of great practical importance. In the first place, accumulated evidence indicates that overdosage as well as too rapid administration are the chief causes of toxic reactions. Accidents due to hypersensitivity unquestionably occur, but they are far less frequent than is commonly supposed. Rubin and Kully, on the basis of their investigation in rabbits, stated that the toxicity ratio of tetracaine to cocaine applied to the tracheobronchial tree is 6:1. They recommended therefore that the total amount of tetracaine employed should not exceed 50 mg. (10 cc. of a 0.5 per cent solution) and that the total amount of cocaine should not exceed 300 mg. (6 cc. of a 5 per cent solution). They also recommended that slow fractional instillation be practiced so that the dangerous rapid absorption of the drugs be avoided. Hypersensitivity in their opinion can best be determined by direct application of a small amount of the solution to the oral or pharyngeal membranes and waiting five minutes before continuing with the anesthesia.

Skin tests for drug sensitivity are generally agreed to be of questionable value. There is no definite evidence that the addition of epinephrine to these solutions reduces their toxicity. There is no question that the use of smaller quantities of less concentrated solutions has greatly reduced the incidence of unfavorable reactions without sacrificing the quality of the anesthesia. The endoscopist is urged to employ a measured amount of anesthesia of low concentration, to introduce it slowly, and not to exceed the dose which has been established by experience as safe. This is far more important than the method of application. The patient must also be constantly cautioned against swallowing the solution during the induction of the anesthesia.

Toxic Reactions.—Two general types of toxic reactions may follow the use of topical anesthetics. The first and fortunately the less common may be described as the *immediate type*. There occurs a direct depressant effect upon the heart with a marked fall in blood pressure and a rapid cessation of heart action before the respiratory function is abolished. Death, probably from ventricular fibrillation, takes place within a minute or less, and efforts at resuscitation are rarely successful.

The second and more common reaction is the *delayed type* which begins within three to fifteen minutes after the start of the anesthesia and rarely occurs after thirty minutes. This type is characterized by pallor, excessive sweating, sighing and shallow breathing, tremors progressing to convulsions, and finally ending in respiratory arrest that usually occurs before circulatory failure. Prompt treatment will usually control this type of reaction, and the necessary equipment should always be in readiness whenever local anesthesia is being employed.

There are *two main objectives in treatment:* (1) the control of convulsions and (2) the maintenance of adequate respiratory and cardiovascular function. An intravenous injection of 5 cc. of Sodium Pentothal (2.5 per cent solution) should be made at once and the needle kept in place for additional injection if necessary. The airway must be maintained, but there should be no attempt to inflate the lungs with oxygen until the convulsions have been controlled. Neither adrenalin chloride nor ephedrine sulfate should be administered because of the danger of producing ventricular fibrillation. Laryngospasm must be watched for, and if it occurs, the airway must be maintained by means of an endotracheal tube. Intravenous fluid should be started in the presence of a continued low systolic pressure.

The author and his associates have employed Pontocaine routinely, except in asthmatics, in over 4,000 endoscopic procedures with but one fatality. Not over 3 cc. of 1 per cent solution are used in the pharynx and larynx and not over 5 cc. of a 0.5 per cent solution in the tracheobronchial tree.

Use of General Anesthesia

There has always been considerable difference of opinion concerning the advisability of general anesthesia for endoscopic procedures. General anesthesia is clearly contraindicated in the newborn and very young infant, as well as in the presence of respiratory obstruction and general debility. Although the comparative risk involved in general and local anesthesia is debatable, the majority of endoscopists still prefer to conduct bronchoscopic examinations as far as possible under topical anesthesia. Valuable information may be lost by the abolition of the cough reflex under general anesthesia, and the pulmonary disease under study may contraindicate its use. There are notable exceptions of course. Local agents are extremely toxic for young children, and in this group general ether anesthesia is the safest method. Ether anesthesia is particularly helpful in the management of bronchial foreign body cases in children because the complete relaxation not only facilitates the removal but also greatly lessens the likelihood of postoperative obstructive laryngeal edema. In cases of esophageal foreign body, however, the patency of the airway should be maintained by the preliminary introduction of an endotracheal tube since the pressure of the esophagoscope on the soft larynx and trachea may seriously obstruct respirations. Bronchography in children, which has gained such diagnostic importance, must also be carried out under general anesthesia with due precautions to eliminate the hazards of fire and obstruction.

The advantages of general anesthesia in esophagoscopy are now generally recognized. The complete relaxation afforded by the anesthetic not only insures the comfort of the patient but also greatly increases the precision and safety of the examination. The incidence of mediastinitis from instrumental perforation has been greatly reduced by this method. While ether may be successfully used, the newer muscle relaxant agents are proving of great value because of their ability to produce complete relaxation of rapid onset and short duration. Succinylcholine (Anectine) is the outstanding member of this group since it possesses highly desirable properties not characterized by the other relaxants in current use. It is rapidly destroyed in the body without toxic effects; its action ceases within a few minutes after its administration is stopped; the respiratory pattern returns to normal as soon as paresis has disappeared, and finally its blockade can be interrupted at any time. These are important advantages over the older curare preparations in anesthesia for esophagoscopy.

Muscle relaxants are not true anesthetics and must be combined with a basal narcotic such as thiopental (Pentothal) and a topical anesthetic such as Pontocaine or cocaine. The importance of thorough preliminary topical anesthesia of the pharynx and larynx must be stressed, not only to prevent laryngospasm but also to reduce the amount of the relaxant drugs required. The use of an endotracheal tube to insure the airway adds to the safety of esophagoscopy by this method, although for short examinations it may be dispensed with if held available for prompt introduction. Succinylcholine and thiopental anesthesia is contraindicated in asthma, cardiac decompensation, severe liver damage, emergency esophagoscopy with a full stomach or blood in the stomach, and in poor risk patients in general. It requires a skilled and experienced anesthetist and should never be administered without adequate facilities for combating respiratory and circulatory depression.

Conclusions

The choice of anesthesia in endoscopic procedures depends on many variables, which include not only the age, general condition, and temperament of the patient but also the experience of the endoscopist and the conditions under which he works. The primary consideration, however, must always remain the safety of the patient. The comparative safety of local and general anesthetic agents is clearly debatable. Unfavorable reactions following the use of topical solutions can be greatly reduced by proper preoperative preparation of the patient, as well as by slow administration of dilute solutions in calculated and restricted amounts. General ether anesthesia is of value in many endoscopic procedures in childhood, although it must not be used in the presence of respiratory obstruction. Although the majority of endoscopists still prefer local anesthesia for bronchoscopy, the use of general anesthesia for esophagoscopy is being more widely accepted because of the ease and safety of examination which it makes possible. The newer muscle relaxants, especially succinylcholine (Anectine), administered intravenously in combination with thiopental after thorough preliminary local anesthesia of the pharynx and larynx, have proved of great value because of their short action and freedom from prolonged after-effects. They present definite contraindications, however, and their use must be restricted to experienced anesthetists working under entirely favorable conditions. In these days when more and more physicians with varied training and experience are undertaking endoscopic examinations, the need was never greater for considered selection and careful administration of anesthetic agents.

11 North Goodman Street

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Discussion

Orrin E. Anderson, M.D., *New York City.*—Shortly after having been asked to discuss Dr. Heatly's paper, I asked the members of the New York Broncho-Scopic Club for their opinions as to the choice of anesthesia. From this round table discussion it appeared that it was 50-50 as to local or general anesthesia.

Preoperative medications are very important, especially in children. It is difficult to determine by appearance the anxiety of the children concerning their going to the hospital to have an operation. They should have sufficient amount of glucose and fluids along with elixir phenobarbital sedation for twenty-four hours. Scopolamine, aside from being a good sedative, does not dry the mucous membranes too much, although it does bring about some psychic effects.

Locally 10 per cent cocaine provides the safest anesthesia in that this percentage is optimum in bringing about vasoconstriction along with the anesthesia.

The problem of cardiac arrest is ever present and is probably the result of adrenalin exhaustion due to overwork of the glands during the preoperative apprehension.

I prefer local Pentothal-Anectine anesthesia because (1) it is easier for all concerned, (2) the procedure may be discussed, and (3) it is much to the benefit of the operator to visualize.

Suburban Migration Confuses Record Keepers

The mass movement to suburbia in recent years has produced a lot of frustrating situations for a lot of people, among them the keepers of birth and death statistics.

They no longer are certain just where people live. Because the addresses of suburbanites, living outside the city limits, often carry a city postal zone number and the city name, these persons are mistaken for city residents. This sometimes makes rural and urban death and birth rates inaccurate.

Dr. Halbert L. Dunn, chief of the National Office of Vital Statistics, U.S. Public Health Service, Washington, D.C., said in the November 19 *Journal of the American Medical Association*, "Everyone 'knows' that birth rates are higher for rural residents than they are for city people and that death rates are higher for the cities than they are for rural areas."

But with the present suburban address situation, the rates for city dwellers appear higher and those for rural residents lower than they really are.

Therefore, the 1956 birth and death certificates are being changed, Dr. Dunn said. The certificates will carry the following questions: Is place of birth (death) inside city limits? Is residence inside city limits? Is residence on a farm? From the answers the statisticians should be able to decide whether the family lives in the city, on the farm, or somewhere in between.

Histochemical Approach to Functional Pathology

M. WACHSTEIN, M.D., BROOKLYN, NEW YORK

(From the Department of Pathology, St. Catherine's Hospital)

HISTOCHEMISTRY and cytochemistry are concerned with the characterization and topographic localization of chemical components in cells and tissues.[1,2] Staining methods suitable for this purpose have been in use for quite some time. They have been employed, however, mainly for the identification of cellular structures which can be observed in tissue preparations stained with routine technics. Some granules, for instance, which appear yellow to brown in liver sections stained with hematoxylin-eosin give a positive reaction for iron. Thus, they can be identified as hemosiderin. In the case of cytoplasmic vacuoles which remain unstained in paraffin-embedded liver sections, appropriate staining of frozen sections will enable one to conclude that these vacuoles correspond to fat droplets which have been dissolved during the preparation of the paraffin section. The rapid development, however, of histochemistry in the last decade has been responsible for the emergence of many new technics which make possible the localization and identification of chemical substances and enzymatic activities that have been demonstrable previously only in tissue extracts. It is the purpose of this presentation to describe briefly a few of the results which have been obtained by applying some of these technics in general pathology.

Succinic dehydrogenase, one of the enzymes responsible for biologic oxidation, can be demonstrated in fresh frozen sections incubated in a buffered solution of succinate to which a tetrazolium salt and various activators are added.[3,4] Tetrazolium salts are colorless and water insoluble but form colored precipitates after they have accepted hydrogen and are thus extremely valuable histochemical tools for the demonstration of various oxidative enzymes.[5,6] In the human heart, reduced tetrazolium, indicating succinic dehydrogenase activity, is found in granules arranged in layers along the myofibrils indicating that the enzymatic activity is apparently connected with mitochondria. There is complete disappearance of the staining reaction in the infarcted areas in the hearts of patients who have succumbed to an attack of acute coronary thrombosis. Inactivation of the enzyme, however, was found in some cases in which death occurred only a few hours after the onset of the typical clinical symptoms. The depression of enzymatic activity, therefore, apparently precedes the necrotic changes and in the vicinity of infarcted areas extends to muscle fibers which otherwise appear normal.[7]

Such inactivation of histochemically demonstrable succinic dehydrogenase activity is also noticed in the kidneys of experimental animals in which tubular necrosis is induced by various renal poisons. Within forty-five to sixty minutes after the administration of such a poison, there occurs marked inactivation of succinic dehydrogenase activity which precedes the ensuing necrosis.[8] Thus, it is apparently possible to recognize very early necrobiotic changes by this technic. Following the application of toxic doses of Mercuhydrin to rats, inactivation of this enzymatic activity is found prominently in the terminal portions of the proximal convoluted tubules,[9–11] although involvement of distal tubules has also been described.[12,13] This, however, is not meant to imply that mercurial diuretics in therapeutic doses must necessarily have the same site of action.

Histochemical staining technics can be used to great advantage for the study of the mammalian kidney.[14] A consistent distribution pattern of enzymatic activities was found not only in the kidneys of various animals but also in surgically removed human kidneys. Even in autopsy material fairly good results were often obtained. In general, the use of fresh frozen sections proved advantageous since any type of fixation depressed the enzymatic staining. Nonspecific alkaline phosphatase and glucose-6-phosphatase were found only in the proximal convoluted tubules in the human kidney. These enzymes are apparently involved in the reabsorption mechanism of glucose in the proximal convoluted tubules.[15]

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Other enzymes, such as esterase, glucuronidase, and endogenous and succinic dehydrogenase, are found in many parts of the human nephron including collecting tubules but not in the thin limbs of Henle. Acid phosphatase, nonspecific phosphatase acting at a pH of 7.2, and diphospho-pyridine nucleotide (DPN) diaphorase are present in all tubular components of the human nephron including the thin limbs of Henle.

The abundance of various enzymes in the proximal and distal convoluted tubules and ascending limbs of Henle is to be expected since most of the secretory work of the kidney takes place in these segments of the nephron.[16] The fact that a number of histochemically demonstrable enzymes are present in addition, not only in collecting tubules but also in thin limbs of Henle, would indicate a much more active role of these tubular components than is generally assumed.

In experimental hydronephrosis there occurs marked diminution of enzymatic activities, indicating the functional impairment of the hydronephrotic kidney.[17–19] This loss of enzymatic staining reactions is even more marked in atrophic and regenerating tubules.[18,20] These enzymatic deficiencies may be related to the paucity of mitochondria in these cells[21] as well as to the diminution of histochemically demonstrable protein-bound sulfhydryl groups.[14] Oliver[22] has pointed out that the absence of enzymatic activities in regenerating cells may well explain the functional derangement which is commonly observed in the recovery phase of patients who survive an episode of acute anuria with its concomitant tubular necrosis, such as may follow shock or the transfusion of incompatible blood. It is interesting to observe that regeneration of tubular cells commences before stainable enzymes reappear, thus indicating that these enzymes are connected with the proper function of tubular cells but not with cellular regeneration.[8,14] In human kidneys with renal disease, deficiency in enzymatic staining has been reported for nonspecific alkaline phosphatase in autopsy[23] and biopsy material.[24] This also was observed in sections stained for succinic dehydrogenase and DPN diaphorase.[14,25]

In hematology many of the modern histochemical staining reactions can be applied to blood and bone marrow films.[26] Ribonucleic acid, for instance, which can be identified by the selective abolishment of cellular basophilia by the specific activity of ribonuclease, is present in large amounts in young cells and is obviously connected with their multiplication. It diminishes as cells reach their functional maturity. In contrast, other substances, such as glycogen and nonspecific alkaline phosphatase, accumulate as the cells mature. They are further increased in leukocytes which are stimulated to their highest degree of functional activity under the influence of infectious diseases. On the other hand, there is a marked decrease or even complete absence of nonspecific alkaline phosphatase in the mature granulocytes of patients with chronic myelocytic leukemia.[27] So far apparently no other staining reaction is known which would demonstrate such a functional difference. Similar differences in the contents of alkaline phosphatase have been found by biochemical estimation of leukocytic suspensions from the blood of normal subjects, patients with infections, and chronic myeloid leukemia.[28]

Summary

Only a few examples indicating the usefulness of new histochemical technics have been given. Their application to problems of normal and pathologic anatomy, embryology, and related basic sciences has already yielded a wealth of new information. Many of the newly discovered facts have so far not been integrated. It would appear, however, that the impasse which had been reached in the morphologic sciences some years ago has now been overcome by the development of entirely new methods as, for instance, the electron microscope, histochemical and cytochemical staining technics, etc. There is little doubt that cyto- and histochemical technics represent most valuable methods for the characterization of normal and altered cellular structures and thus of normal and abnormal function in health and disease.

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Discussion

O. P. Jones, Ph.D., *Buffalo* (*By invitation*).—Dr. Wachstein has covered a large number of histochemical procedures in a very limited time and has shown the trend of present-day histologic and histochemical research. He has indicated that many of the newly discovered facts have not been integrated with problems of normal and pathologic anatomy and embryology. This will take a long time because we must test, analyze, modify, and evaluate these histochemical methods to suit our needs. The most important contribution which should evolve from these studies will be the establishment of a link between histology and chemistry in order to localize the site of a chemical reaction in specific cells or tissues. Furthermore, as Shelton and Schneider[a] have claimed, "When localization cannot be achieved, there is a sharp decrease in the capacity of histochemistry to contribute more than biochemistry to an understanding of the chemistry of tissues."

Dr. Wachstein has mentioned that histochemistry is concerned with the characterization and topographic localization of chemical components in cells and tissues. This is easier said than done, and it should be governed by two important principles. First, we should have knowledge of the chemical reaction involved and assurance of its specificity. Second, there must be adequate localization of the reaction products within the cells. In other words, we must be certain that the reaction has taken place where we see the colored products.

Dr. Wachstein has spent considerable time describing the behavior of succinic dehydrogenase and other enzymes in infarcted areas in the hearts of patients who have succumbed to an attack of acute coronary thrombosis and in experimentally induced hydronephrotic kidneys. This should not be surprising due to the mechanical defects preceding the tissue damage. It should not, however, be the main area toward which pathologists and hemopathologists focus their attention. Let us instead focus our attention on presumably normal tissues or those with minimal morphologic changes in order to uncover alterations in or functional derangements of enzymatic activities, with the idea of seeking an earlier and more accurate tissue diagnosis. This is in essence what Dr. Wachstein and others are striving for.

In hematology we know that leukemic cells may appear to be morphologically identical, but histochemically they are different. This is well exemplified in the work by Storti and Perugini showing the reaction of cells to Sudan black B in blood from patients with acute leukemia. However, it is not enough for us to stop with these histochemical differences; we must attempt to understand the nature of this reaction. Is it a chemical union or merely a physical solution of the dye in lipid material? This is but one of the many unsettled problems in histochemistry.

For pathologists it is also necessary to think of the hormone-enzyme relationship which has been stressed by Meyer and McShan.[b] Think, for example, of the enzymatic responses in organs like the uterus and vagina during normal changes in their hormonal environment. No doubt the pathologist will eventually find minute but constant histochemical differences in some tissues which, to all intents and purposes, appear to be but slightly altered, or not at all, in routine preparations. In such instances histochemistry may complement and supplement our knowledge of the disease process.

In conclusion, it should be emphasized that histochemistry is not a magic invocation and that it will never be any better than the accompanying morphologic insight, to which it is properly only an adjunct.

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The Cat on your hearthstone to this day presages, By solemnly sneezing, the coming of rain!
—Arthur Guiterman

Does Toxemia Produce Hypertension?

ALVIN J. B. TILLMAN, M.D., NEW YORK CITY

(*From the Sloane Hospital for Women*)

The interrelationship of toxemia of pregnancy and cardiovascular renal disease has been emphasized in many studies during the past thirty years. Despite numerous observations unanimity of opinion has not been achieved regarding the effect of toxemia of pregnancy on the normotensive and hypertensive woman.

This presentation briefly discusses the findings of the study of blood pressure for five years preceding and four years following a normal first pregnancy in 240 women and a toxemic first pregnancy in 137 women.

The criteria for normal pregnancy were as follows: an observation period of at least the last four months of pregnancy, labor, and a hospital stay not less than six days; blood pressure readings not exceeding 129 mm. Hg systolic and 89 mm. Hg diastolic (actually if three readings reached 128 mm. Hg systolic or 88 mm. Hg diastolic, the case was excluded); negative urine (proteinuria 1 plus on one occasion was permitted); minimal edema of the ankles was allowed (cases with edema of the face or fingers were excluded). Cases with a background of thyroid disease, cardiovascular renal disease, and diabetes were excluded.

The criteria for toxemia were as follows:

1. Hypertensive toxemia: an observation period of at least four months in the antepartum period; the appearance of blood pressure values at any time in the pregnancy exceeding 130/90 on at least three occasions twenty-four hours apart. If the blood pressure values decreased to normal values in labor, the case was excluded. Actually, when a value of 130/90 was reached in pregnancy, higher values invariably followed. Proteinuria more than 1 plus on three occasions, edema other than the most minimal of the ankles, and symptoms of central nervous system origin were cause for exclusion. Because of the sudden appearance of hypertension late in pregnancy, several cases might be classified as "pre-eclampsia" in many clinics.

TABLE I.—CASE 1, NORMAL FIRST PREGNANCY WITH ECLAMPSIA IN SECOND PREGNANCY

	Age	—Blood Pressure— Systolic	Diastolic	Albumin
1943	21	102	58	
1943–1944	22			
Month of pregnancy				
2		110	70	0
3		112	65	0
4		110	65	0
5		118	70	0
6		124	68	0
7		124	70	0
8		112	68	0
9		118	70	0
Labor		120	74	0
	Full-term, living child			
Postpartum 1 year		110	74	0
1946–1947	25			
Month of pregnancy				
3		110	70	0
4		112	66	0
5		114	70	0
6		112	65	0
7		116	70	0
8		120	68	0
9		230	140	4+
Labor		210	130	3+
	Cesarean section			
Postpartum				
7 days		154	90	1+
12 days		128	76	1+
1 month		120	80	1+
5 months		120	70	...
8 months		120	80	...
14 months		115	80	...

2. Pre-eclampsia and eclampsia: acute or gradual onset of blood pressure values above 130/90; proteinuria exceeding 3 plus; significant edema, generalized or involving at least two of the following—face, hands, feet; symptoms of central nervous system involvement, epigastric pain, elevated uric acid, and decrease of serum protein. Not all criteria were required in any one case, but hypertension and proteinuria were basic requirements. Four patients with the above criteria had convulsions. When hypertension preceded pregnancy in pre-eclampsia, 3 to 4 plus proteinuria was required. Any case in which classification was not clear cut and which did not fulfill criteria given was excluded.

All blood pressure readings in this study were casual and were secured whenever available. This implies that determinations were done by many different individuals under ambulatory

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TABLE II.—CASE 2, MILD HYPERTENSION IN PREGNANCY

		Blood Pressure		
	Age	Systolic	Diastolic	Albumin
1927	14	160	90	...
1932–1933	19			
Month of pregnancy				
6		135	70	0
7		126	68	1+
8		150	88	0
9		162	92	0
Labor		132	86	1+
Full-term, living child				
Postpartum				
7 days		148	82	4+
12 days		142	80	1+
1 month		150	90	±
1936		190	130	0
1937		176	128	0
1938		188	120	...
1939		158	90	±
1940	27	155	95	...
Month of pregnancy				
2		130	80	0
3		160	90	...
4		160	90	0
5		165	95	0
6		165	100	0
7		150	100	0
8		155	95	...
9		160	95	1+
Labor		142	98	4+
Full-term, living child				
Postpartum				
12 days		128	90	1+
1 month		118	70	0
6 months		160	110	±
1941		200	125	...
1942		160	98	0
1943		170	108	...
1944		165	100	...
1945		170	95	...

TABLE III.—CASE 3, MILD HYPERTENSION IN PREGNANCY

		Blood Pressure		
	Age	Systolic	Diastolic	Albumin
1947	38			
June		168	100	...
July		138	86	...
August		136	90	...
September		150	90	...
1948	39			
January		138	86	...
March		150	90	...
May		138	88	...
July		130	86	...
1949	40			
January		124	80	...
March		150	94	...
June		132	88	...
October		136	82	...
1950	41			
Month of pregnancy				
1		134	80	0
4		140	82	0
5		130	95	0
6		130	80	0
7		135	90	0
8		180	130	1+
Labor		132–170	88–110	?
Living child, spontaneous delivery				
Postpartum				
1 day		155	110	...
7 days		130	90	...
10 days		120–132	88	...
1 month		142	98	...
3 months		170	100	...

TABLE IV.—CASE 4, SEVERE HYPERTENSION PRECEDING PREGNANCY

		Blood Pressure		
	Age	Systolic	Diastolic	Albumin
1947	31			
January		180	114	0
March		164	103	...
June		138	100	...
1948	32			
January		176	100	...
July		178	100	...
1948–1949	33			
Month of pregnancy				
1		140	90	0
2		146	90	0
3		155	100	0
4		166	100	0
5		166	102	0
6		170	110	0
7		210	130	2.5 Gm
$7^{1}/_{2}$		235	140	3+
		230	160	4+
Detached retina, bilateral Cesarean, premature infant (died $4^{1}/_{2}$ hours after birth)				
Postpartum				
14 days		130	70	1+
6 months		220–180	120–120	0

and hospital conditions, occasionally in the presence of febrile or convalescent states. These factors contribute to the lack of smoothness of data. Many readings were acquired years following the pregnancy. The difficulties in the acquisition of sufficient numbers of cases which fulfill the criteria for this study are emphasized by the fact that the accumulation of cases began in 1937. First pregnancy observations were employed so as to avoid the possible influence of the unobserved pregnancy, the extraneous causes of hypertension which could arise in the interim between pregnancies, and the possible age factor.

It must be borne in mind that selection in this study depended on the chance presence of a documented blood pressure preceding the first pregnancy.

Four tables are presented which are representative of the cases used in this study (Tables I to IV).

CASE 1.—This typifies a normal first pregnancy (Table I). All values of blood pressure are well below 130/80. One year postpartum, the blood pressure was 110/74. Although in the second pregnancy a severe eclampsia occurred, this case was included because only the first pregnancy was under study. The blood pressure fourteen months after the toxemia and about four years after the first normal pregnancy was 115/80.

Case 2.—Table II depicts the course of mild hypertension in pregnancy and its later behavior. The blood pressure of 160/90 at age fourteen may be interpreted in two ways. It may represent the anxiety of a child of fourteen in the doctor's office, or it may point to the early presence of essential hypertension (excretory x-rays of the kidneys were within normal limits). Please note that at the first recorded antepartum visit the blood pressure of 135/70 was almost, but not quite, a normal reading when compared with the readings of the previous visit. According to Browne,[1] with whom I completely agree, this level of blood pressure should put the physician on guard since at least 65 per cent of patients exhibit higher, more sustained hypertension later. Only the readings within the first four years after pregnancy were used in this study. The course of blood pressure in this patient twelve years after a pregnancy with hypertension may suggest that the hypertension was intensified following pregnancy, or it may also indicate the lability and natural geography of hypertension documented for eighteen years.

Case 3.—This case shows several characteristics of the previous one. Because this patient's physician was concerned, many prepregnant blood pressures are available (Table III). In this three-year period the tendency of elevated blood pressure to vary is striking. Levels of 168/100 to 124/80 precede this pregnancy. The first visit is marked by a blood pressure of 134/80, and later persistent mild elevations are seen culminating in a rise of 45 mm. Hg systolic and 40 mm. Hg diastolic. Hospitalization, sedation, and premature labor followed shortly afterwards. Two years later the blood pressure of 178/98 does not materially differ from the reading of 168 mm. Hg five years earlier in the nonpregnant state.

Case 4.—Table IV is representative of fairly severe hypertension preceding pregnancy. Nevertheless, variation of determination is noted. In the very first month of pregnancy the blood pressure of 140/90 most deceptively does not suggest the antecedent readings. This determination at the first visit to the obstetrician, as mentioned previously, may be interpreted as a result of anxiety or as indicative of hypertensive disease. As was noted in Table III, sudden exacerbation occurred at the seventh month of pregnancy, and a full-blown preeclampsia appeared. While the patient was very disturbed six months later when she was seen regarding the advisability of another pregnancy, the blood pressure did not materially differ from what it had been two and one-half years earlier.

Review of these cases points up the vagaries of blood pressure measurements. Those qualities peculiar to blood pressure determinations include (1) lability in both normal and abnormal range, (2) the association of a temporary elevation with future sustained hypertension, (3) response to many stimuli by immediate elevation, and (4) lack of universal definition of lower pathologic limits.

Long clinical experience indicates that sustained hypertension is introduced in some individuals by transient rises of blood pressure. There are many clinical studies which substantiate this opinion. The most recent is that of Hillman, Levy, Stroud, and White[2] who analyzed the records of 22,741 officers of the United States Army. They conclude that at all ages, sustained hypertension developed more frequently in those with previous transient hypertension than in those who never showed an elevation of blood pressure.

It is well known that psychic and emotional stimuli produce elevations of blood pressure, and there are studies which have demonstrated such effect. Mueller and Browne,[3] studying 26 normal and 61 hypertensive subjects, showed hourly systolic variations of 15 to 65 mm. Hg in the normal and 25 to 120 mm. Hg in the hypertensive. The diastolic pressure also varied to a lesser degree. There is little difficulty in the determination of hypertension when the blood pressure is high, but there is no general agreement on the lower limits of hypertension. This value must exist, variable and nebulous as it may be, for the earliest sign and first objective finding of hypertensive vascular disease is the rise of blood pressure. In its absence the asymptomatic onset of hypertensive disease cannot be recognized.

Studies of the interrelationship of toxemia of pregnancy and hypertensive vascular disease which do not allow for the above peculiarities of the blood pressure determination can lead to erroneous conclusions. A blood pressure determination is not a fixed arithmetic value. Consequently, normal blood pressure need not signify normotension nor a higher reading imply exacerbation of hypertension. Since patients frequently present variable blood pressure readings in follow-up examinations at different intervals, it becomes difficult for the observer to assess a change.

TABLE V.—Mean Highest Systolic and Diastolic Blood Pressure Values, Standard Deviation, and Mean Age for Five Years Preceding and One to Four Years Following a First Normal Pregnancy (218 Patients)

	Preceding Pregnancy						Postpartum
	5 Years	4 Years	3 Years	2 Years	1 Year	6 Months	1 to 4 Years
Number of cases	24	23	32	49	38	52	93
Age	20.7	20.5	21.6	22.3	24.3	25.0	27.6
Systolic	118.5	120.0	120.0	116.8	119.6	116.8	116.7
Standard deviation	9.9*	15.6	9.2	8.5	11.4	11.2	12.5
Diastolic	78.8	78.8	76.7	75.1	76.7	76.1	76.2
Standard deviation	8.4*	10.8*	8.7	7.6	10.3	9.7	10.9

* Corrected.

TABLE VI.—Mean Highest Systolic and Diastolic Blood Pressure Values, Standard Deviation, and Mean Age for Five Years Preceding and One to Four Years Following a First Pregnancy with Blood Pressure Levels Above 130/90

	Preceding Pregnancy			Postpartum
	5 to 4 Years	3 to 2 Years	1 Year and Less	1 to 4 Years
Number of cases	13	29	24	32
Age	22.6	26.2	27.7	29.5
Systolic	134.4	136.6	141.0	140.9
Standard deviation	19.9*	13.0*	19.6*	22.5
Diastolic	87.5	88.2	92.1	90.8
Standard deviation	11.6*	13.6*	13.4*	13.5

* Corrected.

TABLE VII.—Mean Highest Systolic and Diastolic Blood Pressure Values, Standard Deviation, and Mean Age for Five Years Preceding and One to Four Years Following a First Pregnancy with Pre-Eclampsia (129/89)

	Preceding Pregnancy			Postpartum
	5 to 4 Years	3 to 2 Years	1 Year and Less	1 to 4 Years
Number of cases	9	14	18	30
Age	21.2	22.1	26.6	28.5
Systolic	110.8	116.4	118.6	121.5
Standard deviation	7.0*	4.6*	9.4*	12.0
Diastolic	73.6	75.0	76.1	78.8
Standard deviation	13.2*	6.4*	6.0*	13.5

* Corrected.

In order to circumvent such difficulties, this study analyzed both the lowest and highest blood pressures available for each patient. It was reasoned that a positive relationship following pregnancy would be evident if both the mean blood pressure and range of blood pressure were significantly elevated. Exacerbation of the blood pressure postpartum in any one patient should be promptly detected by the increase of the postpartum standard deviation.

Table V indicates the mean age, highest blood pressure, and standard deviation of the blood pressure preceding normal pregnancies in 218 patients and following pregnancy in 93 patients. This group is characterized by a mean blood pressure within normotensive levels and a range of 86 to 151 mm. Hg systolic and 48 to 100 mm. Hg diastolic (mean ± 2 × S.D.). It is evident that some blood pressure determinations preceding a normal pregnancy may reach accepted hypertension levels. In the follow-up of 93 patients there was no significant change of mean value or standard deviation (standard error of difference between means equals 1.9). The great majority of women exhibit casual normal blood pressure values preceding normal pregnancy.

Table VI presents the findings of 66 patients preceding and 32 patients following the hypertensive form of toxemia of pregnancy. There were 136 available prepregnancy blood pressure determinations. The standard deviation is large and frequently doubles that seen before normal pregnancy. In conjunction with the mean value it indicates that these patients have higher and more variable blood pressure, frequently in the hypertensive range, long before pregnancy. As with normal pregnancy, postpartum determinations are nearly identical with those of the prepregnant period.

Table VII presents the findings in 41 patients preceding and in 30 patients following pre-eclampsia and eclampsia. Fifty-two prepregnancy blood pressure determinations were available. Since this group was selected on the basis of a blood pressure not exceeding 129/89 before pregnancy, the prepregnancy behavior of

TABLE VIII.—MEAN HIGHEST SYSTOLIC AND DIASTOLIC BLOOD PRESSURE VALUES, STANDARD DEVIATION, AND MEAN AGE FOR FIVE YEARS PRECEDING AND ONE TO FOUR YEARS FOLLOWING A FIRST PREGNANCY WITH PRE-ECLAMPSIA (130/90 PLUS)

	Preceding Pregnancy			Postpartum
	5 to 4 Years	3 to 2 Years	1 Year and Less	1 to 4 Years
Number of cases	5	9	16	21
Age	22.4	29.2	26.3	29.8
Systolic	139.5	140.8	147.8	147.0
Standard deviation	4.5*	9.9*	28.0*	25.0*
Diastolic	90.5	91.4	92.2	90.4
Standard deviation	9.1*	6.4*	17.0*	14.7*

* Corrected.

TABLE IX.—MEAN LOWEST SYSTOLIC AND DIASTOLIC BLOOD PRESSURE VALUES, STANDARD DEVIATION, AND MEAN AGE FOR FIVE YEARS PRECEDING AND ONE TO FOUR YEARS FOLLOWING A FIRST PREGNANCY WITH PRE-ECLAMPSIA (130/90 PLUS)

	Preceding Pregnancy			Postpartum
	5 to 4 Years	3 to 2 Years	1 Year and Less	1 to 4 Years
Number of cases	7	9	14	21
Age	20.4	27.0	26.8	29.9
Systolic	116.0	126.7	134.6	134.6
Standard deviation	13.0	10.6	32.4	34.3
Diastolic	79.0	79.2	85.7	84.7
Standard deviation	10.4	8.3	15.3	17.3

these determinations is identical with that seen before normal pregnancy. The standard deviation and mean value indicate a homogeneity of vascular pattern. Follow-up observations after one to four years in 30 patients indicate no significant change in mean value and standard deviation (standard error of difference between mean equals 0.9).

Table VIII presents the findings of 30 patients preceding and 21 patients following pre-eclampsia whose blood pressure before pregnancy on one or more occasions exceeded 130/90. Eighty-eight prepregnancy blood pressures were available for study. The findings in this group are practically identical with those preceding the hypertensive form of toxemia. The blood pressure values are higher and more variable than those seen before normal pregnancy. Following pre-eclampsia no actual change is seen in mean value or standard deviation.

Conclusions

1. Studies of the interrelationship of blood pressure and toxemia of pregnancy are subject to sources of error which result from characteristics of the blood pressure measurement.

2. These characteristics briefly stated are (*a*) lability in normal and abnormal range, (*b*) the association of a temporary elevation with future sustained elevation, and (*c*) the lack of universal definition of the lower limit of hypertension.

3. This investigation was a longitudinal study of 218 patients who underwent a normal first pregnancy and 137 patients who experienced toxemia in their first pregnancy. The range of observation varied from twenty-one months to ten years.

4. The mean value and standard deviation of blood pressure in normal pregnancy, the hypertensive form of toxemia, and the acute toxemia of pregnancy show no change within one to four years following pregnancy.

5. The patient undergoing a normotensive pregnancy is essentially a normotensive individual. The patient who exhibits hypertension solely in pregnancy was hypertensive prior to pregnancy. The patient who exhibits the pre-eclamptic or eclamptic form of toxemia may be either normotensive or hypertensive prior to pregnancy, and the postpartum blood pressure will reflect the prepartum state.

6. The duration and severity of toxemia of pregnancy are not factors in the production of post-toxemic hypertension.

7. Toxemia of pregnancy does not permanently exacerbate hypertension.

8. The unrecognized hypertensive state is responsible for the appearance of hypertension following toxemia of pregnancy in the vast majority of cases. This lack of recognition results from the variability of blood pressure and the decrease of blood pressure early in pregnancy.

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The Management of the Normal Ileostomy

SIDNEY M. FIERST, M.D., BROOKLYN, NEW YORK, ROBERT M. LEVINE, M.D., MONTREAL, CANADA,
AND CHARLES B. RIPSTEIN, M.D., BROOKLYN, NEW YORK

(From the Department of Medicine and Surgery, Maimonides Hospital, Brooklyn, and State University of New York College of Medicine at New York City)

Considerable literature has accumulated in recent years advising earlier surgery in the management of chronic ulcerative colitis.[1–6] Ileostomy with partial or total colectomy is, therefore, becoming a more common therapeutic procedure. The trend toward earlier and more radical surgery has not been accompanied by a similar emphasis on the management of the patient with an ileostomy.

One recognizes that the ileostomy is a symbol of therapeutic failure to the gastroenterologist. His inability to control the progression of the colitis, or the supervention of carcinoma, or any of the acute complications such as perforation or hemorrhage leads him to advise amputation of the colon. Therefore, if colectomy is regarded as an amputative procedure, the care of the ileostomy assumes the proper perspective of prosthetic rehabilitation. The physician's skill and moral support are urgently needed to adapt the patient to a new way of excreting feces. If help is not given freely, invalidism from the ileostomy may result and be a worse purgatory than the ulcerative colitis was.

It seemed fitting, therefore, to review the experiences obtained in caring for 94 patients with ileostomy. This paper is based on the personal interrogation of 60 of these patients who have had ileostomy for more than one year.

The specter of social stigma attached to fecal incontinence is the first obstacle the patient faces. The thought of an abdominal anus is repugnant and disgusting. Psychologic preparation directed toward accepting an ileostomy is a very important preliminary to surgery. It should be impressed upon the patient that the ileostomy will not impair the capability of enjoying all the normal, happy, social relationships that make life worth-while. The handicaps of constant invalidism associated with chronic ulcerative colitis are balanced against the relatively unfettered existence of the well-adjusted ileostomy patient. An interview with some patients who have become rehabilitated to a satisfactory social and economic level after colectomy will dispel many of the fears a prospective candidate for ileostomy may have.

The psychologically prepared patient is resigned to the thought of the abdominal stoma. The care of the prosthesis is compared to the cleansing of the anus following defecation. A person who is poorly prepared for ileostomy receives a severe mental trauma by the rude awakening to ileal feces spilling onto the abdominal wall. This shock is not easily overcome. The result may well be withdrawal, introversion, a self-conscious fixation on body odors, or even to greater dependency and puerile tantrums. Two patients on whom surgery was performed as an emergency procedure because of acute perforation refused to eat and were very depressed for a long period of time afterward. A third patient went into a shocklike state, almost a catatonic trance. The failure in adjustment to ileostomy occurs in the patient who has not resigned himself to ileostomy. At the present time only seven of the 60 patients interrogated express dissatisfaction with ileostomy, and only three condemn the physician for advising it.

At the time of operation the surgeon must take care in the placing of the stoma. Bony prominences or depressed scars must be avoided. The site must not be too low, or else the flexion of the thigh on sitting will displace the bag. In women the site is placed well below the waist, usually 3 or 4 inches, so that the clothes hang freely and there are no revealing bulges. Most of the ileostomies were fashioned through a stab wound midway between the right anterior superior iliac spine and the umbilicus. Recently, in order to avoid stenosis, a circle of skin, anterior rectus sheath, or external oblique aponeurosis of about the width of the ileum has been excised. The ileum is pulled out for about $1^1/_2$ to 2 inches in

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order to allow for shrinkage. Eversion of the terminal inch and suturing the edge to the subcuticular fascia have been done within the past three years, and this technic appears to be an improvement. Crile and Turnbull[7] advise mucosal grafting to prevent malfunction. In order to avoid prolapse, the mesoserosa of the terminal 6 inches of ileum is sutured to the peritoneum.

Immediately after surgery a standard 16 or 18 F. catheter is inserted into the stoma, and suction further facilitates decompression. A square of latex rubber with a central opening, cut to the size of the stoma and fixed to the skin with rubberized cement of the type employed with ileostomy bags, has been used as a protective guard against spillage. Tincture of benzoin or aluminum paste has also been used. When skin reaction develops, a liberal application of Protogel or a bland dehydrating paste, such as Lassar's, is employed.

The early application of an adequately fitted ileostomy bag best prevents ileal leakage and minimizes the likelihood of skin injury. This can usually be accomplished by the fourth or fifth postoperative day. Several adequate ileostomy bags are available commercially. The Pierce* and Fazio† bags lend themselves to early postoperative use because the soft pliable facing can be cut to size and cemented to the skin. The opening should be about $^1/_8$ to $^1/_4$ inch larger than the stoma.

About six or eight weeks postoperatively the stoma usually has shrunk to its permanent size. The rigid-faced bag, such as the Rutzen** or Torbot,†† may then be fitted. For the most part the patients prefer the rigid-faced bags since they are more durable. Six patients prefer the Fazio bag because of the disposable element. Some object to the transparency of the disposable plastic bag. The facing must not be fitted too tightly. A minimum of $^1/_4$ inch must be allowed between the facing and the stomal mucosa. Swelling and edema of the stoma may occur as a result of various emotional and dietary stimuli. The patients must be warned not to force a swollen stoma into too narrow an opening for injury to the bowel may occur, even leading to fistulation. In order to prevent stricture, the stoma is dilated to the base of the lubricated little finger each time the bag is changed.

Early in the postoperative course the diet should be high in protein and low in fat. The fat may cause hypermotility and diarrhea, perhaps as the result of its choloretic action. There is an enormous loss of sodium, potassium, and chloride immediately after operation. Therefore, salt should be supplied liberally; otherwise abdominal cramps may occur. Hard sugar candies may be ingested, but chocolate may be particularly troublesome. When the ileal discharge becomes more solid, usually about the fourth or fifth week, the diet can be less restricted. Protein and easily digested carbohydrate foods are well tolerated. Fat still causes troublesome diarrhea. Leafy vegetables, high in cellulose, form bezoars and produce obstructive symptoms. Nuts, raw fruit, raisins, apricots, and berries are poorly tolerated and may cause cramping pains, flatulence, and diarrhea. More than four or five glasses of fluid daily may result in the passage of watery movements. An occasional cocktail and smoking are permitted.

Over a period of months the discharge decreases, and the bag usually requires emptying only four or five times daily. The normal gastroileal reflex becomes very evident, evacuation following soon after the ingestion of food. In this connection the bag should not be changed for three hours after eating for stomal activity during this postprandial period is very profuse. The bath should preferably be taken before breakfast since discharge is least at that time.

Emotional and psychic factors affect ileostomy function as they affect other parts of the gastrointestinal tract. Rage and resentment cause swelling of the stoma. One patient has learned to take phenobarbital in anticipation of a family quarrel or unpleasant situations.

There is no need to restrict moderate physical activity. Tennis, swimming, horseback riding, skiing, skating, golf, and dancing are some of the activities in which our patients indulge. Snugly fitting clothing and corsets are worn.

More than two thirds of our patients are married. Good sexual adjustment was admitted by 27 of 60 patients. Five women conceived and were delivered, and three men fathered children after ileostomy. One of the complications encountered during pregnancy was enlargement of the stomal ring and prolapse of the ileum as the abdominal wall stretched. Impotence or frigidity was present in eight, and impotence or frigidity of the partner existed in four patients. Frank discussion of these problems with both partners frequently improves the situation.

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* United Surgical Supplies, 160 East 56th Street, New York City.

† Thomas Fazio & Co. Ltd., 1878 Commonwealth Avenue, Auburndale, Massachusetts.

** H. W. Rutzen, 3451 Irving Park Road, Chicago, Illinois.

†† The Torbot Co., 284 Elmwood Avenue, Providence, Rhode Island.

Summary

1. Ileostomy is being encountered with increased frequency as the result of a more radical approach to the therapy of ulcerative colitis.

2. The care of the normal ileostomy has been discussed.

3. The role of the physician in stomal rehabilitation is stressed.

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Dermatitis of the Hands

Etiology, Treatment, and Prevention of Recurrence

HERBERT H. BAUCKUS, M.D., BUFFALO, NEW YORK, AND JOHN H. GOHRINGER, M.D., ROCHESTER, NEW YORK

(*From the Millard Fillmore, Children's, and Sisters of Charity Hospitals, Buffalo, and Highland Hospital, Rochester*)

THE physical structure of man was so designed that the skin covering the hands is the area of the body which experiences the greatest number of varied contacts. Since the recording of history, it has been noted that changes in the skin appeared following contact with certain substances. It was in the eleventh century that Paracelsus described changes in the hands of workers who were employed in occupations dealing with salt compounds. Later, in the seventeenth century, Bernadino Ramazzini wrote his observations concerning lesions of the hands of bakers due to kneading dough, fissures of the hands of washwomen caused by lye, and dermatitis of the hands of midwives due to contact with the discharge and secretions of the genitals.[1]

In the span of time reaching from these early recordings to the present, an industrial revolution and a complex chemical development have multiplied the number of various materials and contacts a hundredfold. Many of these new and synthetic substances are the cause of contact dermatitis which often follows only a single short exposure.

Thorough discussion of a disease so prevalent and difficult as dermatitis of the hands is obviously not possible within the limits of this meeting.

The contribution of dermatologists to the general practicing profession is vastly important in medical care and equally valuable to the welfare and happiness of all citizens. But it is not enough to teach the physician; ideal medicine follows the intelligent understanding of an educated public.

For all of us it is better that this be early rather than late. Especially regarding the question of dermatitis of the hands do we need to educate the patient in relation to etiology, treatment, and prevention of recurrence.

In evaluating a case of dermatitis, it is of great importance to the patient whether or not the cause is due to his occupation. It has been estimated that about 1 per cent of all industrial workers are affected with contact dermatitis. Only about one fifth of the cases of occupational dermatitis are due to actual sensitivity.[2] The remaining four-fifths are the result of contacts

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with primary irritants which are acids, alkalies, solvents, and oils.[3] Industries involving machinery and metals require the use of primary irritants most frequently so that it is in occupations of this nature that the greatest number of cases occur.

The physician who treats these cases should acquire a working knowledge of the substances and materials used in various industrial procedures. He can then better advise where more rigid protection is required.

The primary irritants referred to above cause lesions on normal skin. Only a short period intervenes between the time of contact and the appearance of the lesion. The substances belonging to the sensitivity group allow lengths of time varying from hours to years to lapse between the exposure to the irritant and skin reaction. Some of the less severe cases due to primary irritants are able to develop an immunity. This permits continued employment without further complication. The immunity which is built up in these cases is effective for only a period of one week to one month following the last contact. However, there is danger of causing a fixed dermatitis with continued exposure.

Specific irritants affect only those individuals who are hypersensitive. This hypersensitivity may be congenital or acquired by contact with an irritant. The antibodies produced in this reaction have not been isolated, nor are they transferable.[4] Substances capable of producing a dermatitis by this means are, for example, dyes, cosmetics, resins, coal tar and its derivatives, and photo developers.

If a patient's dermatitis has been definitely established to be associated with his work, the search to identify the irritant is limited to substances he handles in a limited sphere of activity. When the lesion is due to some contact not concerned with his occupation, the problem of tracking down the causative agent is often very difficult and complicated. It is in cases of this nature that the patient's understanding and cooperation are most helpful.

Because of the popular "do-it-yourself" programs which have been introduced throughout the country, more and more people are handling materials which are potential sources of contact dermatitis. Examples of these substances are paints, oil, varnish, chemicals for developing pictures, glue, cleaning solutions, and plastics.

To determine whether or not a given case is from an industrial source can be most difficult. Patch test results, multiple sensitivities, fungous infection, and superimposed secondary infections may complicate and add confusion to the problem. Only careful consideration and experienced judgment can correctly evaluate cases of this nature.

The main objective when confronted with a case of contact dermatitis is to expose and eliminate the irritant as quickly as possible. Interviews with the patient are, therefore, of utmost importance. The history includes a complete account of the patient's duties and a review of all substances and agents he contacts at work. The time of the first appearance of the lesion must be evaluated with respect to the period of employment, change of routine, or use of new materials.

After all possible contacts in his occupation have been reviewed, a methodical discussion of the other daily activities is initiated and the contacts noted. Under this heading will come gardening which involves insecticides, weed sprays, plants and flowers, etc.; sports which involve leather or synthetic rubber as on the handles of golf clubs, tennis rackets, fishing poles, or ball gloves and leather greases and gun oil, to name a few; hobbies requiring varnish, lacquer, paint, chemicals for developing film, glue, and cleaning solutions; special days such as week ends, certain days of the week, holidays having a special meaning and preparations requiring certain materials or clothing used only on occasion; and commonplace articles such as zippers, buttons, jewelry, and bank checks.[5]

Usually the patient does not realize how many and varied the irritants are. He offers spontaneously only a scarce amount of information. Only after searching questions are frequently put to him, does he begin to comprehend what to look for and how to observe. This education of the patient in cases of contact dermatitis due to an obscure agent frequently results in the patient's detection of the irritant.

The pattern or location of the lesion on the hand may be an aid in determining the causative agent. A leather dog leash, for example, affects a different area of the hand from that involved when gripping a golf club; the lesion caused by a glove covers more surface and affects a greater area than that which results from grasping a rubber ball or a similar object. Fluids produce lesions involving the webs of the fingers and creases of the palms, whereas a solid object leaves these areas free.

While searching for agents to clarify difficult cases, the nervous behavior of the individual must be given consideration.[6] Unconscious twisting of a lock of hair treated with a fixative or a similar cosmetic may be the cause of a contact dermatitis found on a finger. Toying with a coin or pencil containing metal to which one is sensitive may be the source of a lesion.

The contemporary housewife occupies a precarious position in the present-day household chemical supply race. When engaged in the home, she uses potential irritants in the form of soaps, detergents, cleansers, and polishes. When preparing for her leisure hours or social engagements, she handles a wide variety of chemicals in the form of nail polish, hair dye, wave lotion, perfumes, and deodorants. All these substances contain sensitizers and irritants and are sources of contact dermatitis. Mittens of synthetic materials manufactured for the specific purpose of protecting the hands have themselves caused lesions.[7,8]

When the cause of the dermatitis of the hands is obscure or indefinite, the patch test may aid in determining the irritant. This procedure, however, requires experience both as to when a test may be used without causing exacerbation and how to interpret the results of the test.

A positive test applied during the acute stage of dermatitis may cause a lesion to spread and result in a generalized eruption, or new areas remote from the original lesion may show a reaction. It is strongly advocated that the attending physician, rather than one representing an involved company, be the one to do the patch testing in occupational cases. Adherence to this practice will lessen the chance of a reversal of the therapeutic progress.

After a lesion on the hands has developed, sensitization to a secondary irritant often follows. In a situation such as this, a positive patch test does not identify the primary cause with certainty. False positive reactions occur also, for example, when sensitivity to adhesives used in the test exists or a slight infection occurs under the patch.

A negative patch test does not definitely rule out the substance applied. A patch applied close to the involved area usually gives a positive result, while on a surface more distant from the lesion the same test material may show a negative reading.

The presence of heat, sunlight, perspiration, or friction can be a determining factor for the development of a contact dermatitis; the patch test, however, will give a negative result in their absence.

A negative reaction of a patch test applied after the lesion has healed does not definitely eliminate the test material. The possibility that the skin was hypersensitive at the time of exposure has to be taken into consideration.

When applying the patch, it is important to consider possible cosmetic defects due to hyperpigmentation or depigmentation. An area which is normally not exposed should be chosen for the test.

Because of the danger involved in the presence of a dermatitis and the possibility of error in interpretation, patch testing should not be done promiscuously, nor should their results be used exclusively to identify the irritant.

Basically, the therapeutic aim is to identify and remove the irritant. The burning and itching are relieved by the application of wet packs. The method of using these packs is very important, and the patient must thoroughly understand how to apply them. Dry cloths are placed on the lesion. The solution, kept at room temperature, is poured over them. In this manner the packs are kept from drying until the treatment period is ended. This method prevents drying of the skin and keeps it at an even temperature.

After the acute inflammatory stage has subsided, cracking and fissuring may follow. During this subacute stage ointments and lotions containing phenol or menthol for their antipruritic effect are useful. Olive oil with zinc oxide is valuable for providing both a lubricant and a mild disinfectant. Hydrocortisone acetate in the form of ointment is very effective in relieving the pruritus.

Secondary infection is satisfactorily treated with Polysporin. Both penicillin and aureomycin have produced sensitivity reactions.

A principle to follow is not to apply an irritant to a skin already in a state of inflammation.

Should the lesion fail to progress, the skin becomes hard, dry, thick, and crusty. This chronic stage is best treated with pastes and ointments containing coal tar or salicylic acid.

While the dermatitis exists, the use of all soaps is forbidden. Some patients are reluctant to heed this important detail because the soap they use is "pure and mild." Soap substitutes may be as harmful as soap. For a cleansing agent Aveeno or raw oatmeal can be used. Those patients who are compelled to carry on their work requiring soap and water may do so with the aid of rubber gloves. Cotton gloves must, however, be worn inside. The use of these gloves is limited to short periods so that a wet glove, either from perspiration or from water, can cause no further harm.

A basic principle is to be sure that the patient is doing what he should. Complete abstinence may be practiced with regard to soap, but the hand is then used for the application of cosmetic material to the scalp or to other areas without realizing that contact is occurring on the hands. The use of hand lotions may be continued when they themselves may be the source of the irritation. Let it not be overlooked that the pressure from advertising of preparations for the skin increases greatly the problem of recurrence.

Re-evaluation of the etiology and history are very helpful, and most patients will add valuable information at the second or later interviews. Repeated questioning of the patient to discover mistakes in technic will be rewarded by a more rapid and complete recovery.

It is the practice of practically all plants to utilize pre-employment examinations when contact with irritants is necessary. Individuals with a history of allergy or skin disease are not placed in positions where exposure is required. Some examinations include a patch test of the particular irritant which the worker will have to contact. Although a negative patch test indicates nonsensitivity at the time the patch was applied, it does not guarantee that sensitivity will not develop at a later date.

Rubber gloves worn over an application of lanolin or some other bland ointment find frequent use, for example, in the petroleum refining industry, electroplating industry, and chemical processes dealing with waxes and resins.[9]

The use of irritating solvents for cleansing the hands has been replaced for the most part by higher boiling range petroleum products.

If the hands are exposed to strong alkaline cleansers or soaps, dermatitis can be prevented by dipping the hands in a weak solution of acetic acid or vinegar.

Protective ointments sometimes impart a false sense of security because too much is expected from them. This method should be the method of last choice. The main efforts are directed toward keeping the skin clean with normal sweat gland and oil gland function.

The present-day goals of industry are to increase production, develop more rapid methods, and fabricate new materials. The attainment of these ends demands increased employment of known irritants and the synthesis of still others. Because of these trends, problems concerning etiology, therapy, and prevention of dermatitis of the hands will continue to assume ever greater importance and to demand increasing attention from those concerned with their solution.

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Discussion

William H. Wells, M.D., *Schenectady.*—The historical facts, of which I was not aware before, were most illuminating. It is indeed a pleasure to be asked to discuss a subject which, to me, is one of the most vital in the field of dermatology. Dermatitis of the hands is probably the condition for which a dermatologist is most often consulted and undoubtedly is the skin problem which the family physician sees most frequently. In industry it accounts for over 50 per cent of all occupational diseases. It is unfortunate that more time cannot be devoted to this important subject.

As the authors stressed, the history taking and physical examination must be complete and quite time-consuming, not only to establish the correct diagnosis, but also to search out the proper causative *contactant* or *contactants.* We are all aware that a multitude of conditions may affect the hands, contact dermatitis being by far the most frequent.

In my practice the use of patch tests is minimal. They are of very little value in estimating the role of primary irritants. Their main use is in confirming the allergens in allergic contact dermatitis. Usually the allergen has already been determined by a careful history. Patch testing is greatly overestimated and misunderstood by the compensation courts and the public at large.

In few other conditions do we ask the patient to assume such a great share in the management of his disability. To do this intelligently, he must be fully apprised of the mechanisms of his disorder and must be sold on the idea of his responsibility in the treatment. Each step must be carefully explained and the necessity of his avoiding all causal *contactants* emphasized. Sometimes it is necessary to undersell the value of ointments, solutions, and x-ray therapy to attain this point. It is for this reason that I seldom use hydrocortisone ointment, at least initially; the patient may become too dependent on it, rather than adhering to the strict avoidance of the causal *contactants*. In a case of solvent dermatitis or most other dermatitides, it is necessary for the patient to refrain from using soap or soap substitutes for at least several weeks after his hands appear normal, or prompt recurrence may ensue. I use medicated soaks during this period for their mild cleansing and anti-inflammatory properties. In industry it is necessary to continue observation of the patient well beyond this stage to insure that the patient gets well and stays well after returning to his job. Many costly litigations have resulted from failure to observe this last point.

As the authors have mentioned, prevention of recurrences is extremely important. It must be explained to the patient that half the battle is in getting well; the other half, in keeping well. If he returns to the same conditions under which he worked when the eruption developed, the dermatitis will soon recur. He must understand that he is to minimize his exposure to the irritants, change the materials, or change the method of his work. Sometimes his job must be changed. The role of protective creams in my opinion was properly de-emphasized.

Why, then, do not all of our patients get well? I have listed the reasons below, in what I regard their order of importance:

1. Failure of the patient to comply fully with instructions.
2. A neurodermatitic component. For these cases the Rauwolfia products and Thorazine offer distinct advance to barbiturate therapy. Also hydrocortisone ointment is of great value.
3. Development of allergic contact dermatitis or intolerance to topical medications.
4. Secondary infection.
5. Misdiagnosis.
6. Food allergy, which seems to play a decidedly minor role.

Don't Forget . . .

Make your hotel reservations
for the annual convention,
May 7 to 11, 1956, Hotel
Statler, New York City

Carcinoma in Exstrophy of the Bladder

WILLIAM J. STAUBITZ, M.D., F.A.C.S., OSCAR J. OBERKIRCHER, M.D., AND MELBOURNE H. LENT, M.D., BUFFALO, NEW YORK

(From the Roswell Park Memorial Institute and the Department of Urology of the University of Buffalo School of Medicine)

Exstrophy of the bladder has been reported by several authors[1] as occurring in approximately one in 50,000 births. Carcinoma associated with this anomaly is extremely rare. To date 38 cases have appeared in the literature. The authors had the opportunity to observe and treat a sixty-six-year-old, white male with carcinoma in an uncorrected exstrophy of the bladder at the Roswell Park Memorial Institute. The case is being presented because of its relative rarity and also because a unique method of closing the abdominal defect after cystectomy was used.

Case Report

M. J., a sixty-six-year-old, white male, was first seen at the Roswell Park Memorial Institute on March 16, 1953. His presenting complaint was a congenital exstrophy of the bladder which began to exhibit a growth two months prior to admission. Associated with the tumefaction was intermittent surface bleeding (Fig. 1). There was no history of loss of weight, and he had no generalized symptoms. The patient had apparently learned to live with this distressing congenital anomaly.

Examination revealed a well-nourished, well-developed white male, age sixty-six years. Admission blood pressure was 178/100. The significant physical findings consisted of a congenital exstrophy of the urinary bladder which contained an 8 by 7-cm. ulcerating, fungating lesion confined to the right portion of the exteriorized bladder. This tumefaction bled easily on contact. A complete epispadias of the penis was present. There was no palpable adenopathy in the superficial lymph-bearing areas.

X-ray examination of the chest revealed the lung fields to be negative for pulmonary disease. Excretory urography was done on March 17, 1953. The first exposure before the injection of 30 cc. of 30 per cent Urokon intravenously showed marked separation of the symphysis pubis (Fig. 2). The inner one third of the pubic and ischial bones were absent. The remaining bone structure was normal. After the intravenous injection of 30 per cent Urokon, exposures were taken at five, ten, fifteen, twenty, thirty, and sixty-minute intervals. This study showed prompt appearance of the dye on the right in five minutes with complete filling of the collecting system. The right kidney appeared normal. The right ureter was well filled and normal in size and function. At no time during the study did the dye appear in the left collecting system. The ureteral orifice on the left could not be visualized, and retrograde pyelography was impossible.

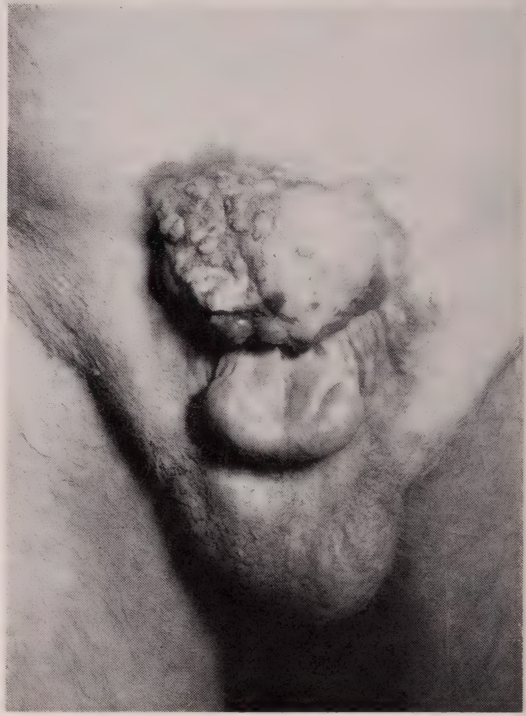

Fig. 1. Photograph of patient when first seen with carcinoma in exstrophy of the bladder.

On admission the blood sugar was 103 mg. per cent; nonprotein nitrogen 37 mg. per cent; albumin 4.76 Gm. per cent and globulin 2.36 Gm. per cent. A complete blood count showed 11 Gm. hemoglobin, 5,250,000 red blood cells, and 7,750 white blood cells with a normal differential. Urine was collected

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Presented at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Section on Urology, May 13, 1955.

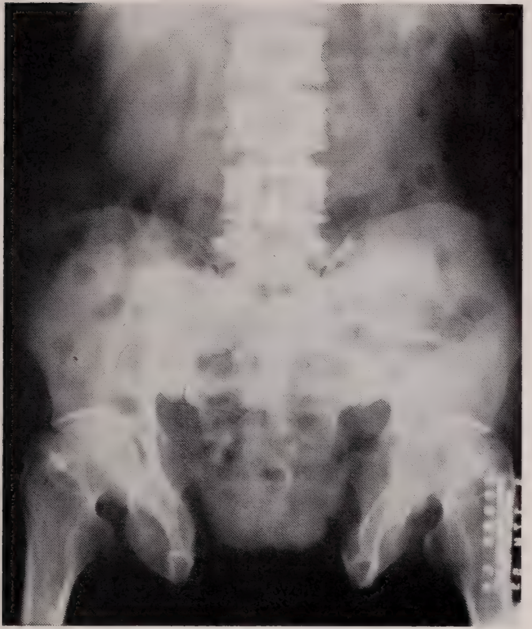

FIG. 2. Excretory urogram showing absence of function of left kidney. Note the wide separation of the pubic bones.

from a catheter placed retrograde through the right ureteral orifice. This showed a specific gravity of 1.012, alkaline reaction, negative for sugar and albumin. The microscopic examination revealed a rare red blood cell and 1 to 3 white blood cells per high-power field. A urine culture was reported as sterile.

On March 31, 1953, a bilateral cutaneous ureterostomy, total cystectomy, prostatovesiculectomy, and a plastic repair of the abdominal wall defect were done in one stage. The gross pathologic report of the specimen removed was as follows: "Specimen received showed a papillary tumor measuring 8 by 7 cm. and arising from bladder mucosa. The surface of the tumor was markedly thickened, and the tumor infiltrated the bladder wall. The prostate was firm in consistency but not abnormal. The seminal vesicles were normal." (Fig. 3). The microscopic examination showed an adenocarcinoma with gland formation being maintained throughout the growth (Fig. 4).

The patient had an uneventful postoperative recovery and was discharged on May 16, 1953. He has been seen on many occasions since his discharge, and there has been no evidence of recurrence of disease or metastasis. Cutaneous ureterostomies were done in place of ureterosigmoidostomy because of the nonfunctioning left kidney. It was hoped that with cutaneous ureterostomies there might be some return of function in the left kidney. Subsequent follow-up studies failed to show this return of renal function. On June 24, 1954, fifteen months after the cystectomy, a left nephrectomy was performed because of repeated episodes of left pyelonephritis. The pathologic report of the left kidney was "chronic pyelonephritis and hydronephrosis."

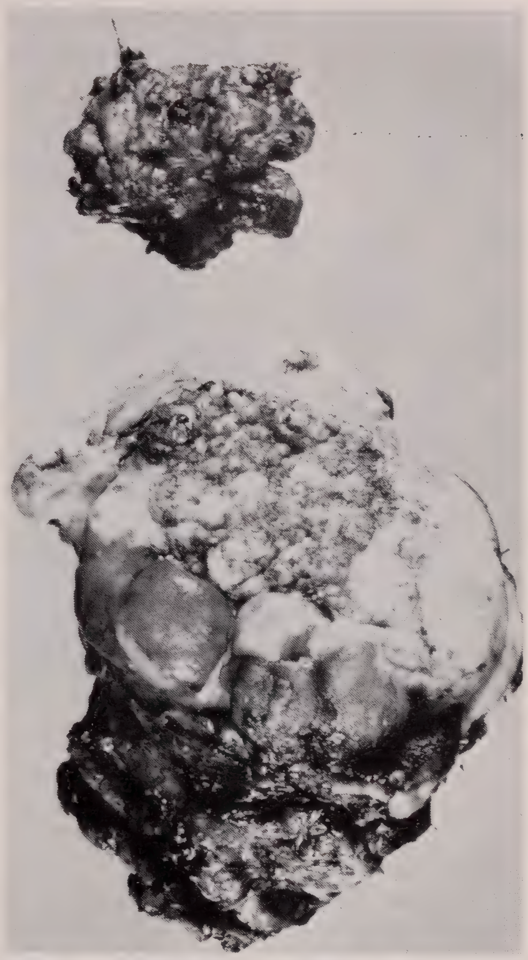

FIG. 3. Gross specimen of bladder with carcinoma after surgical removal.

Following the left nephrectomy, the patient has remained asymptomatic. He is working daily as a chicken farmer and is at present alive and well and free of disease (Fig. 5).

Review of the Literature

Review of the literature reveals 38 case reports of carcinoma superimposed on exstrophy of the bladder. In 1928 Judd and Thompson[2] collected 19 cases from the previous literature and added one case of their own. In 1942 Graham[3] collected six more cases from the literature and added two cases of his own. In 1943 Abeshouse[4] added one case to the literature. Etherington-

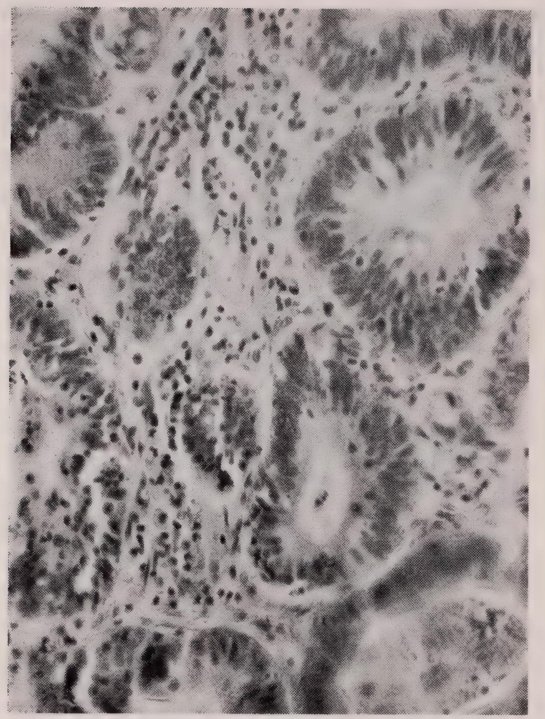

FIG. 4. Photomicrograph showing adenocarcinoma in exstrophy of the bladder.

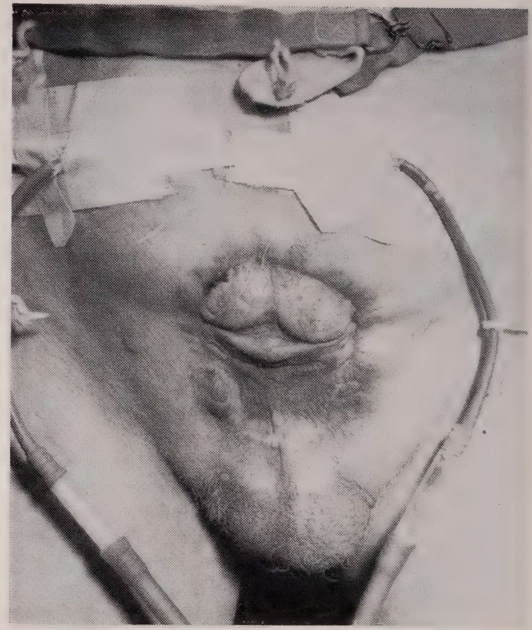

FIG. 5. Photograph of patient after therapy was completed. Note bilateral cutaneous ureterostomies and well-healed penile graft.

Wilson[5] reported one case in 1945. Reid, Westcott, and Summers[6] reported one case in 1948. Davidson[7] in 1950 added three more cases. In 1951 Goyanna, Emmett, and McDonald[8] reported four more cases. The authors are now reporting one additional case, which will bring the total number of recorded cases to 39.

The ages of the patients ranged from twenty-one to sixty-six years when first diagnosed. The largest number of patients, 13, were in the fifth decade. There were seven in each of the fourth and seventh decades. Eight were in the sixth decade. Four were in the third decade.

Of the 39 cases 31 had adenocarcinoma. Two were reported as squamous cell carcinoma. The exact pathology was not mentioned in the other six cases.

Twenty-four of the tumors were seen in males, while 14 were in females. One case reported by Geraghty[9] in 1918 did not mention the sex of the patient.

The treatment most often used was cystectomy and implantation of the ureters into the sigmoid colon or the skin. This was done in 17 of the cases. Three cases had partial excision of the bladder. Three had radiation alone. One case had excision plus irradiation. Eleven cases received no treatment, and in four case reports the mode of therapy was not mentioned. In most of the cases the follow-up was inadequate. However, eight cases were alive more than one year. These eight cases lived fourteen months, fifteen months, two years, three years, four years, six and one-half years, fifteen years, and sixteen years, respectively.

Metastatic phenomena were found and recorded in only three of the case reports.

Etiology

Several authors have discussed the manner of origin of exstrophy of the bladder. Von Geldern[10] in 1924 reviewed the many theories existing to that time and classified them into three types: (1) mechanical, (2) pathologic, and (3) the theory of arrested development.

The "Berstung Theorie," classified as mechanical and advocated by many, considered the cause of exstrophy to be a rupture of the anterior abdominal wall due to an abnormal retention of fluid by the bladder. The retention is believed to be caused by constrictions in the lower urinary tract. Another mechanical concept is based on a short or absent umbilical cord.

The pathologic theory consisted of the belief that ulceration of the anterior abdominal wall occurs with subsequent necrosis and separation. Keith[11] believed that endometritis may be the underlying cause of the exstrophy.

The theory of arrested development is based on coexisting malformations, such as cleft palate, umbilical hernia, spina bifida, and defective development of the external genitalia.

Von Geldern is of the opinion that exstrophy is a result of an abnormal rupturing of the cloacal membrane and "that all of the malformation, from the grave types to the simple epispadias, are produced at approximately the same time but are affected to a different degree by the underlying inciting cause." He cites Hertwig's[12,13] experiments using sodium chloride in various dilutions on eggs. Spina bifida did not occur when 0.5 per cent sodium chloride was used. When the eggs were subjected to 0.6 per cent, only one-half developed spina bifida, and when 0.7 per cent was used, all had this malformation. Von Geldern further suggests that "a chemical substance in the uterine mucosa might act in the same manner and cause only a slight arrest in some embryos, whereas it would cause a marked arrest in others."

Patten and Barry[14] in 1952 stated that "the clue to the embryologic mechanism involved in the genesis of exstrophy of the bladder lies in the correct interpretation of the commonly coexisting epispadias." They are of the opinion that the initial developmental disturbance occurs in the paired primordia which are too far caudad with reference to the cloacal outlet. "The corpora cavernosa would then develop first caudal to the urogenital outlet, and the urethral groove would form in their dorsal angle instead of its usual location in their ventral angle." This would explain the epispadias. Patten and Barry further conclude, "The same abnormal position of the genital tubercle would entail, also, an absence of the ingrowth of mesenchyme which normally converges toward the midventral line just cephalic to the urogenital orifice. Thus when the cloacal membrane breaks through, there is no mesodermal bar to the cephalic extension of this rupture." There is then the chance of its extension all the way to the umbilicus with a resulting exstrophy of the bladder.

The incidence of carcinoma developing in exstrophies of the bladder which have remained uncorrected for a prolonged period is fairly high. In a series of 170 cases of exstrophy seen at the Mayo Clinic by Goyanna, Emmett, and McDonald, seven had adenocarcinoma, an incidence of 4.1 per cent. Adenocarcinoma is the most common tumor found in exstrophic bladders. Several theories have been proposed as to the origin of the glandular elements. The first of these is that the glands represent a true ectopy of undifferentiated cells from the cloaca. The second theory is metaplasia of cystic buds of transitional cells in the deeper layers of the lining epithelium. The third theory is the development of glands from remnants of the urachus. In the case being reported here, metaplasia is the most likely etiologic factor since the tumor took so many years to develop.

Comment

A unique and previously unreported type of abdominal wall repair was carried out in the case herein reported.

The completely exstrophied bladder was excised from the abdominal wall on March 31, 1953. At the time of surgery both ureters were exposed through a transperitoneal incision and were brought to the skin as permanent cutaneous ureterostomies. This technic was chosen in preference to implantation in the sigmoid because of the nonfunctioning of the left kidney and the marked dilatation of the left ureter.

As is usual in these cases, it was impossible to bridge the abdominal wall defect by approximating the fascial layers overlying the rectus muscles. In order to cover this defect, which was about 12 cm. in diameter, a piece of tantalum mesh was sutured to the fascia surrounding the defect. Fine wire sutures were used for this purpose. Since this patient's completely epispadic penis had never served its function of micturition or sex, it was decided to utilize this organ to close the skin defect.

The skin of the dorsal surface of the penis, which actually was the lining of the unclosed urethral channel, was completely removed from the underlying corpora cavernosa. This permitted the penis to flatten out more than it had been. The penis was then swung up and sutured to the skin edges around the abdominal wall defect. The penis served as a ready made full-thickness pedicle graft with an excellent natural blood supply.

Postoperatively, the penis (or the graft) separated from the abdominal wall skin at several corners, exposing the underlying tantalum mesh. On July 31, 1953, four months after the original procedure, the pedicle graft was taken down. Its previously denuded dorsal surface was freshened. After undermining and freshening the edges of the abdominal wall skin defect, the penile pedicle graft was again sutured into place. The graft took successfully and healed completely within three weeks.

The surgery in this case consisted, then, of the usual type of cystectomy and cutaneous ureterostomies. A new approach to the abdominal wall repair was made by substituting tantalum mesh for the fascial defect and substituting the epispadic penis for the skin defect. This latter was done by using the penis as a pedicle graft.

Summary

1. The thirty-ninth reported case of carcinoma in an exstrophy of the bladder is presented with a review of the literature and a summary of etiologic factors.
2. A unique and previously unreported method of abdominal wall repair and closure is described.

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Discussion

Edgar A. Slotkin, M.D., *Buffalo.*—In 1951 Goyanna, Emmett, and McDonald reviewed 170 cases of exstrophy seen at Mayo Clinic and found seven cases, or 4 per cent, which showed carcinoma. They stated that this malignancy is usually low grade and rarely causes death. Boyce and Vest in 1952 again reviewed the literature and found that over 400 articles had been written on exstrophy of the bladder since the first article about one hundred years ago. They found that about 50 per cent of the cases were dead at ten years of age, and 66 per cent were dead at the twentieth year. They stated that the mortality of malignancies of exstrophy is far less than the poor late results of transplants and excision of the bladder. The fallacy in this reasoning, of course, is that many of these cases were done before the development of better methods of transplants and before antibiotics and chemotherapy. Because of the poor results they devised a newer concept of treatment, permanent colostomy with an inversion of the exstrophy into the rectum.

Since exstrophy occurs only once in every 40,000 to 50,000 births and since there are almost four million births in the United States annually, there are almost 100 cases of exstrophy to be treated yearly. Many of these cases have other congenital defects, epispadias and separation of the pubic bones which are always present, spina bifida, cleft palate, hare lip, malformations of the upper urinary tract and bowel, and prolapsed rectum being the commonest ones seen. It is of importance to know the complications and the most satisfactory way to treat exstrophy of the bladder.

Slavery is but half abolished, emancipation is but half completed, while millions of freemen with votes in their hands are left without education.—Robert Charles Winthrop

Treatment of Peripheral Vascular Disease with Hydergine

HUGH L. MURPHY, M.D., F.A.C.S., AND DAVID H. KLASSON, M.D., BROOKLYN, NEW YORK

(From the Vascular Clinic, Greenpoint Hospital)

THE search for methods of improving peripheral circulation in vascular disease has been a long one. Sympathectomy has proved itself to be a worth-while procedure, but it is limited in scope when the vascular problem involves the aged or debilitated patient in whom the operative risk is too great, even with present-day improved surgical technics. Furthermore, our experience has shown that sympathectomy does not necessarily give permanent relief, especially in those with advanced organic peripheral vascular disease associated with reflex vasospasm of long duration. Thus, conservative measures other than surgical interruption of sympathetic impulses are required.

Various agents, notably those having adrenergic-blocking properties, have been subjected to extensive pharmacologic and clinical study recently in an effort to find substances which might provide what might be called a "chemical sympathectomy." This report concerns itself with one of these, Hydergine, as evaluated clinically in the treatment of various peripheral vascular diseases.

Hydergine comprises an equimixture of three hydrogenated alkaloids as originally derived by Stoll and Hofmann[1] from ergotoxine: dihydroergocornine, dihydroergocristine, and dihydroergokryptine. Rothlin and collaborators[2-4] have shown that these preparations depress the central tonus of the vessels and, in addition, have a peripheral adrenosympathicolytic action,* thus effecting peripheral vasodilatation.[5] Konzett and Rothlin[6] found that this dampening effect on vasomotor tone takes place in the medulla oblongata. Of interest also is the fact that these agents produce a bradycardia. Investigation has revealed that peripheral vascular dilatation is obtained in normotensive individuals without reduction in blood pressure, whereas the blood pressure has been lowered in hypertensives.[7] Furthermore, a considerable volume of published work has demonstrated a wide margin of safety for the drug in humans and has shown that the drug is well tolerated.[8-11]

These data stimulated us to evaluate the effectiveness of Hydergine in the treatment of peripheral vascular disease. Most of the cases studied had been under our care previously and had not responded to various agents, such as ganglionic blocking agents and vasodilators. This offered a measure of control in that it permitted us to compare the progress of these patients before and after treatment with Hydergine.

Material and Method

Fifty-eight cases of peripheral vascular disease of various kinds were studied over periods ranging from three months to more than a year. The group consisted of 33 cases of arteriosclerosis obliterans, five cases of thromboangiitis obliterans (Buerger's), three cases of Raynaud's syndrome, four cases of abdominal aortic occlusion, 11 cases of postphlebitic syndrome with chronic venous insufficiency, one case of frostbite, and one case of embolism in the left popliteal artery.

With few exceptions treatment consisted of the injection of 1 cc. Hydergine intramuscularly every other day for three months. In a few cases it was given daily for the first two to three weeks and then three times weekly. When it was felt warranted, it was given for as long as six months.

The basis of evaluation was primarily clinical in the majority of cases and was based on the effect of the drug on subjective and objective manifestations. Particular attention was paid to peripheral temperature changes, intermittent claudication, oscillometric changes, ulcerative lesions, edema, pain, discomfort, and the general well-being of the patient. Pulse and blood pressures were observed at each interval of examination. Cardiac and renal studies were made when

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* Adrenolytic action applies to those agents which prevent responses to epinephrine and epinephrine-like actions, while sympathicolytic action applies to agents which prevent effector cells from responding to adrenergic nerve impulses.

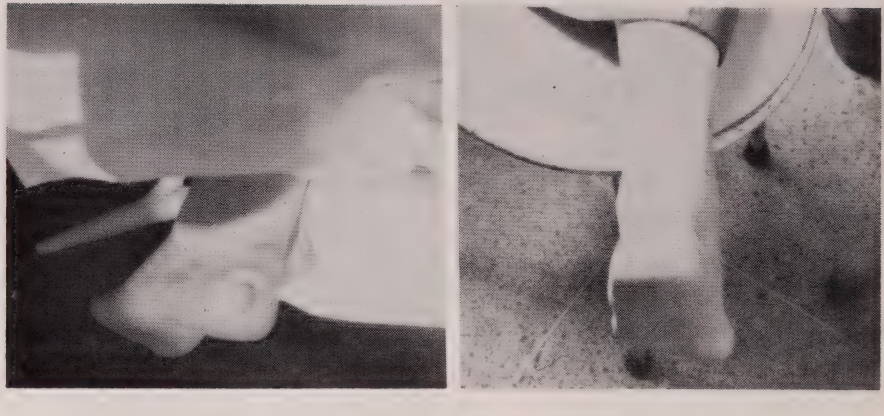

FIG. 1. Gangrenous ulcer before and after Hydergine treatment.

indicated. Blood, urine, and serology studies were also conducted.

The clinical evaluation of any therapy for a chronic disease such as peripheral vascular disease is difficult. The variables encountered are many, and their control is not simple. Included among these were such concomitant ailments as diabetes mellitus, heart and kidney diseases, gastrointestinal disturbances, and emotional problems. The response to the drug was based on the following criteria:

1. Essentially complete relief of symptoms such as pain, increased walking distance, or healing of ulcerations was designated as a "good" response.
2. The response was considered "moderate" in those cases where the most disturbing symptoms were significantly reduced.
3. Some degree of improvement was designated as "slight."
4. No improvement of any of the original complaints or symptoms was designated as "none."

Results

ARTERIOSCLEROSIS OBLITERANS.—Of the 33 cases studied, 20 had symptoms of intermittent claudication or nocturnal cramps; 16 had ulcerative lesions involving such areas as the toes, heel, or ankle region, and nine had diabetes mellitus. Twelve cases with symptoms of intermittent claudication or nocturnal cramps showed improvement. Particularly noted were their increased walking distance and complete disappearance of nocturnal cramps. Eight cases showed no improvement, and two of these required amputations.

Of the 16 cases with ulcerative lesions, ten improved, and six showed no improvement. Most of the lesions were of the early gangrenous type of ulceration (Fig. 1). Healing of lesions without surgical interference occurred in one to five months depending on the severity of the lesion. Except for a few whose treatment was begun in the hospital, the majority were treated under ambulatory conditions. The only local applications used, where necessary, was an ointment containing 2 per cent ascorbic acid in a hydrophilic base.[12]

In the nine cases with diabetes mellitus, its control was not adversely affected in any way by the administration of Hydergine. Of interest also is the fact that there were no disturbing effects on blood pressure or pulse rate in the manner and dosage Hydergine was administered in our routine. One case with coronary sclerosis and angina pectoris reported that during the course of treatment with Hydergine, he had to take no nitroglycerin for his angina. When treatment was discontinued, nitroglycerin was again required for relief of his anginal attacks.

THROMBOANGIITIS OBLITERANS (BUERGER'S DISEASE).—Five cases, all males, were observed, of which four showed improvement with Hydergine therapy. Improvement manifested itself especially in cessation of pain and increased walking distance. The one case that did not respond was well advanced and eventually required amputation.

RAYNAUD'S SYNDROME.—Three cases of Raynaud's syndrome, all females, were studied. One of these showed only slight improvement, while the other two showed no improvement at all. The apparent ineffectiveness of Hydergine in Raynaud's syndrome is probably due to the complexity of this disease. Many such patients exhibit evidence of an inherent emotional and nerv-

TABLE I.—Results of Hydergine Administration

Diagnosis	Number of Cases	Age Range	Male	Female	Improvement				Total Improved
					Slight	Moderate	Good	None	
Arteriosclerosis obliterans	33	49 to 78	29	4	2	15	10	6	27
Thromboangiitis obliterans (Buerger's)	5	39 to 51	5	0	0	1	3	1	4
Raynaud's syndrome	3	39 to 63	0	3	1	0	0	2	1
Abdominal aortic occlusion	4	53 to 80	4	0	0	4	0	0	4
Chronic venous insufficiency	11	35 to 78	3	8	2	5	2	2	9
Frostbite	1	42	1	0	0	0	1	0	1
Embolism	1	70	1	0	0	0	0	1	0

ous instability. This abnormal nervous and emotional makeup manifests itself in many functional complaints in addition to the vasospastic condition.

Abdominal Aortic Occlusion.—Four cases of lower abdominal aortic occlusion were studied. Their symptoms were of long duration. All four cases showed moderate improvement on Hydergine therapy, especially of their most disturbing symptoms: heaviness in legs, intermittent claudication, and nocturnal cramps. The complaint of low backache found in the more advanced cases was not relieved. Nevertheless, these patients did increase their walking distance and experienced relief of rest pain in their legs (Case 3).

Chronic Venous Insufficiency.—Eleven cases were observed. Three of these were males and eight females. Nine of the cases showed some degree of improvement. Eight of the 11 cases had chronic trophic ulcerations, mainly about the ankle region. The effect of Hydergine on the chronic ulcerations was primarily a reduction of local edema pain and improvement in granulation tissue. However, none of the ulcers healed without supportive treatment, such as elastic support, bed rest, elevation, etc. Decrease in the amount of edema seemed to be definitely related to the use of the drug.

Miscellaneous.—In addition to the above, one case of frostbite of both hands was treated with very good results. Improvement occurred with nine triweekly injections of Hydergine. In one case of popliteal embolism where surgery was not possible, no response to treatment with Hydergine was noted.

With the exception of one patient who developed a generalized urticaria after the sixth injection of Hydergine, no unusual side-effects were noted in our cases despite careful observation and questioning of each patient. The above case of urticaria was easily controlled by antihistamine therapy.

As noted in Table I, the percentage of improvement in the arteriosclerotic and thromboangiitis groups constitutes a fairly high percentage of favorable results. These findings agree closely with other investigators.[13-15] It appears that results obtained with Hydergine in organic peripheral vascular diseases compare favorably with surgical sympathectomy. De Bakey *et al.*[16] report that patients with the least severe disease showed over 85 per cent improvement with sympathectomy.

Case Reports

The following case histories bring out the effectiveness of treatment with the drug.

Case 1.—W. H., a fifty-six-year-old, white male, was admitted to the hospital with a history of persistent pain in both legs, inability to walk, polydipsia, and polyuria of nine months duration. For six months prior to admission, he required 15 units of insulin daily. He also had a considerable loss of weight during this period.

Physical examination revealed a fairly well-developed, tall, white male with fair hemic components. The pupils reacted to light and accomodation. There was horizontal nystagmus. The fundi were essentially negative. The neck showed no lymphadenopathy. Chest was symmetric, lungs were clear, the heart presented regular sinus rhythm, and no murmurs were elicited. The abdomen was soft with no masses and no tenderness. Both lower extremities presented trophic changes of the skin, and a gangrenous ulcer was noted over the left heel region. No pulses were felt in either the upper or lower extremities, and no blood pressure or oscillometric readings were obtainable. Neurologic examination revealed absent knee jerks bilaterally, no ankle jerks bilaterally, and impaired sense of touch of both lower extremities.

Laboratory findings were as follows: basal metabolic rate plus 4, serology negative, blood sugar 159 mg. per cent, glucose tolerance elevated, urea nitrogen 17 mg. per cent, blood calcium 11.9 mg. per cent, phosphorus 4.1 mg. per cent, total

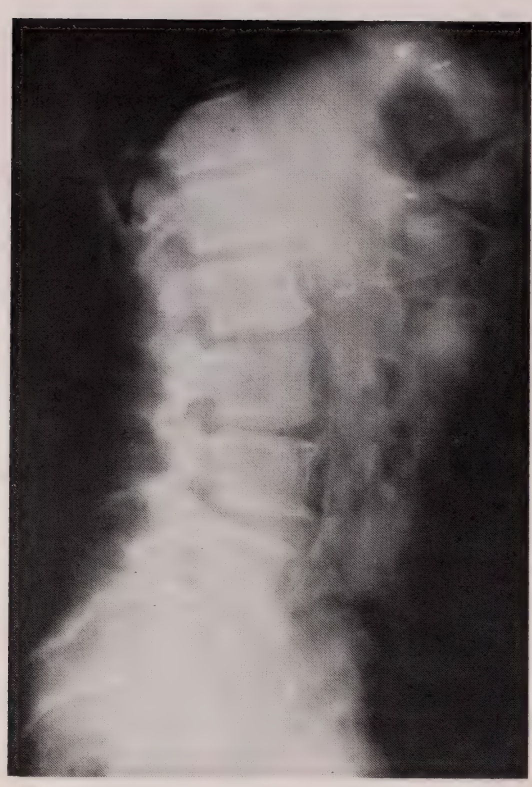

Fig. 2. Calcification of abdominal aorta.

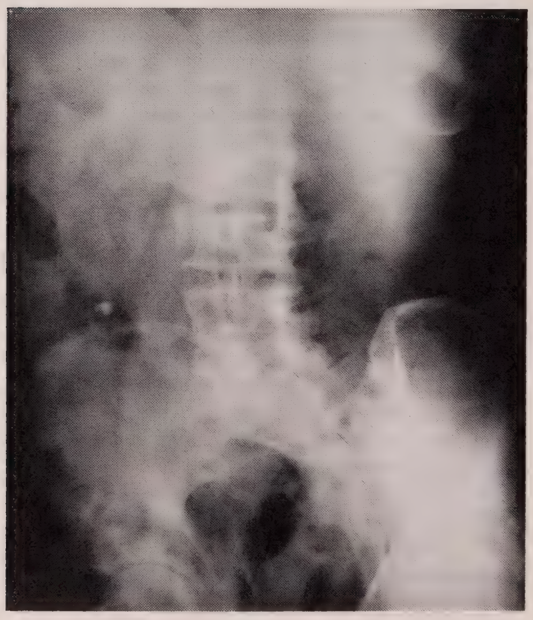

Fig. 3. Calcification of abdominal aorta and pelvic arteries.

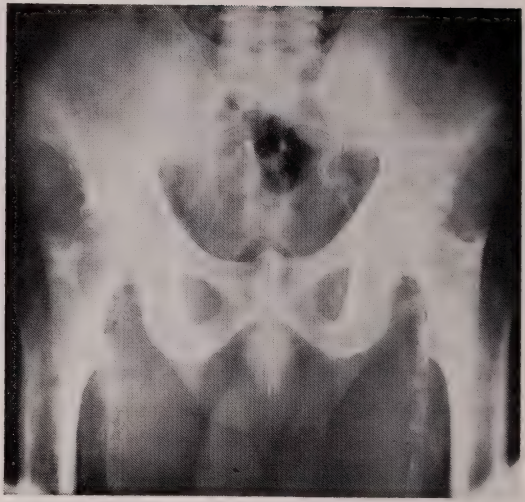

Fig. 4. Calcification of pelvic and femoral arteries.

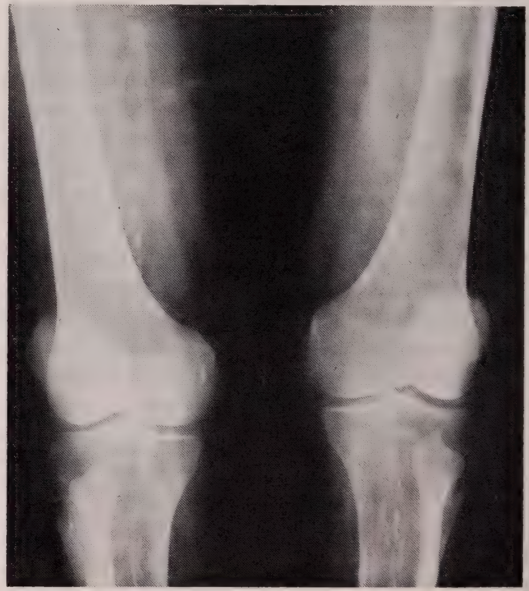

Fig. 5. Calcification of lower femoral and popliteal arteries.

cholesterols 210 mg. per cent, creatinine 2 mg. per cent, chlorides 430 mg. per cent. The urinary findings were essentially negative at each examination and presented no sugar.

The electrocardiogram presented a semivertical heart within normal limits. X-ray studies gave the following results: The pulmonic fields were clear with cardiac shadow normal; aortic arch showed a calcific plaque. There was extensive calcification of abdominal aorta and all major arteries. Both upper and lower extremities revealed marked calcification of both large and smaller arteries (Figs. 2 to 9).

The patient was treated by various standard

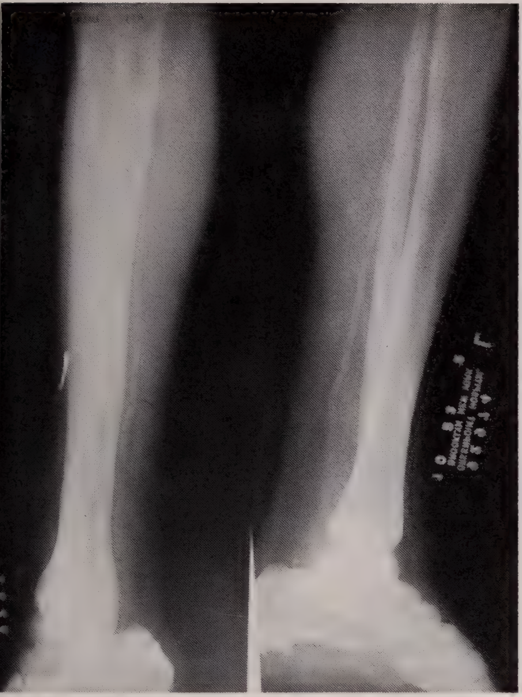

FIG. 6. Calcification of posterior and anterior tibial arteries.

therapeutic procedures with little success as far as his main complaints were concerned. The diabetic status was completely controlled; however, the pain and weakness in the legs persisted, and the gangrenous ulcer of the left heel refused to heal. Two months after he was hospitalized, he was started on daily intramuscular injections of Hydergine, 1 cc. each. Three weeks later, he was able to leave the hospital for home, markedly improved. At home and later in the Vascular Clinic he was given 1 cc. of Hydergine intramuscularly three times weekly. He continued to improve and was able to walk at least ten city blocks. Three months after discharge from the hospital, the gangrenous ulcer of the left heel was healed (Fig. 1). He received treatment with Hydergine for six months and was followed at the clinic for over one year. Improvement continued, and he was able eventually to return to work. His diabetic status remained fairly stable during the whole course of observation. Blood pressures or pulses in either the upper or lower extremities were not obtainable.

CASE 2.—T. F., a forty-seven-year-old, white male, was admitted to the Vascular Clinic with a history of thromboangiitis obliterans (Buerger's disease) of over ten years duration. He also presented a history of poliomyelitis as a child. In 1947 he had a mid-thigh amputation of his left leg due to gangrene of the foot. For two years prior to admission his right leg had been causing him considerable discomfort. The foot was cold and cyanotic, and he developed intermittent claudication after walking (with the aid of crutch) two to three city blocks. He was on welfare and had not worked for years.

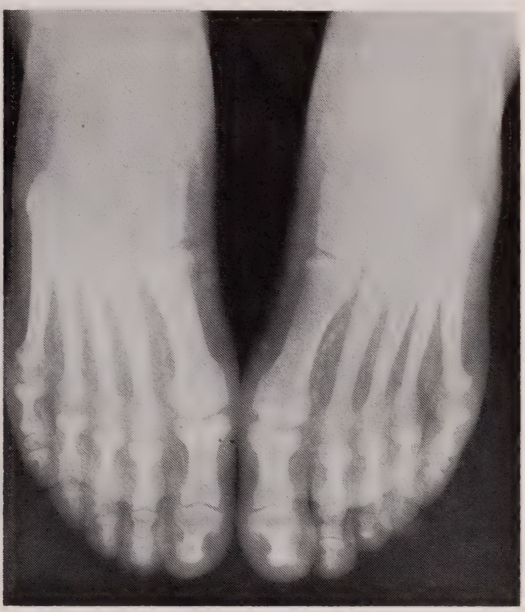

FIG. 7. Calcification of interdigital arteries of both feet.

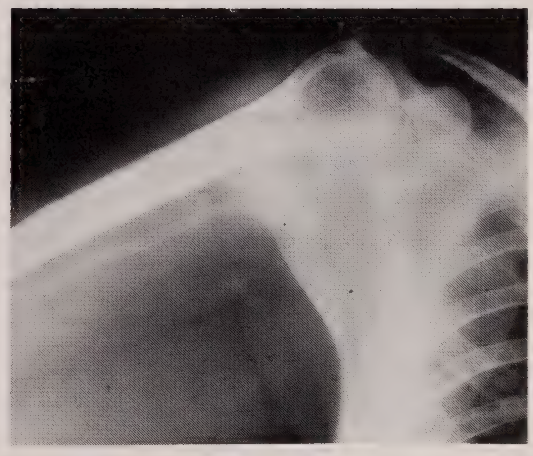

FIG 8. Calcification of brachial artery.

A diagnosis of thromboangiitis obliterans of his right leg was established, and he was placed on Hydergine therapy. He received 1 cc. of Hydergine intramuscularly three times weekly. In less than two months he was able to walk ten city blocks without difficulties and wanted to go to work.

The patient was not seen again for four months.

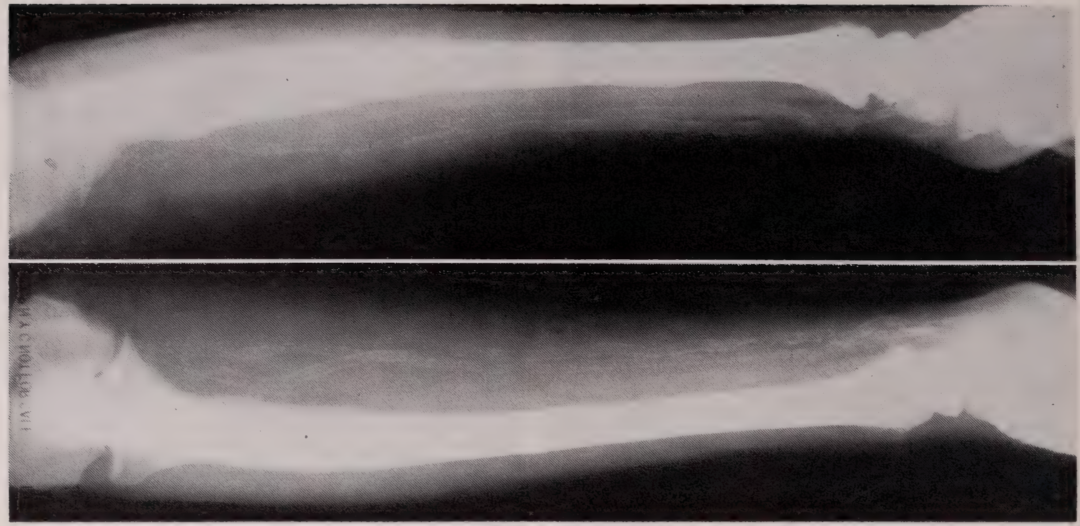

FIG. 9. Calcification of the arteries of the forearm.

After that period he reappeared at the clinic with the same complaints as previously. It seemed he had taken a job with the post office and was forced to stand up for six hours at a time. He was unable to carry on in this manner and left his position. The patient was placed again on Hydergine therapy and received 1 cc. intramuscularly three times weekly. After 30 such injections he was markedly improved. He was able to get about indefinitely if he walked slowly, and he returned to an employment making fewer demands on him.

CASE 3.—N. P., an eighty-year-old, white male, was admitted to the Vascular Clinic with symptoms of intermittent claudication after walking one city block, low back pain, heaviness in both lower extremities, and generalized arteriosclerosis. The above symptoms dated back for six years, and despite various therapeutic procedures he had had little relief.

Despite his age the patient's mental status was well preserved. Blood pressure was 150/62 and pulse 66 with slight irregularity in rhythm. The heart was enlarged and presented slight irregularity in rhythm. The electrocardiogram showed incomplete heart block with interference in the auriculoventricular conduction and premature auricular contractions. The x-ray as far back as 1947 showed calcification of the lower abdominal aorta. Both lower extremities presented trophic changes of the skin and moderate ankle edema, and no pulses were palpable. Oscillometric readings were not obtainable.

A diagnosis of abdominal aortic occlusion was made and the patient placed on Hydergine therapy. He received 1 cc. of Hydergine intramuscularly three times weekly. At the end of two months he was able to walk ten city blocks; however, the low back pain persisted. The patient received 38 injections in a period of three months and continued to feel fine subjectively. The intermittent claudication subsided, and ankle edema was definitely reduced.

Summary

An evaluation of Hydergine in the treatment of peripheral vascular disease is reported. Fifty-eight cases have been studied for periods ranging from three months to over one year. Treatment with Hydergine by intramuscular injection resulted in improvement in 80 per cent of the cases studied and was especially gratifying in advanced cases of arteriosclerosis obliterans. Noteworthy was the ease with which management of these patients was effected by parenteral administration, as revealed by the large number of patients who remained ambulatory throughout treatment. The safety and effectiveness of Hydergine make it of benefit in the treatment of peripheral vascular disease.

Conclusion

Hydergine is a valuable adjunct to the treatment of peripheral vascular disease. It is indicated in cases where sympathectomy is not practicable or safe, especially in cases presenting advanced pathologic changes in the peripheral vascular components. To these may be added those patients who seek a less hazardous method than surgery of relieving their vascular disabilities and discomfort.

Addendum

During the course of this study Hydergine tablets, 0.5 mg. each, became available. These were administered sublingually three times daily in a regimen of combined parenteral-sublingual administration and afforded maintenance with fewer injections.

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Source of Bleeding from the Lower Bowel

RAYMOND J. JACKMAN, M.D., AND FRANK C. SWARTZLANDER, M.D., ROCHESTER, MINNESOTA

(*From the Section of Proctology, Mayo Clinic and Mayo Foundation**)

APPROXIMATELY three fourths of all significant lesions in the entire large intestine can be diagnosed with a 24-cm. sigmoidoscope. This or similar statements have been made frequently in the past few years. Despite the fact that most observers agree that the statement is true, many physicians continue to use roentgenologic studies of the colon as the first diagnostic measure in examination of the colon. Actually, in most instances roentgenologic studies of the colon should be contingent on what is learned from sigmoidoscopy.

General Considerations

In special studies of the colon, for reasons which we shall elaborate, the sequence should be (1) a stool test, (2) proctoscopic examination, and (3) roentgenologic examination of the colon. In many instances the results of examination of the stools may obviate the necessity for additional measures, such as sigmoidoscopic examination or roentgenograms of the colon. It may well happen of course that on the basis of the history and physical findings, examination of the stools is judged unnecessary and is therefore omitted. Yet, even so, in almost all instances sigmoidoscopic examination should precede the barium enema and roentgenologic study of the colon.

The foregoing is true for several reasons. First, preparation of the colon with castor oil and enemas for roentgen studies is much more arduous than sigmoidoscopy for the patient. Second, more skill is required to interpret the results of fluoroscopy and roentgenograms than the results of sigmoidoscopy. Furthermore, the introduction of barium may convert a partially obstructing lesion to one of complete obstruction. Most important of all is the fact that if a significant pathologic process is present in the colon, there is a 75 per cent chance it will be visualized at sigmoidoscopy.

In a period of one month, January 7 to February 7, 1955, inclusive, 1,525 patients were referred to the Section of Proctology of the Mayo Clinic for proctoscopic examination.

An additional ten patients were referred for endoscopic examination of an abdominal colonic

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* The Mayo Foundation is a part of the Graduate School of the University of Minnesota.

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stoma (nine patients) and iliac stoma (one patient). In two of the colonic stomas endoscopy disclosed a small polyp in the proximal segment. The other eight were found to be normal. In the iliac stoma a degree of stenosis was found at the point of passage through the abdominal wall.

Although the lesions of the 1,525 patients referred to us in one month of practice may not be typical of all lesions seen at proctoscopy, in general, they do portray the type of pathologic processes which we see. The patients were members of all age groups, but the majority were adults. Approximately 10 per cent (151) of the total group were referred for proctoscopic examination as part of their annual routine physical examinations. Observations made among patients in this group will be discussed throughout the text of this paper. Obviously, many of the conditions to be reported on existed in combinations.

Results of sigmoidoscopic examination of 188 patients (12 per cent of the 1,525 patients) were negative in all respects.

Rectal Bleeding

A history of passage of blood from the rectum was the most common reason for the internist's referring these patients to us. This sign was noted among 582 patients or 38 per cent of the total. This bleeding may have occurred only once, or it may have been noted many times during the preceding few years. In many instances the nature of the bleeding provided a clue to its source. However, as will be pointed out subsequently, extensive disease of the colon may exist without bleeding as a sign.

Incomplete Proctoscopic Examination

We were unable to pass the sigmoidoscope the usual distance of 24 cm. in 88 patients (6 per cent of the total). The reasons for this inability to pass the sigmoidoscope the complete distance were many, the most frequent being some inflammatory condition, such as diverticulitis, pelvic inflammatory disease, or previous pelvic surgical treatment. Strictures resulting from intestinal operations or chronic ulcerative colitis and inability of the patient to cooperate also were factors in failure to pass the instrument the full distance. For four of the 88 patients it was thought unwise to do a complete proctoscopic examination at the time of the initial examination because of a painful anal lesion, such as anal fissure. These patients subsequently were examined while they were under the influence of anesthesia, and appropriate surgical treatment was carried out at that time.

Anal and Perianal Lesions

In the interests of brevity and to obviate confusion, we have chosen to delete from this study anal and perianal lesions, such as internal and external hemorrhoids, anal malignant processes, anal fistulas, and the like. We do wish to state, however, that in many instances, even though the patient's main complaint was referable to the anal pathologic process, disease that was much more significant was found on proctoscopic examination. As is usually found to be true in similar studies, bleeding from internal hemorrhoids was the most common source of rectal bleeding. In many instances, if the bleeding is put down as hemorrhoidal in origin, then the rest of the colon has to be ruled out as a factor.

Blood or Bloody Mucus in the Sigmoid

Fifteen or about 1 per cent of the 1,525 patients were reported as having blood mixed with mucus, stool, or water at the upper limit visualized at sigmoidoscopy. No explanation for the source of the blood could be discovered in the distal part of the bowel examined. Subsequent roentgenologic studies of the colon disclosed significant lesions, such as polyps or carcinoma, situated higher up in the colon in 10 of the 15 patients. In the remaining five, the bleeding was thought to have been caused by trauma from an enema tip or by the trauma of passing the sigmoidoscope, the blood being carried into the sigmoid at the time of the examination with the patient in the inverted position.

Rectal and Sigmoidal Polyps

Rectal and sigmoidal polyps constituted by far the most common pathologic processes found in the bowel. They occurred in 176 (12 per cent) of all the patients in this group. In 146 members of this group the polyps varied in size from a few millimeters to about 1 cm. These polyps were fulgurated at the time of the initial sigmoidoscopy. In most patients the tiny polyps were single, but several of this group of 146 patients had multiple polyps (up to ten polyps). The remaining 30 patients had sessile or pedunculated polyps larger than 1 cm. For these patients it was felt that fulguration was feasible after a specimen from the lesion had been taken for biopsy.

It is interesting to note that the small polyps occurred just as frequently among patients who were asymptomatic and had been sent to us for routine proctoscopic examination as they did among those who were referred to us because of symptoms. Bleeding from small polyps, those up to 1 cm. in diameter, was the exception rather than the rule.

Carcinoma and Carcinoma Associated with Polyps

Thirty-eight patients or 2 per cent of the total group were found to have carcinoma in the lower bowel within reach of the sigmoidoscope. Six of the 38 carcinomas were associated with one or more "sentinel" polyps. Three of the 38 patients with carcinoma had had some form of operative treatment for hemorrhoids during the preceding year on the assumption that the source of the rectal bleeding was hemorrhoidal. Three patients who had carcinoma reported that they had not had any bleeding from the rectum. An early frank asymptomatic carcinoma was found in one of the patients who was sent for proctoscopic examination as part of his annual physical examination. Most carcinomas of the large intestine will produce transanal bleeding, but many of the early nonobstructing lesions do not.

Previous Operations on the Lower Bowel

The site of an anastomosis carried out at a previous operation on the bowel was visualized through the sigmoidoscope in 27 patients, three of whom had a local recurrence at the site of resection. Bleeding from the recurrent process was considered to be the source of the rectal bleeding. Bleeding occurred in two more of these patients as the result of a deformity arising after a pull-through type of operation.

Familial Multiple Polyposis

During the period under consideration seven patients (0.4 per cent of the total group) were found to have familial multiple polyposis. This figure may seem to be rather high in view of the fact that the condition is considered to be relatively uncommon. All patients in this group could be treated by fulguration of the polyps in the distal part of the bowel with subsequent colectomy and ileosigmoidostomy.

Chronic Ulcerative Colitis and Diffuse Proctitis

Of the 38 patients with chronic ulcerative colitis or diffuse proctitis (2.4 per cent of the total group), all had noted bleeding either at the time we examined them or during the few years preceding the examination. The condition of 12 of the 38 was relatively quiescent, and they were free of bleeding when they were seen. We believe it is interesting and significant to note that five of the seven patients with what was considered to be nonspecific proctitis complained of constipation. Although they were able to pass a daily formed stool, all of the patients experienced one or more bloody discharges between bowel movements. Eventually, perhaps, as the proctitis advances proximally and involves the more proximal segments of the colon, thus progressing to chronic ulcerative colitis with concurrent irritability of the bowel, diarrhea will ensue. It is during this early phase of the disease, when the proctitis is limited to the distal few centimeters of the rectum, that the unwary physician may perform hemorrhoidectomy because the symptoms from both conditions may be very similar. It is not uncommon for patients who have chronic ulcerative colitis to date the onset of the symptoms of the disease to the time of the hemorrhoidectomy, when, actually, an early phase of the disease had existed previously. Chronic ulcerative colitis is among the causes of continued rectal bleeding after hemorrhoidectomy.

Four of the patients with chronic ulcerative colitis had polyps or polypoid inflammatory mucosal tags; one had a rectal stricture.

Factitial Proctitis

All the six patients found to have factitial proctitis complained of bleeding at the passage of almost every stool. The area affected by the irradiation varied from a small zone of scarring and telangiectasis to a large zone of ulceration and slough surrounded by scar and telangiectasis, depending of course on the amount of exposure to the radium and the length of time elapsed since the radium was used. Although factitial or radiation proctitis is considered to be a justifiable complication of radium therapy applied to the female genitalia, fewer patients with this type of proctitis are being seen by us. The lessened incidence of such proctitis is, we believe, chiefly because of better technic in packing the radium away from the rectal wall.

Endometriosis

Although endometriosis is relatively common, it is rather rare for it to invade completely through the wall of the bowel and to cause rectal bleeding. It was noted in only one instance in this group of proctoscopic examinations. The patient concerned had undergone surgical exploration and, therefore, was known to have endometriosis. She gave a history of rectal bleeding with each menstrual period. Grossly, the lesion located in the lower part of the sigmoid was indistinguishable from a polyp or tuft of granulation, except that there was a considerable extrarectal mass and area of infiltration outside the bowel in that vicinity. Biopsy of tissue taken from the "polyp" proved it to be endometrial tissue.

Rectal Varices

Two male patients had large rectal varices that had resulted from damage to the liver and obstruction of the return portal circulation. One of these patients had a massive hemorrhage which required the repeated transfusion of blood and hospitalization.

Amebic Ulcerations

The diagnosis of amebiasis depends primarily on examination of the stools and on microscopic demonstration of Endamoeba histolytica. However, proctoscopy may be of assistance since it permits the taking of swabbings directly from the ulcer or the removal of one of the ulcers with the biopsy forceps. Ulcerations suggestive of amebic infection were seen in three patients during the period under consideration, and in two of them the parasite was found. Results of repeated tests of the stools of the third patient were negative, and biopsy of a specimen of the ulcers similarly disclosed nothing significant. The condition of this third patient, therefore, was regarded as nonspecific proctitis. All the three patients had bleeding with every stool as a sign.

Diverticulosis and Diverticulitis

Although rectal bleeding and sometimes massive hemorrhage usually are listed as symptoms of diverticula of the colon, in our experience bleeding from such a source is rare. In patients who have diverticulitis, erosion into a large vessel can occur with resultant massive hemorrhage. Most patients who have diverticula are in the same age group as patients who have polyps of the colon. We have found that the bleeding thought to be indicative of diverticulitis usually comes from an undiagnosed polyp. Diverticulitis rarely can be diagnosed with a sigmoidoscope, whereas diverticulosis rather frequently is either diagnosed or is suspected on the basis of sigmoidoscopy. In this group of patients one or more diverticula was seen in the lower part of the sigmoid in 15 patients (1 per cent). In 11 additional cases sacculations of the sigmoid were seen which aroused the suspicion of diverticula. One of the patients with diverticula complained of bleeding at every defecation, but a polyp was found to account for it.

Peutz-Jeghers Syndrome

During the month under consideration one fifteen-year-old girl with melanin spots on the lips, whose main complaint was rectal bleeding, was found to have large adenomatous polyps in the sigmoid. Roentgenologic investigation of the remaining portion of the gastrointestinal tract disclosed other polyps situated higher in the colon and also in the ileum and jejunum. Peutz-Jeghers syndrome is considered to be uncommon, but most authors who have written on the condition believe that in many cases the disease goes unrecognized. The most common site of location of the polyps is considered to be the jejunal portion of the small intestine.

Comment

Admittedly, there are many other lesions of the gastrointestinal tract which will cause varying degrees of transanal bleeding, the source of which can be determined only after many roentgenograms, peroral endoscopic examinations, and occasionally only after abdominal surgical exploration. However, in the majority of patients the relatively simple diagnostic maneuver of proctoscopic examination will reveal the source of the blood. Presacral, precoccygeal, and anterior extrarectal masses, as well as submucosal nodules, seldom are the sources of blood unless they become ulcerated or eroded. Many small polyps and early carcinomas do not produce rectal bleeding.

The Use of Benadryl to Decrease Reactions in Intravenous Urography

HERMAN WECHSLER, M.D., BRONX, NEW YORK

(*From the Urologic Service, Bronx Veterans Administration Hospital*)

THE purpose of this paper is to report a simple and safe method of reducing reactions to the contrast media injected intravenously for excretion urograms. In an experience with 425 patients it was found that mixing diphenhydramine (Benadryl) with sodium iodomethamate (Neo-Iopax) or sodium acetrizoate (Urokon) greatly decreased the number and severity of expected reactions.

Soon after the advent of intravenous urography the use of sensitivity tests was advocated as a means of avoiding serious reactions. Dolan[1] in reporting a death following the use of iodopyracet (Diodrast) in 1940 suggested the use of the oral test. This consisted in placing 1 or 2 cc. of the agent under the patient's tongue. Ten minutes later, provided there has been no reaction, the drug is swallowed. A wait of thirty seconds completes the test. Positive signs include numbness of the lips, and the tongue may feel thick and swollen, seemingly filling the mouth. Dolan quoted Braunbehrens who suggested a fatality rate of 1 in 50,000 injections of Diodrast.

Archer and Harris[2] in 1942 reported a series of 600 cases in which they had used the ocular test. They placed one drop of the agent to be injected into the conjunctiva of one eye. After three minutes both eyes were compared for inflammation, redness, and irritation of the conjunctiva.

Naterman and Robins[3] in 1942 presented their study of 1,675 patients and discussed the cutaneous test. In this method 0.05 cc. of the drug is injected intradermally into the forearm along with an innocuous control. Both areas are examined in three minutes. A wheal and erythema mark the positive test. In their series 1,436 (86 per cent) gave a negative cutaneous reaction, but of these, 56 (4 per cent) had a general reaction. Of the 239 patients with a positive skin test, 39 (16 per cent) had a general reaction. Since patients who have positive skin tests are more apt to have general reactions, it was the authors' conclusion that a patient with a history of asthma and a positive skin test should not have Diodrast injected intravenously.

Robins[4] later in 1942 presented a series of 240 cases studied with intradermal tests. Twenty patients (8.3 per cent) following intravenous injections showed allergic reactions, such as rhinitis, sneezing, wheezing, difficulty in breathing, conjunctivitis, or edema of eyelids and face. Six of these 20 had had a negative skin test, while in 14 the skin reaction was positive. Robins concluded that skin testing in some cases will aid one in foretelling systemic reactions and thus enable one to be prepared to give prompt treatment.

Pendergrass, Chamberlin, Godfrey, and Burdick[5] reported their survey in 1942, after receiving answers to a questionnaire from 725 radiologists and 323 urologists. Their study was prompted by a death following the use of Diodrast. They found 26 deaths in addition to those reported in the literature. Based on a total of 661,800 injections, the mortality rate was 0.0039 per cent.

With the advent of Benadryl, a potent antihistamine, investigators studied its use with intravenous urography. The cause of the reactions was believed by Alyea and Haines[6] to be an allergy to iodine. Swick, however, in a personal communication to Pendergrass disagreed, feeling that lethal reactions are probably due to hypertonicity of the solution and/or anaphylaxis caused by the medium as a whole. Blumenthal and Rosenberg[7] discussed the use of Benadryl in urticaria, hay fever, contact dermatitis, functional dysmenorrhea, migraine, vasomotor rhinitis, spastic colon, cardiac asthma, and the prevention of transfusion reactions. They noted that in four patients whose transfusions had resulted in reactions characterized by fever over 101 F. and shaking chills, subsequent transfusions preceded by administration of 50 mg. Benadryl orally produced no reactions.

Mackmull[8] had reported in his study in 1948 the effect of intravenous Benadryl on blood pressure and the electrocardiogram. Drowsiness was experienced by all patients given 100 mg., and in addition, there was nausea with 200 mg. Blood pressure was elevated, the degree and duration being proportional to the dose. The electrocardiogram showed changes consistent with myocardial damage. The author warned against large doses of Benadryl in hypertension and heart disease.

Getzoff[9] in 1948 first reported a reduction of reactions by Benadryl in 21 patients with an allergic history. Only four patients had reactions. In 1951 he noted that in 211 patients treated orally with pyribenzamine, the incidence of reactions to Diodrast was reduced.[10] On the other hand, Crepea, Allanson, and DeLambre[11] commented on the failure of antihistaminic drugs to inhibit reactions to Diodrast. They gave 100 mg. of pyribenzamine or 50 mg. of Trimeton by mouth one hour prior to injection. Bersack and Whitaker[12] in 1953 reported on the use of Benadryl with intravenous urography. They were able to decrease allergic reactions from 6 to 4 per cent with the use of this drug. They included the following in the list of allergic reactions: urticaria, itching, rhinitis, sneezing, conjunctivitis, angioneurotic edema, edema of eyelids or face, wheezing, difficulty in breathing, and shock. Side-reactions evidenced by nausea and vomiting were lowered from 17 to 2 per cent. At about the same time Warrington, Pasquesi, Kulasavage, and McCawley[13] reported on the fairly successful use of Benadryl given intravenously to control postoperative nausea and vomiting.

Olssen[14] presented interesting experimental work in 1953. He tested the activity of Benadryl as an antihistamine in guinea pigs and found its action was retained when it was mixed with Diodrast. He limited the amount of Benadryl to 20 mg. He noted that precautionary measures are time consuming and do not reveal all hypersensitive patients and suggested that prophylactic treatment might be more useful. Gilg[15] in 1953 was able to show that with the use of 20 mg. of Benadryl the side-effects from intravenous urography were reduced from 8.1 to 5.5 per cent in 416 patients. One severe case of urticaria occurred, even though the skin test was negative and the intravenous injection caused no immediate reaction.

Moore and Sanders,[16] also in 1953, reported their studies of the reactions encountered with and without antihistamines. They noted a marked decrease in Diodrast reactions with use of Thenfadil and also with Benadryl. Simon, Berman, and Barald[17] in 1954 published a preliminary report on the use of Chlor-Trimeton with Diodrast. They advocated the injection of 1 ml. of the mixture intravenously as a test dose. With the needle in the vein, a minute was allowed to pass in order for them to observe any untoward reaction, and then the injection was continued. They noted only mild reactions in 4 per cent. They did not consider flush, arm pain, or foreign taste as significant reactions.

Present Study

The studies here reported were done between February and May, 1954, inclusive, and the work of the above three authors was not known to me at that time. Due to the large number of excretion urograms done at the Bronx Veterans Administration Hospital, it was not uncommon to see reactions both moderate and severe. Since part of the treatment for reactions consisted in the administration of Benadryl intravenously, it was thought that by injecting Benadryl with the contrast medium, the number and severity of reactions might be reduced.

This study was confined almost exclusively to observations on men between the ages of twenty and eighty. Only five women are included. Twenty milligrams of Benadryl dissolved in 2 cc. of water were added to the contrast medium just before injection. Because a white cloud appeared and at times persisted, it was decided to use 1 cc. Benadryl (10 mg.) starting with the fifth patient. All injections were given by the residents of the urologic service. The contrast media were either 50 or 75 per cent Neo-Iopax or 30 or 70 per cent Urokon, the more concentrated solutions being used for the heavier individuals. To avoid any selection of patients, the Benadryl mixture was used on all patients in February and April and the contrast medium only during March and May, 1954.

It was apparent during the first month that the results would be gratifying because the nurses and technicians had less uncomfortable patients to deal with and fewer calls for the resident to observe patients during reactions. In all fairness it should be added that Diodrast was the medium of choice in the earlier work mentioned here. I do not believe that the use of Nio-Iopax or Urokon would of themselves lower the inci-

TABLE I.—SENSITIVITY REACTIONS TO BENADRYL-CONTRAST MEDIUM MIXTURE

	Control Patients	Injected Patients*
Number of patients	205	220
Itching of skin or hives	6%	0.8%
Nausea or vomiting	20%	0.9%
Feeling of warmth	10%	2%
Shock reaction (faintness, sweating, weakness)	6%	0.8%

* Benadryl plus contrast medium.

dence of reactions so markedly. A comparison of the incidence of reactions following intravenous urography with and without the addition of Benadryl to the contrast medium showed a striking reduction when the drug was used (Table I). The writer believes that it is a worth-while addition to the technic of intravenous urography. Whether fatalities can thus be prevented is as yet unknown.

Summary

Sensitivity tests to different contrast media for excretion urograms have been described, and their failure to predict reactions has been shown.

The more common reactions have been discussed.

A safe method which has greatly reduced reactions in our hands has been described. It consists in the use of 1 cc. of Benadryl (10 mg.) mixed with the contrast medium of choice in one syringe and injected, observing the usual precautions of any intravenous injections. Reactions have been reduced to about 1 per cent.

1515 GRAND CONCOURSE

I wish to acknowledge with thanks the advice and counsel of Dr. Archie Dean, Director of Urology, Bronx Veterans Administration Hospital.

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MEDICAL SOCIETY OF THE STATE OF NEW YORK

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CLINICOPATHOLOGIC CONFERENCE

UNIVERSITY OF ROCHESTER SCHOOL OF MEDICINE AND DENTISTRY

STRONG MEMORIAL HOSPITAL

ROCHESTER, NEW YORK

Conducted by WILLIAM S. MCCANN, M.D.

APRIL 9, 1954

Case History

The patient was a thirty-four-year-old, white, married housewife who had been in reasonably good health until four months prior to admission when she noted the onset of mild exertional dyspnea and a nonproductive cough. During the succeeding four-month period she experienced gradual increase in her dyspnea, so much so that at times she felt short of breath while at rest. Two weeks prior to admission she noticed palpitation with exertion and, for the first time, mild anorexia. She developed ankle edema which would subside on bed rest and, in addition, periorbital edema on the morning of admission to the hospital. Two other observations noted just prior to hospitalization were the appearance of a fine rash over her chest and upper extremities and the discovery of protein in her urine.

Two years prior to admission the patient experienced a short period of dyspnea and cough productive of white sputum. She had no obvious wheezing at this time; however, her physician advised her that she had asthma, and following a short course of injections of unknown material, the patient had a remission of symptoms with no recurrence. The patient's husband, however, felt that there had been some slight residual shortness of breath ever since this acute episode.

The only other history of cardiorespiratory illness was an episode of pleurisy of unknown etiology at age sixteen.

The patient had experienced no weight loss, fever, night sweats, orthopnea, cyanosis, paroxysmal nocturnal dyspnea, chest pain, hemoptysis, or urinary symptoms. There was no known exposure to industrial dusts, fumes, or smoke nor to pulmonary tuberculosis. No history of familial pulmonary disease was obtained. She was a native of New York State and had not traveled to areas associated with endemic fungous infections of the lungs.

Her past health had been relatively free of illness. The only previous hospital admissions were for obstetric care incident to two normal pregnancies and deliveries. She had the usual childhood diseases, including diphtheria, without known sequelae. It is not known whether or not she had pertussis. She never had rheumatic fever; however, between the ages of seven and nine she had some form of illness described as "growing pains." She did not have chorea.

The patient's family history and personal history are not contributory to the present illness except in the negative sense, as already noted above.

Physical Examination.—On admission to the hospital her blood pressure was 140/130, pulse 108 and regular, respirations 18, temperature 37.5 C. She was a well-developed, slightly obese, white, anxious woman whose appearance was consistent with her chronologic age of thirty-four years. She was neither acutely nor chronically ill, and there was no obvious cyanosis, dyspnea, or orthopnea. Her skin was warm, dry, and clear except for a fine petechial eruption extending over her chest, shoulders, and upper arms. There was no lymph node enlargement. She had no periorbital edema but did have rather marked subconjunctival edema. The left eye deviated laterally. The fundi revealed both venous and arteriolar tortuosity with a nodular appearance ascribed to the arterioles. The optic nerve heads were normal. There was no venous distention noted in the neck vessels. The trachea was not deviated. There was no tracheal tug. The thyroid gland was slightly enlarged. Her thorax was symmetric with equal bilateral expansion and without any increase in anteroposterior diameter. The lungs were resonant, the breath sounds vesicular and free from rales or sibilants.

Her heart was slightly enlarged to percussion. She had a regular tachycardia, and a third heart sound was noted as a protodiastolic gallop. One observer reported a short diastolic murmur heard at the pulmonic area. No systolic bruits were heard. There were no thrills. The first sound at the mitral area was louder than the second. The outstanding feature in the cardiac examination was the *marked accentuation of the second pulmonic sound* which was soft.

The liver was felt 2 to 3 cm. below the right costal margin in the midclavicular line. It extended across the epigastrium to the left costal margin. Spleen and kidneys were not felt. There was no flank tenderness. Bowel sounds were normal. No clubbing or cyanosis was noted in the extremities. Peripheral pulses were present in all extremities. The pulses in the feet were described as being "slightly reduced." A trace of both pretibial and sacral edema was noted. The neurologic examination was within normal limits.

Laboratory Data.—The only significant findings in the hemogram were the finding of 16.4 Gm. per cent and 17.6 Gm. per cent hemoglobin on two occasions and hematocrits of 58 per cent and 62 per cent observed at the same time. Blood platelets were present in normal numbers. The urine specific gravity was 1.020. Marked albuminuria was noted on two occasions, and the urine sediment contained numerous hyaline and granular casts, 0 to 4 red blood cells, and 4 to 10 white blood cells per high-power field. The urine culture was sterile. Stool examination was negative. The blood Wassermann was negative. Blood urea nitrogen was 23 mg. per cent; carbon dioxide was 24 mM. per L. and chloride 111 mEq. per L. The prothrombin time was 55 per cent of normal. Total serum proteins were 6.1 Gm. per cent with an albumin-globulin ratio of 3.9 : 2.2. The cephalin flocculation and thymol turbidity tests were normal. Serum alkaline phosphatase and icteric index were within normal limits. One clotting time by the Lee-White method was slightly prolonged to seventeen minutes.

The electrocardiogram on admission was compatible with right auricular and right ventricular hypertrophy and right axis deviation. A sinus tachycardia was also noted.

Fluoroscopic examination of the chest revealed moderate and general enlargement of the heart. Pulsations were rather weak and inconspicuous but clearly seen. All chambers appeared to be of equal increase, and on Trendelenburg position the shape of the mediastinal shadow did not change significantly. Lung markings were prominent. Diaphragms moved equally and well. The peripheral lung fields aerated well and equally. The chest films added little to the fluoroscopy. The roentgenologist felt that the findings were consistent with cardiac dilatation, slight failure, and right-sided hypertrophy.

Course in Hospital.—The patient was kept in bed and offered a 2-Gm. salt diet. She gradually became more dyspneic, and on the third hospital day her respirations were 28 per minute and labored. The petechial rash remained unchanged. Subconjunctival edema persisted, and now periorbital edema appeared. Her lungs remained dry and without evidence of bronchospasm. The cardiac status was also relatively unchanged. The loud second pulmonic sound, the sinus tachycardia, and protodiastolic gallop were still present. The venous pressure on the fourth day was recorded as 270 mm. water. The arm-to-lung circulation time with ether was seven seconds; the arm-to-tongue circulation time, employing decholin, was forty-three seconds. Her carbon dioxide was now 13 mM. per L. and chloride 113 mEq. per L. Very shortly after these studies, the patient became desperately ill, presenting a picture of acute peripheral circulatory collapse. Blood pressure and pulses were unobtainable. The extremities were cold and clammy. The lungs remained clear. Findings in the heart were unchanged. She was markedly dyspneic despite the fact that she was receiving oxygen. She was given 50 mg. Neo-Synephrine in 700 cc. of 5 per cent dextrose in water intravenously over the next ten-hour period without any influence whatever on her blood pressure. A total of 1 mg. of Digoxin was also given intravenously in two doses over this period of time. Her condition remained poor despite these therapeutic measures, and within twelve hours after her acute circulatory collapse she suddenly became extremely restless, orthopneic, dyspneic, and cyanotic until she expired. This occurred at the end of her fourth hospital day.

Discussion

Dr. William S. McCann: When one analyzes the picture which is presented here, one comes inescapably to the conclusion that the primary phenomena are those of a very low output from the left ventricle, stasis of blood in the venous system, and a picture of congestive failure. We have forward failure of the left ventricle and backward failure of the right ventricle. Now, offhand, that combination of circumstances could only be achieved by something which would increase the resistance of the lung to the passage of blood from the right ventricle to the left. The left ventricle, of course, cannot put out any more blood than is delivered to it by the right ventricle after passing through the lungs. Therefore, we must infer that the resistance to the transfer of blood through the lungs is increased. The phenomena which support this conception are these: In support of the low ventricular output, we note the very low pulse pressure. The blood pressure was 140/130, and let me call your attention to the fact that with this small pulse pressure we have a very high diastolic pressure. This fits the rule that when the output of the left ventricle is reduced, the arterial system into which it delivers blood generally constricts in order to accommodate itself to the small input of blood. On the other side, we have a venous pressure of 270 mm., generalized edema, and swelling of the liver. We also have in the heart a protodiastolic gallop rhythm.

We have to consider, of course, all the possible ways of explaining this resistance to blood flow through the lesser circuit, producing both forward and backward failure. Several possibilities will occur to you. For instance, intense bronchial spasm raises the alveolar pressure to such a degree that the blood is squeezed out of the alveolar capillaries, as in anaphylactic shock or in any situation in which there is a good deal of bronchial spasm or narrowing, productive of alveolar pressure which compresses the alveolar capillaries and thus interposes resistance to blood flow through the lungs. That is, in general, the asthma mechanism which can be relieved by bronchodilators. Next, one thinks of anoxia. Now, we know that anoxia causes a resistance in the pulmonary circuit. It has been shown by Scandinavian and Dutch workers and has been confirmed in this country that this situation is a result of the formation of histamine in the lung and that it is a chemically induced process in which both bronchospasm and vascular constriction may play a part.

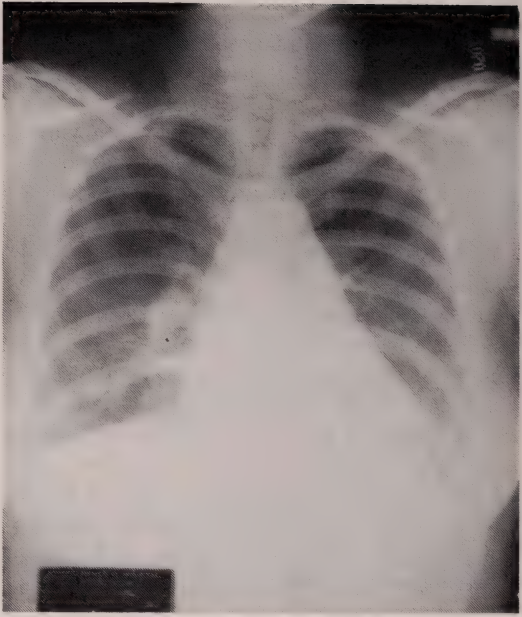

Fig. 1. Posteroanterior chest roentgenogram.

Then, when one considers hypertension in any circuit, one has to relate the input of blood into that circuit to the tone of the vascular wall. So, if one forces a high rate of blood flow through a constricted circuit, the mere fact of elevating the rate of blood flow would intensify the hypertension. As applied to the pulmonary circuit, one has situations like those existing in emphysema where there is a high rate of blood flow, possibly to be explained by hypercapnia and the opening of arteriovenous shunts, by means of which arteriolar pressure is transmitted more directly to the venous side, and the input of blood into the right heart and through the lungs is increased.

So far we have considered asthma, severe anoxia, and emphysema as mechanisms of pulmonary hypertension. To these we will add mechanical resistance of the fibrotic lung; certain forms of heart disease in which an increased rate of blood flow obtains, such as a patent ductus arteriosus where the arterial aortic pressure is transferred to the pulmonic circuit by the communicating vessel; and septal defects in which

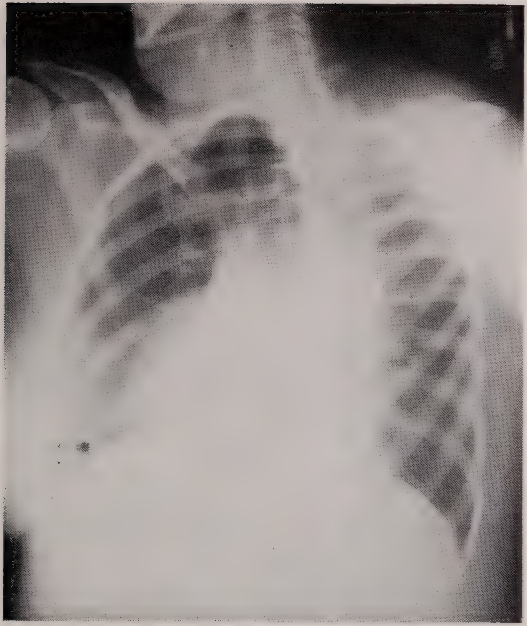

FIG. 2. Left oblique view.

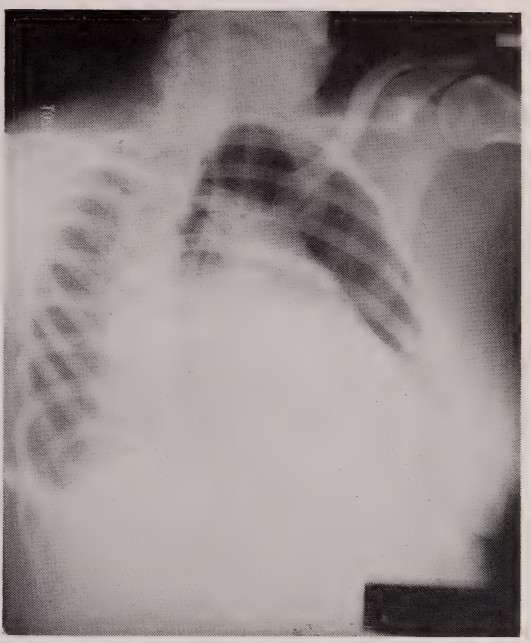

FIG. 3. Right oblique view.

left ventricular pressure is transferred over into the lesser circuit. Finally, there are mitral stenosis and a less common primary pulmonary hypertension described by Hammon and Rich.

In order to decide which anatomic situation we are up against, I think we need to know what we have to deal with structurally in the chest, as revealed by the chest x-ray.

Dr. Stanley M. Rogoff: In considering the x-ray findings the two striking things to be noted are a moderate over-all enlargement of the heart and an elongation and increased convexity of the segment of the left border comprising the pulmonary conus and artery. In the posteroanterior and left anterior oblique views there is suggestion that the first branches of the pulmonary arteries are large (Fig. 1).

In the oblique projections one may identify some fullness in the region of the right ventricle (Figs. 2 and 3). Fluoroscopy of the patient suggested that there was also left ventricular enlargement. However, inasmuch as Dr. McCann and I seem to be proposing a diagnosis of pulmonary hypertension, we would obviously prefer to have the right ventricle enlarged by itself. However, radiologists have a lot of difficulty in estimating the left ventricular size when the patient has a recognizable right ventricular enlargement because if the right side is enlarged, the left side may rotate or be pushed backwards. Nevertheless, I have to say that there could be left ventricular enlargement as well as right ventricular enlargement.

As far as the auricles are concerned, it can easily be seen that there is no gross enlargement of the left auricle. It would be best to have a barium swallow in order to confirm this impression more positively, but the usual signs of left auricle enlargement are absent. We feel confident of right auricular enlargement because the segments of the heart, seen posteriorly just above the diaphragm in the right anterior oblique views, do look full.

We have now to discuss the matter of pulsations because, in looking at a large heart, the possibility of a pericardial effusion has to be considered. In this case the pulsations were diminished, although they were recognizable. I cannot rule out the diagnosis of pericardial effusion in this patient since from our own experience we recognize how completely atypical the contour of the heart may be in pericardial effusion and how frequently pulsations are maintained in such cases. It is also feasible, in the presence of a slightly enlarged heart with weak pulsations, that we might be dealing with constrictive pericarditis. In the case of constrictive pericarditis the heart is generally small, but we have seen instances in which it was large with weak or absent pulsations.

When we consider the lung fields, we find that they show absolutely nothing. This patient has no evidence of the type of pulmonary congestion associated with left ventricular failure or with mitral stenosis. There is no evidence of chronic fibrosis of the lung or of pulmonary emphysema. There is no evidence of multiple pulmonary emboli or their scars, nor is there any evidence of the presence of metastatic tumor. The mediastinum looks perfectly normal. There is no prominence of the shadows of the superior vena cava.

DR. McCANN: Dr. Rogoff disposes of a lot of things we might have to consider. On x-ray there is no evidence of any pulmonary disease. The physical examination of the heart fails to reveal any mitral murmurs. This confirms Dr. Rogoff's finding that the left auricle is not enlarged. I think that we have also disposed of the question of a pericardial effusion by the failure of the contour of the heart to change with the patient in Trendelenburg position. This brings me to the point where I am obliged to explain the resistance of blood flow through the lungs by changes in the pulmonary vessels themselves.

The commonest cause of cor pulmonale is multiple embolization. If these lungs were being embolized, the emboli must have been small and must have escaped detection clinically and by x-ray. Experimentally one can produce cor pulmonale by injecting starch grains which are about 35 micra in diameter. These will plug up the pulmonary capillaries and produce pulmonary hypertension. However, in the case under consideration we have to look further for an explanation of the changes in the pulmonary vessels, even though it is difficult to exclude embolization. We are brought to a consideration, therefore, of so-called primary pulmonary hypertension due to occlusive changes in the pulmonary arterioles of some unknown cause. We have very few clues as to what might be the cause here. There have been reports that some of these people with primary pulmonary hypertension can be relieved by intravenous injection of Priscoline, suggesting that the sympathetic innervation of pulmonary vessels may be functionally more active than is usually the case. In concluding my remarks, I am left with the diagnosis of pulmonary hypertension of unknown cause by exclusion of other demonstrable causes.

DR. NORMAN J. ASHENBURG: Are there any questions concerning this case before we proceed with the pathologic findings?

QUESTION: What about the course of this disease and the time which elapsed between the onset of this patient's severe symptoms, admission to the hospital, and demise? Does that fit the diagnosis? Isn't this course a rather rapid one?

DR. McCANN: I am afraid that there is an iatrogenic factor here, in that this patient was given Neo-Synephrine shortly before she died. Those that gave her this tell me she was in shock and dying, and they do not believe it made any difference. However, it couldn't have done her much good because, with the low output from the left ventricle which was being discharged into a constricted arterial field, what good could possibly be accomplished by further increasing the constriction? This fits with a report which I saw recently concerning the treatment of people who were in shock after coronary occlusion where Neo-Synephrine was used with frequently fatal results.

DR. RALPH F. JACOX: What about the possibility of a generalized collagen disease?

DR. McCANN: Well, I could conceive that some form of collagen disease might be playing a role in the vascular changes which have caused this pulmonary resistance. It is quite conceivable that the pathologists may present us with this. However, when periarteritis exists in the pulmonary circuit, it is generally recognizable in the chest x-ray, or there are at least abnormal lung markings going with the vascular changes which register as linear shadows in the lung.

QUESTION: How do you explain the left ventricular enlargement?

DR. McCANN: It seems to me that Dr. Rogoff pointed out the difficulty of evaluating left ventricular enlargement in the presence of an enlarged right ventricle. Even if the left ventricle is somewhat enlarged—since it had to work against a diastolic pressure of 130—under these circumstances you might expect some hypertrophy of the left ventricular musculature.

Pathologic Report

DR. C. L. YUILE: At the time of autopsy the heart weighed 450 Gm. which is not very hypertrophied for an obese woman but is in the neighborhood of 100 Gm. in excess of the normal average. The enlargement was entirely due to increased musculature of the very hypertrophied and dilated right auricle and ventricle. The right ventricle measured between 6 and 8 mm. in contrast to a normal of 3 to 5 mm. and also in

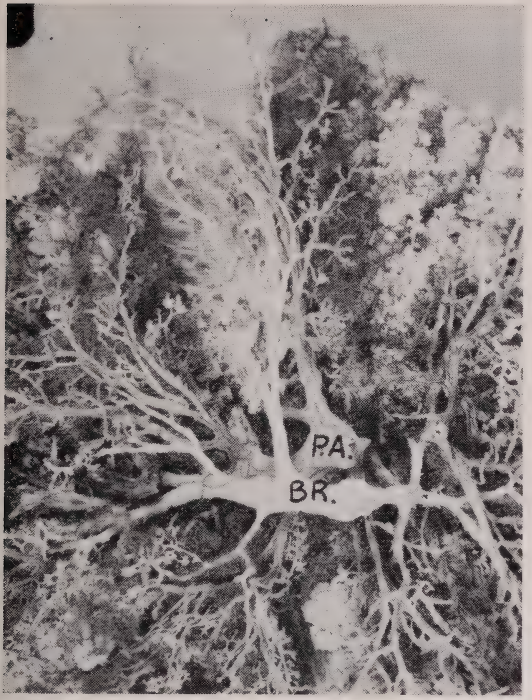

Fig. 4. Black and white photograph of injections in color, made by Dr. Charles Tobin. The injected bronchus BR; the pulmonary artery PA; the dark areas were injected from the venous side. Contrasted with the dark area of the venous injection, one may see the clubbed ends of the occluded pulmonary arterial branches. (*Courtesy of Dr. Charles Tobin*)

contrast to the thickness of the left ventricle which was only 9 mm. There were no congenital deformities in the heart. There were no arteriosclerotic changes, and there was no scarring or valvular defects. The lungs were smooth and well aerated for the most part, and their weight was roughly within normal limits. The first striking abnormality which was noted grossly was when the pulmonary artery was dissected. There were branches to each of the major lobes, which were not quite so large as usual. On further examination it was seen that instead of branching and reducing in size, as they usually do, they suddenly seemed to decrease in caliber and many small branches ramified out into the lung parenchyma on both sides. I think that at this point we might take a look at some slides which were made by Dr. Tobin (Fig. 4).

Here, where the main pulmonary artery enters, there are two very sizable branches, and then a very large number of smaller branches are seen beyond this. This finding is variable, but something is obviously occluding many of these branches at variable distances out in the parenchyma of the lung. There was no appreciable edema in the lungs; the bronchial mucosa was somewhat congested, and there was a little frothy fluid at the base. The rest of the gross autopsy was essentially normal except for the effect of chronic passive congestion of the right side of the heart.

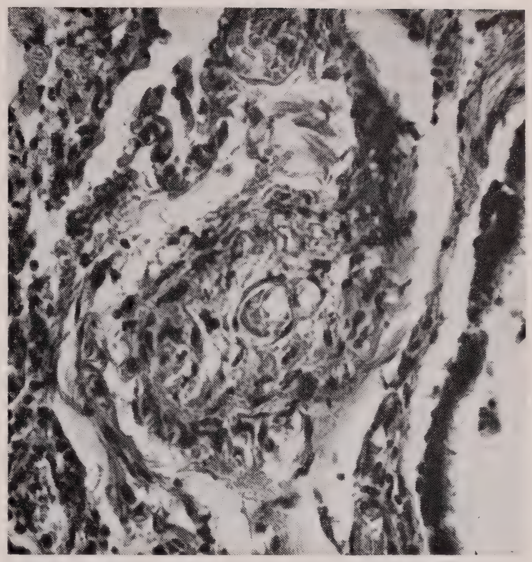

Fig. 5. Microscopic section of an occluded pulmonary arteriole.

Microscopically, I think we can dispense with everything but the lung sections (Fig. 5). Looking at a small branch of the pulmonary artery about arteriolar size, you can see that something is occluding its lumen. If we look at the vessel under higher power, we cannot make out any lumen except for one very small capillary space right in the middle, and the rest of it is rather loose cellular connective tissue. You will also note that many of these alveolar capillaries are rather congested and distended with blood, and that is one feature of the lung which I have been unable to explain satisfactorily to myself. There are a number of vessels of this size which are occluded in this way, others to a slightly lesser degree, and still others which fail to show any narrowing at all. Some of the vessels show occasional eccentric, subintimal plaques.

The other striking feature relates to the *bronchial* arteries which are greatly enlarged, relatively speaking. In this particular lung they are large, extended, and have very large lumina relative to the thickness of their wall, and this is in sharp contrast to the changes seen in the pulmonary arteries and their branches.

What we are dealing with is then, I suppose, the ultimate question, and I think it is a little hard to give it a name. There has been a good deal written about primary pulmonary arteriolar sclerosis and primary pulmonary hypertension. When we consider "essential" pulmonary hypertension, I don't believe that we know any more about it than we do about "essential" systemic hypertension, if indeed we know as much. The one clue which perhaps gives a little ray of hope that some of these questions may be unraveled has come out of the type of work that Dr. Tobin has been doing. He has injected the pulmonary vasculature and found that various abnormalities may occur in the pulmonary and bronchial circuits. Anastomoses may result and in themselves may possibly be the factor initiating certain sclerotic vascular changes, which over a period of time may lead to hypertension and a failing right heart. However, since we have to provide a pathologic diagnosis we will call it ***primary pulmonary arteriosclerosis*** or, if you wish, ***primary pulmonary hypertension.***

Summary

DR. MCCANN: To pursue some of the remarks that Dr. Yuile made just at the end in regard to the possible effect of recirculating the left heart's blood through the lung again by way of the bronchial arteries, I think you ought to remember that Virchow pointed out over one hundred years ago that the bronchial artery is the collateral supply to the lung when branches of pulmonary artery are occluded. He had this very clearly in mind. It was part of a general paper on collateral circulation which he wrote, and he went on to find and study cases of pulmonary disease in which the bronchial system had enlarged. About thirty years ago, when I was in Baltimore, there was a young Swiss surgeon there by the name of Carl Schlaepfer, who was working in the Hunterian Laboratory occluding pulmonary branches with silver clips. He waited for the hypertrophy of the bronchial system to occur. The immediate effect, if he occluded a vessel large enough to cause an infarction, was just the sluggish inflow of blood into the alveolar capillaries from the bronchial side. That, of course, is the basic mechanism in hemorrhagic infarct: the sluggish inflow of bronchial blood into an area in which the pulmonary supply has been occluded. More recently the surgeons and pathologists at Yale have been working on this and producing tremendous hypertrophy of the bronchial system by pulmonary vessel occlusion. Of course, by the very beautiful technics which Dr. Tobin uses, we see this now translated into color transparencies on the screen. However, when you come to think about the mechanics of the circulation, if the pulmonic circuit is occluded down to a very tight size and then bronchial inflow into the lungs is seen to carry the blood around from the left heart through the lungs again, it poses a very nice problem in circulatory dynamics.

In a case such as this, there must have been a time, during which the left ventricular output was maintained, when the pressure in the pulmonary capillaries was elevated by the increasing contributions of high pressure bronchial artery blood. Since this process continued to develop to the point where the left ventricular output fell off to critically low levels, even the bronchial recirculation failed, and the demise of the patient inevitably occurred.

Little by little we subtract
Faith and Fallacy from Fact,
The Illusory from the True,
And starve upon the residue.
—SAMUEL HOFFENSTEIN

CASE REPORTS

Hemangiopericytoma of the Uterus

ARNOLD GOTOFF, M.D., AND J. IRVING KUSHNER, M.D., F.A.C.S., BRONX, NEW YORK

(*From the Departments of Gynecology and Pathology, Bronx Hospital*)

VASCULAR neoplasms of the uterus, because of their relative rarity, have received little attention in the literature. Stout and Murray[1] in 1942 first called attention to hemangiopericytomas. They are characterized by numerous proliferating capillaries surrounded by round and ovoid cells, probably derived from pericytes described and named by Zimmermann,[2] and are normally found in the outer surface of capillary cells. Although lacking myofibrils, they nevertheless have contractile powers and bear a close relationship to smooth muscle cells which they resemble. Pericytes are radially arranged around proliferating capillaries of a hemangiopericytoma and are the essential component of the tumor.

Fisher, Kaufman, and Mason,[3] as well as Murray and Stout,[4] have grown cells obtained from a hemangiopericytoma in tissue culture. The former investigators not only noted the previously described pericytes, but also observed morphologic variants of the cells, similar to those seen in microscopic sections of many hemangiopericytomas.

A notable difference between a hemangiopericytoma and a hemangioendothelioma is found in the appearance and behavior of the endothelial lining of the vessels of the tumor. In the latter neoplasm the endothelium reveals marked proliferation and presents a "heaped-up" appearance within the vascular sheaths, as well as invasion of the wall of the vessels and of the adjacent extravascular tissue. In the former tumor the lining of the vessels does not differ from the normal. Pericytes do not invade the vascular sheaths, although occasionally free nests of tumor cells have been observed within the lumen of a lymphatic channel. Such tumors are known to occur in the uterus, as first reported by Greene and Gerbie[5] and by Pedowitz, Felmus, and Grayzel.[6]

Microscopic examination is essential for diagnosis. Morphologic variations exhibited by pericytes account for the frequent inconstancy of appearance presented by the tumor. The component cells may be round, ovoid, or spindle shaped. They contain round or ovoid vesicular nuclei. The marked similarity of pericytes and smooth muscle cells necessitates utilization of special differential stains, such as Masson's, to distinguish one from the other. This stain demonstrates the presence of connective tissue fibers between and around pericytes, as well as the absence of myofibrils in those cells. Since myofibrils are characteristic of smooth muscle cells, the stain serves to differentiate them from pericytes. Muscle tissue stains an orange-yellow color; pericytes stain green.

Typically, pericytes are concentrically arranged around the capillaries of the neoplasm. Although careful examination will almost always reveal areas of proliferating capillaries, the blood vessels may not be apparent in other areas when stained with hematoxylin and eosin. They are frequently noncanalized or compressed by profusion of pericytes, but their presence can usually be demonstrated by application of silver stain. With this technic the sheaths of the blood vessels stain black, so that the extraluminal position of the pericytes is emphasized. In addition, connective tissue septa are noted enveloping both large and small aggregates of cells and, occasionally, isolated pericytes. Not only do vascular sheaths differ in thickness, but the reticulum content of the tumor also varies.

The following case is reported.

Case Report

E. R., age fifty-five, gravida 5, para 4, was admitted to the private service of the senior author on June 23, 1954, because of backache of three years duration, left lower quadrant pain, and progressive enlargement of her abdomen of two years duration. Her menstrual periods began at the age of twelve. They were of the twenty-eight-day type with five to seven-day flow. Last menstrual period was on June 9, 1954.

An appendectomy was performed at the age of twenty, bilateral tubal ligation at the age of thirty-five, and a varicose vein operation at the age of

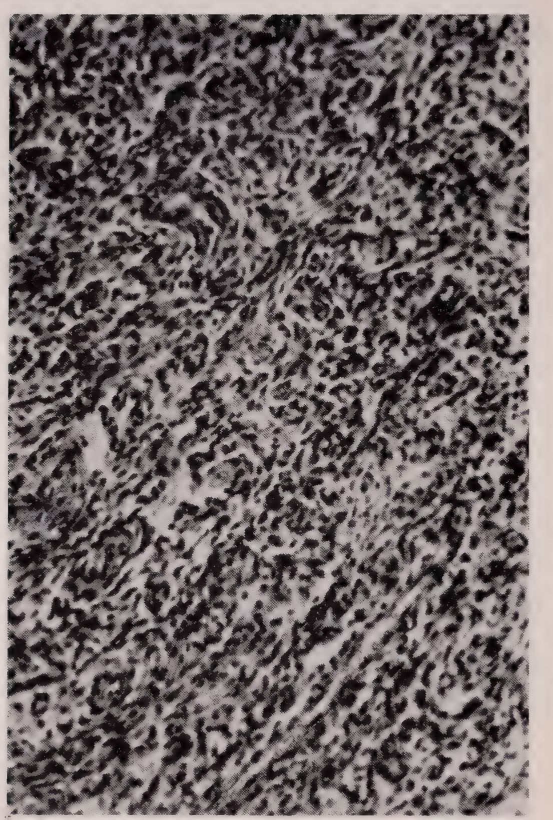

FIG. 1. Cellular neoplasm with numerous blood vessels. (*Hematoxylin-eosin stain*)

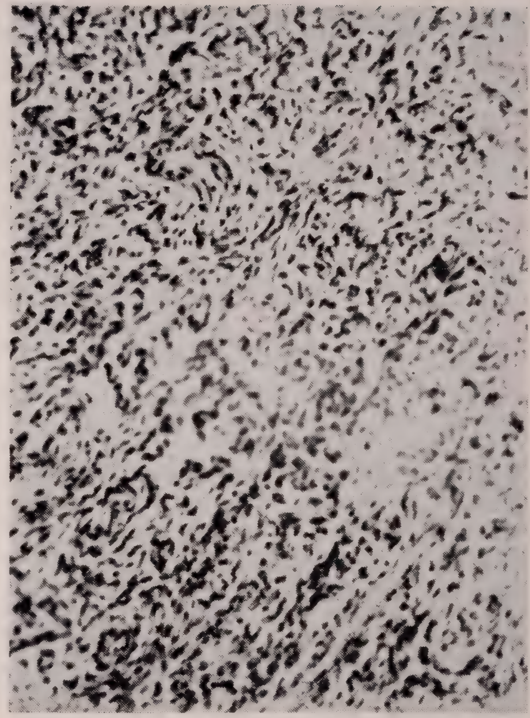

FIG. 2. Same area as in Fig. 1. Spaces separating the vessels are filled with spindle cells with a tendency to perithelial whorl arrangement.

fifty-three. Her past medical history was not relevant.

Examination on admission showed a blood pressure of 160/90; chest x-ray and electrocardiogram were both normal. Hemoglobin was 88 per cent with 4,620,000 red blood cells. Urine was negative. Vaginal examination revealed a large fibroid tumor mass filling the pelvis.

On June 24, 1954, total abdominal hysterectomy and bilateral salpingo-oophorectomy were done.

The specimen received in the laboratory consisted of a uterus and cervix measuring 15 by 12 cm. in size with both tubes and ovaries attached. Five intramural, well-encapsulated masses were present, which on section were soft and degenerated. Microscopic sections of the uterine wall revealed a midsecretory endometrium with a congested and edematous stroma. Sections of myometrium showed marked hypertrophy of the muscle fibers with areas of interstitial edema and occasional liquefaction degeneration. Sections of the soft intramural tumors revealed a cellular neoplasm composed of numerous tiny blood vessels (Fig. 1). The lumina were very small and frequently contained red blood cells. Occasional lumina were markedly compressed or obliterated. There were no significant changes in the intima. However, the intervening spaces separating the vessels were filled with numerous spindle cells of uniform appearance, apparently pericytes which frequently tended to arrange themselves in concentric perithelial whorls (Fig. 2). Mitoses were rare, but nuclear pyknosis was rather frequent. The microscopic diagnosis was hemangiopericytoma of the uterus.

Representative sections were submitted to Dr. Arthur P. Stout because of his interest in this subject. Special stains with Masson's trichrome, Laidlaw silver reticulum, and Scharlach R showed a very vascular tumor in which there were rounded cells accompanied by very fine reticulum fibers filling in the spaces between the capillaries. None of the cells appeared to be smooth muscle cells. He concurred in the diagnosis.

Summary

A case of hemangiopericytoma of the uterus is reported.

910 GRAND CONCOURSE
1840 GRAND CONCOURSE

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Fatal Hemorrhagic Pancreatitis as a Complication of Biliary Tract Surgery

WILLIAM P. DOREMUS, M.D., NEW YORK CITY

(*From the Lenox Hill Hospital*)

THE occurrence of hemorrhagic pancreatitis as a fatal complication following biliary tract surgery has recently been reported in increasing numbers. Although it has been regarded as rare, it has gained greater attention in recent years because the fatalities related to other complications, such as hemorrhage, infection, anesthesia, and surgical technic, have been progressively and favorably corrected. Undoubtedly, some of the acute fatalities following biliary tract surgery, which were diagnosed without autopsy as acute coronary heart disease, peritonitis, renal and hepatic insufficiency, or pulmonary embolus, were in fact acute hemorrhagic pancreatitis. The following is a case report of a patient who expired thirty-eight hours postoperatively from hemorrhagic pancreatitis complicating cholecystectomy and choledocholithotomy.

Case Report

A forty-five-year-old, white female was admitted to Lenox Hill Hospital on February 16, 1954, with intermittent right upper quadrant abdominal pain radiating to the back and right shoulder for two days. The patient had been in good health prior to this attack of abdominal pain which occurred a few hours after eating a fatty meal. She stated that deep respirations increased the pain but denied any episodes of nausea, vomiting, fever, dyspnea, or cough.

In 1951 the patient had had a total hysterectomy for multiple uterine fibromas. Otherwise the past and family history was noncontributory.

On admission her temperature was 99.6 F., pulse 88, respirations 24, and blood pressure 140/94. She was an obese female in no distress. The skin and sclera appeared icteric. The right upper quadrant of the abdomen was tender, and there was slight rigidity to palpation. The liver was not palpable, and no abdominal masses were demonstrated. The heart and lungs were normal.

A cholecystogram showed no concentration of dye in the gallbladder. Electrocardiogram was normal. The hemoglobin was 15 Gm., white blood cells 6,350 with a normal differential. Serum amylase was 34 mg. per cent, serum bilirubin 5.6 mg. per cent, cephalin flocculation negative, thymol turbidity 4.5 units, alkaline phosphates 9.7 mg. per cent. The feces were negative for urobilinogen. The urine showed a trace of bile and was negative for albumin and sugar.

During the six days after admission the patient became progressively jaundiced and experienced two attacks of severe right upper quadrant abdominal pain. The temperature remained normal. She had no nausea or vomiting.

On the eighth day after admission, under endotracheal anesthesia with cyclopropane and succinylcholine chloride (Anectine), a cholecystectomy and choledocholithotomy were performed through a subcostal incision. The gallbladder was contracted, fibrotic, and contained six large, multifaceted stones. A large stone (1.5 cm.) was palpable in the common duct at the junction of the cystic duct with the common duct. The common duct was dilated and fibrotic. To palpation and inspection the pancreas was soft and normal in size. The gallbladder was dissected from the fundus toward the ampulla without difficulty. The cystic artery was demonstrated and doubly ligated with number 2-0 chromic catgut. After the gallbladder was removed, the common duct was explored. A longitudinal incision was made in the common duct and the calculus expressed. The right and left hepatic ducts were catheterized with a small, plain-tipped rubber catheter and irrigated with normal saline. No calculi were demonstrated. The catheter was then inserted distally and passed into the duodenum where the catheter was palpated. A T tube with shortened ends was then placed in the common duct. Two Penrose drains to the foramen of Winslow and liver bed were brought out through the lateral angle of the subcostal incision.

The patient returned from the operating room in excellent condition and reacted promptly. The blood pressure was 130/80. A Levine tube, which had been passed preoperatively to deflate the stomach, was attached to suction.

She remained well until fourteen hours postoperatively when she complained of severe pain in the upper abdomen. The blood pressure dropped suddenly to 64/48. Whole blood transfusion was started; 75 mg. of Demerol were given for pain. The blood pressure rose to 100/74 after the patient had received 500 cc. of whole blood. Nineteen hours postoperatively the patient experienced shortness of breath with the recurrence of epigastric pain radiating to the back. The blood pressure became imperceptible, and there was little relief of pain with 100 mg. of Demerol. The pulse was 120 and thready, respirations 32, skin cold and clammy, and temperature 102 F. Despite the patient's critical condition she remained alert and responsive. She was placed in an oxygen tent. Penicillin-dihydrostreptomycin, 2 cc. intramuscularly, was given every twelve hours. A cutdown was performed, and an infusion with 4 cc. of Levophed in 1,000 cc. dextrose and saline was started. The blood pressure returned promptly to 106/74 after the patient received 50 cc. of the infusion with the Levophed, and the infusion was discontinued. A second 500 cc. whole blood was given.

The blood pressure rose to 144/90, but the pulse and respiration remained rapid. The patient was not cyanotic, and her lungs were clear. The abdomen became progressively distended and more tender over the upper quadrants. The wound drained a moderate amount of serosanguineous fluid but showed no bright red staining. The T tube drained 10 cc. of clear yellow bile.

In the twenty-four hours postoperatively the urine output was 50 cc. with no urinary residual after catheterization. The fluid intake was 2,000 cc. The hemoglobin was 16 Gm. with 5,000,000 red blood cells. Thirty-six hours postoperatively the patient again complained of severe pain over the incisional area, and the blood pressure became unobtainable. At 4:30 A.M., thirty-eight hours postoperatively, the patient expired.

Autopsy examination revealed the entire pancreas to be hemorrhagic and necrotic. It was slightly enlarged and of firm consistency. There were no stones in the common duct or the pancreatic ducts. The ampulla of Vater was patent. The common duct with the pancreatic duct entered the duodenum as a common channel. On microscopic examination the entire pancreatic tissue was involved in the necrotic process with the destruction of the acini, islets, and ducts. There were large areas of hemorrhage into the pancreatic tissue and into the surrounding fatty tissue. The abdominal cavity contained about 1,000 to 1,500 cc. of port wine fluid. The pathologic diagnosis was acute hemorrhagic necrosis of the pancreas.

Comment

The signs and symptoms of this patient with acute pancreatitis occurred suddenly and within the first twenty-four hours postoperatively. The severity of the abdominal pain was significant early in the postoperative course. When the patient went into a shocklike state with a rapid pulse and unobtainable blood pressure, coronary thrombosis, hemorrhage, surgical shock, pulmonary embolus, and hepatic insufficiency were the complications considered. Gargas and Christopher[1] reported a similar case and, in ruling out these complications, were able to take a sufficient number of serial serum amylase determinations so that the diagnosis of acute pancreatitis was conclusive; the diagnosis was confirmed later by autopsy.

Trauma and ischemia are two factors in the case being reported which may explain why such severe pancreatic necrosis followed this operation. As was stated, a T tube had been placed in the common duct. The incision in the duct was approximated with Atraumatic sutures around the T tube, and then normal saline was induced through the T tube with a bulb syringe to confirm that the tube was snugly in place and still patent. The saline was inserted under moderate pressure, and all of it passed into the biliary system without resistance or leakage. When the syringe was removed, less than a few cubic centimeters of the saline were aspirated from the T tube. The saline which could not be aspirated was assumed either to have remained in the biliary system or to have passed into the duodenum. Under rapid pressure the saline could have filled the pancreatic ducts causing sudden dilation and rupture with extravasation into the pancreatic tissue.

Where a common channel was anatomically present, trauma to the pancreatic duct and possible rupture may have occurred when the catheter was passed down the common duct to establish the patency of the ampulla of Vater. In the autopsy examination it was demonstrated that a catheter inadvertently could have curled into the duct of Santorini.

In the cases of fatal hemorrhagic pancreatitis following biliary tract surgery discussed by Boles,[2] the only factor, operative manipulation of the common duct, was common to all. It must be considered that excessive trauma to the pancreatic ducts by catheterization or irrigation may occur. Thal[3] in his studies on the ischemic origin of experimental hemorrhagic pancreatic necrosis observed that intraductal pressure, when increased to the point of ductal rupture with the bile diffusing into the interstitial pancreatic tissue, caused complete stagnation of the blood flow in the interacinar pancreatic capillaries.

For adequate exposure in this obese patient, numerous laparotomy pads were required to wall off the stomach, intestines, and omentum. Caution was used not to injure the adjacent organs, but prolonged and continuous pressure was exerted in the course of retracting and packing. In discussing the surgical physiology of pancreatitis, Howard[4] emphasizes the proximity of the celiac and sympathetic ganglia to the biliary system and the resultant vascular spasm and ischemia to the pancreas when these tissues are manipulated. The etiology of hemorrhagic pancreatitis is not fully known, but trauma combined with ischemia are contributing factors in this disease.

Conclusion

Fatal hemorrhagic pancreatitis, a postoperative complication of cholecystectomy and choledocholithotomy, is reported. Trauma to the pancreatic ducts by inadvertent catheterization and irrigation through a "common channel" of the common duct and duct of Santorini is discussed. Vascular spasm and resultant ischemia of the pancreas by prolonged retraction on the adjacent celiac and sympathetic ganglion are considered as contributing factors in this postoperative complication.

945 LEXINGTON AVENUE

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Foreign Body in an Immature Vagina

ROBERT M. CUSHING, M.D., F.A.C.S., NEW YORK CITY

(From the University Hospital, New York University-Bellevue Medical Center, and the Department of Obstetrics and Gynecology, New York University College of Medicine)

THE presence of a foreign body in an immature vagina is so rarely observed that it is not often suspected, the resultant leukorrhea being mistaken frequently for a primary vaginal infection. When a case of "vaginitis" has had an adequate trial of therapy with little or no subsidence of the discharge, one should be on the alert for the possibility of a foreign body. While the incidence of vaginal infections in prepubescent vaginas has decreased, that of foreign bodies has not.[1]

The case herein described is one that an observant pediatrician referred for gynecologic investigation without delay. A foreign body (absorbent cotton) was found in the vagina; it was removed, and cure was immediate and dramatic.

Case Report

G. M., a five and one-half-year-old girl, was admitted to the University Hospital on September 14, 1954. She had had no previous hospitalization, operation, or serious illness. On admission the vital signs were normal, weight was 45 pounds, and there was no pain or urinary complaints. Red blood cells were 4,400,000, hemoglobin 10.8 Gm., and white blood cells 6,550 with polymorphonuclear leukocytes 45, lymphocytes 47, monocytes 5, and eosinophils 3. There was a dense area of long hair over the sacrum present since birth. The presenting complaint was vaginal discharge which had appeared during July, 1953. Between then and July, 1954, the patient was given penicillin intramuscularly and/or orally on three separate occasions by her physician with resultant disappearance of the discharge followed by its return a few weeks after treatment.

Two months previously, the vaginal discharge had recurred and continued until she was brought to a pediatrician. He placed an ear speculum into the vaginal introitus, but the instrument advanced too short a distance, and the results perforce were negative. The pediatrician immediately requested a gynecologic consultation.

The child was taken to the operating room, and under Vinethene-ether anesthesia it was observed that a malodorous, yellowish-white discharge was exuding from the vagina over a raw and reddened vestibule and vulva. Vaginoscopy revealed a markedly hyperemic vagina and cervix and a curious blackened object. This was removed and discovered to be a matted wad of absorbent cotton (Fig. 1). The vagina was then irrigated with normal saline and a 100-mg. Terramycin suppository inserted. Culture of the vaginal pus revealed the following: several colonies of Escherichia coli; a few colonies of nonhemolytic streptococci of the enterococcus group; numerous colonies of microaerophilic streptococci, green on agar plate; anaerobic gram-negative rods resembling the Bacteriodes group. Cultures were negative for gonococcus.

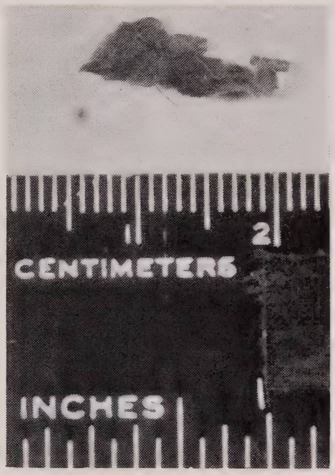

FIG. 1. Piece of matted, discolored absorbent cotton found deep in the vagina close to the cervix.

The patient was discharged from the hospital the following morning. A careful follow-up showed that the vulva and vagina reverted to normalcy very rapidly. There has been no recurrence. Inquiry of the child's mother failed to shed any light as to how the absorbent cotton gained entrance into the vaginal canal.

Comment

A vulvovaginitis in a five and one-half-year-old girl which reappears after appropriate treatment should make one suspicious of the existence of a foreign body. Gynecologic examination of the child with a vaginoscope may reveal a foreign body, and its removal will effect an immediate cure.

130 EAST 65TH STREET

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TREATMENT OF CANCER

IRWIN E. SIRIS, M.D., *Editor*

Subcommittee on Cancer
Council Committee on Public Health and Education
Medical Society of the State of New York

with the cooperation of

Bureau of Cancer Control
New York State Department of Health

The Treatment of Bone Cancer

JOHN J. MORTON, M.D., ROCHESTER, NEW YORK

(*From the University of Rochester School of Medicine and Dentistry and the Strong Memorial Hospital*)

Bone cancer can be divided into primary malignancies, sarcomas of bone, and secondary malignancies due to metastatic deposits into bone of carcinomas from other organs or from lymphomatous growths, such as Hodgkin's disease and lymphosarcoma.

Primary sarcomas of bone are classified according to the most differentiated cell type in the tumor or to the most predominant cell type if there are several. Theoretically, a malignant tumor of bone can originate from any of the cells which constitute the bone. There are thus possible tumors predominantly of cartilage, osteoid tissue, bone, connective tissue, vascular endothelium, marrow cells, nerve cells, or fat.

Treatment of any of the malignancies of bone depends on the anatomic site. There are certain areas in the bone, such as the axial skeleton, which are not easily accessible to surgery; it is possible to attack the axial skeleton surgically, but the operations are more formidable and as a rule are avoided by most surgeons. The appendicular skeleton, on the other hand, can be resected or amputated more easily if desired.

Primary Malignancies

Osteogenic Sarcoma.—There are several varieties of osteogenic sarcoma. In one type, new bone production, although imperfect, makes up the major portion of the tumor. These *sclerosing* osteogenic sarcomas differ from other osteogenic sarcomas in that they produce dense bone at the ends of the long bones, even up to the cartilage plate in some instances. Their growth is relatively slower than the other forms of osteogenic sarcoma because of the high degree of differentiation of the cells. The prognosis is correspondingly better for this reason. These tumors are not radiosensitive. Amputation, well above the involved area but not necessarily taking the whole bone, is the treatment of choice. Resection of this type of tumor from the ribs, clavicle, or skull has been used in some cases. Reports indicate that about 20 per cent survive for longer than five years.

At the other extreme are the so-called *osteolytic* osteogenic sarcomas. These tumors produce very little cartilage, osteoid tissue, or bone and are highly undifferentiated. Their progress is rapid. Metastasis has taken place usually by the time the diagnosis can be made. Most of these patients are in the youthful group from ten to twenty years of age, a time when growth potential is quite high, which adds to the poor outlook. When these tumors occur in the older age groups, the prognosis is slightly better. These tumors tend to occupy the proximal or distal shafts of the long bones well away from the epiphyseal area. Resection has been employed in some instances for tumors of the radius, humerus, and fibula. In general, it has less prospect of success than amputation. Amputation is the treatment of choice when any treatment can be offered with the hope of cure. Radiation should be helpful in this undifferentiated type of tissue, but experience proves that it provides only palliation. Pain can be lessened or abolished by the use of radiation in some cases. The over-all salvage rate from surgery after five years is not more than 10 per cent.

Most of the osteogenic sarcomas *combine osteolytic and osteoblastic* types of tissue. Almost all osteogenic sarcomas of this type are highly malignant. Resection and amputation have been used more successfully than radiation treatment. The latter is rarely curative, and operation offers very little more. Successful results stand intermediate between those for the osteolytic and sclerosing types.

While waiting for diagnosis following biopsy, patients should avoid weight-bearing on involved bones. Crutches should be used for those with lower limb tumors, and the upper limbs should be protected by supporting slings.

CHONDROSARCOMA.—Chondrosarcoma of bone may arise in young people from ten to twenty years of age. Many of these tumors appear to have a periosteal origin, and the cortex and medulla are involved only late in the history. These tumors have been called *primary chondrosarcomas* by some authorities. The natural history of these growths is rapid progression and recurrence locally with early metastasis when incomplete operations are done. Amputation with a wide margin from the tumor offers the best chance for cure. Cures are obtained in 15 per cent of cases.

When chondrosarcoma occurs in older people of thirty-five to sixty years, the course is much slower. The tumor may arise in a previous benign lesion, either peripheral or central. These tumors have been called *secondary chondrosarcomas.* They form bulky masses and are among the largest neoplasms encountered. Most of them give a five to ten-year history of slowly progressing growth. Following local resection, recurrence is almost the rule, although certain well-selected cases may sometimes be treated successfully in this manner. Metastases tend to be late, and it is possible to obtain a cure in a recurrent case by doing a radical amputation the second time. Hind quarter amputation is the operation of choice for chondrosarcomas of the innominate bones. If done early in the course, the chance of cure is good. Prostheses have been made which allow good ambulation after this major amputation. The large benign chondromas of the iliac regions are prone to recur after local operations on them. They are potentially malignant lesions. Radical hind quarter amputation is to be preferred after one such recurrence or even as the primary operation in this type of tumor. It is an excellent place for prophylaxis against malignancy. In exceptional cases wide resection with substitution of autogenous bone grafts has been successfully accomplished by master surgeons in this field. Also, although as a rule the cartilaginous tumors are not radiosensitive and nine out of ten will show no response to radiation, there is an occasional exception which does respond for some unknown reason. Secondary chondrosarcomas treated radically by surgery give a high percentage of successes—over 40 per cent according to some writers.

FIBROSARCOMA.—These tumors are usually periosteal in origin, involving the cortex and medulla only in the late stages. Rare cases of fibrosarcoma are encountered arising centrally in the medullary cavity.

The peripheral type of lesion is relatively benign, and amputation gives nearly certain cure. Wide resection, as total scapulectomy, is also a very favorable type of treatment. Some of the central fibrosarcomas, on the other hand, behave like more aggressive growths, and results of treatment for these lesions are not so favorable.

EWING'S SARCOMA.—This disease is essentially of youth, but there are a few sporadic cases in the literature up to the eighty-sixth year. The bones of the lower extremities are involved in more than 50 per cent of the cases. The axial skeleton and the upper extremities furnish almost equal percentages of cases.

Treatment of the young people who have this bone tumor is quite discouraging. After biopsy has confirmed the diagnosis, it is customary to use radiation therapy. The tumor is quite radiosensitive, and response to radiation is rapid. It is the treatment of choice for tumors of the axial skeleton and for metastatic lesions. Unfortunately, however, the beautiful initial response cannot be sustained. There is practically always recurrence of the tumor in the treated bone or metastatic spread to the lung fields or to other bones. Usually recurrence is within six months, but it may be delayed for several years during which the palliation for pain, tumor, and limp is well worth the treatment. Fractional doses of x-rays through several portals is the accepted method now in use. The usual dose is 4,000 to 5,000 r (tumor dose). The recurrent tumors show resistance to radiation, and a second course is rarely effective.

The natural history of this tumor is so unfavorable that there is hesitation on the part of the surgeon to recommend amputation. Approximately one third of the patients live for only one year regardless of their treatment. Another third seem to be more resistant and live for three years or more. The recent trend has been against surgery in the young, but this is offset by the failure of cure by radiotherapy.

Some authorities now believe that a combination of x-ray radiation to devitalize the tumor cells followed by amputation when possible is to be preferred to either form of treatment alone. There is a fairly general agreement that permanent cure by radiation is rarely possible. On the other hand, reports vary from most pessimistic to lukewarm approval for radical surgery when preceded and followed by radiation. Some writers claim to have had freedom from tumor for over five years in approximately 20 per cent of their resected or amputated cases. When surgery was combined with radiation, this percentage dropped to only 14 per cent. Other writers claim no success with any form of treatment.

Reticulum Cell Sarcoma.—A rare tumor of bone, resembling Ewing's tumor microscopically but behaving much differently biologically, is occasionally encountered. The majority of these tumors occur in the long bones, especially the metaphysis where patchy osteolysis is noted by roentgenograms. The lesion occurs also in the flat bones. Age of the patients varies from eight to sixty-three years.

Response to x-ray therapy is rapid and gratifying. A high percentage of the patients are alive five to ten years after radiation with relatively small doses of radiation; 2,500 r tumor dose has been used successfully.

Formerly, amputation after radiation treatment was used, but this is now considered to be unnecessary.

Metastases, when they occur, involve both the lung and lymph nodes in the region of the tumor. Radiation of the lymph node draining areas was formerly advocated but has not been considered necessary recently.

Myeloma, Single or Multiple.—Myeloma is another malignant round cell tumor which usually starts in many areas, especially in the flat bones. It is a disease of advanced years. The majority of the patients are from forty to seventy years of age. The progression is rapid, and the average survival is for two to three years. Surgical treatment is out of the question for the multiple lesions. Relief from the bone pain has been obtained by radiation treatment, urethane, nitrogen mustards, stilbamidine, radioactive phosphorus (P^{32}), and radioactive strontium (Sr^{89}). No permanent cure has been obtained by any of these methods. Only a slight prolongation of life is claimed. Occasionally a patient with multiple myeloma has a long survival of seven to ten years. No reason can be assigned for this.

When the lesion arises in one focus and seems to be confined to such an area, the prognosis is generally much better. There are quite a number of such cases in the literature. These patients, especially when the lesion is confined to a long bone, might be cured if the focus were removed surgically. Only a few have been subjected to this treatment, and it is accordingly difficult to assess its value. There is a feeling that these localized myelomas ultimately progress to the multiple form. Many of them survive for eight to ten years.

Malignant Giant Cell Tumor.—The majority of giant cell tumors are benign. It is a rare exception when malignancy occurs, but when a recurrence takes place after treatment of the benign tumor either by surgical curettage, by radiation, or by a combination of the two, the malignant potential becomes great. There are a sufficient number of cases in the literature to prove that under such conditions malignancy is a real threat. Continued radiation therapy has not proved efficacious. Under these conditions, whenever possible, resection or amputation becomes the treatment of choice. When the axial skeleton is involved, this is not possible. In sacral tumors, for instance, the best that can be done is repeated curettage and filling of the cavity with autogenous bone chips. This is a calculated risk. Radiation treatment can be given as well to augment the chances of cure, although some radiotherapists disagree with this management.

MALIGNANT CHONDROBLASTOMA.—These tumors, formerly known as Codman's tumor or giant cell variant with cartilage, occur most commonly at the head of the humerus. Review of the larger series in the literature shows that about 25 per cent become malignant. The treatment of choice is local resection with autogenous bone graft or use of an acrylic prosthesis. When the lesion has become malignant, a radical amputation is in order.

ANGIOSARCOMA.—Rare involvement of the bone by angiomatous tumors has been described. Malignant tumors of the angioma series are so rare that any proved case should be reported. The diagnosis of *angiosarcoma* is usually not made until biopsy has been obtained and the disease is quite advanced. Resection or amputation offers the best chance for survival. These tumors are not very sensitive to radiation therapy. There has not been a sufficient number reported to draw any conclusions regarding the different forms of treatment.

Secondary Malignancies

Metastatic carcinoma to bone is best handled by radiation therapy for palliation and occasionally for healing as well. In cases of breast cancer or prostatic cancer, castration and adrenalectomy have led to some dramatic recoveries. The use of estrogens or androgens or a combination of the two has also given some unexpected and unexplained successes. Occasionally a lone bone metastasis years after the primary tumor has been removed can be well handled by local resection, amputation, or radiation therapy.

Hodgkin's disease involving bone, malignant lymphoma, and leukemias involving bone will be treated by the medical measures used for control of these conditions. These include radiation by x-ray or radium, the use of radioactive isotopes, nitrogen mustards, antifolic medication, triethylene melamine, and many other new compounds which are undergoing preliminary trial.

(Number seventeen of a series on Treatment of Cancer)

Hospitalization for Mental Disorders

More men than women are hospitalized for mental disorders in the United States, according to a report by the statisticians of the Metropolitan Life Insurance Company. During 1951, the most recent year for which figures are available, about 95,000 males and 76,000 females were admitted for the first time to mental hospitals.

For both males and females, the rates for first admission to a hospital are lowest at the younger ages and highest among the aged. About half of all patients admitted to a mental hospital for the first time during the year were under forty-five years of age, only one tenth were under age twenty-five, and less than 1 per cent were under age fifteen.

Progress in the treatment of mental disorders is evidenced, according to the report, by a substantial increase in recovery rates as reflected by a higher proportion of releases from mental institutions.

An example is cited in the experience of one hospital where nearly three fourths of the patients first admitted in 1946 to 50 for functional psychoses were released within three years, while the corresponding proportion for similar patients first admitted in 1916 to 25 was little more than one half.

"Some gains have been made, but many tasks lie ahead," the report states. "Above all, there is great need for carefully planned, coordinated, and well-supported research on the causes and treatment of mental disease and the rehabilitation of patients."

FUNDAMENTALS OF MODERN ALLERGY

A series of special articles sponsored by the New York Allergy Society and written by its members.

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Occupational Factors in Asthma

HARRY M. SHILKRET, M.D., NEW YORK CITY
(From the Allergy Clinic of City Hospital)

THE importance of bronchial asthma as a health problem in various industries has long been recognized.[1–3] The incidence of bronchial asthma in industries, according to Spain and Fontana,[1] is the same as in the general population, about 5 per cent.

To differentiate between occupational and nonoccupational asthma, a thorough occupational history is of great assistance in arriving at a conclusion. This includes information on the date of onset of the complaints, whether or not the asthmatic condition existed prior to the time the claimant was exposed to a particular substance, whether the attacks occur usually at work and whether they disappear entirely while the patient is away from his work.

The symptomatology in occupational asthma is not charateristic. It is identical with that of nonindustrial asthma. Particular attention should be given, however, to the recordings of the origin of the symptomatology, and these must be properly evaluated. It is only then that a distinction can be made between symptoms which are due to nonoccupational diseases and those which are occupational since both may exist in the same patient.

As in other allergic diseases, occupational asthma rarely develops after an initial contact with an offending allergen. Usually there is a sensitization period of months or even years before any allergic manifestations appear. This has been the experience of the author in reviewing over 200 case histories of patients claiming compensation for asthma.

The clinical investigation should include roentgenologic and electrocardiographic examinations and a thorough workup including skin testing. Patch tests and ophthalmic and inhalation tests are used as indicated and are frequently found to be informative if intelligent appraisal and proper interpretation of the data are made. Positive reactions should be correlated with the occupational environment.

Bronchial asthma occurs in people working in various types of industry, most frequently in bakers, furriers, barbers, beauticians, and hat makers. The Department of Labor lists over 100 occupations in which asthma occurs.[4] Most cases of occupational asthma are due to inhalants, organic and inorganic dusts (mineral dusts), fumes, and vapors. Occasionally, ingestants play a role, and asthma may occur in wine, tea, and coffee testers. Contactants are frequently the cause of occupational dermatoses which usually precede the onset of the asthmatic state in furriers and bakers.

Bakers come into close contact with flour by inhalation, and those with bronchial asthma usually show a marked sensitivity on skin testing to one or more of the extracts of cereals (wheat, rye, buckwheat, and corn.) Linko[2] found that 66 of 328 workers in bread factories gave clinical evidence of being sensitive to wheat flour. Of these, 40 had coryza, 20 had coryza and asthma, and six had asthma alone. Twenty-six or 7.93 per cent had either asthma alone or in association with coryza.

The substances which are commonly the cause of asthma among those engaged in the fur industry are animal danders and fur dyes. Other agents less often responsible are dusts and fumes, physical agents such as extreme heat or cold, and chemical substances other than dyes which are employed in the preparation and dyeing processes.

Walzer and Pine,[5] in an excellent article on "Hypersensitiveness in the Fur Trade," state that dander rather than the hair of the animal is the excitant. Among the animal inhalants, rabbit epithelium is the most frequent offender. Animal skins and hairs which have been preserved, treated, and dyed may lose some of their excitant properties as a result of these physical and chemical processes.

The dye most commonly used in the fur industry is paraphenylenediamine and its oxidation products (quinone diamine). Hypersensitiveness to dyes is tested for by means of patch tests since sensitivity to chemical substances are not as a rule determinable by the scratch, intracutaneous, or passive transfer tests. The results of these tests are read forty-eight to seventy-two hours later. Positive reactions are significant; negative reactions do not eliminate the testing agent as a cause since the method of testing (patch) is a poor one for inhalant sensitivity.

Shilkret and Swartz[3] skin tested 100 allergic individuals within and outside of the fur industry with extracts of fur factory dusts containing dyes. They found the percentage of positive reaction in this group to be approximately the same (30 to 40 per cent). In comparison the positive reactions to common house dust in each group varied between 40 to 57 per cent. They concluded that a positive reaction to factory dusts is of no greater significance in the etiology of symptoms than a similar reaction to other allergens, and to implicate these dusts in a causal relationship with presenting symptoms, more evidence than a positive skin test is necessary.

Dye and dander sensitivity is preventable to a great extent. Work in the fur-dyeing industry is contraindicated for the atopic individual. Pre-employment examinations by experienced industrial physicians should cut down considerably the incidence of asthma in industry.

Every step should be taken to avoid unnecessary exposure to the irritating dyes in order to prevent the development of sensitivity. Well-ventilated rooms, the cooking of dyes under a hood with a strong draught, and the wearing of rubber gloves and a mask by the worker who performs this task are precautionary measures which may do much to diminish the hazards which are encountered in the fur-dyeing industry.

The most common causes of the allergic respiratory responses of beauty parlor workers are the powders and rouges that contain ground orris root or rice powders, the henna of hair dyes, quince seed oil, and the gums, tragacanth and karaya. Where orris or rice powder are the eliciting agents, a satisfactory degree of immunity may be achieved by specific injection therapy (to be described in detail in a forthcoming paper in this series).

Hat makers may become sensitive to the material used in the making of felt, especially the rabbit dander. The bleaching agents, such as banana oil and oxalic acid, are also secondary offending agents in this occupation. Protection can rarely be accomplished by specific (hyposensitization) therapy. The lack of success is due usually to the overwhelming exposure and the frequency of systemic reactions following treatment.

Occupational asthma, usually associated with other upper respiratory allergies, is found also in the bedding and furniture manufacturing industries where workers come in contact with various types of organic dusts, e.g., animal danders (horse, goat, cow, rabbit, etc.), feathers, and the byproducts of cotton, kapok, flaxseed, glue, and wood dusts. In the food-processing and food-distributing industries, canners, warehouse workers, and grocers may be affected by the many occupational dusts, fumes, and vapors that emanate from such products as coffee, tea, cocoa, spices, and cereals. Veterinarians, farmers, pet shop workers, salesmen of dog and cat food, and handlers of laboratory animals may have asthma from close contact with various animals. Farmers, foresters, tree surgeons, nurserymen, florists, and gardeners are necessarily exposed to plants which are responsible for occupational allergies. Brewers and salesmen handling hops are at times rendered asthmatic by these substances.

As in other respiratory types of allergy in which the causes are airborne, positive skin reactions are usually obtained when the causative agent of the occupational allergy is a protein substance. Chemicals and drugs and other haptens may be the excitant agents of bronchial asthma and allergic rhinitis. These substances rarely produce positive skin reactions by either the direct or indirect method of testing (passive transfer). Such tests made with a chemical or a drug are not without danger in an allergic individual since the risks of systemic reactions are always present.

The diagnostic skin-testing procedures, scratch or intradermal, should be employed to verify the allergenicity of substances suspected because of the history and to search for undetermined causes. Extracts of factory dusts have special usefulness in the testing of patients with asthma in whom an occupational cause is suspected. To avoid undue reactions from these extracts, it is advisable to scratch test first and follow later with the intracutaneous test if the former test proves negative.

Therapeutically, as with nonoccupational asthma, the first and most important step is to break the contact between the patient and the offending substance. If complete avoidance of the airborne allergens in the occupational environment cannot be effected, a protective mask may be worn over the nose and mouth, although many consider it uncomfortable and inconvenient. Industry has become well aware of occupational asthma, as shown by its efforts to supply improved ventilation, isolate or prevent dusty processes, install air-conditioning and exhaust systems, and improve its plans and designs for plant and factory structures. Wet methods of work are often practical in minimizing the effects of exposure to factory dusts.

Where elimination of the specific allergen or avoidance of contact is incomplete or cannot be satisfactorily achieved, methods of immunization (hyposensitization therapy) may be attempted. Unfortunately, owing to the continued exposure of the patient who is closely confined in a shop or factory, poor results are obtained in many cases when this procedure is carried out. In dye-sensitive individuals desensitization is unsuccessful and most often harmful. These patients are advised to give up their occupations and to seek employment where the offending substances are not present in the environment.

Summary and Conclusion

Bronchial asthma is a health problem in various industries. It is most frequently found among bakers, furriers, barbers, beauticians, and hat makers.

Most cases of occupational asthma are due to inhalants, organic and inorganic dusts, chemical dyes, fumes, and vapors. Occasionally, ingestants play a role.

To determine whether bronchial asthma is due to a claimant's occupational environment, a thorough occupational history must be taken. There must be evidence that exposure while at work produces symptoms with disappearance of the symptoms on avoidance of contact. If corroborated by positive skin, inhalation, or conjunctival tests, this evidence establishes the diagnosis of occupational asthma.

Therapy in occupational asthma consists of preventive measures, specific (hyposensitization) therapy, and drug therapy for the relief of symptoms. If specific therapy cannot be given because of the dangers involved or if the results obtained from it are poor, the claimant must change his occupation.

57 West 57th Street

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(*Number seven of a series on Fundamentals of Modern Allergy*)

CLINICAL ANESTHESIA CONFERENCE

A series of conferences on medical emergencies
in the operating room including causes of death
during anesthesia

Prepared by the Anesthesia Study Committee of the
New York State Society of Anesthesiologists

BARNETT A. GREENE, M.D., *Chairman*

Adrenal Insufficiency as a Background to Fatal Pulmonary Edema During Anesthesia

PERSISTENT hypotension in the face of adequate blood replacement and vasopressor medication should suggest reasons other than hemorrhage for the "shock" state. One of these reasons is demonstrated in the following case report. Blood replacement failed to serve its purpose because adrenal insufficiency was unsuspected.

Case Report

The patient was a sixty-three-year-old male with hematuria, dysuria, and lumbar pain. Physical examination and routine laboratory data were normal. The presumptive diagnosis was carcinoma of the prostate. Transurethral prostatic resection was performed under spinal anesthesia without difficulty.

On the next day at 11 A.M. he was returned to the operating room for fulguration of a bleeding area. At this time his blood pressure was 80/60 and pulse 110. He appeared lethargic, extremely pale, and felt cool and moist. Atropine 0.4 mg. was administered intravenously at 11:05. Approximately 200 cc. of blood were infused before induction of anesthesia with 200 mg. of thiopental. The operation was begun at 11:40. An oral airway was introduced, and nitrous oxide-oxygen 4:2 was given. A coarse, expiratory, pharyngeal rattle persisted despite suction. Respiratory exchange appeared adequate. Blood was pumped continually; blood pressure rose slowly to 110/80, and the pulse rate fell to 92. Ten minutes later, blood pressure was 80/60, and the ears and fingernail beds were cyanotic. A second 500 cc. of blood were begun thirty minutes after the first 500 cc. had been started. Ventilation, although only slightly shallow, was assisted with 100 per cent oxygen. Approximately five minutes later the patient became quite light and moved. Additional thiopental 100 mg. was given, and the patient was again given 50 per cent nitrous oxide and 50 per cent oxygen. Systolic blood pressure ranged between 80 and 100, pulse rate between 90 and 100. Cyanosis of the ears and fingernail beds persisted. Assisted ventilation remained adequate.

About one hour after the beginning of operation, attempts were made to establish a free-draining urinary catheter. Only oxygen was given during this period. Five minutes later, shortly after the patient had been recystoscoped in an attempt to find the continued source of bleeding, his condition suddenly became grave. Systolic blood pressure fell to 50; the pulse was 100 and weaker, and the cyanosis was deeper. Bloody fluid was noticed in the pharyngeal suction-catheter, and there was a small gush from the right nostril. Endotracheal intubation was easily and rapidly performed; bloody fluid was aspirated from deep in the bronchial tree. Only oxygen was given throughout this period except when suction was used. The patient was placed in Trendelenburg position, and the endotracheal catheter was replaced with a cuffed tube after much difficulty. One milligram of Neo-Synephrine was injected intravenously; when no peripheral pulse or heartbeat could be detected, 1 mg. of Neo-Synephrine was injected into the heart. An electrocardiogram at this time showed a slow, grossly irregular tracing of small amplitude, typical of a "dying heart"; all electrical activity disappeared at 1:20 P.M.

Postmortem examination revealed total replacement of both adrenals with prostatic cancer. Diffuse pulmonary edema and a relatively "small" heart were the only other significant findings.

Comment

The immediate cause of death in this patient was fulminating pulmonary edema following rapid blood volume expansion. The "small" heart, so frequently associated with adrenal insufficiency, was incapable of managing the sudden overloading of the pulmonary vascular bed produced by rapid infusion and transfusion; the steep Trendelenburg position aggravated the situation. When cyanosis persisted in spite of adequate ventilation with high concentrations of oxygen, the lungs should have been auscultated. Signs of acute pulmonary edema should have indicated the need for other emergency therapy in this case.

The basic cause of uncontrollable hypotension in this man lay in his total adrenal insufficiency. Whole blood and vasopressors are ineffective in the presence of nonfunctioning adrenal glands. If the anesthesiologist had suspected that the adrenal glands were affected by metastases from the primary carcinoma, adrenal replacement therapy during the second procedure might have altered the immediate response and prevented a death during anesthesia. Although carcinomas uncommonly metastasize to the adrenal glands, the possibility should be suspected in any patient with carcinoma or longstanding debilitating disease, especially when shock is inexplicable, disproportionate, or apparently "irreversible." Preoperative analysis of adrenocortical function, at least a Thorne eosinophil test, is a guide which is especially valuable to the anesthesiologist.

(*Number three of a series of Clinical Anesthesia Conferences*)

Health Examination Form Available

At a recent meeting of the Subcommittee on General Practice of the Council Committee on Public Health and Education of the Medical Society of the State of New York, it was voted to call to the attention of all county medical societies the availability of the Health Examination Form.

Some apparent advantages, especially to general physicians, in the use of this form in daily practice are as follows:

1. Time-consuming features of routine office examinations are simplified and shortened.
2. Cancer detection in the doctor's office, including the obtaining of cytologic smears and other simple office procedures, is emphasized.
3. A comprehensive record is readily available when a doctor must appear in court.
4. This record of an orderly and systematic examination makes a physician's services more valuable to his patient.
5. Complete and thorough physical examinations by family doctors will counteract arguments for the mass screening approach to detection put forth by certain agencies.
6. The cost is only one cent for each form.

NECROLOGY

Richard H. Bennett, M.D., of Brooklyn, died on December 22, 1955, at his home of a cerebral hemorrhage at the age of sixty-two. Dr. Bennett graduated from the University of Michigan Medical School in 1919. He was on the staff of the Long Island College Hospital, medical director of the Brooklyn Thoracic and Triboro Hospitals, and a consultant at Kings County Hospital Medical Center. Dr. Bennett was a Diplomate of the American Board of Internal Medicine and a member of the Brooklyn Thoracic Society, the New York Academy of Medicine, the Kings County Medical Society, and the Medical Society of the State of New York.

Hilda Wood Eidson, M.D., retired, of New York City, died on December 22, 1955, at her home at the age of sixty-seven. Dr. Eidson graduated from Cornell University Medical College in 1917. She was a member of the New York Society for Clinical Psychiatry.

Herman Friedel, M.D., of Grymes Hill, Staten Island, died on January 1 at his home at the age of seventy-four. Dr. Friedel graduated from New York University and Bellevue Hospital Medical College in 1909. He was a former secretary of the Richmond County Medical Society and former chairman of its board of censors as well as a founder of the Society's monthly bulletin. He was one of the organizers and for three years president of the Staten Island Jewish Community Center as well as an organizer of the Staten Island Hebrew Educational Alliance. During World War I he was a principal of the Davidson School, an educational center for underprivileged boys on the lower East Side. Dr. Friedel was a member of the Richmond County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Francis Eustace Fronczak, M.D., of Buffalo, died on December 27, 1955, at the age of eighty-one. Dr. Fronczak graduated in 1897 from the University of Buffalo School of Medicine. During World War I he was a lieutenant colonel in the Army Medical Corps and served on the Polish National Committee in Paris. He served terms as president of the American School Hygiene Association and the International Society of Medical Health and in 1939 was a member of the North American Social Service Mission to Venezuela. Dr. Fronczak was in charge of Polish Army welfare during World War I as well as the Polish war prisoners, refugees, expatriates, and orphans in France, Siberia, Morocco, and England at the end of the war. From March 26, 1910, until April 1, 1946, he served as Buffalo's number one health official.

At one time Dr. Fronczak was physician for two years to the Erie County Penitentiary, from 1898 to 1902 a member of the Municipal Civil Service Commission, from 1899 to 1910 health officer of the Town of Cheektowaga, and in 1906 was appointed to the Buffalo Charter Revision Commission. Dr. Fronczak was a former member of the Council of the University of Buffalo, associate professor for twenty-five years and later emeritus associate professor of hygiene and preventive medicine. He taught sociology and medicine at D'Youville and had also been assistant collaborating epidemiologist of the U.S. Public Health Service. In February, 1919, he was appointed a commissioner and medical adviser on the first American Red Cross Commission to Poland. He was an honorary member of the staff of Mercy Hospital, a member of the Association of Military Surgeons of the United States, the Buffalo Academy of Medicine, the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Everardo Goyanes, M.D., of Brooklyn, died on December 27, 1955, of a coronary attack at the Methodist Hospital at the age of forty-two. Dr. Goyanes graduated from Hahnemann Medical College, Philadelphia, in 1940. He was an associate attending physician in the Department of Obstetrics and Gynecology at the Methodist and Cumberland Hospitals, a Diplomate of the American Board of Obstetrics and Gynecology, and a member of the Associated Physicians of Long Island, the Brooklyn Gynecological Society, the Pan American Medical Association, the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Sydney S. Gubin, M.D., of Memphis, Tennessee, formerly of Mount Vernon, died on December 19, 1955, at the age of sixty-six. Dr. Gubin graduated from the New York Homeopathic Medical College in 1920. He had been a member of the State Homeopathic Society. At the time of his death, he was director of outpatients at Kennedy Veterans Hospital in Memphis.

John Francis Holden, M.D., retired, of White Plains, died on December 24, 1955, at his home following a long illness at the age of sixty-six. Dr. Holden graduated from Fordham University School of Medicine in 1913. He was former director of otolaryngology at St. Agnes Hospital, White Plains.

Dr. Holden was a Diplomate of the American Board of Otolaryngology and a Fellow of the American College of Surgeons.

Joseph Stanton Hory, M.D., of the Bronx, died on January 1 in a fire at the age of sixty-one. Dr. Hory graduated in 1919 from Fordham University School of Medicine. He was director of ophthalmology at Morrisania and Seton Hospitals and attending ophthalmologist at Union Hospital, Bronx. Dr. Hory was a Diplomate of the American Board of Ophthalmology, a Fellow of the American College of Surgeons, and a member of the American Academy of Ophthalmology and Otolaryngology, the New York Academy of Medicine, the Bronx County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Alois Huppert, M.D., of New York City, died on January 4 at the age of fifty-five. Dr. Huppert received his medical degree from the University of Vienna in 1918.

Harry I. Johnston, M.D., of Binghamton, retired, died on December 20, 1955, at his home following a long illness at the age of seventy-nine. Dr. Johnston graduated from Cornell University Medical College in 1902. He was a consultant in obstetrics at City and Lourdes Hospitals. Active in the Red Cross for thirty years, Dr. Johnston assisted in local youth movements, was among the leaders in the early development of City Hospital, and during World War I was a surgeon aboard an Army transport. In 1952 he was honored by the Medical Society of the State of New York for completion of fifty years of practice. Recently, the Binghamton Rotary Club named its nursing scholarship program the "Dyer-Johnston."

In 1913 Dr. Johnston was president of the Broome County Medical Society and served as chairman of the organization's compensation committee from 1935 to 1953; from 1932 to 1940 he was chairman of the economics committee. From 1931 to 1932 he was president of the medical staff of City Hospital. Dr. Johnston was a member of the Binghamton Academy of Medicine, the Broome County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Harry Kaiser, M.D., of Brooklyn, died at his home on December 25, 1955, at the age of fifty-two. Dr. Kaiser graduated from Long Island College Hospital School of Medicine in 1926. He was an associate in surgery at the Evangelical Deaconess and Bushwick Hospitals. He was national president-elect of Phi Lambda Kappa and was to have assumed this office the first week in January. Dr. Kaiser was an Associate of the International College of Surgeons, and a member of the Kings County Surgical Society, the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Isidor Kaminstein, M.D., of Jamaica, retired, died on November 29, 1955, at the age of sixty. Dr. Kaminstein graduated in 1922 from the Eclectic Medical College of Cincinnati. He was a Diplomate of the American Board of Dermatology and Syphilology and a member of the Queens County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Robert King, M.D., of Rochester, retired, died on December 8, 1955, in General Hospital at the age of eighty-three. Dr. King graduated from McGill University Faculty of Medicine in 1903. A former pathologist at Rochester State Hospital before coming to Rochester he had also been pathologist at Buffalo State Hospital. During World War I he served in the Medical Corps as a Captain.

Joseph Lebenstein, M.D., of New York City, died in December, 1955, at the age of eighty-three. Dr. Lebenstein graduated from New York University and Bellevue Hospital Medical College in 1899. He had been physician at the Department of Health Social Hygiene Clinic and consultant in syphilology at the Hospital for Joint Diseases.

Edward Sherrard Rimer, M.D., of New York City, retired, died in the Norwalk, Connecticut, Hospital, on December 19, 1955, at the age of seventy-eight. Dr. Rimer graduated from New York University and Bellevue Hospital Medical College in 1904 and interned at Bellevue Hospital. He was a consulting physician in children's medicine at Bellevue, consulting pediatrician at Nyack and St. Vincent's, Staten Island, Hospitals, and adjunct consultant in pediatrics at the Paterson, New Jersey, General Hospital. From 1906 to 1912 he served as Deputy Health Officer of the Port of New York and at one time had taught at Bellevue Medical School. He was a member of the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

J. Jesse Selinkoff, M.D., of Wilmington, Delaware, formerly of Tarrytown, died on November 28 at his home of a heart attack at the age of forty-six. Dr. Selinkoff graduated in 1933 from George Washington School of Medicine. He was a former member of the Westchester County Medical Society.

Harry Clinton Sayre, M.D., of Warwick, died on December 20, 1955, at his home at the age of seventy-two. Dr. Sayre graduated from New York Homeopathic Medical College and Flower Hospital in 1905. Following his graduation, he served on the staff of the Hahnemann Hospital, New York City, as pathologist until he became ill and returned to Warwick. He had been actively connected with the old Warwick Hospital and later became head of the medical staff of St. Anthony's Hospital when it was established. Dr. Sayre was a member of the Orange County Medical Society, the Medical Society of the

State of New York, and the American Medical Association.

Hilton J. Shelley, M.D., of Middletown, retired, died on December 24, 1955, at the Horton Memorial Hospital at the age of ninety-two. Dr. Shelley graduated from Eclectic Medical College, Cincinnati, in 1889. From 1924 to 1936 and again in 1940 before his retirement, Dr. Shelley served as city health officer. Dr. Shelley was a member of the Orange County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Edward A. Schweigert, M.D., of Buffalo, died on December 21, 1955, in Columbus Hospital after a month's illness at the age of eighty. Dr. Schweigert graduated in 1899 from the University of Buffalo School of Medicine. He was named chief of medicine, emeritus, of Columbus Hospital in October, 1955. Dr. Schweigert had served on the Columbus Hospital teaching staff. In 1949 he was honored by the Medical Society of the State of New York for fifty years of practice. He was a member of the Buffalo Academy of Medicine, the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Edward Hugo Storck, M.D., of Buffalo, died on December 15, 1955, at the Millard Fillmore Hospital at the age of seventy-five. Dr. Storck graduated from the University of Buffalo School of Medicine in 1903. He was a consultant in surgery at Millard Fillmore Hospital where he had been chief of staff before his retirement. Dr. Storck was a member of the Buffalo Surgical Society of which he was a past president, the Buffalo Academy of Medicine, the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Marion Elizabeth Snavely, M.D., of West Haven, Connecticut, and formerly of Kings Park, died on December 28, 1955, at her home at the age of fifty-nine. Dr. Snavely graduated from Yale University School of Medicine in 1925. For a number of years she served as public health officer in West Haven.

John Edgar Tritsch, M.D., of Pelham, died on January 5 at New Rochelle Hospital after a long illness at the age of sixty. Dr. Tritsch graduated from New York Homeopathic Medical College and Flower Hospital in 1918. Before his retirement Dr. Tritsch served on the staff of the New York Medical College as an associate professor of obstetrics and professor of gynecology, and on the staffs of Metropolitan Hospital, Welfare Island, and Flower and Fifth Avenue Hospitals. He was a Fellow of the American College of Surgeons and a member of the Westchester County Medical Society and the Medical Society of the State of New York.

Roy Upham, M.D., of New York City, retired, died on January 5 at the Sulgrave Hotel at the age of seventy-six. Dr. Upham graduated from the New York Homeopathic Medical College and Flower Hospital in 1901. He had been a lecturer in gastroenterology from 1912 to 1917, from 1917 to 1921 assistant professor, and until 1935 associate professor when he was named chief of the section on gastroenterology at the New York Medical College and Flower and Fifth Avenue Hospitals. A founder of the National Gastroenterological Association and of the American College of Gastroenterology, he was honored at a testimonial dinner held by the American College of Gastroenterology in 1953 to mark his half century of service as a specialist.

In 1954 Dr. Upham was named outstanding alumnus of the year by New York Medical College. He was consultant in gastroenterology at Jamaica Hospital, gastroenterologist at the Flower and Fifth Avenue Hospitals, and consultant physician at Metropolitan. For many years he served as secretary-general of the national and American gastroenterologic groups and as chairman of the grievance committee of the Medical Society of the State of New York. Dr. Upham was a Diplomate of the American Board of Internal Medicine, Gastroenterology, and the International College of Surgeons, a Fellow of the American College of Surgeons, the International College of Surgeons, and the American College of Gastroenterology, and a member of the International Academy of Proctology, the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Though woman never can be man,
By change of sex and a' that,
To social rights, 'gainst class and clan,
Her claim is just, and a' that,
For a' that, and a' that,
In all that makes a living soul
She matches man, for a' that.

—William Lloyd Garrison,

An Autograph, January 3, 1875

MEDICAL NEWS

National Council to Combat Blindness—The National Council to Combat Blindness, Inc., in its program to finance research in ophthalmology and related sciences, has announced its 1955–1956 awards for grants-in-aid and fellowships.

Recipients from New York State include: Dr. Benjamin Friedman, New York Medical College, Flower and Fifth Avenue Hospitals; Dr. Dan M. Gordon, New York Hospital-Cornell Medical Center; Dr. Jerry Hart Jacobson, New York Eye and Ear Infirmary; Dr. C. C. Teng, Manhattan Eye, Ear & Throat Hospital, New York City; and Drs. Goodwin M Breinin, and A. Gerard DeVoe, New York University-Bellevue Medical Center.

Applications for 1956–1957 grant-in-aid and fellowship awards (full-time) will be considered at the seventh annual meeting of the scientific advisory committee, to be held in June, 1956. Closing date for receipt of completed applications for these awards is April 15, 1956. Applications for summer student fellowships will be reviewed in advance of the meeting and such applications should be filed with the office of the organization no later than April 1, 1956.

Forms may be obtained by addressing: Secretary, National Council to Combat Blindness, Inc., 30 Central Park South, New York 19, New York.

Chautauqua County Medical Society—A meeting of the Chautauqua County Medical Society was held on December 14, 1955, at the Hotel Jamestown. Officers elected for 1956 include: Dr. Robert R. Northrup, Westfield, president; Dr. Edgar Bieber, Dunkirk, secretary for the thirtieth consecutive term, and Dr. C. Otto Lindbeck, Jamestown, treasurer.

Hill-Burton Grants—The Department of Health, Education, and Welfare reports that as of November 30, 1955, the status of all Hill-Burton grants in the State of New York is: projects approved during the past month—Maimonides Hospital in Brooklyn at an estimated total cost of $56,186 with an approved Federal share of $18,729; Memorial Hospital of Greene County in Catskill at an estimated total cost of $476,490, an approved Federal share of $158,830, and 48 additional beds, and Hancock Community Hospital in Hancock at an estimated total cost of $275,765, an approved Federal share of $91,922, and 24 additional beds.

Approved, but not yet under construction (including above) are seven projects at a total cost of $4,130,649, including $1,376,883 Federal contribution and designed to supply 321 additional beds.

Under construction are 16 projects at a total cost of $52,749,973, including Federal contribution of $7,469,339 and designed to supply 1,561 additional beds.

Completed and in operation are 73 projects at a total cost of $73,684,913, including Federal contribution of $21,101,404 and supplying 4,029 additional beds.

Buffalo Ophthalmologic Club—The annual clinical meeting of the Buffalo Ophthalmologic Club was held on January 12 at the Buffalo General Hospital, with Dr. Meyer Riwchun as chairman. The dinner meeting was followed by demonstration of patients in the Department of Ophthalmology and by a discussion in which Drs. Ivan Koenig, Thurber LeWin, James Fowler, William Howard, Sheldon Freeman, Herbert Reitz, Harold Wass, Alvin Tabankin, and John Luhr participated.

Doctors' Symphony Orchestra—The Brooklyn Doctors' Symphony Orchestra gave a concert on December 16 for the benefit of the Library Fund of the Kings County Medical Society.

Orchestra rehearsals are held every Wednesday at 8:30 P.M. in the auditorium of the Brooklyn High School for Home-Making, 901 Classon Avenue, Brooklyn. For further information, contact Dr. Benjamin A. Rosenberg, 909 President Street, Brooklyn 15, New York, or NEvins 8–2370.

Steuben County Medical Society—Newly elected officers of the Steuben County Medical Society for 1956 are: Dr. H. E. Elwood, president; Dr. J. R. Kuhl, vice-president, and Dr. M. Tully, secretary-treasurer.

Medical Society of the County of Schenectady—The annual meeting of the Medical Society of the County of Schenectady was held on December 1, 1955, at the Edison Club. Newly elected officers are: Dr. Frank C. Furlong, president; Dr. Ralph E. Isabella, vice-president; Dr. Joseph B. Cortesi, secretary, and Dr. Carl F. Runge, treasurer.

Orange County Medical Society—Standing committees of the Orange County Medical Society for 1956 have been announced. They are: Public relations, Dr. Fritz Blumenthal, chairman; with subcommittee chairmen Drs. Julia C. Keniston, Samuel S. Shorter, and Erwin R. Kaback; editor-in-chief of *The Orange*, Dr. R. E. Passenger; Woman's Auxiliary, Dr. Charles J. Bivona, chairman; economics and grievance, Dr. Edward A. Kearney, chairman; public health, Dr. Oree Carroll, chairman, with Dr. Cornell I. McFadden, chairman of the maternal welfare committee; Dr. Hagop M. Gasparian, cancer; Dr. S. Mills, school health; Dr. M. Renfrew Bradner, Jr., county nurses committee, and Dr. Walter W. Davis, tuberculosis. Also: Dr. Milton Mendleson, cardiac; Dr. Walter A. Schmitz, mental health; Dr. William S. Montgomery, diabetes; Dr. S. Quackenbush, geriatric chronic diseases; Dr. Dale C. Bouton, polio, and Dr. Adolph S. Millman, chairman of the cerebral palsy-retarded children committee.

Personalities

Elected

Dr. Herbert Berger, Tottenville, as president of the Richmond Memorial Hospital medical staff . . . Dr. James M. Dobbins, Astoria, reelected president of the medical board of St. John's Hospital in Long Island City for the third consecutive term . . . Dr. Grover C. Elder, as president of the Oswego Hospital medical staff for 1956 . . . Dr. Ralph B. Post, Ballston Spa, as chief of staff of the Benedict Memorial Hospital . . . Dr. Harold Ross, Utica, reelected as president of the medical staff of the St. John and St. Joseph Home, Utica . . . Dr. Walter Z. Schwebel, Troy, as staff president of Samaritan Hospital in Troy.

Appointed

Dr. Lauretta Bender, New York City, as principal research scientist in child psychiatry, a new position in the State Department of Mental Hygiene . . . Dr. J. Frederick Eagle, Buffalo, as director of pediatrics at St. Luke's Hospital, New York City . . . Dr. Herbert Kent, formerly of New York City, as associate professor in the Department of Physical Medicine, University of Oklahoma School of Medicine . . . Dr. N. Jerome Schulman, New Rochelle, as chief of obstetrics and gynecology at New York City Hospital . . . Dr. Henry Haimovici, New York City, as consultant in peripheral vascular surgery at St. Joseph's Hospital in Yonkers.

Honored

Drs.Charles Boller, Shirley R. Snow, Jr., Samuel J. Stabins, Frank Barber, Hobart Boyd, Norman Egel, and George A. Hilleman, by Genesee Hospital for the completion of ten-year terms as chiefs of clinical departments . . . Dr. Louis Dlugasch, New York City, with a dinner on January 25 given by the medical board of Beth David Hospital of which he was president for three terms.

Speakers

Dr. Harold J. Jacobson, professor of radiology at New York University College of Medicine, before the Fulton County Medical Society on January 19, on "Roentgenographic Aspects of the Arthridites and Related Conditions" . . . Dr. C. Stuart Welch, associate professor of surgery at Albany Medical College, before the Binghamton Academy of Medicine on December 20, 1955, on "Splenectomy for Blood Dyscrasias."

Awarded

Drs. James F. Holland and Avery A. Sandberg, associate chiefs of medicine at Roswell Park Memorial Institute, Buffalo, an additional grant to pursue studies of purine and pyrimidine metabolism in the leukemic state . . . Dr. Irving M. London, Albert Einstein College of Medicine of Yeshiva University, and Dr. C. P. Rhoads, Sloan-Kettering Institute for Cancer Research, science research contract awards from the United States Atomic Energy Commission.

Inducted

Dr. Adolph J. Bellantoni, Yonkers; Dr. Jacob Shragowitz, Port Chester, and Dr. Arthur J. Wallingford, Albany, into fellowship in the American Academy of Obstetrics and Gynecology during the fourth annual clinical meeting of that organization in Chicago in December.

New Offices

Dr. Orrin VanDyke, practice of surgery in Ithaca

Resigned

Dr. M. Bernard Brahdy, Mount Vernon, as deputy health commissioner and as parochial school physician.

The Antiseptic Baby and the Prophylactic Pup
Were playing in the garden when the Bunny gamboled up;
They looked upon the Creature with a loathing undisguised;—
It wasn't Disinfected and it wasn't Sterilized.
—Arthur Guiterman, *Strictly Germ-Proof*

NEWS FROM THE MEDICAL SCHOOLS

Albany Medical College

Weekly Radio Conferences—The first hour-long radio conference was held on December 5 and was attended by 150 physicians at four Capital District hospitals. The program was on "The Anticoagulant Therapy of Myocardial Infarction," and Dr. Donald W. Drew, assistant professor of medicine, and Dr. Elliot Rapaport, instructor in medicine, were the instructors. Response to the radio conferences necessitated a step up in programming to three times a week instead of the original two and the number of participating hospitals has increased from four to 13. On December 19, Dr. John H. P. Holden, instructor in surgery, and Dr. Edward Sharkey, assistant professor of surgery, conducted the conference on "The Management of Burns."

This experience in medical conferences via two-way radio is the result of a grant of $4,000 from the Rockefeller Foundation and a $1,000 donation from the Northeastern New York Obstetrical and Gynecological Society.

Pediatric Clinical Seminar Day—A pediatric clinical seminar day for area physicians was held at the College on December 8. Drs. Paul R. Patterson and Richard T. Beebe opened the conference, "Problems of Adolescence." Other participants were Drs. Arthur D. Hengerer and George L. Marthy. Following the conference were discussions by instructors in pediatrics, and participants and their topics were: Dr. Thomas F. Riedy, Jr., "The Interpretation of Heart Murmur in Children"; Dr. John W. Abbuhl, "The Use of Antibiotics in Diseases of Childhood"; Dr. M. Edwin Pesnel, Jr., "Problems of Premature Birth," and Dr. Gerald Austin led a pediatric clinicopathologic conference. During the afternoon session interesting patients from the pediatric wards were presented.

Appointed—Dr. J. Garth Johnson, professor of public health, has been appointed general chairman of the Albany Regional Health Conference which will be held in early April. The site for the conference has not yet been chosen. Chronic illness, rehabilitation, and geriatrics are fields slated for discussion. Committee chairmen are: program—Dr. Ralph Vincent, regional health director; finance—Clifford Shoro, executive director, Capital District Cerebral Palsy Association; promotion—Reinald McCrum; arrangements—Mrs. Rita Heuner, regional director, Public Health Nursing; registration—Mrs. Mildred Burns, director of nurses, Rensselaer County Department of Health; hospitality—Dr. Walter C. Levy, and evaluation—Robert Johnson.

New York University College of Medicine

Promoted—Dr. Salvatore di Palma has been promoted to clinical professor, Department of Obstetrics and Gynecology. Dr. di Palma has been at the University since 1943.

State University College of Medicine at Syracuse

Appointed—Dr. Gordon K. Moe, professor and chairman, Department of Physiology, has been appointed secretary of the American Heart Association Section on Basic Sciences.

Returned—Dr. Edward Stainbrook, professor and chairman of psychiatry at the College, returned to the College following a six-week's tour of the Army's Far East Command where he served as psychiatric consultant to the surgeon general of the Army.

Jacobsen-Elsner Society—$25 has been contributed to the J. J. Levy Memorial Fund by the Jacobsen-Elsner Medical Society. The Levy Fund is a medical student loan fund established by the Society in memory of Dr. Jacob Joshua Levy, one of its founders. Dr. Levy was an associate professor of medicine at the College from 1903 until his death in 1942.

Speaker—Dr. William Stephenson, professor of psychology, University of Chicago, lectured at the College on January 6 and 7.

University of Buffalo School of Medicine

Grant—A grant of $131,400 has been received from the Commonwealth Fund of New York for the support of an initial three-year experiment in the training of medical teachers which will begin in September, 1956. A committee consisting of representatives of the Schools of Medicine and Education, the College of Arts and Sciences, and the University administration will direct the program, and Dr. George E. Miller, assistant professor of medicine, will serve as coordinator.

MEDICAL MEETINGS

New York Cancer Society

The fifth meeting of the New York Cancer Society will be held on February 7 at 8:30 P.M. at the New York Academy of Medicine, Fifth Avenue at 103rd Street, New York City. Topic of the program will be "Intra-Epithelial Carcinoma of the Uterus." All physicians and medical students are invited to attend.

Schenectady County Medical Society

The Medical Society of the County of Schenectady will meet on February 7 at 8 P.M. at the Mohawk Golf Club in Schenectady. Dr. Robert E. Elliott, associate professor of surgery at Columbia University College of Physicians and Surgeons, will speak on "Diseases of the Spleen."

Dutchess County Medical Society

A meeting of the Dutchess County Medical Society will be held on February 8 at the Nelson House in Poughkeepsie, preceded by a dinner at 6:30 P.M. Panelists in a discussion of "Diabetes and Some Points in Its Management" will be Dr. Frank M. Woolsey, Jr., Albany; Dr. John W. Runyan, Jr., Delmar, and Dr. William H. O'Brien, Albany.

Greene County Medical Society

There will be a meeting of the Greene County Medical Society on February 16 at 8 P.M. at the Greene County Memorial Hospital. Dr. Edward F. Hartung, assistant professor of clinical medicine at New York University Post-Graduate Medical School, will speak on "New Aspects in the Treatment of Arthritis."

Cerebral Palsy

The Coordinating Council for Cerebral Palsy will hold a round table discussion on "Prenatal and Natal Trauma and Cerebral Palsy" on March 1 at 8 P.M. at the New York Academy of Medicine in New York City.

Utica Academy of Medicine

The Utica Academy of Medicine will meet on June 21 at the Hotel Utica. Dr. Milton Helpern, chief medical examiner of New York City, will speak on "Investigation and Determination of the Cause of Sudden Suspicious and Violent Deaths."

American Congress of Physical Medicine and Rehabilitation

The 34th annual scientific and clinical session of the American Congress of Physical Medicine and Rehabilitation will be held September 9 through 14 at the Ambassador in Atlantic City, New Jersey. Further information may be obtained by writing to Dorothea C. Augustin, executive secretary, American Congress of Physical Medicine and Rehabilitation, 30 North Michigan Avenue, Chicago 2, Illinois.

The Congress is awarding an annual prize for an essay on any subject relating to physical medicine and rehabilitation. Original manuscripts not exceeding 3,000 words must be submitted to the office of the American Congress of Physical Medicine and Rehabilitation, 30 North Michigan Avenue, Chicago 2, Illinois, not later than June 1. An original and one carbon copy of the manuscript must be submitted. Contributions will be accepted from medical students, interns, residents, graduate students in the preclinical sciences, and graduate students in physical medicine and rehabilitation.

Woman's Auxiliary

to the MEDICAL SOCIETY OF THE STATE OF NEW YORK

Legislation

EXPERIENCE with Auxiliary legislation committees in the past indicated that the major problem usually encountered is the lack of general background information concerning the medical problems which are involved. This lack of information tends to produce an attitude of apathy on the part of the general membership. Last year, in an attempt to solve this problem, an effort was made to stimulate general education in medical legislation for the entire Auxiliary membership.

In June, Dr. James A. Greenough, the legislation chairman for the State Society, was asked to select the problems most suitable for the Auxiliary to study. His article outlining such problems was sent to all members in the summer issue of *Distaff*, the State Auxiliary publication.

A program, detailing the mechanics of setting up a county study committee for the proposed education of all members, was prepared for the reference book given to county presidents and presidents-elect at the Fall conference in Albany on October 4, 1954. At this time the program and aim for the year was also explained in some detail to all present. Following the conference, October 20, a copy of the program was sent to each Auxiliary district and county legislation chairman. The district chairmen also were sent a list of current problems in Federal and State legislation and asked to assign a different problem to each county in the district for intensive study with a request that each return a summary report by January 15.

An article explaining this plan and listing the district chairmen with the counties in each district went to all members in the November issue of *Distaff*.

Two of the summary reports received in January were selected for publication in the March issue of *Distaff*. One of these, from Orange County, dealt with "Free Choice of Physician and Plan," an important problem in New York State; the other from Schenectady County, on "Reinsurance," was selected because it covered an important national problem. The rest of the reports were mimeographed and copies were sent to each county which had submitted a report, so that each participating county might benefit from the studies of the rest.

Of the 46 counties in the State with Auxiliaries, eight participated fully in this program last year. These were distributed so that five of the nine districts had at least one participating county. Consultation with chairmen in these counties revealed that the general membership is less concerned with medical legislation during the summer, when families are on vacation, than in the Fall when "life returns to normal." It was also indicated that the period from October to January, selected for study and report on current problems, although good from point of view of educating the membership before the State Legislature went into session, was poor for our members because so much of this time was usually required for getting the children ready to return to school and for taking care of family needs during Thanksgiving and Christmas holidays.

In view of these several considerations, the plan has been altered somewhat this year. The aim, as it was last year, is to educate all Auxiliary members and to set up active study committees in each county. However, the period of time for setting up these committees and reporting on problems selected for study has been extended from August, when all chairmen were sent copies of the plan for setting up such committees, to April 1, when all summary reports are due. Where possible, counties were urged to send in preliminary reports in January so that others might benefit from their studies during the time when the State Legislature is in session.

The report from the State Society chairman, Dr. Henry I. Fineberg, was published in the November issue of *Distaff* rather than during the summer. Since this report presented the Medical Society's thinking on a great many problems currently under consideration in the Legislature, it is hoped that most members will have better understanding of the issues than in past years.

It is, of course, also hoped that more counties will participate fully in this plan than did last year. Actually, in large measure, this number will be determined by the interest and attitude of the local medical societies and will be revealed in terms of the number of reports submitted by the April 1 deadline.

Mrs. Charles M. Brane, *Chairman*
Legislation Committee

345 North Broadway
Yonkers, New York

MINUTES OF THE COUNCIL

The following is a summary of the minutes of the December, 1955, meeting of the Council of the Medical Society of the State of New York.

The Council met December 8, 1955, from 9:15 A.M. to 12:25 P.M. at the Manhattan Club, New York City, Dr. Renato J. Azzari, president, presiding.

Dr. Azzari stated: "Gentlemen, I would like to announce that I had a visit with Dr. Cunniffe Monday afternoon, and I want to inform you that he is critically ill at Union Hospital in the Bronx. I had a very pleasant visit, and I think that he would appreciate very much if any members of the Council find time and it is convenient for them to see him. I have been assured by his nurses that he is very happy to see any of the members of the Council and his old friends."

Secretary's Report

Executive Committee.—Dr. Anderton reported on communications considered by the Executive Committee on December 7, 1955, as follows:

"1. Letter of October 20, 1955, from Dr. George F. Lull regarding Medical Education Week. Dr. Lull asked to be informed of the identity of your medical education week chairman. The Executive Committee recommends that the Council approve the president's nomination of Dr. Edward P. Flood, of the Bronx, as Medical Education Week Chairman."

Approval *was voted.*

"2. Memorandum of December 5, 1955, from Miss Susan V. Baker, secretary of the Public Health and Education Committee, to the secretary stating that a request for financial assistance has been received from the New York State Chapter of the American Academy of General Practice and requesting an opinion as to the extent, if any, we should cooperate financially with the Academy of General Practice in their program for scientific assembly in 1956. The Executive Committee referred this matter to the Council without recommendation."

After discussion it *was voted* to aid the Academy of General Practice in 1956 as we have heretofore through postgraduate education courses, within the budget of the Public Health and Education Committee.

"3. Letter of November 20, 1955, from Dr. Albert Vander Veer, secretary of the Medical Society of the County of Albany, asking permission for Dr. Earl J. Mossey of Cohoes to transfer his membership to the Medical Society of the County of Rensselaer. The committee recommends that the Council grant this request."

It *was voted* to grant the request.

"4. Letter of December 2, 1955, from Mr. Robert C. Killough, Jr., Assistant Commissioner, New York State Education Department, requests three nominations of candidates for one appointment to the Medical Grievance Committee of the State Education Department.

"The Executive Committee recommends the nomination of Dr. Henry E. McGarvey to succeed himself and Drs. Herbert Berger and John F. Rogers."

The recommendation *was approved.*

"5. The Assistant Commissioner of Education, Mr. Killough, has also requested three nominations for a vacancy on the Nurse Advisory Council of the Education Department for the Regents to select one for a vacancy which will occur the first of January. It has been suggested that the Council nominate Dr. Raymond S. McKeeby, Dr. Louis M. Rousselot, and Dr. William L. Wheeler, Jr."

Approval *was voted.*

"6. On November 17 Mr. Frank J. Smith, chief of the Narcotic Control Section of the New York State Department of Health, requested a nomination for a member of the Advisory Board for Narcotic Control. It was felt that a gentleman from Albany would be the best for such a position, and the president suggests that the Council confirm his nomination of Dr. Albert Vander Veer, II, of Albany."

Confirmation *was voted.*

Dues Remissions.—The Council voted to remit 1955 annual State assessments of four members because of illness and of four members because of military service; to request remission of American Medical Association dues of eight members for 1955 and one member for 1956; and to request exemption of two members over seventy years of age from further payment of American Medical Association dues.

General.—Dr. Anderton reported: Last month the Board of Trustees approved your recommendations: to increase the Blood Banks Commission budget from $350 to $600 for the year; to increase the JOURNAL budget $2,050 for one additional employe; and to increase the Workmen's Compensation Committee budget in an amount not to exceed $300 for 10,000 reprints of an article on workmen's compensation from the JOURNAL.

Your secretary has fulfilled the instructions you gave him at your last meeting. He sent a copy of President Azzari's memorable eulogy to Mrs. Leo F. Simpson. He sent to the secretaries of component county medical societies copies of the Board of Regents' regulations defining "unprofessional conduct" in the practice of medicine. He notified Dr. Paluel J. Flagg that the Council did not adopt his proposed resolution calling for a council on pneumatology in the American Medical Association. The medical societies of the Counties of Livingston and Genesee were notified of your approval of the transfer of Dr. Alex Uljanov. Your committees were notified of matters referred to them.

Dr. Vincent J. Collins, secretary, New York State Society of Anesthesiologists, has courteously called my attention to an error in the published minutes of the Council for June, 1955. It related to the reference to the Joint Committee of the Medical Society of the State of New York and the Hospital Association of New York State of a report from our House of Delegates reference committee which considered the 1955 annual report of the Special Committee to Study Hospital and Professional Relations. There remains for negotiation between our Society and the New York State Hospital Association a single sentence: "Moreover a physician shall not dispose of his professional attainments or services to any hospital, lay body, organization, group, or individual, by whatever name called or however organized, under terms or conditions which permit the sale of services of that physician by such agency for a fee." The incorrect quotation had the words: "by such agency at a profit to the agency." It should have had the words: "by such an agency for a fee," as stated above. This is being drawn to the attention of Editor Laurance D. Redway in the hope that he will publish the correction.

Through the courtesy of Dr. and Mrs. Leo E. Gibson, the annual meeting of county medical society secretaries was held at the Syracuse Corinthian Club, November 17, 1955. Thirty-seven persons were present, including representatives of 23 county medical societies. A storm prevented several from attending. The agenda included "Medical Movies: Are They Worth While?" by Dr. Kenneth Olson, Albany, chairman of the Film Review Subcommittee of the Public Health and Education Committee; "County Medical Society Programs, Our Postgraduate Education," by Dr. Theodore J. Curphey, Hempstead, chairman, Public Health and Education Committee; "Attendance at Medical Meetings," by Dr. John H. Iselin, Jr., Hartsdale, assistant to the secretary of the Medical Society of the State of New York; "Civil Defense," by Dr. James H. Lade, Albany, director of Office of Medical Defense, New York State Department of Health; and "Social Security: Voluntary vs. Compulsory; H.R. 7225, Proposed Amendment to Title 2," by Dr. Gerald D. Dorman, New York City, councillor.

There was also considerable informal discussion about such topics as the relationship of doctors of medicine and doctors of osteopathy, the rights and privileges of retired members of the State Society, and a physician's refusal to certify a handicapped person for a motor vehicle driver's license. I believe the meeting was fruitful to all those present.

Your new Epilepsy Subcommittee of the Public Health and Education Committee has already commenced work. It bids well to be of real assistance to Commissioner of Motor Vehicles Joseph P. Kelly.

On November 18 your secretary attended a meeting of the Joint Commission for the Improvement of the Care of the Patient. On November 22 he was at a meeting of the Executive Committee of the Legislation Committee, where there was a productive discussion with psychiatrists and psychologists regarding licensure or certification of psychologists in New York State. On November 25 your secretary attended a meeting of the Convention Committee.

Your secretary's schedule included attendance at the A.M.A. Public Relations Conference on November 28 and the House of Delegates, November 29 to December 1, in Boston, Massachusetts; meeting of Physical Medicine and Rehabilitation Subcommittee of the Public Health and Education Committee, December 5; Blood Banks Commission, December 6; and, on December 7, Publication Committee, Office Administration and Policies Committee, Executive Committee, and General Practice Subcommittee of the Public Health and Education Committee.

The secretary's report *was approved.*

The treasurer's report was accepted.

Reports of Committees

Blood Banks Commission.—Dr. James Greenough, chairman, stated: "A meeting of the Blood Banks Commission was held December 6, 1955. The first matter was whether the Blood Banks Association had carried out the mandates of the House of Delegates of May, 1955, in regard to the Blood Assurance Program.

"Under 4(*a*) of the House of Delegates' policy it is necessary to show to the Council by January 1, 1956, a suitable number of certificates. After reviewing the figures, it was evident that the Blood Banks Association, during September, October, and November, had issued 400 to 500 certificates each month. At this rate of bleeding, the monthly income including money received from other sources, such as blood exchanges, approximated $1,500. Expenses during this same period ran in the neighborhood of $4,000, leaving a deficit of approximately $2,500 each month.

"It was pointed out by representatives of the Blood Banks Association that the number of certificates was limited voluntarily by the Association in order to prevent the drawing of surplus blood. In the immediate future a monthly number of certificates approximately 750 would be obtained.

"With no increase in expenses approximately 1,450 certificates would be required each month. As the number of certificates increase, however, the expenses would necessarily rise, and an estimate was made that the operation would cease to have a deficit if approximately 2,000 certificates were obtained each month. In spite of falling short of the number of certificates per month at this time, after considerable discussion a motion stating that the number of certificates at the present time was not satisfactory was defeated by a vote of three to two.

"It was unanimously voted by the commission that 4(*b*), requiring that economies be shown by the Association by July 1, 1955; 4(*c*), evidence of reorganization to be shown by July 1, 1955; and 4(*d*), the limit of deficit by January 1, 1956, could not exceed the $18,000 appropriated by the House of Delegates through the Trustees for assisting the Blood Banks Association until January 1, 1956, must not be exceeded, were all achieved. By January 1, 1956, there will still be approximately $6,000 of the $18,000 approved for loan to the Blood Banks Association. It was thus the opinion of the commission, which is being reported to the Council at this time, that the Blood Banks Association had met the requirements set up by the House of Delegates in May, 1955.

"Mr. William F. Martin, legal counsel, reported to the commission that he had discussed with the Insurance Department of the State of New York an opinion which they had drafted in regard to the Blood Assurance Program. I will ask him to present it to the Council."

Mr. Martin stated: "As a result of my conversation with the deputy in the State Insurance Department, I gather that this substantially represents their present views in the matter: That the counsel for the State Insurance Department has ruled that the participating local blood banks are engaged in the insurance business when they issue blood assurance certificates and, therefore, are violating the Insurance Law.

"Second, the counsel has ruled that where Blood Banks Association just promotes an assurance program, it is not in the insurance business, but it is dangerously close to it.

"Third, it feels—and this is the Department—that Blood Banks Association should discontinue all activities which are designed to enable the participating local blood banks to engage in the insurance business in violation of the Insurance Law such as publicity forms, promotion, record keeping, etc.

"Fourth, it has ruled that the Blood Assurance Program constitutes the doing of an insurance business and that the Blood Banks Association should not lend its assistance to the local banks in doing such an insurance business.

"Fifth, the State Insurance Department's counsel says that the Blood Banks Association by its activities comes perilously close to violating Section 111 of the Insurance Law 'Acting for or aiding unlicensed or unauthorized insurors'—penalty $500 for the first offense, plus $500 for each month it continues to act in violation of Section 112; and also Section 1199 of the Penal Law 'Acting for a foreign insurance corporation which has not designated the Superintendent of Insurance as attorney.' Violation of the latter section is a 'misdemeanor.' "

Dr. Greenough stated: "This is somewhat repetitious, but I feel it should be on the record.

"As Mr. Martin has stated, the Insurance Department considers the Blood Assurance Program to be, in fact, insurance, and therefore, the Blood Banks Association is dangerously near to participating in an insurance program which is not approved by the State Insurance Department. As he has pointed out, in order to continue with the Blood Assurance Program, it will be necessary (1) to obtain new legislation under Section 9 of the Insurance Law to permit a program such as the Blood Assurance Program to be carried on in the State; (2) under this new legislation the Blood Assurance Program would have to register with the Insurance Department of the State of New York; (3) substantial reserves in cash would undoubtedly be required by the Insurance Department; and (4) frequent inspections of the operations of the Blood Banks Association by the Insurance Department would be necessary.

"It is evident, as a result of the opinion of the Insurance Department, that until these criteria are met, the Blood Assurance Program should be discontinued. At present negotiations have gone so far that arrangements have been made to bleed one group next week and a second group approximately January 3, 1956. The question arises whether these contracts should be cancelled or, since these contracts in fact have been agreed upon, they should be honored before the Blood Assurance Program is stopped.

"As Mr. Martin has told you, he is willing to confer with the Insurance Department on this matter, but if he proposes to the department that these contracts be honored, he should be empowered by the Council and the Board of Trustees to inform the Insurance Department that no one bled up to date or bled under these two contracts would be in danger of not receiving blood when it was required.

"On January 1, 1956, there will be approximately $6,000 remaining of the $18,000 appropriated for the support of the Blood Banks Association. There will also be over $3,000 set aside for blood reserves. This total, between $9,000 and $10,000, is estimated to be sufficient to insure the claims now in effect and those which will be in effect if the two contracts are honored.

"The Blood Banks Association, at a meeting December 6, 1955, passed the following motion, which was presented to the Blood Banks Commission at its meeting the same day:

Recommendation from the Board of Directors of the Blood Banks Association to the Blood Banks Commission

A. That Mr. Martin, legal counsel, report to the Council of the Medical Society the results of his interview with the State Insurance Department, in which he told them that the Medical Society regards itself as bound by existing contracts;

B. That he tell the Council he understands that several major commitments have been made with regard to assurance programs to take place in the next two months;

C. That it is the sense of the Board of Directors that the Council authorize him to report to the State Insurance Department that if these already arranged for projects are carried out, the State Medical Society will underwrite them;

D. That the Board of Directors would like a committee appointed, with the approval of the Council, to discuss with the State Insurance Department the authorization and operation of a Blood Assurance Program, including enabling legislation.

"At the meeting of the commission this resolution of the Blood Banks Association was approved for submission to the Council.

"In summary, action of the Blood Banks Commission prior to the decision of the Insurance Department of the State of New York was to inform the Council that in its opinion the Blood Banks Association had met the requirements passed by the House of Delegates in May, 1955, and that, therefore, the commission was prepared to recommend to the Council that the Blood Assurance Program be continued until the next meeting of the House of Delegates in May, 1956.

"After receiving the decision of the Insurance Department of the State of New York, it is the opinion of the commission that the Blood Assurance Program should be terminated in one of two ways. If the Insurance Department will not permit carrying out the contracts already negotiated, the insurance program should cease at once; if the department will permit the negotiated bleeding of mid-December and early January to be fufilled with promise by the Council and Trustees of the Medical Society to back any commitments, then the Blood Assurance Program should cease as soon as these contracts are honored, and no further contracts, individual or group, should be negotiated.

"I move approval of the report up to this point."

Dr. Berger introduced and Dr. Curphey seconded a motion to table.

The motion was put to a vote and *was lost* by a hand vote of three in favor and 15 against.

A motion to approve the report to this point *was carried.*

Dr. Greenough continued: "With the discontinuance of the blood assurance program, the only function of the Blood Banks Association will be the blood exchange program. This is in no way affected by the decision of the Insurance Department nor by the resolution passed by the House of Delegates in May, 1955. If this program is continued, it will perform a very important public service. Income from this program, however, will not be sufficient to carry it. The monthly deficit can be estimated at about $200. The Blood Banks Commission presents these facts to the Council and to the Board of Trustees so that a decision may be made at this time as to whether the Medical Society will continue to support the blood exchange program financially until the next meeting of the House of Delegates in May, 1956.

"I move approval of the report as a whole."

After discussion the report as a whole *was approved.*

After further discussion it *was voted* that the Blood Banks Association be authorized to continue the Blood Exchange Program until the meeting of the House of Delegates in May.

The president appointed, with the approval of the Council, the following committee to discuss with the State Insurance Department the authorization and operation of a blood assurance program, including enabling legislation. Dr. Greenough, chairman, and Drs. Mott, Berger, Eggston, and Kenney, and Mr. Martin. A meeting was arranged for Wednesday, December 14, at 2 P.M.

Budget.—Dr. Maurice J. Dattelbaum, chairman, distributed the budget, which is attached to the office copy of these minutes, and requested that the Council go into executive session.

After the executive session Dr. Anderton reported: "The budget as submitted by the Budget Committee in part was approved as distributed to the members of the Council."

Approval *was voted.*

Constitution and Bylaws.—Dr. Frederick W. Williams, chairman, stated. "Your committee has processed amendments to the bylaws of county societies as follows: Nassau County Medical Society, Medical Society of the County of Chautauqua, and Medical Society of the County of Rockland. These amendments have all been found in keeping with the Constitution and Bylaws of the Medical Society of the State of New York and have been reviewed by the secretary, the counsel, and your committee. We move the approval of these amendments."

It *was voted* to approve the recommendations of the committee.

Convention.—Dr. Samuel Z. Freedman, chairman, presented the following report. "The Convention Committee met Friday, November 25, 1955, in the State Society office.

"Recommendations from the Sesquicentennial Committee were discussed. In accordance with your vote, the committee decided to hold the main sesquicentennial celebration at the Statler Hotel, New York City, in the week of February 17 to 22, 1957. It recommends that five of the district branch meetings that year be held in the cities of Albany, Binghamton, Buffalo, Rochester, and Syracuse; and that the sesquicentennial be accentuated in all district branch programs.

"The Convention Committee recommends to the Council that an appropriation of $2,000 be included in the 1956 budget, in preparing for the sesquicentennial.

"The Convention Committee further recommends that the Sesquicentennial Committee be free to call upon the Public and Professional Relations Bureau for all aid necessary."

Dr. Freedman moved approval of the committee report and recommendation to the Trustees of the appropriation of $2,000 from the 1956 budget.

Approval *was voted.*

Economics.—Dr. John C. McClintock, chairman, presented a report by Mr. George P. Farrell, director of the Bureau of Medical Care Insurance, which consisted of the Bureau's September 30, 1955, quarterly progress report on New York State Blue Shield plans approved by the Medical Society of the State of New York. The report is in the office copy of these minutes, has been mailed to component county medical society secretaries and others interested in medical care insurance, and is published in part on pages 3654 to 3656 of the December 15, 1955, New York State Journal of Medicine.

Legislation.—Dr. Henry I. Fineberg, chairman, reported: "Since the last Council meeting, our executive officer and the legal counsel of the Legislation Bureau have been drafting the bills which have been approved for introduction at the coming session of the Legislature. May I remind you that included in this group are the following:

"1. Abolition of Workmen's Compensation Medical Practice Committee;

"2. Change of place of arbitration of workmen's compensation medical fees;

"3. Establishing panels of specialists for evaluation of workmen's compensation cases;

"4. Appellate, rather than advisory, role for medical appeals unit;

"5. Amendment to autopsy law;

"6. Amendment to Medical Practice Act re advertising;

"7. Municipal intern indemnity, which includes protection to include interns and residents in municipal hospitals;

"8. Injunction bill;

"9. Free choice of plan and free choice of physician.

"As far as the proposals which deal with changes in the Workmen's Compensation Law are concerned, the advice and guidance of Drs. Kaliski and Dorman have been of great value.

"Yesterday afternoon Dr. Smith, Mr. Beasley, and I met, and everything is proceeding according to schedule.

"A meeting of our Executive Committee was held in the office of the Medical Society on the afternoon of November 22 in order to review the suggested law to license psychologists. Three members of the committee, Dr. W. P. Anderton, Mr. Richard Burns, counsel, five psychiatrists, and three psychologists, representing the New York State Psychological Association, attended.

"The entire subject of the licensing of psychologists was discussed, particular attention being paid to the definition of the practice of psychology.

"Despite considerable deliberation no definite conclusions were reached.

"Dr. James A. Lynch, vice-chairman of the committee, was appointed a committee of one to reconvene with the psychiatrists and psychologists next week in an effort to arrive at a definition of the practice of psychology and to propose changes in the proposed bill for licensing or perhaps for certification.

"A dinner meeting of 16, representing pathologists, hospitals, the State Department of Social Welfare, anatomists, and our Society, was held in New York City on December 6 to reconsider the revision of the present autopsy law and the laws concerning the dead body generally.

"The present autopsy law of New York and the laws in other states were reviewed. After much discussion it was agreed that we should have introduced at the next Legislature the same bill that was presented last year. This will be in the form of an amendment to Subdivision 3 of Section 4210 of the Public Health Law and will provide that in the case of autopsy consents, where there survives neither husband nor wife and if there be more than one next of kin, then one of them, acting on behalf of all, may authorize dissection.

"We felt that we were more likely to have a bill of this kind passed than to change the bill completely or to change the law completely.

"The opinion was expressed that in order to overcome the opposition of the religious belief which was responsible for the failure of this bill to pass almost a year ago, an 'educational program' should be conducted for the clergymen and legislators. Evidence is available to substantiate the fact that the performance of autopsies is not contrary to the concepts of the major religious persuasions.

"It was also decided that the question of autopsies and laws governing the dead body in general be further reviewed by a special subcommittee to be appointed by the chairman. This committee will meet with a similar group designated by the Greater New York Hospital Association.

"It was felt that the problem of cadavers for medical schools and other related matters should be studied by Dr. Harold B. Smith and Dr. I. Jay Brightman, Assistant Commissioner for Welfare Medical Services of the State Department of Social Welfare. They will consult the two chairmen of the New York State Anatomical Committee, Dr. J. M. Wolfe of the Albany Medical College and Dr. Jerome Parnell of the State University of New York College of Medicine at New York City, who represent the upstate and downstate areas.

"I would like to mention that I have been invited by the president of the Eighth District Branch to talk this evening on the subject of legislation."

It *was voted* to approve the report.

Nursing Education.—Dr. Raymond S. McKeeby, chairman, reported: "I have two communications, one from Miss Katherine E. Rehder, Executive Secretary of the New York State Nurses Association, which is a letter addressed to Dr. Azzari under date of November 9. She says:

> Because of the confusion which still seems to exist in regard to the administration of intravenous therapy by nurses, our Association feels it necessary again to appeal to the Attorney General requesting that he either reverse his 1942 opinion or reaffirm it.
>
> Before requesting this opinion from the Attorney General our Board of Directors would appreciate it if you could let us know how the Medical Society would feel concerning this action. I don't think I need go into the details of the 1942 opinion rendered by the Attorney General, nor the subsequent opinions by the legal counsel of the Education Department and Civil Defense.
>
> If, however, you should wish any further explanation, I shall be glad to give it to you.

"I ask whether the Council would like to take any action upon this letter."

After discussion it *was voted* that the counsel, Mr. William F. Martin, answer the letter from the executive secretary of the New York State Nurses Association.

Dr. McKeeby continued: "This is a communication from the Hospital Association of New York State, and they are asking us now to approve the revised principles for the promotion of better nursing care which were discussed at the last meeting of the Nurse Advisory Council to the Board of Regents.

"If you remember, last year we did approve those principles. They are pretty much the same. However, there have been some minor changes. If the Council would like to hear them, I will be glad to reread them inasmuch as the New York State Hospital Association is asking us for final approval of these principles.

PRINCIPLES FOR THE PROMOTION OF BETTER NURSING CARE

1. There are three levels of nurses needed in hospitals today:

(*a*) Licensed Practical Nurses with approximately one year's formal preparation.

(*b*) Registered Diploma Nurses with three years' preparation.

(*c*) Registered Degree Nurses with four, five, or more than five years of preparation.

2. To meet these needs, schools of nursing should produce nurses in the three groups in the following approximate ratios: (*a*) Licensed Practical Nurses, 45 per cent, (*b*) Registered Diploma Nurses, 45 per cent, (*c*) Registered Degree Nurses, 10 per cent.

3. There is a serious shortage of nurses in all three of these categories.

4. Recruitment efforts and attempts to obtain financial support should be directed toward all three types of program.

5. Practical Nurse schools can be sponsored by high schools or by hospitals. There is no reason why Practical Nurse students cannot receive their preparation side by side with students in the diploma or registered degree programs in the same hospital.

6. Practical Nurses, under proper supervision, can effectively handle a large portion of the basic nursing care in the hospital for which they have been trained.

7. Registered Diploma Nurses prepared in hospitals schools of nursing in the regulation three-year period can give treatments and medications, act as team leaders with practical nurses, student nurses, and nurse attendants in the team concept of nursing care and take charge of wards as assistant head nurses and head nurses. In these latter positions they should have on-the-job training programs in supervisory and administrative technics as well as adequate experience in general staff nursing. They do not need a college background. Some colleges are now offering job relations training courses on an extension basis, and this should be encouraged.

8. Registered Basic Degree Nurses with postgraduate clinical experience can best fill teaching and administrative positions in schools of nursing and, to some extent, supervisory positions in nursing service.

9. Consideration should be given immediately to the development of a shortened curriculum, with emphasis on practice and application of theory, rather than on theory, which would serve as basic training for all Registered Diploma Nurses, some of whom might subsequently, at their option, take further courses leading to college degrees or specialized experience.

10. Some form of progression should be developed in the field of nursing education so that a nurse wishing to advance from one category to another could receive some credit for the preparation she has already obtained, without having to start all over again at the beginning.

11. In a well-organized diploma program, intelligent nursing care is achieved by the student nurse having a thorough knowledge of basic principles in all clinical areas. This, combined with adequate supervision and direction at the bedside or in a specialized area, will provide a true learning situation which eventually will result in optimum care of the patient. The rapid changes and technicalities developing in patient care make this mandatory. Only by a thorough understanding of principles can these constant adjustments be made, thereby insuring nursing for the future.

12. Nursing education does not belong exclusively in the "stream of general education." It cannot and should not be divorced from hospitals. The bedside of the patient is the best place a student can learn nursing skills.

13. Curriculum requirements established by the Education Department should be revised at frequent intervals to conform to changing medical practice.

14. As long as the nursing shortage exists, however, all regulatory bodies should not request curriculum and administrative changes in schools of nursing which may withdraw from the student nurse any additional clinical experience."

After discussion no action *was taken*.

Office Administration and Policies.—Dr. John J. Masterson, chairman, presented the following report: "The committee met December 7, 1955.

"The office manager reported on personnel matters.

"The Christmas party for officers and staff is being held Tuesday, December 20, 1955, at 5:30 P.M.

"Painting various areas of the office was discussed, and the office manager was authorized to obtain estimates of the cost.

"Dr. Anderton read a letter from Dr. Beverly C. Smith, president of Physicians' Home. Dr. Smith stated that Physicians' Home was looking for office space. It was the sense of the meeting that Dr. Smith and members of their board be invited to inspect space which had been suggested. The committee voted that if the Physicians' Home found the space satisfactory, it would then prepare a recommendation for the Council and Trustees."

It *was voted* to accept the report.

Publication.—Dr. Masterson, chairman, reported: "The Publication Committee met December 7, 1955.

"The editor and business manager submitted their monthly reports.

"A request was received from State Senator George R. Metcalf regarding the New York State Citizens' Health Council. It is the desire of this Council to stimulate public interest in health, and we were requested to publish certain material in the JOURNAL. The committee decided that before it made any decision, it would request that this material be submitted for consideration.

"Dr. Redway reported that he was continuing negotiations with the New York Academy of Medicine regarding publishing talks which have been given over FM radio by physicians on scientific subjects. The committee voted to accept only papers which we desire to publish.

"The committee received notice from the printers that beginning January 1, 1956, there will be an increase in costs of 10 per cent.

"The committee discussed the practicality of submitting to each doctor in the State the printed portion of his biographical record as it would appear in a forthcoming edition of the *Directory*. The matter was tabled.

"Because of the increase in printing rates, the committee approved charging to the author the costs of any alterations which he makes after type has been set."

It *was voted* to accept the report.

Public Health and Education.—Dr. Theodore J. Curphey, chairman, stated that he had attended five meetings and arranged 15 postgraduate lectures and teaching days in eight counties since the November meeting of the Council.

He reported: 1. On November 16 Dr. Redway and Dr. Miller McClintock of the Audio-Video Corporation met with your chairman for exploratory discussion of the possibility of tape-recording certain lectures now given in the larger county medical societies under the postgraduate educational program of this committee. It is hoped the recordings may be utilized by physicians in isolated sections of the State, as individuals, and perhaps in groups as members of the small county societies. Tentative plans were laid for an experimental recording.

2. Dr. Curtis Prout, chairman of the Subcommittee on Mental Hygiene, has reported on the Conference of Mental Health Representatives of State Medical Associations in Chicago, November 18 and 19. Discussions were held on the following:

(*a*) The problem of narcotics, in which the history of the use of narcotics, present methods of treatment, and present research were considered.

(*b*) Integration of mental illness and public mental hospitals with the total medical community. It was suggested that the public mental hospitals invite participation of the medical men of the community in the actual therapeutic program of the hospital.

(*c*) Future relationships with clinical psychologists. It was the consensus that the A.M.A. was in accord with the American Psychiatric Association in wishing to encourage the psychologists to create standards and receive recognition through certification.

(*d*) Development of committees on mental health at county society level.

The following recommendation was submitted to the Council on Mental Health of the A.M.A.: "That the members of State Medical Associations' committees on mental health should be appointed for a term of three to five years as a standing committee, with at least one member replaced each year; and that the committee should include representation from the fields of surgery, internal medicine, pediatrics, public health, general practice, and psychiatry and such other specialties as seem appropriate within the setup of the State Medical Association."

Dr. Prout also reported that he attended a meeting on November 22 of the Committee on Legislation, which discussed the preparation of a bill for certification of psychologists. Another meeting will be held December 15.

Dr. Curphey supplemented his report by stating: 'Besides the report that was circulated with the agenda there are a few items that have developed.

"The Subcommittee on Physical Medicine and Rehabilitation met December 5, 1955, and requests the Council to give permission to have a letter written to the deans of the medical schools in the State as a follow-up to their notification by Dr. Anderton of the Council's approval relative to a program of education and publicity in cooperation with the State Education Department. This concerns primarily the establishment of physical medicine and occupational therapy schools. This letter will

"(*a*) Seek their opinion as to whether they will set up the suggested departments of physical medicine;

"(*b*) Seek their reasons if they indicate they do not intend to set them up;

"(*c*) Inform them of the availability of financial assistance from Federal funds designated for the particular purpose of training personnel in this field;

"(*d*) Point out that the cost of establishing such a department, using existing facilities of other departments whose courses will be required of such students, will eventually be met by the tuition fee;

"(*e*) Point out the shortage of personnel, giving specific statistics, and appeal for their assistance in wiping out the shortage."

It *was voted* to authorize such a letter.

Dr. Curphey continued: "Plans were also discussed for setting in motion the program of recruitment of physiotherapy students which was proposed at a previous meeting of the committee and for which a subcommittee was appointed. It was recommended to the Council Committee on Public Health and Education that:

"(*a*) A conference be called of the subcommittee with representatives of the American Physiotherapists Association and the American Occupational Therapists Association in order to formulate specific publicity;

"(*b*) A second conference be called with representatives of the State Health Department and the State Education Department to determine how they can lend their assistance; and

"(*c*) That a third conference be called which will include representatives of the National Foundation for Infantile Paralysis, the Ford Foundation, and other organizations interested in alleviating the shortage of personnel. A program will be presented to them in the hope that funds may be forthcoming for its implementation.

"The Subcommittee on General Practice met December 7 and among other things recommended that the Council Committee on Public Health and Education acquaint hospital administrators with the attitude of the Hospital Accreditation Board relative to the inclusion of general practitioners on their staffs; that attention be drawn to the statement on the same subject as accepted at the Interim Session of the American Medical Association in Boston in November; and that this letter be sent to the superintendent, the chairman of the hospital board of governors or trustees, and the chairman or president of the medical board of each hospital in the State.

"Along with this letter of notification, it is also proposed to include a questionnaire as a follow-up to the detailed questionnaire sent to them two years ago, to determine whether any of the hospitals in the State have established general practice departments or residencies since that time.

"The subcommittee also recommended that inasmuch as the welfare of the people is of primary consideration and inasmuch as the inclusion of the general practitioner in hospital affairs works to the interest of the people, the county medical societies be urged to set up committees on hospital and professional relations to provide a forum where hospital administrators can discuss problems arising among themselves and with the medical profession."

It *was voted* to adopt this portion of the report.

At the November Council meeting a suggestion that the Ravici treatment for cancer be investigated by a competent government body was referred to the Committee on Public Health and Education. Dr. Curphey reported that after consultation with Dr. Charles S. Cameron, the scientific director of the American Cancer Society, the committee requested the Council to grant permission to the Subcommittee on Cancer to investigate this treatment.

A motion to this effect *was carried.*

Dr. Curphey stated the committee was not prepared to make recommendations for the establishment of an advisory committee on accident prevention to assist Commissioner Kelly. It was felt the importance of such a committee necessitated deliberation in the choice of men to serve.

It *was voted* to adopt the report as a whole.

Public Relations.—Dr. Floyd S. Winslow, chairman, presented the following report: The Public and Professional Relations Bureau during the past weeks carried on its campaign to have as many county medical societies as possible conduct a training course for medical assistants in doctors' offices.

"Twelve county medical societies already have conducted courses, and about 25 have indicated their interest. The most popular type consists of a three-hour morning session in which three or four speakers discuss such subjects as Blue Cross-Blue Shield, workmen's compensation, and public relations. An example of the growing interest in these courses was a letter received from the public relations chairman of the Suffolk County Medical Society, who requested 500 copies of 'Telephone Cues for Medical Personnel.'

"Following the last Council meeting a news release concerning the Council's support of the movement to decrease motor vehicle accidents on the highways was distributed throughout the State. This was used by various papers and particularly by the *New York Times.* It pointed out that besides creating an advisory committee to Commissioner Joseph Kelly, State Bureau of Motor Vehicles, the Council voted to set up a committee to study accidents of all kinds.

"A digest of the minutes of the annual conference of county society PR committee chairman was mailed to all who participated and to public relations chairmen who were unable to be present. As a special service to all State Medical Society members interested in the subject, the Bureau prepared a brochure containing Dr. Ernest B. Howard's and Mr. Leo Brown's remarks on H.R. 7225. The December issue of *Newsletter* notified its readers that free copies of the brochure, 'Proposed Cash Disability Benefits Under Social Security,' could be obtained from the Bureau.

"On November 17 Mr. Miebach attended the annual Conference of Secretaries of County Medical Societies in Syracuse. Your chairman and the bureau's director were present at the Eighth Medical Public Relations Conference of the American Medical Association, in Boston on November 28. Both also attended the Clinical Session which followed.

"Releases were sent to editors in certain areas announcing postgraduate lectures in the following counties: Broome, Chemung, Dutchess, Ontario, St. Lawrence, Steuben, Suffolk, Tompkins, and Ulster.

"The Woman's Auxiliary continued to receive the assistance of the bureau. We assisted the president and other officers with the Health Poster Contest, plans for future nurses, and Good Emergency Mother Substitutes programs. Material for the recent *Distaff* was reviewed, and plans for the twentieth anniversary issue were discussed.

"There were many occasions on which the bureau cooperated with other agencies. Included was a request from the American Medical Association for copies of the health examination form developed by your subcommittees on general practice and cancer of the Public Health and Education Committee. Through the courtesy of Dr. Theodore J. Curphey's office, the bureau obtained 500 copies, which were sent to Chicago. The American Medical Association's Public Relations Department will give this nation-wide publicity in *PR Doctor.*"

It *was voted* to adopt the report.

Woman's Auxiliary.—Dr. Dan Mellen, chairman of the advisory committee, reported: "The Woman's Auxiliary are, of course, very energetic, and, just as a hint of this, there is a letter from Mrs. Zadek regarding the Auxiliary participation in the American Medical Association Medical Education Fund. She was anxious to learn whether or not New York State would participate."

Workmen's Compensation.—Dr. Gerald D. Dorman, chairman, presented the following report: "We have spent the past month in preparation of material for the Legislature, covering bills which we have been requested to introduce and support.

"It was Dr. Harold B. Smith's idea that the position of the Medical Society would be strengthened by a strong record of our accomplishments since the amendment to the Workmen's Compensation Law in 1935, by giving appropriate historical information, the positive achievements of the Society, what is being done and can be done to correct certain alleged failings on the part of physicians and medical societies in administering the regulations of the chairman of the Workmen's Compensation Board and certain aspects of the law; a strong statement on rehabilitation by alluding to recent material which appeared in the *Journal of the American Medical Association* concerning costs of medical care in various states; permitting free choice of physician and unlimited medical care, by giving strong argument concerning the establishment of panels of experts; and for the abolition of the Medical Practice Committee; for expressing our reasons for disapproval of labor bills to require physicians to send copies of medical reports to claimants; and finally a statement concerning the desire on the part of the medical profession and of county and State medical societies to deal with such abuses that may still exist or arise under the Workmen's Compensation Law. This material is practically completed and should form a strong argument to support the continued participation of the medical societies in the administrative procedures and other responsibilities as outlined in Section 13 of the Workmen's Compensation Law.

"A new item of importance has arisen for the first time, simultaneously in separate parts of the State. Two physicians who treated compensation injuries and submitted bills were requested by insurance carriers to present their bills to the claimants, because the injured worker had made a settlement with a third party, which included apparently payment for medical expenses. We have taken the position that under the provisions of the Workmen's Compensation Law the claimant may take workmen's compensation benefits and within a reasonable period of time begin an action against the third party. The employer or insurance carrier has a lien against any settlement or award made by the injured worker and is subrogated to the action. Therefore, we feel that the Workmen's Compensation Board should give immediate attention to this question. Otherwise, in all cases where there is a suspicion of third party injury, the physician would be required and justified to demand payment of his fee rather than abide by provisions of the Workmen's Compensation Law, which prohibit a physician from accepting or demanding a fee from a claimant. We have been assured by the workmen's compensation administration that the matter is under study by the counsel of the Board and by the Supervising Referee and Administrator. Incidentally in one of the two cases we succeeded in obtaining payment for the doctor from the injured worker who had settled with the third party.

"Your director appeared at the request of the officials of the Genesee County Medical Society Workmen's Compensation Committee in support of the action taken by this Workmen's Compensation Committee in disapproving a license for a medical bureau requested by the Sylvania Products Corp., in Batavia. The Medical Appeals Unit reserved decision.

"Your director also participated in arbitration of compensation medical bills in Nassau County on November 3, 1955.

"In line with the recommendations of the House of Delegates, the Kings County Medical Society held a meeting on November 15, 1955, devoted to discussion of workmen's compensation matters. Participating were Miss Angela R. Parisi, chairman of the Workmen's Compensation Board; Mr. Henry Sayer, retiring manager of the New York Compensation Insurance Rating Board; and your director. Dr. David Kershner, chairman of the Kings County Workmen's Compensation Committee, acted as moderator. A similar meeting has been arranged by the Bronx County Medical Society for its regular meeting January 18, 1956.

"We are engaged in obtaining, through the members of your Workmen's Compensation Committee and others, opinions of practitioners and specialists and specialty organizations on fees for the revised schedule now under study. The response from our committee has been slow, and we have been required to postpone a proposed meeting with representatives of insurance carriers, self-insurers, *et al.*

"In the meantime the bureau has in preparation a complete fee schedule using the standard nomenclature which will be subject to changes."

The report *was adopted.*

Report of Delegates to the American Medical Association

Dr. Floyd S. Winslow, chairman of the delegation, reported: "The interim session of the American Medical Association House of Delegates was held at the Statler Hotel, Boston, Massachusetts, November 29, 30, and December 1, 1955. It was attended by Drs. J. Stanley Kenney, John J. Masterson, Maurice J. Dattelbaum, Andrew A. Eggston, Renato J. Azzari, Peter M. Murray, Peter J. Di Natale, Thomas M. d'Angelo, Abraham H. Aaron, W. P. Anderton, Floyd S. Winslow, Edward P. Flood, Ezra A. Wolff, Carlton E. Wertz, Thurman B. Givan, Gerald D. Dorman, Charles H. Loughran, and Herbert H. Bauckus.

"Dr. James R. Reuling, American Medical Association trustee, and Dr. Chas. Gordon Heyd and Dr. Louis H. Bauer, past presidents of the American Medical Association, were also in attendance, as were Mr. George P. Farrell, director of the Bureau of Medical Care Insurance, Mr. Frederick W. Miebach, director of the Public and Professional Relations Bureau, and Editor Laurance D. Redway.

"Dr. Dattelbaum was a member of the Reference Committee on Amendments to the Constitution and Bylaws; Dr. d'Angelo was a member of the Credentials Committee; Dr. Dorman served on the Reference Committee on Hygiene, Public Health, and Industrial Health; Dr. Azzari was on the Reference Committee on Insurance and Medical Service; Dr. Masterson was on the Reference Committee on Legislation and Public Relations; Dr. Givan was on the Reference Committee on Reports of Officers, and Dr. Wolff was on the Reference Committee on Rules of Order of Business.

"The opening morning, your delegates held a breakfast meeting; all were present except Dr. Aaron, Dr. Bauckus, and Dr. Flood, who were detained in transit by storms. Dr. d'Angelo was excused on account of a meeting of the Credentials Committee. Dr. Floyd S. Winslow was re-elected chairman by acclamation. Several matters to come before the House of Delegates were discussed.

"It was agreed that members should attend reference committees in regard to matters that appealed to them individually and that Drs. Winslow, Murray, and Anderton should appear before the Reference Committee on Reports of Board of Trustees and Secretary, regarding report of the Board of Trustees relating to reimbursement for collecting American Medical Association dues. Your delegates advocated reimbursement of state societies for actual expenses in collecting American Medical Association dues rather than the allocation of 1 per cent of the dues collected. However, the reference committee endorsed the views of the Board of Trustees, and its report was passed by the House of Delegates.

"The proceedings of the House of Delegates are published in the *Journal of the American Medical Association.**

"It gives me pleasure to report that your delegates were prompt and regular in their attendance and took an active part in the proceedings. I feel they are to be commended.

"Personally, I want to express to this Council something of the sincerity and the seriousness with which these delegates do carry out their responsibilities to the membership of our Society and to the American Medical Association. These men are willing to get up for an eight o'clock breakfast where we can talk over all our problems, and they then work all day conscientiously and hard, and I am very proud to be a member of a group that takes the matter so seriously."

It *was voted* to adopt the report.

New Business

Dr. Cunniffe, Resolution.—Dr. Floyd S. Winslow presented the following resolution:

> WHEREAS, the Council of the Medical Society of the State of New York has learned that Dr. Edward R. Cunniffe is at present a patient in Union Hospital, Bronx, New York; and
>
> WHEREAS, Dr. Cunniffe is now chairman of our Board of Trustees during this his second term as trustee; and
>
> WHEREAS, Dr. Cunniffe has demonstrated his devotion to the welfare of the public and of his profession in such capacities as president of the Bronx County Medical Society, councillor and president of the Medical Society of the State of New York, chairman of the Judicial Council of the American Medical Association, in the American College of Surgeons, and in many other ways; and
>
> WHEREAS, Dr. Cunniffe has won the admiration, respect, and friendship of his patients and of his colleagues by his kind, understanding, sympathetic, cheerful personality and his skill, ability, and leadership as a surgeon; therefore be it
>
> *Resolved*, that the members of the Council of the Medical Society of the State of New York individually and collectively extend to Chairman of the Board of Trustees, Dr. Edward R. Cunniffe, their heartfelt best wishes for a speedy and thorough recovery.

This resolution was passed by a rising vote, and the secretary was requested personally to deliver a copy to Dr. Cunniffe at his earliest convenience.

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* The Proceedings of the House are recorded in the *Journal of the American Medical Association*, volume 159, number 17, December 24, 1955, pages 1642 to 1663 inclusive, and number 18, December 31, 1955, pages 1748 to 1770 inclusive.

CORRESPONDENCE

Prognosis in Heart Disease: Correction

To the Editor:

Referring to my article, "Prognosis in Heart Disease," in the December 1, 1955, issue of the JOURNAL, may I say that on page 3446, second column, first complete paragraph, the fourth sentence should read: "The more variable it is, the *less* likely is it to be of organic origin."

HENRY B. KIRKLAND, M.D.
Chief Medical Director
Prudential Insurance Company of America
Newark, New Jersey

THE MONTH IN WASHINGTON

Bills that have been hanging fire in Senate and House committees for over a year finally are getting attention as the administration pushes its program for broader and more uniform medical care for the families of servicemen.

A new version of a bill was dropped in the hopper on the opening day of this session by Chairman Carl Vinson of the House Armed Services Committee. It was designed in part to supply answers to a number of questions growing out of earlier versions sponsored by the Defense Department. Actually it raised more questions, which only hearings and testimony from expert witnesses and debate on the floor of Congress can answer.

The bill (H.R. 7994) authorizes, as a matter of right, broad medical care for dependents of the armed forces, as well as of Coast Guard, Public Health Service, and Coast and Geodetic Survey personnel serving on active duty. (The bill would authorize health insurance only for dependents of latter three services.) Separate bills have been introduced in the past providing medical care for dependents of Coast Guard, PHS, and Geodetic Survey, but this marks the first time they are brought into the same bill with military personnel.

In provision of services the bill has no surprises over its predecessors. It calls for diagnosis, treatment of acute medical and surgical conditions, treatment of contagious diseases, and maternity and infant care.

On another point of major interest to physicians, the bill drops out all mention of the home-town medical care plan, which was a part of Mr. Vinson's earlier bill. That bill contemplated use of civilian hospitals and doctors for those dependents who were not near military medical facilities and who had not taken out health insurance, with the government paying part of the cost.

Another area of almost certain debate in the latest bill is the insurance features. There are these main points:

1. A serviceman may elect to rely entirely on the chance of finding space available in a military hospital or clinic for his family, or he may choose protection through an insurance plan.
2. The family deciding on insurance has its choice of going to a military hospital or using civilian resources. The uninsured family could be charged by the military for outpatient care and would have to pay subsistence costs while in the hospital.
3. A serviceman taking insurance would pay 30 per cent of monthly premiums for a basic plan covering his wife and children and the entire premiums for coverage of dependent parents and parents-in-law. Parents and parents-in-law who found space in a military hospital, however, would be admitted on the same basis as wives and children.
4. Catastrophic-type coverage at additional premium.
5. To take care of long-term illnesses, the bill provides for transfer of dependents to military facilities once they have used up benefits in an insurance plan. Or if such transfer isn't feasible, the government could pay the additional costs for private care.

The bill was introduced before the Defense Department had completed a survey of Blue Shield, Blue Cross, and commercial plans to determine to what extent they could provide care under the bill. Conceivably the survey could further change the shape of an already much-revised piece of legislation.

President Eisenhower in his State of the Union message summed up the case for dependent medical care this way: "Much has been done to attract and hold capable military personnel, but more needs to be done." He also broadly outlined Administration plans in the health field, with emphasis on more money for research and Federal aid to medical schools and to private research facilities for construction. With bipartisan bills along this line already before Congress, these proposals may move right along before adjournment in midsummer.

However, Congress might decide that for this year medical schools should settle for the 90 million dollars of Ford Foundation money being made available to private schools to help strengthen teaching staffs.

By the same token there was some question just how much Congress would vote for Hill-Burton hospital programs this session in the light of the 200 million dollars of Ford grants to some 3,500 nonprofit hospitals.

A recent Public Health Service report indicates that states are now showing less preference for "public" Salk vaccine programs than they did a few months ago. The sixth allotment marked the high point in "public" preference. Then came a slight but steady decline.

Prepared by the Washington Office of the American Medical Association, Washington, D.C.

BOOKS RECEIVED

(The following books were received during the month of December, 1955)

The Cytology and Life-History of Bacteria. By K. A. Bisset, D.Sc. Second edition. Octavo of 164 pages, illustrated. Baltimore, Williams and Wilkins Company, 1955. Cloth, $6.00.

Clinical Neurosurgery. Volume 2. Proceedings of the Congress of Neurological Surgeons, New York, N. Y., 1954. Octavo of 173 pages, illustrated. Baltimore, Williams and Wilkins Company, 1955. Cloth, $6.75.

Hypnotic Suggestion. Its Role in Psychoneurotic and Psychosomatic Disorders. A Thesis. By S. J. Van Pelt, M.B. Duodecimo of 95 pages, illustrated. New York, Philosophical Library, 1956. Cloth, $2.75.

Functional Otology. The Practice of Audiology. By Morris F. Heller, M.D., with Bernard M. Anderman, M.A., and Ellis E. Singer, M.A. Octavo of 225 pages, illustrated. New York, Springer Publishing Co., 1955. Cloth, $5.50.

Practical Neurology. By Leo M. Davidoff, M.D., and Emanuel H. Feiring, M.D. Octavo of 442 pages. New York, Landsberger Medical Books (distributed solely by the Blakiston Division of the McGraw-Hill Book Co.), 1955. Cloth, $7.00.

Textbook of the Principles and Practice of Nursing. By Bertha Harmer, R.N. Revised by Virginia Henderson, R.N. Fifth edition. Octavo of 1,250 pages, illustrated. New York, Macmillan Company, 1955. Cloth, $7.00.

White Coolies. By Betty Jeffrey. Illustrated by J. P. L. Kickhefer. Octavo of 204 pages, illustrated. New York, Philosophical Library, 1955. Cloth, $3.75.

The Biliary Tract. With special reference to the common bile duct. By Julian A. Sterling, M.D. Octavo of 424 pages, illustrated. Baltimore, Williams and Wilkins Company, 1955. Cloth, $10.

Life Stress and Essential Hypertension. A Study of Circulatory Adjustments in Man. By Stewart Wolf, M.D., Philippe V. Cardon, Jr., M.D., Edward M. Shepard, M.D., and Harold G. Wolff, M.D. Octavo of 253 pages, illustrated. Baltimore, Williams and Wilkins Company, 1955. Cloth, $7.50.

Therapy of Fungus Diseases. An International Symposium. Edited by Thomas H. Sternberg, M.D., and Victor D. Newcomer, M.D. Presented June 23, 24, 25, 1955 by the Division of Dermatology, Department of Medicine, School of Medicine and Medical Extension, University Extension, University of California at Los Angeles. Octavo of 337 pages, illustrated. Boston, Little, Brown and Company, 1955. Cloth, $7.50.

Medical Department, United States Army. Surgery in World War II. Hand Surgery. Edited by Sterling Bunnell, M.D. Quarto of 447 pages, illustrated. Washington, D.C., Office of the Surgeon General, Department of the Army, 1955. Cloth, $3.75.

More Than Pregnancy. By Marion Phillips. Octavo of 178 pages, illustrated. New York, Coward McCann, 1955. Cloth, $3.00.

Atlas of General Surgery. By Joseph R. Wilder, M.D. With 101 plates. Folio of 222 pages, illustrated. St. Louis, C. V. Mosby Company, 1955. Cloth, $13.50.

The Presbyterian Hospital and the Columbia-Presbyterian Medical Center, 1868–1943. A History of a Great Medical Adventure. By Albert R. Lamb, M.D. Octavo of 495 pages, illustrated. New York, Columbia University Press, 1955. Cloth, $8.75.

Our Smallest Servants. The Story of Fermentation. Quarto. Illustrated. Brooklyn, Chas. Pfizer & Co., [1955].

Headline from the Cheboygan

FATHER OF TEN SHOT. MISTAKEN FOR RABBIT.—*Rant and Rave, Detroit Medical News, October 24, 1955*

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BOOKS REVIEWED

The Biologic Effects of Tobacco. With Emphasis on the Clinical and Experimental Aspects. Edited by Ernest L. Wynder, M.D. Octavo of 215 pages, illustrated. Boston, Little, Brown & Company, 1955. Cloth, $4.50.

This little volume represents an apparent attempt to summarize the principal evidence on the suspected relationship of tobacco consumption to disease together with the many variables that condition interpretation of this evidence. It is a timely compilation which seems to achieve the desired objectivity in a controversial area where virtually any selection exercised in the interest of practicality is vulnerable to suspicions of bias on the part of extremists on either side of the issue. Divided into separate, poorly integrated chapters by recognized experts, it considers such topics as: chemistry, pharmacology, the cardiovascular system, neoplastic diseases, the gastrointestinal tract, and allergy. The excellent concluding section, "Cause and Effect," provides additional insight into some of the difficulties of properly collecting and evaluating material, and underscores the need for caution in reaching conclusions in the investigation of this—and every other—complex problem. This book is recommended as an adequate (if not complete) and essentially fair review of the tobacco question for the many physicians interested in this important information. It will also serve as an initial resource work and bibliography for those inquiring more intensively into this medical dilemma.—Robert Hillman

Should the Patient Know the Truth. A Response of Physicians, Nurses, Clergymen, and Lawyers. Edited by Samuel Standard, M.D., and Helmuth Nathan, M.D. Octavo of 160 pages. New York, Springer Publishing Company, 1955. Cloth, $3.00, hard cover, $2.00, soft cover.

This has been a stickler from the dawn of medicine. It imposes a moral obligation which has become more important as our diagnostic ability has improved, but we are not yet infallible. There are countless examples of patients who should have died ten years ago but are still with us despite the fact that we told them the "truth" as it then appeared to us.

With so much diversity of opinion, moral, theologic, economic, and social, as appears in this book, it puts both the doctor and the patient on the spot. We must consider his stamina and how he may react to the bad news. At least, to put the doctor and the nurse in the clear, some near member of the family should be informed in the crisis, but is this not merely "passing the buck?" Your reviewer thinks that it is.

If the doctor is to be the companion "all the way" which he is supposed to be, then he should aid the patient tactfully to the realization that he is "skating on very thin ice," which can break through at any time. This is the most charitable thing to do and the patient will thank him in the end.

The man of large affairs or the simple worker has obligations which must be attended to and many will realize that we are performing a service if these affairs can be taken care of properly while they are conscious and aware of what they are doing. An example is a thirty-four-year-old male found to have a malignant brain tumor who had fathered two children and had planned on a normal life expectancy and future children. He was told his true condition and life expectancy, and made his plans accordingly. Eight months later he had passed on. He thanked his doctor profusely for the 'favor" he had done him in "setting him right" before it was too late.

The parents of the "congenital heart baby"—should they be told the slender chances their child has of seeing childhood, to say nothing of adolescence and what that might produce?

We must always remember that we are not infallible but at least we should give the patient the benefit of our experience. If we be wrong the shock will adjust itself in time. If we prove to be right we have at least fulfilled our moral duty in saving the patient the "catastrophe of the false hope."

After all is said and done, and with over 20 diverse opinions in this well written book, it is still up to the doctor, his faith and his moral code as to which is the kindest course to pursue. Your reviewer votes yes as to telling the truth.—Thomas F. Nevins

Obstetrics. By J. P. Greenhill, M.D. Eleventh edition. Quarto of 1,088 pages. 1,170 illustrations on 910 figures, 144 in color. Philadelphia, W. B. Saunders Company, 1955. Cloth, $14.

This latest edition of a textbook originally written by De Lee remains one of the best standard texts of our time. It has been revised and sufficient additional material included to bring it as nearly up to date as is possible with any textbook. It is well indexed and documented with references. The contents are logically arranged and follow an orderly sequence. The illustrations are ample, clear-cut, and well chosen. While the authorities quoted from other specialties are perhaps not so widely

[Continued on page 448]

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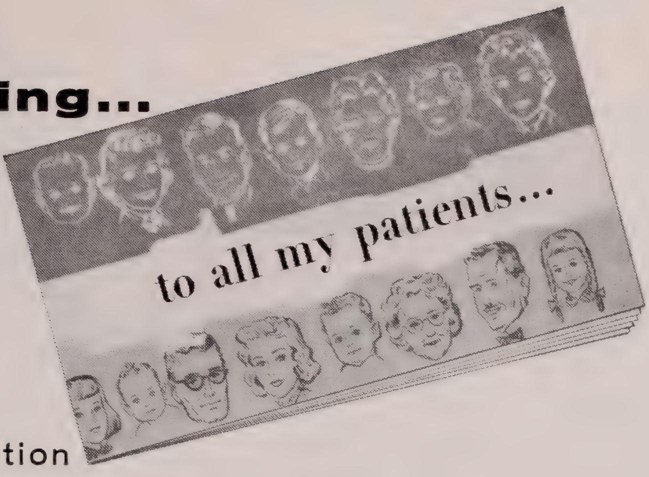
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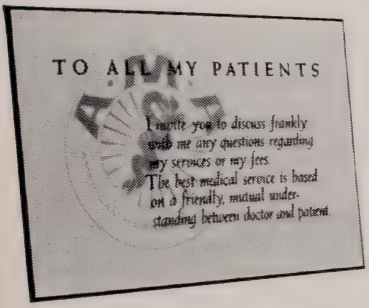

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[Continued from page 446]

known as the original and present authors of this book, the information is accurate and complete. On the whole the general tenor of the book is one of conservatism and, while on some points there may be room for difference of opinion among specialists in the field of obstetrics, it follows predominantly the type of teaching and advice which offers the greatest degree of safety for the student and novice. All who practice obstetrics will find any time spent in looking through this volume well worthwhile.—J. Thornton Wallace

Psychopathology and Education of the Brain-Injured Child. Volume II. **Progress in Theory and Clinic.** By Alfred A. Strauss and Newell C. Kephart. In collaboration with Laura E. Lehtinen and Samuel Goldenberg. Drawings by Caspar Henselmann. Octavo of 266 pages, illustrated. New York, Grune & Stratton, 1955. Cloth, $6.00.

This book is a follow-up to volume 1 published in 1947, wherein the brain-injured, mentally defective child was studied. In this volume, the concept is enlarged to include the clinical syndrome of the brain-injured child who is not mentally defective but who, in spite of "normalcy in I.Q." as tested, is still defective.

In the early chapters, the anatomy, physiology, and embryology of the central nervous system are presented. There is no attempt at detail, but simply at stressing their significance in relation to the developing and growing child. Interesting diagrams and illustrations of the central nervous system accompany the text. Since there is such close relationship of parts, changes in any one of the organs is reflected in all the others.

There are chapters on the psychopathology of perception, both visual and auditory, language, concept formation, and behavior. The authors emphasize once again that the brain-injured child has especial difficulty in those aspects of perception which require the organization of elements into wholes or combinations of elements into manageable units. The brain-injured child tends to become rigid in the schemata which he builds up. This interferes with good concept formation.

Another characteristic is his extreme distractibility. Because of this, backgrounds in teaching and a general environment must be provided which produce as few extraneous stimuli as possible.

The remainder of the book deals with testing the brain-injured child with normal I.Q., preliminary conclusions affecting education, an appendix with case histories, and a list of references.

Reading this book will be extremely valuable for those of the profession dealing with brain-injured children.—Stanley S. Lamm

Handbook of Pediatrics. By Henry K. Silver, M.D., C. Henry Kempe, M.D., and Henry B. Bruyn, M.D. Sextodecimo of 548 pages, illustrated Los Altos, California, Lange Medical Publishers, 1955. Cloth, flexible cover, $3.00.

This is a useful little book for reviewing purposes. It should be helpful as part of a refresher course on diseases of children.

To many students who regard their eyesight as a valuable possession, this reviewer being one of them, the small type will be a very serious fault.

If this book is intended as an authoritative text in the matter of diagnosis, then the chapter on intussusception cannot be endorsed by this reviewer. To follow the "clinical findings" of this subject will inevitably delay diagnosis of this emergency until the affective organs have become gangrenous. We aim to diagnose the condition before this happens. It has been done, and students should be taught to do likewise.

Chapter 8 on chemotherapy and antibiotics is excellent.—Harry Apfel

Minor Surgery. By John E. Sutton, M.D. Octavo of 334 pages, over 100 illustrations. New York, Landsberger Medical Books, distributed solely by the Blakiston Division of the McGraw-Hill Book Co., 1955. Cloth, $7.00. (Handbooks for the General Practitioner)

A large field has been covered and well written in a limited space. However, the reviewer differs in the treatment of the following ailments: Carbuncles can have antibiotics, one incision and evacuation of the liquefied slough; ingrown toe nails may have a wedge-shaped excision with sterile gauze placed between the nail and bed to direct the growth over the nail wall; the radical approach may not be necessary; it is preferable to excise a "known" skin carcinoma under general or regional rather than local anesthesia.

The book will be helpful to the general practitioner.—John J. Lille

The Medical Clinics of North America. Cleveland Clinic and Scott and White Clinic Number. July, 1955. Octavo, illustrated. Philadelphia, W. B. Saunders Company, 1955. Published bimonthly (six numbers a year). Cloth, $18 net; paper, $15 net.

The current issue of *The Medical Clinics of North America* comprises a symposium on kidney diseases from the Cleveland Clinic and a symposium on endocrine disorders from the Scott and White Clinic of Texas. This uncommonly fine collection is informative and thorough, reflecting credit on the editors and authors.—Milton Plotz

Our Backward Children. By Karl F. Heiser, Ph.D. Octavo of 240 pages, illustrated. New York, W. W. Norton & Company, 1955. Cloth, $3.75.

The primary purpose of this book is to give information to workers in the field of mental deficiency including parents, psychologists, pediatricians, psychiatrists, social workers, educationists, and institu-

[Continued on page 450]

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[Continued from page 448]

tional administrators so as to enable them to serve backward children most efficiently. It is written from the standpoint that mental deficiency is simply a symptom of an underlying pathologic condition.

There are chapters on the various forms of retardation, how parents can recognize the handicapped child, to whom the parent should turn for help. There are further discussions on whether the child should be kept at home or whether it should be sent to an institution. If the latter, advice is given on how to choose an institution. There is a differential undertaken to avoid confusion between emotional illness and mental deficiency. At the end of the book is a list of recommended readings.

This book should be useful to those in the profession dealing with backward children and would be profitable reading for parents of such children.—STANLEY S. LAMM

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn 16, New York. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selections for review will be based on merit and interest to our readers.

ANNOUNCEMENTS

The following announcements concerning suspension, revocation, annulment, and cancelation of medical licenses have been received from Dr. Stiles D. Ezell, secretary, Board of Medical Examiners, University of the State of New York, State Education Department:

License Revoked.—HARRY H. FISHER, New York City: medical license number 12109, issued under date of June 26, 1914, revoked, annulled, and canceled. The Order of the Commissioner was served on Dr. Fisher on May 19, 1953, and his medical license, therefore, stands revoked as of that date.

License Revoked.—ALFRED JOSEPH, New York City: medical license number 36564, issued under date of August 30, 1939, revoked, annulled, and canceled. The Order of the Commissioner was served on Dr. Joseph on June 24, 1955, and his medical license, therefore, stands revoked as of that date.

License Revoked.—WILLIAM L. MINKOWSKI, Redwood City, California: medical license number 46135, issued under date of August 11, 1947, permitting him to practice medicine in the State of New York through indorsement of his Minnesota medical license, revoked, annulled, and canceled. The Order of the Commissioner was served on Dr. Minkowski on July 18, 1955, and his medical license, therefore, stands revoked as of that date.

License Restored.—Paul Diamond, Westwood, New Jersey: medical license number 43973, issued under date of January 31, 1946. The Order of Restoration was served on Dr. Diamond on December 1, 1955, and his medical license, therefore, is restored as of that date.

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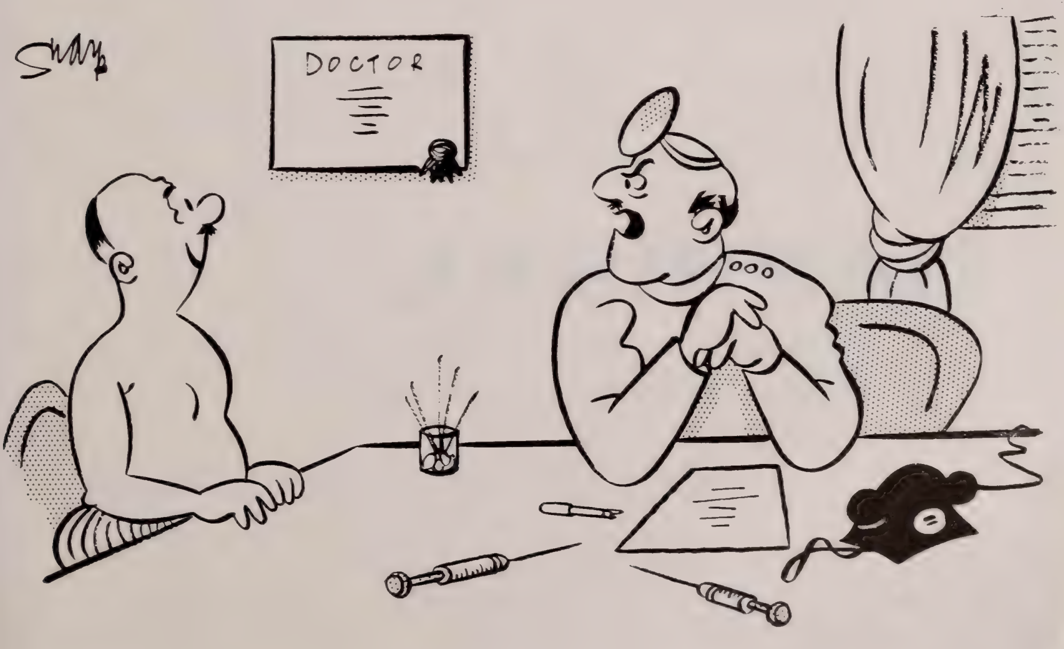

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Hanes, C.B.: Am. Pract. & Dig. Treat. 6:602, 1955.

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1. Eisfelder, H.W.: Am. Pract. & Dig. Treat., 5:778 (Oct., 1954).

2. Sebrell, W.H., Jr.: J.A.M.A., 152:42 (May, 1953).

3. Sherman, R.J.: Medical Times, 82:107 (Feb., 1954).

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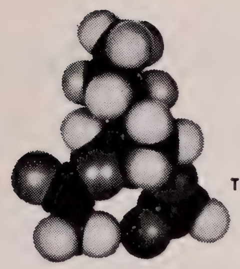

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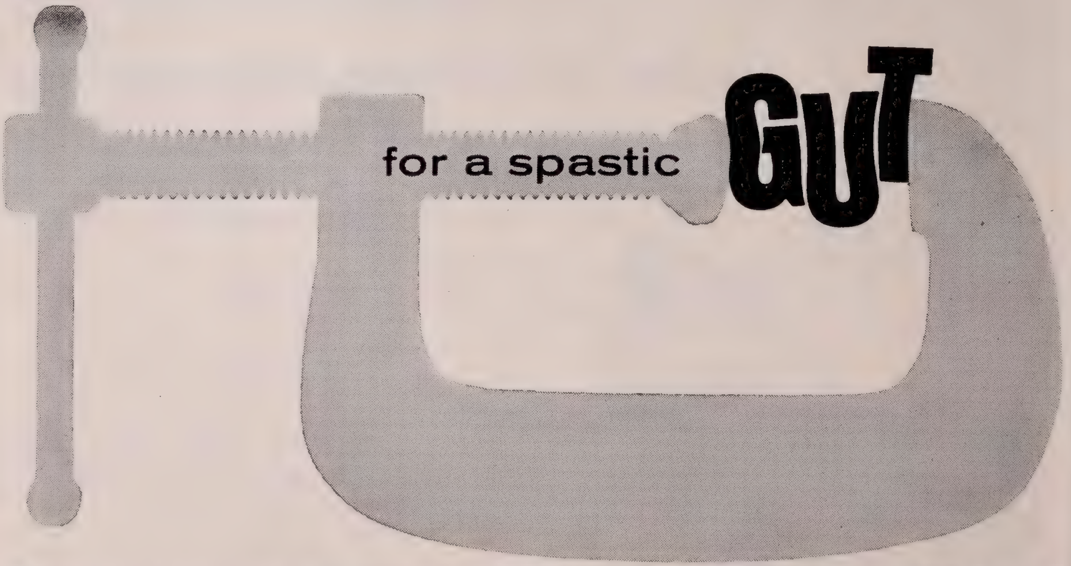

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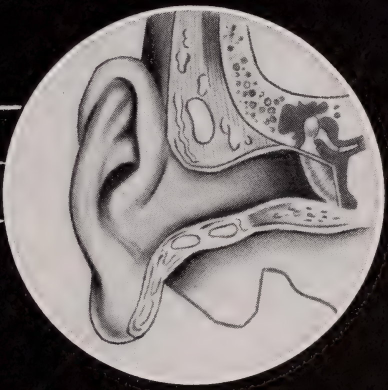

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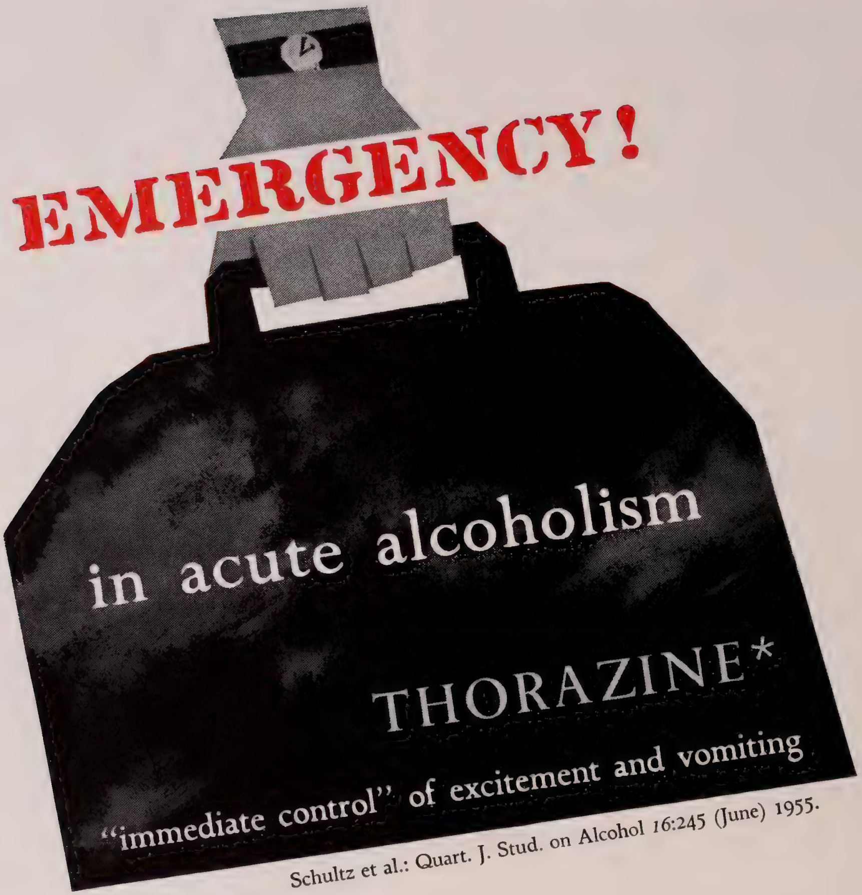
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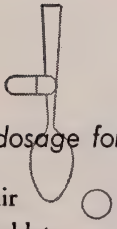

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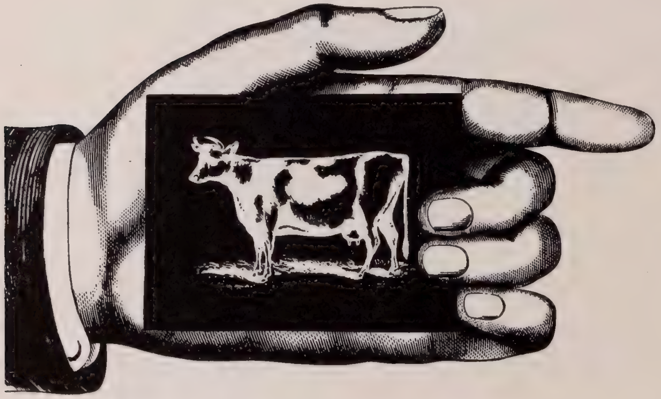

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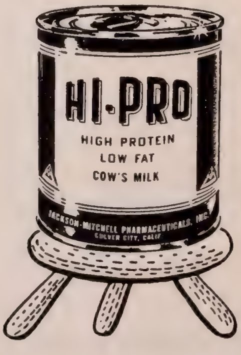

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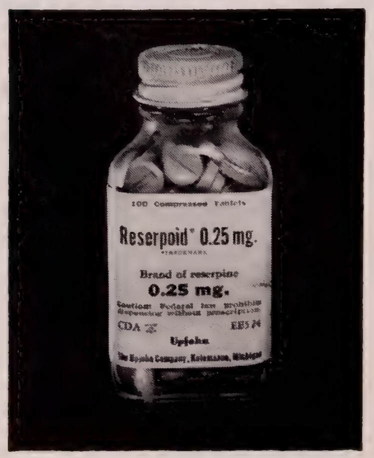
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Long-term study has now shown that the failure rate with BUTAZOLIDIN in rheumatoid arthritis, and particularly in rheumatoid spondylitis, is significantly lower than with hormonal therapy.[3]

(1) Payne, R. W.; Shetlar, M. R.; Farr, C. H.; Hellbaum, A. A., and Ishmael, W. K.: J. Lab. & Clin. Med. *45*:331, 1955. (2) Bunim, J. J.; Williams, R. R., and Black, R. L.: J. Chron. Dis. *1*:168, 1955. (3) Holbrook, W. P.: M. Clin. North America *39*:405, 1955.

BUTAZOLIDIN® (brand of phenylbutazone). Red coated tablets of 100 mg.

BUTAZOLIDIN *being a potent therapeutic agent, physicians unfamiliar with its use are urged to send for literature before instituting therapy.*

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'Hydrospray' NASAL SUSPENSION

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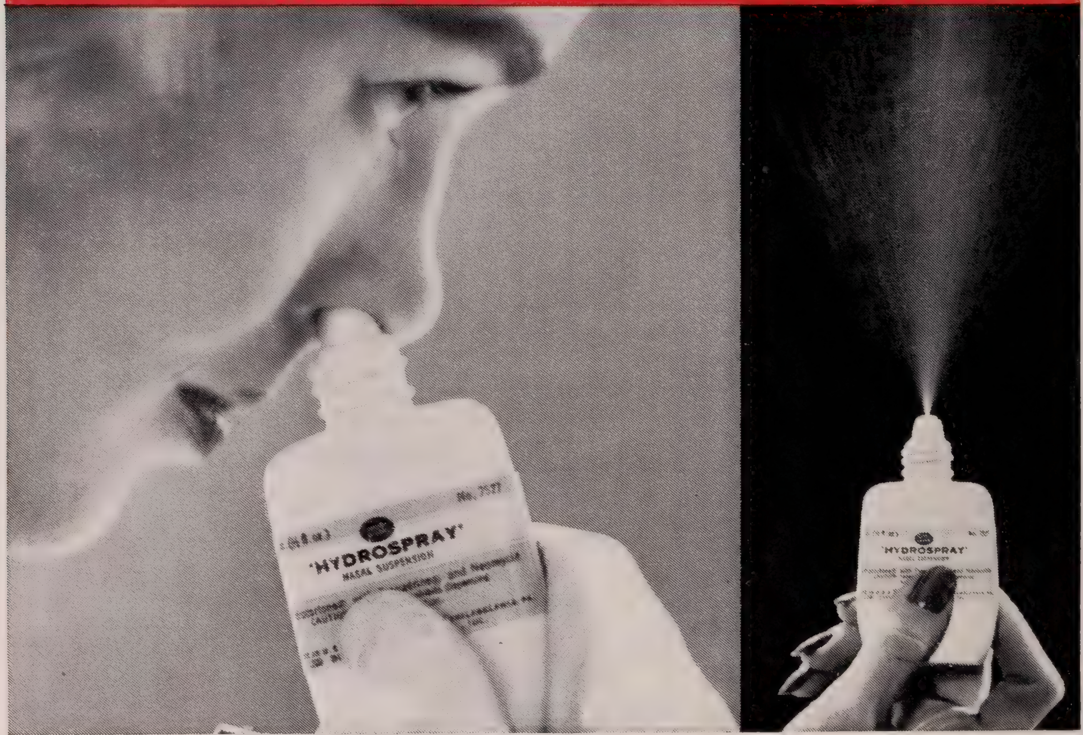
Anti-inflammatory—Decongestant—Antibacterial

MAJOR ADVANTAGES: New synergistic anti-inflammatory, decongestant and antibacterial formula. High steroid content assures effective response.



Topically applied hydrocortisone[1] in therapeutic concentrations has been shown to afford a significant degree of subjective and objective improvement in a high percentage of patients suffering from various types of rhinitis. HYDROSPRAY provides HYDROCORTONE in a concentration of 0.1% plus a safe but potent decongestant, PROPADRINE, and a wide-spectrum antibiotic, Neomycin, with low sensitization potential. This combination provides a three-fold attack on the physiologic and pathologic manifestations of nasal allergies which results in a degree of relief that is often greater and achieved faster than when any one of these agents is employed alone.

INDICATIONS: Acute and chronic rhinitis, vasomotor rhinitis, perennial rhinitis and polyposis.

SUPPLIED: In squeezable plastic spray bottles containing 15 cc. HYDROSPRAY, each cc. supplying 1 mg. of HYDROCORTONE, 15 mg. of PROPADRINE Hydrochloride and 5 mg. of Neomycin Sulfate (equivalent to 3.5 mg. of neomycin base).

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REFERENCE: 1. Silcox, L. E., *A.M.A. Arch. Otolaryng.* **60**:431, Oct. 1954.

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in whatever potency each patient may require

By facilitating the optimal analgesic medication of each patient, PHENAPHEN and PHENAPHEN WITH CODEINE have proven their wide range of clinical usefulness — for cases of simple headache to many of late cancer.

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Each brown and white capsule contains:
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with CODEINE PHOSPHATE ¼ GR.
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It's NORISODRINE in the AEROHALOR . . . the only inhalation treatment that asthmatics can self-administer, even in public, without attracting attention to themselves. Carried in pocket or purse, it's ready for instant use at the first sign of an attack.

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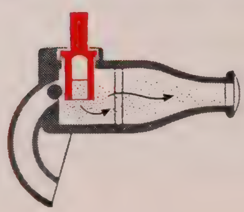

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1. Cronheim, G., and Toekes, I.M.: Comparison of Sedative Properties of Single Alkaloids of Rauwolfia and Their Mixtures, Meeting of the American Society for Pharmacology and Experimental Therapeutics, Iowa City, Iowa, Sept. 5, 1955.

2. Moyer, J.H.; Dennis, E., and Ford, R.: Drug Therapy (Rauwolfia) of Hypertension. II. A Comparative Study of Different Extracts of Rauwolfia When Each Is Used Alone (Orally) for Therapy of Ambulatory Patients with Hypertension, A.M.A. Arch. Int. Med. *96*:530 (Oct.) 1955.

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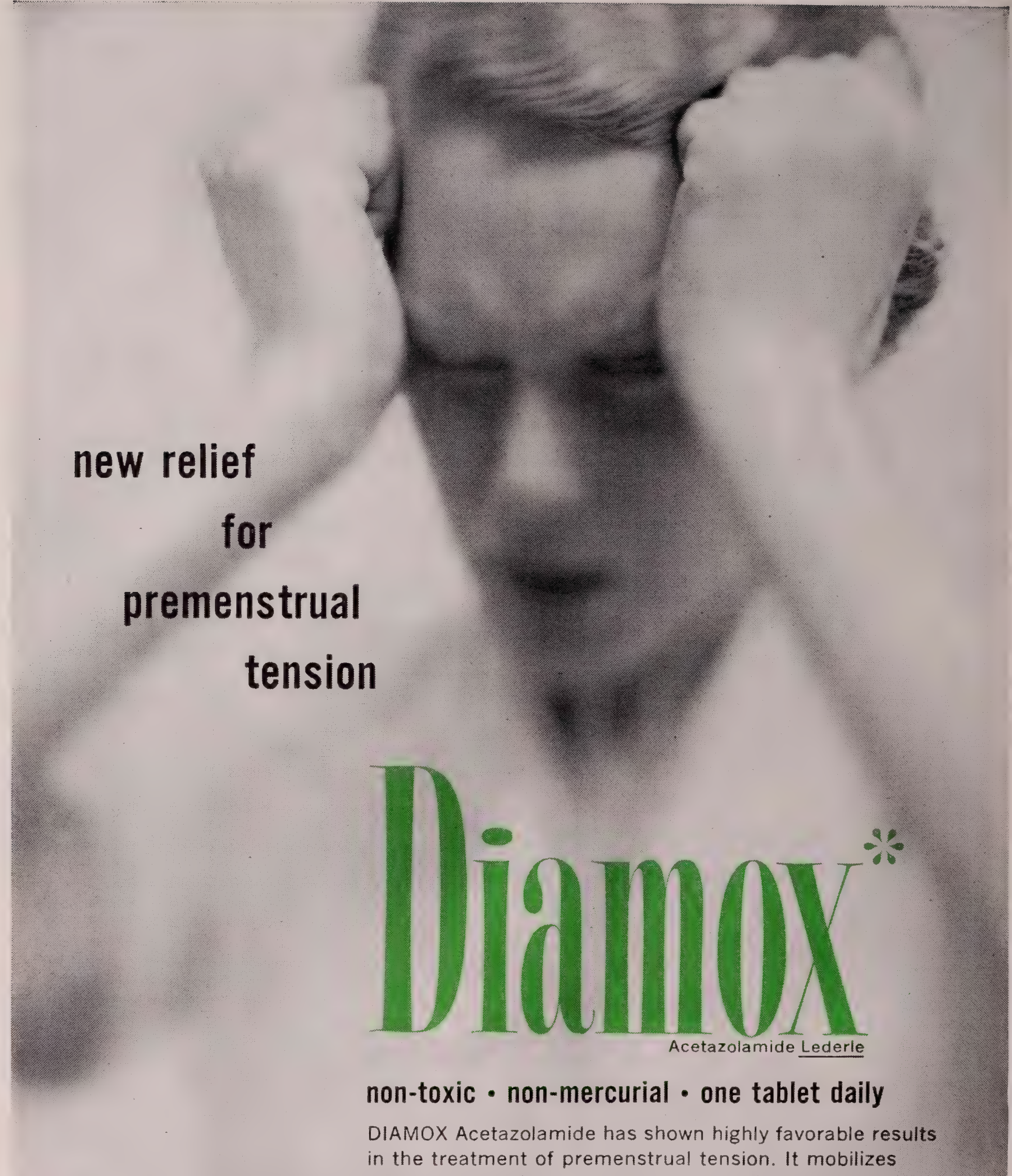

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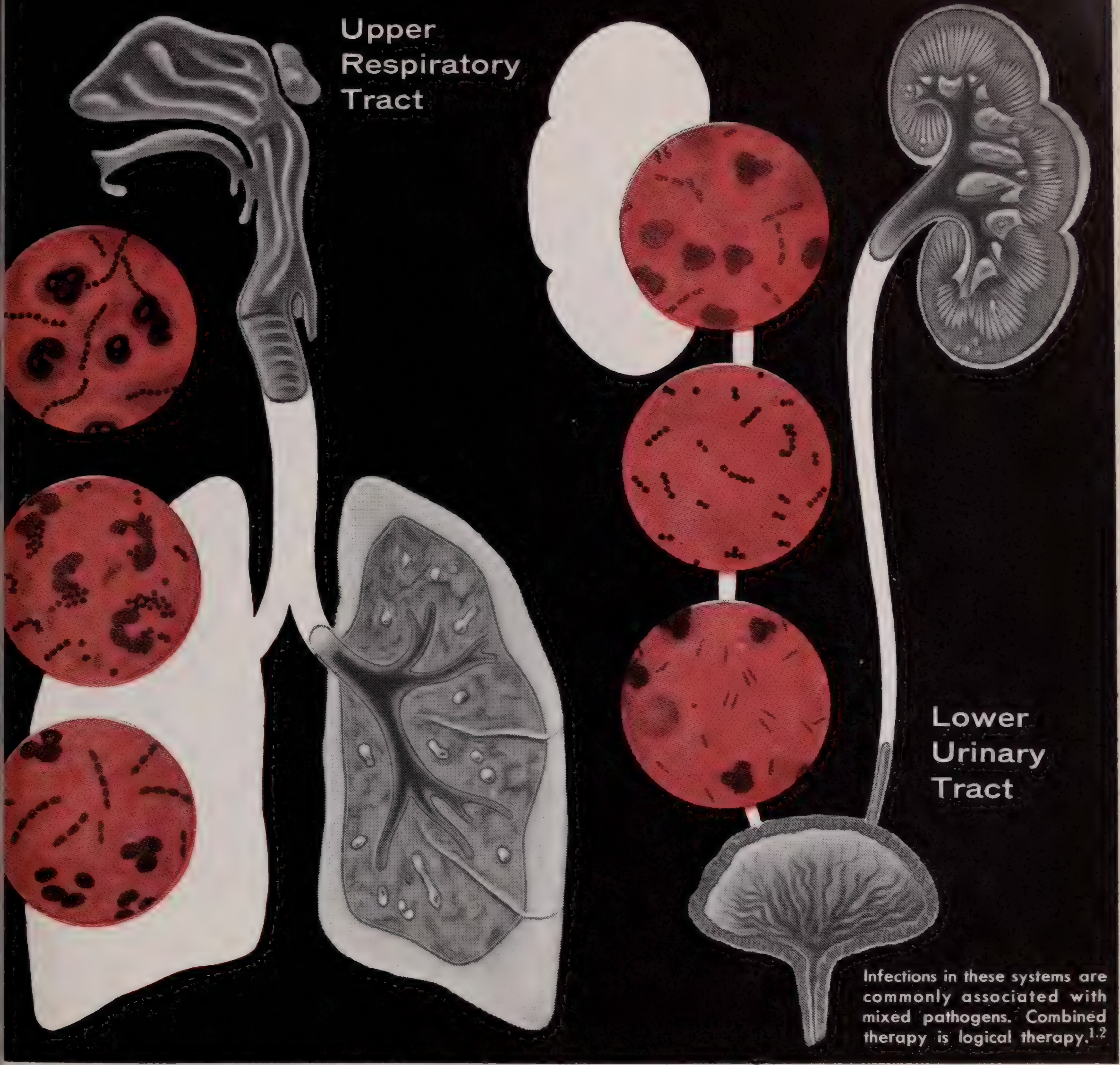

Infections in these systems are commonly associated with mixed pathogens. Combined therapy is logical therapy.[1,2]

In mixed infections . . .

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1. Daly, J.W.: Antibiot. & Chem. 4: 687 (June) 1954.
2. Bohne, A.W., and Chase, W.E.: Am. J. M. Sc. In press.
3. Editorial: J.A.M.A. *159*:1459 (Dec. 10) 1955.

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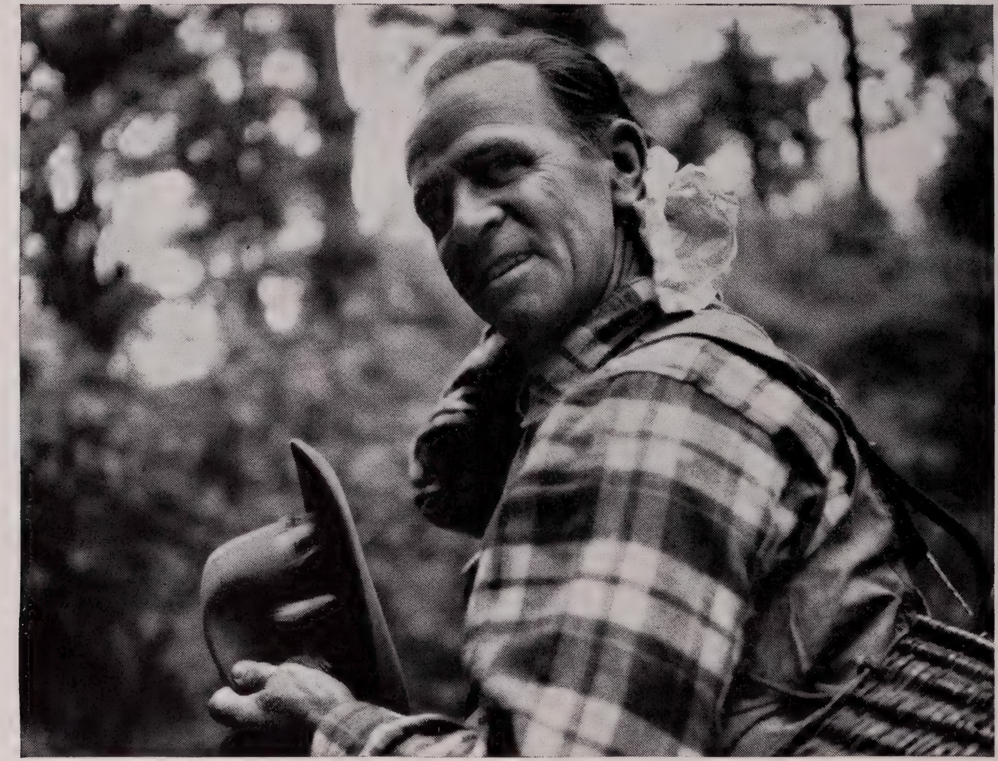

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Vitamin A	5000 U.S.P. Units
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Vitamin B_{12}	1 mcgm.
Thiamine Mononitrate (B_1)	5 mg.
Riboflavin (B_2)	5 mg.
Niacinamide	15 mg.
Folic Acid	1 mg.
Pyridoxine HCl (B_6)	0.5 mg.
Ca Pantothenate	5 mg.
Choline Dihydrogen Citrate	100 mg.
Inositol	50 mg.
Ascorbic Acid (C)	50 mg.
Vitamin E (as tocopheryl acetates)	10 I.U.

Rutin	25 mg.
Purified Intrinsic Factor Concentrate	0.5 mg.
Iron (as $FeSO_4$)	10 mg.
Iodine (as KI)	0.5 mg.
Calcium (as $CaHPO_4$)	145 mg.
Phosphorus (as $CaHPO_4$)	110 mg.
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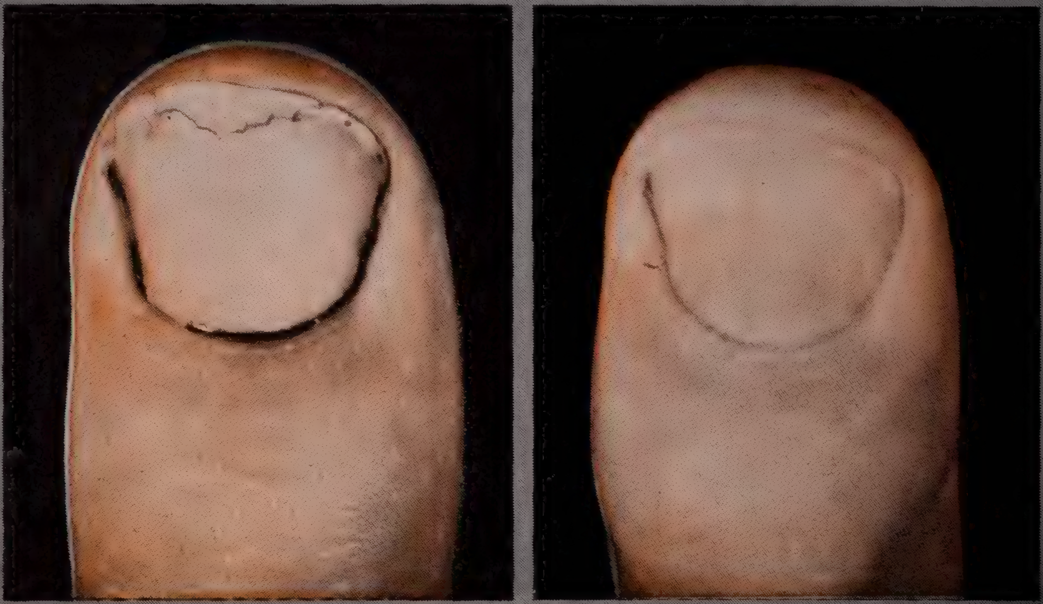

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New Study Shows Gelatine Restores Brittle Fingernails to Normal

Directions for making the Knox Gelatine drink in every package

Brittle, fragile or laminating fingernails are the bane of many a woman's existence. Yet this highly prevalent and distressing condition often has gone uncontrolled for lack of effective therapy. Now, you can promise these patients substantial relief in a large percentage of cases.

In a recent study[1] that confirmed previous work[2] Knox Gelatine was used to treat 36 women with fragile, brittle, laminating fingernails. The response was most gratifying. Except for three patients who discontinued the therapy, three diabetics, and two women who had congenital deformities, the splitting ceased and all other patients were able to manicure their nails to a full point by the time the study ended.

Optimal dosage proved to be one envelope (7 grams) of Knox Gelatine administered daily for three months. Improvement, however, was noted after the first month. If you would like more complete details of this work, just use the coupon.

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1. Rosenberg, S. and Oster, K. A., "Gelatine in the Treatment of Brittle Nails," *Conn. State Med. J.* **19**:171-179, March 1955.
2. Tyson, T. L., *J. Invest. Dermat.* **14**:323, May 1950.

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*Citrus Bioflavonoid Compound	100 mg.
Ascorbic Acid (vitamin C)	100 mg.

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Bottles of 100, 500 and 1000 capsules;
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Ascorbic Acid	40 mg.
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. . . and for infants, **VI-DAYLIN DROPS** *for the pain and disability of* **HERPES ZOSTER**

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*Combes, F. C. & Canizares, O.: New York St. J. Med. 52:706, 1952; Marsh, W. C.: U. S. Armed Forces M. J. 1:1045, 1950.

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WITH POTASSIUM IODIDE
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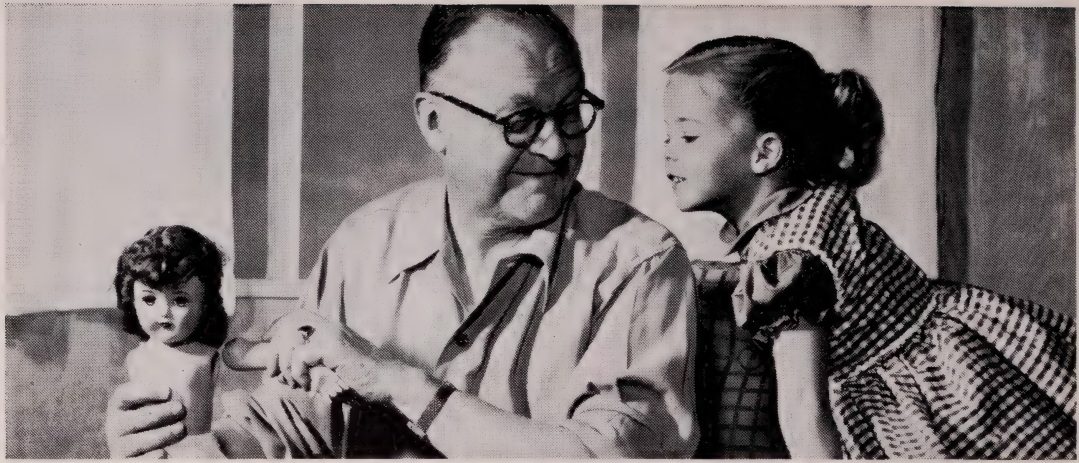

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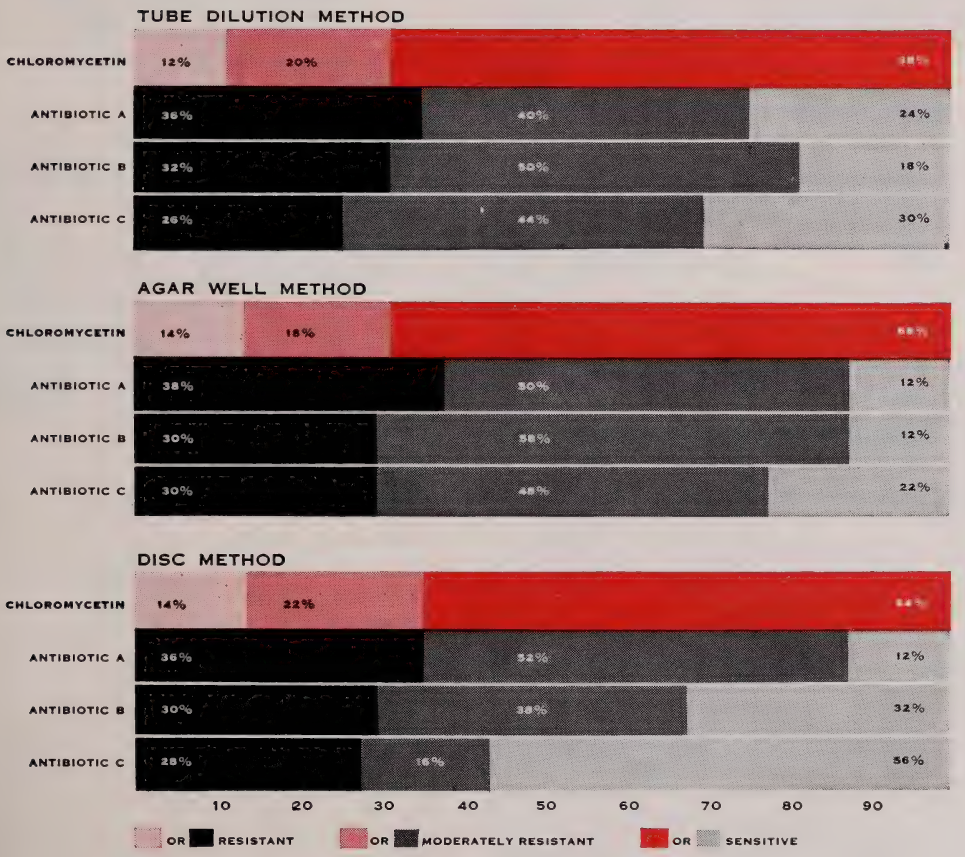

*Breakdown of gram-negative bacilli—Coli: 11; Proteus: 10; *Klebsiella pneumoniae:* 9; Aerobacter: 7; Pseudomonas: 7; Achromobacter: 2; Paracolon: 2; *Salmonella typhosa:* 1; *Bacterium anitratum:* 1. Adapted from Branch, A.; Starkey, D. H.; Rodgers, K. C., & Power, E. E.: Antibiotics Annual, 1954-1955, New York, Medical Encyclopedia, Inc., 1955, p. 1125.

CHLOROMYCETIN is a potent therapeutic agent and, because certain blood dyscrasias have been associated with its administration, it should not be used indiscriminately or for minor infections. Furthermore, as with certain other drugs, adequate blood studies should be made when the patient requires prolonged or intermittent therapy.

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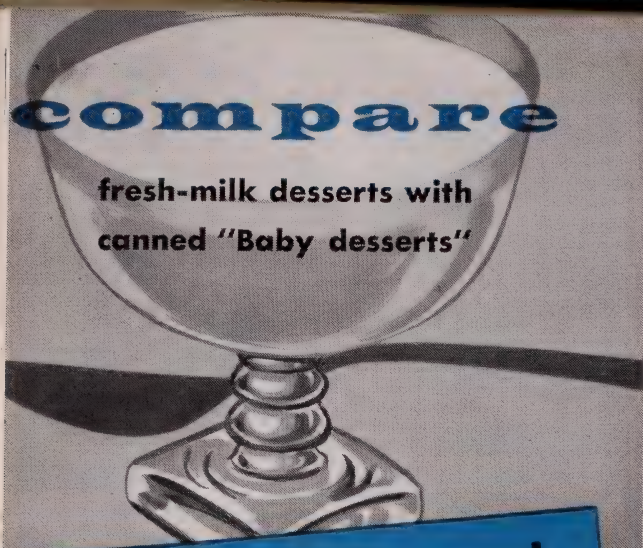

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and note the difference!

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*DESSERT A	94	2.0	2.7	20.2	76	63	Trace	0.111
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**RENNET-CUSTARDS (average of seven flavors)	96.5	3.2	3.6	12.7	123	102	175	0.164

*Nationally distributed "ready-to-serve" dessert.
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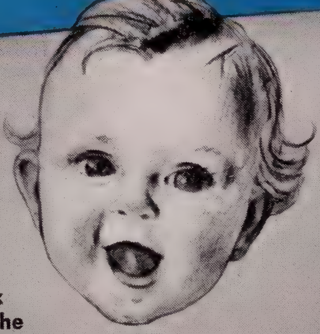

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Makes *Fresh* Milk into Rennet-Custards

"Junket" Rennet Powder—Vanilla, Chocolate, Lemon, Orange, Raspberry, Maple, Strawberry.
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Powdered Extract of Belladonna* . . 4.1 mg.
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*Equivalent to 2.5 minims of tincture of belladonna U.S.P.

Bottles of 100.

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Each teaspoonful (5 cc.) contains:

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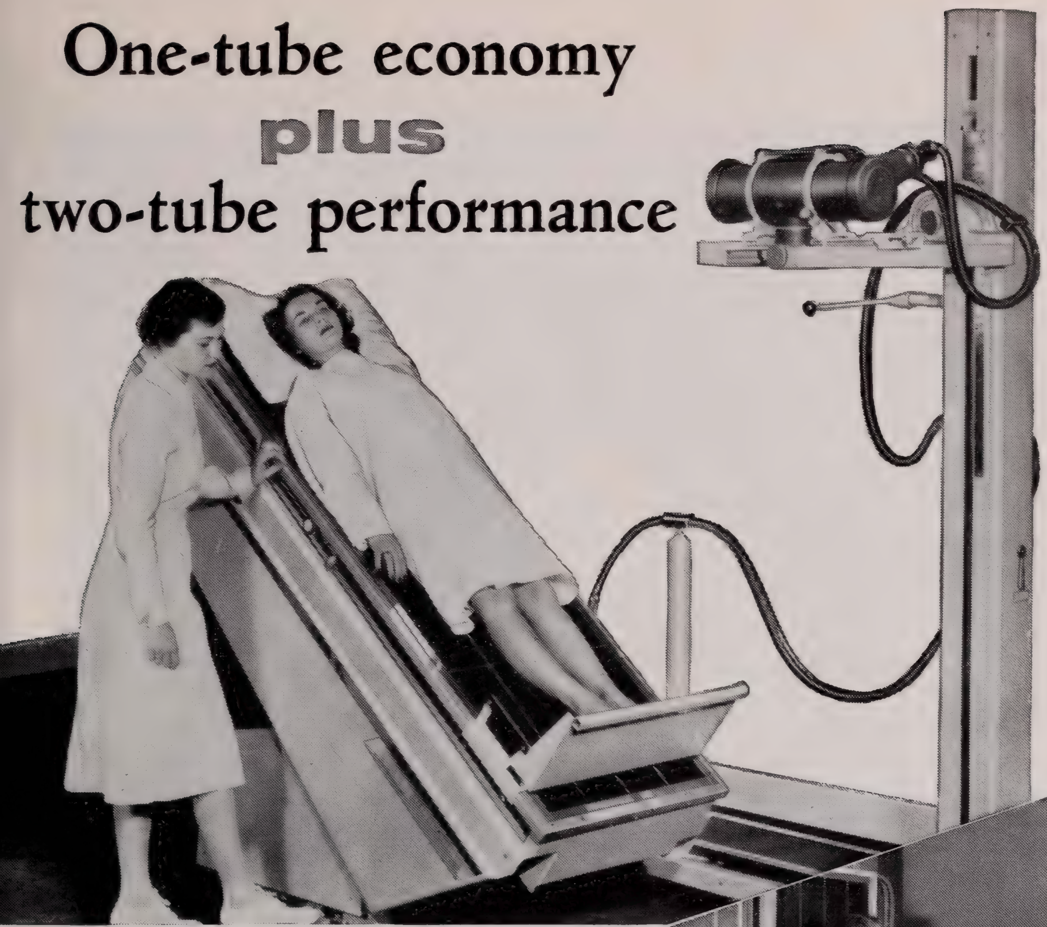

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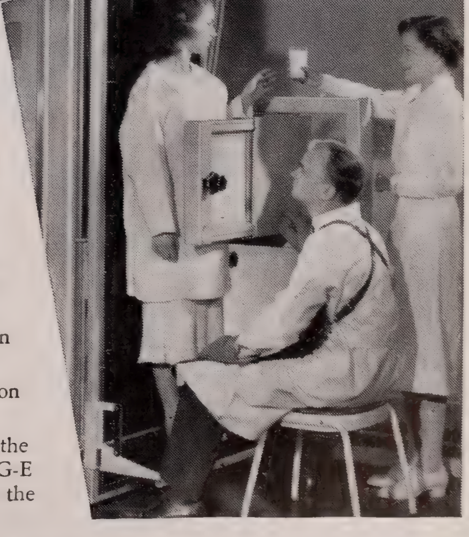

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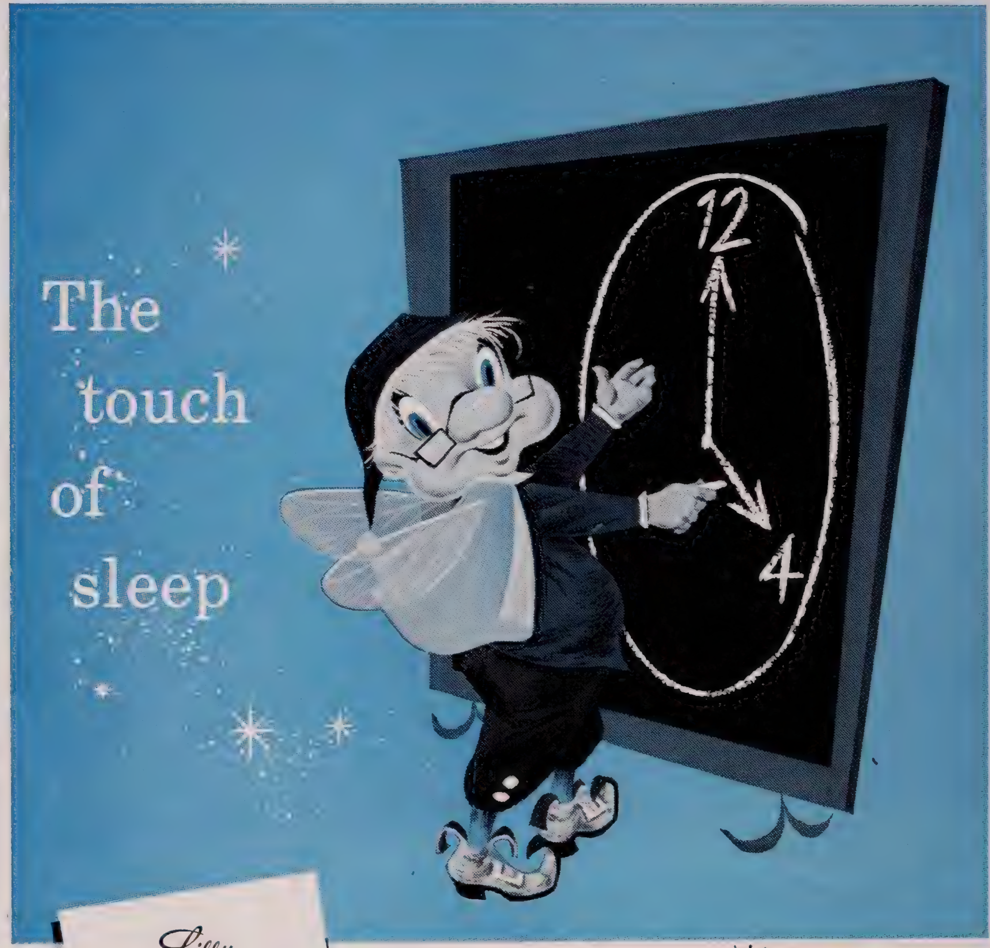

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EDITORIALS

Recent Advances in Medicine and Surgery

The Publication Committee and the editors of the JOURNAL take pleasure in announcing the creation of a new department which will be devoted to review articles dealing with constantly changing medical progress. The aim is to present the recent advances in medicine, surgery, and the various specialties succinctly and expertly. Thus a great deal of pertinent and useful information which is usually scattered will be concentrated in one place. This, it is hoped, will be of incalculable value to the general practitioner, the internist, the general surgeon, and the specialist. The editorial supervision of this new venture has been assigned to Dr. Robert Turell.

It is the hope of the editors that the membership will find this new departure both instructive and helpful. Your attention is respectfully drawn to the first of the series on page 524 of this issue of the JOURNAL.

Annual Meeting, May 7 to 11, 1956, Hotel Statler, New York City

Grants to Education

The recent announcement by the Ford Foundation of gifts to the amount of 500 million dollars to 3,500 hospitals and 615 colleges and universities to improve and expand services in privately supported hospitals and medical schools and to "strengthen instruction" comes as a welcome assist to those in the profession, in business, and in industry who have labored long and ardently to maintain and expand the American system of free enterprise. For all will benefit by improved instruction, better hospital care, and the "improved status and compensation of American college teachers."

Vast as the donation seems to be, it should be evaluated in the light of the increasing needs of the educational institutions it is planned to assist. There can be no question, in the words of Dean Rusk, president of the Rockefeller Foundation, that our "privately supported colleges, universities, hospitals and medical schools play a crucial role in our free society. These grants will give them practical support and at the same time call the public's attention to their urgent needs...."[1] This point is well taken. Education in all its ramifications is a collective enterprise. And while large donations have their place, there is great necessity as well for the small contribution from the many. Particularly is this true as regards privately supported hospitals and medical schools.

The Ford Foundation has indeed pointed up the stupendous task confronting the ordinary citizen. It is to be hoped that the medical profession through the American Medical Education Foundation will increase its contribution to the cause of better instruction by better compensated instructors in better hospitals and medical schools.

The American Hospital Association had this to say concerning the grant:[2]

> We applaud the emphasis placed by the Foundation on local determination of method to be used as each hospital seeks to improve and extend its services to the public under the terms of the grants. The flexibility which the Foundation has put into this program will permit hospital trustees to take full advantage of their intimate knowledge of their communities and their needs.
>
> We believe that the voluntary hospital system has provided the American public with the best hospital care in the world. These grants will strengthen this voluntary system, and the true beneficiary will be the American people.

Let it not be forgotten, as pointed out by a correspondent in the *Herald Tribune*,[3] that for years the teachers themselves have been the largest contributors to the educational system in this country. As he says, in part,

> A teacher who ought to be receiving a salary of $6,000 and is getting only $4,500 is actually giving $1,500 a year to the college where he teaches, on top of the great professional contribution he makes through his dedicated service to his students.
>
> How many college alumni, who have themselves shared this benefit, are matching the teacher's gift by a contribution of 25 per cent of their incomes to their alma mater?
>
> The one possible danger which may result from this outstanding Ford Foundation benefaction is that too many people may conclude that the Ford gift solves the problem of inadequate faculty salaries and that other gifts in lesser amounts are not needed.

It is to be hoped that individual doctors will be spurred by a realization of the vast needs of our educational system to increase their contributions through the American Medical Education Foundation during the coming years.

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[1] Herald Tribune, Dec. 13, 1955, p. 19.

[2] Press Release, Dec. 12, 1955.

[3] Dec. 20, 1955, editorial page.

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Notes on the Diagnosis and Management of "Dizziness"

Vertigo

The term "dizziness" (vertigo) should be restricted to the sensation of whirling or a sense of motion.[1] This sensation is usually of organic origin and is the tangible symptom of a specific pathology.

Moderate vertigo, with a sense of motion and a whirling sensation, may be produced by infection, trauma or allergy of the external or middle ear. Examination of the ear will usually disclose the abnormality.

Severe vertigo, which will not permit the patient to stand and causes nausea and vomiting, indicates an irritation or destruction of the labyrinth. The specific condition may be labyrinthine hydrops, an acute toxic infection, hemorrhage or venospasm of the labyrinth or a fracture of the labyrinth. Multiple sclerosis and pathology of the brain stem should be considered also.

It is important to learn if the patient's sensation is continuous or paroxysmal.[2] Paroxysmal vertigo suggests specific conditions: Ménière's syndrome, cardiac disease and epilepsy. Continuous vertigo without a pattern may be due to severe anemia, posterior fossa tumor or eye muscle imbalance.

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[1] Swartout, R., III, and Gunther, K.: "Dizziness:" Vertigo and Syncope, GP *8:*35 (Nov.) 1953.

[2] DeWeese, D. D.: Symposium: Medical Management of Dizziness: The Importance of Accurate Diagnosis, Tr. Am. Acad. Ophth. *58:*694 (Sept.-Oct.) 1954.

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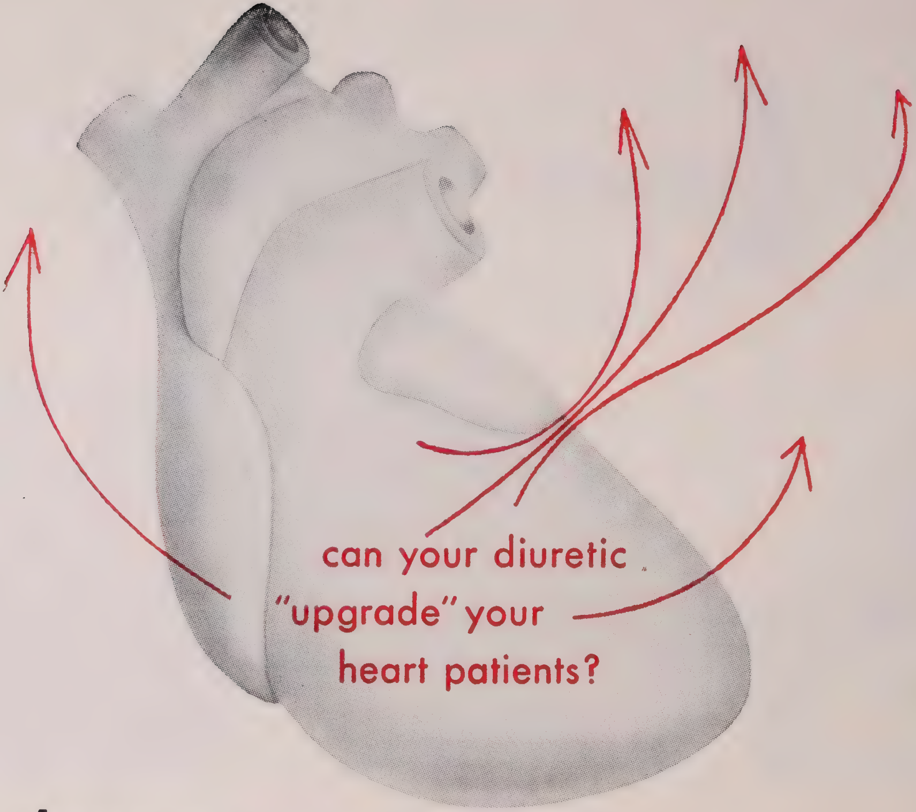

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SCIENTIFIC ARTICLES

Urticaria: Present Concepts in Etiology and Management

JOHN M. SHELDON, M.D., AND KENNETH P. MATHEWS, M.D., ANN ARBOR, MICHIGAN

(From the Department of Internal Medicine, University of Michigan Medical School)

URTICARIA is commonly a transient and trivial illness which does not require intensive medical attention, but some patients with severe, chronic, recurrent hives are indeed most uncomfortable and, therefore, appreciate any help one can give them. The immediate as well as the long-range management of some of the more refractory cases of urticaria continues to present a difficult problem for even the most experienced and expert in the field. Although there have been several major advances in the symptomatic control of urticaria, there is still a paucity of significant literature with respect to the fundamental mechanisms involved in urticaria and angioneurotic edema and the specific etiologic management of these patients. It is the objective of this presentation to give our impressions of the present-day concepts of the etiology and the procedures for management of these cases. For those interested in a more comprehensive review of the literature, the articles by Epstein,[1] Dratler,[2] Baird,[3] Stokes *et al.*,[4] and Sheldon *et al.*[5] should be most profitable.

Urticaria is one of the most common allergic diseases, and because of its numeric importance physicians in all phases of medical practice should be familiar with its management. In a recent survey of 1,424 college students, we found that 224 (15.7 per cent) gave a history of at least one bout of hives.[5] One could expect this figure to be even higher in an older age group, provided that the patients' memories were assumed to be accurate. Swinny[6] confirms this point in that he found an incidence of urticaria of 26 per cent in a group of over 1,000 patients; a somewhat lower figure is given in the European literature.[7] Swinny also has shown that a history of urticaria is two and one-half times more common in persons who have had asthma or hay fever. Acute urticaria is common in children and young adults, whereas the chronic form is seen more frequently in the middle-aged, especially in women.[2]

Angioneurotic edema is generally grouped with urticaria since the pathogenesis of these conditions is thought to be similar. Unquestionably there is dilation and engorgement of the minute, cutaneous blood vessels in both instances, together with a slight cellular perivascular infiltration and marked edema of the surrounding tissues and associated dilation of the lymphatic vessels. The chief difference between the two conditions is one of site of reaction since in urticaria the blood vessels of the upper corium are primarily involved, whereas in angioneurotic edema the more deeply situated vessels in the subcutaneous tissues are involved. This difference explains why the swelling is more diffuse in angioneurotic edema than in urticaria and also why pruritus is more pronounced in urticaria since the superficial portions of the skin contain most of the cutaneous nerve endings.

There has been comparatively little recent work to elucidate the mechanism of urticarial wheal formation. Present theories are based largely on the classic experiments of Sir Thomas Lewis[8]

Presented, by invitation, at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Section on Allergy, May 11, 1955.

many years ago who showed that urticarial wheals can be explained on the basis of a triple response, that is, dilation of the capillaries and venules, increased capillary permeability, and arteriolar dilation due to an axon reflex which produces the "flare." The triple response can be initiated locally in the skin by physical agents and various chemicals, many of the latter now being recognized as histamine liberators. Presumably there is a local release of histamine or H-substance in allergic wheals.[9] More recent studies have shown that urticarial wheals also may be produced by cholinergic nervous stimulation of the skin.[10] This type of mechanism may occur in cases of hives due to heat, exercise, and emotional factors. Certainly further studies and experimentation are definitely indicated in order to clarify the problem of urticarial wheal formation.

Diagnosis

The diagnosis of urticaria and angioneurotic edema is usually very simple. The patients themselves often are familiar with the wheals or flat-topped papules which are characteristic of this condition. The individual lesions may vary in size from that of a pinhead to that of the palm of the hand. Pruritus is always present, although the degree varies from patient to patient, and is usually very mild or absent with angioneurotic edema. A stinging or pressure sensation is frequently the symptom associated with angioneurotic edema. The nature of the individual lesion offers further helpful diagnostic clues. Each individual lesion persists for only a matter of a few hours or at most for a day or so, and while one crop is fading, another group may be appearing. The swelling of angioneurotic edema usually disappears promptly, in a matter of twenty-four to seventy-two hours. There are very few other skin conditions in which the individual lesions are so evanescent with rapid, spontaneous clearing. The lesions may appear on any part of the body and may vary as to color, general or local distribution, and recurrence.

There are very few other conditions which need to be considered in a differential diagnosis of urticaria. Urticaria factitia or dermographism should be recognized as such and differentiated clinically from ordinary urticaria. One should suspect this condition when the patient points out that the wheals occur primarily at sites of friction and when the lesions are linear in character and occur after scratching. Further, the diagnosis can be confirmed when gentle stroking of the skin produces an urticarial wheal.[11]

Urticaria pigmentosa is a pigmentary disease of the skin which has no close etiologic relationship to ordinary urticaria but is mentioned here only to point out that confusion may arise through the similarity of their names. The persisting pigmented macules and papules or nodules characteristic of urticaria pigmentosa are totally different from ordinary hives, although evanescent wheals may also be seen. The wheals may be reproduced by vigorously rubbing the skin in the vicinity of the pigmented areas. Saunders and Miller[12] believe that this response is due to the liberation of histamine or H-substance following trauma to the skin.

Insect bites must also be considered in the differential diagnosis, especially in children. A central punctum is invariably present and leads to the correct diagnosis. Erythema multiforme may be confused with urticaria in that the predominant lesions of this disease may be urticarial in type, but the associated systemic symptoms, when present, and the multiple types of lesions occurring in the same patient are helpful differential diagnostic points. Occasionally one may encounter a patient who has a contact dermatitis or an atopic eczema in which localized areas of cutaneous edema superficially resemble urticaria. The entire clinical picture in these people usually leaves no doubt as to the correct diagnosis.

Angioneurotic edema must be differentiated from all other types of edema. This can be done rather easily in most instances since angioneurotic edema ordinarily is not a dependent edema and the edema occurs asymmetrically. There are a few other conditions which will lead to swelling of just one eye, one hand, or part of a lip.[13] The transient nature of the edema and the frequent association with urticaria are also important diagnostic clues.

One condition, however, which is commonly confused is elephantiasis nostras.[14] This condition is a chronic, low-grade lymphangitis, usually due to a bacterial organism such as a streptococcus. Elephantiasis nostras invariably involves a swelling of a single site, either the cheek, the lips, the nose, or the eyelid. The swelling occurs only at the specific site and may reappear at this site on repeated occasions. In differentiating this condition from angioneurotic edema, one is usually able to find a fissure in the lip or at the nares which serves as a portal of entry for the bacteria. The swelling persists for seven to ten days when untreated, in contrast to a self-limited period of twenty-four to seventy-two hours in cases of angioneurotic edema.

Etiologic Diagnosis

In many instances the cause of urticaria is obvious, and the patient does not consult a physician. The transitory hives that follow the ingestion of seafood or strawberries are an example of this type of urticaria. It is so common that the public in general is quite aware of the cause and arbitrarily abstains from the food in question with prompt and complete relief. On the other hand, urticaria from other causes may be so persistent and prolonged that the patient is sufficiently uncomfortable to require a rather intensive investigation as to possible causes.

A detailed history often will lead to important clues regarding the etiology; therefore, careful inquiry should be made as to the time of onset, seasonal or diurnal variations, effect of change of climate and location, relationship to work and hobbies, and previous causes of hives. It has long been recognized that there are many causes of hives, and experience has shown that in the group in which a definite etiologic diagnosis can be made, the most common offenders are drugs, foods, infections, and psychic factors.

Drug allergy must be ruled out first because it is one of the most common causes of urticaria in patients coming to a physician and, second, because it is more easily excluded. It is important not only to ask the patient if he is taking a medication but to inquire specifically about the use of any aspirin, seltzers, cathartics, sleeping tablets, nerve medicines, tonics, vitamins, contraceptives, antibiotics, sulfonamides, hormones, and the host of other substances. There are many instances of urticaria and serum sickness following the administration of penicillin, and this necessitates inquiry as to the use of any ear, eye, or nose drops, ointments, troches, tablets, or injections which might contain this drug. Persistent urticaria following serum sickness from penicillin over many weeks or months may occur as a result of ingestion of milk, cheese, or even chicken. Penicillin is commonly administered to cattle having cystic mastitis, and measurable concentrations of penicillin may be present in milk from cattle being treated for this disease. It is also common practice in some areas to feed a mash or meal containing penicillin to fowl. If any medication has been taken, the exact relationship between its administration and the urticaria should be established; the drug in question must be withdrawn or its source removed from the patient until its safety is proved by repeated withdrawals and readministration.

With regard to food urticaria a careful dietary history should be taken, the patient being urged to try to recall the foods eaten for twenty-four hours prior to the onset of hives. Since seafood, fish, berries (especially strawberries), and nuts are common causes of urticaria, careful inquiry as to their ingestion must be made. One should also inquire carefully as to the ingestion of any pink-colored foods or drinks which might contain phenolphthalein. Frequently a patient may be well aware of urticaria caused by a particular food, yet not realize that he is ingesting this article of diet in some concealed form. This is well exemplified by a patient who knew he had hives on ingestion of grapes, grape juice, or grape wine. However, the patient was not aware that occasionally he was obtaining grape extract from ingestion of a meat sauce and a chewing gum containing grape extract which caused persistence of his urticaria. When a cause and effect relationship is suspected on the basis of history, the food in question should be withdrawn and then at a later date reinstituted in the diet for proof of etiology. Elimination dietary procedures are used to exclude food allergy in cases where there are no specific suspects.

Urticaria frequently is associated with infection, and thus one should carefully inquire as to possible sources of infection in the throat, teeth, sinuses, lungs, gallbladder, kidney, urinary tract, prostate gland, female generative tract, or elsewhere. It also should be remembered that urticaria may be associated with parasitic infestation in the gastrointestinal tract. One should give this very serious consideration, particularly when there is a pronounced eosinophilia in the peripheral blood and where a history is obtained of the patient's residence in areas where parasitism is common or when a previous diagnosis of this type of disease has been made.

Urticaria commonly is associated with periods of emotional stress. In our opinion this can either be the primary etiologic basis or in many instances may be a definite contributory factor which results in the persistence of the lesions. It is important, therefore, to investigate the relationship between tension, anger, worry, and excitement and the onset or exacerbation of the hives. It should also be stressed that the lesions may first develop several days to as long as a month after a particularly severe emotional strain has terminated.

Although some of the above-mentioned groups are unquestionably the most common proved causes of urticaria, there are still several more remote considerations which should be taken into account in individual cases. Sometimes animal danders, dust, or other inhalant factors may cause hives, or physical agents such as cold, light, heat or exercise may result in angioneurotic edema and/or urticaria. Contacts, particularly plant and occupational contacts, may produce urticaria, often of the linear type, and insect bites may cause generalized urticaria. In rare instances urticaria and even associated angioneurotic edema may be secondary to a large neoplasm in which central necrosis has occurred in the primary lesion. Cryoglobulinemia,[15] a rare condition, may be accompanied by purpura and a Reynaud-like picture as well as urticaria and angioneurotic edema. Alcoholic beverages sometimes seem to precipitate hives, perhaps at times because of allergens which they contain and at other times acting simply as nonspecific trigger mechanisms. Endocrine factors are mentioned frequently in discussions of the etiology of urticaria, but there has been relatively little work in recent years to clarify this confused subject.[16,17] There is little doubt that exogenously administered hormones may cause urticaria, but the evidence for allergy to endogenous hormones is not quite so convincing. Administered insulin[18] is not an uncommon cause of hives in diabetics requiring this medication. There is a rare form of hereditary angioneurotic edema in which the family history is usually diagnostic.[19] This condition is seen primarily in children, and many of the cases terminate fatally as a result of laryngeal edema.

Dratler[2] has suggested that food and drug allergy should be especially suspected in patients who have gastrointestinal symptoms along with their hives. Swinny[6] emphasizes the immunologic approach in patients who have a history of hay fever or asthma. In addition to the detailed history and general examination of patients, the appearance of the urticarial lesions themselves may be of some help in determining the proper etiologic agent.

Urticarial lesions that have a violaceous hue with a serpiginous border occurring on the trunk most often are associated with a drug allergy. The grouping of the urticarial lesions into an umbrella or pyramid pattern is also suggestive of a drug etiology. Urticarial lesions which are deep-seated, persist for several days, subjectively cause a stinging and burning sensation, and are painful to pressure suggest an infectious basis. Lesions occurring over pressure areas, deep-seated, rather painful to touch, and which persist for days with accompanying pinkish to reddish hue are often a part of the picture of erythema multiforme. Individuals who have a psychogenic basis for their urticaria frequently develop hives in the late afternoon, the lesions subsiding overnight.

Penicillin-induced urticaria often has large wheals which show central clearing with extension from the periphery outward and progressive clearing of the central area. Long linear wheals on exposed surfaces frequently are associated with contact agents. Urticaria due to cold and sunlight usually occurs on the exposed surfaces or at least are more pronounced in these areas, while lesions on the covered areas are more often due to heat "sensitivity." Hives related to increased physical activity are usually prominent over the neck, chest, and back.

Treatment

When the etiologic diagnosis can be made, the treatment of urticaria and angioneurotic edema usually is very simple. It consists primarily of removal of the etiologic agent in the patient's environment, whether it be a food, drug, inhalant, or contactant. I should like to emphasize that hyposensitization to foods has been quite unsuccessful and in the main entails some hazard. Therefore, elimination is the procedure of choice, and in many instances, when carried out over a period of time, the patient can again take the food in question without difficulty. In case of drug sensitivity, elimination must be carried out except in those instances where absolutely no other medication would be satisfactory, such as insulin sensitivity in a known diabetic. Preadministered antihistamines and a rapid course of hyposensitization might be justified in this instance. In the event of an infectious basis or a parasitic infestation, treatment should be the same as if the patient did not have the urticaria. In psychogenic cases the therapeutic approach is that of symptomatic measures with reassurance and psychotherapy to a degree[20] which seems appropriate to the individual case. Hyposensitization may be carried out in those relatively infrequent cases of hives due to inhalant substances in the same manner that one should treat patients having hay fever due to pollen[21] and should be considered also for patients who are violently allergic to insect bites.[22] Physical allergy is treated symptomatically together with common-sense avoidance measures. For example, in light sensitivity the use of protective ointments which filter out the urticariogenic wavelengths of light may be helpful, and in cold allergy daily baths of progressively decreasing temperature occasionally may give satisfactory results.

Of the drugs used for symptomatic control of urticaria, the antihistamines have proved to be extremely helpful in the majority of cases.[23] Loveless[24] has found these drugs capable of controlling 80 to 85 per cent of cases of urticaria. However, the very acute urticaria or serum sickness may not be benefited by the use of these compounds. Ephedrine or epinephrine in oil may be more satisfactory in providing relief promptly to the very acute urticaria, often followed by ACTH or the corticosteroids.[25]

In the more chronic forms of urticaria we have found that intravenous nicotinic acid[26] may be useful, and it has been our practice to give 50 to 100 mg. of this substance intravenously daily or on alternate days for three to five doses. It should be remembered that soothing lotions, such as calamine or Wise's shake lotion, may be applied to the individual hives and give very temporary improvement.

Intravenous procaine, histaminase, histamine-azo-protein, histamine desensitization, vitamin K, Benzedrine, ascorbic acid, vitamin D, hydrochloric acid, Piromen, and a host of other nonspecific agents have all been recommended for the management of urticaria. In our experience none of these medications has proved to be of real value.

It should not be inferred from the previous discussion that the causative factor can be detected in all cases of hives. The etiologic agent remains obscure in spite of a very thorough and careful study in up to 50 per cent of cases of chronic urticaria, and there is great need for further research in this field. It is our good fortune that spontaneous remissions occur during the course of investigation in many of these cases, although the etiologic agent is never found. This fact should be remembered in evaluating the many forms of treatment which have been suggested for the management of urticaria and angioneurotic edema.

Summary

Urticaria and angioneurotic edema are extremely common conditions which justify consideration and understanding by every physician practicing medicine. The diagnosis and symptomatic management of urticaria usually are quite simple. Long-range results, however, often require that the physician exert every effort toward determining the etiology of the hives in each individual case. An attempt has been made to point out some of the characteristics of various types of urticaria as a means of hastening recognition of the cause and thus permitting institution of proper treatment.

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Discussion

Max Harten, M.D., *Brooklyn.*—The difficulties often encountered in establishing the etiology in many cases of urticaria have been stressed by Drs. Sheldon and Mathews. This becomes evident when one lists all the various mechanisms possible and all the substances that can be involved. Further complications result when one considers the various portals of entry through which sensitization can take place. Alexander[a] in his recent book, "Reactions and Drug Therapy," lists no less than 60 drugs as common causes of urticaria. As Sulzberger has pointed out, drug allergies are based on various mechanisms, some undoubtedly of an immunologic nature. The same drug may not even always produce the same reaction. I am sure you have observed the occurrence of urticaria following the ingestion of aspirin in the presence of infection but have later found the patient able to tolerate aspirin without any reaction. Evidently there can occur an interplay of many factors, not all necessarily known, which may produce variable clinical effects from a drug depending on circumstances.

Penicillin is now considered one of the most frequent etiologic offenders in the production of urticaria and angioedema as such or as part of a serum sickness type of reaction. Since many penicillin urticarias can be of long duration (weeks to months), every patient with urticaria should be asked when he last received this drug by injection, orally as a tablet or troche, as nose or eye drops, or as a suppository. Very often the onset of urticaria may be traced back to the use of penicillin. The complete explanation for the chronicity of some penicillin urticarias is not yet available.

The frequency with which alcohol seems to precipitate urticaria, especially when taken with fish or seafood, can best be understood by referring to the studies by Abraham Walzer[b] on the experimental wheal. He demonstrated that the wheal could be induced faster when alcohol was ingested together with or prior to the specific wheal-inducing food and that this type of wheal could be delayed by the ingestion of mineral oil, dilute hydrochloric acid, and kaolin.

Recent experimental work on animals reported from England may help elucidate the mechanism of the production of urticarial wheals. Mast cells, normally found in the skin, were shown to contain heparin and unusually large amounts of histamine in granular form. These mast cells are usually grouped around the blood vessels of the skin. In the presence of toxic, allergic, or neural stimuli these histamine granules are liberated from the mast cells into the bloodstream to produce urticaria type reactions. Tween, a detergent agent, has been shown to be such a histamine liberator in dogs. Morphine acts as a histamine liberator in man. Studies with other drugs should prove interesting. The possibility of a chronic reflex as a factor in long-lasting urticarias in man could be more understandable in the light of these experiments.

I can recommend Dr. Sheldon's outline of treatment for the urticaria patient. I always place such a patient on an "urticaria regime" while he is being investigated. Urticariogenic foods, e.g., fish, seafood, eggs, and strawberries, are eliminated from the diet. All alcoholic beverages and drugs of all kinds are forbidden. Laxatives other than mineral oil, because of their irritating effect on the bowel with resulting influence on the absorption of urticariogenic agents, are also forbidden.

Antihistamines are useful drugs in urticaria but, as you have heard, are often of little help. It is best to find the particular one for the particular patient. These drugs are usually not given in large enough doses and not often enough. The average blood level titer persists for only about three hours. It is important to remember that urticaria may be produced by the antihistamine drugs. In such cases we may be relieving some of the associated pruritus and at the same time producing additional urticarial lesions. In prolonged cases of urticaria it is advisable to eliminate antihistamine drugs for several days and observe the results.

Histamine desensitization I have found of value only in the treatment of those urticarias caused by physical allergies.

Steroid therapy (cortisone, hydrocortisone, ACTH, Meticorten) can be helpful in some cases, is not effective in all cases, and is much abused at the present time.

I have refrained from discussing the importance of emotional stress and psychogenic factors in the etiology of urticaria. There is a vast difference of opinion on this aspect of the subject.

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[a] Alexander, H. L.: Reactions with Drug Therapy, Philadelphia, W. B. Saunders, 1955.

[b] Walzer, A.: IX Congr. Internat. Dermat., vol. 2, Del. 6, 1936.

Habit is thus the enormous fly-wheel of society, its most precious conservative agent. It alone is what keeps us all within the bounds of ordinance.—William James

Heredity of Keloids

Review of the Literature and Report of a Family with Multiple Keloids in Five Generations

DAVID BLOOM, M.D., NEW YORK CITY

(From the Department of Dermatology and Syphilology of the New York University Post-Graduate Medical School, the Skin and Cancer Unit of the University Hospital, and the Dermatology and Syphilology Service of Bellevue Hospital)

A CERTAIN degree of proliferative tendency of the connective tissue of the corium is a normal and desirable state for without it no wound would heal. Keloidal formation, however, is an excessive and abnormal fibrous overgrowth of the corium. There is no essential difference between so-called "spontaneous" and "traumatic" or "cicatricial" keloids. They differ only in the degree of proliferative tendency. It is the opinion of most authors that spontaneous keloids are also preceded by a trauma which is so minimal that it is overlooked. While the spontaneous keloid represents the highest degree of keloidal tendency, the "hypertrophic scar," in which the connective tissue proliferation does not exceed the limits of the scar, represents the smallest degree of proliferative tendency. Although in the narrow sense of the word the term keloid does not apply to the hypertrophic scar, the latter, nevertheless, is also considered as belonging in the keloid group.

This tendency toward excessive fibrous proliferation, although mentioned first by Retz[1] in 1790, was described in detail by Alibert[2] in the beginning of the nineteenth century under the name of "cancroid," meaning "cancer-like." Later this author changed the name to "chéloide," which is spelled in the English and German literature "keloid." This word is of Greek derivation and means "claw," referring to the extensions frequently seen in keloids which resemble the claws of a crab.

Frequency of Keloids

No large-scale scientific study has been made of the frequency of keloids in the population. There are, however, some statistical reports available. Woringer[3] cites the figures of 0.09 per cent for England, 0.27 per cent for Breslau, Germany, and 0.16 per cent for the United States. Staub[4] estimated among the adult natives of the Congo an incidence of 16 per cent of keloids, the majority of which, however, were vaccination keloids. Naegeli[5] found keloidal formation in about 6.9 per cent of vaccinated Swiss children under the age of ten and about 12.5 per cent in those between ten and fifteen years of age. The last two reports suggest that the smallpox vaccination scar has a particularly marked tendency to become keloidal. Smallpox vaccination is thus one of the types of trauma which may have a great tendency to stimulate keloidal formation. The others are burns from hot water, nitric and sulfuric acid, atomic bomb flashes,[6] and the high-frequency coagulation current. The figures on the frequency of keloids vary depending on whether they include, in addition to spontaneous keloids, hypertrophic and keloidal scars and keloids following smallpox vaccination and burns. They also vary according to whether children and Negroes are included since keloidal tendency is manifested most frequently at the end of the second and in the third decades of life, and the greater frequency of keloids in the Negro is well known. However, the ratio of incidence of keloids in whites and Negroes is uncertain. According to Matas[7] it is 1:9, according to Fox[8] 1:19, and according to Geschickter and Lewis[9] 1:6.

Familial Predisposition to Keloids

In spite of the fact that keloid formation has been known for more than one hundred and fifty years and although different theories in regard to its etiology have been advanced, its pathogenesis is still obscure. However, already in the first reports in the literature on this abnormality it was recognized that one is dealing with a special predisposition of the connective tissue of the

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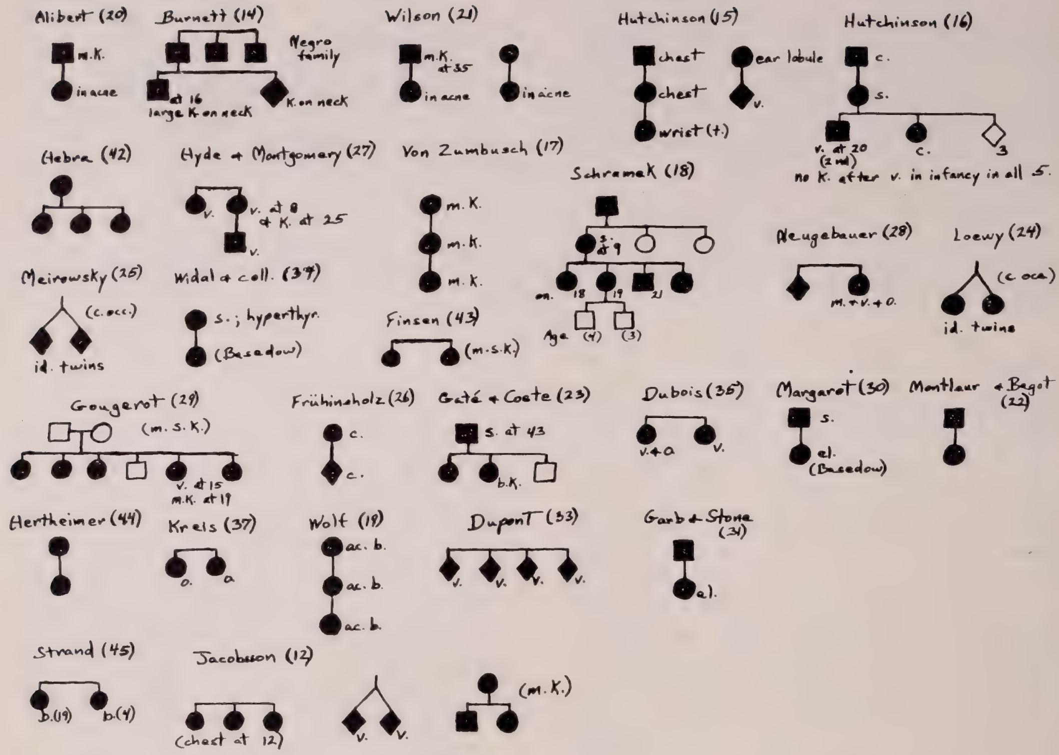

Alibert (20)
m.K.
in acne
Burnett (14)
Negro family
at 16 large K. on neck
K. on neck
Wilson (21)
m.K. at 35
in acne
in acne
Hutchinson (15)
chest
chest
wrist (t.)
ear lobule
v.
Hutchinson (16)
c.
s.
v. at 20 (2 nd)
c.
3
no K. after v. in infancy in all 5.
Hebra (42)
Hyde + Montgomery (27)
v.
v. at 8 + K. at 25
v.
Von Zumbusch (17)
m.K.
m.k.
m.K.
Schramek (18)
s. at 9
on. 18
19
21
Age (4) (3)
Neugebauer (28)
m.+v.+o.
Loewy (24)
(c. occ.)
id. twins
Meirowsky (25)
(c. occ.)
id. twins
Widal + coll. (39)
s.; hyperthyr.
(Basedow)
Finsen (43)
(m.s.K.)
Gougerot (29)
(m.s.K.)
v. at 15
m.K. at 19
Frühinsholz (26)
c.
c.
Gaté + Coste (23)
s. at 43
b.K.
Dubois (35)
v.+o.
v.
Margarot (30)
s.
el. (Basedow)
Montlaur + Bagot (22)
Hertheimer (44)
Kreis (37)
o.
o
Wolf (19)
ac. b.
ac. b.
ac. b.
Dupont (33)
v.
v.
v.
v.
Garb + Stone (31)
el.
Strand (45)
b.(19)
b.(4)
Jacobsson (12)
(chest at 12)
v.
v.
(m.K.)

ac. b.	acid burn	m.	multiple	v.	vaccination
b.	burn	o.	in operation scar	○	normal female
c.	congenital	occ.	occiput	□	normal male
el.	after electrolysis treatment of hypertrichosis	on.	onset	●	affected female
k.	keloid	s.	spontaneous	■	affected male
		t.	traumatic	◆	sex unknown

FIG. 1. Familial cases of keloids in the literature.

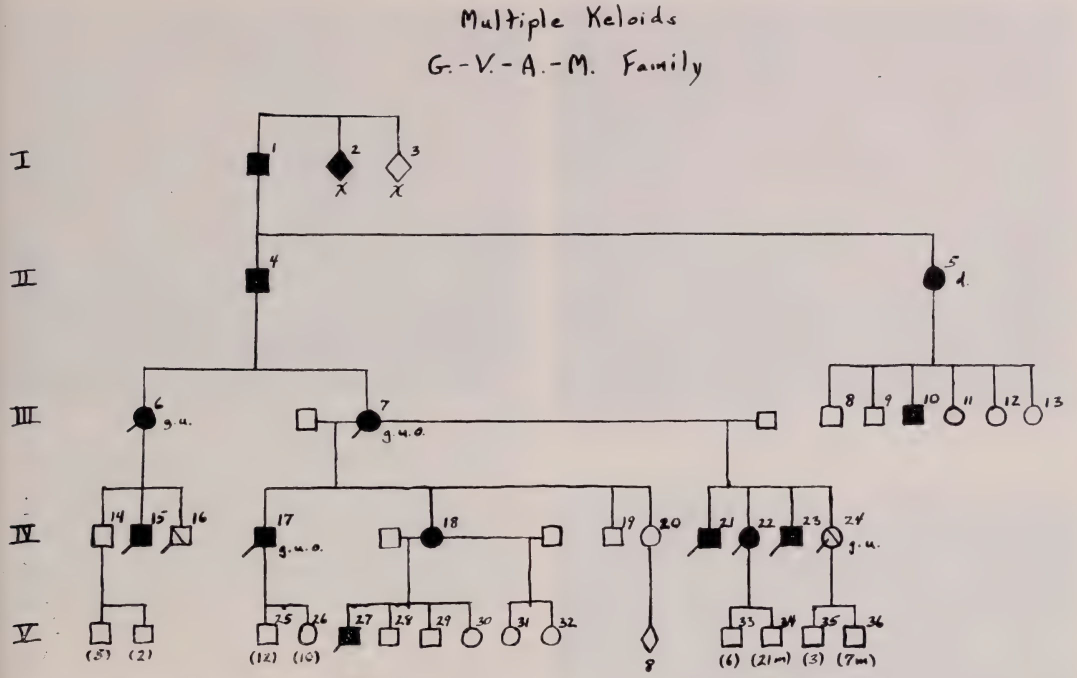
corium to excessive growth. Bazin[10] used the term "fibroplastic diathesis," and much later Pautrier[11] speaks of a "keloid terrain." It was also observed that this predisposition to fibrous overgrowth may be general, local, and chronologic. Affected individuals may be prone to develop keloids in many areas of the skin or in a few areas only, and the same individual may differ in his keloidal tendency at different times of his life.

It was also recognized long ago that this predisposition could be of familial and hereditary nature. The frequency of familial occurrence in the population is not known. The only report, I believe, is that of Jacobsson[12] in Sweden who found that 10 per cent of his cases of keloids occurred in families.

The familial and hereditary nature of keloids offers the opportunity for a useful approach to further investigation of the nature of keloids. In the study of familial and hereditary disease one has at one's disposal, close together, a group of affected individuals, which permits observation of the disease in its variations and association with other abnormalities. This type of study has proved its value in obscure hereditary diseases, and it may help us to throw some light on the pathogenesis of keloids.

Review of Familial Cases in the Literature

In reviewing the literature I found, besides the eight cases reported by seven authors and cited by Cockayne[13] in 1933, 23 additional cases, all of which are shown in Fig. 1. It was surprising to me to find that among all these 31 cases only one family, that of Burnett,[14] dealt with Negroes. The explanation for this lack of pedigrees of Negro families, in spite of the great pre-



g. u. gastric ulcer
g. u. o. gastric ulcer operation
d. diabetes

⧄ ⊘ personally examined
⧅ ⊗ questionable
◇ sex unknown

x several individuals, exact number unknown

FIG. 2. Multiple keloids in five generations.

ponderance of keloids in the Negro race, is the fact that the majority of reports are by European authors who have dealt almost exclusively with white patients.

Although the majority of these family pedigrees are incomplete, they clearly indicate that one is dealing with a dominantly inherited disease due to a single autosomal gene. Among the 31 pedigrees there are five which show affected members in three generations. These are two cases of Hutchinson[15,16] and the cases of Von Zumbusch,[17] Schramek,[18] and Wolf.[19] More than half of the remaining cases show affected members in two generations.

In review of these pedigrees one may observe some facts which are of interest. In the case of Alibert[20] and the two cases of Wilson,[21] one member of the family had keloids in acne lesions, while the others had keloids in other areas. In the cases of Burnett,[14] Hutchinson,[15] and Montlaur and Bagot,[22] the keloid appeared in the same location in several members of the family. In the pedigree of Jacobsson[12] the keloids appeared in three siblings, not only in the same location but also at the same age. Chronologic predisposition is demonstrated in one pedigree of Hutchinson[16] since in one of the siblings no keloid developed in the vaccination scar in infancy, but at the age of twenty vaccination was followed by a keloid.

Although the majority of cases of spontaneous keloids develop at the end of the second or in the third decade, in the case of Gaté and Coste[23] spontaneous keloids developed at the age of forty-three. Congenital keloids were reported by Hutchinson,[16] Loewy,[24] Meirowsky,[25] and Frühinsholz.[26] The Meirowsky and Frühinsholz cases were in identical twins.

The fact that spontaneous keloids, operation scar keloids, and/or vaccination keloids occur in the same individual or in different members of the same family in the cases of Hutchinson,[15,16] Hyde and Montgomery,[27] Neugebauer,[28] and Gougerot[29] strongly indicates that all these types belong to the keloid group. That electrolysis used for hypertrichosis may bring on keloids in predisposed individuals is seen in the cases of Margarot[30] and Garb and Stone.[31]

The frequent occurrence of vaccination keloids in early childhood, in spite of the fact that keloids

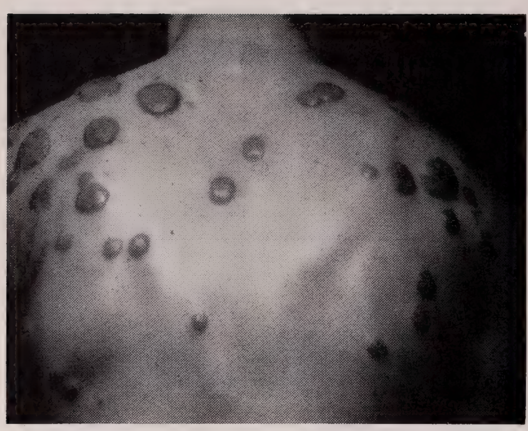


FIG. 3. *Case 1*—Keloids on upper back.

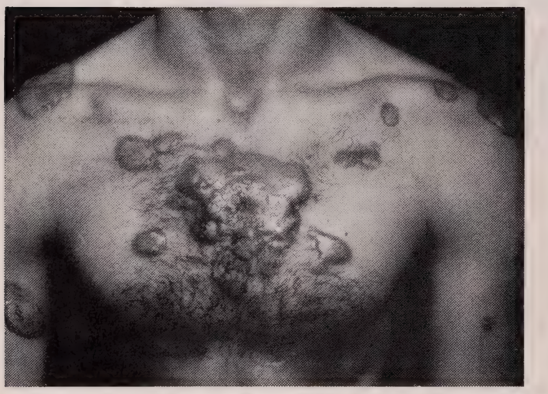


FIG. 4. *Case 1*—Keloids over sternum, chest, and arms.

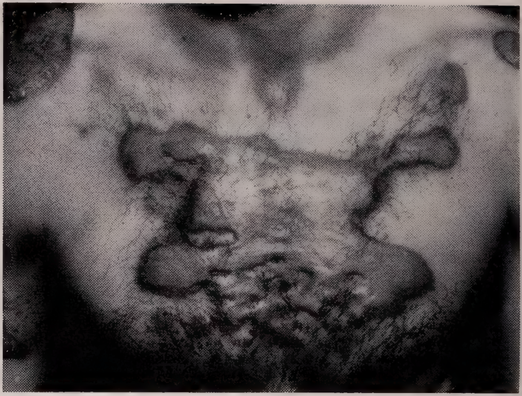


FIG. 5. *Case 1*—Same area a few years later, showing increased size of keloidal plaque.

in other areas appear mostly in the third decade, indicates a special property of the vaccination process to produce keloids. Kyrle[32] observed a patient with keloidal formation in acne lesions after smallpox vaccination, while no keloids formed in these lesions before vaccination. He suggests that the vaccination process not only predisposes to local keloidal formation, but it also may awaken the latent general predisposition of the individual to reactivity of the connective tissue with keloidal overgrowth.

Of interest is the observation that in the case of Dupont[33] four siblings showed vaccination keloids, in contrast to the case of Hutchinson[16] in which none of the five siblings developed a keloid in the vaccination area in childhood, although two of them developed keloids later in life, one also in the vaccination area.

The association of keloids with other abnormalities is of importance and interest. The pedigrees of Widal and collaborators[34] and Margarot[30] call attention to the association of keloids with hyperthyroidism. In the case of Margarot[30] the affected girl showed signs of Basedow's disease. This association was also observed in one of the sisters in the case of Dubois.[35] Justus[36] found in 38 patients the association of keloids with hyperthyroidism or Basedow's disease. He proved experimentally that hyperthyroidism predisposes to keloids.

The association of keloids with uterine fibroma in the two sisters of the pedigree of Kreis[37] is of interest. Balloch[38] considers "fibroid diathesis" peculiar to the Negro race and the cause of keloids and fibroma or myofibroma of the uterus. According to Moehlig[39] uterine fibroids occur nine times as frequently in the Negro as in the white race.

In spite of the apparent frequency of familial occurrence of keloids, my attention was first called to this fact in 1950 when a patient with multiple keloids came under my observation. In this patient's family other members were similarly affected in five generations (Fig. 2).

Report of a Family

CASE 1.—F. G. (Fig. 2, IV, 23), a white man, aged twenty-two, of Italian descent, was referred from the Psychiatric Department of Bellevue Hospital. His personal history revealed that he had a nervous disorder for which he had been confined on several occasions to the psychiatric ward. He was referred to us because of multiple keloids. He developed the first keloid on his left arm at the age of three following a smallpox vaccination. In the ensuing years numerous growths gradually appeared, either preceded by trauma or without any apparent cause. Examination revealed numerous raised, dime to half-dollar sized, brownish-red, round or dumbbell-

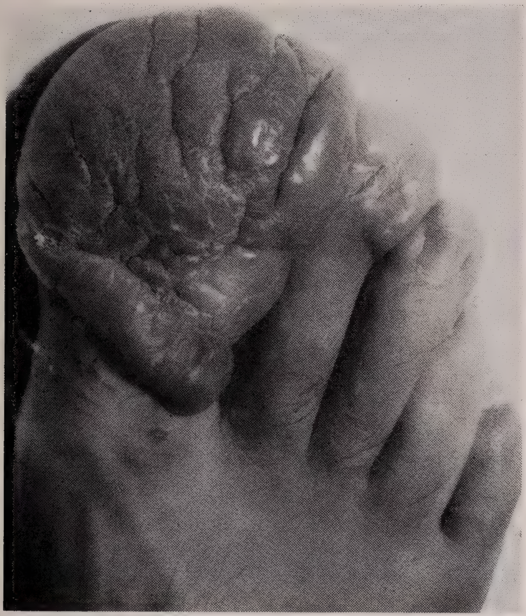


FIG. 6. *Case 1*—Keloid on right large and second toes.

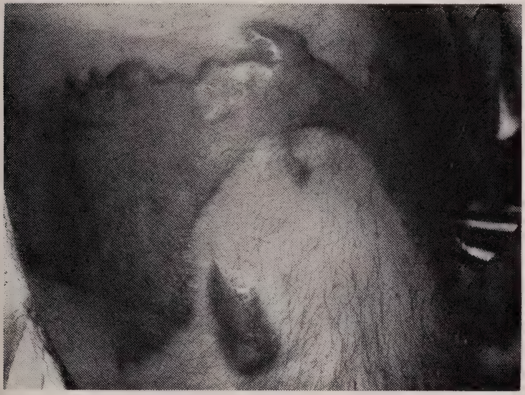


FIG. 7. *Case 1*—Keloidal plaque on right thigh following removal of skin for graft.

shaped, firm tumors which were distributed over the shoulders, upper back, upper and lower extremities, and scalp (Fig. 3). Over the sternum there was a palm-sized irregularly shaped plaque (Fig. 4), and a few round or dumbbell-shaped lesions were located laterally from the sternum. The left ring finger was missing due to amputation for a keloidal contracture following an injury. On the great toe and second and third toes of the right foot there were similar lesions present. When this patient was again seen a few years later, the keloidal plaque on the sternum was much larger, partly due to confluence of the individual lesions (Fig. 5). The entire right great toe was covered with a huge keloid (Fig. 6). It had enlarged to this size after a smaller keloid had been excised and the wound covered with a skin graft. The area on the right thigh from which the skin was taken for grafting was replaced by a keloidal plaque (Fig. 7).

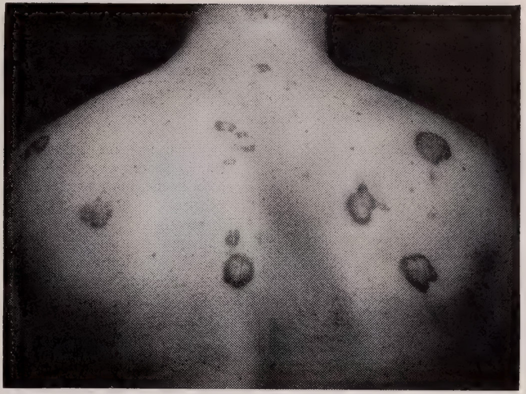


FIG. 8. *Case 2*—Note similar distribution of keloids as in Case 1, but smaller in size and fewer in number.

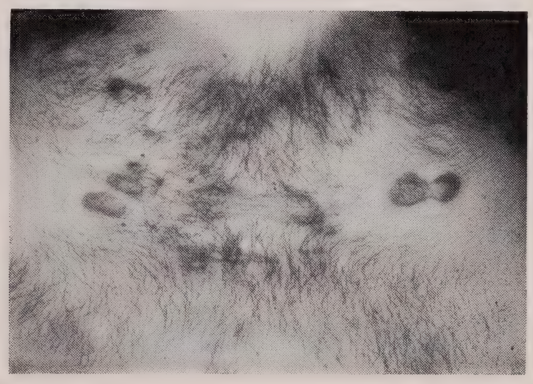


FIG. 9. *Case 2*—Keloids on sternum.

CASE 2.—D. G. (Fig. 2, IV, 21), aged twenty-five, a brother of Case 1, also developed the first lesion in early childhood in the area of vaccination on the left arm. Since then keloids appeared from time to time with or without any preceding trauma. In this patient the keloids had similar distribution and appearance as in his brother, but they were fewer in number and of smaller size (Figs. 8 and 9). The most recent lesion had appeared six months previously over the sternum. The large plaque in this area had been present about nine years. Since this patient was confined to the dermatologic ward at Bellevue Hospital from January to the end of February, 1951, we had occasion to study him thoroughly. Except for a chronic bronchiectasis which started in 1945, the patient was found to be in good general health. Routine laboratory tests did not reveal any abnormal findings. A biopsy of a keloid was done on two occasions, and the clinical diagnosis was confirmed. Following ACTH administration a definite

TABLE I.—Description of Affected Members of G.-V.-A.-M. Family (See Fig. 2)

Number	Name	Sex	Age	Keloids	Onset	Other Diseases	Remarks
I, 1	J. R.	M	..	Numerous	......	......	Had affected brothers and sisters, sex and numbers unknown
II, 4	R. R.	M	..	Numerous; on chest, neck, face. At 22 keloid behind ear excised, regrew	......	......	......
III, 5	C. C.	F	..	Numerous	......	Diabetes	......
III, 6*	A. A.	F	48	Shoulders and arms; dumbbell-shaped. Also keloids in operation scars. Last keloids developed at age 43	At 28	Operated on for cholecystitis, nephrolithiasis, uterine fibroid tumor; has gastric ulcer	......
III, 7*	M. V. G.	F	60	Several on chest, left shoulder; in operation scar	At 22 in boil	Operated on for gastric ulcer in 1939	......
III, 10	R. C.	M	..	Several	......	......	Lives in Italy
IV, 15*	R. A.	M	27	Several; on leg, chest, below right ear (following removal of cyst)	At 17	......	......
IV, 16*,†	J. A.	M	16	Slightly raised scar in vaccination area and on left jaw following cyst removal	......	......	Uncertain as to being affected; later may develop definite keloids
IV, 17*	R. V.	M	38	Numerous: arms, chest, back	......	Gastrectomy for gastric ulcer	Two young children, no keloids
IV, 18*	R. M.	F	..	Several keloids on chest, back, in vaccination scar	In vaccination area	......	Of her 4 children from first marriage one affected (male,* 27); 2 young children of second marriage not affected
IV, 21*	D. G.	M	30	Many keloids on chest, shoulders, extremities. Last keloid appeared several months previously on sternum	In early childhood in vaccination scar	Bronchiectasis since 1945	......
IV, 22*	A. G.	F	28	One 2-inch long, slightly elevated keloid on left arm	Following vaccination in early childhood	"Nervous breakdown"	Two young sons, no keloids
IV, 23*	F. G.	M	26	Many keloids on chest, back, extremities, scalp. Large keloid on left large toe; smaller one on second left toe	At age 3 in vaccination scar	Confined several times in psychiatric ward for "nervous disorder"	Left ring finger amputated because of keloidal contracture following injury
IV, 24*,†	J. L.	F	24	Pea-sized growth on lip	......	Gastric ulcer (shown by x-ray)	Questionable keloid
V, 27*	T. M.	M	21	Numerous; on upper back, chest, extremities	Vaccination scar keloid in early childhood	......	Vaccinations in 1947 and in 1951 did not produce keloids

* Personally examined case.
† Questionable case of keloids.

flattening of the keloids was noted. One keloid was markedly reduced in size when exposed to 300 r of x-rays during administration of corticotropin.

From these two brothers I learned that there were at least 12 other members in five generations of the family who were similarly affected with keloids. Of these I was able to examine personally six more affected members and two additional members; I was not certain whether the latter two should be included among the affected. One of these (Fig. 2, IV, 16), a boy aged sixteen, showed a slightly raised scar in the vaccination area on the arm and one below the ear which followed the removal of a cyst. The second uncertain case (Fig. 2, IV, 24) was a woman, aged twenty-four, who had a pea-sized growth on the lip which might have been a keloid. This woman had two young children who may show keloids later in life.

Because of the known fact that the predisposition to keloids is much more marked in the Negro than in the white race, I thought it worth while to study the blood groups in this family in order to see whether any findings might be revealed which are peculiar to the Negro race. Dr. Philip Levine was kind enough to examine the blood groups of six affected and of the two questionably affected members. However, the study of the blood groups in this small number of cases did not reveal any facts of significance.

Analysis of the Pedigree

This pedigree is not entirely satisfactory because we do not have a complete record of the second and first generations. However, the available data indicate that we are dealing with a regular, dominant, inherited abnormality due to a single autosomal gene. In order to facilitate the review of the facts observed in the individual members of this pedigree, I have put them together in Table I. Of the 13 affected members whose sex was definitely known, there were seven males and six females. The information obtained on these affected members yields some points of interest. One point concerns the time of the first appearance of the keloid. As is seen in the table, five of the affected members developed their first keloid in early childhood in the vaccination area. The other keloids in these individuals, and in others in whom no vaccination keloid was seen, appeared at the end of the second or in the third decade. The fact that the other keloids developed much later in life than the vaccination keloid supports the above-mentioned observation that vaccination may readily stimulate keloidal formation.

That there is a chronologic predisposition even in regard to the vaccination keloid is seen from the facts of Case V, 27. This individual developed a vaccination keloid in early childhood, but the vaccinations done in 1947 and again recently did not produce any keloid, although he was developing keloids in areas other than in that of the vaccination. This observation demonstrates that even the vaccination process is not able to produce keloids at all times, even in an individual who is known to have a general predisposition to keloids.

The fact that vaccination keloids, operation keloids, and spontaneous keloids occur together in the same individual or separately in different members of this family indicates that they have the same underlying pathogenesis and justifies their inclusion in the same group, although we are dealing with a different degree of predisposition to keloidal formation.

Of particular interest is the association of keloids with other abnormalities. There are two cases of nervous disorder among the affected members, one of whom (IV, 23) was confined several times to the psychiatric ward and the other (IV, 22) who had a "nervous breakdown," the exact nature of which could not be ascertained. Whether this association is significant or coincidental is impossible to state at present.

More conspicuous, however, is the fact that three of the affected members and one with a questionable keloid had suffered from gastric ulcer, two of whom had to undergo surgical operation. Peptic ulcer is also known to be dependent on genetic factors[40] for there are numerous reports of familial occurrence in twins and in several generations.[41–53] Although the hereditary nature of peptic ulcer is certain, its mode of inheritance is controversial. It is probably an irregular dominant. It is conceivable that in peptic ulcer genetic factors act indirectly through the control of processes which predispose to ulcer formation. As in keloids the exact pathogenesis underlying the genetic action of peptic ulcer is unknown. It is possible that the same genetic mechanisms are implicated which cause the predisposition to both keloids and peptic ulcer. This assumption is a challenge. It should stimulate the study of as many families as possible with keloids and with peptic ulcer.

Summary and Conclusions

1. The author reviews 31 familial cases of keloids in the literature and adds a pedigree of an Italian family with 14 affected members in five generations. These pedigrees indicate that the predisposition to keloids is inherited according to a regular, dominant, autosomal mechanism.
2. There is a general, local, and chronologic predisposition to keloids.
3. Spontaneous and cicatricial keloids and hypertrophic scars belong in the group of keloids. They differ only in the degree of proliferative tendency.
4. The peculiarity of the smallpox vaccination process in regard to the stimulation of keloidal formation is emphasized.
5. Attention is called to the association of keloids with nervous disorders, hyperthyroidism, and peptic ulcer.
6. The presence of four cases of peptic ulcer in the family of the present report suggests the possibility that the same pathogenetic factor may be responsible for the tendency to both keloids and peptic ulcer.
7. The pathogenesis of keloids and also of peptic ulcer is still obscure and necessitates further studies of families with these disorders. Such

studies may throw light on their causative mechanism and their possible relation to each other.

135 EAST 50TH STREET

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Discussion

Albert R. McFarland, M.D., *Rochester.*—Dr. Bloom is to be congratulated on having carried out a very detailed and painstaking study on the subject of the hereditary aspects of keloids. Although this subject has been rather inadequately considered in the past, it promises to be a matter of considerable practical importance.

The literature on the subject is rather scanty. Ormsby and Montgomery[a] merely mention the fact that "Heredity plays a part in the development of keloids." However, as early as 1905 Hyde and Montgomery[b] reported the case of a patient, her sister, and the sister's son, who had extensive keloids. Dr. Milton Bohrod,[c] pathologist at the Rochester General Hospital, has made some interesting observations on keloids among some of the primitive tribes. Among some of these tribes burning and cutting of the genitalia with subsequent scarring was thought to signify virility. Consequently, those having the most scars were prone to be most fertile and produced more offspring. The result was eventually to breed a race which was very prone to keloid formation.

Since keloids essentially represent a fibroplastic diathesis, there are some grounds for considering them as related to the congenital ectodermal defects. At least there is a tendency for abnormal formation of connective tissue which in all probability is an inherited tendency.

Dr. Bloom has been fortunate in having observed this family in which for several generations there has been a marked tendency to keloids. If this subject were pursued with more thoroughness in keloid cases, undoubtedly many similar instances would be encountered in private practice.

There is one practical aspect of this study which I should like to point out; that is, it should be used as an aid to determine when to avoid surgery on the face. I have in mind the case of a young girl from whose face I removed two very inconspicuous moles, only to find to my chagrin that she developed two very unsightly keloids. Upon questioning I found that her mother and her aunt were both subject to keloids. In removing lesions from the faces of young women, it is well worth while to ascertain from a history the possible keloidal tendency.

The intriguing problem in all keloids is what is it which is present in the connective tissue of these cases that makes them react in this peculiar fashion to trauma. It seems so reasonable to excise these lesions and so unreasonable that they should return bigger than ever. That, however, is a problem beyond the scope of this paper. Perhaps Dr. Bloom's interest in this subject will spur him on to tackle this fascinating angle of the subject.

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Laboratory Aids in the Diagnosis of Pediatric Problems

PAUL R. PATTERSON, M.D., ALBANY, NEW YORK

(*From the Department of Pediatrics, Albany Hospital and Albany Medical College of Union University*)

THE diagnosis of disease in children can be difficult because of the child's inability to verbalize complaints or because of lack of cooperation on physical examination. In addition, many new diseases peculiar to infants and children are being recognized. Because of these reasons many diverse laboratory procedures are being developed to aid the clinician in specifically diagnosing various disease entities. The laboratory no longer remains an agent merely to confirm the physician's impression; now it is becoming a cooperative consultant. Unfortunately we as physicians do not always know exactly what tests to order on occasion or perhaps even how to interpret them when we do obtain the results. We forget that only certain tests are dogmatic and specific, and in turn we may forget the errors of humans in performing the laboratory procedures. Children handicap us further by having different normal values from adults.

The purpose of this paper is to review and appraise some of the old and new laboratory procedures of practical value in diagnosing the sick infant or child. Let us begin with the easiest and most frequent procedure, urinalysis.

Urinalysis

Urine can easily be obtained from small infants by taping ordinary bird seed cups or open-mouthed baby food jars to the female vulva. The baby food jars or test tubes may be employed in the male. In desperation the infant's diaper may even be wrung into the collecting bottle and used for everything but the specific gravity and microscopic examination.

Red urine in the newborn female infant may be due to the presence of paradoxic menstrual blood resulting from the withdrawal of the maternal hormones, or to deposition of uric acid onto the diaper. In the male blood may come from an ulcerated urethral meatus in the circumcised infant. In older infants the ingestion of beets may produce the elimination of anthocyanin, and the resulting red urine will resemble hematuria. The addition of any weak acid to the urine or red-stained diaper will change the color to yellow. This same phenomenon will be seen in those children given laxatives containing phenolphthalein.

The marked ammonia liberation is characteristic of urine remaining in diapers not completely bacteria free.

Recently, a distinctly maple syrup-like odor

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of the urine has been described in infants who weigh over 9 pounds at birth and who appear to have rapid degeneration of the brain, resulting in death within two months.

Urine with a foul and putrid odor may be found in those cases of amino aciduria where putrescine and cadaverine are eliminated along with glucose. Clinically, these cases are manifested by dwarfism and vitamin D-resistant rickets associated with polyuria and polydipsia. Two of the clinical syndromes are called cystinosis and Fanconi's syndrome.

A rapid screening test for these entities can be made by the use of paper chromatography or by testing for the amino acid cystine. This can be done by adding 2 ml. of a 5 per cent solution of sodium cyanide to 5 ml. of urine and then adding 2 drops of sodium nitroprusside and noting the magenta color that develops if cystine is present.

Infants with cystine renal stones or with cystinosis will give the most markedly positive reaction. These children usually give the history of retardation of growth and development with anorexia, constipation, and vomiting, along with polyuria and polydipsia and frequently a craving for meat during the second year of life. The blood phosphate will likewise be low.

The importance of microscopic examination of fresh urine within one to two hours is as important in children as in adults. Caution must be taken not to rule out pyelitis by a single urine examination in those cases of obscure fever or abdominal pain. Two or more examinations on centrifuged specimens may be necessary. However, infant's urine frequently has starch granules from diaper powder as well as occasional oil droplets from baby oil which may be confused with pus cells. Calcium oxalate crystals as well as yeast cells from girls may appear as red blood cells.

The reporting of an infant's urine specific gravity of 1.020 or more may make you suspicious of technic inasmuch as infants older than one week of age are seldom able to concentrate their urine that well. Because the infant cannot concentrate his urine, he needs to urinate more frequently. Parents with babies will attest to this physiologic phenomenon.

The presence of albumin in the urine of children is a frequent finding. Caution should be exercised so as not to diagnose nephritis or nephrosis too quickly. One can state that the finding of protein in the urine of children is not a sign of primary renal disease. Normal children have been found to have intermittent proteinuria, especially at adolescence. Exercise alone will cause this. Selman *et al.*[1] have reported that 24 out of 26 high school football players showed some degree of proteinuria. The finding of absent proteinuria in the first morning specimen with its presence later in the day is well known as orthostatic albuminuria. Probably the chief causes of proteinuria are fever and infection, especially pulmonary and gastrointestinal.

A word of caution should be given about not missing a marked albuminuria in nephrosis by the failure to acidify the urine with acetic acid before boiling. On occasion I have been able to demonstrate to students that a urine from an early nephrotic patient showed no albumin by the simple boiling procedure but, when acidified first, disclosed a 3 to 4 plus albumin.

The finding of glucose or, more correctly, reducing substances in the urine of children probably causes more dilemmas than any single finding in routine examinations. That glucosuria can be produced by emotions, excessive intake of glucose orally or intravenously, or fever is well known. However, the 1 plus reactions are generally caused by too long exposure to heat and sloppy pouring of excess urine into the Benedict's solution. There are certain diseases in children which will produce melituria or sugar in the urine, namely, lead poisoning, galactosuria, and occasionally glycogen storage or von Gierke's disease.

The last two diseases are probably limited to children. Galactosuria is sometimes called galactose diabetes and may be associated with cataracts of the eyes, stunting of growth and/or cirrhosis of the liver, or even jaundice in the newborn period. Removing milk from the diet is usually curative. Therefore, it is worth while to identify the reducing substance as galactose or even to measure the galactose in the serum in those infants with cataracts or in those who are developing poorly. These infants may likewise have amino aciduria.

The glycogen storage disease produces marked enlargement of the liver (or the heart in some cases), weak musculature with retardation of growth and development, and occasionally symptoms of hypoglycemia. Children who live to three or four years of age have a characteristic baby-like expression. This disease can be confirmed by the finding of low blood sugar, ketonuria, and a prolonged or delayed fall in the dextrose tolerance test. Specifically, there will not be any rise in the blood sugar following the intramuscular injection of epinephrine. This adrenalin-glucose test should be done on all unexplained cases of hepatomegaly in infants.

I believe another word of caution should be mentioned as to the regulation and diagnosis of diabetes in children. This disease in children does not have the same insidious onset as in adults. In contrast a child may have urine negative for sugar one week and diabetic coma one week later. Acute abdominal pain with abdominal muscle rigidity is frequently the presenting complaint in these cases. Therefore, one should always repeat the Benedict's test for glucose in these cases or on any child suspected to have appendicitis or a surgical abdomen.

If a diabetic child has eaten poorly for some days and has exhausted both the relative glycogen and glucose stores of his body, his urine may show no glucose at all. A marked positive test for ketones may be present, however. A blood glucose at this time may not be elevated. This is much more common in children under three.

The converse of this finding occurs with renal damage or with the insulin correction of the diabetes. The renal threshold for glucose remains low or lags behind so that 3 and even 4 plus glucosuria may occur with a normal blood sugar—hence, the dictum of not treating diabetes solely by the amount of glucose in the urine.

In the final appraisal of persistent glucosuria as to whether or not it represents diabetes, one should do a fasting and a postprandial blood glucose. We make the diagnosis of diabetes in children if the fasting blood sugar is 130 mg. and the postprandial venous blood sugar rises to 170 mg. or greater or if the postprandial capillary blood sugar rises to 200 mg. in the presence of glucosuria.

A brief mention can be made of a test on the urine of children suspected to have lead poisoning. Although the ideal procedure is to have the twenty-four-hour urine lead excretion measured, a rapid, indirect test may be employed as a screening method to detect coproporphyrin in the urine. This is performed by acidifying 5 ml. of urine with a few drops of dilute sulfuric acid, adding 5 ml. of ether, and shaking well for five minutes. Then the presence of pink fluorescence in the ether layer is observed on exposure to ultraviolet light (Wood's lamp). A normal urine will give a greenish-blue color. Therefore, a clinical diagnosis of lead poisoning can be made on establishing three of the major symptoms or signs of lead poisoning. These can be considered to be (1) secondary anemia with basophilic stippling of the red cells, (2) coproporphyrinuria, (3) glucosuria in the presence of normal blood sugar, (4) x-ray evidence, (5) clinical nervous system symptoms, and (6) vomiting, cramps, and constipation.[2]

One test that should be done routinely on infants' urine is the Gerhardt or ferric chloride test. This test is commonly done for the detection of acetoacetic acid along with the nitroprusside test for acetone bodies. In the fresh urine there is four to ten times more acetoacetic acid than acetone. On standing, the acetone in the urine increases from decomposition of acetoacetic acid. Normally the nitroprusside test is most reliable for detecting mixtures of acetone bodies. This test is found positive in children with fever, vomiting, or starvation from any illness. However, the ferric chloride test will diagnose other diseases in children as well.

This test is performed by adding a 10 per cent solution of ferric chloride to 5 ml. of urine drop by drop until the precipitate of ferric phosphate, which is formed, is redissolved. A deep Bordeaux red color develops if diacetic acid or beta-hydroxybutyric acid is present. However, significantly, it will detect the presence of salicylates by the same color reaction, provided acetone is removed by previous boiling of the urine. This may be the sole clue as to the etiology of the hyperpneic, severely ill infant considered to have pneumonia or even possibly diabetes. This child may be suffering from aspirin poisoning as a result of overdosage or accidental ingestion. The presence on the market today of so-called "baby aspirin" containing from 1 to $2^1/_2$ grains causes confusion and has been producing salicylate intoxication by overdosage even when prescribed by the physician. These infants' conditions may resemble diabetic comas, and the salicylates in the urine may give a false positive test for glucose by the Benedict's test as well.

Another entity which may be diagnosed by the ferric chloride test is a not infrequent disease called phenylpyruvica oligophrenia. Children with this disease tend to be blond, blue-eyed, well-developed, handsome idiots or imbeciles with or without eczema and/or convulsions. Their urine will turn light green to dark bluish-green on the addition of ferric chloride because of the presence of phenylalanine and its breakdown products in the urine. Every retarded infant or child should have this test performed because it appears that in the near future these children will be able to be treated.

Rarer diseases, such as alcaptonuria and melanosarcoma, can be diagnosed by the dark blue to black color formed by the dropping of ferric chloride into the urine. These colors are due to homogentisic acid or melanin excreted in the urine.

Spinal Taps

Spinal taps in infants and children are frequently "bloody taps" even in most experienced hands. Frequently, when it is most important to know the white cell count, the fluid will be found to be contaminated with blood. In desperation one can obtain a relative estimation of the total white cell count by finding the ratio of leukocytes to erythrocytes in the peripheral blood; that is, if the red blood cell count is 4,000,000 and the total white blood cell count is 10,000, the ratio is 1 white cell for every 400 erythrocytes. Therefore, by knowing the total red and white cell count from the spinal fluid, one can subtract 1 white cell for every 400 red cells counted. This ratio of 400:1 is relatively close and can be used if one so desires.

Total protein can still be determined on this bloody spinal fluid, provided one subtracts 1 mg. of protein for each 500 red blood cells counted by the chamber method.

Many hospitals' laboratories close on week ends and nights; therefore, it is impossible to obtain a spinal fluid sugar to assist in the differentiation of bacterial meningitis or encephalitis. The glucose will fall on standing overnight, and the resulting test may not be reliable. It is possible to do a semiquantitative test for spinal fluid glucose by the use of six test tubes and ordinary Benedict's solution.

This test is performed by placing 1 ml. of Benedict's solution in each of six test tubes and then adding 1 drop of spinal fluid to the first tube, called tube 1, two drops to the next, three to the next, and so on, increasing the amount so that the last tube, called tube six, has 6 drops. Heating of these tubes for five minutes in boiling water and allowing to cool, as is done for urinary glucose, will produce some reduction and greenish discoloration in some of the tubes. Reduction in tubes 4, 5, and 6 and sometimes tube 3 is the normal finding and indicates a sugar level of 50 mg. per 100 ml. or more. The absence of reduction in tube 6 denotes a pathologically decreased amount of sugar, such as would be found in bacterial meningitis or hypoglycemia. Reduction in all the tubes may occur in diabetic coma and may be misdiagnosed as encephalitis.

Before leaving the subject of spinal fluid, it should be mentioned that here too the ferric chloride test performed on the fluid will give the Bordeaux red color if the patient's coma is due to salicylate or aspirin poisoning. A salicylate level of over 30 mg. per 100 ml. in the blood will help establish the diagnosis.

Blood Examination

In the discussion of blood examination in children it will suffice to remind one of the marked variation in the differential and total red and white blood cell count which exists throughout the first year and a half of life. This is only a reminder not to diagnose lymphocytic leukemia at that age when the infant normally has a lymphocytosis, namely, from the second week of life to two years of age.

The other danger is to consider the presence of leukemia, infectious mononucleosis, or infectious lymphocytosis when the older child has 50 per cent lymphocytes on differential count. If the total white count were normal or elevated, one could consider these diseases. However, if the total white cell count is low, one is dealing with a relative lymphocytosis with a leukopenia which is actually a neutropenia. The differential count is not misleading if the absolute number of each cell is calculated.

Frequently a child is purgated for worms merely because the physician found what he thought was "eosinophilia" but which actually was a neutropenia or a lymphopenia. This is called a relative and not an actual eosinophilia. Conversely, a normal eosinophil percentage with a leukocytosis is an eosinophilia. A normal lymphocyte percentage with leukocytosis is a lymphocytosis. Thus, it is not advisable to stress the percentages of the cell varieties on differential examination of the blood smear, but instead the absolute number of each cell should be calculated; that is, the cell percentage is multiplied by the total white cell count.

Children very frequently have lymphocytes which are indistinguishable from the atypical lymphocytes of infectious mononucleosis. These appear usually with the so-called viral infections. Of children having infectious mononucleosis, 85 per cent will have positive liver function tests, such as cephalin flocculation and the thymol turbidity tests. These tests, therefore, may give an earlier clue to the diagnosis of infectious mononucleosis.

With the growing use of paper electrophoresis and the chemical identification of the various types of hemoglobin, many anemias, such as Cooley's and sickle cell, are being recognized more readily. However, it is certainly worth while to make the test for sickle cell trait or anemia a routine procedure for all Negro patients. This is done on all Negro children over six months of age in the Department of Pediatrics at Albany Medical College. It can be done by making up a 2 per cent solution of sodium metabisulfite. This is easily done by dissolving a 200-mg. tablet, which is commercially available, in 10 ml. of water. One or two drops of this solution are added to 1 drop of capillary or venous blood on a glass slide. After mixing, a cover glass is dropped on the mixture. The resulting thin smear is then examined at fifteen and thirty minutes for the typical sickle cells.

Other Tests

Small infants may have a prolongation of jaundice for one or more months because of A-B-O incompatibility, prematurity, hepatitis, inspissated bile, or biliary atresia. It is difficult to rule out the congenital absence of bile ducts. Because surgery gives such a poor prognosis, it must be avoided, if possible.

The following test will confirm the presence of patent bile ducts if it is positive. Ordinary bromsulphalein or bromsulfonthalein, 5 mg. per Kg., intravenously. The infant's stools are then collected for twenty-four hours. Since bromsulphalein is eliminated by the liver, if any bile is being eliminated at all, the bromsulphalein can be demonstrated in the stools. This is done by simply streaking a small stool specimen over a filter paper wet with any strength sodium hydroxide by the use of an applicator stick. A light lavender discoloration confirms the presence of bromsulphalein and the patency of the bile passages.[3]

Another test which has been developed in our department is the nasal smear for measles.[4] Most of us are only able to be suspicious of measles in those children with prolonged fever and bronchitis and must await the unreliable observation of Koplik's spots. If the glary mucus around the turbinates of the nose is aspirated, using the curved glass tubing as is used in vaginal aspirations, then dropped on a glass slide, allowed to dry, and then stained with ordinary Wright's stain, one can diagnose prodromal measles days before the rash begins. This is accomplished by observing multinucleated giant cells which so far have only been found in measles.

The differentiation of celiac disease and sprue from pancreatic fibrosis or pancreatic insufficiency is confusing to many. In all these entities a retardation of growth with frequent foul stools is present. Celiac disease and sprue are apparently absorptive defects which can be demonstrated by doing an ordinary glucose tolerance test. The resulting curve will be relatively flat inasmuch as 20 to 25 mg. will be the maximum rise in the blood sugar.

In pancreatic fibrosis and pancreatic insufficiency, where the external secretion of the pancreas is diminished or absent, one will have a normal glucose tolerance curve. However, if 1:5 and 1:10 dilutions of stool are made and a drop of each is placed on exposed but not developed gelatin x-ray film, there will be no digestion of the gelatin layer after incubating one hour at 37 C. or room temperature. Normally, there will be digestion in the 1:10 dilution or even higher if a loose or laxative stool is used.[5]

Conclusion

In conclusion, one can state that many so-called bedside tests have been developed for blood pH and carbon dioxide content and various other blood constituents, but time does not permit further elaboration. However, I should like to stress that one should avoid considering any particular test as just routine. In so doing, you will forget that the specimen belongs to your patient and that the laboratory is for your assistance, not just for the purpose of receiving specimens.

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RECENT ADVANCES IN MEDICINE AND SURGERY

A series of review articles dealing with medical progress

ROBERT TURELL, M.D., *Editor*

Recent Advances in Surgery of the Heart and Aorta, 1955

CLARENCE J. SCHEIN, M.D., AND ELLIOTT S. HURWITT, M.D., NEW YORK CITY

(From the Surgical Division of the Montefiore Hospital)

The successful obliteration of a patent ductus arteriosus on August 26, 1938, by Gross in Boston inaugurated an era of tremendous progress in cardiovascular surgery. Increasing knowledge of the physiology of the cardiovascular system under normal and abnormal conditions and of anesthesiology has kept pace with and contributed to the advances in diagnosis and in technics of anesthesia and surgery. The expanding availability and scope of efficacy of the antibiotics, improved understanding of the problems of blood and fluid loss and electrolyte imbalance, and better facilities for the restoration of the homeostatic equilibrium have made operations possible that could hardly have been undertaken when this surge of activity was started seventeen years ago.

Basic Concepts

EMBRYOLOGY.—Congenital cardiac defects follow specific patterns since they represent alteration in the normal growth and development of the heart in its change from an initial tubular structure to a complex pump which has undergone torsion, septation, and chamber differentiation in specific relation to its associated major vascular channels. The configuration of the heart is usually established by the eighth week of intrauterine life. Anomalies are due to arrests of developmental processes, persistence of intrauterine structures into postnatal life, or to maldevelopments during the processes of septation, vascularization, or venous return.

In intrauterine life the lungs do not function, and the heart is adapted to minimizing the pulmonary blood flow by patency of the ductus arteriosus and foramen ovale. The function of the fetal lung is mediated by the placenta. However, at birth there is immediate need for establishment of a pulmonary exchange of oxygen and carbon dioxide; thus, with establishment of respiration the direction of flow in the ductus is reversed, and blood flow through it ceases. The associated rise in pressure in the left auricle favors closure of the foramen ovale. These factors constitute the transition of the normally developed heart from the intrauterine to the postnatal state.

In congenital heart disease cyanosis is an indication of a marked abnormality. It is due to the presence of at least 5 Gm. per cent of reduced hemoglobin in the circulating blood and in many cases is directly attributable to a large shunting of venous blood directly into the peripheral circulation. Abnormalities in the pulmonary circulation of significance in this regard are the inadequacy of blood flow to the lungs, impaired oxygenation of the existing blood flow, or failure of return of oxygenated blood to the systemic

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Aided by a grant from the New York Heart Association.

circulation. Lack of oxygenated blood is associated with polycythemia and anoxemia. The occurrence of cerebral thrombi in association with the former is of great clinical significance in congenital heart disease. There is often an associated retardation of growth.

Cardiac Catheterization.—Cardiac catheterization consists of inserting a special catheter into the right auricle via an antecubital vein. Under fluoroscopic guidance the catheter is manipulated into the right ventricle and pulmonary artery and out toward the pulmonary capillary wedge area. Occasionally the catheter may pass through septal defects or anomalies of venous return. During its residence in the heart, pressure tracings, blood, oxygen, and carbon dioxide saturations, and x-rays are obtained at various levels. From the information so obtained, the site, extent, and direction of shunts can be recognized and calculations of systemic, pulmonary, and shunt blood flows made. It constitutes a form of anatomic intracardiac mapping. It also permits the determination of cardiac output and estimation of valve areas. Catheterization is not without risk. It should be carried out in cases in which septal defects and obstruction to the pulmonary outflow tract are suspected. Catheterization has particularly great value in defining obscure cardiac anomalies.

Cardiac catheterization is limited to the right heart, but direct puncture technics have made is possible to determine pressures and saturationt within the left heart. Bjork[19] described a method of percutaneous transthoracic puncture of the left auricle using an 18-gauge, thin-walled needle introduced paravertebrally. It is possible to thread a polyethelene tube through the left atrial needle into the inflow and outflow tracts of the left ventricle. Allison[15] popularized the method of obtaining left atrial pressures transbronchoscopically; under topical anesthesia a long needle attached to a suction tip is introduced through the anterior wall of the left main stem bronchus at the level of the carina. This introduces the needle directly into the left auricle. He has extended this technic to include direct puncture of the aorta and pulmonary artery. Pressure-pulse curves thus obtained are particularly valuable in determining the degree of mitral regurgitation. A critical evaluation of the data obtainable by the conventional and transbronchial catheterization technics is in progress in this hospital.[53] By a combination of methods it is possible to determine pressures and saturations in each of the cardiac chambers. Shunt flows are determined by the formulas described by Cournand.[4] There is an occasional anomaly in which an exact diagnosis cannot be made preoperatively, and surgical exploration is carried out. In addition to the exploration of the heart digitally, direct pressure measurements at the operating table are used, not only for localization but also for determining the results of corrective surgery.[65]

Angiocardiography.—Angiocardiography is performed by injecting a dye rapidly into one of the large antecubital veins and taking a series of roentgen films in rapid succession. By this means an exact visualization of the dye is obtained as it courses through the cardiac chambers and major vessels. This procedure sequentially outlines the cardiac chambers and course of blood flow. It demonstrates abnormalities of the great vessels, differentiates the position of mediastinal masses, and offers a clue to the thickness of the ventricular walls, as well as to overriding vessels, and indicates the position and size of shunts. A method of biplane right-angle angiocardiography that permits up to 12 exposures per second has been developed. This increases the accuracy of preoperative localization and is especially important in infants with a rapid heart rate.[16,64] By use of the Philips fluoroscopic screen intensifier, the flouroscopic image may be photographed (cineangiography) during the transit of dye within the cardiac chambers. This permits simultaneous visualization of cardiac contractility, chamber size and relationships, and the course of the radiopaque dye. In the cyanotic child angiocardiography carries some risk; a fatal reaction is estimated as occurring once in 300 injections. Multiple injections increase this risk.

Aortography.—Aortography is necessary to delineate lesions of the major vessels. Retrograde catheterization of the femoral artery is best performed under fluoroscopic control. The tip of the catheter is advanced until it comes to lie near the area of disease. Rapid injection of 70 per cent Urokon and the Fairchild camera x-ray technic of multiple exposures may permit delineation of a patent ductus arteriosus or aortic pulmonary window and also may show the length of coarctations and the extent of aneurysms of the aorta. The femoral artery wound is closed with silk sutures. This direct technic is more reliable than percutaneous puncture for visualization of the thoracic aorta. Translumbar aortography, according to the method described by DosSantos, is utilized for the visualization of abdominal aortic aneurysms and/or thrombotic occlusions of the aortic bifurcation (Leriche's syndrome). In our experience it is preferable to perform these procedures under general anesthesia.

Case Management

Cardiovascular Conference.—Cardiovascular surgery is performed, for the most part, in medical centers where the talents of the various hospital services can be coordinated to the optimum degree. The basic appraisal of each patient must include a thorough history and physical examination, cardiac fluoroscopy and roentgenographic study (including films made after a barium swallow in the posteroanterior and both oblique projections), electrocardiography, measurements of blood pressure, venous pressure, and circulation time, and analyses of the urine and blood, including the erythrocyte sedimentation rate. The information available by angiocardiography, aortography, ballistocardiography, and cardiac catheterization may be essential in some of the cases of congenital and acquired lesions before a valid decision concerning surgery can be made.

The tendency to eliminate some of these procedures in dubious cases, under the guise of economy or saving time, can only be deplored. Many patients explored and found to have situations which preclude the possibility of improvement do badly during or after operation. A maximum of information preoperatively offers the greatest potential for reducing the number of these unrewarding explorations to a minimum. On the other hand, except under situations where basic data are under study, the majority of the classic cases of patent ductus arteriosus, coarctation of the aorta, "pure" mitral stenosis with marked pulmonary hypertension, and others may reasonably be offered surgery without resorting to these special technics. A cardiovascular surgical conference or other device for obtaining a joint consultation type of opinion, in which cardiologists, radiologists, physiologists, and surgeons collaborate and air their views freely, is often provocative of discussion that is of real value in deciding the place of surgery for each case. Such meetings provide the opportunity for careful consideration of all of the data, assure the patient of maximum consideration, and afford an excellent teaching conference. The organization of the cardiovascular surgical conference at the Montefiore Hospital has been the subject of a separate report.[66]

Many surgical procedures have been proposed during the comparatively short period of time since it was first demonstrated that these lesions need not be considered beyond the surgeon's domain. For the sake of convenience one may consider separately the operations for congenital and for acquired cardiovascular problems. Within each category will be presented, first, the operations which have attained general acceptance as standard surgical procedures and, second, procedures which are still best considered to be in the experimental phase.

Conduct of the Operation.—It is recognized that the role of the anesthesiologist during all of this work is of paramount importance. As in all open chest surgery, endotracheal anesthesia is used, employing a minimum number of agents. An electrocardiographic record during operation and the presence in the operating room of a cardiologist to interpret and help correct early changes in cardiac rhythm or rate are advisable. An electric defibrillator is essential to manage the possible complication of ventricular fibrillation. Other apparatus, including an oximeter, pressure manometers, and facilities for the measurement of blood loss and the rapid replacement of blood, are also desirable. All this implies a concentration of coordinated activity greatly in excess of that required during other types of surgery.

Postoperative Care.—Close observation during the immediate and early postoperative periods is indispensable. This is best conducted in a recovery suite located in continuity with the operating rooms. Such a suite, staffed by a special crew of nurses specifically trained in the detection and management of complications in the postoperative cardiac patients, should be completely equipped with oxygen and suction at each bed, as well as sufficient basic equipment to be a self-sustaining unit. An obstructed airway leading to various degrees of pulmonary collapse, intrathoracic bleeding (verified by drainage through the intercostal tube connected to a water-seal system and left indwelling for at least twenty-four hours), and shock are the early problems. Particularly following mitral valvular surgery, a considerable increase in the digitalis need often appears during the first five days after operation with tachycardia, arrhythmia, and cardiac decompensation. Prompt correction of these and other changes may be lifesaving.

What is the outlook for the patient who is ready to be discharged from the hospital? It must be emphasized that most of these operations are palliative rather than curative. True, this palliation may be extraordinary in degree, with rehabilitation of cyanotic children and adult invalids with mitral stenosis to an extent where they may lead normal lives; but they do not have normal hearts. Increasing the flow of blood to the lungs improves the prognosis but does nothing about the other lesions for a child with a tetralogy of Fallot. Opening the stenotic mitral valve in a rheumatic cardiac will increase the cardiac output and lessen the pulmonary hypertension but cannot restore the integrity of the already diseased myocardium or the changes in the pulmonary parenchyma.

These people must continue under the care and supervision of the cardiologist for the rest of their lives. Many will continue to require digitalis and diuretics as well as restrictions in diet and activity, all less in degree than preoperatively but no less important. These do not indicate operative failure but must be recognized as limitations of the procedures. Patients with a patent ductus arteriosus, coarctation of the aorta, or vascular ring can be cured; some of the most recent operations for isolated pulmonic stenosis and for auricular septal defects may eventuate in cures; most of the remaining procedures must be considered as lifesaving or palliative.

Congenital Cardiovascular Defects

Definitive Procedures

Patent Ductus Arteriosus.—Normally this shunt between the pulmonary artery and the aorta, which diverts the flow of blood away from the lungs during intrauterine life, closes spontaneously within a few weeks after birth of the infant. Failure of closure results in a persisting arteriovenous fistula. In the majority of instances the dynamic complications of such a fistula lead to an increased blood volume and eventually to cardiac failure. Other complications include infection, with the development of subacute bacterial endarteritis, aneurysmal dilatation, and pulmonary hypertension.

The diagnosis can usually be made on standard clinical and radiologic grounds. These patients are not cyanotic unless there is reversal of blood flow in the ductus or congestive heart failure. The presence of a machinery type of to-and-fro murmur and thrill over the second interspace to the left of the sternum, also audible in the back, substantiated by a wide pulse pressure, a prominent pulmonary artery segment, and pulmonary vascular congestion, are indicative of the lesion, although these signs may be caused by a defect in the septum between the first portions of the aorta and pulmonary artery. In dubious cases cardiac catheterization and/or angiography may identify the ductus by revealing simultaneous opacification of the aorta and pulmonary artery.

Operation aimed at effective closure of the ductus is usually performed after the third year of life, and the majority of reported cases have come to surgery during the first decade. There is no reasonable hope for spontaneous closure after two years of age. Infants that are doing badly may require surgical intervention earlier, and at the other end of the scale adults in the fifties may be operated on. Complete division of the ductus is advocated by Gross, Potts, and others; many centers prefer the Blalock obliteration technic, employing multiple suture ligatures. The latter would appear to be less hazardous and equally effective when properly performed. The patent ductus may be the compensatory mechanism of maintaining adequate pulmonary blood flow in patients with tetralogy of Fallot, tricuspid atresia, truncus arteriosus, and in instances of congenital transposition of the great vessels. In such cases closure of the ductus may be lethal. At operation, therefore, temporary occlusion of the ductus is first undertaken in order to be sure that its closure is compatible with adequate pulmonary blood flow. In the presence of left ventricular failure and pulmonary hypertension, a right-to-left shunt develops with entry of unsaturated pulmonary artery blood under high pressure into the lower pressure aortic system, resulting in variable degrees of cyanosis of the lower extremities. This reversal of flow within the ductus is a relative contraindication to surgery.[38] The presence of active infection in the ductus, as manifested by fever and positive blood cultures, is an indication for specific antibacterial therapy to sterilize the lesion, followed within a few weeks by operation. If antibiotics or chemotherapy are ineffective, the operation should not be deferred for it may succeed in eliminating the infection as well as the shunt.

Because of the probability of a shortened life span, cardiac invalidism, or impaired physical development, all children and young adults with a patent ductus should be operated on even in the absence of symptoms. Well over 3,000 cases of patent ductus arteriosus have been operated on in this country with an over-all surgical mortality of about 5 per cent, falling to below 3 per cent in a few of the larger clinics. The remaining patients are cured.

Aortic-Pulmonary Artery Fistula.—As already indicated, this lesion may be indistinguishable from a patent ductus arteriosus except on exploration of the chest. Whereas the latter is usually remarkably constant in location, communicating with the aorta a short distance distal to the origin of the left subclavian artery, the oval windows between the first portions of the aorta and pulmonary artery may be situated at a variable distance from the base of the heart. Occasionally a catheter may be passed from the pulmonary artery directly into the fistula, proving the defect. In contrast to a ductus, the thrill encountered at operation is at the base of the heart, and the turbulence is not obliterated by compression in the area of the ligamentum arteriosum, around which the recurrent laryngeal nerve invariably courses as an infallible guide to its position. Gross[33] successfully ligated such a fistulous communication; Scott and Sabiston divided the fistula between clamps and closed each end; a successful closure has also been accomplished by Varco.[54] A few such lesions well beyond the coronary ostia have been successfully obliterated. Exploration is indicated in any case since the defect represents a left-to-right shunt.

Coarctation of the Aorta.—The surgical therapy of this disease was described independently by Gross and Crafoord in 1945. The presence of a segment of marked narrowing of the thoracic aorta, at times amounting to complete obstruction, is one of the few causes of systemic hypertension in children. The finding of elevated blood pressures in the arms, lower or absent pressures in the legs, absent femoral pulsations, and a systolic murmur in the area of the scapula suffices to suggest the diagnosis. A difference of blood pressure of 30 mm. of mercury or more in the arms suggests constriction within the arch of the aorta itself, due either to hypoplasia of the left subclavian artery or to proximal extension of the coarctation to the mouth of the subclavian artery. Rib notching seen on the roentgenogram of the chest is a manifestation of the extensive collateral circulation in the chest wall and is seen only after the age of eight to ten years. Symptoms, when present, are usually those of hypertension. The hypertensive sequelae, including cardiac hypertrophy and decompensation, cerebral hemorrhage, and rupture of the aorta, as well as infection, account for the fact that only 25 per cent of these untreated patients survive beyond the fortieth year.

Angiocardiography or aortography, while not mandatory, may aid in disclosing an atypical location or an unusually long coarcted segment. Classically these are situated in the customary location of the insertion of the obliterated ductus arteriosus (patent in about 10 per cent of coarctations). Bicuspid aortic valve is a frequently associated anomaly. Instances of operable stenosis lower in the thoracic aorta have been reported.[32] Coarctation of the adult type begins distal to the left subclavian artery. When the coarctation extends proximally to involve the arch of the aorta, it is referred to as the "infantile type." Here the origins of the great vessels are also involved. There is usually only a very small collateral circulation, and the lower extremities are supplied by a patent ductus carrying venous blood. Hence, cyanosis and clubbing limited to the lower extremities suggests the condition. Surgical intervention in infancy is indicated in the presence of impending heart failure and has been successfully performed by Deterling, Kirklin, and others.[43,51] Since experience with the growth of aortic anastomoses is not yet definitive and since these very small vessels present increased technical difficulties, the operation is best deferred until the surgical situation is more favorable.

Resection of the coarcted segment with direct suture anastomosis of the divided ends of the aorta, as developed by Crafoord and by Gross, is the operation of choice. Interrupted mattress sutures of fine arterial silk are thoroughly satisfactory. Anastomosis of the left subclavian artery to the lower aortic segment has proved to be less satisfactory with regard to blood flow, and rare instances of compromise of circulation to the forearm have occurred.[45] When the stenotic vessel is too long to permit the first procedure, preserved homologous aortic grafts are used to bridge the gap. Blood vessel banks have been established to make segments of vessels available for such contingencies, and the methods of preservation include tissue-culture solutions, freezing, cathode-ray irradiation, and ethylene dioxide preservation.

Elimination of the coarctation results in a lowering of the blood pressure in a few weeks and restoration of pulses in the legs immediately. The optimum age for operation is in the second decade; the early occurrence of sclerotic changes in the aorta makes the operation more hazardous in older individuals. Associated cardiac and valvular defects constitute additional contraindications to surgery. The over-all operative mortality is in the range of 5 to 8 per cent.

Vascular Rings.—Gross was the first to demonstrate that the syndrome of "Dysphagia Lusoria" could be treated surgically. The syndrome of partial or complete compression of the esophagus and the trachea is caused by an encircling vascular ring. This may be a double aortic arch, aberrant right subclavian artery arising retroesophageally from the thoracic aorta, anomalous left common carotid artery, anomalous innominate artery, or a right aortic arch with a left ligamentum Botalli. The surgical treatment consists essentially of division and separation of the lesser of the encircling arches so as to accommodate the trachea and esophagus. These infants are studied by preoperative visualization of the trachea and esophagus with or without contrast media. Anteroposterior tracheal compression can be seen on flat film. The majority of these serious malformations appear in the early years of life and are manifested by varying degrees of dysphagia or dyspnea. Complete obstruction may be impending and early operation lifesaving.

Pulmonic Stenosis.—Pulmonary stenosis impedes the flow of blood into the lungs. Stenosis of the pulmonary valve, as an isolated lesion, in association with an interauricular septal defect, or as part of a tetralogy, must be distinguished from other types of cyanotic heart disease; one must also determine whether the stenosis is limited to the valve cusps (pure) or whether it is in the distal portion of the outflow tract of the right ventricle (infundibular type) due to a hypertrophied supraventricular muscle mass. Pure pulmonary stenosis often has no associated anomaly. Cardiac catheterization is of real value in establishing the degree of elevation of right ventricular pressure in this condition in which right-sided cardiac enlargement and strain often precede the onset of fatigue or cyanosis. In those instances where the catheter can be pulled back from the poststenotically dilated pulmonary artery into the right ventricle, the exact site of constriction may occasionally be demonstrated. The diagnosis is made by the presence of a murmur, x-ray, and cardiac catheterization findings. Symptoms vary with the degree of block to the pulmonary outflow tract. The presence of markedly increased right ventricular pressure is an indication for operation since the appearance of cardiac failure usually heralds a rapidly progressive downhill course.

Patients with few symptoms, minimal impediment to pulmonary blood flow, and only slightly elevated right ventricular pressure, who tolerate the anomaly well, need not be operated on.[55] Pulmonary valvulotomy by way of the right ventricle, as developed by Brock,[22] has been most satisfactory in relieving the obstruction without the creation of an additional defect. It is important to determine at the time of operation that the valve has been opened sufficiently manometrically by demonstrating a fall in right ventricular pressure. This may require several thrusts at the valve. Pott's instruments with the adjustable umbrella dilator, Hegar dilators, and the spreading of a curved clamp facilitate this blind valvulotomy. Operative mortality varies from 5 to 20 per cent. Valvulotomy under direct vision in a bloodless field is used as a more definitive technic since it permits the procedure to be a deliberate one, tailored to fit the needs of the individual valve.

Interauricular Septal Defect.—Defects of the lower portion of the septum above the tricuspid and mitral valves are referred to as ostium primum defects; those involving the upper septum are known as septum secundum defects. These openings are sometimes accompanied by a maldevelopment or stenosis of the mitral valve or by the anomalous insertion of one or more pulmonary veins. The diagnosis is confirmed by cardiac catheterization demonstrating increased oxygen content in the right auricle in comparison to the superior vena cava and varying degrees of increased pulmonary blood flow and pulmonary hypertension. An exact method of preoperative demonstration of the defect has been described by Bjork. This consists of selective angiocardiographic injection of the dye into the left atrium with multiple film exposures at the rate of ten per second. His second method of demonstrating the septal defect utilizes an inflatable balloon fixed to the catheter, which is expanded within the defect to outline its size and contour. Ostium primum defects are difficult to close because sutures in the upper portion of the interventricular septum compromise the common conduction bundle of His. Successful closure of interatrial septal defects, therefore, has been limited for the most part to those of the septum secundum type.

Patients with a left-to-right shunt in excess of 50 per cent of the pulmonary blood flow are candidates for surgery. The defect results in a recirculation of oxygenated blood through the right heart and lungs at the expense of the systemic circulation. Bailey has developed the operation of invaginating a portion of the redundant right atrial wall to the periphery of the defect, converting the right auricle into a doughnut-shaped chamber—a procedure he refers to as atrioseptopexy. Kirklin[44] has employed Ivalon sponges as a plug for closing the larger defects by the atrial well technic as devised by Gross. At present the most promising closed heart method of treating this defect is by the technic of Sondergaard and Husfeldt, as modified by Bjork and Crafoord.[2] A plane is developed between the right and left atria by separating the area between the superior vena cava and the right superior pulmonary vein. Under palpatory guidance of the finger introduced into the right atrial appendage, the septum is closed by sutures which pucker without impinging on the orifices of the cavae or pulmonary veins. This closed technic has replaced the earlier methods of invagination of the appendages (Swan), the plastic disks of Hufnagel, and the pericardial pocket of Shumacker. Swan[60] and Lewis and Taufic[47] favor closing these defects under direct vision in the open heart in a state of general hypothermia (21.5 to 26 C.) with a cessation of the circulation for periods of two to eight and one-half minutes. Cross-circulation technics using a living donor as a pump have also been employed for direct vision open heart closure of septal defects.[48] Currently, the concept of reduced blood flow, employing a continuous transfusion of donor-oxygenated venous blood obtained by warming the arm of the donor prior to withdrawing blood, has been employed to replace the human donor in open heart cross-circulation procedures. Associated pulmonary venous anomalies or mitral stenosis may be correctable in some instances at the same time as repair of the septal defect, by either the closed or open technics.

Interventricular Septal Defect.—Small interventricular septal defects with minimal shunt are well tolerated. Larger shunts decrease the effective cardiac output because of the diversion of oxygenated blood into the right ventricle and pulmonary artery. The degree of cardiac disability varies with the percentage of total cardiac output that is diverted from the systemic circulation. These septal defects have been closed with open heart surgery, made possible under general hypothermia, or by controlled cross-circulation technics, or by use of the bubble oxygenator. This has been applied to pure septal defects, as well as to the intracardiac correction of the tetralogy of Fallot.

Ectopia Cordis.—This is a rare congenital anomaly in which the heart lies partially or completely outside the mediastinum. The majority of reported cases have been associated with other cardiovascular anomalies. Successful replacement of the heart and suitable closure of the defect has been reported by Major.[49]

Anomalies of Venous Return.—A large systemic vein terminating in the left auricle may be a significant cause for cyanosis and may occur independently of any intracardiac lesion. Surgical correction of cyanosis due to a large left superior vena cava which inserted into the left auricle has recently been described from this hospital, together with an account of the technics employed in establishing such a diagnosis.[40]

Diverticulum of the Ventricle.—Although this is an extremely rare cardiac anomaly, Skapinker and Potts each have reported a case with a surgical cure. In each instance the diverticulum presented as a pulsating mass in the epigastrium and was resected, restoring the heart to normal.

Palliative Procedures

Tetralogy of Fallot.—The lesions contributing to this syndrome consist in the main of obstruction to the flow of blood through the pulmonary artery, right ventricular hypertrophy, an overriding aorta, and an interventricular septal defect in varying degrees and in combination with other anomalies. In contrast to pure pulmonary stenosis the obstruction in the tetralogy frequently lies in the infundibulum below the pulmonic valve and may present as a partial shelf or diaphragm. The pulmonary artery and its branches are usually smaller than normal. The basic problem is the lack of an adequate flow of blood through the lungs, and this deficit is manifested by cyanosis and hypoxia throughout the body, all aggravated by exertion or intercurrent illness and usually culminating in death at an early age. Collateral sources of oxygenation may derive from a patent ductus arteriosus or the bronchial arteries. The average duration of life in Abbott's series was twelve years. These children are cyanotic and exhibit clubbing of the fingers and toes. Polycythemia and right axis deviation are usual. The polycythemia and the associated increased blood viscosity predispose to intravascular thrombosis. Pulmonary infarction and cerebral thrombosis are common complications. Angiocardiography reveals an enlarged right ventricle, a right-to-left shunt, and simultaneous opacification of the ascending aorta and the pulmonary artery because of the overriding. The pulmonary fields show decreased vascularization. On cardiac catheterization the catheter may pass from the right ventricle through the septal defect or into the overriding aorta.

The fundamental contribution of Taussig and Blalock has been the development of a technic for ameliorating this situation by creating an anastomosis between the systemic and the pulmonary arterial circulations—in other words, an artificial patent ductus arteriosus. This may be effected by the use of the subclavian artery or other branch of the aorta (Blalock) or by the Potts procedure in which a side-to-side anastomosis is made between the pulmonary artery and the aorta. This latter procedure is particularly applicable to infants because of the size of their vessels. Any shunt procedure, however, creates an anomaly over and above the ones already existing. Direct pulmonary valvulotomy is feasible in the small number of cases of this condition in which a valvular obstruction exists. Subvalvular and infundibular resections have been less satisfactory and more hazardous. However, because of the rapidity with which the valve may be opened by this method, it is of particular value in the desperately ill child. When the operation can be deferred beyond the third year of life, the surgical mortality rate is reduced to about 6 per cent with 78 per cent satisfactory results. A mortality of 12 to 20 per cent is entailed in the operations necessitated at younger ages, due to the deteriorating status of the infants.

Tetralogy patients who have symptoms should be offered surgical intervention, avoiding operation if possible until at least the age of three years and preferably waiting until ages four to fourteen. Although the operation is not curative and surgical results are unpredictable, many of these children are greatly benefited. Best results are to be anticipated when the aortic overriding is minimal. Reference has been made earlier to the possibility of correcting some of those lesions by the newer technics of intracardiac surgery currently being developed. Patients are also now being seen who have experienced a recurrence of cyanosis, dyspnea, and fatigue after several years (five to eight) of improvement with an artificial ductus. Presumably they have outgrown their shunts and may obtain further relief by either direct intracardiac surgical correction or the construction of a second extracardiac shunt.

Transposition of the Pulmonary Veins.—When all the pulmonary veins enter into the right auricle or superior vena cava, life is impossible without the presence of an interauricular septal defect. Partial correction of the situation may be obtained by reimplanting the anomalous pulmonary veins into the left auricle.[50] Cardiac catheterization is essential in analyzing such a problem. In the isolated instances where only the right pulmonary veins enter the right auricle, their reimplantation into the left auricle could achieve a definitive result. The creation of an adequate interauricular septal defect permits oxygenated blood to pass into the left heart in those instances where all the pulmonary veins drain into the right side.

EXPERIMENTAL PROCEDURES

Some of these operations have been tried and found wanting; others are showing early promise of success but have not yet been afforded an adequate trial.

Tricuspid Atresia.—This anomaly of the tricuspid valve is associated with defects in the interatrial septum and a hypoplastic or rudimentary right ventricle. There is free atrial mixing of systemic venous blood. Differentiation from the tetralogy of Fallot defect is indicated by a left axis deviation in the electrocardiogram and by catheterization studies. The surgical palliative effort is directed at increasing the blood flow to the lungs by the creation of a ductus by either a Blalock or Potts procedure. Warden *et al.*[53] and Hurwitt *et al.*[41] have suggested anastomosis of the direct right atrial appendage to the pulmonary artery, seeking in this way to utilize the contractility of the enlarged, obstructed right atrial appendage as a pump with which to force blood into the pulmonary artery; this latter approach must still be considered experimental.

Transposition of the Great Vessels.—This anomaly occurs almost as frequently as does the tetralogy of Fallot. However, most infants die within the first few weeks, at the time that the ductus arteriosus or foramen ovale is obliterated for it is upon these shunts that life depends.

When the aorta arises from the right ventricle and the pulmonary artery from the left ventricle, survival can only occur if a septal defect is present in addition. Three types of procedures are being performed to correct this situation, with indifferent success for the most part. Blalock has created additional auricular septal defects plus a systemic-pulmonary arterial anastomosis, with a mortality of about 50 per cent. Bailey and Ripstein have each divided the aorta and pulmonary artery and reimplanted them, without success. Even if the vessels could be reimplanted extracardially, the coronary arteries would still continue to derive venous blood from the right ventricle. The most adequate approach to date is directed at transposing the venous systems. Shifting of the plane of the interauricular septum has also been a most provocative suggestion.[14] Lillehei and Muller and Bailey each have attempted to divide and reimplant, in stages, the pulmonary veins and venae cavae into the opposite auricles; this work is still in a developmental stage.

Eisenmenger's Complex.—In this situation all of the features of the tetralogy are present with the exception of pulmonary valvular obstruction. The pulmonary artery is large and may be huge. Cyanosis may be absent or late in appearing. Among the theories advanced for the pulmonary insufficiency has been the concept of arteriolar obstruction within the lung parenchyma. One possible means of improving this has been the attempt to narrow the size of the main pulmonary artery. It is too soon to evaluate this procedure adequately.

Acquired Cardiovascular Defects

DEFINITIVE PROCEDURES

Wounds of the Heart.—Suture of wounds of the heart was accomplished successfully by the end of the nineteenth century and for many years comprised the only approved type of cardiac surgery. Lacerations of the epicardium, coronary vessels, auricles, or ventricles all lead to hemopericardium and cardiac tamponade, with obstruction to venous return, low pulse pressure, muffled heart sounds, and impending death from either hemorrhage or compression. Immediate relief of all obstructive phenomena may be obtained by pericardial aspiration, which should be performed as soon as the patient has been examined and while the operating room is being set up. Pericardicentesis may not only be a temporary lifesaving measure but may also be curative since in many instances the original laceration will have become sealed. The vast majority of cases can be treated successfully by aspiration alone. A three-way stopcock is attached to the infusing needle; frequent venous pressure readings will indicate a rising venous pressure as a sign of continued intrapericardial bleeding. Evidence of unrelieved or recurrent tamponade or continued bleeding is an indication for prompt thoracotomy and control of the bleeding area, either by direct suture or by the application of an absorbable hemostatic sponge such as Gelfoam.

Foreign Bodies in the Heart.—Metallic objects may become lodged in a cardiac chamber or in one of the great vessels, either by direct entry or by migration from other areas in the body by way of the venous system. The indications for removing these fragments include the threat of further embolization (including cerebral injury), infection, weakening of the myocardium, and the psychologic hazard of knowing that such a lesion is present. The opportunity to remove shell fragments from the heart in a large number of otherwise healthy young men under modern surgical conditions arose during World War II. Technics were standardized, and highly successful series were reported by Harken and others.[34] When a patient presents a foreign body in the heart, such as a knife blade or icepick, a portion of which protrudes through the chest wall, no attempt should be made to remove this until the patient has been anesthetized and the appropriate pleural cavity opened so that all manipulation can be performed under direct vision and control.

Pericarditis.—The need for pericardial aspirations or pericardiotomy in the management of infections involving the pericardium has diminished markedly with the introduction of chemotherapy and the antibiotics. Pericardicentesis is sometimes still done for the mechanical relief of accumulated fluid, as well as for the direct administration of drugs.

Constrictive Pericarditis.—Frequently recurring ascites and collections of pleural fluid associated with a small quiet heart and evidence of obstruction both to venous inflow and cardiac output are the manifestations of constrictive or restrictive pericarditis with the attendant interference with filling. Profound disability and death from heart failure may result if surgical relief is not obtained. The lesion affects young males predominantly and is most frequently attributable to infection with the tubercle bacillus, despite the frequent failure of bacteriologic or histologic confirmation.

Pericardiectomy of as total an extent as is technically possible is the proper treatment. A variety of incisions have been proposed for this, including the vertical sternum-splitting, parasternal, transverse incision opening both pleural cavities and transecting the sternum horizontally, and liberal left transpleural approach. Complete liberation of both ventricles is attempted; authorities differ concerning the advisability or importance of approaching one ventricle before the other. There is also a lack of agreement concerning the necessity for decorticating the auricles, venae cavae, or pulmonary veins. There is considerable risk of perforating these latter structures, as well as of causing a tear in the ventricular myocardium during the decortication, and each step must be made deliberately and cautiously and in the proper plane.

The use of streptomycin in conjunction with other drugs and accepted methods for treating tuberculosis makes it possible currently to operate for adhesive pericarditis caused by this infection at a much earlier stage in the disease than formerly.[36] Such operations are technically easier and the possibility of a cure far greater than when the disease has been of longer standing. Pericardiectomy for constrictive pericarditis associated with rheumatic myocardial or valvular damage or with other infections entails a higher risk and a less optimistic prognosis.

Tumors of the Heart.—Definitive removal of primary tumors involving the pericardium or epicardium (lipoma) has been effected. The preoperative diagnosis of an intracardiac tumor (myxoma of the auricle) has been made on the basis of clinical and angiocardiographic evidence.[18,58] The removal of intracardiac tumors probably awaits the clinical use of an artificial circulation; Crafoord[24] has accomplished this with survival in one case to date.

Pulmonary Artery Embolism.—The operation described by Trendelenberg consists of removing an obstructing blood clot from the main pulmonary artery. The procedure has occasionally succeeded in saving the life of an otherwise doomed individual. While technically feasible, it is rare that the qualified surgeon and required equipment can be assembled sufficiently instantaneously to permit performance of the embolectomy before the patient has died.

Cardiac Arrest.—Sudden cardiac standstill may develop in the course of any major or minor operative procedure, including bronchoscopy. It may also complicate treatments performed away from the operating room. The underlying mechanism for this catastrophe is generally conceded to be hypoxia, whether this be on an anoxic (obstructed airway), anemic (blood loss), reflex, metabolic, or other basis. Successful outcome depends on prompt recognition of the condition and the institution of immediate measures to restore the circulation.

When the surgeon is working within the chest, he is in an excellent position to observe the development of cardiac arrest and to institute treatment promptly. Even here, however, it is often the anesthesiologist (or electrocardiographer) who will be the first to detect the complication, characterized as it is by absence of detectable blood pressure and pulse. When the surgeon is operating elsewhere in the body, it must almost always be someone at the head of the table who will give the danger signal if effective action is to be taken. The selective susceptibility of brain cells to anoxemia is such that irreversible damage probably commences within three minutes of cessation of heart beat. Although patients have been successfully resuscitated after longer periods of asystole, most of these have residual evidence of brain damage ranging from minor personality changes and performance handicaps to a catatonic, convulsive, or frankly decerebrate state.

Effective cardiac resuscitation depends on the promptness with which an adequate airway can be established and manual rhythmic cardiac compression ("cardiac massage") instituted. Mouth-to-mouth breathing may salvage the situation until an intratracheal tube can be passed, any obstructing secretions aspirated, and the lungs regularly insufflated with oxygen.

The surgeon operating within the abdomen may be tempted to massage the heart through the intact diaphragm or by way of an incision into the left side of the chest through the diaphragm; instances of success achieved by these methods have been recorded. All too often, however, time so spent is wasted, as is the time invested in tests to confirm the diagnosis or to stimulate a heart beat by the intracardiac injection of drugs through the chest wall. The diagnosis can be definitely and rapidly established by inserting a long needle through the chest wall directly into the heart. If the needle fails to pulsate, the presence of arrest is established.

The left pleural cavity should be entered boldly by an incision made an interspace below the left nipple, without regard for the niceties of skin preparation or sterility of instruments or operator's hands. Manual compression should be started immediately. A rib-spreader should be inserted as soon as it becomes available; otherwise the wrist of the intrathoracic hand will tire quickly when compressed by the ribs. The pericardium should be opened, the apex of the heart grasped in the hollow of the palm of the left hand, and smooth but forceful rhythmic compression carried out at a rate of 60 to 80 per minute. Hearts have been ruptured during manual compression. As an alternate maneuver the heart may be compressed against the undersurface of the sternum. The surgeon may change hands as indicated and may take turns with other members of his team.

If effective compression has been instituted promptly enough and if the underlying cause of the standstill can be eliminated, the potential for success is good. A flabby heart can usually be converted to a firm contracted organ, which can be felt to fill with blood between manual compressions; a pulse may become palpable at the wrist, blood pressure be obtainable, and dilated pupils become small again. Occlusion of the descending thoracic aorta may result in an increased flow of blood to the brain and myocardium, the other viscera being less vulnerable to anoxia. If spontaneous cardiac systole does not return within a few seconds, the injection of 2 cc. of 10 per cent calcium chloride or of 0.5 cc. of 1:1,000 epinephrine, singly or in combination, may stimulate a good heart beat. Either ventricle has been used as a point of entry. If ventricular fibrillation occurs, the heart should be massaged to a tonic state, electrically shocked into standstill, and rhythmic compression reinstituted.

How long should one persist in efforts to restore an arrested heart beat? A categoric answer to this cannot be given since patients are alive and well whose hearts have been massaged for many (up to ten) hours. On the other hand, other conditions such as hemorrhage or irreversible brain damage, usually influence the operator to stop after thirty minutes or so. Recent work on electrical stimulation suggests that a nonoperative method may be applicable to certain cases. It must again be emphasized that the person who discovers cardiac arrest is obligated to institute treatment immediately; if one waits until a surgeon can be found, the opportunity for salvage will be lost.

Palliative Procedures

Rheumatic Heart Disease with Mitral Stenosis.—Of all the operations suggested for the relief of acquired valvular disease or myocardial insufficiency, the only current procedure to gain wide acceptance has been the opening of the stenotic mitral valve by an approach through the left auricular appendage. Although this approach had been used successfully in one case by Souttar in England in 1925, it remained for Bailey in Philadelphia and Harken[35] in Boston to reintroduce and popularize the method during the late 1940's.

Stenosis of the valve results in left auricular enlargement, pulmonary engorgement, and in increased strain on the right heart. Prolonged valvular obstruction is accompanied by stasis and structural changes in the pulmonary vasculature.

The diagnosis can usually be accurately made on auscultation alone. X-ray evidence of an enlarged left ventricle indicates an associated significant mitral insufficiency or aortic valvular disease. Cardiac catheterization is not required often, but it makes possible an exact recording of the degree of pulmonary hypertension. Most cardiologists reserve operation for those patients who have developed symptoms referable to the lesion, which cannot be adequately controlled by a careful cardiac regime, including digitalis, diuretics, and a salt-poor diet. Indications for surgical relief include dyspnea, orthopnea, fatigue, exercise intolerance, pulmonary hypertension, hemoptysis, cardiac decompensation, and repeated peripheral arterial emboli. In the last situation amputation of the left auricular appendage accompanied by flushing the auricle is performed. Stasis is eliminated by opening the stenosed mitral orifice; this procedure has resulted in a marked decrease in the incidence of emboli in contrast to the larger unoperated group. Contraindications to surgery include active rheumatic fever, subacute bacterial endocarditis, significant associated valvular lesions, significant enlargement of the left ventricle, or associated noncardiac disease of sufficient magnitude to preclude successful cardiac surgery. In the critical selection of patients for surgery it may be of the utmost importance to determine how much of the symptomatology is attributable to the mitral stenosis and pulmonary hypertension and how much to myocardial insufficiency and other factors; this differentiation has recently been discussed in a publication from Bellevue Hospital and summarizes a point of view with which the Montefiore group is in hearty agreement.[30] It may be impossible to determine rheumatic activity by criteria currently available. Aschoff bodies were reported in almost 30 per cent of the auricular biopsies of the first 50 cases at the Montefiore Hospital, and this finding has been substantiated in other clinics. The proper interpretation of this observation is not available at this time since most of these patients have shown no clinical evidence of active rheumatic infection, either preoperatively or postoperatively.

The mitral valve may effectively be opened either by finger fracture or by instrumentation. It is intended that this opening be made along the lines of fusion of the mitral cusps—the so-called "commissures." When the left auricular appendage is not available because of thrombosis, giant enlargement of the auricle, or adhesions, the left atrium or left superior pulmonary vein may be used, but these approaches are neither as satisfactory nor as safe. With proper selection of patients, adequate preoperative preparation, and meticulous attention to surgical detail, an over-all mortality of about 5 per cent may be achieved. Patients who had been totally invalided before operation have been restored to a state of sociologic and economic self-sufficiency. It is too soon to predict how long they may be able to maintain this extraordinary improvement and whether or not any recurrence of the stenosis may be anticipated.

The clinical and pathologic evidence to date favors the belief that refusion does not occur and that the initial improvement is maintained. Postoperative transbronchoscopic pulmonary artery pressure determinations are being used to evaluate the change in pulmonary artery hypertension. This procedure eliminates the need for a more formal type of cardiac catheterization. Where more than one valve is diseased, a simultaneous approach to two valves may be undertaken; thus, a stenotic tricuspid and mitral valve may be opened at the same operation.[52]

EXPERIMENTAL PROCEDURES

Mitral Insufficiency.—Bailey and Harken have each performed a number of different operations in attempts to alleviate this lesion. Bailey has devised various technics for passing pericardial slings around or sutures actually through the valve cusps. Harken has fixed plastic balls of a variety of shapes under the lesser leaflet in an attempt to narrow the orifice during systole. To date satisfactory results have not been obtained with any degree of consistency. Agglutination of the chordae tendineae and calcific rigidity of the valve cusps are two of the pathologic features o mitral insufficiency which would prevent success by either of these methods. Other approaches to the problem include circumferential suture of the mitral ring tied over a piece of pericardium, plication of the mitral annulus, and the use of a variety of grafts and plastic substances.

Aortic Stenosis.—Tuffier succeeded in dilating a stenotic aortic valve in 1914 by invaginating his finger along the intact aortic wall and opening the valve orifice. Numerous attempts to pass instruments into the aortic valve by way of the right common carotid artery have led to fatalities due to perforations of a sinus of Valsalva or other false passages. Attempts at digital dilation of the aortic valve by way of the left auricular appendage and mitral orifice or directly via the left ventricle have also resulted fatally. Current procedures consist of introducing a dilating instrument into the aortic orifice through an incision in the wall of the left ventricle or through the aorta; the latter approach has aroused considerable enthusiasm in some clinics.

Aortic Insufficiency.—Repair or replacement of the regurgitant aortic valve has thus far eluded accomplishment. Hufnagel[37] has inserted a plastic valvular prosthesis into the aorta just beyond the origin of the left subclavian artery as an approach to the partial solution of this problem.

Coronary Insufficiency.—The problem of increasing the supply of arterial blood to the myocardium rendered ischemic by atherosclerotic involvement of the coronary arteries has stimulated a most energetic experimental approach. Various tissues have been sutured to the epicardium, including omentum, pectoral muscle, lung, and pedicled skin and muscle flaps. Sterile chemical pericarditis has been induced by a number of irritants to produce granulation tissue.[61] The open end of the divided left internal mammary artery has been tunneled into the myocardium.[62]

The coronary sinus has been ligated; Beck[46] has arterialized the coronary sinus by anastomosing a graft between the aorta and the coronary sinus. Direct anastomoses to a coronary artery have been proposed. None of these methods has achieved more than a limited acceptance at this time. Thoracic sympathectomy, denervation procedures, and thyroidectomy by surgery or radioactive iodine are among the other methods under investigation.[21,29] This important problem still awaits solution.

Diseases of the Aorta

ANEURYSMS OF THE AORTA.—A practical approach to the solution of the problem of aneurysms of the aorta becomes important before there is encroachment on other organs, such as the trachea, bronchus, vertebrae, esophagus, kidney, or ureter. These indicate extension of the aneurysm beyond its own vascular walls. In the past acute or chronic perforation of an aortic aneurysm was invariably fatal. Present surgical methods are directed at the removal of aneurysms and replacement by either a homologous graft or plastic material fitted to each of the resected ends of the aorta.[17,25] These advances have relegated the older methods of endoaneurysmorrhaphy, wrapping, and wiring to cases not suitable to grafting. Thoracic aneurysms, predominantly syphilitic in origin, are often saccular and may be treated occasionally by lateral suture after removing the sac. However, with and without the use of shunts and hypothermia it is now possible to resect and replace any portion of the extracardiac thoracic aorta.[23,59] Fusiform abdominal aneurysms, usually arteriosclerotic in origin, may involve the aorta from below the renal arteries to and including parts of the common iliac arteries. Most patients with aortic aneurysms live less than one year after the diagnosis is established or symptoms appear. Homologous bifurcation grafts are used for replacement. The construction of a left splenorenal arterial anastomosis may facilitate the management of aneurysms involving the region of the origin of the renal arteries; this may be accomplished as a preliminary procedure or at the same time as the resection of the aneurysm.[39] There have now been a sufficient number of successfully resected cases of bleeding abdominal aneurysms to indicate this procedure as an emergency in the face of an otherwise fatal situation.

Dissecting aneurysms of the aorta are treated by division of the aorta, circumferential suture of the split wall, and reanastomosis of the two ends so that there is only a single lumen.[26] These methods represent a surgical approach to an otherwise almost certainly progressive, fatal disease.

CHRONIC OCCLUSIVE DISEASE OF THE TERMINAL AORTA.—The syndrome of thrombotic occlusion of the terminal aorta, as described by Lériche, is characterized by a hip claudication, vascular insufficiency of the lower extremities, and varying degrees of impotence. These symptoms occurring with absent pedal pulses suggest the diagnosis. Lumbar aortography defines the extent and localization of the disease. Bilateral lumbar sympathectomy or thromboendarterectomy have been employed in the past. The most satisfactory restoration of circulation is achieved by resection of the diseased aorta with graft replacement. This represents a direct surgical attack on segmental arteriosclerotic vascular disease.

AORTIC EMBOLI.—Emboli to the bifurcation of the aorta usually have their source in a thrombosed rheumatic left atrial appendage or in an infarcted myocardium. Sudden occlusion of the distal aorta presents with pain, paralysis, pallor, and pulselessness in the lower extremities. The situation is an urgent one as regards both limb and life. Prompt aortic embolectomy is the only possible salvage for a situation that carries with it a mortality ranging between 75 and 100 per cent. The seriousness of the situation is related not only to the embolic occlusion but is primarily influenced by the etiologic factor and its prognosis. Where a successful embolectomy has been performed in association with mitral stenosis, mitral valvulotomy is indicated as soon as the patient's general condition permits.

Operative Adjuvant Technics

There are operations in cardiac surgery that would best be performed by either limiting or eliminating the cardiac and pulmonary activity of the patient. As an aid in achieving this aim four methods have been invoked: the artificial heart, cross-circulation technics, hypothermia, and hypotension.

THE ARTIFICIAL HEART.—These devices are used to maintain an extracorporeal circulation so as to permit bloodless, prolonged intracardiac manipulation. The principle of the artificial oxygenerator is to remove blood from the venae cavae, oxygenate it and remove carbon dioxide extracorporeally, and then pump the blood back into a systemic artery. In this way both sides of the heart and the lungs are bypassed. Such total bypass procedures have been used by Dennis,[27] Dodrill,[28] Gibbon,[31] and others. There are satisfactory experimental pumps which bypass either the right or the left heart, utilizing the animal's own lungs.[42,56,57] A combination of two pumps permits an extracorporeal circulation which does not require an artificial oxygenator. Here the method consists of removing the blood from the cavae and pumping it back into the pulmonary artery, then removing the oxygenated blood from the pulmonary veins, and returning it to a systemic artery. The artificial heart is not yet suitably reliable for clinical application. Its practical use awaits the solution of problems in coagulation, air emboli, alterations in physical and chemical properties of the recirculated blood, satisfactory methods of profusion of the coronary arteries, and the prevention of disastrous arrhythmias.

CROSS-CIRCULATION TECHNICS.—These operate on the principle of total bypass of the circulation, utilizing the heart and lungs of the human donor as the pump and oxygenator. This method permits direct vision correction of intracardiac defects with an operating time ranging up to forty minutes.

HYPOTHERMIA.—The rationale in the use of hypothermia is based on the fact that a lowered body temperature is associated with a decreased oxygen requirement, minimizing the danger of damage to the brain. At temperatures between 75 to 80 F. it is possible to stop the circulation completely and to open the heart for surgical procedures. The circulation is stopped by clamping the cavae and the pulmonary artery and aorta. The cessation of circulation may be maintained for periods up to about fifteen minutes. The patient is cooled in either an ice bath or by means of a rubber coiled blanket. Temperatures below 75 F. carry the danger of ventricular fibrillation, to which adults are more susceptible than children. Many clinics utilize mild to moderate degrees of hypothermia in a variety of surgical situations without arrest of the circulation.

HYPOTENSION.—Controlled hypotension, as achieved by a drug like Arfonad, may be a distinct aid while working on a patent ductus arteriosus or when a corrective procedure on the aorta is being attempted.

Summary

A brief progress report has been submitted on the current status and recent advances in the surgical management of problems involving the heart and aorta. In such a survey omissions are inevitable; the general references listed will serve as a guide for the interested reader. There is probably no area in all of surgery today in which the pace is so dynamic and the general interest so high.

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(This is the first of a series of review articles on Recent Advances in Medicine and Surgery to be published in forthcoming issues)

Goniometry—An Improved Method of Joint Motion Measurement

A. W. SCHENKER, M.D., NEW YORK CITY

With the advent of improved methods of restoration of function in neuromuscular disorders, the accurate measurement of small gains in range of motion is taking on new and important significance.

Perhaps the earliest serious attempt to provide a satisfactory nomenclature for the uniform recording of joint measurement goes back to about thirty years when the Fracture Clinic at the Massachusetts General Hospital began to develop a follow-up system to evaluate over-all end results in fractures. Based on ten years trial and in consultation with members of the Fracture Committee of the American College of Surgeons, Cave and Roberts[1] laid down general principles governing the standardization of joint measurement and recording. The actual method of measurement, goniometry, was not then suggested. It is interesting to observe that, since then, no really satisfactory method of range determination has been evolved.

The protractor is the commonest means of measuring an angle in degrees. Its use is as simple as the measurement of the length of a straight line in inches. In each case the point on the surface from which the measurement starts must of course coincide with a definite starting point on the measuring device, i.e., the ruler or the protractor. If there is any doubt about this, try the following experiment: Draw lines AB and AC, intersecting at A (Fig. 1). Now place the protractor with its zero mark off to one side of A. The reading on the protractor will be different (and in error) from when the zero of the protractor coincides with point A.

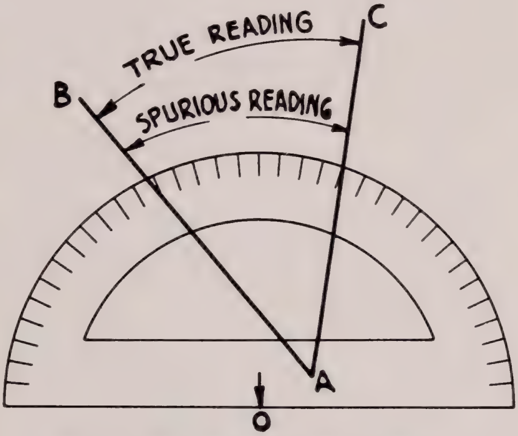

Fig. 1. Protractor type of measurement.

This error is so basic that to recognize it is to understand why the protractor type of goniometer cannot possibly be reliable. Anyone who has had anything to do with the measurement of range of motion of a joint knows that anatomic conditions render pinpointing of the center of rotation of a joint utterly impossible. Dorinson and Wagner[2] give a fairly complete account of the procedure using the protractor type goniometer, but a glance at their illustrations, which are otherwise excellent, immediately points up the practical limitations of this method, as exemplified in the illustration of Fig. 1.

With the protractor type goniometer, two serious sources of error are inextricably involved:

1. *Due to artifact:* Since it is impossible to localize the anatomic center of rotation at the same identical point on every repetition of the measurement (unless the point is tattooed on the skin), the error resulting from noncoinciding of the protractor zero with this point cannot be estimated and is valueless, therefore, in determining the mean. In other words, it is extrinsic and, therefore, is not an admissible error.

2. *Due to inherent characteristics of the joint movement itself:* No articulation in the body is truly hingelike in its movement. But since each joint has its own characteristic linear and other movements, superimposed on the rotary movement, the error due to nonrotational movement is intrinsic and is admissible therefore, although the error may be substantial.

Wainerdi,[3] in describing his improved goniometer, correctly states that with the protractor type goniometer, "joint measurements in units smaller than 10 degrees are not usually significant." Granted that a certain amount of inaccuracy must be bound up with such measurement, the protractor type goniometer fails further and completely in the measurement of such movements as torsion of the trunk, rotation of the head, etc.

The protractor type goniometer consists essentially of two long arms of steel, wood, or plastic, hinged at one end and having a calibrated protractor incorporated at that end. Readings are taken directly on the protractor. The following is a more detailed list of the reasons why measurements by the protractor type goniometer are wholly unsatisfactory and unreliable:

1. Not a single joint in the body moves purely as a hinged joint—not even the elbow joint, the truest ginglymus of all—because the center of rotation is not fixed, there being additional superimposed linear movements as well as rotational.

2. The anatomic center of rotation is extremely difficult, if not impossible, to pinpoint because of (*a*) vague and varying surface contours over the joint; (*b*) inconstant ligamentous and capsular fixity; (*c*) varying degrees of muscle tone acting over the joint; (*d*) coarseness of natural anatomic landmarks, e.g., anterior superior iliac spine, the malleoli, the condyles, etc.; (*e*) fleshy areas masking approaches to the anatomic center of rotation; (*f*) mobility of the skin overlying the anatomic center of rotation, and (*g*) anatomic anomalies, aberrant structures, and postfracture irregularities.

3. The physical difficulty or impossibility of applying the protractor type goniometer also results from (*a*) torsional movements, e g., head rotation on vertical axis, trunk rotation on vertical axis; (*b*) rotational movements of thigh and upper extremity; (*c*) pronator and supinator movements; (*d*) forward, backward, and lateral movements of the head and forward, backward, and lateral movements of the trunk; (*e*) eversion and inversion movements of the ankle.

Recognizing the futility and limitations of the protractor type goniometer, Wilmer and Elkins[4] and later Zankel and Doelker[5] described optical methods for meeting these difficulties. But the technics described are cumbersome, expensive, time consuming, and so limited in scope as to discourage their use in a busy everyday practice.

In view of the foregoing the following summary may be set forth as the basic desiderata of a well-designed goniometer:

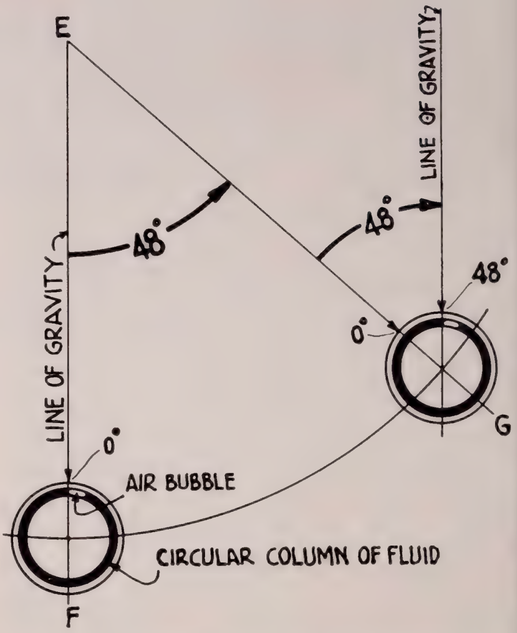

FIG. 2. Goniometer type of measurement.

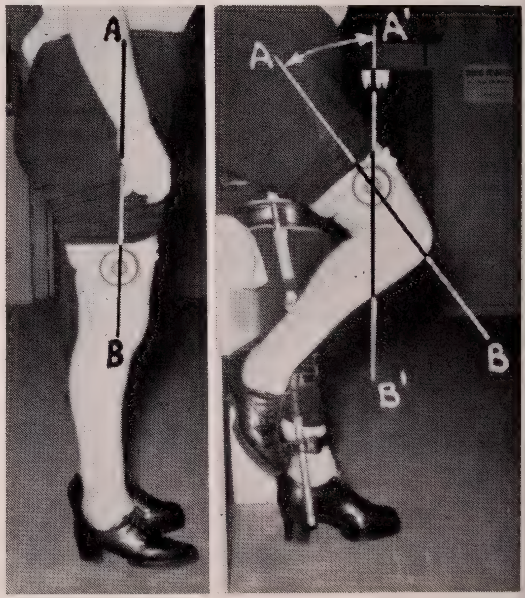

FIG. 3. Measuring range of motion of hip flexor with fluid goniometer.

1. Complete independence of any anatomic landmarks, surface contours, localization, or the marking of the anatomic center of rotation.

2. Invariably high degree of accuracy.

3. Universal adaptability to every articulation in the body.

4. Ease and rapidity in reading.

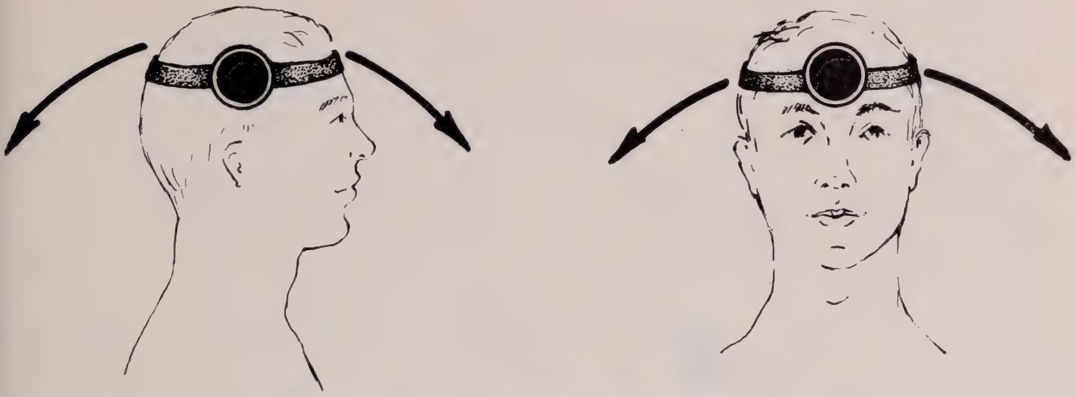

FIG. 4. Flexion and extension (*left*) and lateral bending (*right*) of the neck.

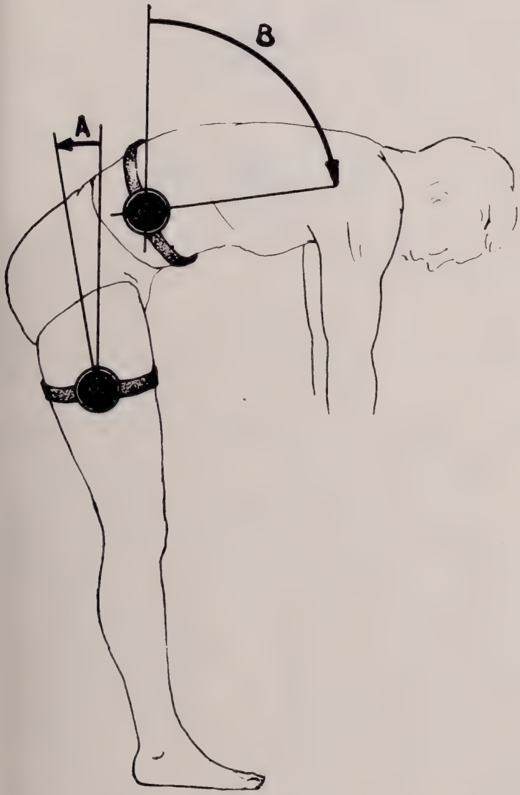

FIG. 5. Forward bending (total angle equals A plus B).

5. Ease of application.
6. Lightness in weight.
7. Durable construction, not easily damaged.
8. Compactness, not bulky.
9. Simplicity in construction, nothing to get out of order.
10. Facility in handling, requiring no assistant.

An attempt has been made to incorporate all of the above advantages in the simple fluid goniometer.* The principle of operation of this instrument is based on the fact that when one part of a limb rotates with respect to another stationary part, e.g., abduction of the shoulder, it describes an arc of a circle. If, while this movement occurs, a circular column of fluid is retained in concentric relation to the moving part, the fluid, being acted upon by gravity, will remain fixed throughout the entire range of movement. The initial and final positions of the fluid level as noted on the moving part (using an air bubble as the identifying means) constitute the subtended arc of rotation; that is, it is the true range of movement (Fig. 2).

This fluid goniometer consists of a circular, transparent, plastic housing $2^1/_2$ inches in diameter and $^1/_2$ inch thick. It has a peripheral circumferential groove containing a column of sealed-in pigmented fluid whose continuity is interrupted by an air bubble. A rotatable disk, calibrated in degrees, overlies and is concentric with the circular column of fluid. Attached to the back of this instrument is a strap by means of which the instrument may be readily attached to any moving part of the body whose range of motion is to be determined. The total weight of the instrument is 2 ounces.

The instrument is always attached with its face perpendicular to the axis of rotation of the joint. For example, in shoulder abduction the axis of rotation is anteroposterior; therefore, the instrument is mounted so that its face is on the anterior or posterior surface of the arm.

To illustrate the operation of the instrument, suppose it is required to measure the range of

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* Obtainable from Relaxing Specialties Corp., 29-46 Northern Boulevard, Long Island City, New York.

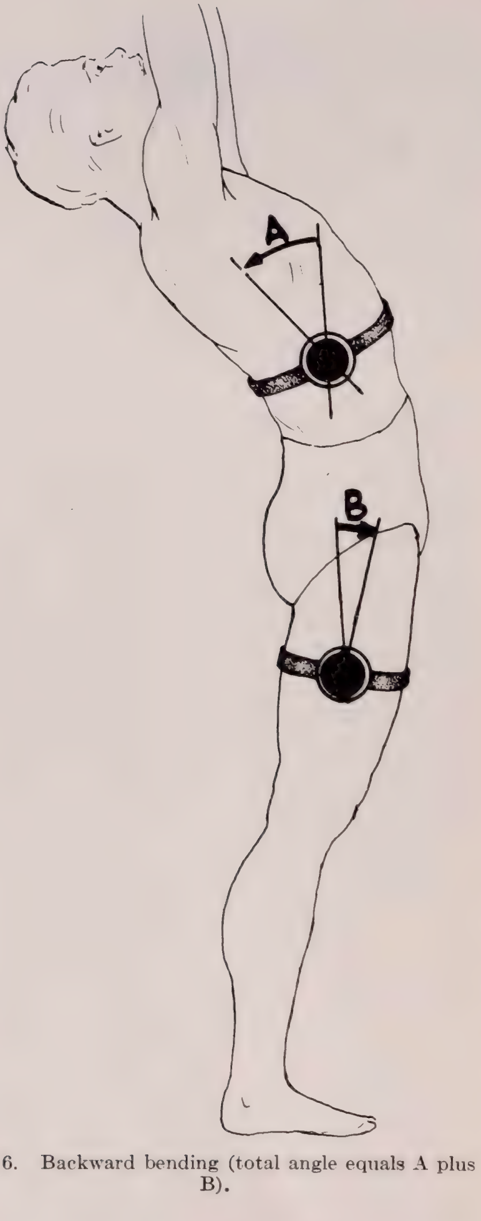

FIG. 6. Backward bending (total angle equals A plus B).

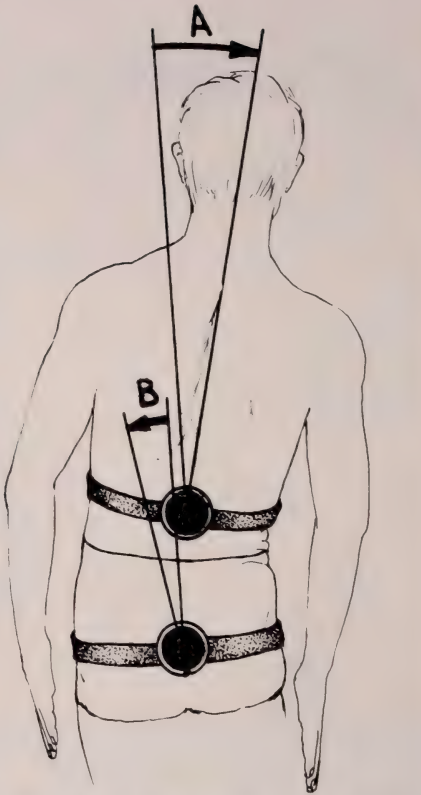

FIG. 7. Side bending (total angle equals A plus B).

motion of the hip flexor (Fig. 3). The axis of rotation is parallel to the coronal plane of the body; therefore, the instrument is mounted face up on the lateral aspect of the thigh which is perpendicular to the coronal plane or parallel to the sagittal plane of the body. While the distance of the instrument from the anatomic center of rotation does not influence the accuracy of the goniometer reading, it is convenient to mount the instrument as far away from the center of rotation as it is practicable. Thus, in this case, the instrument may be attached to the lateral aspect of the thigh just above the superior border of the patella.

The patient is in the standing position, and the calibrated dial is rotated so that its zero corresponds to one edge of the air bubble. The patient now flexes his thigh, and a reading is taken using the same edge of the air bubble. This reading constitutes the range of motion of the hip flexor. It is desirable to repeat the reading several times in order to get a true mean.

Figures 4 to 14 inclusive illustrate the method of mounting the fluid goniometer for most of the joint movements which one is likely to measure in practice.

The fluid goniometer permits reading to an accuracy of plus or minus 2 degrees. The readings are objective, exact, and direct, requiring no interpolation. The mounting of the instrument on the limb takes seconds, and the reading can be taken as quickly as it takes to read a figure on a 2-foot rule.

As with the determination of blood pressure or any of the the other simple clinical procedures, no special physical setup is required to

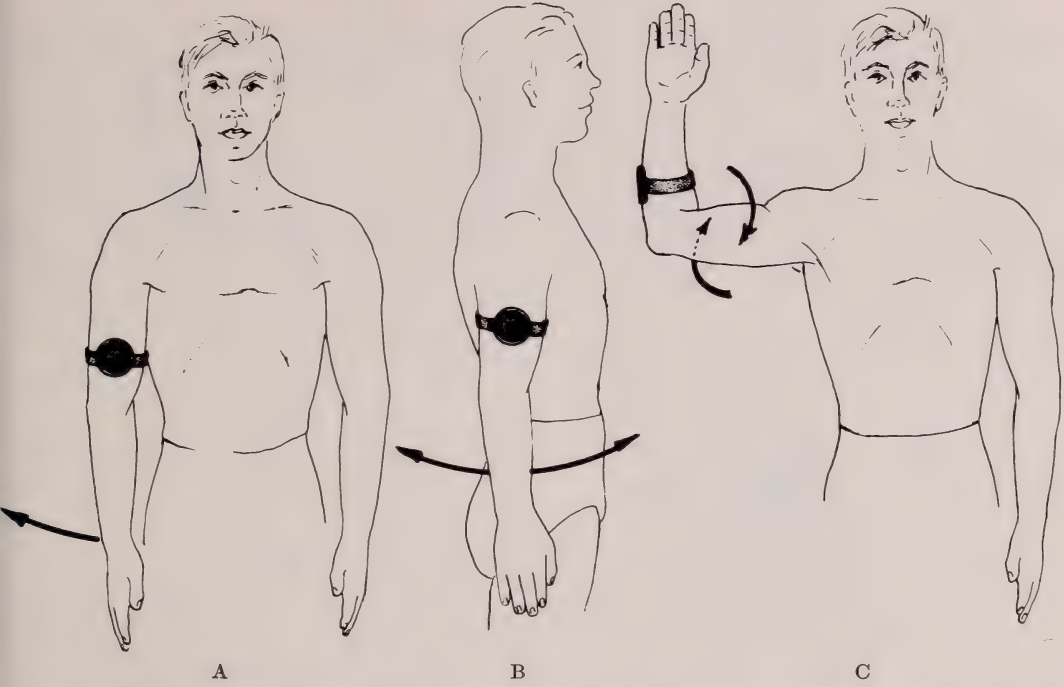

Fig. 8. (*A*) Shoulder abduction. (*B*) Anterior flexion and posterior extension of shoulder. (*C*) External and internal rotation of shoulder.

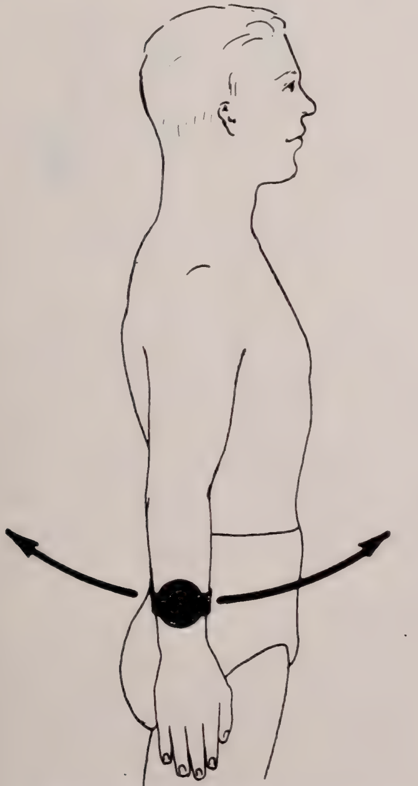

Fig. 9. Elbow flexion and extension.

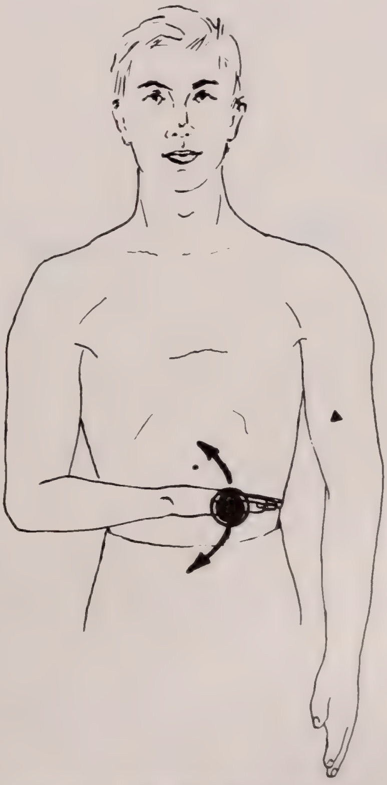

Fig. 10. Wrist flexion and extension.

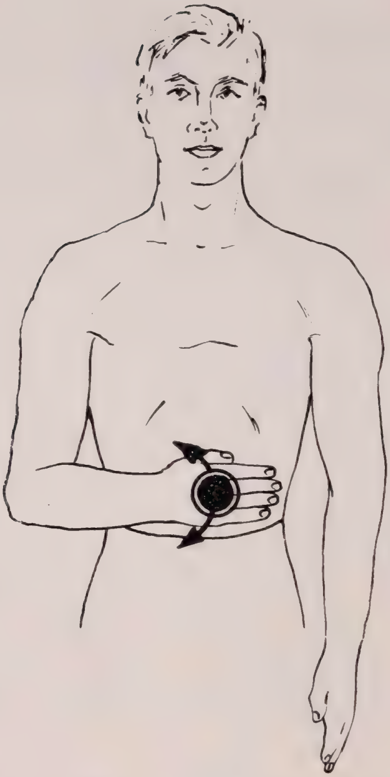

FIG. 11. Ulnar and radial deviation of wrist.

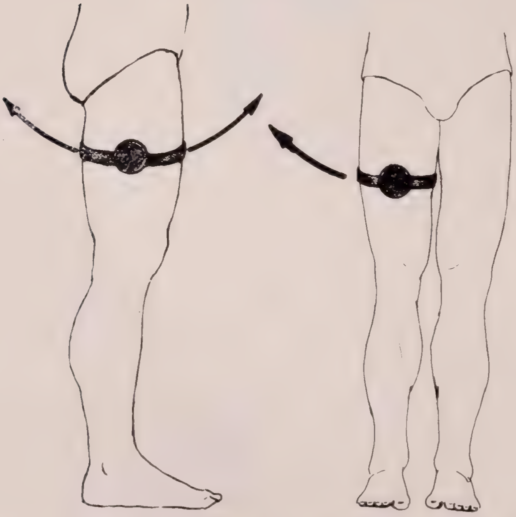

FIG. 12. Hip flexion and extension (*left*) and hip abduction (*right*).

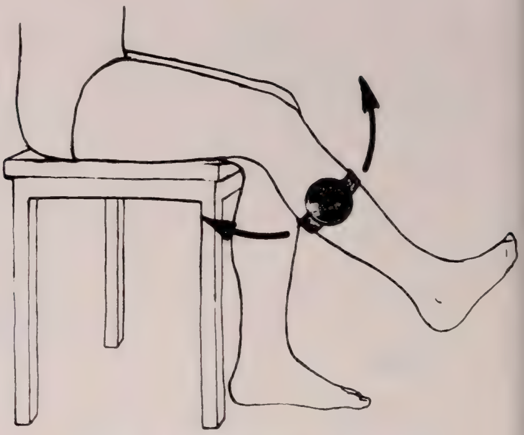

FIG. 13. Knee flexion and extension.

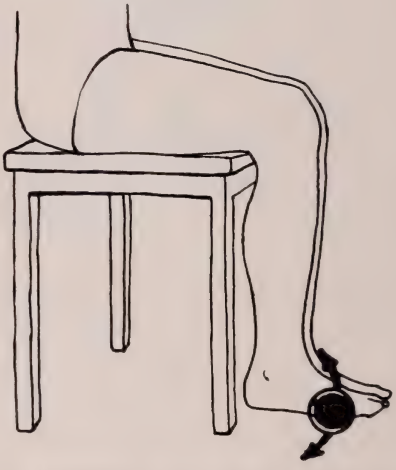

FIG. 14. Dorsiflexion and plantar flexion of ankle.

obtain these readings. Therefore, they can readily be incorporated into whatever other clinical findings the examiner has to record at the time of the examination.

It is clear that no guesswork or subjective attitudes play any part in these readings. Thus, it is now possible to record accurately the percentage of disability of a given movement in postfracture cases, low back disabilities, the arthritides, or any of the neuromuscular disorders. Moreover, if a patient with neuromuscular dysfunction is subjected to treatment, any slight improvement in range may be noted with great accuracy at regular intervals.

Summary

The measurement of joint range of motion has in the past relied chiefly on the protractor type goniometer. It is pointed out that this method has a basic fault which renders such measurements erroneous and, therefore, unreliable even under ideal conditions. The protractor type

goniometer also lacks universality in that the method cannot be applied at all in certain important measurements, such as movement of the head or trunk. Optical methods of joint range measurements are awkward, time consuming, and extremely limited in scope. Basic desiderata are given for the design of a practical and accurate goniometer. These are largely fulfilled by a fluid goniometer of special design which is capable of detecting ranges in the order of accuracy to plus or minus 2 degrees.

1236 Park Avenue

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State Mental Health Services Act Summarized

To aid in clarification of the information which has been given publicity regarding the establishing of a Mental Health Board in Orange County, the following résumé was prepared by Earl C. Waterbury, secretary of Orange County Medical Society.

The Mental Health Act became law, effective July 1, 1954, and provides that a county Mental Health Board may be established comprised of nine members, two to be active practicing physicians, one a health officer and the others representatives of agencies interested in mental health. Cities must pass a local law to participate.

The Board's function is to:

1. review and evaluate community mental health services and facilities;
2. submit to the appointing officer and governing body a program of community mental health services and facilities;
3. within amounts appropriated therefore, execute such program and maintain such services and facilities as may be authorized under such appropriations;
4. enter into contracts for rendition or operation of services and facilities on a per capita basis or otherwise;
5. arrange for the rendition of services and operation of facilities by other agencies of the city or county with the approval of the governing body or in the case of the city of New York, of the board of estimate;
6. make rules and regulations concerning the rendition or operation of services and facilities under its direction;
7. appoint a psychiatrist, whose qualifications meet standards fixed by the commissioner, to serve as director of the community mental health service. Such director need not be a resident of the city or county and he may be employed on a full or part time basis;
8. prescribe the duties of such director and review the performance of his duties; and
9. perform such other acts as may be necessary or proper to carry out the purposes of this article, consistent with the regulations of the State Commissioner of Mental Hygiene.

Duties of the Director, when and if appointed would be to—

1. serve as chief executive officer of the board;
2 exercise general supervision over mental health services and facilities rendered, operated or supported by the board;
3. exercise general supervision over the treatment of patients in services and facilities which are rendered or maintained by or under the direction of the board;
4. recommend to the board the provision of services and establishment of facilities, including contracts therefor, and other matters necessary or desirable to accomplish the purposes of this article;
5. make an annual report to the board of the programs under his direction, including a fiscal accounting; and
6. carry on such studies as may be appropriate for the discharge of his duties or the promotion of mental health or prevention of psychiatric disorders.

The director has power to hire and remove employes and fix their compensation. The compensation of the director himself shall be fixed by the community mental health board within the amounts made available by appropriations therefor.—*The Orange, Medical Society County of Orange, December, 1955*

The Diagnosis and Treatment of the Cardiac Arrhythmias

DONALD M. KANTER, CAPT. (MC) USAR, FORT DIX, NEW JERSEY*

(*From the Cardiac Clinic of the U.S. Army Hospital, Fort Dix*)

The occurrence of cardiac arrhythmias in the general population is not infrequent. The sudden onset of a pounding sensation in the chest is a frightening experience which quickly brings the patient to the doctor. If the arrhythmia is very rapid and has persisted for a half hour or more, the patient may feel giddy and lightheaded. Syncope may occur. In individuals where underlying heart disease is present, more serious sequelae often occur. In rheumatic hearts with mitral stenosis, congestive heart failure may ensue. Where coronary sclerosis is present, the onset of the palpitation is not infrequently accompanied by anterior chest pain, often suggesting the presence of an acute myocardial infarction. When the heart rate has been above 180 per minute for a variable period of time, usually an hour or more, the patient may exhibit the signs of shock with cold, wet extremities and pallor.

The changes in circulatory dynamics which occur with the onset of rapid heart action have been clearly demonstrated by Wegria and coworkers.[1] In their experiments with large dogs under anesthesia they have shown that with the onset of auricular and ventricular tachycardias the following hemodynamic changes occur: There is an almost immediate fall in blood pressure and cardiac output; coronary blood flow also falls but returns to its control level quickly. If the tachycardia is very rapid, the blood pressure and cardiac output remain depressed. In many of their experiments electrocardiographic changes were produced during periods of very rapid tachycardia, indicating relative coronary insufficiency. From such experimental work it is possible to infer that the syncope and shocklike state which may occur in patients with rapid heart action are due primarily to a decreased cardiac output. The increased work of the heart during tachycardia requires a greater supply of oxygenated blood to sustain the myocardial metabolism. If this should not be available, either because of coronary sclerosis or because of a marked depression in cardiac output or blood pressure, anginal pain may occur.

An accurate diagnosis of the type of arrhythmia present is essential for the institution of proper therapy. If an electrocardiogram can be taken, the diagnosis is made more easily. There are many situations, however, when an electrocardiogram is not quickly available and when a correct diagnosis with institution of proper therapy might prove lifesaving. It is the purpose of this paper to discuss briefly the types of arrhythmias most frequently encountered, emphasis being placed on those clinical features which will enable the physician to make the correct diagnosis in most cases. Therapy is outlined, and illustrative case histories are presented.

Sinus Tachycardia

This is the most common cause of a rapid heart rate. The sinoauricular node in the right atrium, which normally discharges impulses at a rate of 60 to 80 per minute through the conduction system of the heart, may discharge at a rate as high as 160 per minute during physical exertion, emotional stress, fever, or hyperthyroidism. The heart rate increases gradually as the particular stimulus is intensified. On auscultation a rapid, forceful heart beat is heard. There is a slight but easily detectable irregularity during the phases of respiration. With inspiration the rate increases; with expiration it decreases. If the carotid sinus in the neck is massaged for fifteen to twenty seconds, the rate will usually decrease gradually, and with cessation of this vagal stimulation the rate will return gradually to its previous high level. Treatment of course is aimed at removing the underlying cause of the increased metabolism. When emotional stress is the causative factor, sedation is necessary; when hyperthyroidism is responsible, sedation plus specific antithyroid medication, etc., are indicated.

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* Present address: 110 Prospect Street, Stamford, Connecticut.

Paroxysmal Auricular Tachycardia

This condition accounts for most cases of sudden rapid heart action in young adults. Underlying heart disease is rarely present. Heavy smoking may precipitate an attack, but more frequently there is no explanation for its sudden inception. This arrhythmia is most probably caused by an ectopic focus of irritability in the auricular musculature which discharges impulses at a rate of between 150 and 250 per minute with resultant suppression of the stimuli from the sinoauricular node. On close examination a perfectly regular and rapid rhythm is noted; no respiratory variations are noted. Consecutive periods of timing of the heart rate usually reveal no variation, and there is no pulse deficit. In most cases it is possible to make the diagnosis without the use of an electrocardiogram. Vagal stimulation will often cause an abrupt cessation of the rapid rate with a restoration of normal sinus rhythm. This can be accomplished in several ways: Instruct the patient to hold his breath, induce vomiting, or apply firm pressure over the eyeballs. Any of these methods may prove successful.

However, massage of the carotid sinus in the neck is the method which has proved most efficacious. In this maneuver the patient lies on his back, and then while the examiner auscultates the heart, he massages the right carotid sinus just below the angle of the jaw for a period of fifteen to twenty seconds. A sudden and abrupt change to normal sinus rhythm will occur in many cases. However, a reversion to the rapid rate often occurs, and more lasting and definitive therapy is then indicated.

When the rate is 180 per minute or less in an otherwise healthy individual, heavy sedation with barbiturates may result in cessation of tachycardia within a few hours.

When the rate is over 180 per minute, and underlying heart disease is suspected, or when heavy sedation has already failed, the use of a rapid-acting intravenous cardiac glycoside, such as lanatoside C or ouabain, is indicated.[2,3] Ouabain in a dosage of 0.5 mg. diluted in 20 cc. of physiologic saline given intravenously over a five-minute period of time will usually end the tachycardia abruptly; additional 0.1-mg. doses every half hour for two or three doses may prove necessary. With lanatoside-C the initial intravenous dose is 0.8 mg. Additional doses of 0.4 mg. every two hours for a total of 1.6 mg. may prove necessary.

Quinidine is often effective and may be used instead of digitalis. However, when used orally, it is much slower than intravenous digitalis in stopping the tachycardia. Other drugs, such as Neo-Synephrine and Mecholyl, have also been advocated but are not as effective. For frequently recurring attacks a daily maintenance dose of an oral digitalis preparation should be used after the initial digitalization. Quinidine is also effective prophylactically in a daily dosage varying from 0.6 to 4 Gm. as necessary.

CASE 1.—A twenty-two-year-old male came to the clinic with the presenting symptoms of a pounding sensation in the chest associated with dizziness and weakness of one hour duration. He had smoked two packs of cigarets that day. Physical examination revealed a very apprehensive, pale young man perspiring profusely. Blood pressure was 100/60, pulse 180, temperature 98.6 F., and lungs clear. The heart was not enlarged, and a rapid, perfectly regular rhythm of 180 per minute was checked repeatedly. No murmurs were heard. Right carotid sinus massage for ten seconds resulted in a sudden cessation of the tachycardia. A regular sinus rhythm of 80 per minute with slight respiratory variations was then noted. Five minutes later tachycardia of 180 per minute recurred. Further attempts at conversion by means of carotid sinus stimulation were unsuccessful, and 0.6 Gm. of Sodium Amytal by mouth was then administered Three hours later the tachycardia had ceased and did not recur.

Auricular Flutter

This form of rapid heart action can often be diagnosed by physical means alone. It occurs most frequently in hearts with underlying pathology, such as rheumatic or arteriosclerotic heart disease. Hence, a good history for evidence of angina pectoris, rheumatic fever, or cardiac murmurs can be very helpful in making the differential diagnosis. The auricular rate is between 240 and 360 per minute. Recently a large body of evidence has been presented which points to the rapid discharge of an ectopic focus of excitability in the atria as the underlying mechanism.[4] Characteristically only half of the atrial impulses are transmitted to the ventricles; a 2:1 block at the atrioventricular junctional tissues is operative. However, since the atrial contractions are not heard, the examiner will note a perfectly regular rhythm at a rate of between 120 and 180 per minute. At this point differentiation from auricular tachycardia is not possible. However, with carotid sinus massage the heart rate will be noted to decrease in a jerky, irregular fashion as increasing degrees of atrioventricular block are produced by means of the vagal stimulation; for example, from 180 per minute with a 2:1 block, to 120 per minute with a 3:1 block, to 90 per minute with a 4:1 block. With cessation of vagal stimulation the rate will return slowly and in an irregular manner to the original rapid rate. This characteristic reaction is diagnostic of auricular flutter.

Therapy is aimed first at reducing the rapid ventricular response, so that congestive heart failure will not occur. When this has been accomplished, conversion to normal sinus rhythm should be attempted. First digitalis should be administered, preferably one of the oral, rapid-acting preparations such as digitoxin. When digitalization with 1 to 1.4 mg. of digitoxin over a twenty-four hour period has reduced the heart rate to 70 to 90 per minute, a spontaneous reversion to normal sinus rhythm may occur in approximately 25 per cent of the cases. In a larger group the grossly irregular rhythm of auricular fibrillation will supervene. If the maintenance dose of digitalis is then omitted for several days, a spontaneous reversion to normal sinus rhythm may occur. In those cases in which either flutter or fibrillation persists after the withdrawal of digitalis, one or more courses of oral quinidine should be given. If given in high enough dosage but with careful electrocardiographic control, this drug will usually restore normal sinus rhythm. If conversion is still not effected, the patient should be fully digitalized and maintained on digitalis with aventricular rate of 70 to 90 per minute.

Case 2.—A forty-six-year-old warrant officer developed a fluttering sensation in his chest following a heavy meal. The palpitations continued for two hours, and he noted an oppressive heaviness substernally. Past history revealed that for the previous six months he had noted substernal pressure on moderate exertion, which disappeared quickly with rest; he had not sought medical advice. Physical examination was negative except for a blood pressure of 160/90 and a heart which was somewhat enlarged to the left; the point of maximal impulse was 1 cm. left of the mid-clavicular line. The lungs were clear. The heart rate was 150 per minute and perfectly regular. The heart sounds were of normal quality and equal in intensity.

Right carotid sinus massage for twenty seconds resulted in a jerky stepwise reduction in rate from 150 to 120 to 75 per minute. One minute after cessation of vagal stimulation the rate was 120; two minutes later a sudden increase in rate to 150 per minute was noted. A clinical diagnosis of paroxysmal auricular flutter was made. Digitoxin 0.8 mg. was administered orally; four hours later another 0.2 mg. was given.

Eight hours after institution of therapy the heart rate was 75 per minute. An electrocardiogram revealed auricular flutter with a 4:1 block. Twenty-four hours later the heart rate was noted to be 86 per minute and grossly irregular. An electrocardiogram confirmed the clinical impression of auricular fibrillation, and further digitoxin was withheld. Thirty-six hours later normal sinus rhythm at a rate of 70 per minute was present. The blood pressure was found to be elevated at 200/100. The electrocardiogram revealed normal sinus rhythm with a left ventricular strain pattern, characterized by tall R waves in leads I, II, aVL, V_5, and V_6; inverted T waves in leads I, II, V_5, and V_6, and a deep S wave in V_1. These findings were indicative of an underlying hypertensive cardiovascular disease.

Auricular Fibrillation

This is a fairly common and easily diagnosed arrhythmia which may occur in perfectly normal individuals. However, it is more frequently seen in patients with rheumatic heart disease, hyperthyroidism, or following an acute myocardial infarction. When there is no underlying cardiac or metabolic disease, a paroxysm of auricular fibrillation may be of short duration, lasting for only a few minutes. However, there is a tendency to recurring episodes. The underlying mechanism has been intensively investigated, and two theories have been presented. Classically, it has been taught that a circus movement in the atria exists with an atrial impulse discharge rate of from 350 to 450 per minute, the ventricles responding to only one third or one half of these atrial impulses.[5] In recent years several groups of investigators have presented evidence that the rapid discharge of an ectopic focus of irritability in the atria with concentric propagation outward is the cause.[6,7] At the very rapid discharge rates in auricular fibrillation a generalized conduction failure of the cardiac muscle ensues with a resultant chaotic and inefficient ejection of blood by the heart chambers.

On physical examination the heart rate is found to be grossly irregular. There is no definite or discernible pattern of beats or cycles. The rate may vary from 100 to 200 per minute or more. The higher the rate, the greater is the deficit of pulse beats palpated over a peripheral artery. Exercise will increase the rate; vagal stimulation will temporarily decrease it, but at no time will these maneuvers affect the irregularity of the rhythm.

Treatment is aimed at abolishing the arrhythmia or reducing the rapid ventricular rate. In those cases with underlying heart disease and especially when a rapid fibrillation has been present for more than three or four days, a reduction in the ventricular response becomes imperative in order to prevent or alleviate congestive heart failure. To accomplish this, digitalis is employed. An intravenous preparation should be used if the rate is very rapid and heart failure has already developed. For slower rates and when acute pulmonary edema has not occurred, oral digitalis preparations are preferable. Digitalis will not abolish the fibrillation in the atria; it acts by increasing atrioventricular block, thereby slowing the heart rate and making ventricular ejection more efficient. In those cases in which no underlying heart disease is suspected, especially in individuals under forty years of age, when the bout of fibrillation has been of comparatively brief duration, less than seventy-two hours, conversion to normal sinus rhythm with quinidine alone should be attempted; 0.2 Gm. of quinidine sulfate by mouth every two hours for a total of eight doses may be tried. If unsuccessful, a second course of quinidine the following day should be given, using increasingly large doses every two hours; for example, 0.2 Gm., 0.4 Gm. two hours later, then 0.6 Gm., etc., until as much as 4 to 5 Gm. in a twenty-four-hour period are given. Frequent electrocardiograms are imperative lest progressive widening of the QRS complex and depression of the excitability of the myocardium result in cardiac standstill. A total dosage of more than 5 Gm. in a twenty-four-hour period is not warranted. Symptoms of cinchonism may prove a limiting factor at high doses.

In cases of auricular fibrillation of long duration when digitalization has resulted in a slow and efficient ventricular ejection, it may be deemed preferable to restore normal sinus rhythm. The danger of embolization from the heart at the time of conversion is present, but this is not an absolute contraindication. Conversion is rarely indicated in a chronic fibrillator in whom congestive heart failure is present. To restore normal sinus rhythm it is preferable to discontinue digitalis for from five to ten days prior to the administration of quinidine, as outlined. The simultaneous use of digitalis and quinidine in these patients not infrequently leads to ventricular irritability characterized by frequent premature ventricular contractions or runs of ventricular tachycardia. In some situations, however, the simultaneous use of these drugs is unavoidable.[8]

Case 3.—A twenty-four-year-old clerk was lifting heavy boxes when he suddenly noted a rapid pounding sensation in his chest. Past history was negative. Physical examination was negative except for the cardiac findings. There was no cardiac enlargement, nor were murmurs heard. The apical rate varied between 130 and 140 per minute, and the rhythm was grossly irregular. The pulse over the radial artery varied between 110 and 120 per minute. Exercise raised the apical rate to 160 per minute. Right carotid sinus massage reduced the heart rate to 100 per minute, but at no time did the gross irregularity cease. Sodium Amytal, 0.6 Gm., was given orally, and the patient was put to bed. Twelve hours later the auricular fibrillation was still present. A course of quinidine was begun; 0.2 Gm. every two hours for a total of 0.8 Gm. over a six-hour period of time was administered with sudden cessation of fibrillation. A dosage of 0.2 Gm. four times a day for the next two days was given and then stopped. Recurrence was not noted during a three-month follow-up period.

Premature Contractions

The most frequent cause of palpitations and irregular cardiac rhythms are premature contractions which originate in either the atria or the ventricles in ectopic foci of irritability. Both of these types often occur in normal hearts. The ventricular premature contractions are the more common variety. It is important to bear in mind that a diagnosis of heart disease cannot be made on the finding of premature beats alone.

The differentiation between auricular and ventricular premature beats by auscultation is usually not easy. However, it is often possible to make the differential diagnosis without the use of the electrocardiogram. Both auricular and ventricular premature beats are followed by a pause which is longer than normal. With ventricular premature beats, however, the pause is completely compensatory, so that the cycle length of the normal beat and the premature ventricular beat following it are equal in time to two normal cycles. With auricular premature contractions, however, the pause is not completely compensatory. In addition, the quality and intensity of a ventricular premature beat differ from the normal beat; it is either louder or softer or has a clicking quality.[9] There is no such difference between a normal beat and a premature auricular contraction.

If the premature beats are very frequent, a fast irregular rhythm may result which is easily confused with auricular fibrillation. An easily accomplished differential can be made by having the patient exercise. If the rhythm becomes more rapid but regular, then a diagnosis of tachycardia due to premature contractions should be made. When auricular fibrillation is present, the rhythm does not become regular following exercise, although the rate increases.

Treatment in mild cases consists of reassuring the patient that serious heart disease does not exist. Apprehensive individuals should be given a mild sedative, and reduction in smoking should be advised; this may reduce the incidence of palpitations. When these measures prove insufficient and frequent or continuous bouts occur, procaine amide in a dosage of 250 to 500 mg. orally every four hours or quinidine sulfate orally in the dosage previously recommended should be administered until the arrhythmia stops. Rarely, intravenous administration of one of these drugs is required when the ventricular rate is very high and acute congestive heart failure is present. In digitalized patients various arrhythmias may develop as a manifestation of digitalis toxicity; premature ventricular contractions are especially common. Under these circumstances the digitalis should be withheld temporarily and potassium chloride 4 to 6 Gm. a day in divided doses should be administered. This will often result in cessation of the abnormal rhythm.

Ventricular Tachycardia

This is an arrhythmia which may occur in young individuals in the form of short paroxysms. However, when persistent, and especially in middle-aged or elderly individuals, it is often indicative of organic heart disease; coronary artery disease is by far the commonest underlying pathology. The mechanism consists of a rapid discharge of impulses from an ectopic focus of irritability in the ventricular musculature; the rate of discharge usually varies between 140 and 220 per minute.

On auscultation of the heart there is heard what superficially sounds like a regular rapid rhythm. However, on careful auscultation over a period of several minutes, the examiner can detect definite irregularities in rhythm and cycle length, as well as differences in the quality of successive heart sounds. The variations in the quality and intensity of the first heart sound are due to the varying relationships between auricular and ventricular systole in successive cycles. The auricular rate is usually independent of and much slower than the ventricular rate, and hence, varying degrees of patency of the atrioventricular valves will be present at the time of ventricular systole. Since the first heart sound depends on the snapping shut of the atrioventricular valves, differences in the position of these valves at the time of ventricular systole will result in variations in the quality of the first heart sound.

There are other characteristics which will aid in the clinical differential diagnosis of ventricular tachycardia from paroxysmal auricular tachycardia and flutter. Vagal stimulation via carotid sinus massage has no effect whatever on ventricular tachycardia. Also a comparison of the rate of jugular vein pulsations in the neck with the apical rate is of value. When ventricular tachycardia is present, the apical rate is much greater than the rate of the jugular pulsations; these depend on auricular systole for their production.

The treatment for attacks is the oral use of quinidine or procaine amide. Occasionally in patients with acute congestive heart failure a more rapid method of administration is indicated. Quinidine lactate 0.6 Gm. in 200 cc. of 5 per cent glucose in water can be given intravenously at a rate of 2 to 3 cc. per minute. Electrocardiograms should be taken frequently throughout the injection so that the drug may be discontinued when signs of toxicity appear, such as progressive widening of the QRS complex. This method is probably safer than the intramuscular use of quinidine since it can be discontinued immediately on restoration of normal rhythm or the development of signs of toxicity. Procaine amide can also be given intravenously. The rate of administration should not exceed 100 mg. per minute, and norepinephrine should be at hand to restore the blood pressure if a considerable hypotensive effect should occur.[10]

TABLE I.—Clinical Comparison of the Cardiac Arrythmias

Type	Mechanism	Auscultation	Vagal Stimulation	Exercise	Treatment and Prophylaxis	Remarks
Sinus tachycardia	Sinoauricular node discharges 90 to 160 per minute, induced by stress	Rapid forceful beat; periodic; increased with respiration, decreased with expiration	Gradual decrease; then increase to previous level	Gradual increase	Treat underlying cause of stress; rest and sedation	Commonest arrhythmia
Paroxysmal auricular tachycardia	Ectopic focus of irritability in auricles, 150 to 250 per minute with suppression of sinoauricular node	Regular rapid rhythm with no respiratory variation	Abrupt sudden cessation with restoration of sinus rhythm or no effect	No effect	(1) Vagal stimulation; (2) sedation; (3) intravenous ouabain or lanatoside C. Prophylaxis—reduce smoking and stimulants, continue daily oral digitalis or use quinidine	Commonest paroxysmal arrhythmia, especially in the young. Heart disease rarely present
Auricular flutter	Ectopic focus or circus; 240 to 360 auricular contractions per minute; 1:2 auriculoventricular block usual with ventricular rate 125 to 175	Regular rapid rhythm	Jerky irregular decrease with varying degrees of auriculoventricular block; then irregular return to rapid rate	Sudden increase or irregular jump in rate may occur	Full digitalization, then withhold. If unsuccessful, use oral quinidine. Prophylaxis—quinidine	Heart disease often present
Auricular fibrillation	Ectopic focus or circus with 350 to 450 auricular impulses per minute, ventricles responding to one third to one half of the impulses	Grossly irregular; no pattern; pulse deficit increases with cardiac rate	Decrease in rate but no effect on irregularity	Increase in rate, no effect on irregularity	Digitalis to reduce rate or in congestive failure. Quinidine for conversion to sinus rhythm. Sedation, etc., in hyperthyroidism. Prophylaxis—quinidine	Prevalent in heart disease but may occur as paroxysms in normal hearts
Premature contractions	Ectopic foci of irritability in auricles or ventricles	Irregular rhythm; each type followed by a pause. Longer, fully compensatory pause follows ventricular type. Intensity and quality of ventricular beats differ from normal and premature auricular beats	May reduce frequent auricular premature beats but no effect on ventricular premature beats	Increase in rate, and rhythm becomes regular	If infrequent, reassurance; sedation if rapid. If frequent, oral quinidine or Pronestyl. If digitalis toxicity manifestation, potassium chloride orally. Prophylaxis—quinidine	Ventricular contractions most common type. Frequently occur in normal hearts
Ventricular tachycardia	Ectopic focus of irritability in ventricular muscle, rate from 140 to 220 per minute	Slightly irregular rapid rhythm, different quality of successive first heart sounds. Jugular pulsations one-third to one-half as frequent as the apical beats	No effect	No change or increase	Quinidine orally or intravenously if necessary; Pronestyl orally or intravenously	Most common in coronary artery disease; may occur in paroxysms in normal hearts
Ventricular fibrillation	? Ectopic focus of irritability with generalized, multiple circus movements	No sounds audible; cannot be differentiated from cardiac standstill	No effect	No effect	Electrical defibrillator; if asystole persists after defibrillation, squeeze heart 80 times per minute until spontaneous contractions resume. Prophylaxis—quinidine, adequate oxygenation during anesthesia. ? Isuprel sublingually	Fibrillation during anesthesia is especially amenable to electrical defibrillation if done in less than four minutes from onset

Case 4.—A forty-two-year-old male presented himself with the symptoms of a pounding sensation in the chest accompanied by substernal pain radiating to the left shoulder. Past history was negative except for an abnormal electrocardiogram taken eight months previously which had revealed S-T segment depressions of 2 mm. in leads II, III, and aVF. Physical examination revealed an apprehensive male with a blood pressure of 130/60 and a heart rate of 180 per minute which was slightly irregular. Carotid sinus massage had no effect on the rhythm or rate. Prominent pulsations in the jugular vein were counted at 90 per minute, one-half the apical rate. A diagnosis of ventricular tachycardia was made and confirmed by electrocardiogram. Quinidine sulfate 0.2 Gm. every two hours for five doses resulted in a conversion to normal sinus rhythm. A dosage of 0.2 Gm. four times a day for five days was maintained and then discontinued. There was no recurrence, and follow-up electrocardiograms showed no serial changes from the record taken eight months previously.

For the prophylaxis of frequently recurring paroxysms of palpitations, whether supraventricular or ventricular in origin, the drug of choice is quinidine. It should be initially prescribed in doses of 0.2 Gm. every six hours; if on this dosage there is a breakthrough of palpitations, the dosage should be doubled, tripled, or quadrupled as the case may require. Daily doses greater than 4 Gm. should not be prescribed since at higher levels the irritability of the myocardium may be reduced to the extent that asystole results. For this reason also the use of quinidine in complete heart block and in the treatment of Adams-Stokes seizures with ventricular standstill is contraindicated. In Adams-Stokes syncope auscultation will not differentiate ventricular fibrillation from ventricular standstill, and the electrocardiogram is essential to make the differential diagnosis. For the prophylaxis of paroxysms of ventricular fibrillation, quinidine is the drug of choice. For transient bouts of ventricular standstill epinephrine and atropine by injection have been the drugs of choice. Recently a number of case reports have appeared recommending isopropyl norepinephrine (Isuprel) for the treatment and prophylaxis of the Stokes-Adams syndrome due to ventricular fibrillation or standstill; 10 to 15 mg. sublingually every four to six hours have been recommended as the prophylactic dosage in such cases.[11] Further reports on its efficacy are needed.

Whenever quinidine is used over a period of weeks or months, periodic platelet counts should be done since a precipitous drop in platelets with resulting hemorrhage may occur rarely during the administration of this drug. Patients should be warned to discontinue the drug and report to the physician immediately if spontaneous ecchymoses or an excessive bleeding tendency should occur.

Summary

The circulatory dynamics which occur and the physical findings which make possible the clinical differentiation of the common cardiac arrhythmias have been discussed. Illustrative case histories have been presented. The effective treatment and prophylaxis of each of these arrhythmias have been outlined in the accompanying table (Table I).

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Diabetic Emergencies and Treatment of Diabetic Coma

After a general discussion of the grave and complex problem of diabetic emergencies, Dr. Howard F. Root appends an outline of the treatment of diabetic coma as practiced at the George F. Baker Clinic, New England Deaconess Hospital.—*Chicago Medical Society Bulletin, September 3, 1955*

A Breakfast Test for Diabetes

Modified Sugar Tolerance Test

MARTYN C. RATZAN, M.D., BROOKLYN, NEW YORK

It is not enough to make the diagnosis of this disease. It is also of great importance to determine the degree of its severity. For the past twenty years in order to expedite investigation of diabetic patients in relation to their sugar tolerance, we have used, as a rapid and efficient determination, a modified sugar tolerance test which we call a "breakfast test for diabetes." Instead of using a standard amount of sugar or glucose, we use a standard meal.

Our standard meal consists basically of two slices of bread with sufficient butter to make it palatable, one cup of coffee with a tablespoon of cream, and two eggs prepared in any style whatsoever.

Our procedure consists of securing a blood specimen for a fasting blood sugar and urine from the patient in the office. The patient then leaves, secures his standard meal, and returns to our office one hour and fifteen minutes to one hour and a half after completion of his meal. Another blood specimen and urine to obtain the postprandial rise are then secured.

We have found that by use of this method, we have not only been able to establish a positive diagnosis but also have been able to calibrate rather simply, by the height of the glucose, the degree of severity of the patient's imbalance and lack of normal conversion of carbohydrates to glucose.

After ingestion of a standard breakfast a normal person will have an increase in his blood sugar to 150 mg. per cent (normal range 90 to 120 mg. per cent). At the end of one and a half hours after this food intake, there is a return to normalcy. The diabetic, however, starts at a higher level, depending on the severity, and has a greater interval before the blood sugar returns to the fasting level. If we assume a 200-mg. fasting blood sugar level, a high of about 400 mg. per cent will obtain with a slow, gradual descent over as long as four hours before a return to a relative normal. The blood sugar tolerance of a diabetic is a parabolic curve, while the plotted rate of ingestion of a normal person is a sine curve. Thus, by the use of this two blood sugar method a simple distinction between the diabetic and a normal person can be made.

At one and a half hours to two hours the normal blood sugar is back to its original value and at its highest peak in a diabetic. Prolongation of the diabetic curve continues until four hours so that maintenance of high level sugars is twice as long. In glandular disturbances, such as of the thyroid, pituitary, and adrenal, the sugar tolerance curve is prolonged. The thyroid states particularly return to normalcy in three hours with the hypothyroid phase being diminished in blood sugar height, whereas the hyperthyroid conditions are elevated to figures somewhat midway between the normal and the moderate diabetic. However, sine curve graphs like the normal are found in the thyroid sugar tolerance curve. It is always important to remember that history and physical findings must be corroborated with laboratory findings to establish accuracy of the diagnosis. This "two-test" method is offered as a laboratory determination of a blood sugar status to delineate insulin imbalance. To any laboratory test the common denominator of clinical investigation must be added for corroboration to establish accurate definitive diagnosis.

Comment

A modified sugar tolerance test employing the use of a normal breakfast as a test dose instead of the artificial use of glucose is herewith presented. By this means a more normal body sugar potentiometer is set into play to calibrate pancreatic function. The factors which balance diet against renal threshold, liver metabolism, and pancreatic function are, we believe, glossed over in the use of glucose. Protein conversion and its specific dynamic action, cholesterol usage, the breakdown of carbohydrates, and the interplay which necessarily obtains between the pancreas and its protagonistic and antagonistic endocrine glands are obviously more adequately stimulated by normal food ingestion. It must always be kept in mind that insulin not only produces glycogenolysis but also glycogenesis.

Summary and Conclusions

1. A "two-sugar" test for testing blood sugar using a normal breakfast instead of glucose is proposed.

2. Simplicity and greater expediency are achieved in addition to a more normal estimation of body metabolism in relation to sugar conversion by the "two-test" timed blood sugar method.

6802 Colonial Road

Surgical Considerations in Blood Dyscrasias

Prostatectomy Experiences in Chronic Lymphatic Leukemia

ALLAN K. SWERSIE, M.D., F.A.C.S., NEW YORK CITY

(*From the Urology Department of French Hospital and the McCarthy Urological Clinic, New York Polyclinic Medical School and Hospital*)

Among the common hazards encountered in surgical procedures is excessive blood loss. Occasionally we are confronted with a patient who requires operation and who, in addition, suffers with a blood dyscrasia. Under such circumstances it is the surgeon's anxious responsibility to assess the defective factors in the specific dyscrasia and to prepare for the role which this complication may play in all phases of treatment, preoperative, operative, and postoperative.

Blood dyscrasias may be manifested by anemia or by more troublesome problems of alterations in hemostasis mechanisms. A central position in control of bleeding is occupied by the coagulation reaction. It is generally held that coagulation involves two major reactions: (1) the formation of the active coagulant thrombin and (2) an interaction between thrombin and fibrinogen to form fibrin.

The formation of thrombin involves several factors:

1. The first of these, thromboplastin (thrombokinase), exists in plasma as the inactive precursor thromboplastinogen. Rupture of platelets liberates the activator.

2. A labile substance, believed to be a small amount of existing thrombin, causes disintegration of platelets.

3. Calcium in bound form is needed. Its specific reaction is not known.

4. Prothrombin is a plasma factor formed in the liver. The antihemorrhagic vitamin K is in some way concerned in its production.

The reactions for formation of thrombin may be expressed as follows:

Thromboplastin + labile factor + calcium + prothrombin = thrombin

Fibrinogen is a labile protein found in plasma. In shed blood it reacts with thrombin to form a coagulum of fibrin, in the interstices of which the remainder of the blood is enmeshed to form an elastic structure, the blood clot. The clot shrinks in retracting, expressing clear serum. The speed of retracting has a direct relationship to the number of platelets and quantity of thrombin.

When operation is considered in the face of a dyscrasia, it is advisable to know how much bleeding to anticipate. This may be determined by knowledge of the past hemorrhagic history, the clinical symptomatology, the type and site of operation, and an evaluation of laboratory data in connection with all the factors concerned with clotting. If all the laboratory tests are negative, it is improbable that there will be excessive bleeding. Where there are marked defects, hemorrhages may be expected. A single mild abnormality usually gives no trouble, but several mild, abnormal findings do.

The site of operation has a bearing on bleeding. Thus incisions through soft tissues, as in abdominal operations, liberate more tissue juices containing clotting factors than do nasal operations close to bone. Local vascular congestions unrelated to the dyscrasia status are of course added problems.

The measures of value in treatment of acute hemorrhagic episodes are of three general types: local treatment, systemic medication aimed to improve clotting, and transfusion. Local measures include temporizing means, such as compression and packing. Cautery or chemical styptics may be used for special conditions. Organic preparations containing thromboplastin or other coagulants must be applied directly to the bleeding surface after the clot is cleared away. Fragments of muscle tissue packed into a wound provide the best hemostatic effect. Systemic measures, such as administration of calcium, are of doubtful efficacy. Vitamin K is useful in prothrombin deficiencies. Transfusion is of greatest value.

This subject may be amplified by consideration of the important factors in some of the more common dyscrasias.

Common Blood Dyscrasias

Pernicious Anemia.—In this common primary anemia, coagulation time and prothrombin time are normal. Bleeding time is prolonged, and the clot retracts poorly. In practice there is no particular difficulty if the blood count is brought up to 3,000,000 red blood cells per cc. by treatment with refined liver extracts or vitamin B_{12} concentrates. If the situation is urgent, transfusions are indicated. These may be repeated in the operative or postoperative periods for the same indications as in normal patients.

Polycythemia Vera.—General anesthesia may increase blood viscosity in these cases. There is an increased tendency to thrombotic episodes. Pulmonary embolism, however, is uncommon. These patients should undergo venesections preoperatively to reduce the red blood count and hemoglobin concentration to normal or near normal. Time permitting, this may be attempted with the use of radiophosphorus.

Hemophilia.—Surgical intervention should be carried out only under the most urgent circumstances. As evidenced by the literature, and if one bears in mind that failures are rarely reported, a surprisingly large number do survive with proper precautions. All tests are normal except coagulation time. Platelets are normal in number but physiologically defective. Transfusion is the principal supportive measure. A total of 750 cc. of blood should be administered several hours prior to operation and a similar quantity during the procedure. The newly added blood platelets survive about two days, and successive transfusions should be given at twelve-hour intervals for at least three days or longer if necessary to insure a constant supply of sufficient numbers of physiologically intact platelets. About 90 per cent of bleeding comes from rupture of minute arteries and arterioles. These should be ligated meticulously. Capillary hemorrhage is handled well, as evidenced by normal bleeding time.

Idiopathic Thrombocytopenic Purpura.—In this disease there is a decrease in the number of platelets which are, however, physiologically normal. Coagulation and prothrombin times are normal. Bleeding time is increased up to one hour. The clot does not retract well. The spleen plays a part in destruction of platelets, and if there has been a preliminary splenectomy, the risk is less. Preoperative and postoperative replacement of platelets by transfusions is the measure of choice in control of bleeding. Recent reports give promise of prolonged clinical and hematologic remissions with ACTH.

Aplastic Anemia.—In this dyscrasia there is excessive blood destruction with poor bone marrow hematopoiesis. The characteristic triad of thrombocytopenia, anemia, and leukopenia make the prognosis uniformly bad. If surgery is undertaken, many blood transfusions are needed to carry the patient through.

Hemolytic Icterus.—Time permitting, a preliminary splenectomy will minimize the risk. Hemolysis ceases, the jaundice disappears, and the erythrocytes return to normal. Splenectomy too may save a moribund patient. The danger of an acute hemolytic crisis makes transfusion hazardous. If employed, it should be used in the form of a slow drip only after careful typing, cross matching, and determination of Rh factor.

Obstructive Jaundice.—Because of a lack of available calcium ions, coagulation time may be delayed to more than one hour. Hypoprothrombinemia may be marked and may be treated preoperatively with large doses of vitamin K. Calcium may be given orally or intravenously. If the coagulation time is improved to normal, there will be no undue bleeding.

Acute Leukemia.—This disease runs a rapid course. The marked purpuric manifestations and difficulties in controlling bleeding make the prognosis in surgery almost hopeless. However, hematologic remissions have been obtained with cortisone or ACTH in about 20 to 25 per cent of patients. The improvement lasts four to ten weeks followed by relapse, even with continuation of hormone.

Chronic Myelogenous Leukemia.—Except for the late acute stages there is only slightly increased risk. Surgery may be preceded by x-ray therapy to the spleen or spray x-ray of the long bones to reduce leukocytes. Similar effects may be obtained with radioactive phosphorus or other effective agents, such as nitrogen mustards and urethane. Anemia may be treated by transfusion in preparation for operation.

Chronic Lymphatic Leukemia.—The cause of this dyscrasia remains unknown. It has been classified with the other leukemias as belonging in a group of neoplastic diseases with close relationship to leukosarcoma, lymphosarcoma, myeloma, and Hodgkin's disease. Since it occurs most often in males in a ratio of 4:1 and usually after the age of fifty, it falls largely within a group which experience vesical neck difficulties most frequently.

The essential change in chronic lymphatic leukemia is hyperplasia of lymphoid tissue. Histologic evidence of lymphoid infiltration has been recorded in practically every organ and tissue in the body, most commonly in liver, kidneys, spleen, and bone marrow. On physical examination characteristic enlargement of the superficial nodes of the neck, axillae, groins, and epitrochlear areas are found. The liver and spleen may be palpable but less often than in the myelogenous type. In a small percentage of cases there is a diminution in blood platelets with an accompanying slight elevation of bleeding time. Coagulation time remains unaffected except in terminal stages. The leukocyte count usually ranges from 50,000 to 900,000, most often close to 100,000 with lower limits to 10,000. The blood smear reveals a monotonous picture with a dominance of small lymphocytes, 85 to 99 per cent. Crowding of the bone marrow produces a secondary anemia which varies in degree, depending on the course of the disease.

There is no cure for chronic lymphatic leukemia. Although some cases live for ten years after diagnosis is established, the average survival time is three to four years. Ultimate death is due to the effects of profound anemia and cachexia. Treatment is administered not for high white blood cell counts but for clinical relapses which produce elevated basal metabolic rates, weight losses, extreme sweating, nervousness, and tendencies to bleed. Remissions which may last several months to years are best brought about by moderate irradiation, preferably to the splenic area and over enlarged nodes. Somewhat less effective is the use of radioactive phosphorus or nitrogen mustards as triethylene melamine (TEM). Cortisone and hydrocortisone have been of considerable value in terminal stages characterized by bleeding tendencies due to thrombocytopenia or intercurrent infection.

Prostatectomy in Chronic Lymphatic Leukemia

This article deals specifically with prostatectomy in the presence of chronic lymphatic leukemia. Two cases are added to nine cases gleaned from the literature. Publication of most of these reports has been inspired essentially by histologic discovery of the rare finding of coexisting leukemic infiltration of the prostate. One of the two cases presented had similar findings. In all, there are now 11 recorded cases of prostatectomy in the presence of this type of leukemia. In eight of these the gland showed leukemic infiltration. There is no doubt that a much higher percentage of noninfiltrated glands have been removed, but since the histologic findings are not remarkable, these cases remain unreported. To complete the picture of symptomatic leukemic infiltration in the vicinity of the bladder outlet, mention must be made of a case of vesical neck obstruction in a female due to this factor which was treated by resection by Escue[1] in 1946.

Control of bleeding under favorable, normal systemic conditions is a matter of major concern in some procedures. Prostatectomy performed by any route or modification falls into this category. Except for a comprehensive review in 1948 by Greene and Heck[2] of the Mayo Clinic of 40 transurethral prostatectomies complicated with blood dyscrasias, there is a relative paucity of literature on this subject. Experiences were recorded in 28 patients with pernicious anemia, five with chronic myelogenous leukemia, three with chronic lymphatic leukemia, one with hemophilia, two with polycythemia vera, and one with congenital hemolytic icterus. All were treated adequately in accordance with the requirements of the specific dyscrasia. With the exception of the hemophiliac who bled intermittently for twenty-six days and eventually recovered, all had comfortable convalescences.

The presence of a surgical complication calls for careful medical evaluation of the existing status and suitable supportive therapy, including repeated small blood transfusions. One of the main fears in the lymphatic type of leukemia is development of infection since phagocytosis is limited because of the lack of response of the granulocytic series. It is advisable, therefore, to use antibiotics in large doses following surgery. In our specific problem of prostatic obstruction it has been suggested that the treatment of choice should be local x-ray therapy in the hope of alleviating symptoms by shrinking the gland and thus avoiding surgery. There is no record that such efforts have been successful. Indeed, it is likely that preoperative irradiation might add to technical difficulties in removing a gland.

Case Reports

CASE 1.—An eighty-year-old male, white patient was admitted on December 19, 1950, with acute urinary retention. He had had four catheterizations at home in the previous thirty-six hours, all yielding over 1,000 cc. of urine. Symptoms of prostatism had been progressive for three to four years. On examination neither spleen nor liver were palpable. There was a tender suprapubic mass. The prostate was enlarged 3 to 4 plus and was clinically benign. A number 12 soft rubber catheter was inserted for slow bladder decompression.

There was no history of major bleeding episodes in the past history. A hemorrhoidectomy performed in 1945 was uneventful. The patient stated that he "bruised easily." Of interest in the general examination were an elevated purpuric spot in the left buccal mucosa and enlarged lymph nodes in the right epitrochlear, left axillary, and both inguinal regions.

Admission laboratory data were as follows: Urine was alkaline with 2 plus albumin and few white blood cells. Red blood cells were 3,900,000, hemoglobin 10.5 Gm., and white blood cells 18,900 with lymphocytes 84 per cent and polymorphonuclears 18 per cent. Blood platelets numbered 80,000; however, bleeding time was normal, as was coagulation time. Blood urea was elevated to 58, and blood sugar was 97.

Smear study of bone marrow aspiration on December 21 revealed lymphocytes 86 per cent and polymorphonuclears 14 per cent, findings closely similar to those in the peripheral blood.

Intravenous pyelogram on December 21 showed retarded function in both kidneys with mild reflux up both ureters.

On December 22 three lymph glands were removed from the left axilla for biopsy. These showed reticulosis with some destruction of node structure. Aggregates of early lymphocytes were in evidence with atypical cells in sinuses and blood vessels.

On December 23 bilateral vasectomy was performed under local anesthesia. With blood urea stabilized at 20, a one-stage suprapubic prostatectomy was performed on December 28, 1950. A 26-Gm. adenoma was removed easily and with very little bleeding. A number 24 F. Foley urethral catheter, with a 30-cc. balloon bag distended to 20 cc. cupped by a single layer of oxidized gauze, was placed in the prostatic fossa, and cystostomy drainage was established with a number 34 Pezzar tube. Four hours after surgery the drainage was recorded as almost clear. Convalescence progressed very favorably. No transfusion was administered. The wound presented an unusually clean, glistening appearance because of the relatively poor neutrophilic response. The urethral catheter was removed on the ninth day. The patient voided and remained dry. His hospital stay was extended for another nineteen days, however, to permit repair of the inguinal hernia.

There were short periods of hospitalization in 1952 and 1953 for minor respiratory conditions. During such periods blood counts persistently showed white blood cells ranging about 20,000 with about 85 per cent lymphocytes. The total count and the lymphocyte differential were somewhat less than usual in these cases and probably indicate that the patient was in a comfortable state of remission. When last heard from in September, 1954, there were no major urologic or medical complaints.

Pathologic Report.—The sections showed a loose aroma with numerous acini. In some areas there

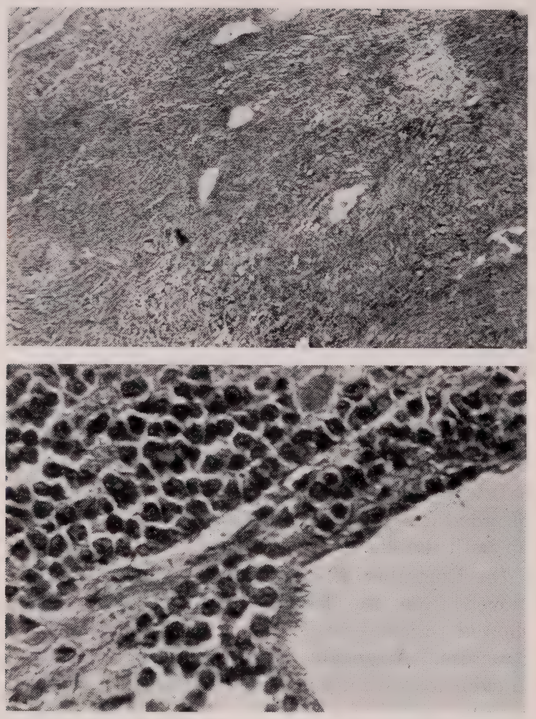

FIG. 1. *Case 1*—Photomicrographs showing lymphatic eukemia invasion of prostate gland (*low and high power*).

was marked hyalinization in which aggregates of lymphocytes with hyperchromatic nuclei were found (Fig. 1). The bladder wall was infiltrated by atypical lymphocytes.

Diagnosis was benign adenomatous hyperplasia with leukemic infiltration of bladder and prostate.

CASE 2.—The patient, a seventy-three-year-old white male, was admitted on June 17, 1953, with frequency of urination, nocturia four to five times, and difficulty in starting the stream. Symptoms were progressive for several years. Except for a hernia repair fifteen years previously, surgical history was negative. There were no medical illnesses or episodes indicative of blood dyscrasia. On general examination heart and lungs were normal; blood pressure was 180/90. No abdominal viscera were palpable. Moderate varicose veins were present in the lower extremities. There was no edema. The prostate was enlarged, smooth, not fixed, and benign clinically. There were enlarged nodes in the inguinal and cervical regions.

Laboratory data were as follows: Urine contained albumin with an occasional white blood cell. Red blood cells were 5,100,000, hemoglobin 14.5 Gm., and white blood cells 128,000 with lymphocytes 95 per cent. Blood platelets numbered 100,000, and prothrombin time was normal. Blood urea was 18 and blood sugar 110. X-ray showed the lungs to be clear with no mediastinal masses. Intravenous pyelogram showed good function of both kidneys with no gross structural changes.

On June 2 a suprapubic prostatectomy was performed in one stage removing a 52-Gm. adenoma. Bleeding was within normal limits and easily controlled. A number 22 F. Foley catheter was placed in the bladder with balloon bag distended to 20 cc. and a number 34 mushroom catheter placed for cystostomy drainage. Postoperative course was very smooth. The patient was out of bed on the second postoperative day, and the suprapubic tube was removed on the third postoperative day. On July 2 the resident made the following notation: "The patient ate breakfast out of bed, returned to bed and died suddenly." Unfortunately there was no autopsy. We may assume that this death was due to a vascular incident unrelated to the incidental blood dyscrasia.

Pathologic Report.—The specimen weighed 52 Gm. and showed cystically dilated hyperplastic glands with areas of diffuse mononuclear and polymorphonuclear cell infiltrate. Diagnosis was benign hyperplasia of the prostate.

Comment

A summary from the literature of experience with prostatectomy in the presence of chronic lymphatic leukemia is presented in Table I. Significant factors are tabulated so that general inferences may be drawn in regard to management and operability of these cases. In the preoperative phase it will be noted that of the 11 cases, only one required intensive preparation. X-ray therapy and repeated transfusions were given in this instance to improve the general condition; this patient had a profound anemia and showed clinical signs of relapse, such as sweating, loss of weight, and weakness, and treatment was required from the medical viewpoint without regard to the anticipated surgery. Most of these patients, it seems, are in a state of symptomatic remission and have a relatively benign form of the disease which does not call for strenuous preoperative preparation.

Bleeding was not excessive in any of the operations, whether performed by transurethral resection or by open operation and enucleation. One of the authors[4] in this series points out that his operative procedure was accompanied by very little bleeding, and the enucleated gland was almost bloodless. In the two cases reported here, both one-stage enucleations, the bleeding was less than customary.

It will be noted that in four of eight cases

TABLE I.—RECORDED CASES OF PROSTATECTOMY IN CHRONIC LYMPHATIC LEUKEMIA

Author	Year	Histology			Preoperative Preparation	Transurethral Resection	Open Surgery	Operative Complications
		Leukemic Infiltration	Noninfiltrative	Hyperplasia				
Jacobi, Panoff, and Herzlich[3]	1937	1	0	0	None	0	1 (two stage)	0
McCrea[4]	1940	1	0	0	None	0	1 (two stage)	0
Greene and Heck (Mayo Clinic)[2]	1948	1	2	3	None	3	0	0
Hare, Spence, and Fuqua[5]	1949	1	0	0	None	1	0	0
Connor, Heinemann, and MacNish[6]	1950	1	0	0	None	0	1 (two stage)	0
Johnson and Gundersen[7]	1953	2	0	2	None; x-ray and transfusions	2	0	0
Swersie	1955	1	1	2	None	0	2 (one stage)	0
TOTALS		8	3	7	1	6	5	0

where there was histologic evidence of leukemic infiltration of the prostate, there was *no* coexisting hyperplasia. When we combine this evidence with consideration of the previously mentioned case of vesical neck obstruction in the female due to leukemic infiltration, it becomes apparent that in chronic lymphatic leukemia the bladder outlet may be blocked by dense local leukemic invasion alone. In no instance has it been shown that the cellular infiltrate adds to technical difficulties in operation.

Conclusion

We may conclude that anticipated prostatectomy in chronic lymphatic leukemia need call for no additional apprehension provided the patient is in a state of remission or receives suitable care until a state of remission is obtained. Control of hemorrhage is not an unusual problem. To the many causes of bladder neck obstruction, we should add local cellular invasion in chronic lymphatic leukemia with or without associated prostatic hyperplasia.

123 EAST 83RD STREET

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Effects of Hormones in Gynecology and Obstetrics

In gynecologic and obstetric practice, hormone therapy's promise has outrun fulfilment, a discrepancy partly due to reports of poorly designed studies that lack adequate controls, valid statistical weighing, and unbiased sampling. Throwing a liberal bucketful of the oil of caution on choppy promotional seas, Dr. James Henry Ferguson discusses his impression of the current status of hormone therapy in erythroblastosis, pre-eclampsia, eclampsia, benign uterine bleeding, climacteric, abortion, mammary engorgement, and sterility. In a survey of 59 reports on stilbestrol from the American literature, the author says that good controls had been used in two, poor controls in nine, and no controls at all in the rest. In 27 reports on androgens he found that none of the authors had used good controls, two used poor controls, and the other 25 apparently used no controls at all.

—*Journal of the International College of Surgeons, August, 1955*

CLINICOPATHOLOGIC CONFERENCE

ST. JOSEPH'S HOSPITAL

ELMIRA, NEW YORK

Conducted by F. S. HASSETT, M.D. DECEMBER 8, 1954

Discussed by LAWRENCE E. YOUNG, M.D.*

Case History

The patient was a seventy-six-year-old, white male who was admitted to the hospital complaining of pain in the right hip and swelling of the scrotum on the left.

Two days before admission the patient noticed pain in the right hip, radiating to the right knee, which started after a strenuous walk. The pain increased on the following day, and because he could not take care of himself at home, he was advised to enter the hospital. He had first noticed swelling of the left side of the scrotum a year previously, and this swelling had gradually increased in size. The patient had always considered himself to be in good health. He had day and night frequency, every two hours for the past two to three years.

The patient was a well-developed, slightly obese man who did not appear ill. The right hip was painful on motion. There was a large left hydrocele present. The prostate gland was 2 plus enlarged, and "the base and vesical neck were hard and fixed." Otherwise, the examination was not remarkable. The temperature, pulse, and respirations were normal. The blood pressure was 130/70.

The urine showed a specific gravity of 1.029 and was otherwise negative. The red count was 4,300,000 with a hemoglobin of 13.6 Gm. The white count was 6,500 with a normal differential. Sedimentation rate was 53 mm. Blood glucose and nonprotein nitrogen were normal. The acid phosphatase was 11 units. Wassermann reaction was negative. A urine culture showed no growth. An x-ray of the chest showed normal heart and lung fields. An electrocardiogram showed auricular fibrillation.

On bed rest the pain in the hip subsided. The left hydrocele was tapped. The patient was discharged after eight days on Dienestrol 40 mg. a day, which was continued during the rest of his life.

SECOND ADMISSION (NINE MONTHS LATER).—The patient had noted shortness of breath for one month before readmission. On exertion he had noted left-sided chest pain. He had collapsed while walking on the street and had been brought to the hospital. He said that his stools had been tarry for two days before readmission.

The patient was pale, and dyspnea was present at rest. A systolic murmur was heard over the entire precordium and into the left axilla. There was 2 plus pitting edema of the lower legs. The prostate was enlarged, firm, and irregular.

Temperature, pulse, and respirations were normal. The blood pressure was 145/56.

The urine was again negative. The red count was 1,300,000 with hemoglobin 5.3 Gm. The white count was 6,800 with polymorphonuclears 40 per cent, lymphocytes 59 per cent, and eosinophils 1 per cent. The reticulocytes were 6.6 per cent. Blood sugar, nonprotein nitrogen, serum chlorides, and carbon dioxide combining power were normal. The acid phosphatase was 3 units. Free hydrochloric acid was present in the gastric analysis. Six stools were negative for occult blood.

An x-ray examination of the chest showed no change from the previous film. A barium enema was negative. A gastrointestinal series showed a small diverticulum in the second portion of the duodenum. X-ray examination of the bones of the pelvis showed no evidence of metastatic disease.

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* Associate Professor of Medicine, University of Rochester School of Medicine and Dentistry, Rochester, New York.

The patient was given four whole blood transfusions, and his hematocrit rose to 30. After digitalis and mercurial diuretics were used, the edema disappeared. The patient was discharged after three weeks.

THIRD ADMISSION (THREE MONTHS LATER).—He was readmitted for shortness of breath and more or less constant pain over the left side of the chest. His physician was reported to have observed bright red blood as well as tarry stools before sending him back to the hospital. Swelling of the ankles had reappeared.

The patient now showed rales at both bases. The heart was irregular with a systolic murmur over the precordium. The liver was palpable two fingerbreadths below the costal margin. There was 2 plus edema of the lower extremities.

The temperature was normal. The pulse was 102, respirations 24, and blood pressure 146/66.

The urine showed a specific gravity of 1.010 with a negative reaction for Bence Jones protein. The red count was 1,100,000 with hemoglobin 2.5 Gm. The white count was 4,300 with polymorphonuclears 8 per cent, lymphocytes 89 per cent, and eosinophils 3 per cent. The platelet count was 170,000. The reticulocytes were 0.2 per cent. Coagulation and bleeding times were normal. The prothrombin time was twenty-three seconds (control fifteen seconds). The acid phosphatase was 4. The serum proteins were 5.4 with albumin 3.6 and globulin 1.8. Three stools were negative for occult blood, and one was positive. The Coombs test was positive. The fragility test was within normal limits.

Bone marrow aspiration showed a markedly aplastic marrow with a predominance of lymphocytes and a marked reduction in erythroid elements. A bone marrow biopsy showed replacement of the red marrow by adipose tissue with a marked reduction in all cellular elements.

Chest x-ray showed no essential change. X-rays of the skull revealed normal bone appearance throughout. An electrocardiogram showed auricular fibrillation and minimal changes suggesting coronary insufficiency.

The patient ran a low-grade fever almost constantly which never rose above 101 F. He was given seven whole blood transfusions, and the red count rose to about 3,000,000 and the hemoglobin to about 11 Gm. His white count remained from 3,000 to 5,000 on repeated examinations; each time lymphocytes, some of which were called "abnormal" or "atypical," made up approximately 90 per cent of the white cells. Eight days before death the skin showed purpuric spots. These became more numerous, and five days before death he began spitting up blood, bleeding from the nose and from the urinary tract. Four whole blood transfusions over a period of five days maintained the red blood cells and hemoglobin at the previous level. His platelets were 150,000; coagulation time was twelve minutes and bleeding time three minutes. He became comatose and died forty-nine days after admission.

Discussion

DR. LAWRENCE E. YOUNG: In the beginning this patient's symptoms were common ones: pain in the hip, swelling in the scrotum, and urinary frequency. The prostate was described in terms that would make us think it was the site of a malignancy. The type of malignancy will be a subject for speculation after we have considered more of the data.

The sedimentation rate was substantially increased, a finding which we might justifiably attribute to malignancy. The acid phosphatase was 11, which we would certainly correlate with the findings in the prostate. I would assume tentatively that we were dealing with a carcinoma of the prostate. Evidently this assumption was made by the attending physician because the patient was given estrogen therapy.

After an interval of nine months he came into the hospital again. Just how quickly he began to get into difficulty isn't clear. He had noted shortness of breath for one month, and so one might assume that for eight months he had been getting along fairly well. At any rate when he came in, after a period of nine months, it was evident that something new had been added. He was dyspneic and had chest pain, but the exact nature of the pain and its location are not clear. I wonder whether the pain was pleuritic, or could it have been anginal? He was said to have had tarry stools, although that statement was not borne out as far as the laboratory studies were concerned since he had six negative examinations for occult blood. Nevertheless, he might have lost blood and have stopped bleeding before he came into the hospital. We can't ignore his statement.

Among the prominent new findings were anemia, pallor, and a systolic murmur. He had a relatively wide pulse pressure, which could be associated with the anemia. He had also developed edema. Whether he had heart failure at that point might be open to question, but since he had even more evidence of heart failure later, I think we can dismiss that point for the moment and examine some of the laboratory findings: "hemoglobin 5.3 Gm., reticulocytes 6.6 per cent, total white cells 6,800 with 59 per cent lymphocytes." He did not have Coombs antiglobulin test done at that time, but with a reticulocyte count of 6.6 per cent in the presence of severe anemia, with very little reservation one would be justified in assuming that the patient was suffering from a hemolytic process. This often happens in association with certain of the malignant lymphocytic diseases, as I shall mention again a little later. With a lymphocyte count of 59 per cent we might suspect either leukemia or lymphoma, even though the total white count was only 6,800. My impression at that point would have been that this patient had probably developed a malignant lymphocytic disease and that he had an associated hemolytic anemia.

Three months later he apparently had a recurrence of the previous symptoms in a more severe form. There were now more signs suggesting heart failure, rales at the lung bases, enlarged liver, and edema. As far as the laboratory findings were concerned, he had 89 per cent lymphocytes, some of them "abnormal" or "atypical," with a total white count of only 4,300. In view of these findings I would again be tempted to conclude that this patient had either lymphosarcoma or lymphocytic leukemia. The positive Coombs antiglobulin test indicates that the hemolytic anemia was of the so-called "autoimmune" type. We know that this may occur as a complication of either lymphocytic leukemia or lymphoma. Since patients with lymphoma may at times develop a blood picture of leukemia, these forms of malignant lymphocytic disease appear to be closely related. The histologic findings in lymphocytic leukemia and lymphosarcoma may be very similar, and in a case of this sort I would prefer to say simply that the patient might have a malignant lymphocytic disease without specifying whether it should be called leukemia or lymphoma.

There was a preponderance of lymphocytes in the aspirated bone marrow, but terminally the marrow is described as aplastic, and this can be correlated with the reticulocyte count of only 0.2 per cent. Patients with hemolytic anemia, either idiopathic or accompanying lymphoma or lymphocytic leukemia, may initially have a brisk reticulocytosis and erythroid hyperplasia in the bone marrow and then, terminally, develop erythroid hypoplasia in the marrow. The bone marrow in such cases may be replaced by malignant cells of the lymphoid series or, rarely, with fat or fibrous tissue.

We might next consider the purpura. It is commonly believed that platelets must be reduced to about 50,000 before we can attribute purpura to platelet deficiency alone. There may be, however, a qualitative abnormality of the platelets, and there may be other factors, such as a vascular abnormality, associated with malignant diseases. Since the platelet count was 150,000 and the bleeding time only three minutes, one might suspect that bleeding was due to an abnormality in the clotting elements of the plasma. The prothrombin concentration was apparently not determined near the end of the illness.

In summary, I suspect that this patient had a malignant lymphocytic disease with an associated acquired hemolytic anemia of the autoimmune type. Terminally, there was apparent failure of erythropoiesis. He had a prostate that felt like carcinoma. He was treated with estrogen and presumably did well for eight months. We know that leukemia or lymphoma may also involve the prostate but seldom to the extent that it causes marked symptoms. An increase in acid phosphatase is seen almost exclusively in carcinoma of the prostate, but if the prostate of a patient with benign prostatic hypertrophy is massaged immediately before the blood sample is drawn, there may be a significant increase in acid phosphatase for a short period. We note that the figures for this enzyme were lower after therapy. I would prefer to accept the figures for acid phosphatase as here given and to believe that this patient had carcinoma of the prostate as well as malignant lymphocytic disease. We know that double malignancies are not uncommon. I have seen at least six cases in which various types of carcinoma were associated with lymphoma or leukemia.

Question: The hemolytic anemia seemed to appear after estrogens were started. Have synthetic estrogens even been known to produce hemolytic anemia?

Dr. Young: Not to my knowledge. In this

connection, however, it is of interest that there is at least one report of a case in which acquired hemolytic anemia was dramatically relieved by removal of an ovarian tumor. On the other hand, this type of hemolytic anemia, although more common in females, occurs more often after menopause than before.

Question: Does carcinoma of the prostrate produce hemolytic anemia as frequently as lymphoma produces it?

Dr. Young: I know of only one case in which hemolytic anemia of the autoimmune type was associated with carcinoma of the prostate. This type of hemolytic anemia has been found occasionally in association with carcinomatosis of various types, but it is far more common as a complication of lymphoma or lymphocytic leukemia. Perhaps this will explain why I was inclined to favor a diagnosis of double malignancy in this case on what might seem to be rather thin evidence, especially since I have not had an opportunity to examine the blood smears.

Question: When the Coombs test was found to be positive, would you have advised the use of steroid hormones or corticotropin? If so, what result from their use would you have expected?

Dr. Young: I would have treated this patient with cortisone since this form of therapy is effective in most cases of autoimmune hemolytic disease. Some patients require maintenance therapy, but in our experience the majority do not. In one of our cases of chronic lymphocytic leukemia complicated by acquired hemolytic anemia, the hemolytic process subsided completely for two years after a course of cortisone therapy; when hemolysis recurred, another remission was quickly induced by another short course of cortisone. However, when erythropoiesis fails, as it did in this case, cortisone or ACTH cannot be expected to promote red cell production. The effect of these hormones appears to be in decelerating red cell destruction, but the mechanism by which this is accomplished is not known.

Question: Does splenectomy have any place in the treatment of a patient such as this?

Dr. Young: If the hemolytic process continues despite administration of large doses of cortisone or ACTH, splenectomy may be justified in the treatment of autoimmune hemolytic disease, even when associated with malignancy. In this case, however, the spleen was not palpable, the bone marrow showed erythroid hypoplasia, and the patient developed a hemorrhagic diathesis so that he would have been a poor operative risk. I would not have recommended splenectomy in this case.

Selection of cases of acquired hemolytic anemia for splenectomy is difficult, and the results of operation are difficult to evaluate. In a few instances operation may be justified even when the spleen cannot be felt on examination of the abdomen. It must also be admitted that in this case the failure of erythropoiesis and granulocytopoiesis might have been due to hypersplenism of the type described by Dameshek. That is, the spleen under these circumstances may produce humoral substances that interfere with maturation and/or delivery of cells from the marrow.

Question: Let us suppose that this man was only seen on the third admission when his bone marrow showed hypocellularity and his reticulocyte count was 0.2 per cent, and let us suppose his Coombs test was negative at that time. Would there be any way to tell under those circumstances that the patient was in the last stages of hemolytic anemia, or would the only diagnosis of the anemia be hypoplastic anemia?

Dr. Young: Under those circumstances I believe that only the latter diagnosis would have been tenable. The red cells apparently never showed sphering, or increase in fragility, or other distinctive abnormalities which might have persisted into the period of marrow failure to suggest a hemolytic process. Although it is recognized that a number of different types of hemolytic disorders may terminate in marrow aplasia, the causes of this transformation are not known (except for the possibility of hypersplenism).

Question: This man received transfusions on his second admission and had a positive Coombs test on his third admission. Do patients ever show positive Coombs test due to transfusions alone?

Dr. Young: This question is open to some debate, but for practical purposes I believe it can be answered rather firmly in the negative.

Diagnoses

Clinical.—*Lymphocytic leukemia, acquired hemolytic anemia, carcinoma of prostate, and purpura due to leukemia.*

Dr. Young.—*Malignant lymphoma, carcinoma of the prostate, acquired hemolytic disease, and bone marrow aplasia.*

Anatomic.—*Carcinoma of the prostate, question-*

able lymphocytic leukemia, bone marrow aplasia, and purpura.

Pathologic Report

Dr. James A. Mitchell: At autopsy there was noted a lemon yellow tint to the skin with marked pallor of the mucous membranes and scattered purpuric spots on the trunk and extremities. The lungs were essentially negative except for some thickening of the pleura. There was no evidence of any neoplasm in the lungs. The hilar glands were not enlarged and on section appeared grossly normal. The spleen was approximately normal in size with a markedly thickened capsule which showed the typical "iced" appearance of perisplenitis. There were several small, discrete, hemorrhagic nodules in the spleen, 1 to 2 mm. in diameter. The kidneys were normal in size and of normal gross appearance. The prostate gland was slightly enlarged. It was soft in consistency and on section showed a few discrete, raised, adenomatous areas. There was no evidence of any mesenteric gland enlargement, and the periaortic glands were not enlarged.

Microscopically, he had small foci of carcinoma in the prostate, but I think the disease had been brought under control with the estrogen therapy. None of the organs showed what I would call leukemic infiltration, although the liver showed some infiltration which I interpreted as extramedullary hematopoiesis. The spleen had the loss of follicles which would be consistent with leukemic infiltration; it also showed rather marked hemosiderosis and moderate myelopoiesis. The microscopic examination of the organs does not convince one that the patient really had leukemia. I am sure it was not lymphosarcoma. He had no tumor nodules of any type in any of the organs. He did not have metastatic prostatic carcinoma.

Summary

Dr. Young: We are obviously in trouble here as far as the question of malignant lymphocytic disease is concerned. I am puzzled, but not particularly surprised, by the lack of evidence of malignant lymphocytic disease on histologic examination. If we accept the hematologic findings as described, I would still prefer to believe that this patient had suffered from such a disease and that he died during a phase of the disease in which there was no positive histologic evidence of such a process. I believe that this can happen, and I have seen it before.

I am still puzzled as to the cause of death of this patient. Apparently, he did not die of carcinoma of the prostate or of malignant lymphocytic disease. He had been liberally transfused and was not markedly anemic at the time of death. It seems possible that he died of heart failure or, possibly, of hemorrhage in the brain. But I suspect that as is so often the case, we cannot really be certain of the cause of death.

Status of Renowned Surgeons in Hall of Fame

Statues of eight of the 13 most renowned surgeons the world has ever known have been completed for the International College of Surgeons' Hall of Fame at 1516 Lake Shore Drive, it was announced recently by Dr. Max Thorek, founder and secretary general of the college.

Six of the statues have been placed in their positions in the museum's hall of immortals where they will stand permanently. The other two figures will be placed there shortly. Dr. Thorek said that the remaining five sculptures will be finished by the end of June, 1956.

The statuary are life-sized, sculptured in stone, resting on a marble base. They are the work of Edouard Chassaing and Louis Linck of the Chicago Art Institute and have been contributed to the college by Edwin Speidel, inventor and chemist, and Mrs. Speidel, of Providence, Rhode Island. The finished statues are those of Imhotep, the earliest known physician, born approximately 2700 B.C.; Hippocrates (460 B.C.), the father of medicine; Galen (131 A.D.) who pioneered in surgery; Ambrois Pare (1510) father of modern surgery; Andreas Vesalius (1514), famous anatomist; William Harvey (1578), discoverer of the blood circulation; Giovanni Morgagni (1682), father of pathologic anatomy, and Mme. Marie Curie (1867), who discovered radium and is the only woman among the surgeon immortals. The five remaining scupltures will be of Pasteur, Semmelweis, Morton, Lister, and Roentgen.

TREATMENT OF CANCER

IRWIN E. SIRIS, M.D., *Editor*

Subcommittee on Cancer
Council Committee on Public Health and Education
Medical Society of the State of New York

with the cooperation of

Bureau of Cancer Control
New York State Department of Health

Biopsy and Cytology

SIEGFRIED TANNHAUSER, M.D., BUFFALO, NEW YORK

(*From the Department of Pathology, Deaconess Hospital*)

Up to the arrival of cytology as a practical laboratory method approximately fifteen years ago, biopsy had been the only way to diagnose or confirm suspected malignancy. In this relatively short time cytology has grown from feeble beginnings to become a widely accepted diagnostic procedure. Through cancer detection centers and lay propaganda the method has caught the imagination of wide, nonmedical population groups; so much so that many women spontaneously ask their physician to perform a cytologic test, meaning, usually, a vaginal smear.

Due to the relative newness of the method, there is no clear realization even among physicians of what cytology can do, what its limitations are, whether and where it can replace biopsy, and in what fields the biopsy is still the absolute method of diagnosis. It is the purpose of this article to discuss these points with regard to the different fields of application of cytology and biopsy.

Diagnosis of Carcinoma of the Cervix

The most important and best known field of cytologic study is the cervical and vaginal smear. It is here that the cytologic method has its greatest use. Why this should be so is clear from a short consideration of the anatomy of this area.

Carcinoma of the *cervix,* which in most cases is our diagnostic goal, starts at the junction of the squamous epithelium of the vagina and the columnar epithelium of the cervical canal (Fig. 1). This squamocolumnar junction is usually exposed to the eye and also to the scraping spatula. Therefore, the physician by direct cervical smear is able to take a *cumulative, fully representative* sample of this area. In a minority of cases where the squamocolumnar junction is inverted and not accessible to a simple spatula, scrapings obtained by a blunt instrument, for instance, a sterilized ear curet, will secure enough surface material from the squamocolumnar junction within the cervical canal. In addition to the direct cervical smear, a smear from the vaginal pool will provide a sample of cells which have accumulated over a longer time span and may derive not only from the cervix but also from the endometrium.

Nowhere in the body are the anatomic condi-

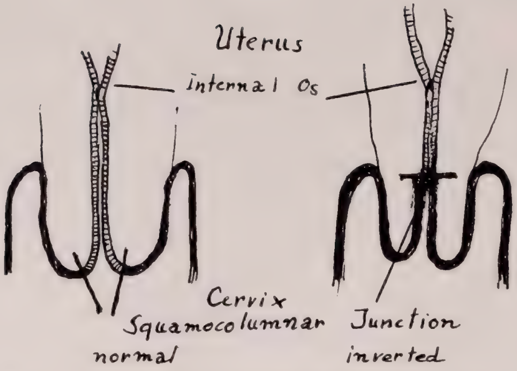

Fig. 1. Normal and inverted squamocolumnar junction of cervix.

tions so favorable for the cytologic method as in the vagina and the cervix. The continuously humid condition of the cervical surface facilitates the exfoliation of cells and accounts for the fact that it is in only very rare circumstances that a cervical malignancy cannot be diagnosed by exfoliated cells. Therefore, a negative cytologic test, if it has been performed with adequate accuracy and care, practically excludes the possibility of existing malignancy.

The reverse, unfortunately, is not true. In several conditions, of which pregnancy is one, but also in severe inflammation, atypical cells may appear in the smears, and the cytologist has to exercise great caution in stating his interpretation.

Biopsy with Positive Cervical Smears.—This short consideration answers the question whether cytology alone is sufficient for the positive diagnosis of malignancy. The answer is no. Although there are instances in which a grossly visible tumor is confirmed by numerous cancer cells and particles in the smears, a biopsy will always tell more about the tumor, its way of growth and invasion, and the degree of differentiation and anaplasia, data which are very important for the therapeutic handling and the prognosis of the individual case. And in those instances where a positive smear is obtained in a grossly normal or only moderately inflamed cervix, the biopsy is a must. It should be performed as a ring biopsy of the entire squamocolumnar junction to make sure of catching a possibly very small malignant area. In cases of inverted squamocolumnar junction, even a ring biopsy may be negative in spite of positive smears. In two cases of this kind we advised a strip biopsy performed with a small, sharp curet which takes longitudinal strips of the entire circumference of the cervical canal, from the endocervix down to the external os, and in some of these strips we were able to demonstrate carcinoma in situ, whereas others immediately adjacent did not show malignancy.

Whereas the negative vaginal and cervical smear will exclude carcinoma of the *cervix* with reasonable certainty, this is not true in *carcinoma of the endometrium.* The various publications differ only slightly in the percentage, between 30 and 50 per cent of positive smears in this type of carcinoma. This does not make the direct cervical smear less valuable if we keep in mind that it is designed for the carcinoma of the cervix. For the detection of carcinoma of the endometrium, the smear from the vaginal pool is superior to that taken from the cervix because in the vaginal pool endometrial cells tend to collect over a longer period of time. Therefore, a vaginal pool smear should always be added to the cervical smear in women past the menopause, the principal age group of endometrial carcinoma. But many cases of this carcinoma type remain which are not diagnosed, and numerous devices have been designed, such as various types of cannulas and lately small brushes, to improve the performance of the cytologic method for carcinoma of the endometrium. We feel, however, that when the endometrial cavity has to be entered, it is nearly as easy and much more accurate to remove the entire endometrial lining with a sharp curet and thus obtain complete representation of the potentially carcinomatous field. In a previous publication[1] this author has shown that in many instances carcinoma of the endometrium is associated with a marked enlargement of the uterus relative to age and with reactivation of dormant leiomyomas, both valuable clinical signs in the diagnosis of this condition.

Finally, it should be emphasized that the vaginal smear not only gives information about malignancy but also about other pathologic conditions, such as polypoid cervicitis, Trichomonas infection, and especially about the endocrine status of the patient, and thus can be used for direction of therapy in these conditions.

Cytology and Biopsy in Cancer of the Lung

Another important field of the cytologic method is the examination of sputum, meaning bronchial expectorations, for cancer cells. Only between 70 and 85 per cent of all lung cancers, according to the majority of all publications, will exfoliate malignant cells, the cytologic results increasing in accuracy with the number of samples. Although the yield of positive findings is not quite so high as in the vaginal smear, it is an extremely valuable method, especially for detection of malignant cells from areas which are too far peripheral to be visualized and biopsied by the bronchoscopist. A positive finding of malignant cells in the sputum is diagnostic for cancer, but the absence of these cells does not necessarily rule out cancer; as we have seen, between 15 and 30 per cent of all cancer cases do not exfoliate spontaneously.

In the cases with positive cytology the question of biopsy has to be left to the judgment of the clinician. The type of tumor can usually be diagnosed from the cytologic slides, especially if a paraffin-embedding method is used. But one should try to obtain additional information by bronchoscopic biopsy about location and extent of the malignant lesion. Naturally a negative bronchoscopy does not exclude the existence of peripheral cancer. Of several instances with positive cytologic and negative bronchoscopic findings in which the subsequent operation proved cancer, we may cite one in which the tumor was located close to the spine in the posterior medial portion of the left lower lobe, escaping even the attention of the roentgenologist for a long period of time. We feel, therefore, that unquestionably positive cytology should supersede negative bronchoscopic findings for therapeutic planning.

In our experience a paraffin-embedding method[2] in which sputum is collected in a special fixing fluid* has proved well suited for routine examinations. In the fixed sputum the cells do not undergo autolysis; samples can be collected over a longer time span, thus enhancing the probability of catching exfoliated malignant cells. The fixed sputum is treated and embedded by the technician and read by the pathologist like any other surgical specimen.

Another observation which proved very valuable is that sputum collected in the period immediately following bronchoscopy often contained malignant cells, which were not present before the procedure. Obviously, the strong mechanical stimulus is able to to dislodge cells which otherwise do not tend to exfoliate.

A type of biopsy which, with the present relative safety of chest surgery, should be resorted to more often is that obtained with thoracotomy directly from peripheral lesions of the lung. Rigler, in a paper recently given before the Buffalo Academy of Medicine, endeavored to show that most lung tumors originate peripherally, growing slowly over years towards the hili. In some of his cases he demonstrated suggestive lesions four to five years prior to the definite outbreak of the disease. The implied opinion was that in all these cases peripheral biopsy should be taken, especially in people who on account of their history (age, chronic cough, chronic expectoration, smoking habits) are in a group suspect of tendency to lung carcinoma.

As is the case with cervical smears, the cytologic examination of the sputum may be useful for the diagnosis of conditions other than cancer. In many instances, especially by using paraffin-embedding methods in which the sputum is treated as a tissue entity, one can obtain reliable information on such conditions as asthma, bronchiectasis, chronic emphysema, and lung abscess.

Cytology and Biopsy in Diagnosis of Breast Lesions

The cytologic method has given valuable results in the examination of secretion from the nipple in various breast lesions. Fragments of benign and maligant papillomas can often be demonstrated. But the great majority, especially of the peripheral benign and malignant lesions, do not produce secretions and, therefore, exclude cytologic methods. Whenever a smear from the secretion of a nipple shows the presence of papillary structures, a biopsy should ascertain the nature and extent of these lesions. On the other hand, if the breast gives the tactile impression of diffuse fibrocystic disease and the examination of secretions from the nipple repeatedly fails to show suspicious cytology, we feel that an expectant attitude of the physician is justified.

Cytology and Biopsy in the Genitourinary Tract

In the genitourinary tract results of cytologic methods have been disappointing. The most common kidney tumor, the hypernephroma or clear cell carcinoma, exfoliates late and irregularly, and it is very difficult to obtain reliable specimens, even with ureteral catheterization. The squamous cell carcinomas of the kidney pelvis show a greater tendency to exfoliate, but on the whole this type of tumor is too uncommon to be of great practical importance. Several times we found papillary structures in the urine in the presence of papilloma and papillary carcinoma of the bladder. Again in these cases the cytoscopist is able to visualize the tumor directly and take adequate biopsies which are not dependent on the uncertainty of exfoliation.

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* Glacial acetic acid 5 parts, 40 per cent formaldehyde solution 25 parts, and 95 per cent ethyl alcohol 70 parts.

In the diagnosis of prostate pathology where the method, if it were reliable, would be of great value, the results are also disappointing. In many cancer cases malignant or suspicious cells are found, confirming the clinical impression of the urologist. In other cases, however, even in advanced carcinomas, no positive smears are obtained, probably due to the fact that the fibrosing type of carcinoma of the prostate tends to occlude the excretory ducts and thus prevent the malignant cells from entering the urethra. Therefore, negative smears do not rule out cancer, and the diagnosis has to be ascertained by other means, which may include biopsy or transurethral prostatectomy.

Cytology and Biopsy in Lesions of the Gastrointestinal Tract

There is hardly a field in diagnosis in which reliable cytologic findings would be more desirable than in the ulcerative lesions of the stomach. To know before surgery with reasonable certainty whether a suspicious ulcer of the stomach is or is not of malignant type would naturally be of the utmost importance. Unfortunately, so far no reasonably reliable method has been found which allows the taking of adequate cytologic samples from the ulcerating areas. In the examination of gastric washings only about 20 to 40 per cent of cancer cases will produce positive smears and mostly only those advanced cases in which there is roentgenologically little doubt about the nature of the lesion. The method is also inconvenient in that unusually great care has to be exercised about the way the gastric washings are processed. Preparation of smears or embedding of the centrifugate has to be done immediately; otherwise autodigestion of the cells due to the gastric secretions takes place. It is on account of all these factors that the method is still in the investigative stage and not suited for routine procedure. The balloon technic which Papanicolaou[3] advocates or the recently published brush technic of Ayre[4] are among the numerous attempts to improve the method; of how much practical value they are remains to be seen.

What is true about the ulcer of the stomach is equally true about the lesions of the papilla of Vater. Lemon[5] was able to demonstrate malignant cells in duodenal drainage in 30 per cent of cancers of the papilla of Vater, but again his series, obtained on an investigative basis with cooperation of the x-ray department of a teaching institution, depends on the devoted collaboration of the attending physician who takes the specimens and the laboratory who processes them. Therefore, we feel it is not yet a method suited for office practice or even for the routine of the average hospital.

Surgical biospy taken from an ulcer during operation is also of doubtful value because a negative result from a random biopsy does not preclude the presence of malignancy in another corner of the lesion. Or, a lymph node which does not show cancer does not preclude the presence of malignancy in an adjacent lymph node.

Cytology and Biopsy in the Diagnosis of Pleural and Peritoneal Exudates

Another important field for cytologic diagnosis is the examination of pleural and abdominal exudates for cancer cells. With nearly unequivocal certainty one can state that when such an exudate is caused by carcinomatous implantations in the serous membranes, cancer cells will show up in the cytologic findings. This does not mean that all fluids associated with malignancy of the lung or of the liver will contain cancer cells. For instance, if in the course of advanced liver cirrhosis complicated by bile duct carcinoma fluid develops in the abdominal cavity, this fluid may be entirely due to the cirrhotic process. Since the carcinoma may not reach the liver surface, no cancer cells will appear in the ascites. The same mechanism may prevail in extensive liver metastases from cancer of stomach or breast with impairment of the portal circulation and production of ascites but without exfoliation of cancer cells from the liver surface. In the thoracic cavity large tumor masses at the hili, through mechanical interference with the pleural drainage, may produce a cancer cell free fluid in the pleural cavity.

With the exception of these two pathogenetic mechanisms, which should be kept in mind, the examination of the serous fluids for cancer cells is an extremely reliable method, able in many instances to diagnose not only the presence of cancer but also, with the help of special stains, its type. In ascites with negative cytologic findings a needle biopsy of the liver will usually diagnose or rule out carcinoma in that organ.

Cytology and Biopsy in Lesions of the Skin, Mouth, and Rectum

When a lesion is as easily accessible as those of the skin, there is little call for cytologic study. In addition, even malignant lesions are usually quite firm, their surface is dry, and they do not exfoliate easily. Therefore, negative cytology would be of little value. There are exceptions; for instance, smears from ulcerating mycosis fungoides may show the characteristic reticulum cells. But again for the ultimate diagnosis the pathologist depends upon biopsy.

Lesions of the mouth and the rectum are also easily accessible for biopsy, and since they are usually sharply defined, there is no difficulty in obtaining the potentially malignant area, eliminating the need for cytologic study.

Conclusion

In summary, we see that there are fields in which cytology is superior to routine biopsy as in the diagnosis of cancer of the cervix, but even here positive smears should be confirmed by specially planned biopsies. In the diagnosis of lung cancer, cytology together with x-ray is at least as accurate and sometimes superior to biopsy alone, but both methods should be used in conjunction. In the diagnosis of breast lesions and urologic cancer, cytology may afford valuable aid but cannot replace biopsy. For the diagnosis of cancer of the upper intestinal tract (stomach, duodenum), both cytology and biopsy as preoperative procedures meet with technical difficulties which are inherent in the type of the ulcerating lesions. Cytology is of paramount value in the diagnosis of malignancy in abdominal or pleural fluids if the few exceptions are kept in mind. Finally, for the diagnosis of skin lesions, biopsy alone should be used.

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Use of Hormones in the Treatment of Allergic Diseases

EMANUEL SCHWARTZ, M.D., BROOKLYN, NEW YORK

(*From the Division of Allergy of the Department of Medicine, Long Island College Hospital, and the State University of New York College of Medicine at New York City*)

ALLERGIC syndromes, such as bronchial asthma,[1–14] hay fever,[15,16] drug sensitivity, acute urticaria, angioneurotic edema, and collagen diseases,[17,18] respond favorably to corticotropin, cortisone, hydrocortisone, prednisone, and prednisolone. Before using the hormones one should have an understanding of the physiochemical aspects of corticosteroids and their effect on allergic tissue responses and a knowledge of the indications, side-effects, precautions, and contraindications.

The activation of the hypothalamus-pituitary-adrenal mechanism depends on a wide variety of normal and abnormal circumstances. All tissues of the body require corticosteroids for their normal function, and when they are exposed to "stress," increased quantities are necessary. The hypothalamus-pituitary-adrenal system can be rapidly activated from the stress area through the sympathetic fibers to the adrenal medulla, resulting in release of epinephrine. Epinephrine reaches the hypothalamus via the systemic circulation, causing a release of a humoral substance from the hypothalamus which stimulates the anterior pituitary. This causes a release of corticotropin, which stimulates the adrenal cortex to release corticosteroids. The regulation of secretions can be maintained over a long period by activation of the anterior pituitary through a neurohumoral mechanism from the hypothalamic nuclei, which in turn can be influenced by the higher brain centers (Fig. 1).

The output of glucocorticoids and 17-ketosteroids is decreased in many asthmatic patients, suggesting that there may be interference, or a block of the normal hypothalamus-pituitary-adrenal secreting mechanism, or an inability to secrete the excessive amount of corticosteroids necessary during stress. In allergic diseases the ground substance of the mesenchymal connective tissue is edematous and stains lightly. The basement membrane about the blood vessels is thinner and more lightly stained. Rappaport[19] attributes this to a breakdown of proteins composing the ground substance. The corticosteroids decrease edema, increase the stainability of the ground substance, and restore the thickness and stainability of the basement membranes. This

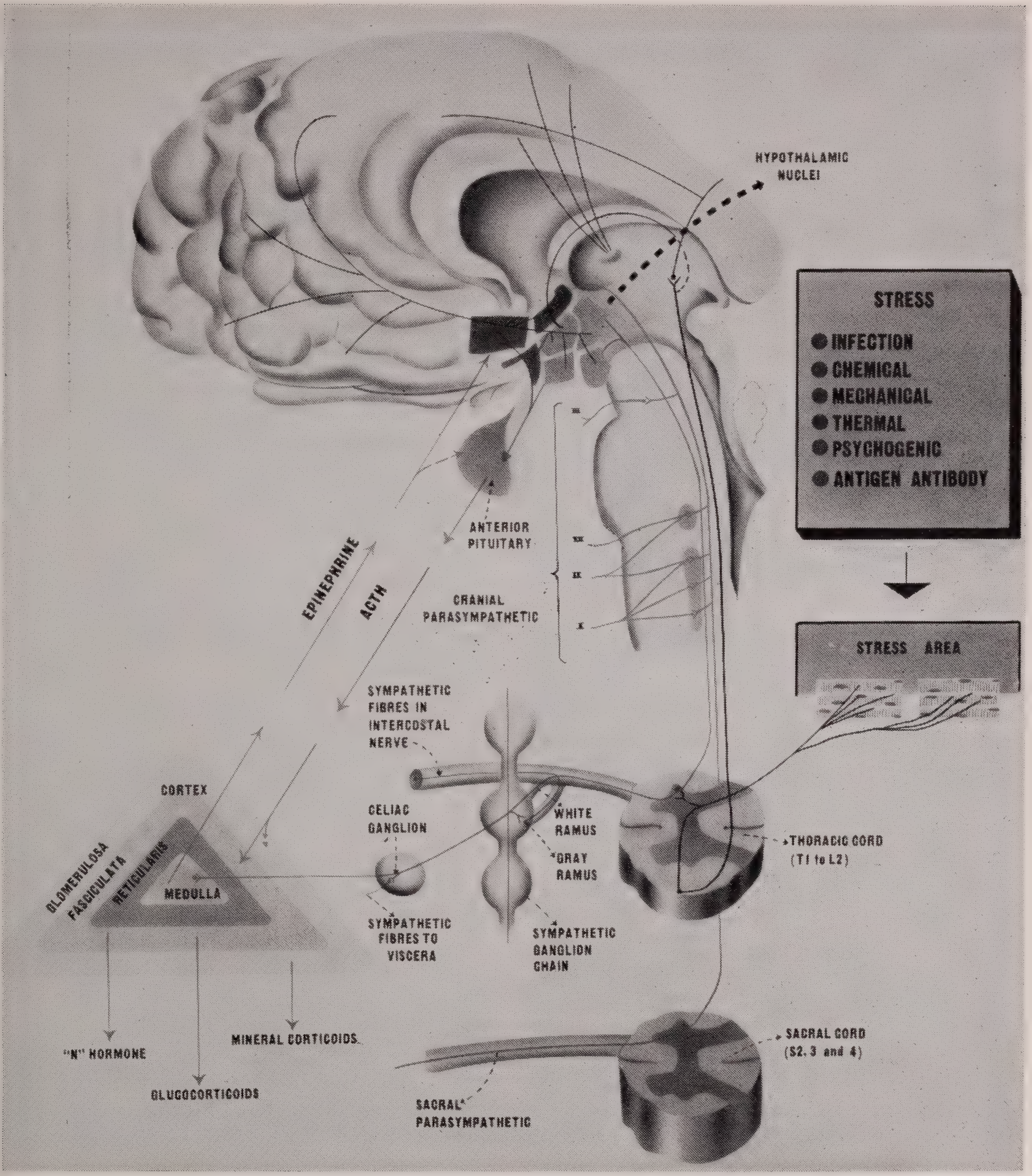
HYPOTHALAMIC NUCLEI
STRESS
INFECTION
CHEMICAL
MECHANICAL
THERMAL
PSYCHOGENIC
ANTIGEN ANTIBODY
STRESS AREA
III
ANTERIOR PITUITARY
VII
IX
X
EPINEPHRINE
ACTH
CRANIAL PARASYMPATHETIC
SYMPATHETIC FIBRES IN INTERCOSTAL NERVE
CORTEX
GLOMERULOSA
FASCICULATA
RETICULARIS
MEDULLA
CELIAC GANGLION
WHITE RAMUS
GRAY RAMUS
THORACIC CORD (T1 to L2)
SYMPATHETIC FIBRES TO VISCERA
SYMPATHETIC GANGLION CHAIN
"N" HORMONE
MINERAL CORTICOIDS
GLUCOCORTICOIDS
SACRAL CORD (S2, 3 and 4)
SACRAL PARASYMPATHETIC

FIG. 1. Physiologic regulation of adrenal-cortical secretion. *(Adapted and modified by F. Netter, M.D.)*

was interpreted as due to arrest of mucoprotein breakdown and restoration of the normal state. The corticosteroids inhibit the reactivity of mesenchymal tissue, suppress the clinical manifestations of allergic diseases, and afford symptomatic relief. They do not alter the hypersensitive state.[10,20–30] The union of antigen and antibody acts as a stress, and either alone or with other stressing stimuli, such as infection or psychogenic disturbances, probably causes a release of proteolytic enzymes or anaphylotoxins, substances which trigger allergic tissue responses.

The exact mode of action of the corticosteroids is not clearly understood. One theory is that the corticosteroids interpose a block between the tissue cells and the anaphylotoxins. Another theory is that the corticosteroids act on the cell surface or within the cells with possible deposition of the hormone within the fibroblasts, thus rendering the cells temporarily less subject to injury.

Recommendations and Precautions

The best results with the steroids are obtained in self-limited diseases, such as penicillin reactions, in which with proper dosage and duration of therapy relapses do not occur. Steroid therapy affords moderate to marked relief also during acute exacerbations of chronic allergic diseases if adequate dosage is given and sustained during the acute phase. In most patients with chronic allergic diseases, however, although relief of symptoms is adequate and at times remarkable, it is confined to the period during and immediately following the administration of the steroid. After hormone therapy is discontinued, symptoms usually return within several hours to two weeks. Prednisone and prednisolone are the best therapeutic agents now available for the symptomatic treatment of bronchial asthma. Relief of symptoms is more complete and maintained for longer periods with relatively small doses.

In hay fever oral hormone therapy combined with hyposensitization produces much greater relief than that obtained with any other treatment. However, it should be used in selected cases, i.e., in those patients who have marked symptoms during the height of the season and after the usual measures, such as hyposensitization and antihistamines, have failed. Use of the hormones in allergic dermatoses, drug allergy, Loeffler's syndrome, and collagen diseases have afforded satisfactory symptomatic relief in many patients.

In the treatment of allergic diseases with therapeutically effective doses of corticosteroids, severe side-effects are very seldom encountered. However, these drugs are extremely potent, and patients should be kept under close observation. Their use is contraindicated in the presence of pulmonary tuberculosis, peptic ulcer, psychosis, hypertension, osteoporosis, and in most cases of diabetes mellitus. Intercurrent infection may be masked by the steroids. With the onset of infection antibiotic therapy should be instituted immediately.

It should also be kept in mind that long-term therapy with cortisone, hydrocortisone, prednisone, and prednisolone may result in adrenal cortical atrophy, and it may be necessary to stimulate adrenal cortical function from time to time by the use of corticotropin. When long-term therapy is stopped, the steroids should be withdrawn gradually rather than abruptly. Steroid therapy should not be discontinued during stress, i.e., when a serious infection develops or when emergency surgery is contemplated. It may be necessary to increase the dosage during severe stress or to reduce it cautiously with minor infections. When prednisone and prednisolone are employed in therapeutically effective doses in allergic diseases, there is usually no sodium or fluid retention or potassium loss. However, exceptions do occur, and the possibility of water retention and decreased potassium, especially with large doses, exists. Prednisone and prednisolone are the drugs of choice in allergic diseases complicated by congestive heart failure. With long-term therapy with cortisone and hydrocortisone a low-salt diet and potassium chloride orally are indicated. With prednisone and prednisolone this is not usually necessary, except possibly when given in large doses.

Comparison of Prednisone and Prednisolone Therapy in Bronchial Asthma with Cortisone and Hydrocortisone

In animal studies it has been shown that prednisone and prednisolone have a high degree of glucocorticoid activity, as evidenced by eosinophil depletion, liver glycogen deposition, and thymus involution. They are two to four times more active than cortisone or hydrocortisone.

The effect of prednisone on intractable bronchial asthma in 21 patients was investigated by us. In general, therapy was initiated with a daily dose of 10 to 20 mg. and then reduced to a maintenance dose of 5 to 10 mg. daily. The daily dose was administered in two to four divided doses, preferably after meals and at bedtime. The duration of therapy ranged from seven to one hundred and fifty-three days. Ten patients obtained complete relief of symptoms, eight marked relief, one slight to moderate relief, and two no relief.

Of the 21 patients treated with prednisone, 16 had previously been treated with adequate doses of cortisone and hydrocortisone. Of these patients, ten had superior relief with prednisone. Relief of symptoms was more complete and maintained for longer periods with relatively small doses of prednisone. Four patients were relieved equally by hydrocortisone. Two patients failed to respond to both hydrocortisone and prednisone. No patient who was treated with both hydrocortisone and prednisone obtained any greater relief from hydrocortisone than was obtained from prednisone. Weight gain occurred in nine patients; fullness of face was observed in three. In one case where fullness of face was noted, it was less marked than with hydrocortisone, and in two cases it was the same.

In a patient with asthma and diabetes mellitus, glycosuria was less and insulin requirements lower on prednisone than on cortisone or hydrocortisone. The decrease was probably due to the fact that more satisfactory relief of the asthmatic symptoms was obtained with prednisone, resulting in the elimination of epinephrine injections, which previously had increased the glycosuria. In another patient with asthma and nasal polyps there was considerable decrease in size of the nasal polyps, and shrinkage was much more effective and maintained longer with prednisone than with cortisone or hydrocortisone. This patient had also developed osteoporosis from prolonged cortisone and hydrocortisone therapy. Prednisone therapy for one hundred and fifty-three days has not increased the severity of the osteoporosis. In a patient with congestive heart failure with edema of the lower extremities extending to the knees, there was relief of a distressing cough, dyspnea, and wheezing of the chest by prednisone in twelve hours, and with digitoxin, a low-salt diet, and Mercuhydrin the decompensation disappeared in one week.

Of 15 asthmatic patients who received prednisolone, nine obtained excellent relief, three marked relief, two slight to moderate relief, and one no relief. Ten patients previously had received hydrocortisone, and of these, nine had superior relief with prednisolone. One patient was not relieved by either drug. Nine patients had previously received prednisone. The anti-allergic potency and side-effects of prednisolone and prednisone seem to be similar. In the 15 prednisolone-treated patients there were no side-effects in 12; fullness of the face occurred in two, and slight weight gain in one, and one of the patients with fullness of the face also developed acne. Two patients who developed fullness of the face with prednisolone also had fullness of the face with prednisone and hydrocortisone. Another patient who had no side-effects from prednisone had developed fullness of the face with hydrocortisone.

Summary and Conclusions

Hormone therapy is not a substitute for the usual therapeutic measures used in the management of the allergic patient. In order to obtain complete and lasting benefit, specific treatment, such as avoidance of offending allergenic agents and specific hyposensitization, are the best forms of therapy. However, the results obtained in the symptomatic relief of allergic diseases with the corticosteroids far surpass those previously obtained with any other agent or procedure. The early use of the corticosteroids in conjunction with the antibiotics for a period of two to seven days for asthmatic attacks ushered in by acute upper respiratory infection may not only decrease the duration and severity of the attacks but may also prevent the development of status asthmaticus. It should be emphasized that once hormone therapy is established, the usual therapeutic measures, such as the use of epinephrine, iodides, intravenous glucose, antibiotics, and barbiturates, should not be discontinued immediately. With the onset of relief the usual therapeutic measures can be gradually discontinued. After relief has been established for a time, it may be possible to eliminate hormone therapy gradually. Relief may then be maintained by the usual therapeutic measures.

Knowledge of the correct use of the hormones in allergic diseases is essential. Corticotropin, cortisone, hydrocortisone, prednisone, and prednisolone dramatically suppress many of the clinical manifestations of allergic diseases and are the most effective agents available at present for symptomatic relief in carefully selected cases after the usual therapeutic measures used in the management of the allergic patient have failed.

295 New York Avenue

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(*Number eight of a series on Fundamentals of Modern Allergy*)

Doctor Prefers Steam Kettle to Newer Humidifier

The good old steam kettle works better than a mechanical humidifier for treating a childhood respiratory disorder, a Haifa, Israel, physician said recently. Dr. Abraham Freidman said that the steam kettle is better because it can produce more moisture than a cold-air mechanical humidifier, the now generally accepted apparatus. Moist air helps prevent the blocking of breathing passages which may occur in an acute inflammatory disease of the larynx, trachea, and bronchi.

He explained that in breathing, the air enters the respiratory tract at room temperature and humidity. On its way down the air absorbs moisture from the membrane lining the passages. It finally is exhaled at body temperature and saturated with water. The difference in temperatures and humidities between the air inhaled and exhaled results in a continuous loss of water from the respiratory tract.

In acute respiratory disease, the loss is speeded up and the breathing passages eventually may be blocked by the formation of a dry crust on the membranes. The drier the inhaled air, the more water it absorbs from the membranes, thus increasing their "drying out."

To prevent obstruction, the air breathed in must be as moist as the air breathed out. This means that the temperature and humidity of the air inhaled should be approximately equal to the temperature and humidity of the air exhaled.

Since there is a ceiling on the amount of water air will hold at a specific temperature, the air temperature must be raised to increase water content. The mechanical humidifier may raise water content, but the low-temperature air cannot hold as much water as high temperature air would, he said, adding that a steam kettle accomplishes both things.

While recommending the steam kettle method, Dr. Freidman warned that necessary precautions must be taken against the hazards of a burn and the development of a high fever in the child.

Dr. Friedman, of the Department of Pediatrics of Rambam Government Hospital, Haifa, made his report in the November *Archives of Otolaryngology,* published by the American Medical Association.

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BARNETT A. GREENE, M.D., *Chairman*

Sudden Unexplained Death During Cesarean Section

THIS patient died instantaneously while conversing with the anesthesiologist, who was expertly managing the cesarean section with spinal anesthesia. The sudden death was completely unexpected and unexplained. This discussion now proposes an explanation which may serve to prevent a similar occurrence.

Case Report

A thirty-five-year-old female, pregnant thirty-six weeks, was subjected to cesarean section because of central placenta previa associated with vaginal bleeding of about 100 cc. during the preceding few hours. Aside from a cholecystectomy four years before, her history was uneventful. Except for moderate obesity the physical condition was normal. The blood pressure was 120/80, and the pulse rate was 80. The patient was not in labor, and bleeding was not active. No premedication was used.

Spinal anesthesia was initiated at 4:10 P.M. with the single injection of 0.5 cc. of Pontocaine fluid (5 mg.) in 2.5 cc. of 10 per cent glucose, preceded by subcutaneous Neo-Synephrine Hydrochloride, 5 mg. The patient was turned on to her back in the horizontal position, and the systolic pressure was immediately obtained at 80 mm. Hg; the pulse rate was 90. An immediate infusion of dilute Neo-Synephrine raised the systolic pressure to 150 where it remained for the next ten minutes. The operation began at 4:20 P.M.; a low-flap incision into the uterus was performed, and a full-term fetus was delivered at 4:30 P.M. The baby cried immediately and vigorously; the mother was conversing with the anesthesiologist. The level of anesthesia was seventh-eighth thoracic. No oxytocic was administered. The placenta, which completely covered the internal os, was removed manually. While the uterine wound was being sutured, the patient abruptly became comatose, jaws clenched, eyes rolled upward; clonic-tonic contractions of the upper extremities occurred, and respiration ceased. While oxygen was administered by mask and pressure, the pulse was found to be absent in the wrist and abdominal aorta. A mottled cyanosis of the face and upper chest appeared. The surgeon performed cardiac massage, first through the diaphragm and then through an intercostal incision. The anesthetist administered artificial respiration with an anesthetic apparatus, and an assistant injected 20 mg. of ephedrine sulfate intravenously. A transfusion was started even though blood loss had not been marked. Massage of the motionless dilated heart was continued for one hour. Epinephrine was tried in the left ventricle. No response was ever noted. The baby continued in good condition.

The postmortem examination included the head; no abnormalities other than the expected changes associated with pregnancy, placenta previa, and cesarean operation were found. The heart was opened under water to detect air in the chambers, but none was present. The pulmonary vessels did not show amniotic fluid emboli.

Comment

Death was clearly not due to drugs, spinal anesthesia, blood loss, or operative shock. The clinical impression was air embolism through the placental site during and after the "peeling" of the placenta from the lower uterine segment. Yet air embolism could not be confirmed by the pathologist. This apparent discrepancy disappears once it is realized that cardiac chambers can be experimentally emptied of air by massage (personal communication from Lam and Geoghegan of Henry Ford Hospital, Detroit). Nor is the absence of crepitation during cardiac massage a reliable means of disproving the presence of air in the cardiac chambers (Lam and Geoghegan).

Since cardiac massage is now almost universally applied in patients dying under anesthesia, the diagnosis of air embolism must be made before or early in the process of cardiac massage. A similar type of obstetric death under anesthesia may be produced by massive amniotic fluid embolism. The most significant and frequent clinical difference between the two conditions is the time of onset of circulatory failure. Amniotic fluid embolism usually, although not always, begins before the third stage of labor, whereas air embolism commonly, but again not always, occurs during or after the third stage of labor. At autopsy amniotic fluid embolism is readily revealed by the presence of decidual or amniotic fluid elements in the smaller pulmonary vessels. Air embolism, however, may evade detection by the pathologist, especially if the postmortem examination is a "routine" one.

Air embolism is favored by uterine relaxation, abnormal placentation, manual removal of the placenta, and deep head-down position. All of these factors were present in this case. When manual removal is necessary, the possibility or severity of air embolism may be diminished by avoiding the Trendelenburg position, with its tendency toward a decrease of venous pressure in the elevated veins, and by delaying manual removal of a placenta until the preliminary use of oxytocics has contracted the uterus.

Recovery from air embolism has been known to follow rotation of the body into the left lateral position or puncture and aspiration of the right auricle or ventricle. These measures should always be applied.

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CASE REPORT

An Unusual Case of Multiple Myeloma

ENOCH J. SAPHIRE, M.D., NEW YORK CITY*

(From the Medical Service of the U.S. Veterans Administration Hospital, Bronx, New York)

In multiple myeloma the pathologic manifestations may vary considerably, and in any individual case some of the characteristic clinical and laboratory features may be lacking. The case to be presented is of more than usual interest, however, in that eosinophilic granuloma was considered to be the most probable diagnosis for thirty-four months after the onset of the disease.

Even after a pathologic diagnosis of multiple myeloma was made, the ensuing absence of supportive laboratory and clinical evidence and the prolonged and benign course raised questions in the minds of many observers as to the real nature of the disease process involved.

Case Report

In October, 1946, M. C., a thirty-four-year-old, white man, noted a painless mass involving his right frontal bone. In January, 1947, he entered the French Hospital to have the mass removed. It was thought to be a sebaceous cyst, but at operation the mass was found to communicate with a skull defect through which the meninges were visible. An aspiration biopsy of the lesion was performed, and on the basis of the x-ray finding of multiple lytic lesions of bone, a tentative diagnosis of multiple myeloma was made.

The patient was first admitted to this hospital in February, 1947. He was asymptomatic and gave the appearance of good health. There were no abnormal physical findings. X-rays revealed multiple lytic lesions of bone in the skull, ribs, and pelvis. They were considered to be most consistent with the diagnosis of "nonlipoid histiocytosis" (Fig. 1). The biopsy specimen from French Hospital was reviewed, and it showed no pathology. A bone marrow aspiration study and a bone biopsy from the skull were both negative (Table I). He exhibited no Bence Jones proteinuria, anemia, hyperglobulinemia, hypercalcemia, renal dysfunction, or other laboratory findings suggestive of multiple myeloma.

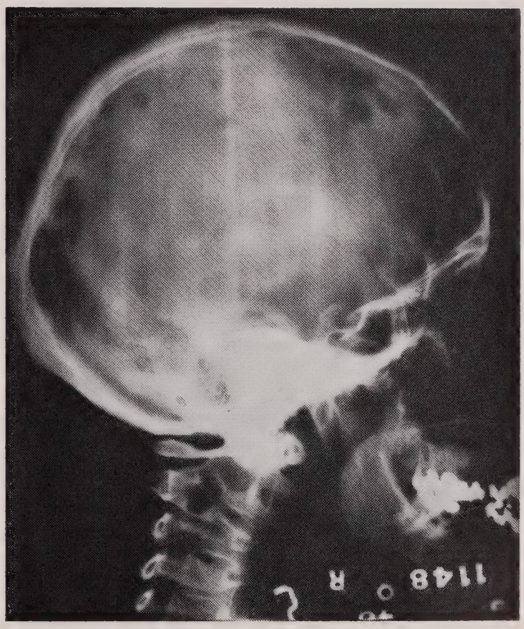

FIG. 1. X-rays four months after onset diagnosed as "nonlipoid histiocytosis."

In February, 1948, the patient was recalled for further study. He was asymptomatic. Examination of the skull showed no gross residual defect at the site of the previous operation. A bone marrow study and a bone biopsy were again negative. Laboratory results were all normal. The x-ray appearance of the bone lesions and their apparent stability again led to an x-ray diagnosis of "nonlipoid histiocyosis." The patient was discharged with the diagnosis of eosinophilic granuloma.

In August, 1949, thirty-four months after the onset of disease, the patient was readmitted for further study. He looked well and had no complaints. A small mass was present over the left clavicle. An aspiration biopsy of the right clavicle

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* Present address: 7925 Hawthorne Avenue, Miami Beach, Florida.

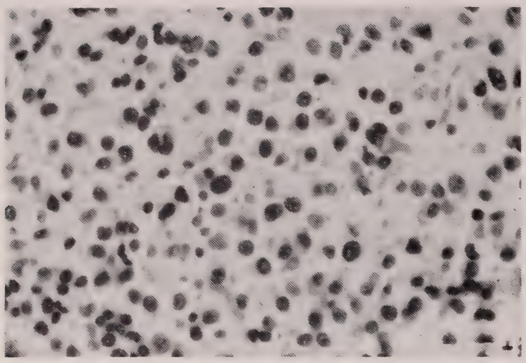

FIG. 2. Specimen from resected end of left clavicle; pathologic diagnosis was "plasma cell myeloma."

was considered diagnostic of eosinophilic granuloma. One serum globulin determination was 3.9 Gm. per cent. Other globulin determinations were normal, as were the rest of the laboratory results. Several weeks later the end of the left clavicle was resected, and a pathologic diagnosis of "plasma cell myeloma" was made (Fig 2).

In July, 1950, the patient sustained a fracture of his right humerus following a street accident. He was otherwise asymptomatic, and laboratory results during this admission were again normal. In November, 1950, fifty months after onset, the patient sought admission for the first time because of the presence of symptoms. He complained of bone pain of the left thigh. X-rays revealed a lytic lesion of the left femur. He looked generally well and had experienced no weight loss. An electrophoretic study showed an abnormal peak in the gamma globulin fraction. The patient was advised to discontinue his occupation, but he remained active and felt well enough to remain out of the hospital for the next one and a half years.

Sixty-nine months after onset, in July, 1952, he sought admission because of thoracic and back pain. He had lost weight and felt generally ill for the first time. Examination revealed a chronically ill looking man with a tender mass over the right clavicle and a nontender mass of the left thorax. Several days after admission he developed paraplegia and bladder paralysis. X-rays did not reveal any vertebral abnormality. A decompressive operation was performed, and a large epidural tumor was found extending from the tenth thoracic to first lumbar level. It was entirely extradural and extraosseous except for a point of contact at the twelfth thoracic vertebra. On pathologic examination it proved to be a highly anaplastic plasma cell myeloma.

The patient survived another five months. His course was characterized by the appearance of a slowly progressive anemia, elevation of the sedimentation rate, regrowth of the epidural tumor, and the appearance of other extramedullary tumors. An extraosseous soft tissue mass of the oropharynx appeared, a huge mass grew above the left clavicle, and there was extension of an intrathoracic soft tissue mass arising from the eighth rib.

Seventy-four months after the onset of his disease the patient expired due to a terminal bronchopneumonia. His course had not been notably influenced by urethane, cortisone, or x-ray therapy. Even during his final illness Bence Jones proteinuria and renal impairment did not occur, and there was no hypercalcemia.

Comment

This case presented many unusual features. For nearly three years it was classified as eosinophilic granuloma because of the prolonged and benign course and the absence of laboratory and clinical characteristics leading to a diagnosis of multiple

TABLE I.—TIME OF APPEARANCE OF CHARACTERISTICS OF MYELOMA

	Duration of Illness in Months							
	French Hospital		Bronx Veterans Administration Hospital					
Characteristic	Onset	3	4	16	34	45	50	69 to 74
Bence Jones proteinuria	..	..	0	0	0	0	0	0
X-ray bone lesions	..	+	+	+	+	+	+	+
Bone marrow aspiration	..	..	0	0	Eosinophilic granuloma	0	..	0
Bone pain	0	0	0	0	0	0	+	+
Anemia	..	..	0	0	0	0	0	+
Bone or tissue biopsy	..	0	0	0	Multiple myeloma	..	..	Multiple myeloma
Hyperglobulinemia	..	..	0	0	+	0	+	+
Anorexia, weight loss	0	0	0	0	0	0	0	+
Renal insufficiency	..	..	0	0	0	0	0	0
Hypercalcemia	..	..	0	0	0	0	0	0
Elevated sedimentation rate	..	..	0	0	0	0	0	+
Rouleaux of red blood cells	..	..	0	0	0	0	0	0
Fever	0	0	0	0	0	0	0	+
Neurologic changes	0	0	0	0	0	0	0	+
Pathologic fracture	0	0	0	0	0	+	0	0
Palpable tumor	+	+	0	0	+	0	0	+
Plasmacytemia	..	..	0	0	0	0	0	0
Extramedullary tumor	0	0	0	0	0	0	0	+
Hepatosplenomegaly	..	..	0	0	0	0	0	0
Abnormal bleeding	0	0	0	0	0	0	0	0

myeloma. Lytic bone lesions present from the onset of observation were considered to be more characteristic of multiple eosinophilic granulomas than of multiple myeloma. Thirty-four months after onset a diagnosis of eosinophilic granuloma was made by the Hematology Department on an aspiration biopsy specimen. Peripheral eosinophilia and eosinophilia of the bone marrow were noted on several occasions.

About 82 to 89 per cent of patients are over fifty years of age when the diagnosis of multiple myeloma is first made, and the average age is fifty-seven or fifty-eight.[1-3] Of Bayrd's 83 patients with multiple myeloma the youngest was thirty-seven.[1] Of Meacham's 51 patients the youngest was thirty-five.[3] Of Adams' 61 patients the youngest was thirty-one.[2] Our patient was thirty-four years of age at the onset of his disease.

About 86 per cent of patients have bone pain on their first hospital admission,[1] and this is one of the early symptoms of multiple myeloma. Our patient first came to medical attention with a painless hole in his skull through which meninges were visible. He had no bone pain until over four years after onset. In Adams' patients weight loss (68 per cent), gastrointestinal symptoms (62 per cent), fever (52 per cent), and pallor (47 per cent) were also prominent symptoms.[2] The case herein reported maintained an almost complete sense of well-being, and he did not develop these symptoms until over five years after onset.

Meacham[3] stated that the diagnosis of multiple myeloma is untenable without the finding of immature plasma cells in the marrow, and in Adams' series[2] 86 per cent had marrow plasmacytosis. Marrow aspiration studies were performed on M. C. during each hospital admission (except one), but plasmacytosis was never found. He also had three negative bone biopsies before a histologic diagnosis of multiple myeloma was made three years after onset.

Bence Jones proteinuria is present in 33 to 53 per cent[1-3] of patients with myeloma. Our patient never exhibited Bence Jones proteinuria during the numerous tests performed throughout his course. Anemia was present in 56 per cent of Bayrd's patients,[1] 86 per cent of Adams' patients,[2] and in nearly all of Meacham's patients.[3] M. C. had no anemia for about six years after onset of his disease, and a moderate anemia developed only at the end of his course. He never developed hypercalcemia, said to be present in 20 to 25 per cent of patients with myeloma.[2,3]

Hyperglobulinemia present on one occasion thirty-four months after onset, but he did not develop sustained hyperglobulinemia until fifty months after onset. His highest recorded serum globulin was 4.1 Gm. per cent. Hyperglobulinemia is present in 67 to 73 per cent of patients with myeloma,[1-3] and in Meacham's patients it was above 4 Gm. per cent in 61 per cent. M. C. never developed renal insufficiency, said to be present in 57 to 61 per cent.[1,2] Rouleaux formation of erythrocytes never appeared in our case, whereas it occurs in about 60 per cent of myeloma patients.[1,2] Other less common characteristics of myeloma either did not appear in our case or were late findings (Table I).

Extramedullary growth of myeloma is not rare,[4] but of some interest was the multiple occurrence of extraosseous tumors late in the course of our patient.

The average duration of multiple myeloma in Bayrd's patients was nineteen months and in Adams' patients twenty-one months. In Meacham's series 90 per cent of patients were dead in less than two years. Of Bayrd's 83 patients the longest duration of life was seven years. Of Meacham's 51 patients, one lived for five and one-half years. Of Adams' 61 patients one lived five years. Our patient lived six years and two months from the time of his initial symptoms.

Summary

A case of multiple myeloma is reported in which the duration of life from the initial symptom was seventy-four months. For reasons which have been discussed, the patient was considered to have eosinophilic granuloma for thirty-four months after the onset of disease. The prolonged and benign course and the absence of clinical and laboratory characteristics of multiple myeloma were considered to be quite unusual.

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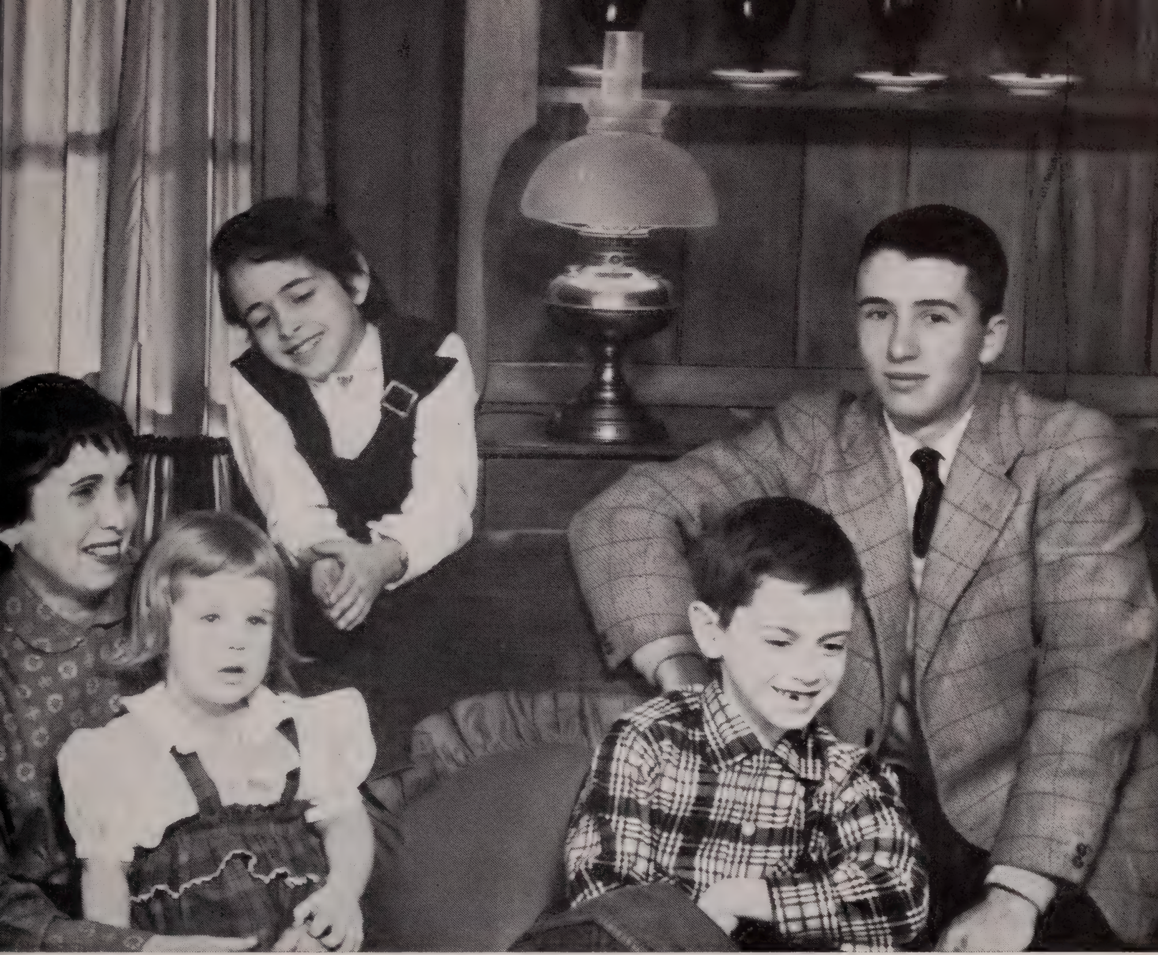

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NECROLOGY

Anthony John Aragona, M.D., of Queens Village, died on November 12, 1955, at the age of forty. Dr. Aragona received his degree in 1943 from the University of Lausanne Faculty of Medicine. He was a clinical assistant in pathology at Mary Immaculate Hospital, Jamaica, and a member of the Queens County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Oscar Benesi, M.D., of New York City, died of a heart attack in his home on January 18 at the age of seventy-seven. Dr. Benesi received his medical degree from the University of Vienna in 1904. Executive physician at the Bird S. Coler Memorial Hospital and Home, Dr. Benesi had formerly been affiliated with the Ear, Nose, and Throat Department of the Vienna Municipal Hospital, Polyclinic Hospital, Vienna Children's Hospital, as well as serving as professor at the University of Vienna. Dr. Benesi became associated with the Department of Hospitals in 1944 and served at the New York City Home for Dependents and at the Metropolitan Hospital on Welfare Island.

Frederic K. Bernstein, M.D., of Glen Cove, died on January 3 at the age of sixty-six. Dr. Bernstein graduated in 1915 from Long Island College Hospital School of Medicine. He was a member of the Nassau County Medical Society and the Medical Society of the State of New York.

Fred Brillinger, M.D., of Peekskill, died on January 10 after an illness of eight weeks at the age of fifty-four. Dr. Brillinger graduated from the University of Toronto Faculty of Medicine in 1925. He had practiced medicine for almost twenty-eight years in Peekskill. In 1929 he was appointed to the staff at Grasslands Hospital and upon his moving to Peekskill had served on the staff of the Peekskill Hospital where he had recently completed a term as president of the medical staff. Dr. Brillinger was a member of the Westchester County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Jenny Burian, M.D., of Sidney, died at her home on December 28 at the age of forty-six. Dr. Burian received her medical degree in 1933 from the University of Vienna. She was a member of the Delaware County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Barton Wilbur Brush, M.D., retired, of Bronxville, died on May 31, 1955, at the age of eighty-six. Dr. Brush was graduated from Columbia University College of Physicians and Surgeons in 1894.

George Vincent Butler, M.D., of Rochester, died of a heart attack at his home on December 10, 1955, at the age of fifty-seven. Dr. Butler graduated from the University of Buffalo School of Medicine in 1921. He was a consultant in radiology at the Park Avenue Hospital, Rochester. Dr. Butler was a Diplomate of the American Board of Radiology and a Member of the American College of Radiology, the Rochester Pathological Society, the Rochester Academy of Medicine, the Monroe County Medical Society and the Medical Society of the State of New York.

Abraham Louis Ceasar, M.D., of New York City, died on December 30, 1954, at the age of seventy-six. Dr. Ceasar graduated from Cornell University Medical College in 1904.

George Albert Crump, M.D., retired, of Asheville, North Carolina, formerly of the Bronx, died on January 15 at the age of eighty-six. Dr. Crump was graduated from Bellevue Hospital Medical College in 1893. He was formerly on the staff of the Mount Vernon Hospital.

Ralph H. Davis, M.D., of Penn Yan, died following a heart attack in Albany on December 27, 1955, at the age of sixty-two. Dr. Davis graduated from George Washington University School of Medicine in 1917. During World War I he served with the U.S. Army Medical Corps in hospitals in England. He was commanding officer of the local medical unit of the National Guard from July 1, 1931 to September 1, 1940, in Corning; from 1937 to 1943 he was head of the Gleason Sanitarium, Elmira; during World War II he served in North Africa and Italy. After the war he practiced in Penn Yan and served as a member of the senior medical staff at Soldiers and Sailors Memorial Hospital as well as chief medical officer there in 1954. He was school physician of the Penn Yan Central School and health officer for Yates County township. He was a member of the Yates County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Theodore Dickes, M.D., retired, of Brooklyn, died on February 3, 1955, at the age of seventy-seven. Dr. Dickes graduated from Long Island College Hospital in 1909.

[Continued on page 584]

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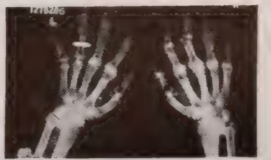

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[Continued from page 582]

Adolf Granet, M.D., retired, of New York City, died on January 11, after a long illness, in the French Hospital at the age of eighty-five. Dr. Granet received his degree in 1898 from the University of Iasi Faculty of Medicine, Rumania. He practiced in New York from 1902 until 1949 and had taught physical diagnosis at the College of Physicians and Surgeons of Columbia University at one time. In 1944 he won first prize in the metal works division of an exhibition held in Chicago by the American Medical Association of physicians' hobbies.

Harry Beauvoir Hansen, M.D., retired, of Setauket, died at his home on January 15 at the age of sixty-five. Dr. Hansen was graduated from Columbia University College of Physicians and Surgeons in 1915. During World War I he had served overseas as a first lieutenant in the Army Medical Corps. Dr. Hansen practiced for twenty-five years in Queens Village before retiring in 1948. He was a member of the Associated Physicians of Long Island.

Royal Storrs Haynes, M.D., retired, of New York City, died on January 19 following a long illness at his home at the age of seventy-eight. Dr. Haynes graduated from Columbia University College of Physicians and Surgeons in 1903 and interned at Presbyterian and New York Foundling Hospitals. A former clinical professor of pediatrics at Columbia University College of Physicians and Surgeons, he served as director of the Junior Red Cross in Europe during World War I and at the end of the war assisted in creating L'École de Puericulture in Paris and the Argonne Association for French War Orphans for which he later was decorated by the French government as a Chevalier of the Legion of Honor as well as with the Medal of the Reconnaisance Française. He had been a consulting physician at the Willard Parker Hospital. Recently Dr. Haynes had completed a book, "The Natural Reflex Mechanisms which Underlie the Attainment and Maintenance of Normal Human Posture." From 1918 to 1924 he served as secretary of the New York Academy of Medicine and as trustee from 1925 to 1929. Dr. Haynes was a member of the American Pediatric Society, the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

James Gilbert Howard, M.D., of Richmond Hill, Queens, died on January 9 at the age of seventy-nine. Dr. Howard graduated from Long Island College Hospital in 1910. He was pediatrician, emeritus, at the Jamaica Hospital. Dr. Howard was a member of the Queens County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Max Koss, M.D., of Brooklyn, died on October 13, 1955, of a heart attack at the age of sixty. Dr. Koss graduated from Long Island College Hospital School of Medicine in 1918.

John Gordon Laurence, M.D., of Baldwin, died on January 20 at the age of fifty-six. Dr. Laurence received his degree in 1925 from the University of Dalhousie Faculty of Medicine, Halifax. He was an attending physician at the South Nassau Communities Hospital, Oceanside. Dr. Laurence was a member of the Nassau County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Nathalie Kavaleff Mankell, M.D., of Fort Lauderdale, Florida, formerly of Buffalo, died on January 9 in Fort Lauderdale Hospital after a year's illness at the age of ninety-one. Dr. Mankell was graduated from the University of Buffalo School of Medicine in 1911. She had formerly been associated with the Buffalo General Hospital and had held membership in the Buffalo League of Women Physicians as well as the Erie County Medical Society.

Harry S. Nemens, M.D., of New York City and the Bronx, died on January 9 of a heart attack at Doctors Hospital at the age of fifty-four. Dr. Nemens graduated from the Long Island College Hospital School of Medicine in 1929 and interned at Sydenham and Harlem Hospitals. He was an adjunct physician in general practice at Beth David Hospital and physician-in-charge of vascular diseases at the Beth David Hospital Outpatient Department. He was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Moise Penn, M.D., of Brooklyn, died on January 12 after a brief illness at his home at the age of sixty-three. Dr. Penn received his medical degree from the University of Bern in 1922. He had practiced thirty-three years in the poorer sections of Williamsburg.

Howard Morton Phipps, M.D., of Hempstead, died on January 17 at his home at the age of sixty-nine. Dr. Phipps graduated from Columbia University College of Physicians and Surgeons in 1911. A former coroner's physician for Nassau County, he was a consultant in obstetrics at Mercy Hospital and an honorary member of the staff of the Nassau Hospital, Mineola, and physician for the public school system in Hempstead. Dr. Phipps was a member of the Nassau County Medical Society and the Medical Society of the State of New York.

Joseph Rudomin, M.D., of New York City, retired, died on January 7 after a brief illness at the age of seventy-seven. Dr. Rudomin was graduated from Long Island College Hospital School of Medicine in 1910.

[Continued on page 586]

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[Continued from page 584]

Harry B. Reibstein, M.D., of Brooklyn, died on January 11 at the Beth-El Hospital, Brooklyn, at the age of sixty-six. Dr. Reibstein was graduated from the Long Island College Hospital School of Medicine in 1912 and interned at the Montefiore Hospital. He was an attending physician in thoracic diseases at the Beth-El Hospital and its Outpatient Department, and an associate attending physician in tuberculosis at the Kings County Hospital. Dr. Reibstein was a Fellow of the American College of Chest Physicians and a member of the American Trudeau Society, the Brooklyn Thoracic Society, the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Eugene Nestor Scadron, M.D., of New York City, was killed in an automobile accident on January 19 at the age of forty-eight. Dr. Scadron graduated from Duke University School of Medicine in 1934 and interned at Bellevue Hospital. He was an associate attending physician in obstetrics and gynecology at Bellevue Hospital, an assistant attending obstetrician in obstetrics and gynecology at University Hospital, and an assistant in obstetrics and gynecology at Mount Sinai Hospital. Dr. Scadron was a Diplomate of the American Board of Obstetrics and Gynecology and a member of the American Academy of Obstetrics and Gynecology, the New York Academy of Medicine, the New York Obstetrical Society, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Curt Serog, M.D., of New York City, died on April 11, 1955, at the age of sixty-nine. Dr. Serog received his medical degree from the University of Breslau in 1910.

Ephraim Shorr, M.D., of New York City, died of a heart attack at his home on January 6 at the age of fifty-eight. Dr. Shorr graduated from Yale University School of Medicine in 1922. An associate professor of medicine at Cornell University Medical College, Dr. Shorr was the author of many scientific papers. From 1942 to 1946 he served as an associate attending physician at New York Hospital and since 1946 had been an attending physician there. In 1944 he was consultant to the United States Public Health Service and civilian consultant to the Office of Scientific Research and Development. Dr. Shorr won the Alvarenge Prize for 1950 of the College of Physicians of Philadelphia for his outstanding work in shock treatment. He was a Diplomate of the American Board of Internal Medicine and a member of the American Society for Clinical Investigation, the Association of American Physicians, the Endocrine Society, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

MEDICAL MEETINGS

Brooklyn Psychiatric Society

The Brooklyn Psychiatric Society will hold its final scientific meeting of the year on February 16 at the Brooklyn State Hospital Auditorium. Dr. Milton Rosenbaum, professor of psychiatry and chairman of the Department of Psychiatry at the Albert Einstein Medical School, will speak on "Psychiatry in Israel."

[Continued on page 588]

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[Continued from page 586]

Panel on Collagen Diseases

St. Clare's Hospital, New York City, will hold a quarterly staff meeting on February 21 at 8:30 P.M. at 415 West 51st Street. Dr. V. Charles Ancona, attending physician at St. Clare's, will be moderator of a panel discussion on collagen diseases. Panel members will include Dr. Maurice J. Costello, visiting physician in dermatology at Bellevue Hospital; Dr. Irving Leinward, assistant attending physician at University Hospital; Dr. Jacob M. Ravid, director of laboratories and pathology at St. Clare's, and Dr. William B. Rawls, attending physician in the arthritis service at Polyclinic Hospital.

Binghamton Academy of Medicine

A meeting of the Binghamton Academy of Medicine will be held on February 21 at 8:45 P.M. in the Doctors' Auditorium of the Binghamton City Hospital. Dr. John C. McClintock, associate professor of surgery at Albany Medical College, will speak on "Thyroid Disease."

Association for the Advancement of Psychoanalysis

The regular meeting of the Association for the Advancement of Psychoanalysis will be held on February 29, at 8:30 P.M. at the New York Academy of Medicine, 5th Avenue and 103rd Street, New York City. Dr. Benjamin Wassell will speak on "The Unresolved Transference," and Dr. Eleanor Bertine will be the discussant.

Greene County Medical Society

The Greene County Medical Society and the Greene County Chapter of the Academy of General Practice will meet on March 15, at 8 P.M. at the Greene County Memorial Hospital in Catskill. Dr. Claude E. Heaton, associate professor of obstetrics and gynecology at New York University College of Medicine, will speak on "The Management of Difficult Labor."

Sight-Saving Conference

The 1956 "Sight-Saving Conference" of the National Society for the Prevention of Blindness will be held March 26 through 28 at the Palmer House in Chicago, according to the National Society, conference sponsor.

Individual reservations should be made directly with the Palmer House at Chicago. Advance programs may be obtained by writing to the National Society for the Prevention of Blindness, 1790 Broadway, New York 19, New York.

Congress in Ophthalmology and Otolaryngology

The 29th annual spring congress in ophthalmology and otolaryngology and allied specialties will be held in Roanoke, Virginia, April 2 through 7.

Among the guest speakers will be Dr. Rudolf Aebli, professor of clinical ophthalmology at New York University Post-Graduate Medical School; Dr. E. B. Burchell, director of the laboratory at the New York Eye and Ear Infirmary, and Dr. Samuel Rosen, consulting otologist at the Mount Sinai Hospital Otolaryngologic Service.

American College of Allergists

The graduate instruction course of the American College of Allergists will be held at the Hotel New Yorker in New York City, on April 15 through 17. The twelfth annual meeting of the organization will take place April 18 through 20.

Cancer Course

A full-time, three-day course in early cancer diagnosis and management will be given at Memorial Center for Cancer and Allied Diseases April 18 through 20. Participation will be approved for credit by the New York State Chapter of the American Academy of General Practice.

Information and application blanks may be obtained from Dr. Emerson Day, Memorial Center for Cancer and Allied Diseases, 444 East 68th Street, New York 21, New York.

American Goiter Association

The American Goiter Association will hold its 1956 meeting at the Drake Hotel, Chicago, Illinois, on May 3 through 5. The three-day program will consist of papers and discussions dealing with the physiology and diseases of the thyroid gland.

Blood Banks

The ninth annual meeting of the American Association of Blood Banks will be held September 3, 4, and 5 at the Somerset Hotel in Boston, Massachusetts. The meeting was formerly scheduled for Cincinnati, Ohio, November 4 through 7. For further information address Miss Marjorie Saunders, secretary, 725 Doctors Building, 3707 Gaston Avenue, Dallas, Texas.

American Heart Association

The 32nd annual meeting and 29th annual scientific sessions of the American Heart Association will be held in Cincinnati, Ohio, from October 27 to October 31. Those wishing to present either papers or scientific exhibits at the sessions must submit abstracts or make application to the Medical Director, American Heart Association, 44 East 23rd Street, New York 10, New York, no later than May 15. Papers intended for presentation must be based on original investigation in or related to the cardiovascular field. The abstracts should offer in summary form the results obtained and the conclusions reached.

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MEDICAL NEWS

Eastern Psychiatric Research Association—A newly organized association of psychiatrists, the Eastern Psychiatric Research Association, has been chartered in New York State. Dr. David Impastato, New York City, is the first president. Members of the executive committee are Dr. William L. Holt, Albany; Dr. Joseph L. Epstein, Katonah, and Drs. Emrich Friedman and H. B. Lang, of Albany.

For further information, address Dr. Theodore R. Robie, secretary-treasurer, 676 Park Avenue, East Orange, New Jersey.

Kings County Medical Society—The Medical Society of the County of Kings, together with the Academy of Medicine of Brooklyn, held a meeting on January 17 at the Prospect Heights High School in Brooklyn. Dr. Paul Dudley White, consultant in medicine at Massachusetts General Hospital, and executive director of the National Advisory Heart Council, spoke on "Long-Term Experience in the Management of Patients with Diseases of the Heart." Discussant was Dr. Edwin P. Maynard, senior attending physician at Brooklyn Hospital, and clinical professor of medicine at the State University of New York College of Medicine at New York City.

Residencies in Psychiatry—The Veterans Administration Hospital of Lyons, New Jersey, has announced that residencies in psychiatry, fully accredited by the American Board of Psychiatry and Neurology, are available for a one to three-year period. The training program consists of lectures, conferences, and seminars under the direction of the Department of Psychiatry, New York Medical College. It offers intensive training, both intramurally and through rotation in special hospitals and clinics in the adjacent area. There is also a series of guest lecturers, as well as an annual institute at the hospital. Training may commence at any time.

Academy of Gastroenterology—A symposium on pancreatic diseases was held on January 9 by the New York Academy of Gastroenterology at the New York Academy of Medicine, 2 East 103rd Street, New York City. Papers were read by Dr. H. Doubile, of Bellevue Hospital; Dr. R. H. Patterson, of the Knickerbocker Hospital, and Drs. H. G. Jacobson and M. H. Poppel, of the New York University College of Medicine.

Brooklyn Urological Society—A meeting of the Brooklyn Urological Society was held on February 14, with Dr. Willet F. Whitmore, Jr., attending surgeon at Urologic Service, Memorial Center in New York City, speaking on "Varying Philosophies in the Diagnosis and Treatment of Prostatic Cancer." Discussants were Dr. William A. Milner, attending urologist at Albany Hospital; Dr. Frank C. Hamm, attending urologist at Brooklyn Hospital, and Dr. Elias Rubin, attending urologist at Queens General Hospital.

Officers elected for 1956 include Dr. Michael A. Ferragamo, president; Dr. Harry Ginsberg, vice-president, and Dr. Sidney Immergut, secretary-treasurer. All are from Brooklyn.

American Medical Education Foundation—New York State contributors to the American Medical Education Foundation for the month of December, 1955, were: *Albany*—Drs. B. Belser, John Clancy, J. G. Converse, Kenneth E. Crounse, William F. Doney, George Hindson, Emerson Kelly, John LaTendresse, Harold McGan, John G. McKeon, George W. Papen, Jr., Walter Preusser, and Thomas L. Rider; *Baldwin*—Dr. and Mrs. M. Nevin; *Batavia*—Dr. Max A. Almy; *Brockport*—Drs. W. H. Ferguson and Carl C. Sansocie; *Bronx*—Drs. Ellis M. Black, Samuel M. Friedland, P. F. Gianatasio, L. J. Padula, Abraham Raab, Louis Tannenbaum, William Turano, and Henry A. Wahn; *Brooklyn*—Drs. William Bloom, Cecil C. Gloster, Harry Gruber, A. J. Lapovsky, Milton Lopyan, Charles H. Loughran, Irvin T. Soifer, and B. A. Weisl; *Buffalo*—Drs. George C. Brady, F. J. Gustina, T. F. Houston, R. H. Roehl, Joseph E. Sokal, Robert Warner, and Sigmund A. Zawadski.

Also: *Churchville*—Dr. F. W. Dietel; *Corning*—Dr. L. J. Graham; *Dansville*—Dr. L. G. Wagner; *Delmar*—Dr. Sherman Gates; *Elmhurst*—Dr. Alvin Slipyan; *Elmira*—Dr. F. S. Hassett; *Endicott*—Dr. John A. Kalb; *Fairport*—Drs. George Dean, John Kraai, and J. N. McEachren; *Flushing*—Dr. William Feiring; *Forest Hills*—Dr. George Jaspin; *Franklin Square*—Dr. Edward Meister; *Garden City*—Dr. James L. McCartney; *Glendale*—Dr. Herbert R. Woodel; *Hempstead*—Drs. Otho C. Hudson and B. M. Stein; *Hilton*—Drs. Robert N. Blodgett and Charles R. Keller; *Jamaica*—Drs. J. F. Faigle, Irene Garrow, Frank Lamberta, and Abram Sohmer; *Kew Gardens*—Dr. A. Nathan; *LeRoy*—Dr. Charles C. Casey; *Middle Village*—Dr. Morris Schwartz; *Nanuet*—Dr. Leo G. Weishaar, Jr.; *Nassau*—Drs. Boris Klasons and Velta Klasons; *Newburgh*—Dr. W. J. Hutchins; *New Rochelle*—Dr. Holland N. Stevenson; *New York City*—Drs. Samuel H. Averbuck, V. W. Badia, Hylan A. Bickerman, Harold Brandaleone, Howard G. Bruenn, George S. Cattan-

[Continued on page 592]

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*Steigmann, F., and Goldberg, E.: Ambulatory Continuous Drip Method in the Treatment of Peptic Ulcer, Am. J. Digest. Dis. *22*:67 (Mar.) 1955.

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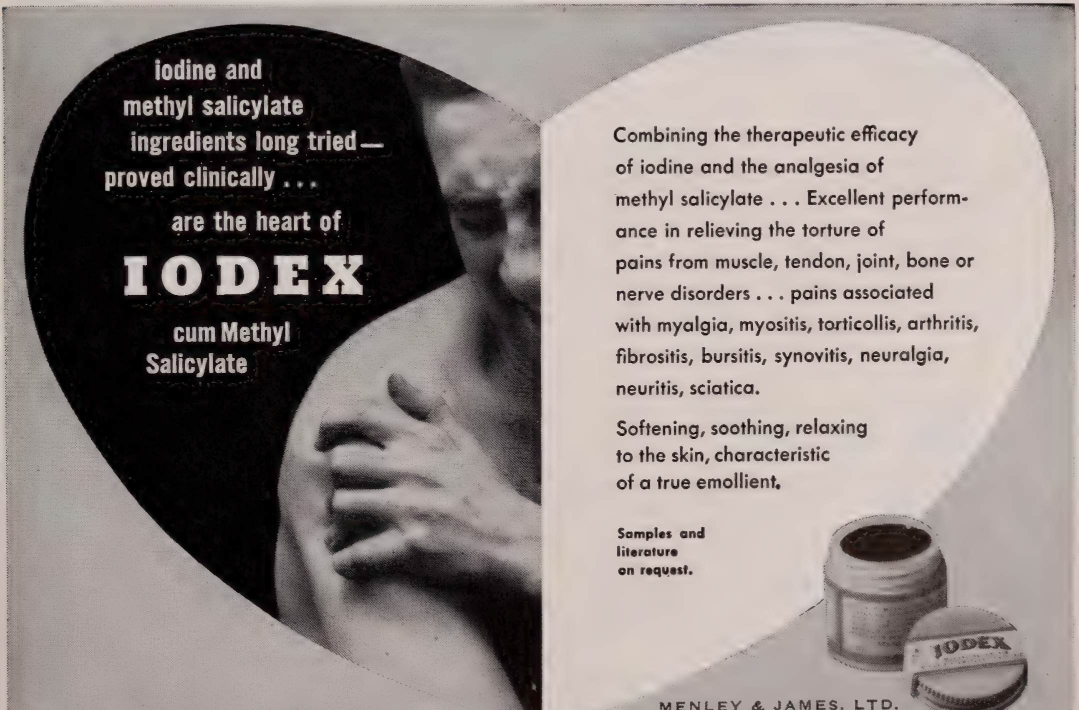
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Jefferson County Medical Society—The regular monthly meeting of the Jefferson County Medical Society was held on January 17 at the Black River Valley Club. "Present Status of the Blood Program" was discussed by Drs. Thomas S. Laurie and Eugene L. Lozner of the Syracuse regional blood program.

Rehabilitation Study—Dr. Howard A. Rusk, director of the Institute of Physical Medicine and Rehabilitation at New York University-Bellevue Medical Center, has announced a study aimed at improving rehabilitation services for physically handicapped Puerto Ricans living in the continental United States.

The study is being made possible by a grant from the Office of Vocational Rehabilitation, Department of Health, Education, and Welfare. Objectives of the study are to develop a manual of procedures for rehabilitation counsellors, to provide a guide to agencies for establishing policies for work with this group, and to collect information and develop materials for a training program for counsellors who work with disabled Puerto Ricans.

Regional Health Director—The New York State Department of Civil Service has announced that there is a vacancy in the Syracuse area for the position of regional health director. Examinations will be held on April 14, and applications will be accepted up to March 16. These may be obtained from the State Department of Civil Service, 39 Columbia Street, Albany; Room 2301, 270 Broadway, New York City, or Room 212, State Office Building, Buffalo.

Morrisania Hospital Vacancies—Several positions are available on the junior attending staff of the Urologic Service at Morrisania City Hospital, Bronx. Information may be obtained from Dr. Nathan Smith, Medical Superintendent, Morrisania City Hospital, 168th Street and Gerard Avenue, Bronx, New York, or Dr. Herbert R. Kenyon, 745 Fifth Avenue, New York City.

Plastic Surgery Clinic—A clinic for reconstructive plastic surgery of the face was opened officially on

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December 8, 1955, in a new wing of the Manhattan Eye, Ear and Throat Hospital, New York City. Dr. John Marquis Converse is the surgeon-director of the clinic. Dr. R. Townley Paton, chairman of the board of surgeon-directors at Manhattan Eye, Ear and Throat Hospital; Dr. Howard A. Rusk, chairman of the Department of Physical Medicine and Rehabilitation at New York University-Bellevue Medical Center, and Dr. Basil G. MacLean, commissioner of the Department of Hospitals of New York City, participated in the dedication program.

The staff of the new clinic includes a coordinated team of specialists in fields associated with plastic surgery who will evaluate and treat all types of facial disfigurements. A teaching clinic will be developed and fellowships in plastic surgery will be made available.

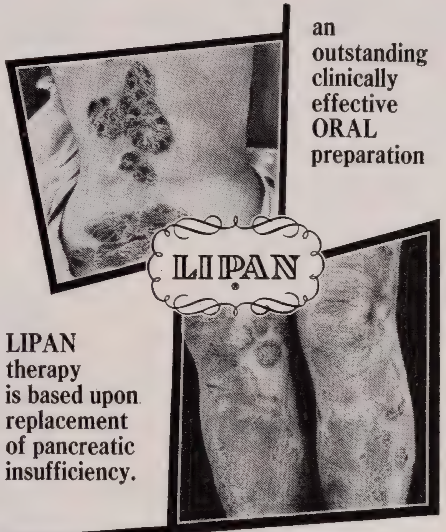
Sherman Pratt Fellowship—The Cancer Research and Hospital Foundation has announced its annual award of the Sherman Pratt fellowship for clinical cancer chemotherapy. Applicants should submit name, address, age, medical school, year of graduation, postgraduate experience, and background to: Sherman Pratt Fellowship Award Committee, Cancer Research and Hospital Foundation, 161 East 90th Street, New York 28, New York.

Otolaryngology Training—Veterans Administration Hospital, 130 West Kingsbridge Road, Bronx 68, New York, has announced vacancies for resident training in otolaryngology which include bronchoesophagoscopy, rhinoplasty, allergy, and surgery of otolaryngologic cancer. The residency is approved for three years and is supervised by consultants and attending physicians who are representatives of the dean's committee of the local medical schools. For information, write to the Liaison Officer, Dean's Committee, at the above address.

Personalities

Honored

Dr. Hattie E. Alexander, attending pediatrician at Babies Hospital, New York City, and Dr. Emma Selkin Aronson, attending gynecologist at the New York Infirmary, the Elizabeth Blackwell Awards of the New York Infirmary for outstanding contributions to the knowledge of medicine . . . the late Dr. Harry M. Archer, second deputy fire commissioner, with an oil painting dedicated in the Roman Catholic Chapel of Metropolitan Hospital, New York City . . . Dr. Lewis Fitzsimmons, Steuben County's oldest physician, with a party in honor of his 99th birthday . . . Dr. William A. Holla, retiring Westchester County Health Commissioner, with a dinner on February 17 in Scarborough . . . Dr. Howard A. Rusk, director of the Institute of Physical Medicine and Rehabilitation of the New York University-Bellevue Medical Center, made a Chevalier of the French Legion of Honor for his work in rehabilitating the physically handicapped.



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**References available.*

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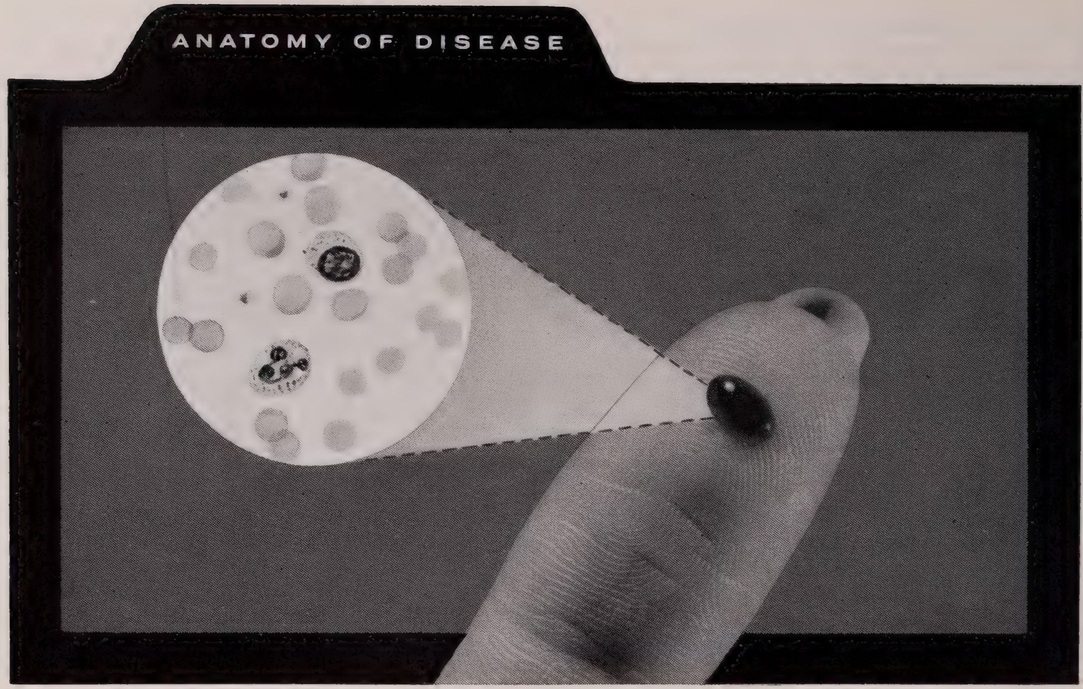

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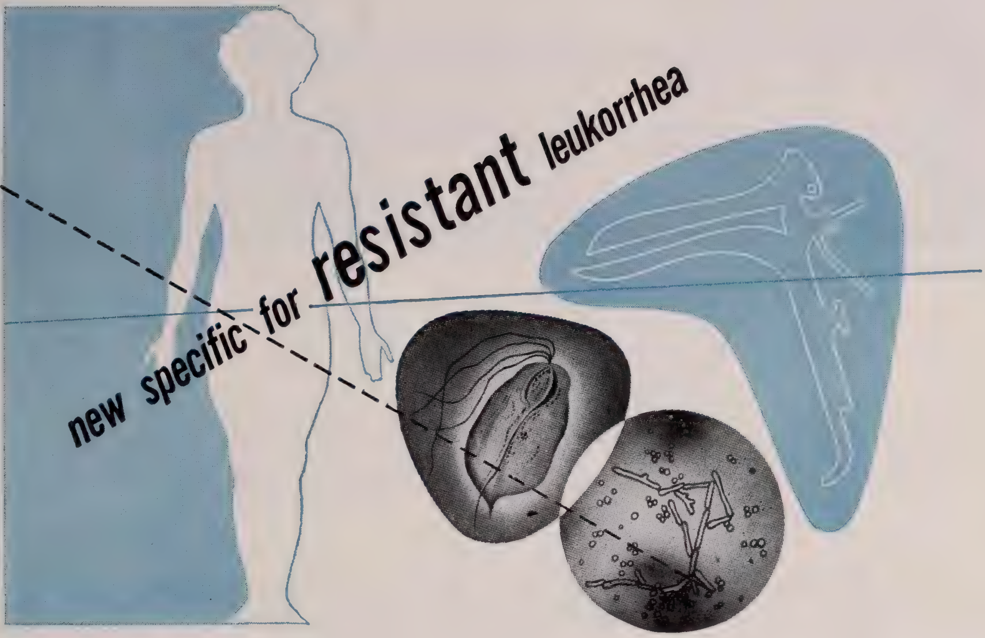
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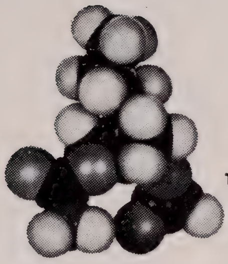

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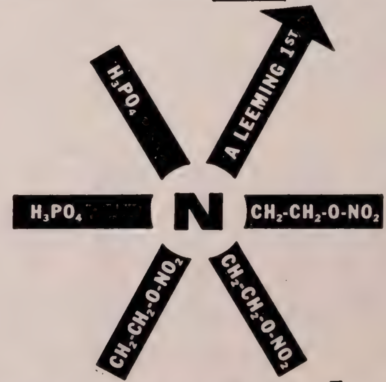

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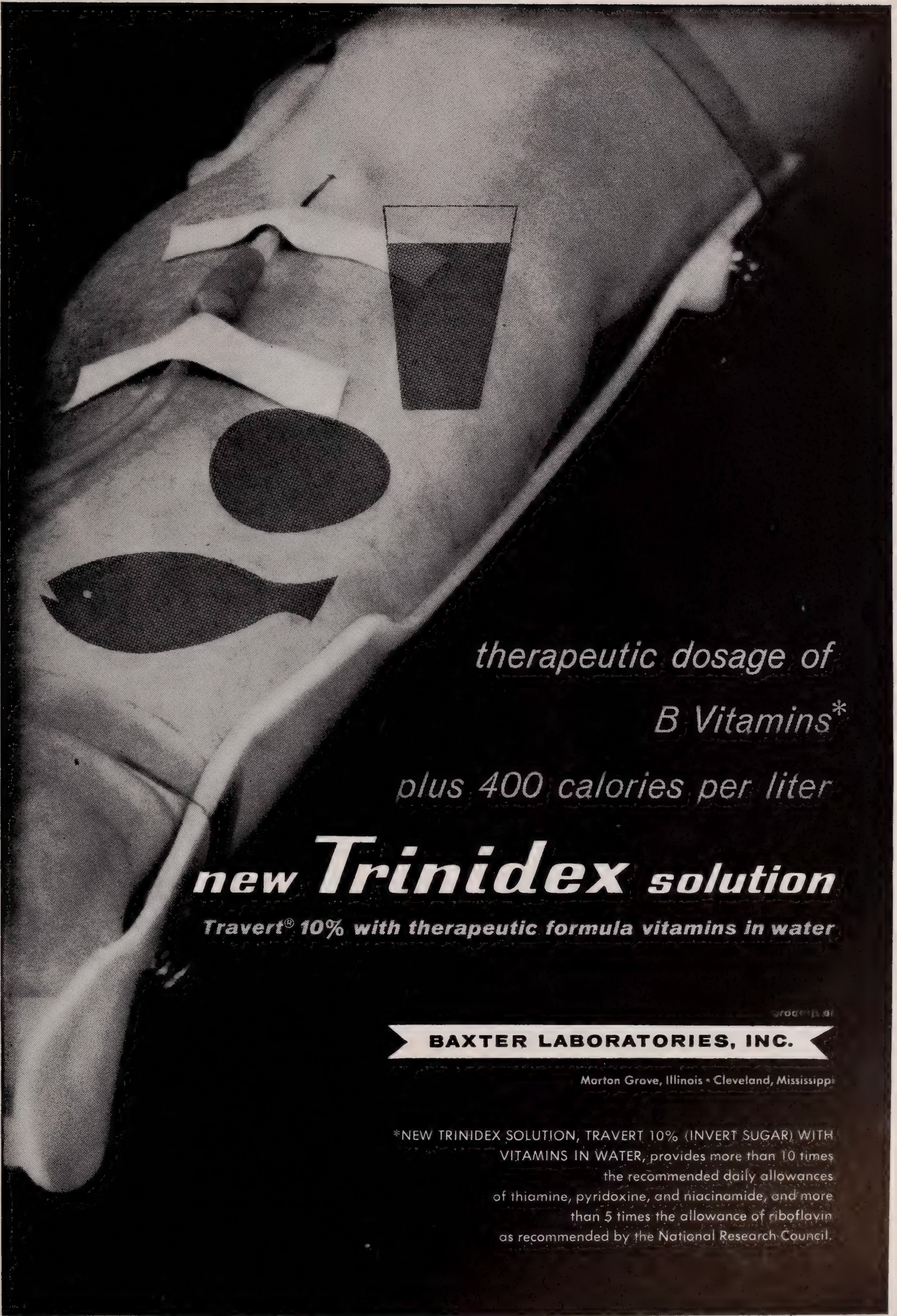

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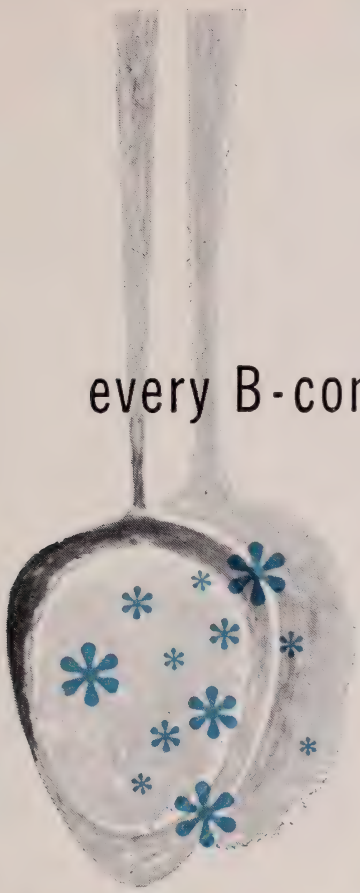

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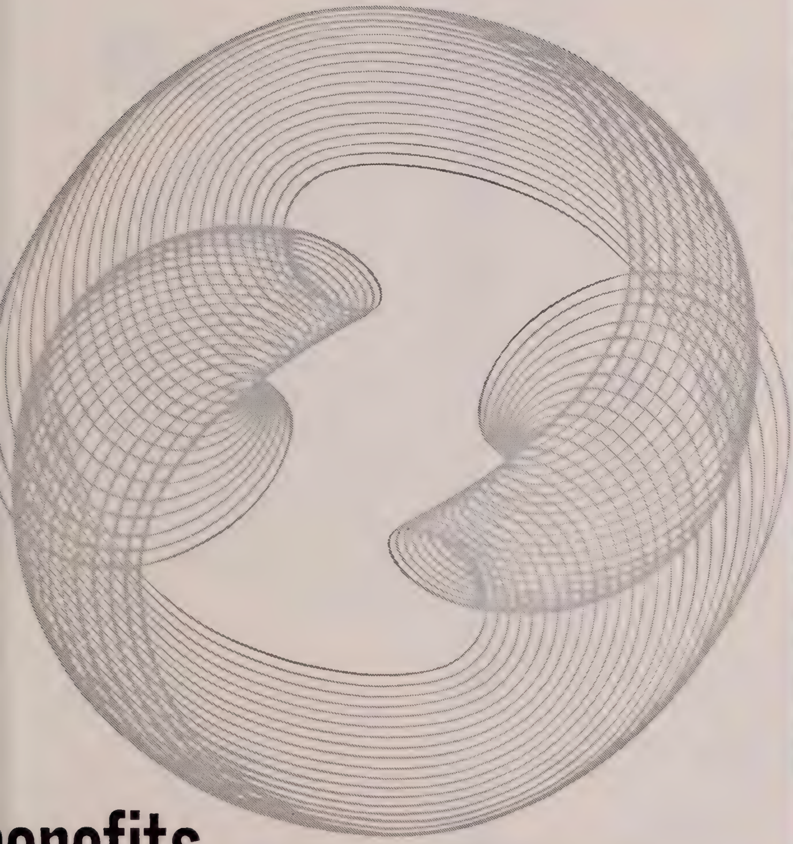

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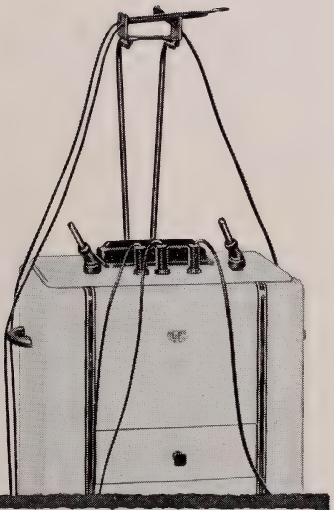

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1. Deuel, H. J., Jr.: Newer Concepts of the Role of Fats and of the Essential Fatty Acids in the Diet, Food Res. *20:*81 (Jan.-Feb.) 1955.

2. Meng, H. C.: Preparation, Utilization, and Importance of Neutral Fat Emulsion in Intravenous Alimentation, in Najjar, V. A.: Fat Metabolism, Baltimore, The Johns Hopkins Press, 1954, pp. 69-92.

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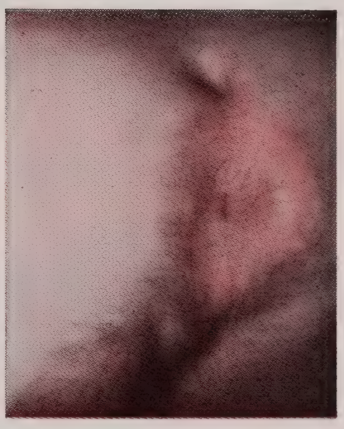

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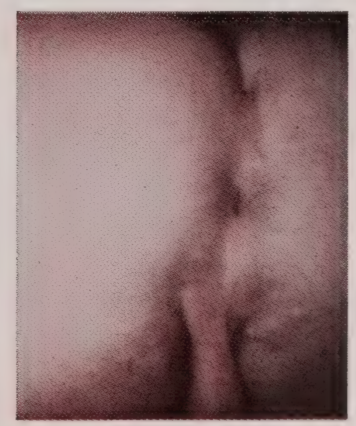

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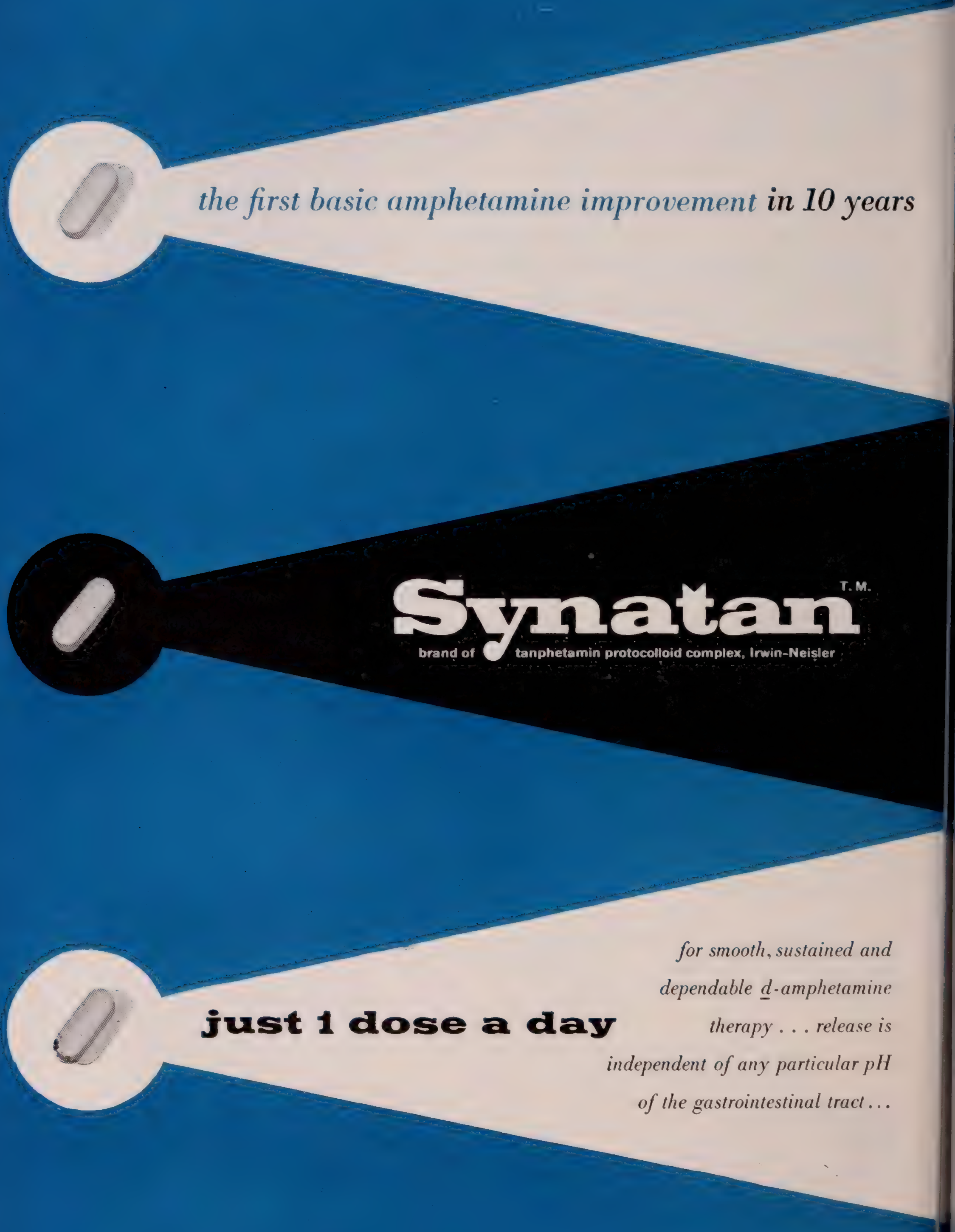
1. Bodkin, L.G.. Amino Acid Therapy for Pruritus Ani, Am. J. Surg. 82:557 (Nov.) 1951.
2. Bodkin, L. G., and Ferguson, E. A., Jr.: Successful Ointment Therapy for Pruritus Ani, Am. J. Digest. Dis. 18:59 (Feb.) 1951.
3. McGivney, J.: Recent Advances in Proctology, Texas J. Med. 47:770 (Nov.) 1951.



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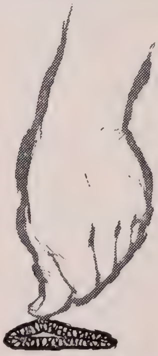

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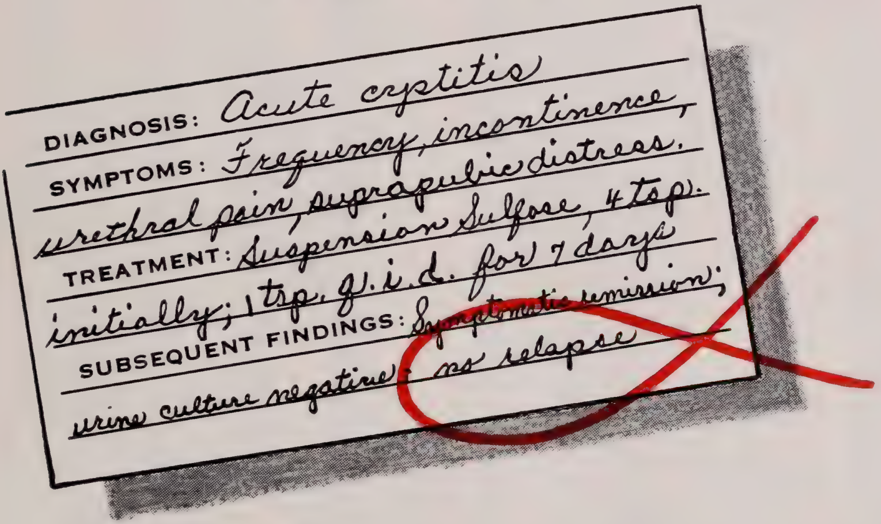
For literature, write Dannon Milk Products, Inc., 22-11 38th Avenue, Long Island City 1, N.Y.

***Ferrer, F. P., and Boyd, L. J.: Am. J. Dig. Dis., 22:272, 1955**

In Urinary-Tract Infection . . .

the *Test* of Effective Therapy

"... there were no relapses in those freed of the initial urinary infection. . . ."[1]



DIAGNOSIS: Acute cystitis

SYMPTOMS: Frequency, incontinence, urethral pain, suprapubic distress.

TREATMENT: Suspension Sulfose, 4 tsp. initially; 1 tsp. q.i.d. for 7 days

SUBSEQUENT FINDINGS: Symptomatic remission; urine culture negative; no relapse

Post-treatment recurrence is common in urinary-tract infection.

With Suspension SULFOSE, however, Bohne and Chase[1] report no recurrence: "... no patient returned for additional treatment . . . 79% were freed of urinary infection . . ." Infection *controlled*, relapse *prevented*—this is the test of effective therapy.

Suspension SULFOSE offers the advantages of three potentiating sulfonamides in an *alumina-gel base*. Supported by comparative studies, it is a combination for higher and more prolonged blood levels[2] and maximal renal safety.[2,3]

Supplied: Suspension SULFOSE, bottles of 1 pint. Also available, Tablets SULFOSE, bottles of 100 and 1000. Each 5-cc. teaspoonful and tablet contains 0.167 Gm. each of sulfadiazine, sulfamerazine, and sulfamethazine.

1. Bohne, A.W., and Chase, W.E.: Am. J. M. Sc. March, 1956. 2. Berkowitz, D.: Antibiot. & Chemo. *3*:618 (June) 1953. 3. Editorial: J.A.M.A. *159*:1459 (Dec. 10) 1955.

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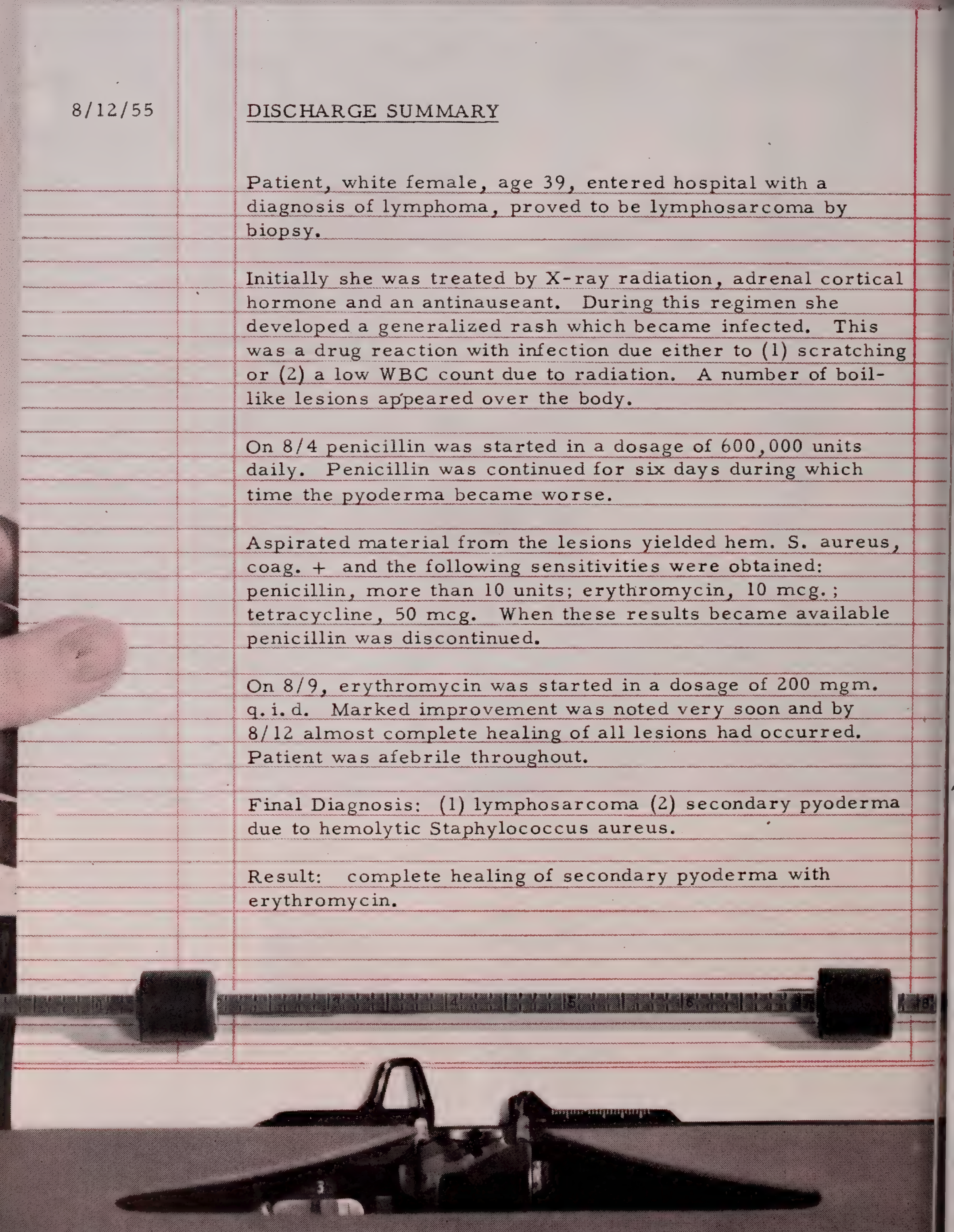
Erythromycin in treatment of pyoderma*



8/12/55

DISCHARGE SUMMARY

Patient, white female, age 39, entered hospital with a diagnosis of lymphoma, proved to be lymphosarcoma by biopsy.

Initially she was treated by X-ray radiation, adrenal cortical hormone and an antinauseant. During this regimen she developed a generalized rash which became infected. This was a drug reaction with infection due either to (1) scratching or (2) a low WBC count due to radiation. A number of boil-like lesions appeared over the body.

On 8/4 penicillin was started in a dosage of 600,000 units daily. Penicillin was continued for six days during which time the pyoderma became worse.

Aspirated material from the lesions yielded hem. S. aureus, coag. + and the following sensitivities were obtained: penicillin, more than 10 units; erythromycin, 10 mcg.; tetracycline, 50 mcg. When these results became available penicillin was discontinued.

On 8/9, erythromycin was started in a dosage of 200 mgm. q.i.d. Marked improvement was noted very soon and by 8/12 almost complete healing of all lesions had occurred. Patient was afebrile throughout.

Final Diagnosis: (1) lymphosarcoma (2) secondary pyoderma due to hemolytic Staphylococcus aureus.

Result: complete healing of secondary pyoderma with erythromycin.

---

*Communication to Abbott Laboratories

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IN VAGINAL TRICHOMONIASIS TO PREVENT RECURRENCES—AVOID RE-INFECTION FROM THE HUSBAND

THE HIGH INCIDENCE of recurring cases following successful treatment is outstanding in vaginal trichomoniasis. "Reinfection is annoyingly frequent."[1] Donald observed that in 219 cases ". . . there was a history of previous attacks in 73 (33%)."[2]

Trichomonads in husbands—Draper says: "The presence of trichomonads in the male genitourinary tract should always be suspected in the husband of a woman who is repeatedly reinfected."[3] Bernstine and Rakoff,[4] and Lanceley and McEntegart,[5] make similar statements. Drummond[6] reported 80 per cent of husbands of infected wives harbored trichomonads. Karnaky found the parasite in the urethra and prostate or under the prepuce of 38 among 150 husbands with infected wives.[7]

Carrier cases—Usually the husband re-infects the wife unknowingly. Males harboring trichomonads may be free from symptoms.[5,6,7-10] Even chronic male infections may produce symptoms so mild, ". . . no pain or discomfort,"[9] that they are not detected until relapses occur in the successfully treated wife.[3,4]

Protection for wives—To prevent re-infection in the wife, Karnaky advises ". . . the husband should wear a condom at coitus for four to nine months, during which time these trichomonads will usually die out of their own accord."[11] Draper,[3] Bernstine and Rakoff,[4] and Davis[12] also advise use of the condom to protect the wife of the infected husband.

When treating the wife, explain the role of the husband in trichomoniasis and his part in eliminating her infection. To save your time and make explanation easier, we have prepared a booklet for your patients, "HOW THE HUSBAND CAN HELP." Copies available upon request.

According to the preferences and problems of your patient, prescribe Schmid condoms by name. If there is anxiety that the condom might dull sensation, prescribe XXXX (FOUREX)® skins. Made from the cecum of the lamb, they feel like the patient's own skin, are pre-moistened and do not retard sensory effect. If cost is a consideration, prescribe RAMSES® prophylactics—transparent, tissue-thin, yet very strong, of natural gum rubber.

Your prescription of Schmid condoms assures products of finest quality, avoids any embarrassment, and wins appreciation for your thoughtfulness. Prescribe Schmid protection for as long as four to nine months after the wife's infection has cleared. The protection Schmid condoms afford is the very foundation of re-infection control.

Treatment for vaginal trichomoniasis—Select a trichomonacide that you are sure can eliminate trichomonads from the vaginal wall. Better than 90 per cent apparent cures have been obtained with VAGISEC® liquid using the Davis technique.†[12] VAGISEC liquid (originally "Carlendacide") actually explodes trichomonads within 15 seconds after douche contact.[13] Also prescribe VAGISEC jelly for home therapy.

References: 1. Upton, J. R.: West. J. Surg. *60*:222 (May) 1952. 2. Donald, I.: Brit. M. J. 2:1223 (Dec. 6) 1952. 3. Draper, J. W.: Internat. Rec. Med. *168*:563 (Sept.) 1955. 4. Bernstine, J. B., and Rakoff, A. E.: Vaginal Infections, Infestations and Discharges, New York, The Blakiston Co., 1953. 5. Lanceley, F., and McEntegart, M. G.: Lancet *1*:668 (Apr. 14) 1953. 6. Drummond, A. C.: Am. J. Surg. *31*:98 (Jan.) 1936. 7. Karnaky, K. J.: Urol. & Cutan. Rev. *48*:812 (Nov.) 1938. 8. Freed, C. F.: South African M. J. *22*:223 (Mar. 27) 1948. 9. Sorel, C.: Mod. Med. *21*:166 (Apr. 1) 1953. 10. Lanceley, F.: Brit. J. Ven. Dis. *29*:213 (Dec.) 1953. 11. Karnaky, K. J.: J.A.M.A. *155*:876 (June 26) 1954. 12. Davis, C. H.: West. J. Surg. *63*:53 (Feb.) 1955. 13. Davis, C. H.: J.A.M.A. *157*:126 (Jan. 8) 1955.

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*Breakey, R. S.; Holt, S. H., and Siegel, D.: J. Michigan M. Soc. 54:805, 1955.

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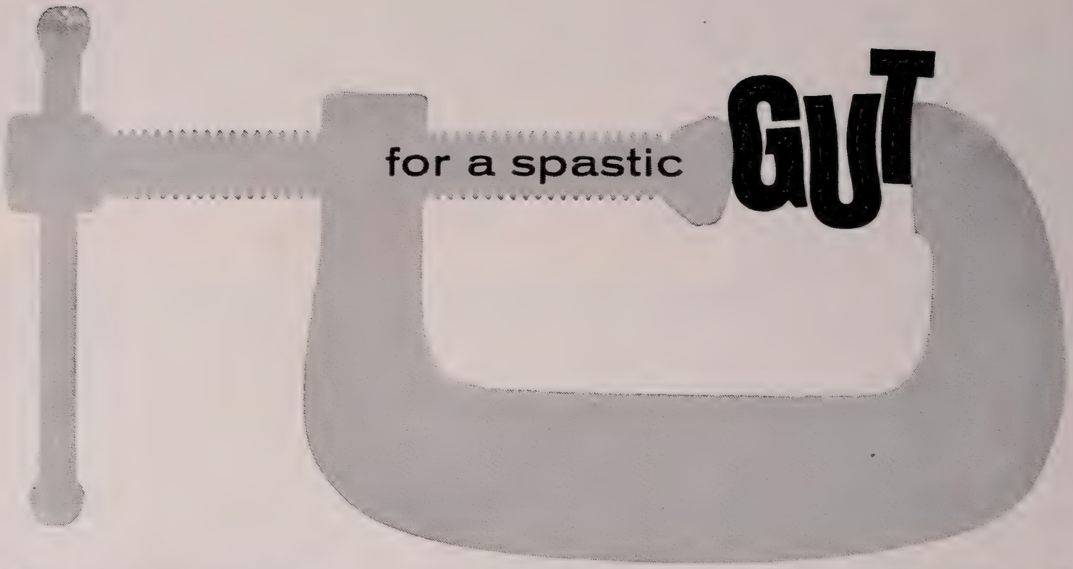

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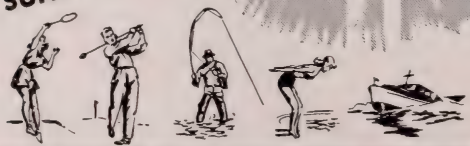

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Once symptoms have been reduced the minumum dose needed for their control should be used.

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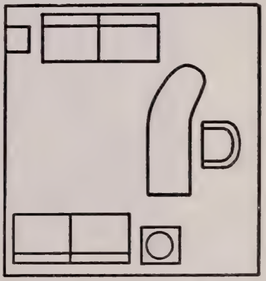

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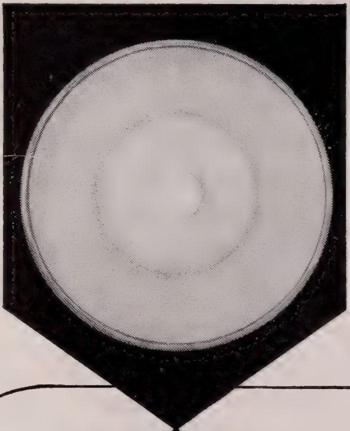

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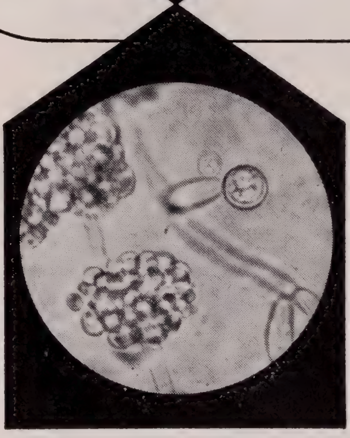

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References: 1. Bunim, J. J., et al.: J.A.M.A. 157:311, 1955. 2. Forsham, P. H., et al.: Paper presented at First Internat. Conf. on Prednisone and Prednisolone, New York, May 31-June 1, 1955. 3. Perlman, P. L., and Tolksdorf, S.: Scientific Exhibit presented at A.M.A. Annual Meet., Atlantic City, June 6-11, 1955.

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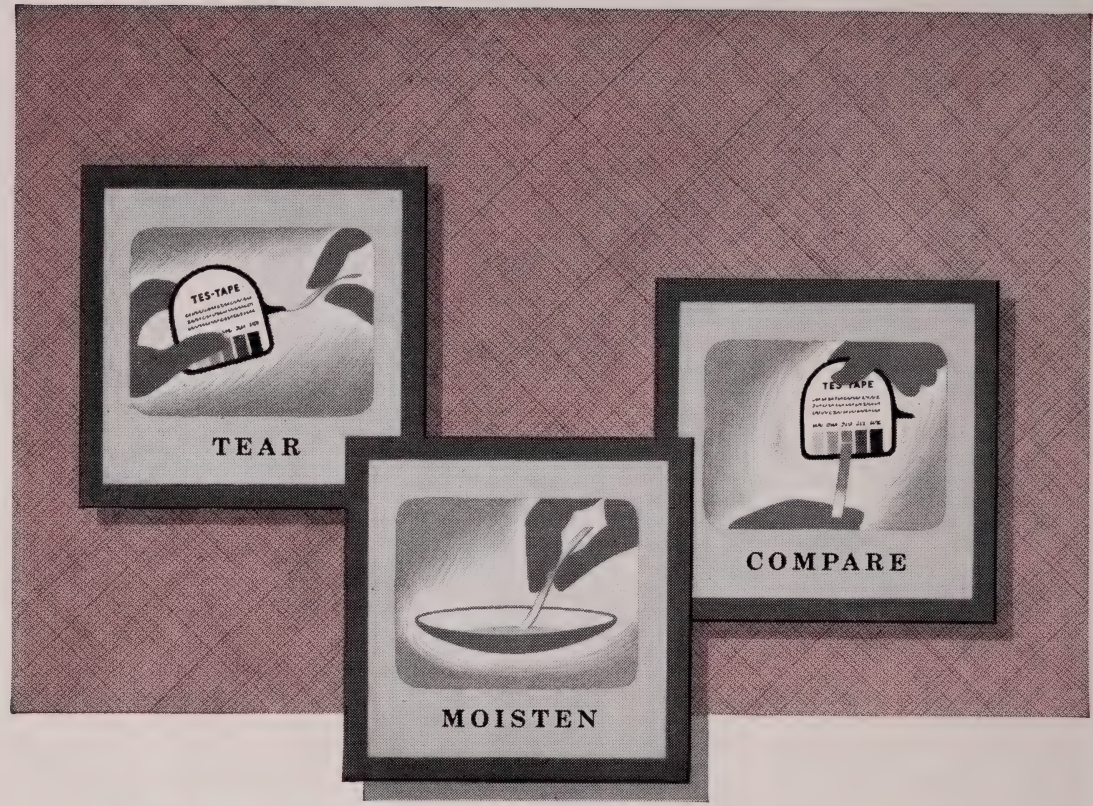

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The Annual Meeting

Again we urge that all who plan to attend the Annual Meeting of the Medical Society of the State of New York make reservations now for hotel accommodations. It is hoped that attendance this year will break all previous records. We are advised that all exhibit space has been sold, thus assuring our membership of a wide variety of new products for their information.

The Convention Committee and its subcommittees have labored untiringly to prepare for the presentation of a scientific program of outstanding interest. All members are urged to study carefully the forthcoming convention issue of the NEW YORK STATE JOURNAL OF MEDICINE for detailed information concerning the scientific and commercial exhibits and the reports of the officers and committees of the Society. All members of the Society who are interested are reminded that it is their privilege to attend the meetings of the various reference committees of the House of Delegates and to discuss with such committees the reports of the officers and Council committees in which they may have an interest.

It is hoped that you will make reservations early for hotel accommodations, that you will attend at least some of the sessions of the House of Delegates, and that you will take an interest in the proceedings. Your delegates would appreciate any support you can give them. Make your reservations early and plan to attend.

Some Rights and Privileges of Physicians

Occasionally a legal decision of great interest to practicing physicians of this State is handed down by the courts. Such a one was the ruling of the Appellate Division in the matter of Harry L. Alpert, M.D., appellant, against the Board of Governors of the City Hospital of Fulton, New York, respondent.

This decision involved the right of a doctor to a hearing before dismissal from the staff of a city hospital. The board of governors of this publicly owned hospital, allegedly without notice of charges or hearing, excluded this practitioner from the use of hospital facilities and denied him reappointment to the medical staff. No question of the appellant physician's qualifications was raised. "The petitioner was licensed to practice medicine in this State in 1938, and without question he fully satisfies the requirements stated in the rules and by-laws for membership on the staff and use of the facilities of the hospital..."[1] Dr. Alpert was accepted for membership on the active staff in 1946 and continued as a member entitled to use the facilities of the hospital until February 1, 1955, when the determination (of the board) became effective. That determination, said the Court, excludes the petitioner from the hospital and in addition denies him reappointment to the medical staff. If his patients require hospitalization, they must retain another physician. Since the nearest other hospitals are considerably distant, petitioner alleges that his exclusion from the City Hospital at Fulton will effectively destroy his practice and deprive him of the right to practice medicine in that area. He has made a substantial investment in his office and facilities in Fulton. He alleges that the determination is arbitrary and without foundation in fact and that it deprives him of his property without due process of law. Respondent made no findings of fact.

The Court said: "The answer of the Board of Governors alleges that the determination 'was reached only after a careful and mature consideration of a multitude of condemning facts and circumstances which overwhelmingly justified its action.' What those 'facts and circumstances' might be we are not informed.... By interposing mere denials and withholding evidentiary facts, respondent [i.e., the Board of Governors of the City Hospital of Fulton] has failed to raise an issue of fact, and this court 'may dispose of the matter in the same manner as upon a motion for summary judgment under Rule 113 of the Rules of Civil Practice'. We take it as established that the exclusion of this petitioner from the hospital is arbitrary, capricious, and unreasonable. The only question is whether there is a remedy."

The learned court in its discussion of the case then said in part:

> The contention [of the respondent] that an administrative agency [Board of Governors] enjoys a discretion unhampered by review has been made many times, but never with much success where the matter in question was quasi-judicial in nature.... In the present case the rules of the Board of Governors contain reasonable requirements for the right to treat patients in the hospital. Petitioner meets those requirements fully. Nevertheless, respondent has unreasonably and arbitrarily excluded him from the use of the hospital, relying upon the lack of any relevant express limitations upon its authority. We conclude that additional limitations are to be implied, partly because of the very nature of a public hospital, and partly to furnish constitutional protection to valuable interests....
>
> If the right of the general public to use the hospital is to have any meaning, they must have the concurrent right to be treated by their own physicians, unless the latter are excluded for adequate cause.... In *Van Campen* v. *Olean General Hospital*[2]... this court carefully distinguished between a private and a public

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[1] *Alpert* v. *Board of Governors of City Hospital*, 286 App. Div. 542, Fourth Dept., Nov., 1955, p. 545.

[2] 210 App. Div. 204, affd. 239 N.Y. 615.

> hospital. The distinction is significant for two reasons: (1) the general public, not merely a particular class, is entitled to use a public hospital; (2) public or governmental action is limited by the constitutional requirement of due process of law.... In one sense of course, there is no constitutional right to practice medicine in a public hospital.... Valuable privileges, however, are also entitled to the protection of law.... There was in this case a lack of procedural due process in arriving at the determination.... We conclude that a qualified physician admitted to practice in a public hospital acquires a species of tenure and cannot be capriciously excluded and thereby injured financially and professionally, all without notice and an opportunity to be heard....

The court said further:

> It follows that petitioner is entitled to use the facilities of the hospital in the treatment of his own patients.... Petitioner, although entitled to treat his own patients in the hospital, has no right to represent the hospital or to treat patients who have not engaged his services. Appointments to the medical staff are made by the Board of Governors for a term of one year. Respondent's failure to reappoint him to the staff gives rise to no legal remedy, nor is such reappointment necessary to assure him of the right to use the facilities of the hospital and to treat his own patients therein. That right is subject to no one-year limitation and continues so long as petitioner obeys all reasonable rules and regulations of the Board of Governors and gives no cause for his removal. This result at the same time controls arbitrary conduct by respondent in matters of public concern, yet gives a free hand to the Board of Governors with regard to the internal management and organization of the hospital.

We have excerpted this opinion, in which all sitting justices concurred, for the information of our membership. Certain of the observations of the court respecting the rights and privileges of physicians seem to us to be of exceptional concern where such physicians practice in publicly owned hospitals.

Medicine in a Democracy

The democracy of America has produced the best doctor-care the world has ever known. And Blue Shield has made that doctor-care available to all self-reliant citizens in an American way of nonprofit insurance.

An alien system of "compulsory" insurance with its burden of political job holders is not needed in a nation where more than half the citizens have provided themselves with insured protection against the costs of unexpected need for doctor-care.

In this American way each citizen has the right to the physician of his choice—free choice of doctor it is called. Along with this principle is a plan of "allowances" to compensate the doctor according to the service which he renders. This schedule has been developed by members of the profession, and it corresponds with fees commonly charged for like service to patients of like standard of living. In most localities the majority of physicians accept these "allowances" as full payment from patients having an annual income within the lower brackets.

No patient in America goes without needed care by a doctor because he lacks funds with which to pay for the service. This is a traditional obligation which all good doctors honor. There is a growing social consciousness which has led many communities to accept the financial costs of care of the poor as a community obligation.
—F. E. E.

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ANNUAL CONVENTION

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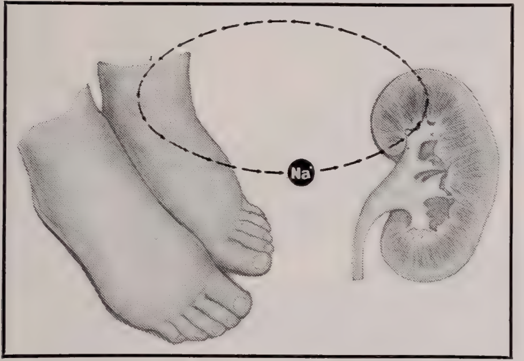
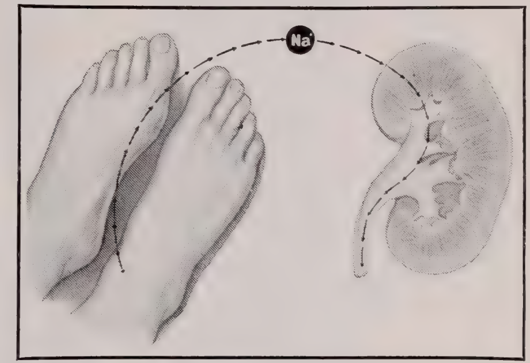


WITHOUT MICTINE—*Prior to diuretic therapy excessive sodium and water are characteristically retained in the edematous patient.*



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An effective diuretic has been described as one which causes excretion of water, sodium and chloride in amounts sufficient to reduce the edema but not to result in salt depletion.

Mictine (brand of aminometradine), introduces to clinical practice an *improved* diuretic which not only meets the standard qualifications but has these seven additional advantages:

Mictine is orally effective; it is not a mercurial; it has no known contraindications; it does not upset the acid-base balance; it exerts no significant influence on electrolyte balance; it may be given in the presence of renal or hepatic diseases; it is well tolerated.

As with most effective therapeutic agents, in high dosage Mictine may cause some side effects in some patients; however, on three tablets daily side effects (anorexia and nausea, rarely vomiting, diarrhea or headache) are minimal or absent.

Clinically, Mictine is useful in the maintenance of an edema-free state in all patients and for initial and continuing diuresis in mild or moderate congestive failure. It is not intended for initial diuresis in severe congestive failure unless either sensitivity or tolerance to other diuretics has developed in the patient.

The maintenance dosage of Mictine, as well as for initial diuresis in mild or moderate congestive heart failure, is one to four 200-mg. tablets daily in divided doses; the dosage for initial diuresis in severe congestive failure, under the conditions already described, is four to six tablets daily. For either use, it is recommended that Mictine be prescribed with meals on interrupted dosage schedules; that is, prescribing Mictine on alternate days or for three consecutive days and omitting it the next four days.

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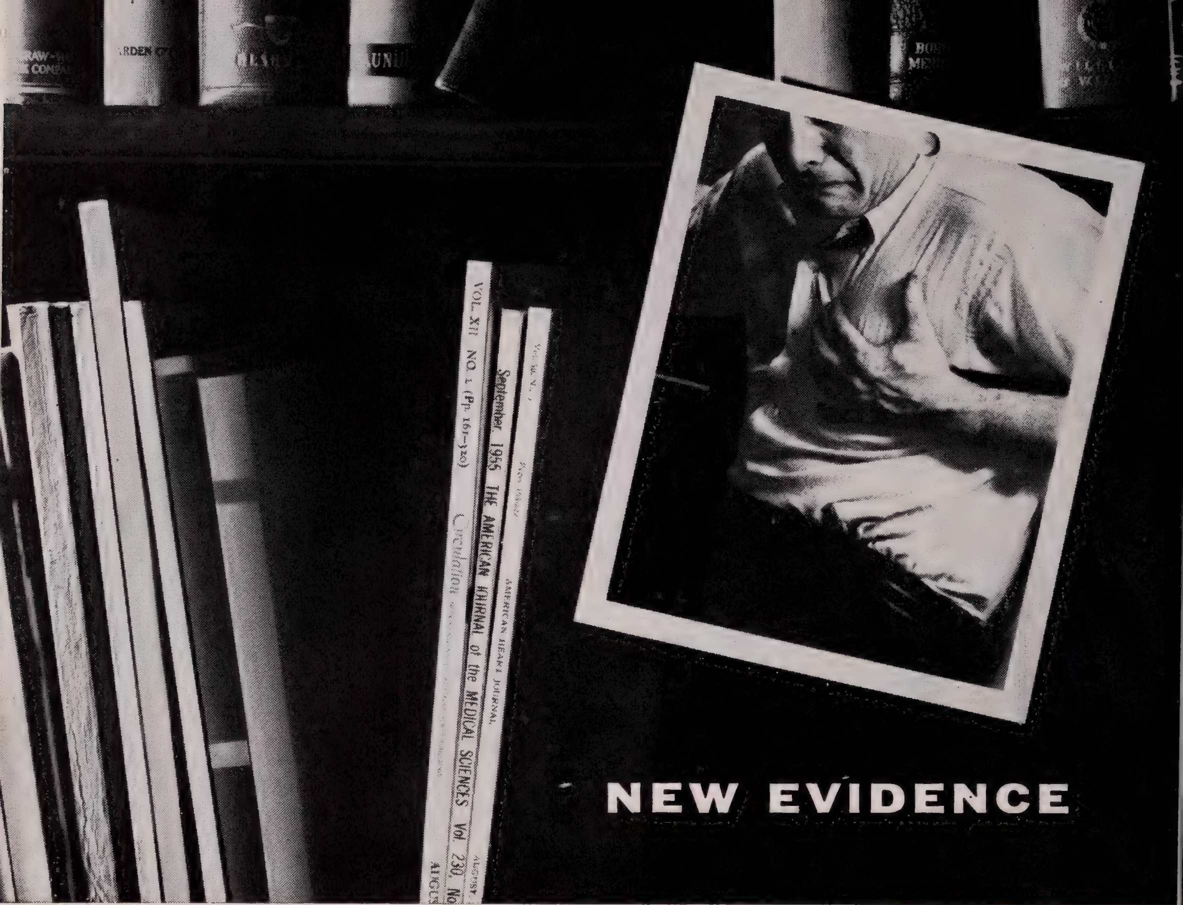
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September 1955 THE AMERICAN JOURNAL of the MEDICAL SCIENCES Vol. 230 No
AMERICAN HEART JOURNAL
NEW EVIDENCE

How you can prevent attacks of angina pectoris

Three new studies have recently been added to the extensive investigation of Peritrate's effectiveness in preventing attacks of angina pectoris:

For some patients, state Rosenberg and Michelson, Peritrate "may mean the difference between complete, or almost complete, absence of symptoms, or a prolonged illness with much suffering." *Am. J. M. Sc.* 230*:254 (Sept.) 1955.*

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SCIENTIFIC ARTICLES

Criteria for and Results of Surgery for Mitral Stenosis

CHARLES P. BAILEY, M.D., AND HOUCK E. BOLTON, M.D., PHILADELPHIA, PENNSYLVANIA

(From the Division of Thoracic Surgery, Hahnemann Medical College and Hospital of Philadelphia, and the Bailey Thoracic Clinic)

Part I. Concepts and Technics*

Since June 10, 1948, when the first successful modern operation for mitral stenosis was performed by one of the authors (C.P.B.), several thousand such operations have been carried out by the surgeons of our clinic and other groups throughout the world. In our clinic alone there have been over 1,500 operations for mitral valve stenosis. It is possible now to give a five-year follow-up on 189 patients who were subjected to surgery for mitral stenosis at our clinic. A portion of the 50 five-year patients reported by Glover and O'Neill[1] is included in this series. There is a progressively increasing number of cases followed up for four-year, three-year, and two-year periods. From their long-term response to surgery, we are able now to recognize certain faults in our initial concepts and in our original methods of handling these patients.

Our early experience with surgery for the correction of acquired lesions of the mitral valve seems, in retrospect, rather simple. The patients referred to our clinic for surgery at that time usually presented only univalvular and often "pure" lesions. During the period of development of this type of intracardiac operation, these cases presented many trying and what sometimes appeared at that time to be insurmountable problems.

However, a more extended experience in this field has resulted in a broader and more comprehensive attitude in handling the cardiac surgical case. This mollescence is not unique in medicine and surgery, and we, like many other early workers in newer fields, have had to retract, reject, and even replace some of our initial concepts. Seven years ago one of the authors (C.P.B.)[2] presented a concept for the surgical correction of mitral stenosis which in large part has become accepted as basic to this problem. Dicta as to criteria, selection, and management were presented with the same enthusiasm and sincerity demonstrated by many another pioneering proponent of a medical or surgical approach to a problem.

While those early assertions were at that time reasonably propitious for advance and development of the field, it now becomes necessary for us to join the not so elite group of surgeons who have found it necessary to retrench, to re-evaluate, and finally to reassert themselves in order to establish a new position when logical improvements or changes in technics have followed broader experience. This is our situation at the time of this presentation.

Because of a new type of patient referred to our clinic for evaluation for surgery, we have had to

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Presented, by invitation, at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, General Sessions, May 11, 1955.

* Part II, Results of Mitral Commissurotomy, will appear in the March 15, 1956, issue of the JOURNAL.

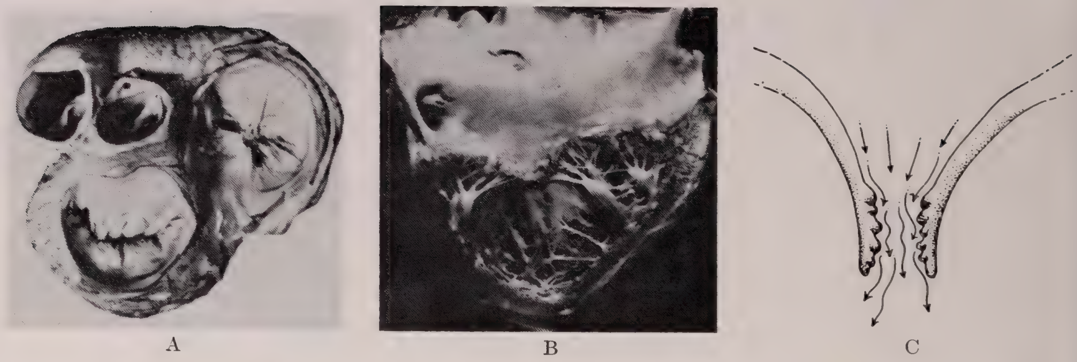

FIG. 1. (*A*) Cross section of heart at level of four valves. Note arcuate outline of bicuspid (mitral) valve orifice. (*Courtesy of Professor Harald Okkels, Institute of Human Anatomy, Copenhagen, Denmark*)

(*B*) Formation of rheumatic vegetations on atrial surface of mitral valve upon "zones of apposition." (*Courtesy Gould*[6])

(*C*) Diagrammatic sectional view of rheumatic mitral valve leaflets showing turbulence imparted to flowing blood due to the irregular atrial surfaces. (*Bailey,*[7] *Surgery of the Heart, Courtesy of Lea & Febiger*)

stop and review our criteria, methods of evaluation, and actual surgical technics in order to modify them in such a way as to enable us to provide the treatment necessary in combined or multivalvular disease. The complexion of the patients referred to us has changed remarkably in recent times. The "clean-cut," univalvular lesion now is the exception rather than the rule. Whereas previously we might expect to evaluate a patient for surgery on a simple valve lesion, our cardiologists presently are confronted with patients who have not only bivalvular lesions but not infrequently trivalvular rheumatic heart disease.

This presentation does not concern itself profoundly with the complexity of the cardiologist's province in evaluating a patient for surgery. We should like, however, to present the modifications of surgical concepts and technics which, of necessity, have evolved.

As a result of the influx of patients afflicted with multivalvular heart disease, surgical technics have been designed to allow exploration and definitive surgery on any or all of the three valves of the heart which commonly may be damaged by rheumatic fever. We are convinced that the cardiac surgeon must be prepared and capable today of handling lesions of not only one but of all three valves if necessary. Any preparation short of this will result in inadequate surgery for many patients with the inevitable unsatisfactory results logically to be expected.

Needless to say, while professional and community demands must be made on groups such as ours for surgical care of the very poorest risks, it is necessary to fufill such obligations with appropriate precautions and some conservatism.

It would seem well to preface the establishment of criteria for surgery with a consideration of the pertinent anatomy and pathology of mitral stenosis. It will be necessary also to touch on the actual technical management of these patients in the past and at present in order to point out certain essential developments which have led to modification of our methods of management.

Anatomy and Pathology of Mitral Stenosis

The mitral valve in the human subject normally consists of two leaflets suspended by supporting chordae which arise respectively from the anterior and the posterior papillary muscles. The chordae from the anterior papillary muscle supply the anterior halves of both leaflets, being distributed to their free edges as chordae of the first order, and to their ventricular aspects at varying distances toward the basal ring as chordae of the second order. A similar situation prevails with respect to the chordae supporting the posterior halves to both leaflets and arising from the posterior papillary muscle. The basally longer mural leaflet and the larger septal leaflet (which is shorter along its line of annular attachment) close the valve orifice by mutual approximation of their free margins and narrow adjacent "zones of apposition" in slitlike fashion, much like the human mouth. The line of closure

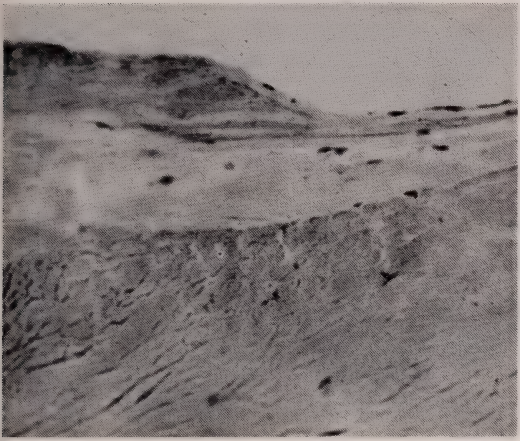

FIG. 2. Differentially organized laminations of fibrin which have been deposited upon the atrial surface of the rheumatic mitral valve. (*Magarey,*[3] *Courtesy of British Medical Journal*)

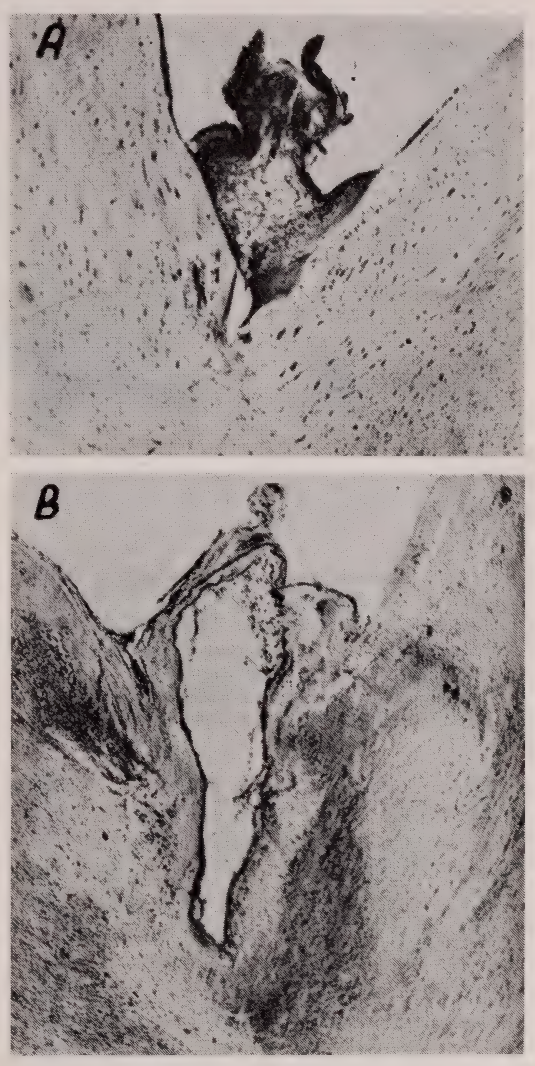

FIG. 3. (*A*) "Bridging" of commissures of rheumatic mitral valve by heaping up of fibrinous exudate. (*Magarey,*[3] *Courtesy of British Medical Journal*)

(*B*) Advanced stage of "bridging" of mitral valve commissure. (*Magarey,*[3] *Courtesy of British Medical Journal*)

in the normal mitral valve is an arc which amounts nearly to a semicircle. However, in the stenosed valve this arc tends to become straightened out and, of course, always is much shorter than normal. The development of rheumatic valvulitis and ultimately of mitral stenotic changes has been reviewed recently and elaborated upon by Magarey,[3] although previously it had been described well by Rokitansky[4] and Coombs.[5]

In brief, the changes may be summarized as follows: Roughening of the valve surfaces, especially the leaflet "zones of apposition," takes place early in the course of rheumatic valvulitis. This is due to the appearance of numerous small vegetations which really are minute fibrin clots that have become deposited mainly upon those portions of the valve surfaces which come into mutual contact during systole. Perhaps this site of predominant localization of the rheumatic vegetations may be related to the incessantly repeated trauma of valve closure (Fig. 1).

At any rate, due to the roughening of the atrial surface of the distal portion of the valve, a degree of minor turbulence is imparted to the flow of blood through the valve channel. This mechanical disturbance of the flowing blood leads to the deposition of platelets and fibrin upon the roughened surfaces of the valve. While this is noted most prominently upon the zones of apposition, to a lesser degree the exudate may appear upon any other portion of the presumably generally inflamed valve structures. Thus, a thin layer of fibrin may accumulate not only on the zones of valve contact, but also on the rest of the atrial and ventricular surfaces of the valve and even on the subvalvular chordopapillary supporting structures. This fibrinous exudate progressively undergoes organization as fibroblasts invade and convert it into a thin layer of fibrous connective tissue (Fig. 2).

Apparently such fibrinous deposition may recur from time to time throughout the life of the individual, presumably in most instances during

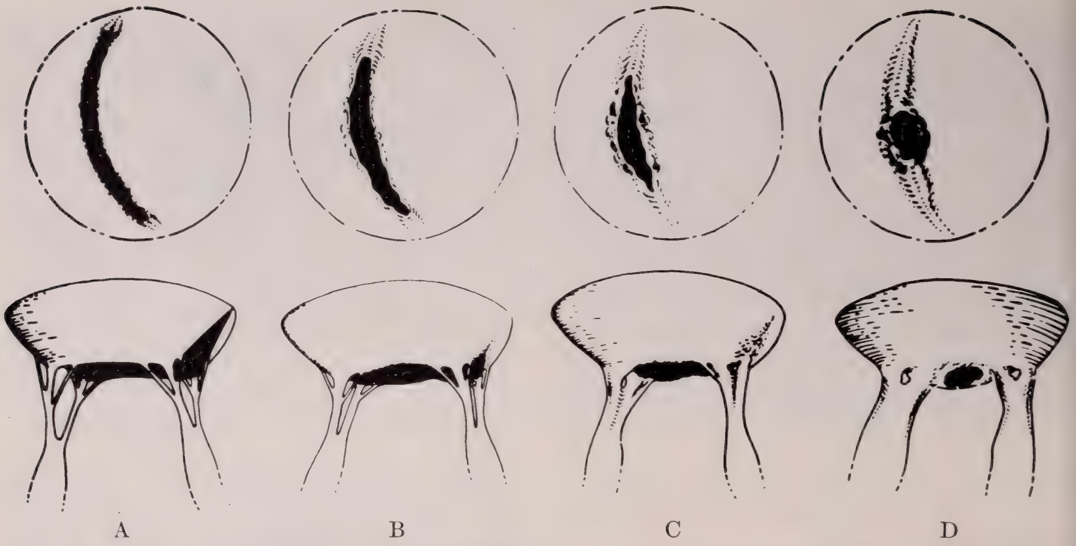

Fig. 4. Successive representative stages in the development of mitral stenosis. (*Bailey,*[7] *Surgery of the Heart, Courtesy of Lea & Febiger*)

(*A*) Early stage—beginning "bridging" of commissures. (*B*) Early cross-fusion of leaflets at commissures. Thickening of supporting chordae due to deposition of exudate upon them. (*C*) Centripetally progressive cross-fusion of commissures. Agglutination of contiguous chordae. (*D*) Final circumferential constriction of scar tissue about diminutive valve orifice converts it into a rounded aperture. Excessive subvalvular changes due to chordopapillary fusion reenforce primary leaflet stenosis.

phases of overt rheumatic activity. However, there is some reason to believe that once it has become started, this process of recurrent fibrin deposition and subsequent organization must continue at least until all of the original surface irregularities on the valve have become covered over by the accumulated laminations of fibrous connective tissue. Also, there is some reason to believe that this process, once initiated, in some instances may become self-perpetuating and continue to progress throughout life (or until the valvular damage becomes sufficient to cause death).[8] If this latter postulate ultimately should prove to be sound, then recurrence of rheumatic valvular stenosis after even the most ideal type of corrective surgery would seem to be an inevitable and logically to be expected denouement, provided the individual survives for a sufficiently long period after operation.

The repeated deposition of fibrin and subsequent organization result, in effect, in the formation of new living tissue upon the surface of the valve, causing progressive thickening and stiffening. This scar tissue, of course, is heaviest in the region about the valve orifice and especially over the zones of valve leaflet contact (on the atrial surfaces). However, a similar change also may take place with respect to the various chordae tendineae and the papillary muscles, causing them to become significantly thickened and sometimes adherent to neighboring structures such as the adjacent ventricular wall.

The smooth accumulation of fibrin upon the atrial surface at the two extremities of the valve (commissure) is disturbed by the constant movement of the leaflets as the aperture opens and closes. As a result the exudate becomes heaped up in these areas, coming to "bridge" the angles (Fig. 3).

Later, when organization takes place, these two accumulations of heaped-up material at the valve commissures become converted into fibrous adhesions which bind the extremities of each of the valve leaflets together. Since this process, to some extent, may be a continuous one and since, in any event, it may recur from time to time, one readily can see how this progressing adhesive valvulitis gradually will reduce the size of the mitral aperture by continuous centripetal displacement of the effective valve "commissures." In addition to this "creeping" cross-fusion of the cusps which primarily reduces the size of the aperture, once the stenosis has advanced to a certain point, a secondary circumferential contraction of the scar tissue which has developed

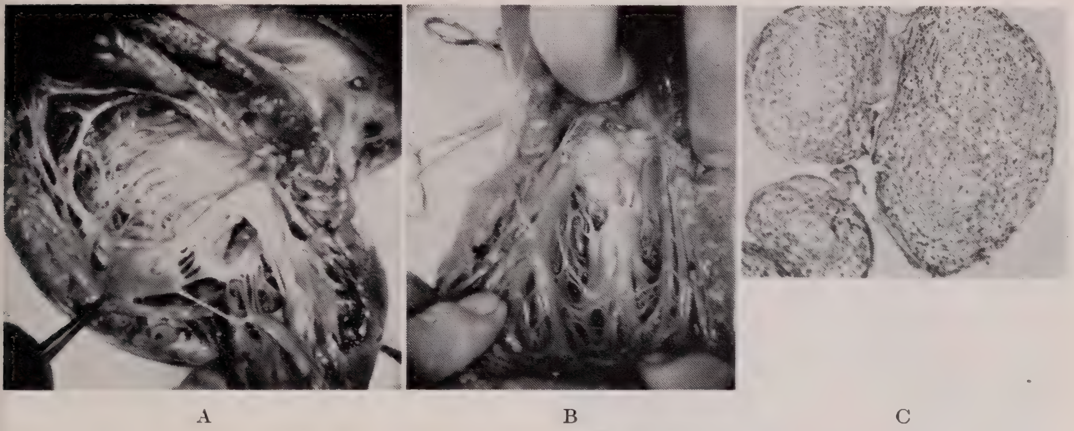

Fig. 5. (*A*) Photograph showing normal thin and discrete chordae supporting mitral valve. (*B*) Thickening of chordae and agglutination of contiguous ones due to the rheumatic process. (*C*) Photomicrograph showing sectional view of clumped and fused chordae. (*Magarey,*[3] *Courtesy of British Medical Journal*)

about the free valve margins produces a constricting or "purse-string" effect. This still further reduces the size of the aperture, tending, of course, ultimately to obliterate it (Fig. 4). The rate of development of this circumorificial fibrosis is enhanced by the effects of trauma to the valve edges due to the increased velocity of blood flow through the diminished valve opening.[5] During the early stages of a developing valvular stenosis, a low velocity of transvalvular flow exists, at least during rest. However, as the disease progresses, an increased rate of flow is required even then. Hence, the over-all trauma to which the valve orifice is subjected becomes greatly increased.

At the same time the deposition of fibrin upon the surfaces of the various chordae tendineae may lead contiguous chordae to become agglutinated one to another (Fig. 5). Naturally, when organization takes place in this portion of the exudate, the affected chordae become sealed together or agglomerated into much thicker cords which are fewer in number. As Brock[9] has pointed out, if the chordae supporting one valve leaflet become cross-fused with their counterparts suspending the opposite one, the effect of the primary leaflet cross-fusion in narrowing the opening thereby is reinforced (Fig. 6).

Also, fibrin developing on the ventricular aspect of the valves tends to "fill in" (filleting, as it were) the angles which exist normally between each of the chordae of the second order and the ventricular surface of the respective valve leaflet. As a result with organization these chordae become directly and intimately adherent to the ventricular surface of the valve and ultimately may become imbedded within accumulating layers of new fibrous connective tissue elaborated upon it (Fig. 7). Thus, an apparent shortening of the over-all length of the chordae may develop. However, a real shortening also may take place since the scar tissue deposited upon the periphery of these various chordae ultimately must tend to undergo contraction. As a result the papillary muscles may be drawn gradually up to the ventricular aspect of the valve. In some instances they become attached directly to the valve apex. In part, such papillary-leaflet conjunction may be accomplished by "elongation" of the valve cusps due to deposition of fibrin on their free margins and subsequent organization. Since the two valve leaflets usually will have become cross-fused up to this point of (now) direct attachment of the papillary muscles already, the agglomeration of one of these muscles, its attached chordal remnants, and the thickened leaflets together may result in the production of a very dense fibrous mass which may offer great, perhaps even insuperable, difficulties to the surgeon in his attempts to separate that valve commissure anatomically (Fig. 8).

As a result of all these changes which take place in the mitral valve mechanism, an over-all obstruction or impedance to the flow of blood from the left atrium into the left ventricle gradually develops and ultimately may become extreme. At first this impedance is effective only during activity; later it exists even during rest. Even-

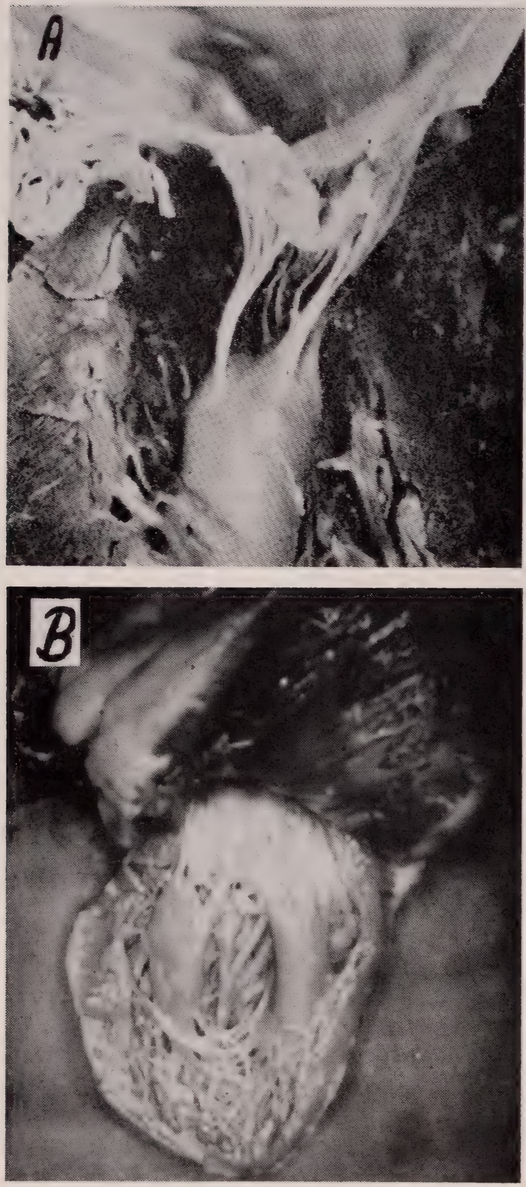

FIG. 6. (*A*) Sectioned stenotic rheumatic mitral valve showing cross-fusion of leaflets without significant involvement of the chordae. (*Rusted, Scheifley, and Edwards,*[10] *Courtesy of Circulation*)

(*B*) Photograph showing extensive subvalvular cross-fusion of chordae which reinforces the obstruction due to the intrinsic orificial stenosis.

tually, there is a lowering in the cardiac output, at first noted only during increased activity, later even at rest. A degree of stasis develops within the left atrium, which becomes dilated significantly, and also within the directly continuous valveless pulmonary veins and capillaries. These changes produce definite alteration (reduction) in pulmonary function. It would seem that such congestion in the capillary bed ultimately must reach the edema level and that pulmonary edema would be the usual cause of death in these individuals. Actually, this does not occur in most patients because, perhaps as a compensatory mechanism, a coincident increase in the pulmonary arteriolar resistance develops. This effectively limits the rate and amount of flow of blood into the pulmonary capillary bed. This increased vascular resistance is reflected by the development of hypertension within the pulmonary artery. Both the increased resistance and the elevation of the pulmonary arterial pressure cause a great increase in the work load of the right ventricle. At first the pulmonary hypertension may be measurable only during exercise. Later, it persists even at rest, becoming aggravated during increased physical activity.

In time, perhaps as a direct and natural result of the pulmonary hypertension, histologic alterations take place within the arterioles and the smaller arteries of the pulmonary circuit. These alterations consist of varying degrees of intimal hyperplasia and medial hypertrophy. Ultimately, there develops a tendency toward obliteration of the lumina by excessive thickening of the walls of the vessels. Generally, it is believed that these changes are at first, at least in part, reversible. Whether such reversal is due to relief of spastic phenomena, as postulated by Dexter[11] or whether it is just that certain of the histologic changes in the intima or media may regress has not been decided with certainty.[12] However, the very frequent observation of a dramatic fall in the pulmonary arterial pressure as a result of effective mitral valve surgery clearly supports the concept that in part these changes are reversible. On the other hand, there would seem to be no reasonable doubt that once the disease process has progressed beyond a certain point, these changes not only become irreversible but in all probability are self-perpetuating, perhaps in the same manner that essential systemic hypertension after reaching a certain point of advancement seems inevitably to develop "malignant" propensities.

These described anatomic and physiologic changes would seem to be most profoundly deleterious to the life and vigor of the individual, and the clinical disability observed in patients with severe mitral stenosis fully bears out these

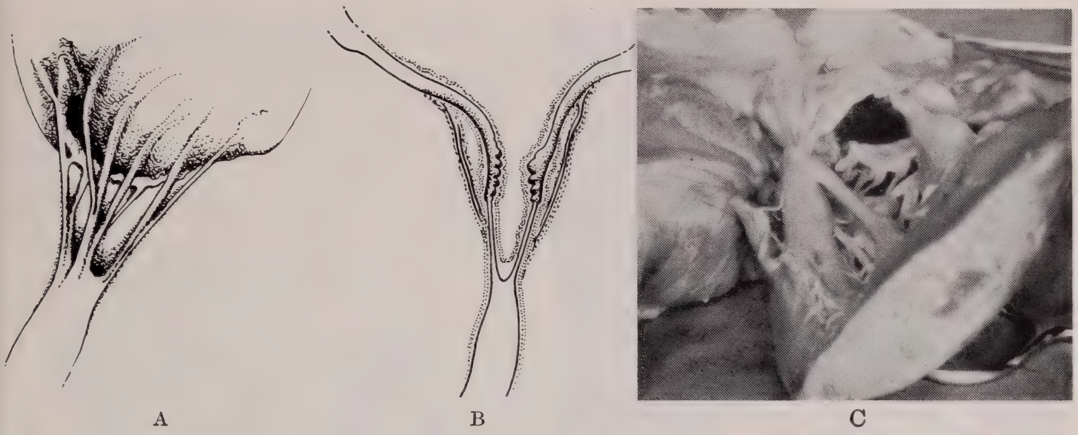

FIG. 7. Progressive effect of recurrent (rheumatic) fibrinous deposition, with subsequent organization, on the ventricular aspect of the mitral valve structures. (*Bailey,*[7] *Surgery of the Heart, Courtesy of Lea & Febiger*)

(*A*) Generalized deposition of a thin coating of fibrin on the chordae and ventricular surfaces of the leaflets and filling in the angles formed by their junction. (*B*) Sectional illustration of same. (*C*) Adherence of portions of the chordae of the second order to the adjacent ventricular surfaces of the leaflets. Ultimately they become entirely embedded within the substance of the cusps which have become thickened by organization of the deposited fibrin. This gives the false appearance of shortening of the chordae.

theoretic predictions. One would think, therefore, that there could be little doubt that a significant degree of mitral valvular stenosis always should be considered surgical and that our efforts should be directed toward alleviation while the disease is still in the earlier stages rather than in the later ones when irreversibility so often will have become established. Unfortunately, up to the present time the majority of patients who have been operated for mitral stenosis have been selected from those in late stages of the disease. It is important to note further that the pathologic changes found within the heart (valve) consistently tend to be more advanced than are the clinical features in these same patients, a tribute to the great compensatory powers of the cardiovascular system. For a long time the interplay of these compensatory mechanisms plus the patient's usual subconscious and automatic gradual reduction in physical activity prevent the progress of the disability from becoming too evident. The physician should guard against the false concept that one is justified in waiting until the clinical manifestations of the disease become intolerable to the patient and his family before considering definitive surgical intervention which now can be offered with a high degree of safety and effectiveness.

Recent Technical Advances in the Surgery of the Mitral Valve

The previously described technic[2,13–16] of performing mitral commissurotomy included insertion of the operator's gloved right index finger through an incision made in the tip of the left auricular appendage, hemostasis being maintained by tension applied to a purse-string suture placed around its base.

While originally we used a left anterolateral incision extended through the bed of the resected third rib or through the third interspace, this was soon abandoned in favor of the much more adequate surgical approach through a left posterolateral incision and the fourth intercostal space.

After cautious exploration of the valve with the intracardiac fingertip, an attempt is made to split first one valve commissure and then the other (Fig. 9). Failure to obtain a satisfactory split of at least one commissure is considered an indication for the use of a guillotine knife curved either on the flat (C.P.B.) or on the edge (H.E.B.). It must be appreciated that there are now many other types of effective valvulotomes available. The cutting end of the closed guillotine is inserted into the left atrium by passing it through the appendageal incision along the palmar surface of the operator's intracardiac finger. The dense tissue making up the extremity of the valve slit to be attacked is divided in the line of its direction by the shearing action of the blades for a distance of 4 mm. (Figs. 10 and 11). If no detectable regurgitation (or no increase in a preexisting one) is created by this instrumentation,

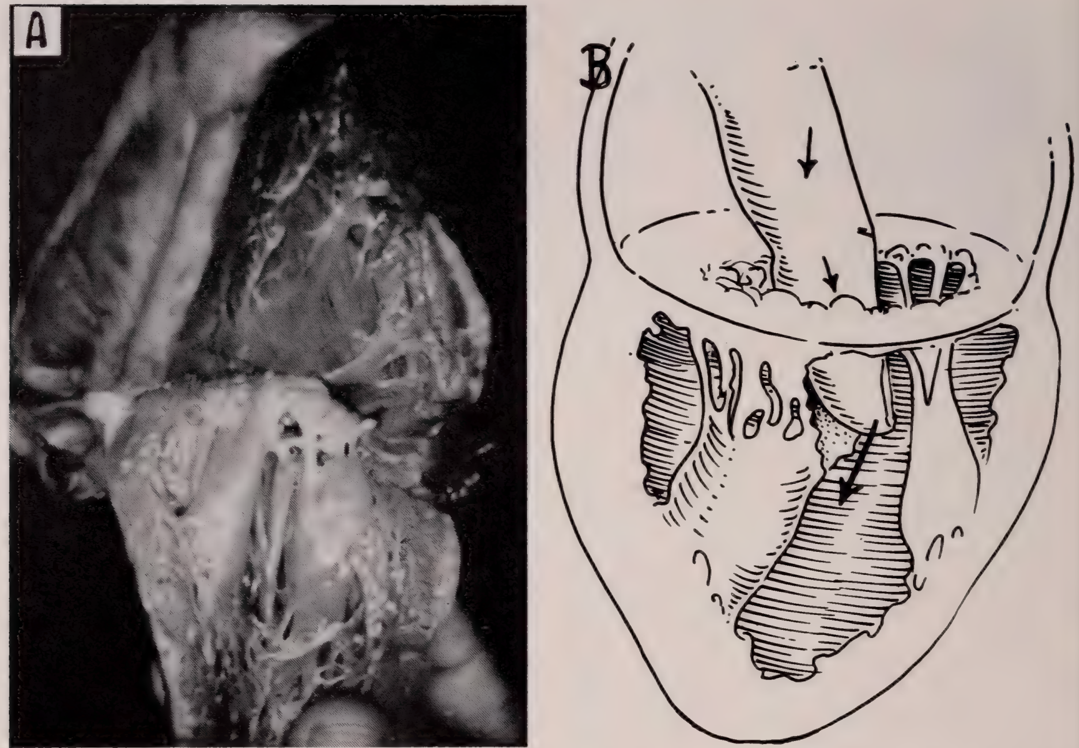

FIG. 8. (*A*) Extensive subvalvular changes with direct attachment of a papillary muscle to the apex of the valve which has been "elongated" by organization of fibrinous exudate accumulated along its free margins. (*B*) Illustration showing technical difficulty encountered in attempting to relieve mitral stenosis in such a case. Unless the subvalvular masses are split or separated in some way, the obstruction to flow will persist.

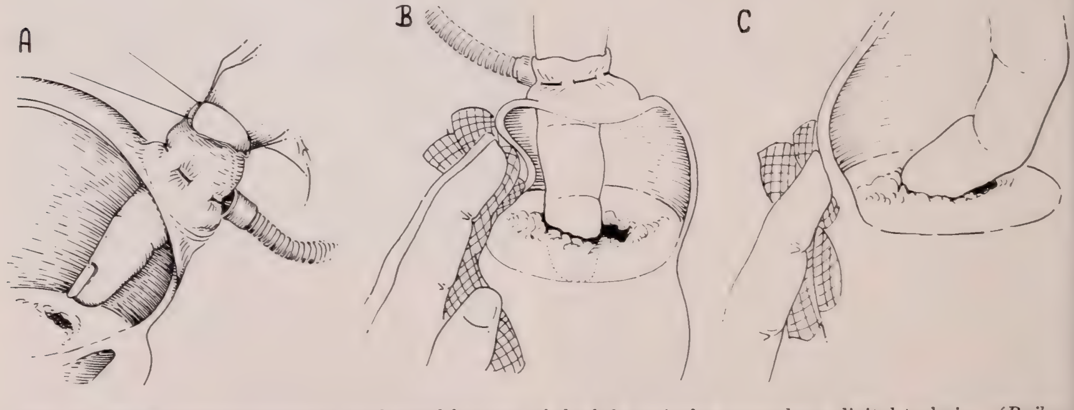

FIG. 9. Mitral commissurotomy performed by way of the left auricular appendage, digital technic. (*Bailey, Surgery of the Heart, Courtesy of Lea & Febiger*)

(*A*) Insertion of ungloved right index finger of the operator through an incision made in the tip of the purse-stringed appendage; the valve orifice is examined. (*B*) Attempt to split one of the valve commissures by lateral digital pressure, reinforced by external counter pressure. (*C*) Disruptive pressure applied directly by the fingertip against a fused commissure.

a cautious attempt at digital splitting is made against the apex of the commissural incision. Should it now be found possible to extend the separation further by splitting pressure alone, no

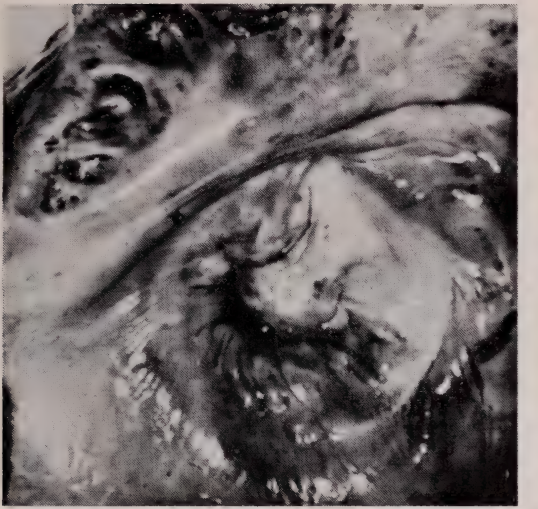

Fig. 10. Photograph of stenotic mitral valve showing apparent straightening of the arc of aperture, yet the curved lines indicate the direction along which the leaflets have become fused and along which the instrumentation must be directed. (*This illustration is presented with the permission of Dr. John Storer, of Cleveland, Ohio.*)

further instrumentation is indicated for this particular commissure.

All steps in the valvular separation are carried out a little at a time so that the earliest trace of any created regurgitation may be recognized and further manipulation of that extremity of the valve terminated at once. Thus, one is able to limit to an insignificant amount any incompetence which inadvertently might be produced.

While from our earliest pioneering days an attempt always has been made to establish a fully adequate valve passageway, in retrospect it appears that we may have failed more often than has been realized. No doubt the actual anatomic opening produced does not always represent accurately the effective functional passageway since many of these valves are stiffened and sluggish in action. Furthermore, one unopened commissure in a very stiff or calcified valve may limit severely the possible extent of diastolic divergence of the leaflets, even at the opposite extremity of the valve.

Review of our records indicates that only the anterior commissure was opened in 65 per cent of our patients who were operated from the left side. This was a logical reaction of the operator to the difficulty experienced by all cardiac surgeons in attempting to open the posterior commissure when using the left posterolateral approach. From this position it is difficult to instrument the posterior commissure without producing an undesirable amount of regurgitation. Hence, if the posterior commissure should fail to split adequately with digital pressure alone, nearly all cardiac surgeons have terminated their efforts, provided that at least a minimally ade-

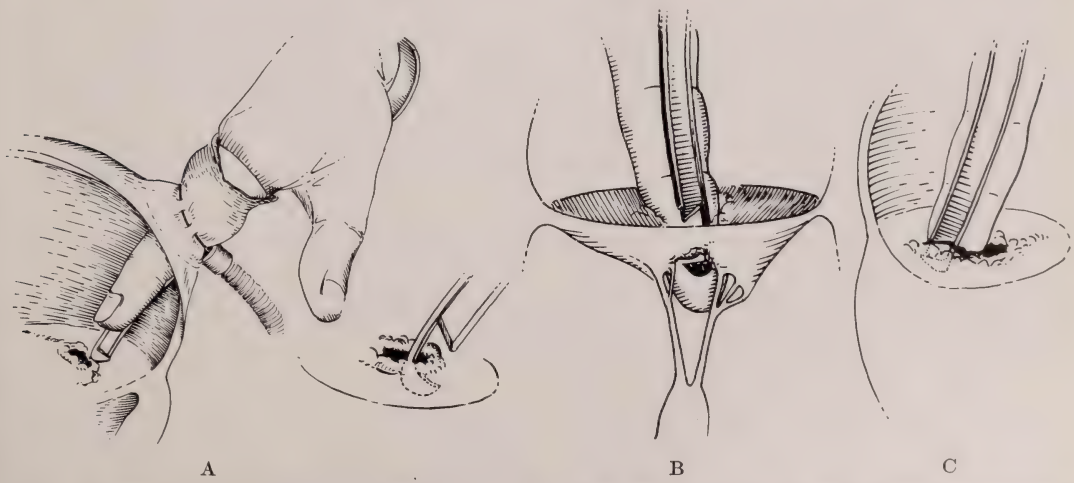

Fig. 11. Mitral commissurotomy performed by way of the left auricular appendage, instrumental technic. (*Bailey,*[7] *Surgery of the Heart, Courtesy of Lea & Febiger*)

(*A*) Insertion of guillotine knife through the appendage along the palmar aspect of the operator's intracardiac finger. Inset shows opened instrument engaged upon one of the valve commissures. (*B*) Sectional view illustrating placement of hooked underblade in line with and between the two parallel rows of chordae supporting this portion of the respective valve leaflets. Unless the line of section is anatomically accurate, regurgitation will be produced. (*C*) Closure of the placed guillotine divides 4 mm. of fused commissural tissues.

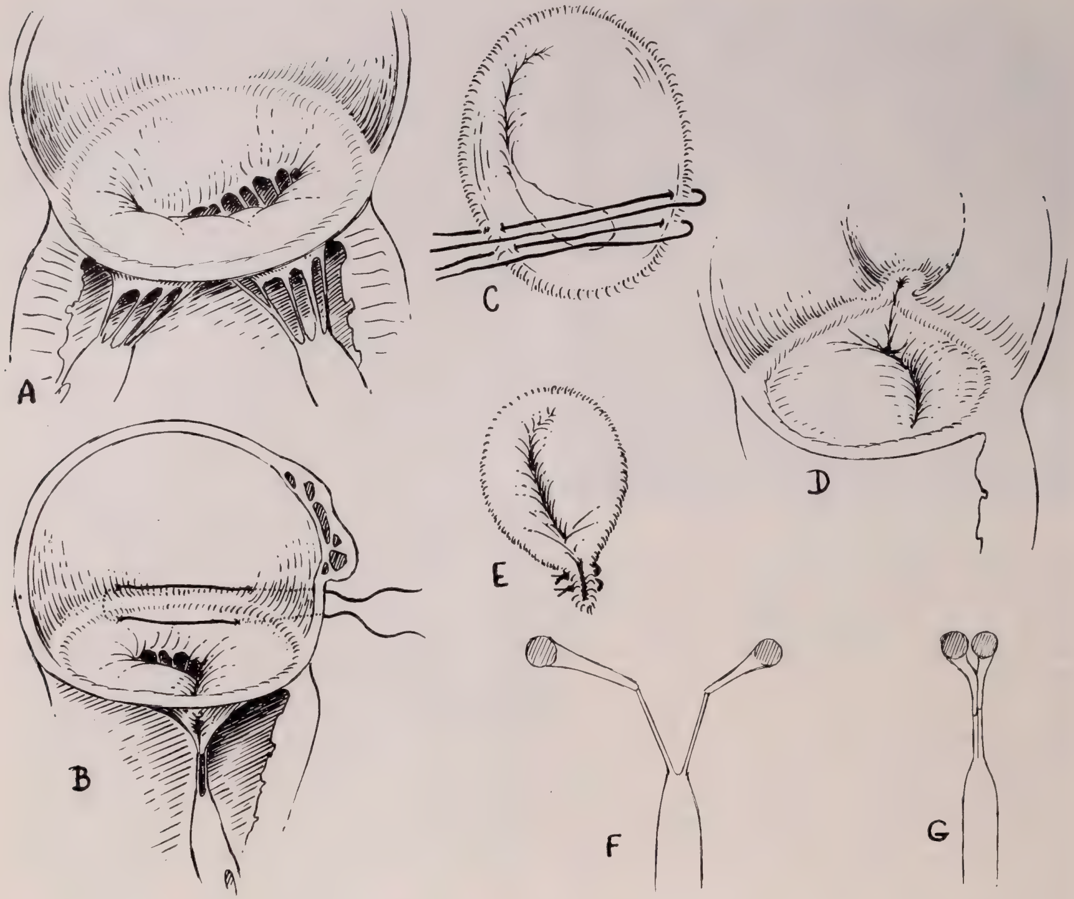

FIG. 12. Nichols' method of polar cross-plication of the annulus fibrosus in the correction of mitral regurgitation. (*A*) Incompetence of the posterior half of the mitral valve. This is caused by shrinkage of the leaflet substance, by dilatation of the annulus, or by some combination of them. (*B*) Head-on view showing placement of heavy approximating mattress sutures around the septal and mural portions of the annulus fibrosus above the region of the posteromedial commissure. (*C*) Top view of same after placement of two such sutures. (*D*) Tightening and tying down of these sutures bring the divergent basal attachments of the retracted portions of the leaflets closer together. This reduces somewhat the large size of the supravalvular area bounded by the fibrous ring but does not directly reduce the size of the valve aperture. Hence, no clinical stenosis is likely to be created by this maneuver. (*E*) Top view of same.

(*F*) Diagrammatic sectional view of the divergent free margins of the valve orifice in the region of the incompetence. Whether this is due to retraction or shrinkage of the leaflets, or to a dilatation or "stretching out" of the annulus fibrosus, the net result is the same—a disproportion between the amount of leaflet tissue which is available and the size of the passageway which must be defended. (*G*) Cross-approximation of the fibrous ring above the "aperture of incompetence" displaces the basal attachments of the two leaflets toward each other. Thus, the separate valve margins are brought into contact, restoring competence.

quate aperture seemingly had been achieved by mobilization of the anterior commissure. In many individual instances we feel that this philosophy has resulted in an incomplete relief of the stenosis.

The first important technical advance in mitral surgery (and in all intracardiac digitally guided operations) was suggested by Erik Husfeldt,[17] of Copenhagen, to one of us (C.P.B.) in June, 1953. He pointed out the great tactile sensibility and accuracy of the ungloved fingertip in performing various complicated maneuvers without the aid of optical vision. Much of this discriminatory sensibility is destroyed by wearing even the thinnest glove. The routine free use of antibiotic agents along with proper surgical technic has practically abolished any increased risk of infection when surgical gloves are not worn. The

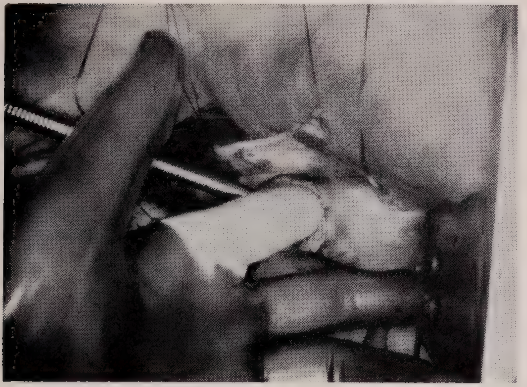

FIG. 13. Photograph showing ungloved left index finger of operator inserted through an incision made in the tip of the right auricular appendage in order to examine the tricuspid valve.

clear-cut superiority of this "bare finger" technic in actual trial has led to its adoption in our clinic as a routine measure in the performance of all types of digitally guided intracardiac surgery. Not only is the surgeon's accuracy of orientation and of instrumentation enhanced to a marked degree, but the greater skin friction of the operating fingertip allows a more effective application of splitting pressure without risk of slippage and facilitates many other manipulations of the valve structures.

The second great technical advance in the performance of mitral commissurotomy was the development of the right-sided approach to the left atrium. Initially, a technic of approach to the mitral valve from the right side was devised in order to carry out necessary noncardiac right-sided thoracic surgery at the same time that a mitral commissurotomy was performed.[7,18] Later a realization of the frequency of multivalvular involvement in patients with mitral stenosis commended the right-sided approach for such cases (since tricuspid and aortic stenosis are best attacked from the right). After several evolutionary steps in the technical development, it became evident that this method of entrance into the left atrium was safe enough to employ on a routine basis. It also became apparent that it offered several significant additional advantages over the more orthodox left-sided approach to the mitral valve.

The most important of these advantages is the much greater facility and accuracy with which the posterior mitral commissure can be divided from the right-sided approach either digitally or instrumentally. While slight disadvantage may be experienced in digital splitting of the anterior commissure from this position since effective external counterpressure is impossible, there is no increased difficulty in sectioning the anterior commissure instrumentally. Neither is there any difficulty in separating subvalvular chordopapillary fusion complexes. Hence, an expert operator usually can achieve a significantly larger valve opening using the right-sided technic than by the older left-sided approach. It has been estimated that we average a 50 per cent better opening of the mitral valve by this technic without any increase in the production of regurgitation. Furthermore, the routine mobilization of both commissures (97.5 per cent in the first 200 patients) breaks the "horseshoe" effect which otherwise might limit the eccentric type of movement of the thickened valve leaflets which ensues when only one commissure has been separated.

A second great advantage of the right-sided approach to the mitral valve is that it obviates the use of the left auricular appendage as an entrance passageway. Since this appendage has been found to be thrombosed in 29.9 per cent of all patients operated for mitral stenosis and in 53 per cent of those with persistent atrial fibrillation, and since such thrombosis cannot always be recognized by external palpation, it would seem that by the very act of inserting a finger through its lumen, the operator necessarily must incur an unavoidable risk of dislodging thrombotic particulate matter into the circulating blood. Since such thrombotic material initially formed within the lumen of the left auricular appendage is believed to be the chief source of operatively produced arterial embolization, the approach to the mitral valve by the right-sided route would seem to minimize this risk. Even when the clot already has extended into the true atrial cavity (13.6 per cent), the finger approaching from the right through an incision which actually is made through the septal wall of the left atrium usually need not even touch it in examining and opening the valve.

A third important advance in the evolution of mitral valve surgery has been the method of correcting mitral insufficiency by polar approximation of the mural and septal portions of the mitral annulus fibrosus which was devised by Dr. Henry T. Nichols[19] of our staff. While others,

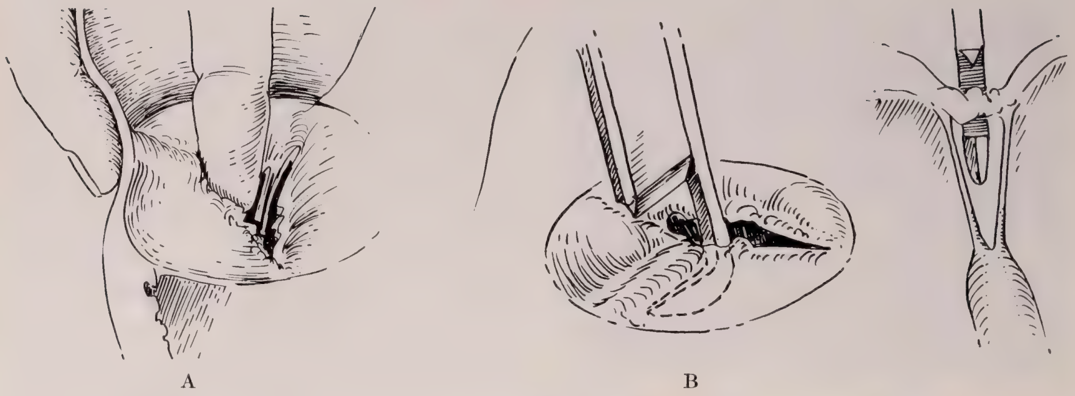

Fig. 14. (*A*) When stenosis is found, an attempt is made to perform tricuspid commissurotomy at first by a digital technic. (*B*) If this fails, an instrumental commissurotomy is carried out.

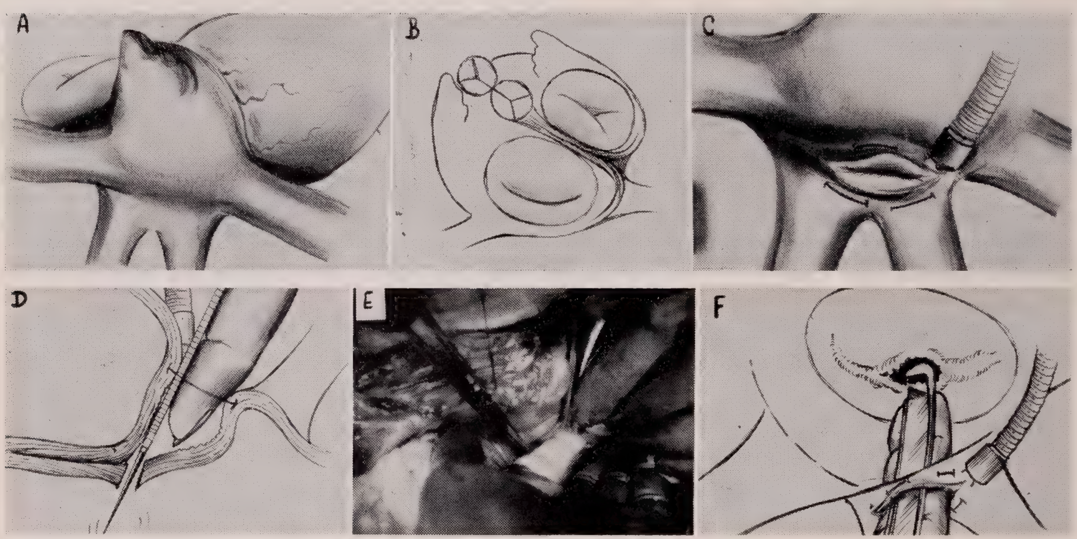

Fig. 15. Exploration of the mitral valve from the right side and the performance of commissurotomy when necessary.

(*A*) Appearance of the right side of the heart showing the interatrial groove. (*B*) Diagrammatic illustration of the two-layered structure of the interatrial septum and its relationship to other cardiac landmarks. (*Bailey, Courtesy of Journal of Thoracic Surgery. To be published.*) (*C*) Interatrial groove dissected and then encircled by a purse-string suture of heavy braided nylon.

(*D*) Broad-bladed knife is guided along ungloved left index finger which has been inserted into the dissected groove. (*E*) Photograph showing operator's index finger passing into the left atrium by way of the dissected interatrial groove and an incision made in the left half of the interatrial septum. (*F*) If the commissures cannot be split digitally, a longer modification of the guillotine knife is used to divide them. (*Courtesy of Journal of Thoracic Surgery. To be published.*)

notably McAllister,[20] Davila and associates,[21] Kay and Cross,[22] and Bailey and Bolton,[23] previously proposed various methods of constricting or plicating the valve ring, the extreme simplicity and effectiveness of the Nichols' method would seem to stamp it as both mechanically sound and surgically feasible. In brief, it consists of mattress suture approximation of limited apposed portions of the mitral valve ring over either or both valve poles in such a way that the relative disproportion, which invariably exists in spontaneously developing mitral regurgitation, between the total area bounded by the ring and the amount of available valve substance is reduced or abolished. This method appears to be equally effective regardless of

TABLE I.—Patients Grouped According to Their Functional Classification and the Operative Deaths in Each Class

	Class I	Class II	Class III	Class IV	Total
Number of cases	32	344	562	62	1,000
Number of deaths	1*	9	56	11	77
Per cent mortality	3	3	10	18	7.7

* The 1 death in Class I represents a technical accident. Actually one should expect the operative risk to be close to zero in this group.

TABLE II.—American Heart Association Classification Preoperatively and Postoperatively in 439 Patients

Preoperative Heart Classification	Number of Cases	Postoperative Heart Classification Group I	Group II	Group III	Group IV
Group I	4	3	1	. .	. .
Group II	179	36	130	8	5
Group III	232	26	134	69	3
Group IV	24	. .	17	7	. .

TABLE III.—Comparison of the Preoperative and Postoperative Heart Size of 153 Patients

Preoperative Heart Size	Number of Cases	Postoperative Heart Size				
			Enlarged			
		Normal	1+	2+	3+	4+
Normal	7	3	3	1	0	0
Enlarged						
1+	29	5	13	10	1	0
2+	86	5	21	42	18	0
3+	30	0	0	9	18	3
4+	1	0	0	1	0	0

whether the main difficulty is a deficiency of available valve tissue or whether the annular ring is widely dilated; it is also effective in cases where both factors are involved (Fig. 12). This technical contribution would seem to the authors finally to solve satisfactorily a formerly very difficult and not too infrequently met surgical problem. Mitral regurgitation usually is associated with a significant element of valvular stenosis but occasionally appears as an isolated lesion. Unfortunately, for technical reasons the described principle of polar cross-plication can be applied practically only when the surgical approach is made through the left posterolateral thoracic incision.

Technic of Mitral Commissurotomy from the Right Side

A brief discussion is in order to clarify the technic of mitral commissurotomy as performed from the right side.

The patient lies in the supine position with the right shoulder somewhat elevated. An inframammary incision is made, and the right hemithorax is entered through the third anterior interspace if surgery on the aortic valve is anticipated or through the fourth intercostal space if no evidence of aortic valvular disease has been established preoperatively.

The tricuspid valve is explored routinely by inserting the operator's ungloved left index finger through an incision made in the tip of the right auricular appendage (Figs. 13 and 14). The clinical diagnosis of tricuspid stenosis is notoriously difficult to make in the presence of lesions of other valves. Apparently it is never seen except in association with mitral stenosis which produces nearly identical auscultatory signs. Physiologic studies in our hands similarly have proved unreliable. Direct digital exploration of the valve, which is a simple and safe maneuver when the heart is approached from the right side, will serve to clarify the tricuspid situation. In 98 consecutive patients operated for mitral stenosis from the right side, routine exploration of the tricuspid valve revealed significant tricuspid stenosis in 15 patients and incompetence of this valve in 17.

The epicardium is incised over the interatrial groove, the dissection being extended and deepened respectively for 2 cm. After placement of an encircling purse-string suture, a broad knife blade is directed along the tip of the ungloved left index finger which has been inserted into the separated interatrial groove, and a stab incision is made through the left half of the split interatrial septum into the left atrium. The left index fingertip tamponades this puncture of the septum and advances through it to the mitral valve. Definitive commissurotomy then proceeds either digitally or by the use of the guillotine knives as is found necessary (Fig. 15).

Selection of Patients

Today, there is general agreement among cardiac surgeons that the vast majority of patients with mitral stenosis who fall in Groups II and III of the American Heart Association classification should be subjected to mitral commissurotomy (Table I). Many still oppose surgery for Group I patients, and this opinion must be respected at least to the extent that patients in the later groups who are improved by surgical intervention to the point that they may be reclassified into Group I logically should not then be submitted further to surgery. Technically, the difficulties in valvular surgery which are met in these patients tend to become progressively greater with the advance of the disease. However, in any specific "advanced" individual they may prove to be relatively simple, while a particular "early" case may present nearly insuperable problems.

Using the classification of the American Heart Association, we find the relative preoperative and postoperative condition of 439 of 1,000 consecutive clinic patients to be as shown in Table II. However, this table is to a degree misleading because many of those patients from the fourth group of the American Heart Association classification who are classified as improved in reality still have a very limited cardiac reserve. Their improvement, therefore, has been of a relative or "salvage" type. It cannot be considered to amount to actual rehabilitation.

The question as to the benefit which may be derived from surgery in Group IV patients would seem to be resolved by our own experience with 62 such patients, all of whom have been operated at least twelve months ago. Fifty-one survived surgery (18 per cent mortality). The alterations achieved in their further classification (American Heart Association) are presented in Table III. A total of 153 patients were studied with respect to heart size preoperatively and postoperatively, and such changes are noted in Table III.

Our experience clearly indicates that in this poorest and most advanced clinical group the operative risk is much greater (18 per cent) than that in the over-all series (7.7 per cent). Likewise, the incidence of late mortality is proportionately higher. However, once a patient's disease has progressed to this point, there still remains a considerable chance of obtaining very significant benefit, provided that the above-mentioned risks are accepted.

At this point it might be noted that a few patients have been submitted to surgery, although they were classified in what was considered to be Group I of the American Heart Association. These were patients without symptoms who presented auscultatory evidences of mitral stenosis but who had no significant pulmonary vascular hypertension at the time of surgery. There are many who feel that such patients should not be subjected to surgery since most of our postoperative cases cannot be considered to be better than Group I cases after clinically successful mitral valve surgery. A pertinent question would be whether these patients should not then be reoperated if one is to be consistent in operating on Group I cases. In practice these patients who were considered to belong to Group I were sufficiently concerned about their prospects for future health and longevity that they were willing to undertake surgery at a relatively early stage in their disease in the hope of obviating the logically to be expected further advance of its ravages. While it was explained to them that they could get along well enough for the time being, these individuals elected to undergo surgery at once. Since there would seem to be almost no operative risk in such patients and since most of them ultimately could expect regression in their clinical state, we did not hesitate then to go ahead.

In many instances we were amazed to find a very small valve opening even in these apparently asymptomatic patients. In most cases the valve would not admit a finger (1.5 sq. cm. or less). It is a great tribute to the tremendous compensatory powers of the circulation that these patients with such advanced obstructive lesions did not present more serious symptoms. As a matter of fact, several other patients originally had been considered to belong in Group I prior to surgery but subsequent to mitral commissurotomy reported such remarkable improvement that we realized that previously they had been compensating subconsciously for their disability. Therefore, it was felt that they should be reclassified as Group II cases. This is the only instance of alteration in the preoperatively established classification of our patients which has been permitted in the preparation of our statistical material. The one death in a Group I patient was due entirely to an operative technical error committed by one of the members of our resident staff.

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"Rounded" Shadows on X-Ray Film

The radiologist who finds rounded intrathoracic lesions following x-ray examination of the chest should be alerted to the possibility of a malignancy. An "aggressive" attitude including thoracotomy is usually the safest policy—whether the lesion is large or small, symptomatic or asymptomatic.

This advice was given in the November, 1955 issue of *The American Journal of Roentgenology, Radium Therapy and Nuclear Medicine.*

Authors of the report are Drs. Donald W. Springer, Paul E. Geiger, and Hiram T. Langston, all of the Veterans Administration Hospital, in Hines, Illinois.

"During a ten-month period beginning July, 1952, we have had occasion to study an interesting group of patients (ranging in age from twenty-four to sixty-three) who presented a rather wide variety of intrathoracic lesions. All of these cases had, however, one finding in common, namely the presence of a lesion which presented a discrete, circumscribed, solid appearing, smooth-edged density on the chest roentgenograms," the 3 x-ray specialists pointed out.

"As borne out by the proved nature of each lesion examined at thoracotomy and subjected to adequate pathologic study, it was also re-emphasized to us that if the patient's condition allows, surgery is always indicated in lesions of this type," they added.

"One cannot accurately predict the nature or course of the disease from its appearance on the chest roentgenograms. An attitude of watchful expectancy with consequent delay of surgical consideration, in these discrete, rounded, intrathoracic lesions, is fraught with danger since many of these are malignant or otherwise potentially harmful," the three specialists warned.

Other conclusions advanced by the Hines, Illinois, radiologists:

The diagnosis of many intrathoracic lesions that appear discrete, rounded and solid on roentgen examination is often very difficult if not impossible short of histopathologic examination.

In each instance bronchoscopic examination and all other special procedures which seemed indicated in the diagnostic evaluation of the individual case were undertaken preoperatively. In spite of this it was not possible to definitely conclude the nature of each specific entity prior to surgical removal and pathologic study of the lesion.

The presence in the lung of a lesion presumed to be metastatic from a primary neoplasm elsewhere may not always indicate widespread dissemination and an aggressive attitude toward the lesion should probably be taken, especially if there has been a relatively long tumor-free interval. It might possibly be a solitary metastatic lesion with no other tumor foci remaining.

A solitary pulmonary lesion in a person with previous adequately treated malignant disease elsewhere could represent a second primary neoplasm instead of a metastatic deposit. This further justifies an aggressive attitude in lesions of this type.

"Since malignant lesions cannot be differentiated from those of less serious appearance, exploration is the only acceptable advice to be given when confronted with lesions of this category," they concluded.

The Dose-Response Relationship and Duration of Action of the Curariform Agent Ro 2-4557 in Anesthetized Man

ROBERT I. SCHRIER, M.D.,* AND JOSEPH F. ARTUSIO, JR., M.D., NEW YORK CITY

(From the Department of Surgery (Anesthesiology) of the New York Hospital and Cornell University Medical College)

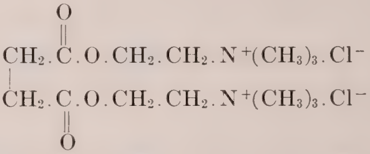
THE introduction of the peripherally acting muscle relaxants, beginning with curare, in clinical anesthesia fostered considerable investigative effort by a legion of workers. In addition to studies of the mechanisms of neuromuscular transmission and classification of action of the relaxants, emphasis has recently been directed toward the pharmacologic and physiologic properties of these agents. The objective of this last group of investigations has been to find one or perhaps a group of agents which approaches the ideal.

The requirements of this type of drug will vary to some extent depending on the specific circumstances under which it is to be used. One must consider the following in any such evaluation: rapidity of onset of action, maximal effect and duration of action, degree of respiratory depression, summation of effect, reversibility, effects on cardiovascular, pulmonary, and autonomic nervous systems, margin of safety, and effectiveness of muscular relaxation.

It is the purpose of this paper to present the results of studies using the curariform agent Ro 2-4557, with the express intention of assessing the drug in terms of the above qualifications.

Randall (1952)[1,2] found, in his investigations on a series of bis-quaternary bipiperidine derivatives having neuromuscular blocking action, that those compounds with methyl groups on the nitrogen atoms resembled decamethonium. Their neuromuscular blocking action was not antagonized by Tensilon nor by neostigmine. However, analogous compounds with aromatic radicals, such as nitrophenethyl, nitrobenzyl, or cyanobenzyl, substituted on the nitrogen atoms, resembled d-tubocurarine in that their neuromuscular blocking action was Tensilon reversible.

Randall (1952)[2] subsequently reported that a bis-quaternary diether, Ro 2-4557, containing a nitrobenzyl and two ethyl radicals on each nitrogen atom, was a strong curarizing agent, and its neuromuscular blocking action was antagonized by Tensilon. This is in accord with the concept of Bovet (1951)[3] that the replacement of the ester function in the succinylcholine formula by an ether group produces active curarizing compounds.



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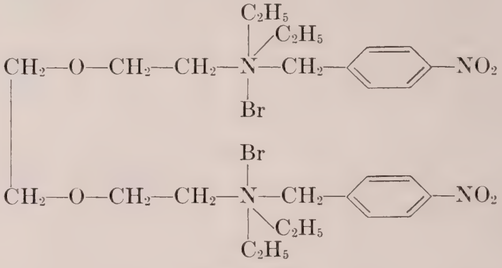
SUCCINYLCHOLINE (DIACETYLCHOLINE) CHLORIDE



Ro 2-4557

(ETHYLENEDIOXYDIETHYLENE)BIS(DIETHYL-P-NITROBENZYLAMMONIUM BROMIDE)

This compound was observed to be at least as potent as d-tubocurarine in the cat and rabbit but was weaker in the mouse and monkey. It was with this preliminary work in mind that our study of Ro 2-4557 was initiated.

Method

These observations were made on 40 surgical patients who, following appropriate premedication with atropine and a barbiturate, were anes-

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* By invitation.

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These investigations were aided by a grant from Hoffmann-La Roche, Inc., Nutley, New Jersey.

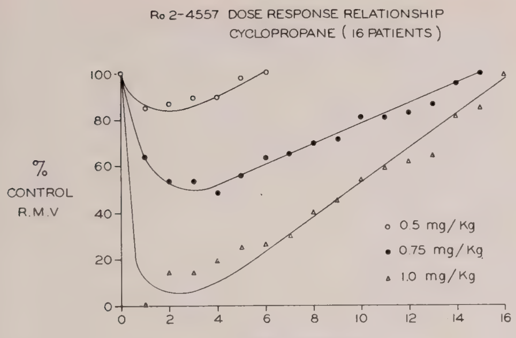

FIG. 1. Course of Ro 2-4557 paralysis during cyclopropane anesthesia.

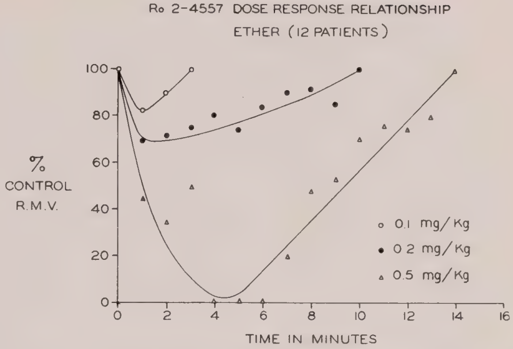

FIG. 2. Course of Ro 2-4557 paralysis during ether anesthesia.

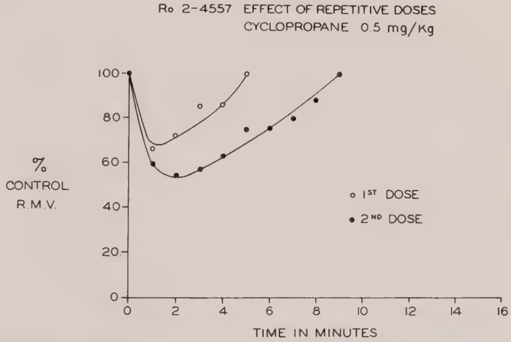

FIG. 3. Effect of repetitive doses during cyclopropane anesthesia.

thetized with cyclopropane (24 patients) or ether (16 patients). Anesthesia was maintained in the first plane of the third stage (according to Guedel).

Using a precision wet test gas meter incorporated into the expiratory side of the closed circuit carbon dioxide absorbing system, recordings of respiratory minute volume were made after the method of Artusio *et al.* (1950).[4] The measurement of respiratory minute volume was selected as a simple and accurate means of assessing degrees of muscular function. After control recordings were obtained, indicating a reasonably stable respiratory minute volume (R.M.V.), injections of Ro 2-4557 were made intravenously in the dose range to be studied. Quantitative determination of the degree of curarization was made, therefore, by the relative decreases of the R.M.V. in contrast to the original controls.

Concomitantly, sphygmomanometric blood pressure readings, pulse rate, and respiratory rates were recorded. An endotracheal tube with an inflatable cuff was used in each patient to aid in insuring accuracy of the method.

Results

EFFECT OF SINGLE DOSES.—Following administration of a single intravenous dose of Ro 2-4557, the onset of its action was immediate. All dose levels reached their maximal effect within two to three minutes (Fig. 1). In the cyclopropane series the dose of 0.5 mg. per Kg. produced a 15 per cent depression of the R.M.V., and a six-minute interval was necessary before the R.M.V. had returned to control levels. The 0.75 mg. per Kg. doses caused a 50 per cent depression of the R.M.V., and the return to control was increased to fifteen minutes. However, after ten minutes the R.M.V. was found to be 80 per cent of control. Administration of the 1 mg. per Kg. dose caused the R.M.V. to approach apnea, and the total duration of action was sixteen minutes.

When diethyl ether was used as the anesthetic agent, 0.1 mg. per Kg. produced an 18 per cent depression of the R.M.V. with a total duration of action of three minutes (Fig. 2). At the 0.2 mg. per Kg. level, the R.M.V. was depressed 30 per cent, and the duration of action was prolonged to ten minutes. Doses of 0.5 mg. per Kg. produced apnea in the majority of patients, and the return to control levels was accomplished in fourteen minutes.

REPETITIVE DOSES.—In order to evaluate the effects, if any, of subsequent administrations of this agent, an identical dose was injected as soon as the R.M.V. of the patient had returned to control values. In the presence of cyclopropane the second administration of 0.5 mg. per Kg. of the drug produced an additive depressant effect of 15 per cent of the R.M.V. (Fig. 3). The total duration of action was increased four minutes. With ether as the anesthetic agent, repetitive doses of 0.2 mg. per Kg. produced a 19 per cent

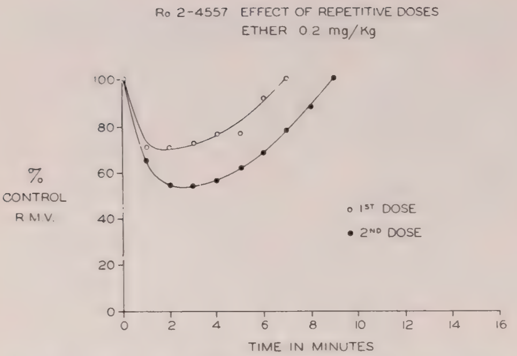

FIG. 4. Effect of repetitive doses during ether anesthesia.

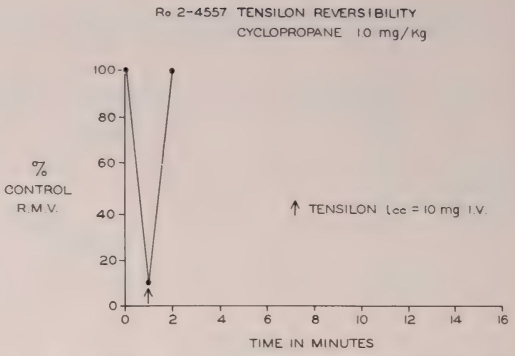

FIG. 5. Tensilon reversibility of Ro 2-4557 action during cyclopropane anesthesia.

additional depression of the R.M.V., and the effect of the drug was prolonged for two minutes (Fig. 4).

TENSILON REVERSIBILITY.—In both the cyclopropane and the ether series, the respiratory depressant effects of all dose levels of Ro 2-4557 were found to be completely reversed by Tensilon (Fig. 5). In the presence of cyclopropane, 1 mg. per Kg. of the relaxant produced a 90 per cent depression of the R.M.V. This effect was completely reversed by 10 mg. of Tensilon, and the reversal was sustained.

EFFECT OF ANESTHETIC AGENT.—The amount of Ro 2-4557 necessary to produce a 50 per cent depression of the R.M.V. in the presence of diethyl ether was found to be one-third that required in the presence of cyclopropane. However, there was no significant difference in the duration of action of the relaxant when used in conjunction with either of these two anesthetic agents.

EFFECTS ON PULSE AND BLOOD PRESSURE.—In the cyclopropane series 0.5 mg. per Kg. of the test drug produced a 10.5 per cent increase in the heart rate. For the 0.75 and 1 mg. per Kg. doses, increases of 14 and 25 per cent, respectively, occurred. With diethyl ether the dose ranges of 0.1, 0.2, and 0.5 mg. per Kg. of the relaxant produced respective increases of 9, 16, and 20 per cent in the pulse rate. At no time was the presence of cardiac arrhythmia noted. The duration of these increases in heart rate was approximately the same as that of the neuromuscular blockade. There were no definite effects on the blood pressure which could be attributed to this drug. Administration of Ro 2-4557 was not associated with increased secretions in the respiratory tract, and there were no episodes of bronchospasm.

Comment

Our first impression following the initial administration of Ro 2-4557 was that in many ways the drug resembled Flaxedil. The onset of action of both drugs was immediate, and maximal effects were obtained within five minutes. The two agents were predictable on a mg.-per-Kg. basis over the dose ranges studied. However, at a comparable dose level which reduces the R.M.V. to 50 per cent of control, the duration of action of Flaxedil was thirty-five minutes,[5] whereas for Ro 2-4557 it was approximately twelve minutes. It is apparent, therefore, that on the basis of duration of action this agent closely resembles succinylcholine; with this drug, recovery under similar circumstances requires ten minutes.[6]

Ro 2-4557, like Flaxedil and d-tubocurarine, produces cumulative action at the myoneural junction. This was shown by the intensification and increased duration of R.M.V. depression obtained when second doses of the agent were administered. Therefore, in clinical use repetitive doses must be decreased in amount if the intensification of action due to cumulation is not desired.

The studies performed using diethyl ether anesthesia indicate that this anesthetic sensitizes the junctional region to the effects of Ro 2-4557. Approximately three times the dosage of this compound is required when administered in the presence of cyclopropane to produce effects comparable with those in the presence of diethyl ether.

Modification of the dose-response curve for this agent can be readily accomplished using Tensilon in multiple doses of 10 mg. intravenously. Ro 2-4557, therefore, is a compound of short duration which can be antagonized effectively.

The sole undesirable effect of this drug was a moderate increase in heart rate which is similar to but weaker than the vagolytic effect of Flaxedil. In contrast to Flaxedil the duration of the tachycardia was brief and was limited to the duration of neuromuscular blockade. There was no significant effect on blood pressure in this series of patients.

From these observations it appears that Ro 2-4557 approaches the ideal short-acting muscle relaxant. Its onset of action is immediate. The maximum effect of the drug occurs within two to three minutes, and its total duration of action is about twelve minutes. The agent is Tensilon reversible, and it is associated with only minimal cardiovascular effects. Furthermore, it is predictable on a mg.-per-Kg. basis, and therefore, its cumulative action can be controlled. In this series of cases Ro 2-4557 was entirely satisfactory for endotracheal intubation and abdominal muscle relaxation.

Summary

1. The clinical effects of the curariform agent, Ro 2-4557, have been studied in anesthetized man.
2. The agent is found to be predictable on a mg.-per-Kg. basis in addition to being rapid in onset and short in its duration of action.
3. Tensilon reversibility is demonstrated throughout the dose ranges studied.
4. The drug has a cumulative action, and diethyl ether sensitizes the junctional area to the effects of this agent.
5. A moderate increase in pulse rate occurs in all dose levels, and its duration approximates that of the associated neuromuscular blockade.

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Discussion

Albert M. Betcher, M.D., *New York City.*—There has been considerable advancement in the use of muscle relaxants as adjuvants of surgical anesthesia since Griffith first used Intocostrin in January, 1942. The introduction of the synthetic derivatives made for purer drugs, easier assay, and the determination of the dose-response relationship for each particular drug. Numerous synthetic quaternary ammonium compounds have proved satisfactory replacements for d-tubocurarine. However, we must always keep in mind that there are contrasting mechanisms occurring at the myoneural junction between certain of these compounds and curare. Whereas the latter works by inhibiting depolarization of the end plate membrane and thus produces relaxation, these particular quaternary ammonium compounds act by producing an excitatory effect, although transient, before producing paralysis by persistent depolarization.

At our clinic we have been using one of these compounds, succinylcholine, almost exclusively. We have been satisfied with its ability to produce adequate muscular relaxation, its low toxicity, and maneuverability due to its rapid onset and evanescent nature. Like the other muscle relaxant drugs it does not spare the respiratory musculature. Following the use of an intravenous drip of 0.1 per cent succinylcholine we have seen patients in whom a prolonged postoperative respiratory depression has resulted. This may have been due to a low plasma cholinesterase activity. We have also seen prolonged apnea occurring in some of the patients receiving continuous intravenous succinylcholine which may have been caused by a low plasma cholinesterase activity or by too enterprisingly controlled respiration. In either event we have had to stand by with endotracheal tube and adequate oxygenation with the added assistance of time. The excessive depolarization action of succinylcholine as the means of producing neuromuscular blockade has concerned us also because of its nonphysiologic mechanism.

Up to the present time there has been no antagonist developed to overcome the side-effects of drugs like succinylcholine or decamethonium. A compound labeled 49-204, in which portions of the decamethylene have been replaced by cyclic structures (specifically, stabazolines), has been advocated as an antagonist for decamethonium. Its range of effectiveness, however, is too narrow for safety.

The authors have investigated clinically a drug in which the substitution of the aromatic radical, nitrobenzyl, and two ethyl radicals on the nitrogen atoms apparently has converted successfully the succinylcholine formula to a strong curariform agent. Its onset of action and duration of effect puts it between succinylcholine and gallamine in capability and apparently is closer to the former in these effects. Unlike succinylcholine the dose response relationship is not identical when the drug is administered in the presence of cyclopropane and ether.

This differential entails greater care in computing the dose of Ro 2-4557 necessary to produce adequate relaxation. Likewise, it must be remembered that it produces a cumulative action with repetitive doses. Of greater value are its curarizing ability and its complete reversibility by Tensilon which is sustained.

I congratulate the authors on presenting evidence of a drug which approaches the ideal short-acting muscle relaxant from the point of view of short action and duration, low toxicity, production of relaxation by a nonfatiguing mechanism which is more physiologic, and complete, sustained reversibility by an antagonist.

The Problem of Control of Hazards from Stray Radiations

JOE W. HOWLAND, M.D., ROCHESTER, NEW YORK

(*From the University of Rochester School of Medicine and Dentistry*)

The control of the potential hazard from stray or useless ionizing radiations presents an unusual opportunity to the rapidly developing field of preventive medicine. In the past it was the practice to carry out serious investigation of a public health hazard or occupational exposure after considerable injury to individuals and even to populations had occurred. In the case of ionizing radiations the early recognition of the potential hazard as a result of the unfortunate experiences of the original experimenters and the equally unhappy histories of the radium dial painters after World War I called attention to some of the dangerous aspects of these new energies and materials. Until the advent of the atomic era with the explosions over the Japanese cities, little concern was expressed about the usage of medical and industrial radiation as a potential hazard. The increase in incidence of carcinoma of the skin in radiologists and dentists and of leukemia among radiologists went virtually unnoticed. Such collections of data were considered as scientific curiosities of limited use.

However, these experiences plus the interest of a small, enlightened group of individuals did serve the extremely important purpose of pointing up the potential dangers of ionizing radiations from x-ray generators and from natural as well as artificial radioactive isotopes. With the inauguration of the atomic energy program by the Manhattan Project in 1942, it was immediately apparent that the concentrations of radioactive materials necessary for the initial experiments could create hazards of great degree, and if a successful development of the fission process could be achieved, colossal amounts of stray radiation could be present. Accordingly, the development of protective procedures and devices paralleled the rapidly advancing processing methods to such an extent that even with the urgency of the program few overexposures and casualties occurred. This achievement of hazard control in these isolated installations has no equal in preventive medicine and, in effect, ushers in a new philosophy—to recognize a potential hazard before it occurs and to take the necessary steps to control it.

It is true that the general public has not been affected in any measure by developments up to this time. However, it is not fully appreciated that even now continuous exposure to ionizing radiations is a part of the everyday experiences of all individuals. Daily bombardment with cosmic rays may amount to a small but measurable amount of exposure in a lifetime. To this one must add trace amounts of radiation from radium, uranium, and other radioactive materials from air, food, and water. Almost everyone receives diagnostic x-rays of teeth, chest, and other portions of the body at frequent intervals. Cer-

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tain individuals are given radioactive isotopes as diagnostic tests or therapeutic procedures. The atmospheric fallout of radioactive materials from the bomb tests may be taken into the body in small amounts. A few individuals in research and industrial occupations may be exposed to added radiations of various types as a part of their job. As yet nothing has happened. But let us look into the future.

A survey of the rapid development of the atomic energy field reveals that almost daily new uses are being found for radiation and radioactive isotopes. In addition, successful power development of submarine reactors has occurred. It is only a matter of time before atomic power for general use becomes a reality. It is difficult to predict to what extent these advances will reach. The important fact remains that with each new use, with each new development, the potential of increased hazard becomes greater. At the same time new medical usages of x-radiation in diagnosis and treatment have already increased the amount of radiation which the average individual receives in a lifetime to perhaps serious proportions. An example of the total radiation received in a simple series of routine x-ray diagnostic procedures is well shown in the following:

	Average
Chest, large x-ray	0.1 r
Chest, photofluoroscopic	1 r
Pregnancy, lateral examination	9 r
Gastrointestinal series	4 to 50 r
Average dental film	5 r
Fluoroscopic examination	10 to 20 r per minute
Shoe-fitting fluoroscope	1 to 2 r per five-second exposure

One notes that this list does not include the sum of the fluoroscopic examination necessary for cardiac catheterization of children with congenital heart disease. Is it not possible that some of the failure in growth of the skeleton of these youngsters may not be attributable to excessive radiations rather than to an abnormal function of the circulation? Surmises such as this should serve as warnings against the use of the unnecessary procedures. Let us look into the reasons for this concern.

The achievements in the biologic and medical effects of ionizing radiations parallel the physical development. In most respects the task confronting the medical investigators is considerably more difficult than that of the physicist who probes deeply into the nature of matter. With the biologist the enigma is defined in the nature of life and living processes, investigations into which demand much more delicate measuring devices than are presently available. In spite of this, tremendous advances have been made in the nature of radiation effects on living tissue. Certain of these findings are extremely important in the discussion of the present problem.

The pattern of acute radiation damage from simple lethal dosage of penetrating radiation has become quite familiar from the studies of the Japanese explosions and from comparative observations on animals. The initial shock reaction, the latent period which follows, the dramatic sequelae of bone marrow and immune process suppression, aplastic anemia, and thrombocytopenic purpura, the long recovery period for those fortunate enough to survive—all are well chronicled in medical literature. Less well known are specific underlying factors: that all effects of radiation are injurious; that all types of radiation produce similar qualitative effect; that lethal dosages of ionization involve approximately only one atom of 100,000,000 unaffected atoms; that this minute change can develop through a series of biochemical processes into a lethal event; that while certain effects resemble those of other noxious agents, no single one can produce all of them; and, most important, that no individual makes complete recovery from the radiation insult. From the complex diversity of these effects it is not surprising that concern is being raised over the future of human health.

It has also been noted that the effects of serial sublethal exposures tend to summate and result in damage and death over a longer period of time. The explanation is simple and lies in a measurement of the ability of the individual to repair the damages caused by the radiation injury. A series of exposures results in a series of injuries, each of minor amount but at a time when repair is incomplete. Since some residual damage follows each small dose, the ultimate long-term effect is identical with that of a single massive exposure.

The same essential process occurs with chronic radiation. The real difference appears in the end point, which for acute radiation is immediate death and for subacute radiation is delayed death. With chronic radiation it is markedly delayed death which may be otherwise interpreted as aging, with the possible related events of carcinogenesis, cataract formation, or sterility as well as a different and unrelated factor of potential genetic change. In the past several decades body damage due to other agents and disease processes has been curbed or controlled with the result that an increased life span of the population as a whole has been achieved. Are these benefits to be lost by neglect of the potential hazard developing out of the atomic age? It has already been indicated that control of such hazards is easily possible by prevention and protection methods.

Unlike other hazards those due to ionizing radiations, even though completely insensible, can be measured rapidly and with remarkable accuracy by relatively simple, although not inexpensive, apparatus. This one factor makes protection possible. Once located and measured, the source of the danger can be shielded off by surrounding it with appropriate shields of lead, concrete, or water or can be separated from working areas by distance. Air supplies can be controlled and the effectiveness of filtration checked with relative ease. All such methods are well documented. What is required is the alerting of the public to potential exposure and their education in specific protection methods. Then and only then should any enforcement program be drawn up to take care of certain indifferent individuals.

The initial important steps have been taken. All available information has been reviewed in an attempt to set up the maximum permissible exposures to which an individual can be exposed daily without endangering himself. This has been set for whole body exposures as 300 milliroentgens of exposure weekly or 0.3 r. For partial body exposure this factor can be raised to a higher amount depending on the specific circumstance. It has been repeatedly demonstrated in atomic energy installations and research laboratories that methods are available whereby an individual may work even with the maximal amounts of radiation at this tolerance level. It requires only moderate education and experience to adapt known technics to any radiation problem.

Today in New York State the major potential hazards exist in the great number of x-ray machines used by most dentists and a high percentage of the doctors in routine tests and treatment. As surveys have repeatedly shown, most of these individuals are not aware of the potential hazard which daily radiation may be producing. If one ages a little, perhaps he has been working a little too hard; people get leukemia who are not exposed to x-radiation; we will not be around to observe the changes in our great or great great grandchildren. Evidence is accumulating which cannot be taken lightly. And at the same time the problem of an increasing hazard is at hand.

How simply this protection can be effected is shown in the following example. A dentist has an x-ray machine with a range of 50 to 80 kilovolts operating at 0 to 10 milliamperes. To take dental films, he uses this machine with 1 mm. of aluminum filtration at a distance of 10 inches from the skin of the face. In taking film he may use certain settings on the machine, and deliver certain radiation:

Milliamperes	Kilovolts	Rate per Minute
<5	60 to 70	15 r
5	70	20 r
10	80	80 r

If he uses a three-second exposure at 5 milliamperes and 70 kilovolts (the average practice) he will deliver 1 r for each film. Since 14 films are used in a full mouth x-ray, a total dose of 14 r will be delivered to the patient's jaw. If the dentist or his technician uses his or her finger to hold the film, this will receive the entire dose. By measurement, if the dentist is standing by the chair, his body will receive between 0.5 and 2 r from the series of film or two to seven weeks of his allowed tolerance at one exposure. By reference to the table above one can see that if he is in a hurry to use a shorter development time by overexposing his film, the practitioner can double the exposure by increasing the voltage by 10 kilovolts or by increasing the current by 5 milliamperes. Should he do both, he will receive as much as 8 r to the body and 100 r to the finger. What can he do about it?

If he moves approximately 6 feet away from the patient and has the patient hold his own film in position, he will reduce his exposure to approximately 0.1 to 1 milliroentgens per hour ($^1/_{1,000}$ r per hour), and if he has a standard lead screen separating the controls from the tube, the amount will drop to less than $^1/_{10,000}$ r per hour. By the simple expedient of placing the control switch on the wall 6 feet away, he could take x-ray films most of the day without any danger whatsoever.

Exactly the same principle applies in controlling the hazard from any x-ray machine or radioisotope. If it is placed in good operating location and with proper shielding, the potential hazard can be assayed easily and accurately regardless of the size or nature of the equipment. Unsafe working conditions can be corrected by added shielding or change in operational technics. The operator and his assistants then may even do increased amounts of work with complete safety.

In recent months the New York State Department of Health has formulated a health code which will go into effect in the near future. There is not only full recognition of the various types of hazards which now exist, but also predictions are made concerning possible hazards of the future. The major present aim is one of education and training. It is recognized that considerable aid will be necessary to current operators of radiation devices to determine the nature and extent of the possible hazard. There is little question, however, that the over-all result of this broad plan will be the education and training of all cooperating agencies and individuals to the extent that the public at large can enjoy the benefits of the atomic age.

Discussion

Irving R. Tabershaw, M.D., *New York City.*—The recent adoption of a radiation chapter in the New York State Health Department Sanitary Code and the similar action which is contemplated by the Board of Standards and Appeals of the Labor Department point up the fact that while the hazards from radiation are not new, technologic advances and more widespread utilization have made the adoption of administrative and safety regulations urgent.

In the past many factors operated to minimize the hazard, both for the public and for the technician. Few sources of radiation were generally available, and x-ray units were handmade and limited in quantity. High and sustained intensities of x-ray were difficult to obtain and potential exposure to personnel correspondingly limited; radium extraction was laborious, and only small amounts were recovered. Hence, both x-ray equipment and radioactive sources were expensive.

Another factor was that the principal uses of radiation were in the medical field, and only people technically competent in radiation were exposed. As Dr. Howland indicated, the chief hazard is still from medical sources. He indicated other growing hazards, particularly the industrial applications, and you may be interested in knowing something about its use in New York State.

While no accurate estimate can be given at this time of the number of radiation sources in New York State industry, we know that there are more than 1,500 industrial establishments in New York State with the potential radiation hazard. There are at least 400 radium-bearing static eliminators installed in various plants. The polonium type static eliminator is also widespread, but no record of their manufacture and sale has been available to us. We know of at least 750 shoe fluoroscopes in New York State. Some 125 industrial radiographic installations and at least 25 x-ray diffraction units exist. The number of plants using cobalt 60 or radium in a sealed source for radiography is unknown, but there are at least 125. The sources now in use are constantly being replaced by those of higher energy.

We have two radium-processing plants in the State and 20 doing dial painting. As to the consumers of these radium dials, no definite figures can be established. Miscellaneous radiation sources from high-voltage instruments such as electron microscopes and accelerators total at least 15 or more in New York State. The hazard from the use of isotopes in industry, such as beta ray thickness gauges or as tracers in processing, research, etc., are estimated in the several hundreds. There are still unknown areas which may produce hazards at work which have not yet been entirely defined, such as theater or projection TV tubes. This enumeration excludes the potential hazard from power reactors and the associated operations of such installations.

Dr. Howland pointed out that atomic installations were and are safe. The hazard from ionizing radiation can be detected and measured, and control technics are available, as evidenced by the safe use in government installations. General public use of radiation is quite a different matter. Radiation protection is expensive, and unless uniformly and equitably applied, uninformed or unscrupulous persons may try to obtain unfair competitive advantage by jeopardizing the health and safety of employes and of the public.

I agree with Dr. Howland that education is the primary need, and I might add that the Labor Department Code was also conceived primarily as an educational and not a regulatory force. The prevention of the harmful effects of stray radiation is one of the bright chapters in preventive medicine, but alertness on the part of the physician is still the pre-eminent requirement, particularly the recognition that the x-ray itself is a potentially lethal weapon.

The Diagnostic Significance of Plasma Protein Changes in Acute Rheumatic Fever

RALPH F. JACOX, M.D., ROCHESTER, NEW YORK

(*From the Department of Medicine, University of Rochester School of Medicine and Dentistry*)

ONE of the important problems in the evaluation and management of patients with rheumatic fever is the quantitative assessment of inflammation. There are a number of technics useful in such an evaluation. Perhaps the most widely used method is the determination of the erythrocyte sedimentation rate. Recently, the estimation of the C-reactive protein content of serum has been utilized, and a number of other methods have been described for judging continued inflammation due to rheumatic activity.[1–8] In any of these methods it is apparent that the type of reaction depends on quantitative or qualitative alterations of the serum protein components. Thus, it would appear desirable to define accurately these plasma protein fractions. Electrophoretic studies of plasma of patients with rheumatic fever and other rheumatic diseases have indeed disclosed quantitative alterations of the plasma protein components,[2–4,6,7] but frequent chronologic appraisals of the protein fractions during the inflammatory phase of a single individual have not been made.

The discovery of the cationic detergent technic for serum protein fractionation[9,10] has made it possible to carry out frequent and consecutive determinations of the plasma protein fractions and to determine accurately the alpha globulin, the beta-gamma fraction, albumin, and fibrinogen concentration of human plasma. In a previous study[5] it was shown that good correlation exists between the cationic detergent technic and the Tiselius electrophoretic method. Thus the protein fractionation studies to be reported will closely approximate those found by electrophoresis. This investigation presents data obtained with the cationic detergent fractionation technic on sera of six patients with acute rheumatic fever.

The plasma protein pattern of normal individuals is remarkably constant. An example of this is shown in Fig. 1 which depicts the data obtained from a normal, healthy research physician, twenty-six years of age. Weekly analysis was carried out over a six-month period. It will be observed that each fraction analyzed showed only minimal variations throughout the period of observation. Thus albumin concentrations of 4.5 to 5.3 Gm., fibrinogen of 0.3 to 0.45 Gm., beta-gamma of 1.3 to 2 Gm., and alpha globulin concentrations of 0.7 to 1 Gm. were maintained. It will be noted that on two occasions the fibrinogen level rose slightly above the normal range. In the first instance a mild respiratory illness had occurred, and in the second the subject had a mildly infected finger because of a dog bite. Thus it is seen from these data that a healthy adult has little alteration of the plasma protein pattern. Other studies on healthy adults show that these levels of protein concentration are characteristic of all normal men and women.

CASE 1.—The first example of the protein alterations encountered in acute rheumatic fever are shown in Fig. 2. This patient was a thirty-four-year-old, Negro restaurant porter admitted to the hospital with onset of acute fever and joint pains. He developed his illness ten days after a sore throat. Five days before admission to the hospital he complained of fever and migratory polyarthritis. On physical examination he was febrile and acutely ill and had swollen, red, hot ankles, bilateral effusion of both knees, and limitation of motion and pain in the right elbow. No cardiac murmur was audible on admission, but subsequently a grade II mitral systolic murmur developed. Beta hemolytic streptococci were cultured from the throat, and the streptococcal antihyaluronidase titer was elevated to 1:1,280. Administration of salicylates produced prompt relief of joint symptoms and a fall in temperature. Three days after admission the patient was asymptomatic. All electrocardiographic studies were negative. Six weeks after admission the patient was discharged to a veteran's hospital, and no further protein fractionation studies were made.

Presented at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Section on Medicine, May 13, 1955.

Research carried out under a grant for the study of rheumatic fever from the Masonic Foundation for Medical Research and Human Welfare.

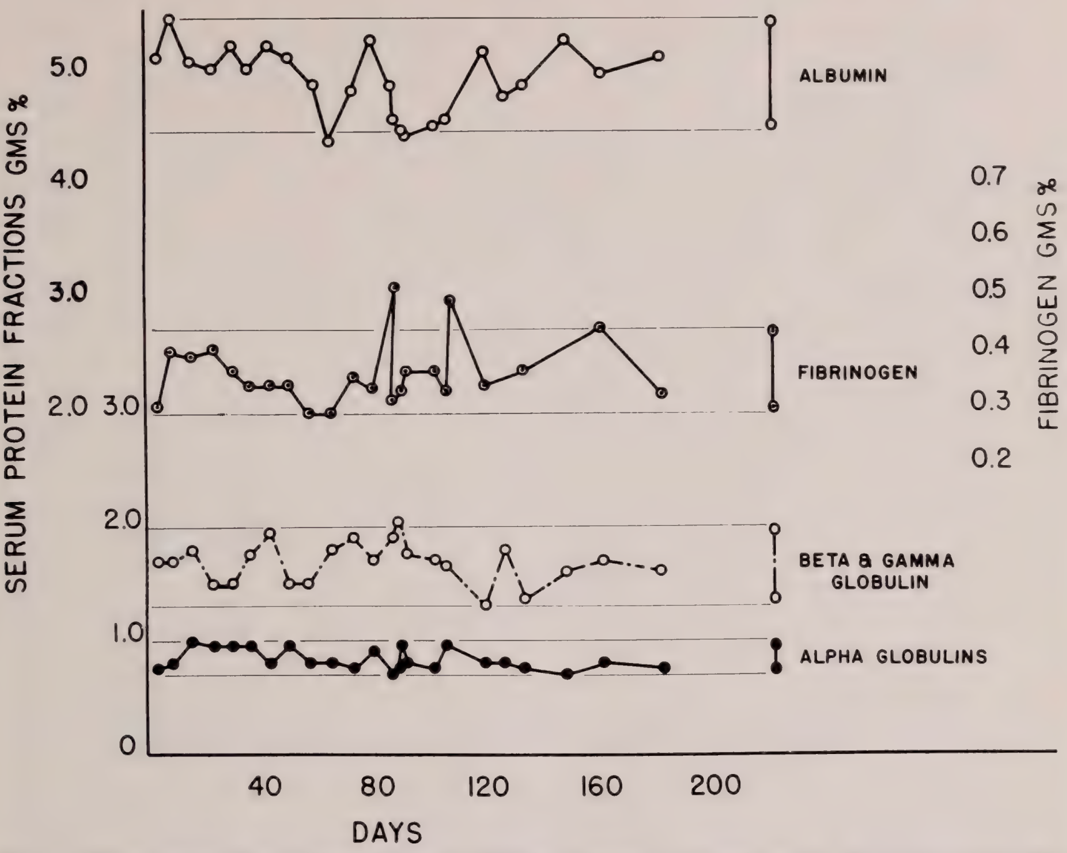

Fig. 1. Plasma protein fractionation by cationic detergent method in a twenty-six-year-old male in good health. The range of normal for each fraction determined is indicated on the right of the graph.

The protein fractionation data are illustrated in Fig. 2. It will be noted that a threefold increase of the alpha globulins was present in the acute phase of the disease. Fibrinogen was increased to 1.45 Gm. (nearly four times normal). The albumin concentration was depressed to 2.3 Gm., while the beta-gamma fraction was normal. One week later return of the altered protein mosaic toward normal was evident, but a marked abnormality still persisted despite the remarkable clinical improvement of the patient. One month after admission the protein fractions were normal except for depression of albumin. This fraction continued to be depressed until the patient's discharge.

Case 2.—A second patient with acute rheumatic fever is shown in Fig. 3. This patient, a fifteen-year-old school girl, was admitted to the hospital with a history of severe sore throat two weeks prior to admission. Six days before admission she developed headache, nausea, vomiting, migratory joint pains, fever, and substernal discomfort. Physical examination revealed a severely, acutely ill girl with temperature 40 C., blood pressure 90/30, pulse 130, and respiratory rate 50 per minute. She was mildly delirious and lay motionless in bed because of severe joint pains. The heart was enlarged. A gallop rhythm and pericardial friction rub were heard. The lungs revealed signs of a pneumonitis on the right which was confirmed by x-ray examination of the chest. Serial electrocardiograms showed prolonged P-R interval and T-wave changes consistent with a pericarditis. The antihyaluronidase titer was 2,560. Intensive salicylate therapy produced little alteration of the clinical picture. The patient continued to have joint pains, fever, and tachycardia. After a week cortisone administration was begun with moderately beneficial results. The joint symptoms and fever subsided, but a progressive enlargement of the heart, changing cardiac murmurs, and occasional gallop rhythm persisted. On the twenty-fifth day in the hospital the patient was discharged against medical advice but continued to be seen at home and in the outpatient department. During this period she continued to have evidence of myocardial and endocardial involvement. Finally she disappeared from observation.

The serum protein fractionation data revealed a

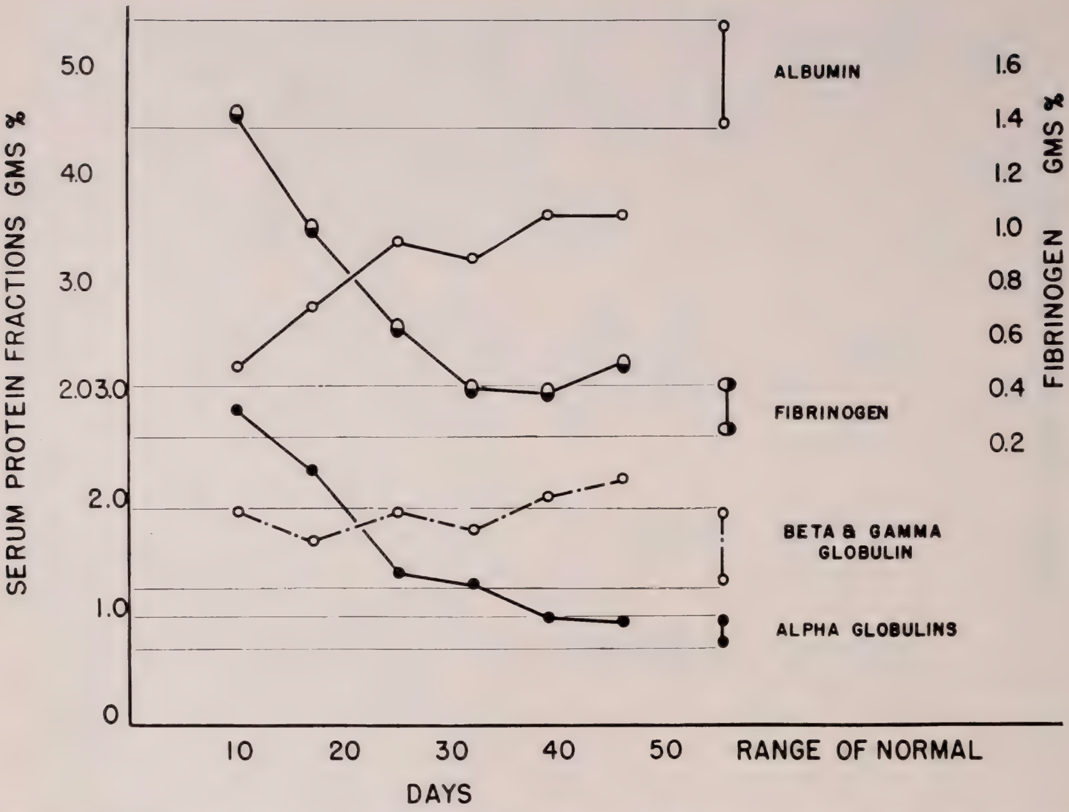

FIG. 2. *Case 1*—Plasma protein values in a thirty-four-year-old man with acute rheumatic fever. Therapy with salicylates produced a prompt fall in fever, and joint symptoms rapidly disappeared.

striking elevation of fibrinogen and the alpha globulins with a depression of albumin during the acute phase of the illness (Fig. 3). The C-reactive protein was increased at this time. For the next five weeks after admission the alpha globulins remained elevated. The albumin concentration decreased from the value found on admission. Fibrinogen concentrations decreased but remained elevated above the normal range.

CASE 3.—Figure 4 depicts observations made on M. H., an eight-year-old girl, who came to the hospital with a five-day history of fever and joint pains. Examination revealed an acutely ill girl. The heart had a tic-tac rhythm. The electrocardiogram showed 1-degree heart block. On salicylate therapy the patient rapidly improved, but she developed a grade I systolic murmur. Two and a half months after admission there was little evidence of carditis, and the patient was considered by clinical appraisal to be free of rheumatic activity.

The data obtained by the laboratory procedures revealed a high alpha globulin concentration during the acute phase of disease (Fig. 4). There was a concomitant depression of albumin, an increase in sedimentation rate, and a 4 plus C-reactive protein titer. Six weeks after admission to the hospital the sedimentation rate, C-reactive protein titer, and albumin levels had reverted to normal, but the alpha globulin levels continued to be increased above the range of normal. This abnormality persisted until the patient's discharge from the convalescent hospital.

CASE 4.—The data in Fig. 5 show the protein alterations in an eight-year-old girl with unequivocal rheumatic fever and evidence of rheumatic endocarditis. Serial electrocardiograms substantiated the diagnosis of cardiac damage. The antistreptolysin 0 titer was elevated to 1,000. Salicylate therapy produced prompt fall in fever and joint symptoms. During the acute phase an elevated alpha globulin, a decrease in albumin, an elevation of erythrocyte sedimentation rate, and a 4 plus C-reactive protein reaction were found (Fig. 5). After a month the albumin, sedimentation rate, fibrinogen, and C-reactive protein reaction were restored to normal, but a significant and persistent increase in the alpha globulin fraction was observed.

CASE 5.—A short period of observation is depicted in the case of a nine-year-old girl with classic rheumatic fever which appeared after an untreated

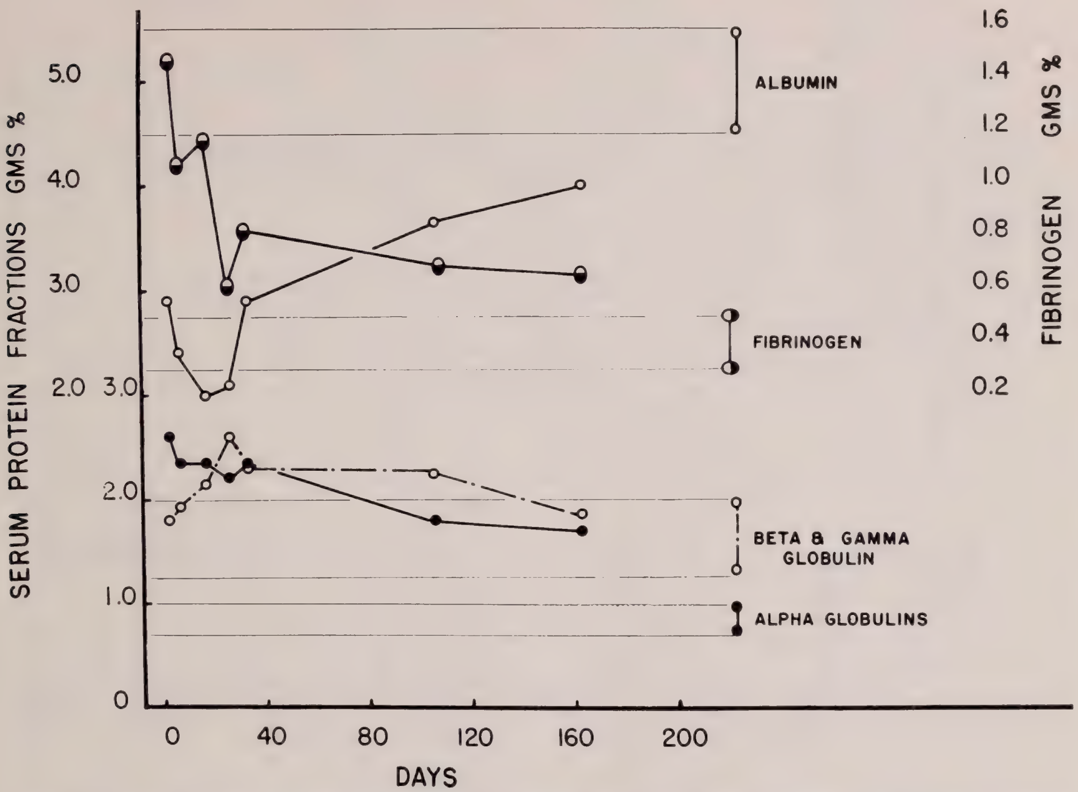

Fig. 3. *Case 2*—Protein fractionation studies in a patient with severe acute rheumatic fever associated with a pancarditis and rheumatic pneumonia. During the period of study this patient continued to have clinical evidence of rheumatic activity.

streptococcal illness (Fig. 6). During her period of hospitalization she was found to have a high antistreptolysin 0 titer. She developed a mitral diastolic murmur. The laboratory studies revealed an increased alpha globulin, slightly depressed albumin, and high fibrinogen concentrations in the plasma during the acute stage of disease (Fig. 6). The sedimentation rate was increased, and the C-reactive protein test was 4 plus. Subsequently the sedimentation rate, C-reactive protein test, fibrinogen, and albumin returned to normal, but the alpha globulin levels remained significantly increased above normal limits.

Case 6.—The data obtained from case six are shown in Fig. 7. This twelve-year-old girl developed acute rheumatic fever in 1952. At this time she was severely ill with a pancarditis and heart failure, and on several occasions she became moribund. The patient finally improved sufficiently to be discharged to a convalescent hospital for children in March, 1952. She remained there until July, 1953, at which time she was discharged home with a recommendation to remain in bed. Shortly after the onset of her rheumatic fever in 1952, she developed mitral stenosis and insufficiency. She was also observed to have a persistent abnormality of the electrocardiogram prior to discharge from the convalescent hospital in July, 1953. When she was seen in the outpatient department of the Strong Memorial Hospital in October, 1953, the electrocardiogram still revealed a 1-degree heart block, right axis deviation, and ventricular premature contractions. She appeared to be doing well, however, and by clinical and conventional laboratory evaluation was not thought to have any active rheumatic process. In January and February, 1954, she was asymptomatic. She was permitted to return to school on a part-time basis. However, an electrocardiogram in April again revealed a 1-degree atrioventricular block with premature ventricular contractions.

Because of an injury in childhood the patient had a defect of the left leg which was considered remediable by orthopedic measures. After a number of months, during which time the patient continued without symptoms, it was decided that an operation could be safely undertaken. The patient was admitted to the hospital in August, 1954, where an osteotomy of the left tibia was carried out. This was uneventful, and no recurrence of cardiac or rheumatic symptoms was noted. In November,

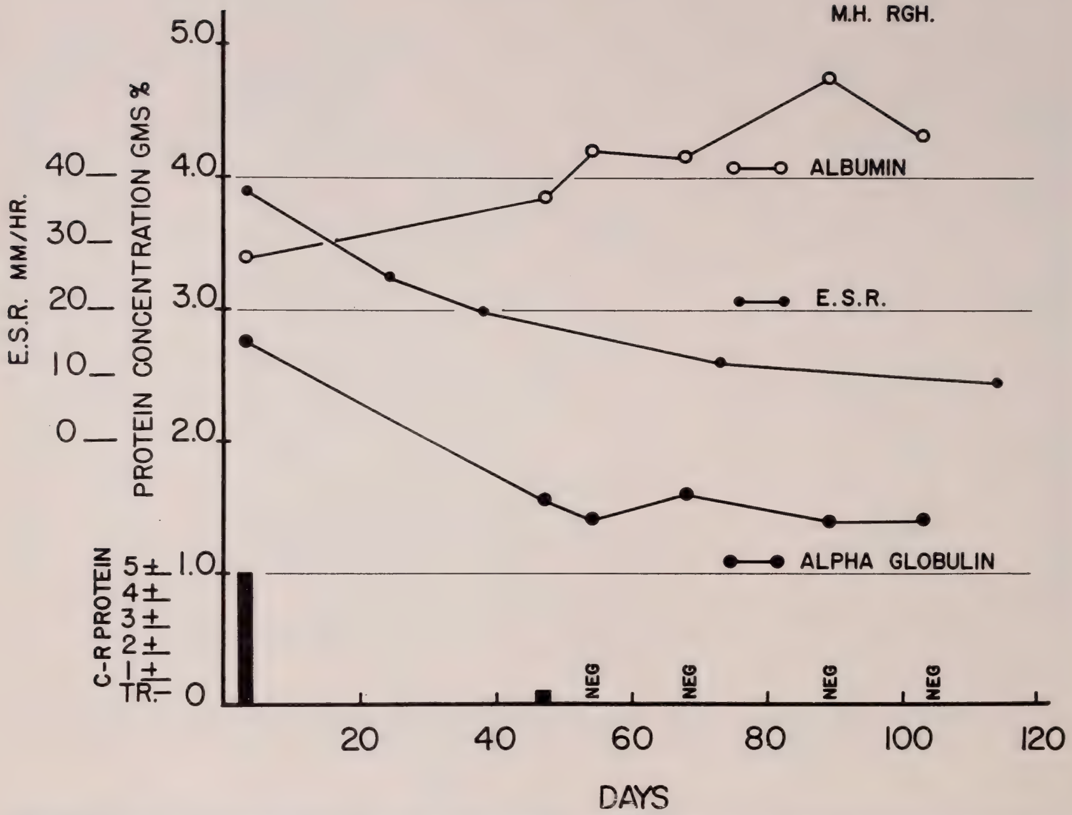

FIG. 4. *Case 3*—Representation of investigations made in an eight-year-old girl with moderately severe rheumatic fever. After two and one-half months she was thought to have no clinical evidence of rheumatic activity. Observe continued increase of the alpha globulins despite a normal erythrocyte sedimentation rate, C-reactive protein reaction, and normal albumin concentration.

1954, it was felt that the patient had no evidence of rheumatic activity. In December the patient was urged to go back to a regime of bed rest because of a respiratory infection. On the next visit in February, 1955, the patient complained of some increasing dyspnea but denied any other compaints. Several weeks later a continued complaint of dyspnea and some substernal aching were noted by the outpatient department physician. At this time an antistreptolysin 0 titer was found to be very much elevated, and an x-ray of the chest revealed considerable increase in the cardiac silhouette over an x-ray made five months before. She was again admitted to the hospital in March, 1955, at which time she was found to have anemia (hematocrit 30) and evidence of myocarditis.

The valvular lesions on admission indicated that she had mitral stenosis and insufficiency and early aortic valve disease.

A review of the laboratory data on this patient is revealing (Fig. 7). It will be noted that from August, 1953, to July, 1954, frequent protein fractionations, sedimentation rate, and C-reactive protein tests were made. During this period the sedimentation rate and C-reactive protein tests were normal. The alpha globulin concentration, on the other hand, was nearly always abnormally high, and on two occasions it was considerably elevated above the upper limit of normal. Similarly, the albumin concentration was often decreased below the lower limit of normal. After the surgical procedure in August, 1954, there was little change in the already abnormal alpha globulins, but at this time a 3 plus C-reactive protein reaction appeared. This subsequently reverted to a negative reaction a month later. In November the C-reactive protein test again became 1 plus positive. At this same time the alpha globulins were somewhat higher. There was little change in albumin or the erythrocyte sedimentation rate. Between December and January a further rise of alpha globulin and a decrease in albumin was found. During this period an increase in sedimentation rate and a stronger positive C-reactive protein reaction developed. Finally in February and March, 1955, the albumin showed a sharp decrease to 2.6 Gm., the alpha globulins continued elevated to 2 Gm., and the C-reactive protein test had increased to a 4 plus reaction.

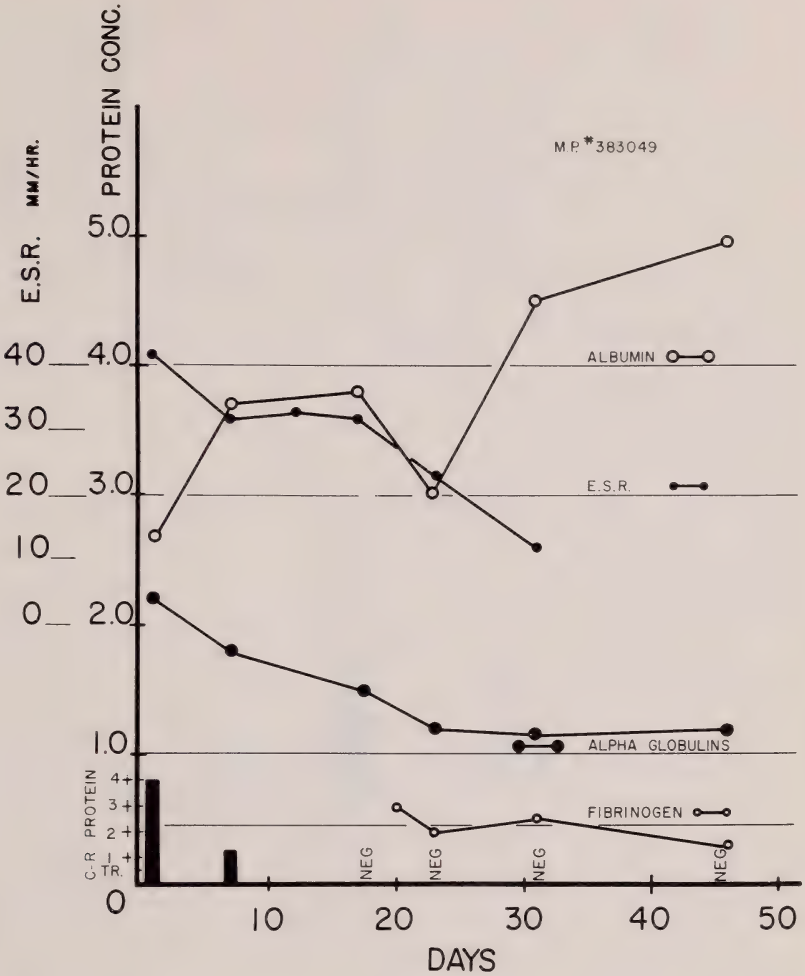

Fig. 5. *Case 4*—Protein fractionation studies correlated with the erythrocyte sedimentation rate and C-reactive protein level in an eight-year-old girl with an acute rheumatic endocarditis.

Comment

These six patients are examples of some 60 patients with rheumatic fever who have been studied during the past three years. In every instance significant elevations of alpha globulins and fibrinogen concentrations are present in the acute phase of the disease. Conversely albumin concentration is depressed. The degree and persistence of the protein alterations usually reflect the severity of the initial attack. Thus in Case 2, with a severe, complicated illness, striking increments of fibrinogen and alpha globulins were encountered (Fig. 3). At the same time the albumin concentration was considerably decreased. These abnormal findings persisted for many weeks and even after five months continued to be abnormal. In Case 1 a milder form of rheumatic fever was observed (Fig. 2). This patient promptly responded to salicylate therapy and did not develop any clinically recognizable secondary complications. In this instance, while initially the protein alterations were quite marked, within three weeks the alpha globulin, fibrinogen, and albumin concentrations had returned toward normal levels. After six weeks the protein spectrum was normal except for some depression of albumin concentration.

In view of the importance of continued therapy and rest in the patient with persisting rheumatic activity, an accurate appraisal of the inflammatory response is necessary. In the past the erythrocyte sedimentation rate has been a valuable procedure for this evaluation. Recently investigations of the C-reactive protein titers in rheumatic fever have indicated that this method might determine more critically inflammatory processes within the body.[8]

The data obtained in Cases 3, 4, 5, and 6 show

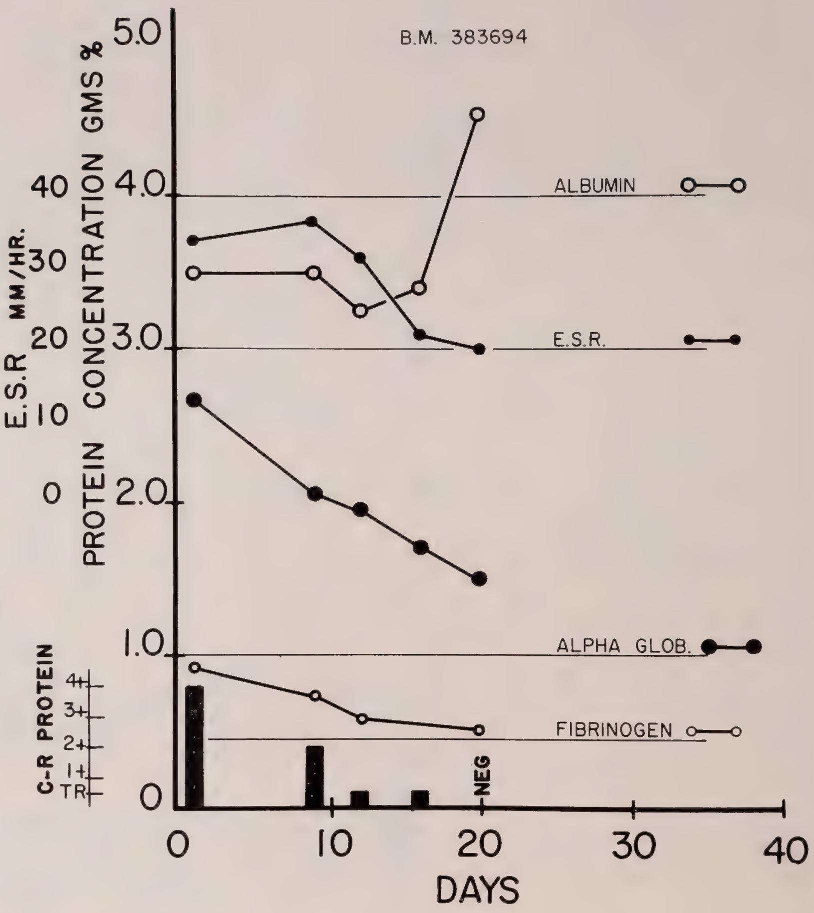

Fig. 6. *Case* 5—Data on a nine-year-old girl with a classic attack of acute rheumatic fever occurring two weeks after an untreated streptococcal illness. Observe that the albumin, sedimentation rate, and C-reactive protein returned to normal values, although the alpha globulin fraction remained elevated.

comparisons between the erythrocyte sedimentation rate, C-reactive protein titer, and protein fractionation with cationic detergent. It will be noted that in each instance erythrocyte sedimentation rate and C-reactive protein titer returned to normal before the alpha globulin had fallen to normal range. Case 6 discloses this point particularly well. During one year ten determinations of the erythrocyte sedimentation rate and C-reactive protein titer were normal. During this same period on seven occasions the alpha globulin concentrations were increased (Fig. 7). Despite clinical evidence of lack of rheumatic activity the electrocardiograms showed persisting atrioventricular block during this interval. When the patient developed a *clinical* relapse in late 1954, then the erythrocyte sedimentation rate and C-reactive protein titer became abnormal. Concurrently a further increase of alpha globulin concentration occurred, and the albumin level decreased. It is notable that this patient also developed an aortic lesion during 1954.

In retrospect it seems likely that this patient had continuous rheumatic activity from 1953 to 1955, although the erythrocyte sedimentation rate and C-reactive protein titer were normal during the period preceding the relapse. The alpha globulin determinations, on the other hand, were usually abnormally increased.

One can conclude from the data on the patients presented and from that obtained in 60 other patients with rheumatic fever that estimation of the alpha globulin level by cationic detergent fractionation is a more sensitive index of inflammatory activity than either erythrocyte sedimentation rate or the C-reactive protein titer.

Summary

A new technic for protein fractionation by use of a cationic detergent has been applied to an

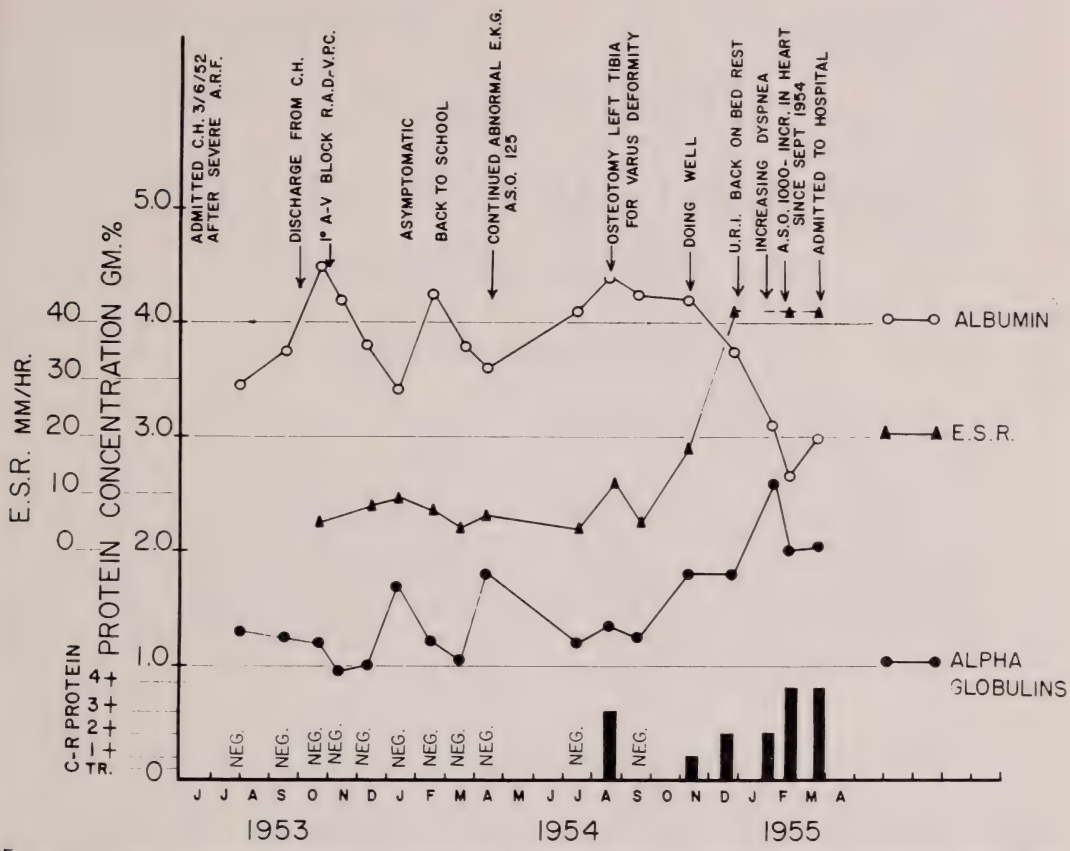

FIG. 7. *Case 6*—Protein fractionation studies in a twelve-year-old girl with severe rheumatic fever in 1952 followed by a period in which the electrocardiogram continued to reveal an abnormal pattern. Aside from this abnormality there was little other clinical evidence of rheumatic activity. The alpha globulins were nearly always increased despite normal erythrocyte sedimentation rate and negative C-reactive protein reaction. Finally in late 1954, at a time of clinical recurrence of rheumatic fever, erythrocyte sedimentation rate, C-reactive protein tests, and albumin concentration became abnormal.

investigation of acute rheumatic fever. Without exception the alpha globulin and fibrinogen concentrations are increased, and the albumin concentration is decreased during the acute phase of the illness. The degree of protein alterations and the duration of the abnormal pattern parallel the severity of the rheumatic inflammation. Comparative studies of protein fractionation, erythrocyte sedimentation rate, and C-reactive protein titer indicate that evaluation of the alpha globulin concentration by cationic detergent fractionation is the most sensitive index of inflammatory activity in rheumatic fever.

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There is nothing so skillful in its own defense as imperious pride.—HELEN HUNT JACKSON

proceedings

Special Committee on

INFANT MORTALITY

Medical Society of the County of New York

HAROLD ABRAMSON, M.D., *Editor*

EDITOR'S NOTE.—*In this interesting discussion of the uterine causes of abortion and premature labor, Mr. T. N. A. Jeffcoate shows how a decrease in the incidence of abortions and stillbirths may in effect account for an increase in the incidence of neonatal deaths by the displacement or delay in the time of death. Premature births still play an important part in the persistently high stillbirth and neonatal death rates. These births may be etiologically related to abnormality in maternal uterine cervical form, "the funnel cervix or the incompetent cervix," as determined by hysterography, rather than to inherent weakness of the fetal membranes.*

Uterine Causes of Abortion and Premature Labor

T. N. A. JEFFCOATE, M.D., F.R.C.S.E., F.R.C.O.G., AND J. K. WILSON, M.B., CH.B., M.R.C.O.G., LIVERPOOL, ENGLAND

(*From the Department of Obstetrics and Gynaecology, University of Liverpool, England*)

THE dramatic fall in the maternal death rate during the last twenty years has allowed obstetricians to devote more and more attention to the interests of the fetus, although under modern conditions it is becoming increasingly plain that the treatment which is best for the mother is usually best for the fetus, and vice versa. So the stillbirth rate also fell dramatically and the neonatal death rate to a lesser extent in the British Isles during the years 1926–1950; the change is here illustrated by the experience of the Liverpool Maternity Hospital, an experience which covers the birth of 50,622 babies (Fig. 1). The actual figures are higher than those for the country as a whole because the material is highly selected in that the hospital serves a large area and admits abnormal cases to the exclusion of the normal. Approximately half of the hospital pregnancies and deliveries were complicated.

The obstetrician is often criticized for the fact that the improvement in the neonatal death statistics lags behind those for stillbirth, but this is illogical because it can be shown that the lower the stillbirth rate, the higher the neonatal death rate. If the pediatrician were handed from the delivery room only the best developed and healthy babies, his task of keeping them alive would be easy. The most certain method for achieving a 100 per cent survival of newly born babies would be to ensure that every malformed, diseased, injured, or premature child were born dead. But the modern obstetrician, strenuously seeking to accomplish the birth of a live baby, often interferes with the law of "the survival of the fittest." So the baby of poor vitality is saved from what would be the fatal perils of late pregnancy and

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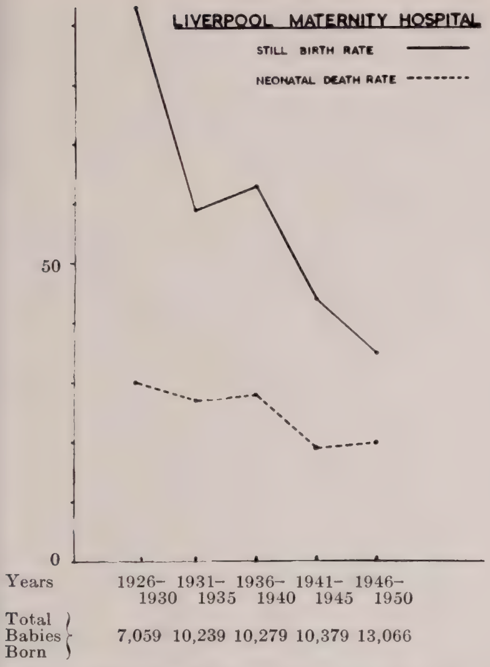


FIG. 1. Falling stillbirth and neonatal mortality rates at Liverpool Maternity Hospital 1926–1950.

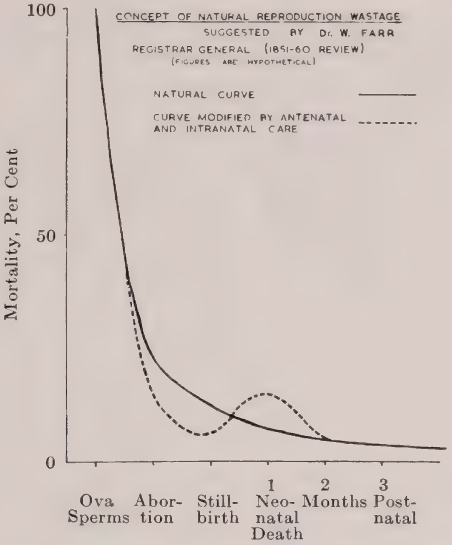


FIG. 2. Concept of natural reproduction wastage. The mortality among spermatozoa and ova is approximately 100 per cent and very high for early embryos, gradually falling as the fetus increases in age. Artificial lowering of the stillbirth rate may be attended by an increase in neonatal death rate.

labor, only to die later. Although the total salvage of infants is improved, a low stillbirth rate is obtained at the expense of the neonatal mortality rate.

This point is illustrated by the results, shown in Table I, in a series of small babies delivered by different methods from mothers suffering from toxemia of late pregnancy.[1]

TABLE I.—FETAL AND NEONATAL DEATHS IN TOXEMIA OF LATE PREGNANCY AMONG BABIES WEIGHING LESS THAN 5 POUNDS*

Method of Delivery	Total Babies	Alive	Stillbirths	Neonatal Deaths	Fetal Mortality
Spontaneous onset of labor; spontaneous delivery	95	69	17	9	27.4%
Cesarean section	57	42	1	14	26.3%

* Taken from Hamilton, Jeffcoate, and Lister.[1]

Although the two groups are not strictly comparable in that cesarean section was usually reserved for the more serious cases offering the worst prognosis, this table suggests that natural delivery and cesarean section both give the same over-all fetal mortality. But there is a different distribution of deaths as between the intranatal and postnatal periods, and the effect of cesarean section is merely to transfer the death from one column to another.

Many other examples could be taken, but suffice it to say that for one reason or another more and more babies are being born alive, but with a precarious hold on life. Often we succeed in doing no more than prolonging the life of a child by a few hours or a few days. This does not mean that the intensive efforts to obtain a liveborn child are necessarily misguided. A child which is born alive always has a better chance of survival than one which is dead, and after all, medical science never claims to do more than to postpone the day of death; it is unable to bestow immortality.

In the supplement to the twenty-fifth Annual Review of the Registrar-General for England and Wales, published in 1864, Dr. William Farr, M.D., F.R.S., commented on the vital statistics for 1851–1860. Quoting from Granville (1818), he propounded an attractive theory to the effect that natural wastage in human reproduction varies inversely with the age of the embryo, fetus, or child.[2] Thus ova and spermatozoa have a death rate of almost 100 per cent; the loss of early embryos is also high; the further a pregnancy advances, the lower the wastage rate, and the same holds for the months after birth. Farr's views are represented graphically in Fig. 2, and superimposed on these is a dotted curve which shows how decreasing the number of abortions and stillbirths increases the number of neonatal deaths.

Premature Labor

One of the main reasons why the neonatal rate remains relatively high and why neither the stillbirth nor the neonatal death rate has fallen significantly during the five years since 1950 is the part played by prematurity. It can be reckoned that in not less than 50 per cent of fetal deaths prematurity is the most important causal factor. In England and Wales 6 per cent of all pregnancies going beyond twenty-eight weeks end in premature labor, while 7 to 11 per cent of early pregnancies end in spontaneous abortion.[3] It therefore becomes clear that if the fetal wastage is to be further decreased, abortions and premature labor must be prevented, for the treatment of threatened abortion is limited and the management of the premature baby appears to have reached a point where little more can be expected of it.

It must be recognized, however, that an important number of abortions and premature births is desirable in that they represent a discard of malformed embryos. It is nevertheless true that often the premature baby is apparently normal and a potentially useful member of the community.

A main difficulty in preventing abortion and premature labor lies in the fact that their cause is often unknown. In our hospital practice it is possible to allocate a cause with confidence to only 43 per cent of premature labors and 14.8 per cent of abortions, and these figures tally with the general experience. Moreover, the cause credited to individual cases of premature birth does not always stand up to critical appraisal. It does not follow, for instance, that the coexistence of minor degrees of toxemia and premature labor automatically places them in a cause and effect relationship; similarly, the blame which is so often laid on cardiac disease is probably without foundation in the majority of cases.[4]

In the search for causes the tendency has been to group all cases together, and this may represent a fundamental error. The onset of abortion or premature labor varies in character and recognition, and analysis of this may in itself give a clue to its causation.

On this basis three groups of premature labor and abortion can be recognized:

1. *Onset with bleeding or with fetal death in utero:* Here the fault lies always in the fetus or in its placenta, or it is a factor which affects these. Examples falling under this heading are fetal malformation, cord entanglement, maternal toxemia, abruptio placentae, placenta previa, syphilis, and erythroblastosis.
2. *Onset with painful uterine contractions:* Here the cause probably lies in the uterus itself. The muscle may be overstretched by multiple pregnancy or hydramnios, or it may be incapable of stretching to accommodate the fetus as in the case of uterine malformation. On the other hand, the little understood humoral and nervous control of uterine muscle may be faulty.
3. *Onset with rupture of the membranes:* In this group the causes are more obscure, but the accident might reflect either a weakness in the membranes themselves or in their support by the sphincteric action of the internal os uteri. It is just possible too that an abnormally strong attachment of the membranes to the uterine wall could result in their being torn as the lower segment expands. Sometimes external forces, such as those sustained during coitus, may operate.

Strength of Membranes

Experiments on the bursting strength of the fetal membranes were carried out as long ago as 1863 by Poppel[5] and 1867 by Mathews Duncan[6] and also quite recently by Danforth and others in 1953[7] and Embrey in 1954.[8] All these workers failed to find any difference from the normal in the pressure required to rupture the membranes obtained from cases of premature labor. Although their experiments and results were suggestive, they were not conclusive because (1) they sometimes made single tests or took the average result of several, whereas it is the *lowest* bursting point for any part of the membranes which is the significant figure, and (2) the site of the rupture which occurred before delivery can never be tested, only some area of membrane alongside it.

The second of these objections applies equally well to our experiments which were carried out as follows:

Method.—The apparatus consisted of a water reservoir in which the pressure was raised by a flow of oxygen (Figs. 3 and 4). This pressure was transmitted to the testing chamber and to a mercury manometer under the control of a three-way tap. The testing chamber was of perspex,

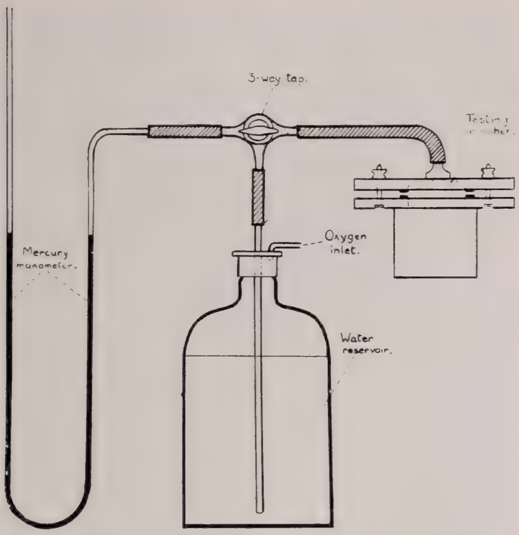


FIG. 3. Apparatus for testing bursting pressure of membranes.

and the membrane under test was secured between two lids, the lower of which had a central aperture, $1\frac{1}{2}$ inches (3.75 cm.) in diameter. Oxygen was introduced at the rate of 1.5 L. per minute, and this raised the pressure in the test chamber by approximately 3 mm. per second. The pressure at which the membranes burst into the splash chamber was recorded by floating a 5-mm. column of red ink on the top of the mercury, and this stained a strip of white card placed within the manometer. In some cases the size of the bubble at the time of bursting was also calculated.

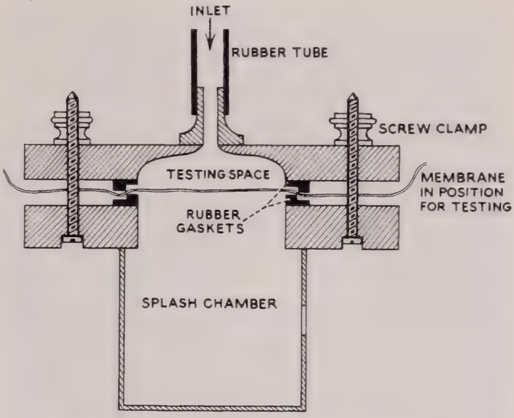


FIG. 4. Details of the testing chamber.

RESULTS.—A total of 2,712 tests were carried out on 378 membranes obtained from all classes of labor, premature, mature, and postmature; those in which membranes ruptured early and late. The membranes were collected immediately after delivery, and areas near and far from the site of rupture were put to test. The results are summarized in Tables II and III.

COMMENT.—The two tables call for little discussion for they make it clear that under experimental conditions there is no significant variation in the pressure required to rupture the membranes according to their maturity and according to the time at which they rupture in relation to labor. This confirms the findings of all other workers. Moreover, even when the weakest area in any one membrane is considered, i.e., the lowest bursting pressure, there is again no difference.

TABLE II.—BURSTING PRESSURE AND MATURITY

Maturity	Number of Cases	Average Bursting Pressure (Mm. Hg)	Range (Mm. Hg)	Average Lowest Bursting Pressure (Mm. Hg)	Range (Mm. Hg)
Premature	72	68	30 to 160	50	30 to 110
Mature	173	63	20 to 160	50	20 to 80
Postmature	133	68	20 to 180	52	25 to 100

TABLE III.—BURSTING PRESSURE RELATED TO TIME OF RUPTURE OF MEMBRANES

Time	Number of Cases	Average Bursting Pressure (Mm. Hg)	Range (Mm. Hg)	Average Lowest Bursting Pressure (Mm. Hg)	Range (Mm. Hg)
All cases					
Before onset of labor	118	67	20 to 160	51	20 to 110
After onset of labor	260	63	20 to 180	54	20 to 100
Premature labor only					
Before onset of labor	29	74	30 to 160	59	30 to 110
After onset of labor	43	65	30 to 110	46	30 to 70

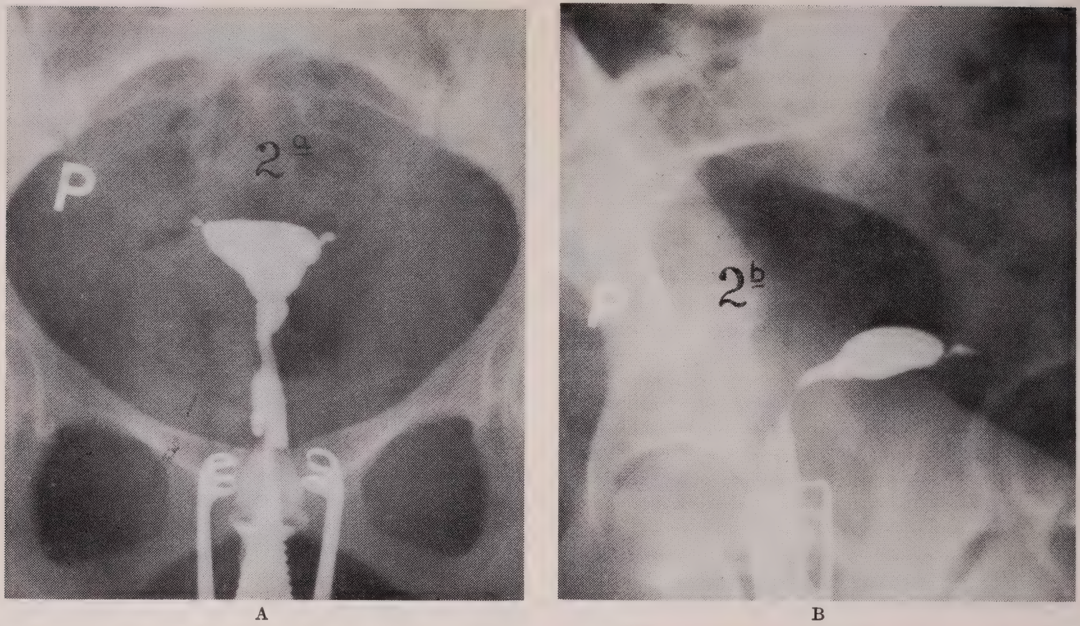


Fig. 5. (*A*) Normal hysterogram showing division into cervical, isthmial, and corporeal segments (three months after normal labor at term). (*B*) Normal hysterogram; lateral view.

In these particular cases the absolute tensile strength of membranes was not calculated because the experiments were comparative. However, such calculations have been made on a more recent series, and again there is no significant difference between the groups. It may be added that histologic studies on the membranes which are now in progress have also so far given negative results.

The reason for premature rupture of the membranes must, therefore, be sought elsewhere than in their inherent strength. This conclusion is emphasized by the fact that the normal uterine contractions of late pregnancy and very early labor do not raise the intrauterine pressure higher than 30 to 60 mm. Hg. The conditions of our experiment show that in order to rupture the membranes, such pressures require to operate over an unsupported area of $1\frac{1}{2}$ inches diameter. In many cases of premature labor liquor is draining before the cervix is dilated to anything like this extent. In a small separate series of experiments using a $\frac{3}{4}$-inch aperture, it was found that pressures of 150 to 180 mm. were often required to burst the membrane. Such pressures are almost unknown even in pathologic labor, let alone during pregnancy or in the premonitory stages of normal parturition.

Failure of the Cervix to Support the Fetal Sac

Although the external os is mainly fibrous in nature,[9] the upper cervix is essentially muscular, and there is considerable evidence to show that the growing ovum is retained in the uterus by some sort of sphincteric action at the level of the internal os. A structural or functional weakness in the upper cervix is, therefore, a possible cause of abortion and premature labor.

The anatomy of the cervix was first studied radiologically in 1931 by Robins and Shapira.[10] The relationship between laxity of the isthmus and the occurrence of abortion was first suggested by Palmer and Lacomme in 1948,[11] although gross injury to the cervix was a recognized cause long before then. So far as we can ascertain, however, the anatomy of the cervix in relation to premature labor has not been studied previously.

METHOD.—Radiologic examinations of the cervix were made by injection into the uterus of an oily radiopaque medium through a Leech-Wilkinson cannula covered with rubber and by studying its shape on the screen and on films. The investigations were made ten to sixteen weeks after labor on 181 women, 81 of whom had been delivered before the thirty-seventh week of

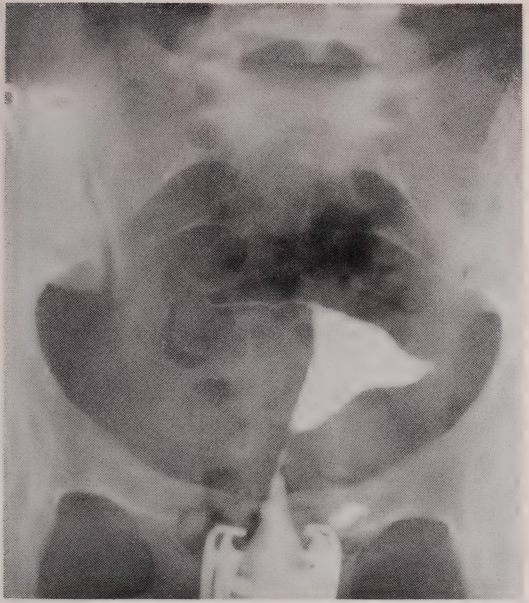


FIG. 6. Normal hysterogram three months after normal labor at term. The isthmus presents a filiform appearance.

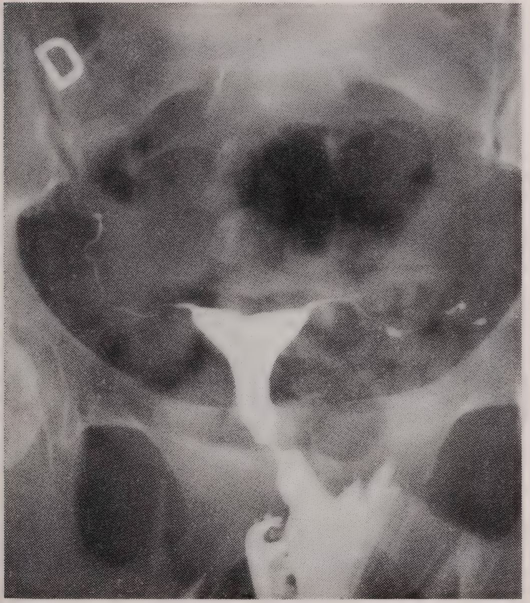


FIG. 7. Normal hysterogram fourteen weeks after normal labor at term showing sharply demarcated isthmus.

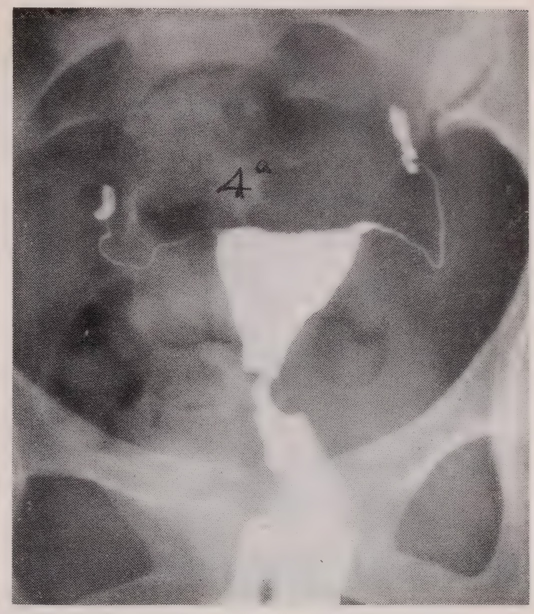


FIG. 8. Normal hysterogram fourteen weeks after normal labor at term. The isthmus is wider than in the previous figures but remains well defined.

amenorrhea and whose baby weighed less than 6 pounds. Some of the premature labors (12) had what had been previously regarded as an adequate cause, e.g., toxemia; the etiology of the remainder (69) was unknown. The 100 patients who had carried to term also fall into two groups: (1) 31 women who had had a normal pregnancy and labor and (2) 69 women in whom there had been some complication such as breech presentation and manual removal of placenta. Only those who fall into the first group can strictly be recognized as "controls."

RADIOLOGIC APPEARANCES.—The normal hysterographic appearances, as shown in Figs. 5, 6, 7, and 8, vary considerably in detail but have the following features in the posterior-anterior view:

1. The cavity of the corpus is roughly triangular with a slightly convex or straight upper border. The cornua form acute angles and are set well apart.

2. The cavity of the cervix may be filiform, cylindric, conical, barrel-shaped, or pear-shaped.

3. The isthmic region is characterized by a constriction which varies in length from 2 or 3 mm. to 2 or 3 cm. Although it may also vary considerably in width, *a constriction of this kind is always normally present* and can be seen in both anteroposterior and lateral exposures. In the majority of cases its upper and lower boundaries are well demarcated, but in some the transition into other parts of the picture is more gradual.

FINDINGS.—If the above criteria are accepted, the hysterograms showed a remarkable number of divergencies from normal. These were not

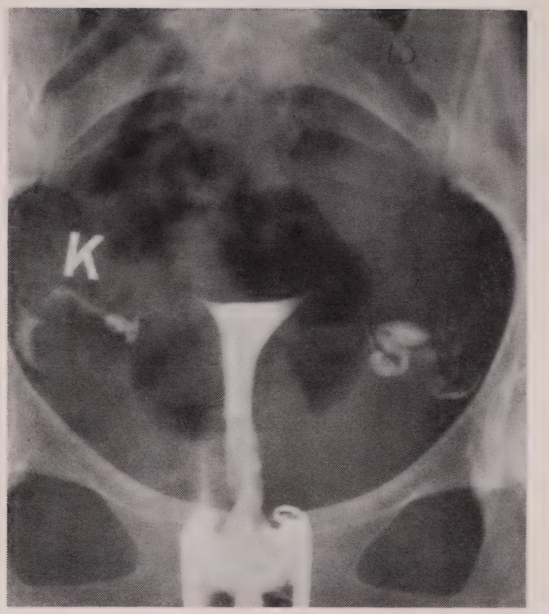


FIG. 9. Hysterogram thirteen weeks after premature labor (at twenty-nine weeks). This shows the typical funnel cervix with no constriction at the isthmus.

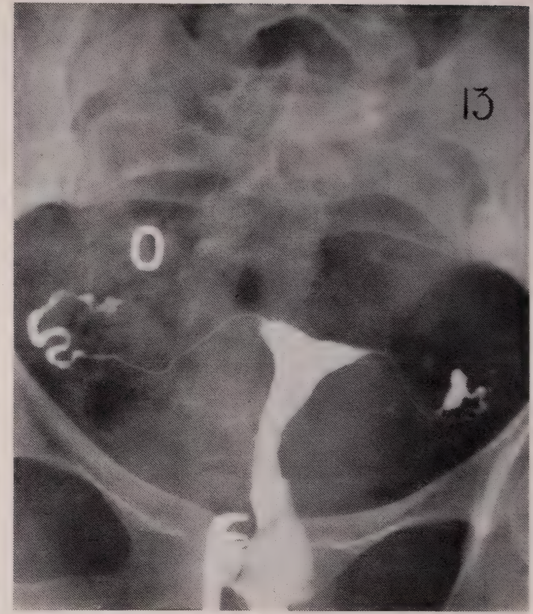


FIG. 11. Funnel cervix in a patient with a history of two premature labors at thirty-two and thirty-four weeks.

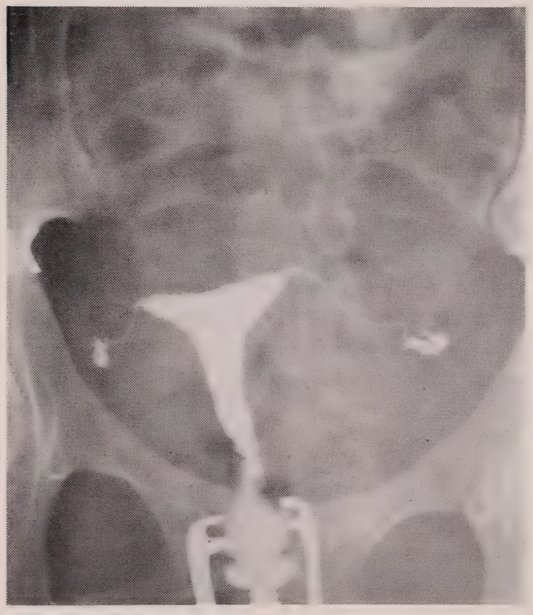


FIG. 10. Funnel cervix demonstrated after premature labor at thirty-four weeks.

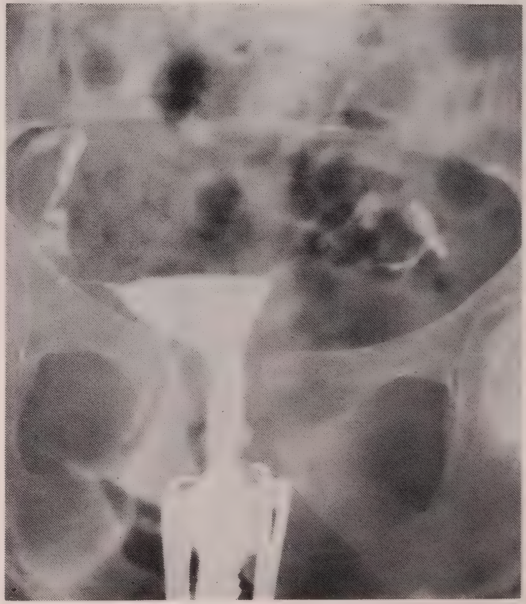
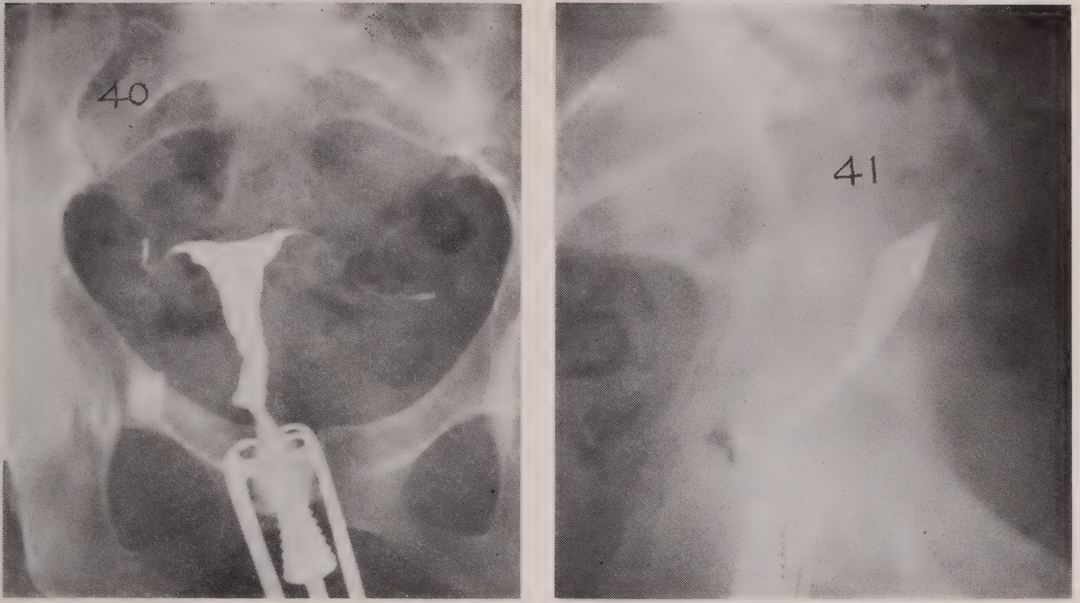


FIG. 12. Funnel cervix in a woman with a history of seven premature labors at maturities ranging from twenty-eight to thirty-seven weeks.

only in the cervical canal but in the corpus as well. In the cervix the most striking abnormality observed was absence of the constriction at the internal os, this giving the impression that the cavity of the cervix and of the corpus were united or running one into the other without a clear demarcation. This appearance we have termed a "funnel cervix" (Figs. 9. 10, 11, 12, and 13). In the fundus the abnormalities noted consisted of previously unsuspected müllerian duct mal-



A B

FIG. 13. (*A*) Funnel cervix in a woman who had had only one pregnancy which terminated in premature labor at thirty-five weeks. (*B*) Lateral view.

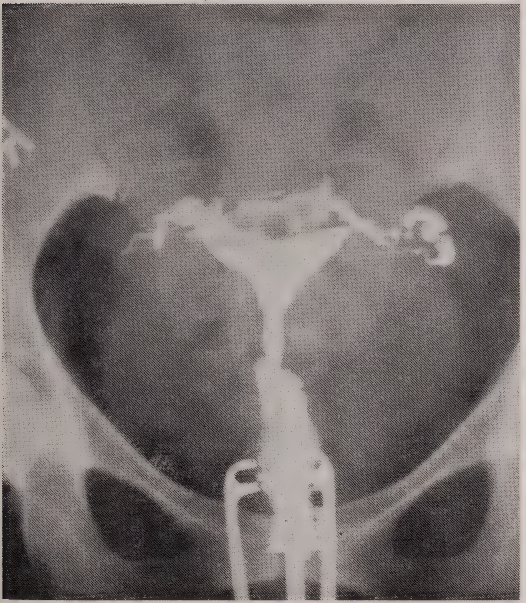


FIG. 14. Incompetent cervix and cornual malformation. This patient has had 12 unsuccessful pregnancies ending at various stages from eight to thirty-one weeks.

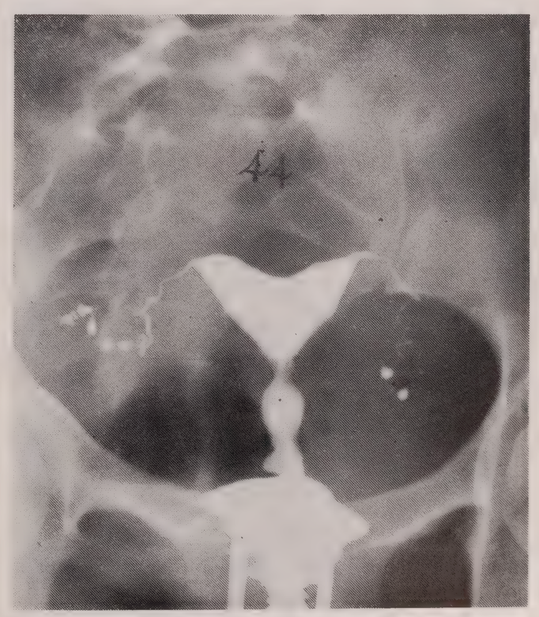


FIG. 15. Bicornuate deformity with a competent cervix. The cervical canal itself is barrel-shaped, but the isthmic constriction is present. Patient had had only one pregnancy which terminated spontaneously at the twenty-ninth week.

fusion deformities of all degrees. These varied from a planiform or anvil-shaped fundus to the more obvious bicornuate uterus, but those illustrated here (Figs. 14, 15, 16, and 17) include only the less severe deformities, the others being well-recognized causes of premature labor.

The frequency of various abnormalities was next related to the type of labor. The results are shown in Table IV.

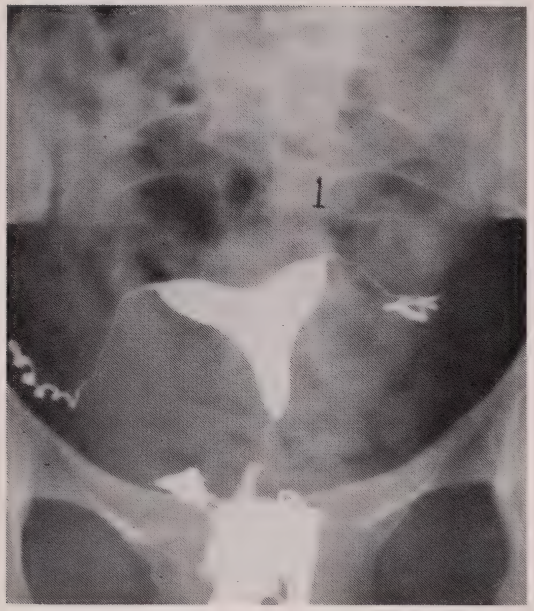


FIG. 16. Normal cervix but cornual malformation in a woman who had had two premature labors at thirty-four and thirty-five weeks.

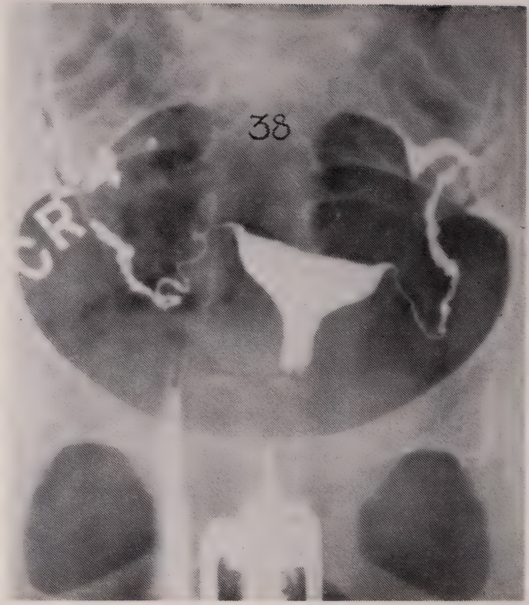


FIG. 17. Normal cervix but a planiform or anvil-shaped fundus. This patient had had one premature labor at the thirty-fourth week.

TABLE IV.—UTERINE ABNORMALITIES IN RELATION TO THE TYPE OF LABOR

Type of Case	Number of Cases	Funnel Cervix	Cornual Malformation	Cervical and Cornual Defect	Normal Uterus
Normal labor at term	31	1	5	. .	25
Complicated labor at term	69	9	20	. .	40
Premature labor "cause known"	12	4	1	. .	7
Premature labor "cause unknown"	69	33	15	11	10

TABLE V.—OUTCOME OF SUBSEQUENT PREGNANCY IN 13 WOMEN WITH PREVIOUS RADIOGRAPHIC DIAGNOSIS OF FUNNEL CERVIX

	Multiparas	Nulliparas	Total
Abortion	4	2	6
Premature labor	. .	2	2
Labor at term	1	2	3
Undelivered	1	1	2
TOTAL	6	7	13

COMMENT.—The finding of a funnel type of cervix in such a large number of cases (44 out of 69) of idiopathic premature labor is strongly suggestive of its having a causal role, especially since it was found in only ten out of 100 cases of labor at term. Moreover, it will be seen that cornual malformation is also very common in this group and that only ten patients had an indisputably normally shaped uterus.

Convincing as these figures may be, they are open to the criticism that so far as the cervix is concerned, they represent the conditions in the cervix after the event of labor and do not necessarily reflect those which were present before.

With this possible criticism in mind we next reviewed hysterograms of 172 consecutive women previously investigated by this method for infertility. In order to avoid prejudice, the films were interpreted before the previous or subsequent obstetric histories of the patients were known. Forty-six women were judged to have a funnel cervix and 126 a normal cervix. Some had had pregnancies before hysterography, some afterwards, and some before and afterwards. Here we are only concerned with those who conceived afterwards, of which there were 69. Of these, 13 were regarded as having a funnel cervix, and the outcome of their next pregnancy is shown in Table V.

Fifty-six of the women classified as having a normal cervix conceived, and the outcome of their next pregnancy is seen in Table VI.

From these tables it will be seen that of 13

TABLE VI.—Outcome of Subsequent Pregnancy in 56 Women with Previous Hysterographic Diagnosis of Normal Cervix

	Multi-paras	Nulli-paras	Total
Abortion	4	3	7
Premature labor	1	1	2
Labor at term	21	23	44
Undelivered	1	2	3
Total	27	29	56

TABLE VII.—Premature Labor in Relation to Funnel Cervix

Mode of Onset of Premature Labor	Number of Cases	Number with Funnel Cervix
Rupture of the membranes	29	17
Painful uterine contractions	31	20
Unknown	9	7

women known to have a funnel cervix, eight aborted or entered labor prematurely (62 per cent of all cases; 73 per cent if undelivered cases are excluded). Among 56 women known to have a normal cervix, abortion and premature labor occurred in only 9 (16 per cent of all cases; 17 per cent if undelivered cases are excluded).

These figures are small but suggestive and, taken with the previous evidence, go to indicate that cervical form is an important etiologic factor in premature labor as well as in abortion. If this is true, then it remains to be asked whether deficiency at the internal os operates by allowing the forewaters to rupture or whether another mechanism is at work.

Returning to the original series in which hysterograms were obtained after premature labor, the mode of onset of that labor was studied with the following findings (Table VII).

From this table it would seem that although a funnel cervix may sometimes appear to operate by failing to support the lower pole of the fetal sac, there is not a significant association between the two findings. When the cervix is defective, labor is just as likely to begin with expulsive uterine contractions. This might be because protrusion of the bag of membranes stimulates reflex contractions of the fundus, but this is merely conjectural. All that can be concluded with safety is that cervical form plays an important etiologic role in the onset of premature labor as well as abortion but that the mechanism of its action is uncertain and may well be variable.

The Cause of Cervical Deficiency

It remains to be asked whether a defect at the internal os is developmental or acquired and whether or not it is permanent. The possible causes of an acquired defect are tearing and injury from (1) precipitate labor, (2) forceps delivery before full dilatation, or (3) operations on the cervix such as forcible dilatation and amputation.

It is a well-recognized clinical observation that high amputation and deep laceration of the cervix are frequently followed by recurrent abortion and premature labor. Nevertheless, in our series a history of operation or of forcible delivery was rarely obtained. Moreover, the group of infertile women who subsequently conceived included many who had never previously been pregnant or had had any operation on the cervix. This would suggest that cervical deficiency is often an inherent one and not the result of injury. We must also note that some women found to have a funnel cervix after premature labor subsequently carried a pregnancy to term. This either throws considerable doubt on the importance of cervical form, or it suggests that the cervical defect can sometimes be a functional one which may be present in one pregnancy and not in another.

Treatment

The findings recorded here suggest that hysterography can give a valuable lead in those cases where abortion and premature labor are not explained. In 69 unexplained premature labors, radiography revealed either a cervical or cornual defect in 85 per cent. In some cases this may well have been fortuitous; nevertheless, such a high figure suggests that such deformities are significant in many cases, and it is convenient to close with comment on their treatment.

Fundal Abnormalities.—In gross degrees of bicornute deformity, plastic surgery on the uterus has a place, but the details need not concern us. Suffice it to say that it is rarely indicated unless three or four consecutive pregnancies have failed to produce a viable child and, if it is carried out, the subsequent babies should be delivered by cesarean section before term because the risk of fundal rupture is high. As a general rule the uterus learns to accommodate itself better with each succeeding pregnancy so that the woman who perseveres is likely to be rewarded, even if in the meantime she increases the prematurity and fetal death rates! For this as well as technical reasons, uteroplasty has little if any place in the treatment of minor degrees of fundal deformity.

Cervical Defects.—Here the situation is more difficult. Reconstruction operations on the internal os carried out between pregnancies are described, and we have tried them in a few cases. In our hands the results are so far disappointing. Now, however, there are accounts from various parts of the world of a defective cervix being treated surgically *during* pregnancy. Several operations are described, and all have the same principle of pushing up the fetal membranes and then supporting them by passing silver wire, silk thread, nylon, or even a fascial strip around the cervix just beneath the vaginal skin. If the pregnancy goes to term, it can be delivered by cesarean section or vaginally after cutting the supporting thread. This type of operation we have not yet had an opportunity to try, but the reported results are promising. The difficulty, as we see it, is that it is never possible to be certain that cervical deficiency is the cause of abortion or premature labor. Moreover, there are many women, in whom a protruding bag of membranes can be seen or felt through the cervix, who proceed to carry the pregnancy for several more weeks or months without any treatment. It is tempting to carry out these operations when they may not be necessary, and when they are carried out, there must be a worry lest an abnormal fetus has been tied *in utero*. Nevertheless, they do raise hope for the woman who has lost four, five, or even more pregnancies, and that despite all manner of conservative measures.

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MEDICAL SOCIETY OF THE STATE OF NEW YORK

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POSTMATURITY AS A FACTOR IN FETAL WASTAGE

DEPARTMENT OF OBSTETRICS AND GYNECOLOGY
LONG ISLAND JEWISH HOSPITAL
NEW HYDE PARK, NEW YORK

ALEXANDER H. ROSENTHAL, M.D., *Chairman* MARCH 3, 1955

Participants

JOSEPH H. SMITH, M.D., Clinical Instructor in Obstetrics and Gynecology, State University of New York College of Medicine at New York City; Staff Obstetrician and Gynecologist, Long Island Jewish Hospital

EDWIN M. GOLD, M.D., Clinical Instructor in Obstetrics and Gynecology, State University of New York College of Medicine at New York City; Staff Obstetrician and Gynecologist, Long Island Jewish Hospital

HAROLD JACOBZINER, M.D., Assistant Commissioner of Health, New York City

Discussants

ALFRED C. BECK, M.D., Professor Emeritus of Obstetrics and Gynecology, State University of New York College of Medicine at New York City

LOUIS M. HELLMAN, M.D., Professor of Obstetrics and Gynecology, State University of New York College of Medicine at New York City

SAMUEL KARELITZ, M.D., Clinical Associate Professor of Pediatrics, Columbia University College of Physicians and Surgeons; Chief of the Department of Pediatrics, Long Island Jewish Hospital; Consultant in Pediatrics, Mount Sinai Hospital, New York City

CHAIRMAN ALEXANDER H. ROSENTHAL: The intrauterine death of a fetus in a patient delivered at this hospital was in large measure responsible for this meeting tonight.

The patient was a thirty-six-year-old primigravida who was seen in consultation because she had gone twenty days past her estimated date of confinement. She was examined by her obstetrician very early in pregnancy so that there was no doubt concerning her probable date of conception. The fetus was of average size in vertex presentation; the head was dipping into the pelvis, and the measurements were ample. Although the patient said that she had not felt the baby move that day, the statement was discounted because the fetal heart sounds were heard to be normal. It was felt at the time that there was no indication for suprapubic delivery despite the fact that the couple and her obstetrician were all apprehensive about the fate of the baby and were anxious for cesarean section to be done. In fact, the obstetrician was obviously distressed by this opinion and indicated that his intuition told him that if section were not done, the baby would be lost.

On the next day the husband called on the telephone and stated that despite the previous reassuring remarks about the baby being alive, his wife had still not felt it move. In the face of this extreme anxiety a reversal of opinion concerning indication for cesarean section was given, and she was admitted to the hospital fourteen hours after being seen by the consultant. Now the fetal heart was no longer heard, and one week later labor was induced because of emotional instability. She was delivered of a macerated, stillborn fetus, weighing 8 pounds, 14 ounces, by low forceps extraction.

As was stated at the outset, this fatality prompted inquiry as to the effect of postmaturity on fetal wastage. Possibly we will not learn the entire answer to the problem tonight, but I am confident that we shall at least know more about the subject after we have heard from our panel. The first speaker is Dr. Joseph J. Smith, Clinical Instructor in Obstetrics and Gynecology, State University of New York College of Medicine at New York City, and he will present evidence for postmaturity as a factor in fetal wastage.

Dr. Joseph H. Smith: Postmaturity is becoming an important consideration in the over-all picture of perinatal mortality. This evening I have been asked to present evidence for postmaturity as a factor in fetal wastage. I certainly do not pose as an authority in the field but will merely attempt to present to you what I have gathered from the literature. The German literature is replete with admonitions of postmaturity as an obstetric and fetal hazard. The British literature reveals some serious studies of postmaturity; the American literature has treated it only casually.

The incidence of postmaturity per se is rather difficult to determine, primarily because of the variation in the definitions of postmaturity which one encounters in the published statistical surveys. One survey considers any pregnancy of 285 days as a postmature pregnancy, one of 290 days, one of 300, another of 305, with a variation in incidence from $2^1/_2$ to 30 per cent. Moreover, most of the statistical studies have been based on retrospective research where one goes to the record room and pulls charts which have recorded delivery dates of four, five, or six weeks beyond term. Obviously no careful studies could have been made of these pregnancies to eliminate likely chances of error in dates. This evening I would like to present evidence to show that postmaturity is a definite hazard to the fetus from three points of view: the statistical, the physiologic, and the clinical.

The first statistical evidence I would like to present is the work of Walker from the University of Aberdeen, Scotland, published in 1954. At Aberdeen the problem of postmaturity has been followed for twenty years or more. McKiddie had been Walker's predecessor at Aberdeen, and he had published rather extensively on the problem. Walker's cases have been followed fastidiously by Walker himself and a selected group of obstetricians. These statistics were painstakingly gathered during the pregnancies involved in the study, obviating the difficulties of handsight deductions, and seem to have a unique validity.

In Walker's report there were 11,051 booked obstetric cases from 1948 to 1951. The obstetric, stillbirth, and neonatal death rates per 1,000 births were charted against the weeks of gestation. There was a rather sharp drop from the thirty-seventh week, leveling off at a plateau of forty to forty-one weeks, and then a very abrupt rise. The perinatal mortality at the forty-third week of gestation was approximately 30 per 1,000 births. At term, which is approximately forty to forty-one weeks, there were only about ten or 11 per 1,000 births. In short, at forty-three weeks the perinatal mortality is three times that at term. This rise is mainly due to a greater number of unexplained stillbirths in which no abnormality of pregnancy or labor could be detected. At necropsy Walker noted that 70 per cent or more of these stillbirths showed the lesions of anoxia alone. With respect to the incidence of fetal distress, cause unknown, as pregnancy progressed, after forty weeks there was a sharp ascent in unexplained fetal distress. In these cases 95 per cent showed meconium staining, a sign that the fetus was short of oxygen. Statistical studies done primarily by Gibberd at Queen Charlotte's Hospital from 1948 to 1950 show a similar picture, namely, that pregnancies beyond the forty-first week show a perinatal mortality three times that at forty to forty-one weeks. Gibberd's findings at necropsy also showed the lesions of anoxia.

Another statistical study was done by Stewart Clifford of Harvard University. Clifford, whose definition for a postmature pregnancy was a duration of 300 days or over, reported an incidence of 5 to 6 per cent. Clifford also reported that in the primigravida, postmaturity along with this incidence carried with it a 36 per cent perinatal mortality. This he found to be second only to prematurity as a cause of fetal death. In primigravidas one in ten infants carried 300 days or more would die, and if these primigravidas were twenty-six years or older, one in three infants would die.

Physiologically, the fetus, as we are all aware, depends for its growth and development on an adequate supply of nutrients and other substances from the mother. Oxygen is one of these. An ample and continuous supply of oxygen is necessary, but oxygen is unique in that it cannot be stored. There is no reserve of oxygen, and its supply undergoes a series of changes as pregnancy progresses. This was first demonstrated in the middle 1930's when Sir Joseph Barcroft in his experiments with sheep and goats showed that the young died in utero if carried any significant degree beyond term. Oxygen studies of the survivors revealed markedly anoxic blood levels. It was Barcroft too who first correlated the compensatory increase of red blood cells and hemoglobin in an anoxic fetus with a reduction in the oxygen supply. Snyder, working with rabbits in prolongation of pregnancy, showed that most of these fetuses died, and in those in which death did not occur, blood taken from the cerebral sinuses showed a very definite anoxic picture.

I don't know now whether it would be in order to refer to the work which Drs. Hellman, Flexner, *et al.* have done in placental permeability with deuterium oxide and tracer substances. They showed that in normal pregnancy there is a gradual rise in permeability until about the thirty-fifth or thirty-sixth week and then a gradual decline. However, they stopped at forty weeks, and I am hoping Dr. Hellman will have something to say about decreased placental permeability with aging.

Walker's study of oxygen levels in the blood of the human fetus before and after labor revealed the human counterpart to Barcroft's animal experiments. The blood for these studies was taken by Walker himself at the time of cesarean section, before labor, and under spinal anesthesia. In all cases studied, there was a detailed clinical history, and the length of gestation was accurately known. At thirty-six weeks the oxygen saturation of the blood was about 70 per cent and gradually fell so that at term oxygen saturation was about 50 to 60 per cent. At forty-three weeks the level was approximately 30 per cent. Walker has established this as the critical level of oxygen saturation, finding that the forty-third-week fetus needs at least this amount of oxygen to exist in a resting state. So we find that at forty-three weeks and beyond we are dealing with a fetus that is subsisting at a critical level. Walker makes the point of noting, however, that all babies do not conform to this generalized norm, and many babies approach the thirty-ninth or fortieth week not nearly so well oxygenated as the 60 per cent indicates. A deficient oxygen supply may, therefore, be seen at any time in the last few weeks of pregnancy, but by the forty-second to forty-third week the supply is dangerously low in all fetuses. Therefore, in cases threatened by other complications, the oxygen supply may fail sooner than in normal cases.

Having determined the oxygen saturation levels in the blood of the umbilical vein before labor, Walker then went on to chart the levels *after* normal spontaneous labor. These findings were plotted on the shadow of the first curve, making it apparent that a normal labor (without analgesia) is a physiologic process which does not require an increased oxygen supply to the fetus. In contrast, the percentages of oxygen saturation in the blood of the umbilical vein of distressed fetuses, which had recently passed meconium or were covered with meconium at delivery, were also plotted against the same curve of saturation levels before labor. The striking thing was that infants showing recent meconium staining had a 30 per cent oxygen saturation or less, no matter what the stage of gestation. This 30 per cent, or distress level, appears from Walker's work to be the normal state of most fetuses in the forty-third week before the onset of labor. Some questions may be raised about Walker's saturation levels on the basis that incision into the uterus would alter the actual findings in a fetus of an uninterrupted pregnancy. While this may be true, the error would be constant and the relative values valid.

When the oxygen supply of the fetus begins to fall, it attempts to maintain an adequate level by producing more oxygen carriers or more hemoglobin. Walker and Turnbull (*Journal of Obstetrics and Gynaecology of the British Empire* and/or *Lancet*, 1953) have done some careful studies of hemoglobin and red blood cells in the human fetus to complement the oxygen level experiments noted before. They have reported a rise in fetal hemoglobin and red blood cells, which is correlated well with the decline of the oxygen supply demonstrated in the oxygen level studies. Thus, in 145 cases of normal pregnancies, the hemoglobin was shown to rise steadily from 9 Gm. at the tenth week, to 14 or 15 Gm. at the twenty-second to twenty-fourth week, and to have reached a mean value of 16.5 Gm. by the fortieth week or term. Beyond the fortieth week the rise was maintained so that at the forty-third week the mean value was 18.8 Gm. All the hemoglobin readings in the forty-second and following weeks were above 16.5, and since a hemoglobin of over 16.5 indicated an oxygen saturation of about 40 per cent or under, the authors assumed that all fetuses of forty-two weeks and beyond have a poor oxygen environment.

In addition, most of the samples of cord blood of distressed fetuses showed readings of over 18 Gm. similar to the 18.8-Gm. mean reading of the forty-third-week fetus. The authors "suggest, therefore, that the rise in hemoglobin levels seen in late pregnancy is a response of the fetus to a failing oxygen supply. The rise is achieved by an increase in production of red blood cells, and in each case the size of the increase is proportional to the degree of oxygen lack. The higher the hemoglobin level is above 14.8 Gm., the poorer has been the oxygen environment."

From a clinical point of view there is evidence that there is such an entity as a postmature baby. Stewart Clifford, Assistant Professor of Pediatrics at Harvard, has divided the postmaturity syndrome into three stages:

1. First stage: The protective vernix has disappeared, the skin showing maceration, dryness and cracking, wrinkles and peeling. It is unstained, long and thin, with skin too big for the body. In this regard Clifford and others state that the concept that postmaturity and giant babies go hand in hand is not true. Prolongation of pregnancy may actually force the fetus to live off its own tissues and result in intrauterine loss of weight.

2. Second stage: Characterized by all of the changes in the first stage, plus meconium-filled amniotic fluid, meconium-covered skin, and green meconium staining of the placental membranes and of the cord.

3. Third stage: Shows evidence of earlier and perhaps prolonged intrauterine anoxia. Those infants that survive this appreciable intrauterine anoxia (and Clifford found that 85 per cent of postmature deaths occur in utero) show the green bile staining of the meconium converted to a brilliant yellow coloration observed at birth. These infants show the findings recorded for the earlier two stages, but now the nails and skin are stained a bright yellow and the cord a dirty yellow or yellow.

In summary, I think we might say that there is statistical, physiologic, and clinical evidence to indicate:

1. That there is a significant rise in the incidence of perinatal mortality in fetuses which remain in utero beyond forty weeks. The incidence is higher in postmature pregnancies of primigravidas and still higher in primigravidas of twenty-six years or over.

2. That this increased mortality is largely due to anoxia.

3. That this anoxia is the result of a constantly diminishing supply of oxygen to the fetus after the forty to forty-first week due to some placental dysfunction.

CHAIRMAN ROSENTHAL: Thank you, Dr. Smith. The next speaker is Dr. Edwin M. Gold, Clinical Instructor in Obstetrics and Gynecology, State University of New York College of Medicine at New York City. Dr. Gold, in collaboration with Dr. Daichman, has done original work on this problem.

DR. EDWIN M. GOLD: Thank you, Dr. Rosenthal. I feel like a political candidate who follows someone who has made one set of promises, and I have to make another set of promises. Mine is the other side of the postmaturity story and, I hope, the more pleasant side.

First, from a clinical point of view I question the existence of the entity of postmaturity. Dr. Daichman and I, as Dr. Rosenthal said, recently published on this subject, and we felt that the term "postmaturity" had a pathologic connotation. Therefore, we coined another term, "postdate labor," which is of clinical importance because it merely denotes a labor that started after the expected date of confinement.

This leads us to the basic question of duration of gestation. Ahlfeld, Neuberger, and Segal, writing independently on duration of pregnancy from known coitus to birth, found the mean duration of pregnancy to be 270 to 273 days. Murphy of Philadelphia and Stewart from Detroit recently studied this problem with basal temperature studies and showed that as calculated from ovulation to birth, the duration of pregnancy ranged from 266 to 270 days with extreme variations between 250 and 285 days. Hotelling and Hotelling, using the date of the last regular menstrual period in normal, regular, and rhythmically menstruating women, found the mean duration of pregnancy to be 280 days with a standard deviation of plus or minus 10.1 days.

Mean durations of pregnancy, whether computed from coitus to birth, from ovulation to birth, or from the date of the last regular menstrual period, range between 266 and 273 days. Thus for practical purposes clinical usage of Naegele's rule for computation of pregnancy duration remains most feasible.

We have some figures on the incidence of "post-date labor." The variations in incidence were from a low of 2 per cent to a high of 31 per cent. As the first speaker pointed out, the ground rules or the criteria used are responsible for these variations. For example, with the criterion of 285 to 288 days the incidence ranges between 24 and 31 per cent. As we tighten the criteria to 290 days, the incidence drops to 13.5 per cent. At 295 days the incidence drops further to between 5 and 7 per cent. Our own figures at this 295-day level are 2.6 per cent, and Clifford at 300 days reports 3 per cent. It can be safely stated that at 295 plus days the incidence will be in the neighborhood of 3 per cent.

We are primarily interested in the outcome to mother and baby when labor fails to ensue 295 plus days beyond the expected date of confinement. Evidence has been presented that these situations are a problem, a severe problem. The evidence would seem to indicate that perinatal loss is $33^1/_3$ to 50 per cent greater in these patients, that the fetus is bigger, that death in utero is a distinct hazard, that congenital anomalies are frequent, and that to prevent these dire possibilities interruption of pregnancy or induction of labor is desirous. Well, let us examine these possibilities.

First, about the size of the baby. In material from the 123 cases of post-date labor we have at the Jewish Hospital of Brooklyn out of 4,673 total deliveries for the year 1949, 4 per cent of babies weighed 9 pounds or over. The question which immediately comes to mind is what should be the normal incidence of 9-plus-pound babies in the general obstetric population. We have some figures from New York City for the years 1943 through 1948, exclusive of one year. In a total of some 715,000 births an incidence of 6.7 per cent of babies were 9 pounds or over. Thus our figure of 8 per cent in our series of cases does not show any statistically significant difference from the expectancy.

Now the next question would be, is there any relation between the number of days post-date and the size of the baby? Here we have five cases or 4 per cent of babies in the 5 to 6-pound group. The average number of days post-date was 20.3, and the range was eighteen to twenty-three days post-date. In the 9-pound and over group we had ten babies or 8 per cent. The average number of days post-date here was nineteen days, and the range was fourteen to twenty-seven days. Thus, there is no apparent correlation between days post-date and size of baby.

Calkins in 1948 offered an excellent explanation in a most interesting piece of work. He correlated placental weights with birth weights and divided his placental weights into three groups: under 500 Gm., 500 to 600 Gm., and 700 Gm. and over. He showed that with a 200-Gm. differential in placental weight, he had an 865-Gm. differential in birth weight of the infant. In other words, the difference between the average birth weight of the infant in the under 500-Gm. placental group and the average birth weight of the infant in the 700-Gm. and over placental group was 865 Gm. He also showed that if an infant was to be oversized at term, it had acquired most of its excessive size by the two hundred and sixtieth day of gestation. Also, from the two hundred and eightieth to the three hundredth day of gestation there was only an average weight increment of 120 Gm. This well taken point further leads us to believe that there is no increase in infant size due to "post-date labor" per se.

Now as to the question of outcome to the fetus. The previous speaker ably summarized Walker and Turnbull's and Clifford's papers, both pieces of work showing deleterious outcome to the fetus in post-date cases. Clifford particularly drew some very startling and severe conclusions from his cases. I think that Clifford's work has two definite and separate elements in it. He has made an excellent clinical contribution in his description of the little old man, the so-called postmature fetus, whose skin is too big, desquamating, and covered with meconium-stained vernix. Personally, in the past twenty years I have not seen such a case. I have talked with several pediatric colleagues who have much more experience in newborn nurseries than I, an obstetrician, and they too have not met the little old man more than once or twice in all their years of experience. I should like to ask Dr. Jacobziner and Dr. Karelitz to give us of their experiences in this regard. I am not qualified to discuss this aspect further since I have not

TABLE I.—Reported Incidence of Postmaturity in New York City, 1953

	Total Cases	42 Weeks*		43 Weeks*	
		Number	Per Cent	Number	Per Cent
Live births	161,499	4,855	3.0	1,690	1.1
Fetal deaths	18,767	57	0.3	61	0.33
Exclusive of therapeutic abortion and illegal abortion	590	...	...	...	1.4
Total births	180,856	...	...	...	...

* Length of gestation calculated as follows: 40 weeks, 280 to 286 days; 41 weeks, 287 to 293 days; 42 weeks, 294 to 300 days; 43 plus weeks, 301 days and over.

seen it. However, I have been unable to draw the same conclusions from Dr. Clifford's figures relative to his perinatal loss. The perinatal loss figures from the Brooklyn Jewish Hospital and New York Hospital are 2.4 and 3 per cent, respectively, a far cry from the high figures given by Clifford.

What about the question of death of fetus in utero? Clifford states that this is a common occurrence. In the Jewish Hospital series with our 2.4 per 100 live birth perinatal mortality we had three fetal deaths, of which only one was an unexplained antepartum intrauterine fetal death. The other two were intrapartum deaths, both due to poor obstetrics. One was a primiparous breech with a forty-nine-hour first stage, breech decomposition, and extraction of a 10-pound stillborn. The second was a young primipara, vertex presentation, resulting in delivery of a stillborn 9-pound fetus. In the New York Hospital series the perinatal mortality was 3 per 100 live births or 11 infant deaths. Of these, four were unexplained antepartum intrauterine deaths, three were intrapartum due to cord complications, two neonatal deaths were due to erythroblastosis, one was due to premature separation of placenta, and one was an anencephalic monster. Hence, in this combined series there was no great incidence of antepartum deaths. Also it may be pointed out that there were no congenital anomalies in the Jewish Hospital series and only one in the New York Hospital series. This too is a far cry from the high incidence reported in Clifford's series.

In conclusion, therefore, from this material presented and from perusal of the literature, we take issue on two grounds with the thesis that postmaturity is a factor in fetal wastage. First, is there such a thing as obstetric postmaturity, or is it not just a question of quibbling as to the duration of pregnancy? Second, from the material we have analyzed and presented, there has been no increase in the over-all perinatal mortality in cases that had gone 295 days or more beyond the expected date of confinement. On these grounds we feel that post-date labor cases should be managed no differently from pregnancies of normal duration.

Chairman Rosenthal: Thank you, Dr. Gold. Our next speaker, Dr. Harold Jacobziner, Assistant Commissioner of Health of the City of New York, has agreed to discuss the public health aspects of this problem. Dr. Jacobziner has already done outstanding work on prematurity as a cause of fetal death.

Dr. Harold Jacobziner: Mr. Chairman, ladies and gentlemen, first I want to bring to you the greetings of the Health Department and also to express my sincere appreciation for your invitation in allowing me to participate in your program. My only claim to maturity is perhaps the fact that I was prematurely gray. Like you, I am, however, very deeply interested in postmaturity as a pediatrician and a public health physician. The mere fact that the chairman and the staff saw fit to arrange this symposium and the fact that you are here in such great numbers surely evidence your interest in the subject.

I am presenting evidence neither *for* nor *against* postmaturity. I am just like you, ladies and gentlemen in the audience, anxious to learn a little bit more about the problem, and a glance at the talent on this panel—Dr. Gold, Dr. Beck, Dr. Hellman, and Dr. Karelitz—assures me that I will learn a great deal tonight, and I feel deeply honored in being invited to participate.

You will see that the total incidence of live births and fetal deaths at forty-two weeks gestation is only 3.3 per cent (Table I). Total incidence of live births and fetal deaths at forty-three weeks gestation and over is 1.4 per cent. The four-year average of postmaturity of forty-two weeks gestation and over is reported as 3.9 per cent of all live births, and the four-year average of fetal deaths of forty-two weeks and over is 7.2 per cent of fetal deaths (Table II). The four-year average for the total postmaturity incidence of the total pregnancies is 3.6 per cent. This would indicate that postmaturity in New York City is not a major public health problem and

TABLE II.—INCIDENCE OF POSTMATURITY, NEW YORK CITY 1950–1953

				42 Weeks and Over					
				Live Births		Fetal Deaths			
Year	Live Births	Fetal Deaths	Total Pregnancies	Number	Per Cent	Number	Per Cent	Number	Pregnancies
1950	155,818	16,405	172,223	5,659	3.6	120	7.3	5,779	3.4
1951	162,755	17,961	180,716	6,523	4.0	140	7.8	6,663	3.7
1952	164,165	18,549	182,714	6,367	3.9	140	7.5	6,507	3.6
1953	161,499	19,357	180,856	6,545	4.1	118	6.1	6,663	3.7
4-year average	161,059	18,068	179,127	6,274	3.9	130	7.2	6,404	3.6

TABLE III.—MORTALITY OF POSTMATURES BORN ALIVE, NEW YORK CITY (1952–1953)

A. BY AGE AT DEATH

	1952		1953	
	Number	Per Cent	Number	Per Cent
Under 1 day	26	28	28	29
1 to 6 days	34	36	33	33
7 to 27 days	4	5	8	9
1 month to 1 year	30	31	29	29
TOTAL	94	100	98	100

B. BY WEIGHT AT BIRTH AND COLOR

	1952				1953			
Weight (Gm.)	White	Nonwhite	Total Number	Per Cent	White	Nonwhite	Total Number	Per Cent
Under 2,500	15	4	19	21	12	1	13	14
2,500 and over	61	11	72	76	71	10	81	82
Not stated	2	1	3	3	4	0	4	4
TOTAL	78	16	94	100	87	11	98	100

falls into the category as "evidence against." Being strictly impartial, I will now present some "evidence for."

When 241 birth certificates were checked with the hospital records by our staff, a 9.1 per cent incidence of forty-two weeks gestation was observed, and a 3.7 per cent incidence of forty-three weeks and over was noted, with a total incidence of 12.8 per cent of forty-two weeks and over of postmaturity. The discrepancy is undoubtedly due to poor reporting on the birth and death certificates. Whatever the source of information from which incidence of postmaturity is calculated on basis of period of gestation, it is subject to great error for the following reasons: (1) inaccurate reporting, (2) true gestation period unknown, (3) date of conception unknown in many cases, and (4) regularity of menstruation not taken into account.

To obviate these difficulties to a degree it would perhaps be advisable to include on the birth certificates not only the period of gestation but a statement on the regularity of menstruation, the date of the last menstrual period, and above all more accurate reporting. Dr. Clifford reports on incidence of one in every 20 pregnancies in the average population, or a total incidence of 5 per cent. Recent statistics from New Hampshire reveal a postmaturity rate of 6.4 per cent, of which 66.5 per cent were born to mothers over twenty-five years of age.

The figures given in Table III would be the same for 1954, but exact figures are as yet unavailable. The percentage of the postmature infants "by age at death" is not significantly different from that reported for the average infant population.

It is interesting to note that over 20 per cent of the postmature infants who died in 1952 weighed less than 2,500 Gm. at birth and would thus be classified as "prematures." In 1953 about 14 per cent of such infants were under 2,500 Gm. at birth and, hence, also classified as "prematures." This highlights the fact that it would be erroneous to define postmaturity according to weight.

Mortality among postmatures born alive is apparently not higher than among the general infant population (Tables IV and V).

It would appear that congenital malformation and birth injury as causes of death are reported with higher frequency in the postmature groups than in the general average infant population (Tables IV and V). Because of the small num-

TABLE IV.—Mortality Among Postmature Infants by Cause of Death, New York City (1952–1953)

Cause of Death	1952 White	1952 Nonwhite	1952 Total Number	1952 Per Cent	1953 White	1953 Nonwhite	1953 Total Number	1953 Per Cent
Infectious diseases	2	0	2	2	3	0	3	3
Respiratory diseases	13	4	17	18	12	3	15	15
Diarrhea	0	0	0	0	3	0	3	3
Congenital malformations	23	3	26	28	32	1	33	34
Birth injury	14	5	19	20	10	1	11	12
Postnatal asphyxia and atelectasis	16	3	19	20	13	4	17	17
Immaturity	1	1	2	2	5	1	6	6
Other diseases of early infancy	3	0	3	3	3	1	4	4
Accidents	1	0	1	1	3	0	3	3
All other causes	5	0	5	6	3	0	3	3
Total	78	16	94	100	87	11	98	100

TABLE V.—Mortality Among General Infant Population, Certain Causes, New York City (1952–1953)

Cause of Deaths in General Infant Population	1952 Number	1952 Per Cent of Total Infant Deaths	1953 Number	1953 Per Cent of Total Infant Deaths
Congenital malformations	621	15.6	623	15.8
Birth injury	368	9.2	342	8.7
Respiratory diseases	652	16.4	608	15.4
Postnatal asphyxia and atelectasis	744	18.7	682	17.3

ber involved, however, it cannot be ascertained whether it has statistical significance.

Clifford and others have also reported a higher incidence of congenital malformations in the postmature group. I believe Clifford made a great contribution in describing the postmature syndrome. I must admit that although I have seen many infants with dry skins, cracking skins, and many of these among premature infants, I do not remember seeing more than one or two as described by Dr. Clifford for the third stage of postmaturity. It is possible of course that we were not sufficiently alerted to that syndrome and probably missed the diagnosis in many such infants. I am certain that all pediatricians will henceforth pay greater attention to the syndrome described by Dr. Clifford.

Now, ladies and gentlemen, whether we are pediatricians or obstetricians, presenting evidence "for" or "against," we can all agree that there is a major public health problem in fetal wastage and that it needs a solution. As you know, Dr. Clifford is one of the finest pediatricians in the country, and Dr. Walker likewise is a very famous obstetrician. Likewise, statistics from New Hampshire relating to postmaturity cannot entirely be ignored either. I believe we need to learn more about the problem of postmaturity and the larger aspect of pregnancy wastage. I believe further that many late fetal deaths are probably caused by the same underlying factors as early neonatal deaths, and hence it is not merely an obstetric problem alone. The entire problem requires a team approach. Although postmaturity is due primarily to a dysfunction of the placenta and a failure to deliver an adequate supply of oxygen to the fetus and not to the size or flexibility of the fetus, yet it must be stressed again that it is not solely an obstetric problem but the concern of the obstetrician, pediatrician, and pathologist. Only through their collaborative efforts will greater knowledge be accumulated relating to this problem. There are still too many unknowns which need to be investigated. Considerable more investigative research is needed about the public health aspects of the problem. Some of the questions which must be answered are the following:

1. What is the effect of mother's age and parity?
2. Why is it that Clifford and others found this condition predominantly in the twenty-six-year and older primigravida?
3. Why do so many terminate in fetal deaths?
4. Is the father's age a factor?
5. What is known about the biologic and social factors?
6. Is it more prevalent in different races or ethnic groups?
7. Is there a postmature-prone individual, and if so, who is that individual? How can that individual be recognized, and what can be done about it?
8. What are the influences of economic and educational factors?
9. Is it more common among out-of-wedlock pregnancies?

These and many more questions need to be investigated and answered. You see, of course, by the questions I raise that I know very little about this subject, but I do want to learn much more about it.

CHAIRMAN ROSENTHAL: Thank you, Dr. Jacobziner. We are particularly fortunate tonight in having Dr. Alfred C. Beck, Professor Emeritus of Obstetrics and Gynecology, State University of New York College of Medicine at New York City, speak on this subject from his vast knowledge of clinical obstetrics. Dr. Beck does not go out very often at night any more, and we are honored that he has seen fit to be with us.

DR. ALFRED C. BECK: First of all, I want to emphasize the fact that there is a distinction between the term "over-term" and the term "postmaturity." Most postmature infants are over term no doubt, but very few over-term infants are postmature.

The question then is, what is maturity? It is generally believed that if a baby is born around 280 days after the beginning of the last period, if it weighs from 2,500 to 3,200 Gm., if it is approximately 50 cm. long, it is mature. While these criteria are satisfactory for ordinary purposes, they are not satisfactory in all circumstances. For instance, in 766 primigravidas who delivered within seven days before or after 280, the percentages of the various weights were as follows: Only 25 per cent were 7 pounds, 63 per cent were between 2,500 and 3,200 Gm., $3^1/_2$ per cent were under 2,500 Gm., and $3^1/_2$ per cent were over 4,000 Gm. Weight alone is thus not such a good criterion. While the discrepancies in many instances may be due to inaccurate menstrual data, they may possibly be due, as has been suggested, to a delay of ovulation. I won't repeat the work of Stewart, which was presented, except to add that of the 135 cases which delivered in an average of 266 to 270 days, there were eight cases that went three weeks beyond the expected date of confinement as ordinarily determined.

I recall a patient of mine who was delivered five weeks after the expected date of confinement. The baby weighed $3^1/_2$ pounds. It had a thick dry skin, long hair, long nails, and lacked the ordinary pinkish color of a newborn infant. Had it been a little heavier, perhaps 8 pounds, and had it been shown to a pediatrician, he would have said the baby had been born five weeks previously. I have seen a few others. However, I don't believe that the typical postmature infant is nearly as common as you might infer from Clifford's paper or from Walker's paper. Since it is difficult or impossible to diagnose the postmature infant while it is still in the uterus, I believe that we ought to reserve this term for the pediatrician who looks at the baby and examines it after it is born and that we, as obstetricians, ought to use the term "prolonged or over-term pregnancy." We then would not be confusing two different conditions.

In disagreement with Dr. Gold, I believe that most of the up-to-date literature indicates that the over-term babies, particularly the ones that are two weeks over term, have a poorer chance than the 280-day baby. In my younger days I thought that this was quite true. When we began to do the low cesarean section, we believed that our troubles were over because we thought in those days that the difficulty was due to disproportion or inertia. Consequently, when the low section came in, we planned to let these patients go into labor and do a section if the baby was large, particularly if the woman was an elderly primipara or if she had inertia or showed any great difficulty in the course of her labor.

However, for a number of years I have shown this table to my students. Barcroft and his associates working with rabbits tied off one uterine side and then mated the animals. As a result, he had a pregnancy on one side and a nonpregnant uterus on the other side. He then examined the blood which returned from the two uteri and found that on the sixth day the blood which returned from the nonpregnant side was 60 per cent saturated, whereas that from the pregnant side was 80 per cent saturated. At ten days the pregnant side showed the same; at fourteen days it was 75 per cent saturated, at eighteen days 70 per cent, at twenty-two days 50 per cent, at twenty-seven days 40 per cent, at thirty days 28 per cent saturated. In other words, the amount of oxygen that returns from the pregnant uterus at term is considerably less than the amount of oxygen that returns from the nonpregnant uterus in the same animal. I accordingly drew this inference: If the animal were to carry the fetus a little longer, there would not be oxygen enough to support the metabolism.

Subsequently, Snyder injected pregnancy urine into rabbits on the twenty-fifth day to induce corpus luteum formation and, as a result, prolonged the pregnancies. In a few of these animals the fetus was alive on the thirty-fifth day. All that remained in the uterus over thirty-six days were dead. Contrary to what has been told us before, the animals continued to grow after term was reached. After thirty-six days the offspring were as large as they would have been had they been born alive at term and continued to grow after birth. If we convert the duration of pregnancy in the rabbit, which is normally thirty-two days, to its equivalent in weeks in the woman, six days will be equivalent to seven and one-half weeks. Thirty days is equivalent to thirty-seven and one-half weeks. The pregnancy that continued for three days after the expected date of confinement was the equivalent of three and one-half weeks over term. So, you see, there is considerable difference between the dates in the rabbit and in the human.

Walker has shown that the hemoglobin increases as the oxygen supply diminishes so that there is considerable hemoglobin in the fetuses that are having a hard time getting sufficient oxygen to supply their needs. Unfortunately, he studied only a few cases, and in his paper he did not give his technic as Dr. Eastman did. In some cases he obtained the blood at cesarean section. We don't know whether he obtained it before the baby was removed or immediately after it was delivered. You will remember that Dr. Eastman doubly clamped the cord before he removed the baby, and in that way, with the two clamps on the cord, he came the closest to the real antenatal conditions. Just as soon as you put a knife into the uterus, it contracts and you change the circulation. As soon as you take the baby out in a cesarean section or after labor, there is a change in the oxygen supply.

The figures that Dr. Walker gives following labor are lower than his cesarean figures and are somewhat lower than Dr. Eastman's figures for oxygen saturation. Therefore, I think the labor does have some effect. In my opinion the overterm baby has a poorer chance than the baby at term. The question is, how much prolonged must a pregnancy be prolonged before it is too much prolonged. Dr. Clifford suggests a figure of 300 days. Dr. Walker recommends induction at the end of the first week over term in primiparas over twenty-five years of age. So, you see, there is quite a difference.

The question now comes up: How are we going to terminate these cases? In the old days—thirty years ago—Dr. Moser of Kansas City advocated induction for these cases, and many followed his recommendation. We soon found that our results were worse than if we left them alone. In those days we ruptured the membranes and put in bougies and bags. We didn't have the methods that we have today. On the other hand, I wonder if it's a good plan routinely to interrupt the pregnancy in a primipara who is one week over term, no matter how you do it. If you rupture the membranes and the cervix is not ripe, you may have difficulty. If it is ripe, she probably will go into labor in a little while anyway. If you rupture the membranes, you may have a case of inertia on your hands. If you give pituitrin, it may diminish the oxygen supply to the placental site. As far as I am concerned, after thoroughly studying this subject, I am not satisfied that I can agree with Dr. Walker that these cases should be induced. I don't think Dr. Clifford goes so far as to say they should be induced. Both of the men are afraid of the overterm cases in primiparas. They don't seem to worry much about the multipara. From my experience with induction I would want to avoid inducing labor in the primipara if I could.

Chairman Rosenthal: Thank you, Dr. Beck. Our next speaker is Dr. Louis M. Hellman, Professor of Obstetrics and Gynecology, State University of New York College of Medicine at New York City.

Dr. Louis M. Hellman: Mr. Chairman, Dr. Beck, Fellow Speakers—it is a pleasure to be here tonight and particularly a pleasure to hear Dr. Beck discuss, from his very vast experience, this rather perplexing subject. You have heard a lot of figures, and they are confusing to you, I am sure, and confusing to those of us who have tried to study them. I have had a very long interest in this problem. As a matter of fact, my very first obstetric consultation concerned a case of postmaturity. As a third-year medical student, I had an opportunity to spend the summer in Dublin at the Rotunda, and following that, I went to Sweden to visit the University at Lund. Being a presumptuous young man, I called upon the professor of obstetrics and gynecology. Whether he misunderstood the fact that I was a medical student and not an American doctor, I never will know, but he certainly treated me with every courtesy. I spent the morning with him while he operated, and then in the afternoon he asked me whether I would see his private patients. When he came to the last room, he said, "Now I would like to have your advice on this patient. She is a particularly important lady, and she presents a very distressing problem to me. This lady was the wife of the Swedish Ambassador to England. She has now been in the hospital three weeks, and she is three weeks past her due date. We are beginning to have some political complications." So with that introduction we entered the room, and he introduced me as a doctor from America. This very lovely lady, in an ermine dressing gown, said to me, "What do you do in America with such a problem as mine?" I felt that not only was my own reputation at stake but possibly the reputation of the United States, and I had to come up with some kind of answer. I said, "Madam, when this happens in the United States, and it does quite frequently, we usually get a Model T Ford and go for a ride over a very rocky road." Well, she laughed, and Dr. Mueller, the professor, laughed. I thought that was the end of it until about three or four days later when I received a finely embossed card which said, "Your treatment worked," and there was a gift from the ambassador and his wife. So I do have something of an interest in the problem.

I want to present to you only very briefly some of our findings and figures. As you have heard this evening, it's very difficult to make any sense out of anybody else's figures. They are either liars if they don't agree with you, or they are wonderful if they do. I want to present these data to you without drawing many conclusions. These are the figures obtained from Kings County Hospital since 1951, and typical of the Kings County Hospital, they are quite large. This represents 10,600 odd deliveries. If one takes as postmaturity, or post-dated cases, or what-have-you, forty-two weeks and beyond—in other words, two weeks past the expected date by Naegele's rule—you will see here that we have some 394 cases. And in that group there was a perinatal loss of 41 babies or 2.9 per cent.

If one uses the preceding four weeks, thirty-eight through forty-one, as the control period, there are included 6,200-odd deliveries with a perinatal loss of 100, or a rate of 1.6. If you are a statistician, you next proceed to examine these figures to see if 2.9 is any different from 1.6, and I will tell you that they are distinctly and significantly different. So that, if you stop there, one can say, at least at the Kings County Hospital, taking the dates that the patients gave for their last menstrual period compared to the ideal time, which is somewhere between thirty-eight and forty-one weeks, there is an increased infant loss when you go beyond that, which is significant.

Figures, however, can be somewhat deceptive, and I think this is a case where the difference is perhaps more apparent than real. For the difference here is but 1.3 per cent, or one and a-little-over babies in every 100. Now, what you want to know is not how many babies you lose in figures like this but what to do in each specific case which you have in private practice. When you face this problem, such mass statistics have very little meaning. If one transposes these figures to private practice rather than the clinic practice at the Kings County Hospital, I would suggest that you divide these mortality rates in half, and you will then come up with what one would expect to lose in a private patient practice. So that instead of having an increase or a difference of 1.3 per cent, one might have a difference with post-dated pregnancy of 0.7 of 1 per cent. In other words, in the average-sized private practice of 150 deliveries a year, the private practitioner could expect to lose, because of this phenomenon if these figures be correct, maybe two babies in twenty years. This is an insignificant loss when it's compared with the loss which occurs at the other end of this string of figures. Here, for instance, in the premature rate our infant loss, and this was good, was 13.5 per cent, and roughly 42 per cent of all the infant deaths occurred here. Thus, one might say that there possibly is an increased infant loss as pregnancy becomes prolonged beyond what we calculate to be the expected date of confinement, but this loss, if anything, is small and may be in actual practice insignificant.

Now, there have been several things mentioned tonight which I would just like to say a word about before I close. Dr. Smith discussed the work on placental transfer, and he drew a slightly inaccurate graph, showing the decrease in transfer of certain substances after the thirty-sixth week. The substances referred to were two: one was water as measured by deuterium, and the other was sodium as measured by radioactive sodium. One must always examine this sort of evidence with great care. The decrease, as far as water is concerned, was determined on one patient, and as you all know, one patient does not very well determine a point. It was a lucky guess because this work has been repeated, and apparently there is some decrease at term. The decrease with sodium was determined on a few more patients, but still, all of the work taken together makes it doubtful how much decrease we have at term, and nobody knows whether or not this decrease continues as one gets past term. Furthermore, both water and sodium are delivered to the uterus in such great excess over the amount required that the decline possibly makes no difference. The curve representative of oxygen utilization by the placenta becomes parallel to the baseline, so that beyond term it's very doubtful if there is any further decrease. Nobody knows anything about the transport of oxygen across the human placenta and very, very little about the transport of oxygen across the placenta of a sheep or any other animal. It's quite apparent that the fetus cannot be said to resemble in the least the human being outside the uterus. It lives in an oxygen saturation which would be untenable for any of us, and as Dr. Barcroft said, this is something like Mt. Everest in utero since it happens about 400 feet above the top of Mt. Everest. The fetus depends in utero on its oxygen supply, that is true, but also on certain enzymes which enable it to use glycogen for the metabolism of the central nervous system, and whether these are decreased with postmaturity no one knows. It is a particularly dangerous stunt at this point in our knowledge to try to use what little information we have about placental transfer to prove the point of postmaturity.

I would like to say one thing in closing. The case which Dr. Rosenthal rather courageously presented tonight represents a high point in scholarship for this was Dr. Rosenthal's personal case, and he feels, I think, extremely bad about the loss of this baby. However, he is willing to let all of us share his experience and in this discussion get further knowledge. This is the kind of academic courage which we all should have with our mistakes, oversights, or unavoidable difficulties.

I would add this. In the case of postmaturity or post-dated babies it perhaps makes little or no difference if these patients have no other abnormalities. If, however, post-dating occurs in connection with other abnormalities of pregnancy—be it hypertension, be it toxemia, or be it, as in the case presented here tonight, sterility associated with advanced age—then one might pay some attention to the small percentage loss and attempt to achieve delivery in the very safest and most expeditious manner possible.

Chairman Rosenthal: Our last scheduled speaker is Dr. Samuel Karelitz, Chief of Pediatrics at the Long Island Jewish Hospital. Dr. Karelitz will discuss the subject from the point of view of the pediatrician.

Dr. Samuel Karelitz: Being the end man has both its merits and demerits. Everything that I planned to say tonight has already been said many times by those who preceded me and with more background for their statements. I am, therefore, left with very little to say. I should, however, like to make a few remarks about the impressions I obtained from hearing Clifford's paper when he first presented it, from reading it after it was published, from the literature at large, and from hearing what was said tonight. To these remarks I would add my own personal experiences with the postmaturity syndrome.

I can recall only one experience in some twenty-seven years of pediatric practice with a so-called postmature syndrome or, as I prefer to call it, a case of placental dysfunction in a postmature baby. This baby weighed $10^1/_2$ pounds, lost more than 2 pounds, and failed to respond to all treatments, including intravenous fluid and cortisone. I think that Clifford has come to the belief that postmaturity per se or that the over-term baby per se without the effects of placental dysfunction or placental inadequacy is not a particularly serious problem. Clifford's categories 2 and 3. which you have heard described by Dr. Smith, indicate to him placental dysfunction. I should like to repeat that I can recall only one experience with placental dysfunction in an overdue baby. But, I have seen more of that very same thing in the full-term and even more of this in the premature infant. To me the subject being discussed divides itself into two separate categories: (1) the postmature but normal infant and (2) the infant complicated by the results of placental dysfunction which occurs at all stages of gestation for different and varied reasons. Regardless of what stage of gestation in which placental dysfunction occurs, the end results are similar: fetal distress, yellow or absent vernix, yellow staining of the skin, umbilical cord, and fingernails, and dry skin and anoxia. While this pattern usually follows placental dysfunction, in some instances placental dysfunction may result in a small premature but otherwise healthy baby or a reasonably normal looking, full-term baby. In the postmature there seems to be a greater chance of the infant showing signs of dehydration and weight loss as a result of placental inadequacy. Fetal death due to the postmature syndrome is an obstetric problem which is beyond my scope.

From my own experience I must make nearly the same conclusions as did Clifford when he wrote, "Fortunately the problem case of postmaturity occurs but rarely." Clifford has already eliminated from the concern of the postmature the multiparous woman who delivers postmaturely because he says, "In general, postmaturity constitutes no problem to the multiparous woman; infant mortality is the same in both groups." He also comes to the conclusion that "postmaturity per se cannot account for the pathologic changes in the newborn infant." To repeat, Clifford concludes that the placental dysfunction syndrome is not frequently encountered, that it occurs rarely in the multiparous women, and that postmaturity alone does not account for the so-called postmaturity syndrome.

I couldn't help thinking of the fine work that was presented on oxygen saturation of the cord blood, but I also noted only one point at the forty-three-week level in Walker's curve which matches Dr. Hellman's limited data at that period. It seems to me that this drop in oxygen saturation as pregnancy approaches term is a natural course of events. As the fetus grows larger, the rate of oxygenation must diminish. Imagine the same saturation of oxygenation continued throughout gestation or, if with growth, the percentage of oxygen supplied to the fetus continued at the same rate. Imagine what would be the size of the placenta and of the baby. I don't think there are humans large enough to fit the categories that might be expected. Exactly what happens in terms of cord blood oxygen saturation would seem to be a natural sequence of events except when the placenta is injured or diseased. As term approaches and post-term progresses, the oxygen saturation must be reduced since otherwise the rate of growth of the fetus should be at an accelerated rate from what it is known to be. I would think that perhaps this drop in oxygen saturation resulting in anoxia is one of nature's ways of terminating pregnancy.

The concomitant rise in the red cells in the fetus suggests that the mechanism mentioned is more or less a natural and regular pattern which sometimes goes beyond physiologic limits and reaches pathologic levels as in the syndrome of placental insufficiency. The management of the postmature pregnancy or the one in which placental insufficiency is suspected are really obstetric problems which I am neither by specialty or training equipped to discuss. I can only say that given the infant that is the subject of placental dysfunction, we occasionally have difficulties. But, with better technics and with the liberal use of oxygen and humidity, antibiotics, hormones, and other treatment, the salvage seems greater than it was, and I hope that it will improve.

Chairman Rosenthal: Thank you, Dr. Karelitz. Dr. Peter Gruenwald, Pathologist at the Veterans Hospital in Brooklyn, New York, and well known for his work in fetal pathology, has agreed to share in the discussion.

Dr. Peter Gruenwald: Thank you, Dr. Rosenthal. I can only say what some have said earlier tonight—that most of my knowledge comes from reading the literature. One of the things which has impressed me very much—and I was going to show it to you with graphs copied from three papers coming from different countries—is that the curves given for the rise of fetal mortality at a certain time after term are so extremely similar. I am referring to the paper by Clifford, which we all know, the one by Walker, and a German paper by Solth.

These figures could be superimposed, and in their proportions they match quite exactly, although the absolute figures differ somewhat. Generally, I don't think I have ever studied the literature in a field in which there was such unanimity as in postmaturity, and that makes me think that there is really something to it.

Now, Dr. Hellman has presented some statistics showing how small the problem is, and I think that this is true as far as it goes. However, there is another way of looking at it. If you could pinpoint a particular group more prone to have this, for instance, by leaving out the neonatal deaths which are not supposed to be increased but considering only the fetal deaths, and if you could in any way narrow down this group again, it could be that then the percentage of infants that you might save by doing something—and I am not qualified to say what—might become significant. I would agree, therefore, with Clifford's opinion and that of a good many others that the problem is first to find out whether a given pregnant woman is a candidate for fetal damage by postmaturity. The criteria need to be developed, but if that can be done, it might be a worth-while undertaking to do something about the progress of these pregnancies.

There are a few brief points on which I should like to comment. It has been mentioned, and I believe this refers to Walker's papers, that the lesions of anoxia are severe in the postmature baby. It all depends on what lesions you consider as evidence of anoxia and distress. I include a few more lesions in this group than some other people do, and I find very few perinatal deaths which do not have quite a number of the criteria by which one might diagnose fetal distress. Now, it's quite interesting that from the earliest stages on, from about 500 or 1,000 Gm. of birth weight on, the severity and incidence of lesions due to fetal distress increase tremendously. This is nothing that begins at term. This might be unexpected for you always hear that premature babies are so particularly affected by anoxia. Well, that may be so, but it does not reflect in the incidence of pathologic changes. What one finds in the postmatures is, therefore, not so remarkable; I agree with Dr. Karelitz that we are dealing with the continuation of a trend which started during the period of normal gestation. In reference to the high hemoglobin which these babies have, it would be good to determine whether this is due to anoxia or dehydration; most people who have examined postmatures agree that the babies can be dehydrated.

Brain damage is an important problem. You have heard that blood returning from the fetus loses its oxygen content to an increasing extent as pregnancy goes on. In studies of the blood returning from the brain of postmature animal fetuses, Barcroft found severe deprivation of oxygen, which means that the brain comes closer and closer to the threshold of tolerable anoxia. Now, in recent years we have become quite concerned about a number of conditions which produce anoxia in the brain and, at least in some cases, might cause mental deficiency or cerebral palsy. If, in the future, criteria could be set for the type of postmaturity in which the infant is damaged, it would be interesting to follow these infants along and see whether later in their development they showed any signs that might be referable to cerebral damage.

German authors have gone a little further in distinguishing a number of categories in post-term pregnancies: First, the post-term baby that is actually normal and that will at birth be like the term baby and, second, the post-term baby that goes on and is fortunate enough to have a well-working placenta that will develop further. This latter will be one of the heavy, big babies, but it will be born normally, provided that it doesn't suffer any injuries owing to its excessive size. Finally, the third group includes the babies that are supplied by an inadequate placenta, and these are the ones with which you are concerned. This reminds me of a statement which Dr. Bela Schick has made many times, as I am sure many of you have heard, that postmaturity may be very good. These good postmaturity babies, as he calls them, live in a land of plenty where they have everything they need, where they are actually better supplied than if they had been born earlier, and they will be all right. As Dr. Karelitz has just said, it is not entirely a matter of dates when the placenta becomes inadequate, and the latter is the determining factor. It can happen before the two hundred and eightieth day, and everybody has admitted this, but it is certainly vastly more likely to occur in post-term pregnancies.

CHAIRMAN ROSENTHAL: Final discussant will be Comdr. Sidney Arje, medical officer in charge of obstetric service, St. Albans Naval Hospital.

DR. SIDNEY ARJE: It was interesting to hear Dr. Hellman present his statistical analysis of the work at Kings County Hopsital because our figures bear out what was said as far as a smaller group of private patients would show. I think we can compare the patients that we treat at St. Albans Naval Hospital to a pretty select group of cases which approximate a private practice. We have analyzed some 4,800 pregnancies, which would fall into the category of private patients, I think, and out of that group, we found some 36 babies that died that were over 2,500 Gm. Of those babies seven were postmature. When I first went over the figures, they ran about 14, but we corrected them and found errors in dates, etc., and actually, the only babies that we could prove post-date ran about seven. Our anticipated death rate then, comparing the 36 babies that died to all the babies that were born over 2,500 Gm., runs about 0.8 per cent. This is the calculated fetal mortality. If you take the seven babies that died, our rate ran exactly as Dr. Hellman predicted, about 1.4 or 1.6. Now, if you figure that out in actual number of babies, 4.5 babies would have died in the calculated 0.8 per cent, and actually seven babies died. So, we lost about two and one-half babies more in the postmature group. It is almost exactly half the number reported by Dr. Hellman. It leads me to the conclusion that at St. Albans we intend to treat the overdate pregnancy just about as we have and, that is, not do anything about it and leave the postmature baby for the pediatrician, and we haven't given them one yet.

Carcinoids

Report of 30 Cases

G. GOWING BROAD, M.D., SYRACUSE, NEW YORK

(*From the Department of Surgery, State University of New York Upstate Medical Center at Syracuse*)

Carcinoids, as the name indicates, are like carcinomas. They originate in the intestinal tract. Perhaps they are not a real missing link between benign and malignant tumors, but they present an interesting halfway status between the two. Some of the carcinoid tumors remain localized for years, including metastatic tumors. Some of them become highly malignant with early fatality. Carcinoids also present intermediate positions between those extremes.

The pathologist has difficulty in diagnosing malignancy in some of the carcinoid tumors because the intracellular structure and the arrangement and formation of the cells into psuedorosettes or other formations in the so-called benign growths and in the so-called malignant carcinoids are essentially the same (Fig. 1). The metastatic tumor found in the mesenteric lymph node may have the same appearance under the microscope as the apparently innocent tumor found in another patient. However, local invasion in the mucosal or submucosal site denotes malignancy.

Carcinoids are tumors of the intestinal tract, arising in the deep layers of the mucosa. For that reason they often present themselves as submucosal tumors when they are small. The reader is referred to a concise review of carcinoid tumors by Kunkel, Waugh, and Dockerty[1] for a history of these tumors, theories of their origin, and characteristics of these growths.

This report will add 30 cases to the growing literature on carcinoids. The writer has had three of these cases in his practice, one malignant and two so-called benign. The remainder were found in the pathology files of the medical school and hospitals in Syracuse, New York. The data were generously made available through the courtesy of local surgeons. The period of time involved is 1940 through 1954.

The carcinoids were found in the primary locations listed in Table I, and those found in the vermiform appendix, which is the most frequent site, presented the interesting data noted in Table II.

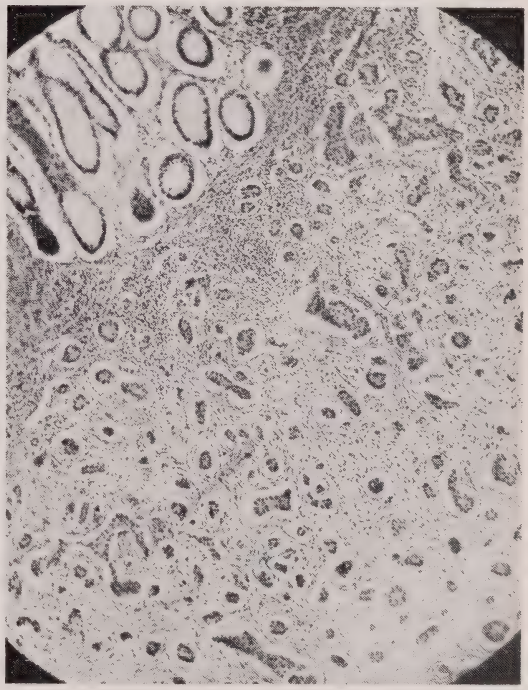

Fig. 1. Photomicrograph of carcinoid.

TABLE I.—Primary Locations of Carcinoids

Location	Number of Cases
Appendix	14
Small bowel	4
Ileocecal region	5
Rectum and rectosigmoid	7

The appendiceal carcinoids were unevenly divided as to the gender of the patients. There were 11 females and four males with carcinoids. This finding reverses the usual ratio for appendicitis. Of the 14 cases in this category, eight were under thirty-five years of age, and six ranged between forty-three and eighty-one years of age. The patient with a malignant appendiceal carcinoid was a woman fifty-nine years of age.

TABLE II.—Carcinoids in Appendix

	Number of Cases
Typical signs and symptoms of acute appendicitis; only carcinoid present	3
Carcinoid associated with other pathology	
Acute appendicitis	5
Inflamed ileum	1
Carcinoma of cecum and ascending colon	1
Incidental finding at operation for gallbladder and uterine pathology	4
Total	14

It may be noted that carcinoids of the appendix and other locations in the intestinal tract reach the pathologic laboratory from a wide variety of age groups. Two of the extra-appendiceal group were twenty-four and twenty-seven years of age, respectively, and both had malignant tumors. The others ranged through all age groups up to the oldest patient at eighty-three years of age.

In this series of 30 cases there were nine malignant carcinoids proved by pathologic study or malignant spread in various locations (Table III). The percentage of malignancies in this group is therefore 30 per cent. This is slightly below the figure stated for more than 300 carcinoid cases reported in 1949.[2] The malignant cases in that series were 37.9 per cent of the total.

An interesting relationship between the incidence of carcinoid and cancer of the colon and rectum was noted by comparing the statistics from the Bureau of Cancer Control, New York State Department of Health,[3] for the same county for a period of nine years, 1945 through 1953. In that period 1,212 cancers of the colon and rectum were reported. For the same period 20 cases of carcinoid of the colon and rectum were found in Syracuse hospitals and pathologic records. There were 1.65 per cent as many carcinoids as cancers of the same region of the lower intestinal tract reported from the same approximate population.

Follow-up Studies

The patients may be grouped according to the sites of origin of these tumors.

Of 14 appendiceal carcinoids there was one malignancy. Seven were traced; five were living and well at the time of this study, that is, up to ten years for the longest case. Two had died, one with the combined malignant tumors of appendix and cecum; the other succumbed to carcinoma of the colon.

TABLE III.—Location of Malignant Carcinoids

Location	Number Malignant	Total Cases
Appendix	1	14
Small bowel	1	4
Ileocecum	4	5
Rectum and rectosigmoid	3	7
Total	9	30

Of four cases of carcinoid tumor of the small intestine one was malignant. The seventy-year-old male with a malignant jejunal carcinoid was enjoying good health fourteen months after operation. He would not report for a follow-up examination. The sixty-nine-year-old patient with a small (7-mm.) nodule near Meckel's diverticulum lived seven years postoperatively and then developed symptoms of pancreatic malignancy. No operation was performed for that condition. The patient with a small duodenal carcinoid had a second operation for ulcer symptoms sixteen months later. There was no evidence of carcinoid found at that time. The fourth case is alive and well eight months postoperatively.

Of five cases in the ileocecal region four were malignant. These four patients died, one on the twenty-fifth postoperative day, apparently of cardiac infarction, one five months after operation, and one two and one-half years postoperatively. The fourth case died of cardiac arrest at the close of the resection operation. The fifth case with benign tumor was reported, in the seventh year postoperatively, to be failing from cardiovascular disease but without evidence of carcinoid tumor.

Of seven cases of carcinoid of the rectum and rectosigmoid junction three were malignant. These three patients died of metastatic malignancy, four months, fifteen months, and thirty-seven months postoperatively. Of the four patients with benign tumors, one died of extrarectal pathology; two are living and well, each one year after removal, and the fourth patient is well about six months postoperatively.

Comment

The writer believes, as do a number of other physicians interested in this subject, that all carcinoids have malignant potentialities. In this report of 30 cases, 30 per cent of the patients had malignant disease. Of 300 other cases reported, the malignant rate was 37.9 per cent. Adequate removal of all carcinoids is necessary. What will be adequate in the small, apparently benign cases remains to be standardized. The consensus seems to be that small tumors up to 1 cm. or so, if noninvasive and not fixed in position, may probably be safely treated with wide local excision with careful follow-up. [4–13]

The frankly malignant lesion requires radical treatment, as do other forms of carcinoma of the intestinal tract.

Summary

Thirty cases of carcinoid tumors are classified according to location, benignity, or malignancy. These are discussed briefly by categories.

There were nine malignant tumors (30 per cent of 30 cases) in this group: one in the vermiform appendix, four in the ileocecal region, one in the jejunum, and three in the rectum and rectosigmoid junction.

Brief follow-up notes are given. A comparison is made between incidence of carcinoids and carcinomas of colon and rectum.

Carcinoids should be considered potentially, if not actually, malignant. Proper treatment is indicated.

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Increase Population in the United States

An increase of 2,810,000 during 1955 brought the population of the United States to 166,740,000 at the year's end, the Metropolitan Life Insurance Company's statisticians estimate. The increase was only 13,000 less than the all-time record set in 1954.

This was the tenth year in which the high rate of population growth has continued unabated. During the decade the gain was about 26,000,000, a larger number than in the preceding twenty-one years.

Natural increase in population during the year—the excess of births over deaths—amounted to 2,570,000, compared with 2,590,000 in 1954. About 250,000 was gained through migration, which is several thousand more than the number in each of the preceding three years.

Although each geographic division of the country shared in the population growth, the Pacific States continued to experience the highest rate of increase—about twice the rate of the country as a whole. California's population has increased by 2 $^2/_3$ million since April 1950, it is pointed out, and now numbers about 13$^1/_4$ million.

"If present trends remain unchanged, before 1967 California will edge New York out of its position as the State which ranks first in population," the statisticians report.

The Mountain States, as well, gained population rapidly during 1955, with the rate of increase in Nevada and Arizona greater than in any other state.

Florida, Maryland, Delaware, Michigan, Ohio, Connecticut, and New Jersey also experienced a rate of population growth well above the national average.

CLINICOPATHOLOGIC CONFERENCE

DEPARTMENT OF MEDICINE, NEW YORK UNIVERSITY POST-GRADUATE MEDICAL SCHOOL AND FOURTH MEDICAL (N.Y.U.) DIVISION, BELLEVUE HOSPITAL

Conducted by RAYMOND S. JACKSON, M.D.

NOVEMBER 18, 1954

Case History

DR. MARIE C. ROSATI: A thirty-eight-year-old Negress was admitted to Bellevue for the first time on January 8, 1953, because of high fever.

First Admission.—She had been in good health until November, 1951, at which time she developed a "cold" with shaking chills, fever, coryza, and slight cough. In December, 1951, she entered Harlem Hospital with symptoms of cough, fever, night sweats, and malaise. She developed a sacral decubitus at this time. Cortisone was given with improvement of symptoms and disappearance of fever. In May, 1952, she was discharged and referred to the outpatient department for treatment of the bed sore.

The patient felt fairly well until November, 1952, when she again developed malaise and fatigue. One week prior to admission to Bellevue she developed fever, night sweats, nonproductive cough, and coryza. At this time she also noticed red, pruritic lesions on the back of the neck, arms, and legs. On the day of admission she developed swelling of several joints of the right second and third fingers.

The patient had noted a vaginal discharge for eight months. There was no history of venereal disease. She had had no sexual intercourse for one year.

The patient did factory and domestic work. She was born in South Carolina and had always lived on the East Coast.

Shortly before referring the patient to Bellevue, her private physician reported the following: negative chest x-ray, negative tuberculin, 4 plus Wassermann, marked hyperglobulinemia, and a negative L.E. cell preparation. She received three injections of bismuth in November, 1952; this treatment was then discontinued since it was thought that the high globulin caused a false positive Wassermann.

Physical examination on admission revealed a well-developed, lean Negress who appeared chronically ill.

Temperature was 105.2 F., pulse 132, respirations 26, and blood pressure 125/65. There was a receding hairline with dry, scaling lesions of the scalp. There were several colorless papules on the back of the neck and arms. An erythematous, maculopapular rash was noted over the legs. She had a healing decubitus over the sacrum. There were enlarged, tender, discrete cervical and inguinal nodes. Ear, nose, and throat and fundal examinations were normal. The lungs were clear to auscultation and percussion. The heart revealed regular sinus rhythm, ventricular rate 132, second aortic sound equal to second pulmonic sound, and a soft apical systolic murmur. The liver was palpable two fingers below the costal margin. There was swelling and tenderness of the proximal interphalangeal joints of the right second and third fingers.

A pelvic examination was performed by a gynecologic consultant with the following findings: Vulva was covered with thick, yellow-white discharge. There was a patchy leukoderma with superficial ulceration and crusting. Right labium major was enlarged and septic with marked thickening in area of Bartholin glands. Left labium was moderately injected. Cervix showed a few strawberry-colored patches, and there was moderate bilateral tenderness of the adnexa.

The laboratory data included the following: Urine showed specific gravity 1.035, 1 plus albumin, negative sugar, and was loaded with white blood cells; Bence Jones was negative (on several occasions). Hemoglobin was 9 Gm., red blood cells, 3,590,000, white blood cells, 8,000 with transitionals 28, polymorphonuclears 52, lymphocytes 17, monocytes 2 (also 3 typical plasmoid lymphocytes). Hematocrit was 29 and erythrocyte sedimentation rate 67. Albumin-globulin ratio was 2.1:6.2; cholesterol 138 and esters 72; icterus index 6; cephalin flocculation 4 plus; alkaline phosphatase 4; creatinine 0.9; calcium 9.5; phosphorus 3.3; sodium 139; potassium 4.6. Mazzini was 3 plus, Wassermann 3 plus, and VDRL negative. Fasting blood sugar was 112. Stool was guaiac negative. Febrile, cold, and heterophil agglutinins were negative as was the L.E. cell preparation and the blastomycosis complement fixation test. Electrocardiogram showed sinus tachycardia and nonspecific RS-T segment changes.

The patient ran a febrile course. She developed swelling, heat, and tenderness of all the fingers, most marked at the proximal interphalangeal joints. She was treated with Crysticillin with no response.

A Frei test, Ducrey skin test, and first strength PPD were negative. A bone marrow examination on January 15 revealed an increased number of plasma cells compatible with a diagnosis of multiple myeloma. A second strength PPD was positive.

The patient developed ulcerated lesions over the buttocks and thighs which showed some clearing on potassium permanganate soaks and bacitracin ointment.

A lymph node biopsy revealed hyperplasia, and a skin biopsy showed chronic dermatitis. Cryoglobulins were demonstrated on one occasion.

Skull and pelvis x-rays were normal. A chest plate showed enlargement of the cardiac contour. The kidneys and ureters were normal on retrograde pyelogram. Hands and knees were normal except for fusiform swelling around the proximal interphalangeal joints.

On January 24 ulcerated, bleeding, swollen lesions on the lips were noted, and pea-sized nodules over the left elbow were described. At this time 0.1 cc. Kveim antigen was injected (this was later reported as negative). The liver was not palpable at this point.

A Congo red test on January 29 was negative. A muscle biopsy revealed striated muscle. The Treponema immobilization test was "anticomplementary" which indicated that the positive Wassermann was probably a biologic false positive. An electrophoretic pattern on the serum protein was as follows:

	Per Cent	Gm.
Albumin	24.4	2.0
Alpha I globulin	5.2	0.4
Alpha II globulin	9.1	0.8
Beta globulin	9.1	0.8
Gamma globulin	52.2	4.3

Cultures were as follows: blood was negative; urine showed diphtheroids, and nose and ear showed Bacillus proteus.

The patient continued to run a febrile course (102 to 103 F.) and developed ulcerating lesions on buccal and nasal mucosa. On February 20 she was started on cortisone. Within three days there was dramatic improvement with disappearance of the chronic dermatitis and subsidence of the fever. The adenopathy disappeared. The patient became afebrile and asymptomatic. The cortisone was cut on March 11, at which time the skin lesions and decubitus had healed. After being afebrile for two and one-half weeks, the patient was discharged on March 13 to be followed in the outpatient department.

Second Admission.—The patient soon began to run an evening temperature of 102 to 103 F. and experienced an exacerbation of the skin rash. She was therefore readmitted to Bellevue on April 1, 1953. There was a patchy baldness of the scalp at this time and a generalized desquamating weeping eczematoid dermatitis on the scalp, neck, chest, arms, and hands. She had cervical adenopathy and small ulcerations of the external genitalia.

The laboratory data at the time of this second admission included the following: Urine showed specific gravity 1.010, albumin negative, many white blood cells. Hemoglobin was 7.5 Gm., red blood cells 3,360,000, white blood cells 4,000 with slight shift to left. Erythrocyte sedimentation rate was 66, hematocrit 28, platelets 300,000, sickle cell preparation negative. Reticulocytes were 2.2 per cent; albumin-globulin ratio 2.2:5.8; cholesterol 76 and esters 48; icterus index 3; cephalin flocculation 3 plus; creatinine 0.9; Mazzini negative.

The following skin tests were negative: coccidioidin, histoplasmin, Hemophilus ducreyi, and Frei. The L.E. cell preparation was negative. Liver, renal, skin, and lymph node biopsies did not contribute to the diagnosis. Urine culture revealed Proteus and Staphylococcus aureus coagulase positive. Bone marrow culture was negative for acid-fast bacilli.

There was considerable improvement without specific therapy, and the patient was discharged on June 11, 1953.

Third and Fourth Admissions.—There were two further admissions (from July 5 to August 21, 1953, and from September 8, 1953, to January 22, 1954) necessitated by exacerbations of the skin rash. During the first admission she received Aureomycin orally and Vioform ointment locally and showed clearing of the dermatitis. During the second admission it became necessary to administer cortisone therapy for the rash. The patient developed a catatonic schizophrenia as a manifestation of cortisone intoxication and was transferred to the Psychiatric Service.

Important laboratory findings at this time were white blood cells 2,900 (1 blast in peripheral blood); hemoglobin 8.5 Gm.; red blood cells 2,790,000; erythrocyte sedimentation rate 64; albumin-globulin ratio 1.3:5.7; creatinine 0.6.

Fifth Admission.—The final admission on March 7, 1954, took place because of pain in the chest of three weeks duration. She described the pain as being "deep" and not related to cough, respiration, or exertion. The physical findings were as follows: Temperature 105.8 F., pulse 136, respirations 24, and blood pressure 85/55. There was a large sacral decubitus. Hair was sparse. Lungs were normal, and there was liver dullness two fingers below the costal margin. Pelvic examination revealed profuse, pink vaginal discharge and multiple vaginal mucosal ulcerations.

On March 18 the patient was found to be only slightly responsive. She had a generalized tremor. Ventricular rate was 200, and the electrocardiogram showed auricular flutter or auricular tachycardia. There was no response to carotid sinus pressure or prostigmine. The patient was given 1.6 mg. Cedilanid over four hours. On the evening of March 18 she expired.

The laboratory data of the final admission included the following: Urine showed specific gravity 1.024, 3 plus albumin, many white blood cells, 10 to 12 red blood cells, and hyaline and granular casts. White blood cells were 3,250, albumin-globulin ratio 1.5:4.1, creatinine 0.65. Sputum smear was negative for acid-fast bacilli.

Discussion

Dr. Emanuel Appelbaum: In attempting to diagnose this case it is important to bear in mind not only the symptomatology but also the long clinical course with exacerbations and remissions and certain pertinent laboratory findings.

The outstanding symptoms were fever, malaise, fatigability, night sweats, chest pain, cough, and painful swelling of several fingers. The physical signs included the presence of arthritis, maculopapular rash and later eczematoid dermatitis, ulcerations of the skin and mucous membranes, bleeding from mucous membranes, lymphadenopathy, enlargement of heart with short apical soft systolic murmur, enlarged liver, small nodules over left elbow, infection of vulva, and alopecia. The lungs were clear, and the blood pressure was normal. In the terminal phase there was also cardiac arrhythmia, tremor, and semistupor. On several occasions the symptomatology responded dramatically to cortisone. However, there were also spontaneous remissions. On one occasion the hormonal therapy was complicated by the development of catatonic schizophrenia.

The significant laboratory findings revealed the presence of anemia, leukopenia, normal platelet count, reticulocytes 2.2 per cent, elevated sedimentation rate, slight to marked albuminuria, pyuria, and later also microscopic hematuria, cylindruria, and urine cultures positive at first for diphtheroids and later for Proteus and Staph. aureus. The serum showed diminished cholesterol and strongly positive cephalin flocculation, but normal alkaline phosphatase, icteric index, creatinine, and electrolytes. There was hyperglobulinemia and cryoglobulinemia with an electrophoretic pattern showing the albumin to be 24.4 per cent and the gamma globulin 52.2 per cent of the total serum protein. The average normal serum albumin is 56 per cent and the gamma globulin 9 to 14 per cent of the total protein. The blood Wassermann was 4 plus, but it was regarded as a false positive. This gained confirmation from the Treponema immobilization test, which was anticomplementary. The tuberculin test was positive in second strength. The bone marrow showed an increased number of plasma cells, and some atypical plasmoid lymphocytes were found in the peripheral blood. Biopsy of a lymph node showed hyperplasia, and one of the skin showed chronic dermatitis. The roentgenogram revealed cardiac enlargment, and the electrocardiogram showed at first nonspecific S-T segment changes and preterminally a supraventricular arrhythmia.

It is also pertinent to mention some of the laboratory data on the negative side. The blood culture; the febrile, cold, and heterophil agglutination tests; complement fixation for blastomycosis, coccidioidin, and histoplasmin skin tests; the Frei test; the Kveim test; repeated L.E. tests; the sickle cell preparation; examination of urine for Bence Jones proteins; smear of the sputum for acid-fast organisms; muscle and liver biopsies; roentgenograms of the skull and pelvis, and the retrograde pyelogram were all negative.

With these facts in mind, it is permissible to suggest several possible diagnoses:

1. Miliary tuberculosis must be considered a possibility in a case of obscure fever with diverse symtomatology. However, joint involvement in this disease is as a rule monarticular. There is also a lack of laboratory confirmation for this diagnosis except possibly the positive tuberculin test in the second strength.

2. Hodgkin's is another disease that might present many of the clinical aspects shown in our case. While arthritis is not a feature of this disease, bone and periosteal involvement near joints could simulate arthralgia. There is of course no laboratory support for the diagnosis of Hodgkin's disease, and furthermore, some of the positive tests, such as hyperglobulinemia, are not applicable to this disease.

3. Brucellosis in the acute phase presents a symptomatology similar to that of our case with the possible exception that there is in that disease a predilection for involvement of large joints. However, the remissions are short, and the chronic phase is accompanied by low-grade fever or is entirely afebrile. Furthermore, laboratory confirmation for this diagnosis is lacking.

4. Lymphogranuloma venereum may present many of the symptoms shown in our case, including arthritis, the blood picture, the hyperglobulinemia, and the false positive Wassermann. However, this disease runs a different clinical course and is rarely fatal. It is also to be noted that the Frei test was negative.

5. Rheumatic fever is suggested by some of the major findings in this case, particularly the fever, arthritis, elevated sedimentation rate, enlargement of the heart, and apical murmur. However, the nature of the rash and the skin and mucous membrane ulcerations are striking points against this diagnosis. It may also be noted that frequent recurrences are rare in adults suffering from rheumatic fever.

6. Rheumatoid arthritis requires consideration since in the active phase there may be high fever, skin ulceration, and systemic manifestations, including pleural and cardiac involvement. While exacerbations and remissions are not uncommon, the disease eventually assumes chronicity. Some of the interesting laboratory findings noted in our case are not infrequently observed in rheumatoid arthritis.

7. Subacute bacterial endocarditis requires mention, particularly because of the fever and cardiac murmur. However, many of the striking clinical and laboratory features present in our case are rarely, if ever, encountered in subacute bacterial endocarditis. Similarly the clinical course in our case was unlike that seen in subacute bacterial endocarditis.

8. Periarteritis nodosa merits consideration as a diagnostic possibility. The current trend is to separate the classic form of this disease from hypersensitivity angiitis. The former type lasts several months to several years with exacerbations and remissions. The diagnostic pattern of this form includes the presence of polyneuritis and polymyositis; cachexia and anemia; abdominal manifestations; signs of nephritis; evidence of diffuse vascular disease, as bleeding, infarction, and hypertension; signs of infection, as fever, leukocytosis, eosinophilia; cutaneous lesions, and confirmation by muscle biopsy. These patients frequently show the sequelae of hypertension and vascular obstruction.

In hypersensitivity angiitis there is evidence of hypersensitivity to serum or drugs, and there is a short fulminating clinical course. The outstanding features in this form are fever, rash, arthralgia, and myocardial and renal involvement. Hypertension, eosinophilia, abdominal manifestations, and polyneuritis and polymyositis are uncommon in this form. In our case the clinical features resemble more closely hypersensitivity angiitis, but the course was a prolonged one. It may be noted also that some of the clinical and laboratory findings in our case have rarely been observed in periarteritis nodosa.

9. Lupus erythematosus disseminata also merits consideration as a diagnostic possibility. Impressive support for this diagnosis can be derived from the clinical features of fever, arthri-

tis, skin eruption, skin and mucous membrane ulcerations, lymphadenopathy, alopecia, evidence of an associated infection, and also by the laboratory findings of anemia, leukopenia, evidence of renal disease, hypergammaglobulinemia, false positive Wassermann, and anticomplementary Treponema immobilization test. On the other hand, repeated L.E. preparations were negative. It is well to note, however, that in about 10 to 15 per cent of the cases of disseminated lupus, the L.E. test remains negative.

10. Sarcoidosis may be mentioned as a possibility, mainly because of the lymphadenopathy and hyperglobulinemia. Arthritis and skin eruption have been observed in this disease. During the acute phase there may also be fever. However, positive evidence for this diagnosis is lacking.

11. Multiple myeloma is injected as a diagnostic possibility, largely because of the finding of an increased number of plasma cells in the bone marrow, the hyperglobulinemia, and cryoglobulinemia. On clinical grounds there is certainly insufficient evidence to warrant a diagnosis of multiple myeloma.

In this connection it may be well to comment on the question of the increase in plasma cells in the marrow. Plasmacytosis occurs in multiple myeloma, diffuse plasma cell myelosis, and plasma cell leukemia but may be found also in a great variety of other conditions, such as hypersensitivity states, collagen diseases, chronic infections, cirrhosis of liver, and in association with malignant neoplasms. Many of these cases have hyperglobulinemia and, some of them, cryoglobulinemia. Most of the cells are mature plasmocytes, but some are immature plasmablasts. It is is generally accepted that an increase up to 20 per cent of plasma cells in the bone marrow, in the absence of other criteria, can no longer be regarded as diagnostic of multiple myeloma. It is also emphasized that most of the cells in multiple myeloma are immature. There is growing evidence that plasmacytes are associated with the production of antibody globulins and probably also of abnormal globulins. It may also be of interest to mention that the electrophoretic pattern in multiple myeloma may show, in addition to the characteristic hypergammaglobulinemia, abnormal proteins which may move with the alpha or beta globulin, or it may show the so-called M component, which rises as a thin line between the beta and gamma globulins.

12. Cryptococcosis must be mentioned as a possible diagnosis. The long febrile course, the ulcerations, and lymphadenopathy are conspicuous features in cryptococcosis. However, the disease as a rule terminates with severe involvement of the central nervous system, which was not noted in this case. There is, of course, no laboratory support for this diagnosis.

In conclusion, one must admit that in a case of this type with diverse symptomatology and bizarre laboratory findings, it is difficult, if not impossible, to make an absolute diagnosis. However, after a careful study of the clinical aspects and the extensive laboratory data, the negative as well as the positive, I am inclined to favor the diagnosis of lupus erythematosus disseminata despite the negative L.E. tests.

Dr. Raymond S. Jackson: Are there any comments on this case?

Dr. Max Trubek: A preterminal leukopenia is characteristic of lupus erythematosus.

Dr. Rosati: This patient had a white blood count of 13,950.

Dr. Jackson: Patients with lupus are able to react to terminal infections with a leukocytosis.

Dr. Jack Nelson: Was there any evidence of pericarditis?

Dr. Rosati: There was no evidence on physical examination for pericarditis.

Dr. Nelson: Lupus erythematosus certainly covers all aspects of this case. However, one must not rely too heavily on the lupus erythematosus cell test in making this diagnosis. I recently saw a female who had a kidney removed which showed the characteristic changes of lupus and had a negative L.E. cell preparation throughout her course.

Dr. Bernard Pirofsky: It is unusual to find a negative lupus erythematosus cell preparation in the acute stage of systemic lupus. Here at Bellevue three cases were reported to have a negative L.E. cell test while on cortisone.

Dr. Jackson: There are technical problems involved in all of these tests. The laboratory which carries out the test influences the results. If you go through several slides, you are not apt to miss the lupus erythematosus cell.

Dr. Hyman Alexander: We saw a case of lupus treated with cortisone at Willard Parker. The patient subsequently developed tuberculosis. Symptoms of lupus disappeared, but

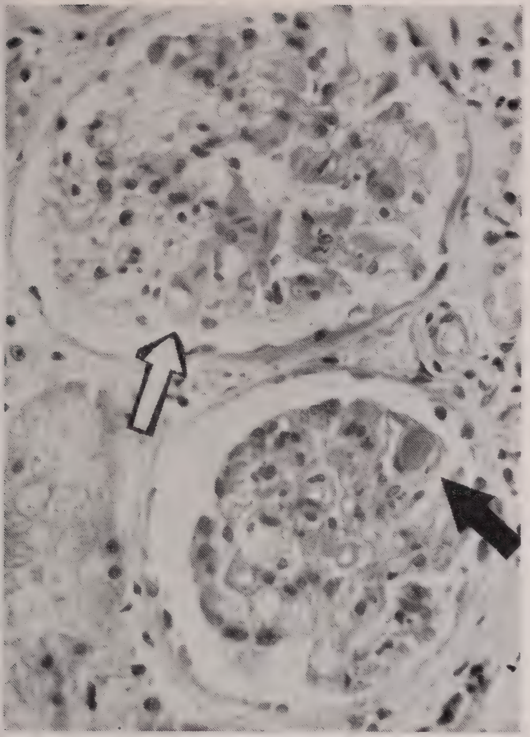

FIG. 1. Two glomeruli showing "wire-loop lesion" (*white arrow*) and a "hematoxylin body" (*black arrow*). (*Hematoxylin-eosin*)

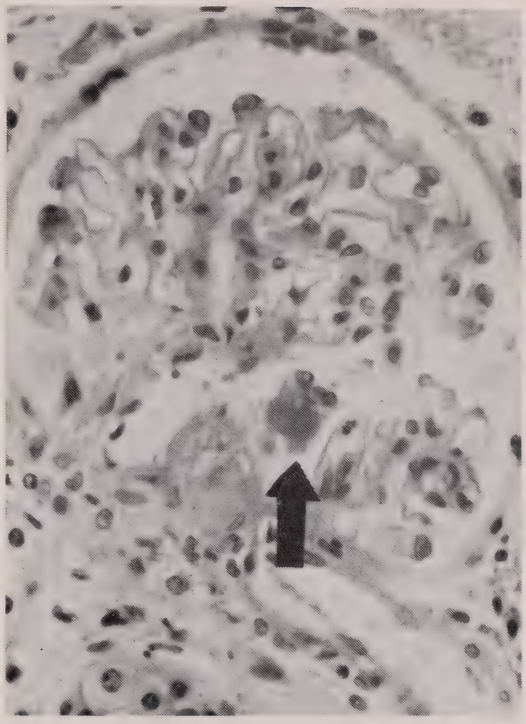

FIG. 2. A glomerulus containing a "hematoxylin body" (*arrow*). (*Hematoxylin-eosin*)

the L.E. cell continued to be positive.

DR. JACKSON: Dr. Weiner, can you tell the difference between multiple myeloma and plasmacytosis in states of hypersensitivity?

DR. LEO WEINER: In myeloma one sees the plasmablast which is an immature, large cell with a tendency to cluster. In chronic conditions, such as liver disease and states of hypersensitivity, one may see an increase of plasma cells up to 50 per cent, but most of these will be mature plasma cells.

Diagnoses

Clinical.—*Lupus erythematosus.*

Dr. Appelbaum.—*Lupus erythematosus.*

Anatomic.—*Lupus erythematous, bacterial endocarditis, and lobular pneumonia.*

Pathologic Report

DR. NORMAN COOPER: Autopsy revealed a number of interesting lesions. The patient's basic disease was *disseminated lupus erythematosus.* This diagnosis had been supported clinically by the finding of L.E. cells[1] in the patient's peripheral blood during her terminal admission. The diagnosis was confirmed pathologically by the presence to a marked degree of two characteristic renal changes: the "wire-loop" lesion,[2] which consists of marked focal hyaline thickening of glomerular capillary walls, and the presence of "hematoxylin bodies"[3] in glomeruli (Figs. 1 and 2). These more or less dark-staining concretions have been shown to contain desoxyribonucleic acid, probably in a somewhat depolymerized state.[4] They probably derive from destroyed inflammatory cell nuclei, but why they are more prominent in disseminated lupus than in other more destructive diseases is not known. Neither of these lesions is pathognomonic of lupus, but taken in conjunction with each other and with the clinical findings, they justify the anatomic diagnosis of disseminated lupus erythematosus. Two additional findings were suggestive of disseminated lupus: "onion-skin" lamination of periarteriolar collagen in the spleen[2] and arteritis found in a section of kidney (Figs. 3 and 4).

Another disease and the one which probably caused the patient's death was *bacterial endocarditis,* involving the mitral (Fig. 5), aortic, and especially the tricuspid valves, as well as an

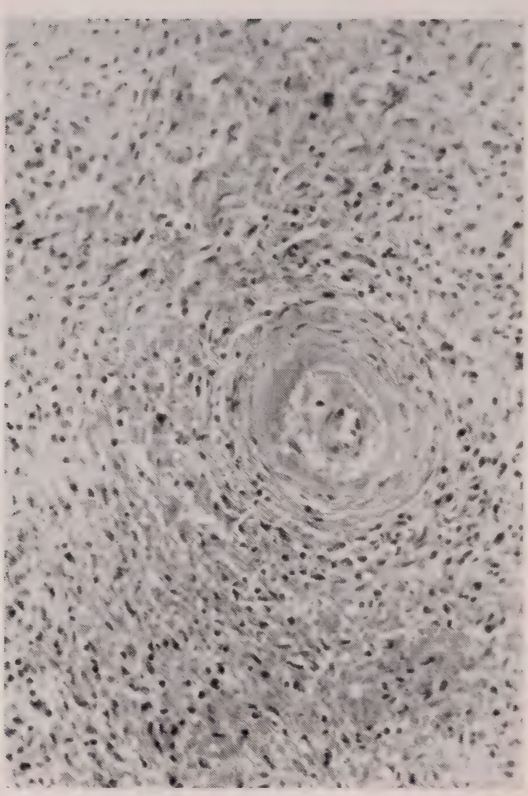

Fig. 3. "Onion-skin" lamination of connective tissue around a central arteriole in the spleen. This is a mild form of the characteristic lesion. (*Hematoxylin-eosin*)

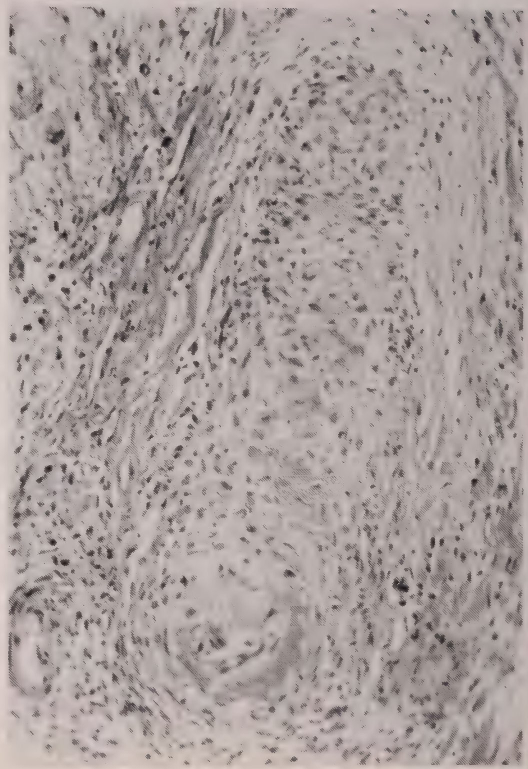

Fig. 4. Arteritis with lymphocytes and mononuclear inflammatory cells in the media and adventitia of a medium-sized artery in a section of kidney. (*Hematoxylin-eosin*)

area of right ventricular endocardium (Fig. 6). The bacterial vegetations had given rise to pyogenic myocarditis and severe fibrinopurulent pericarditis (Fig. 7). Pneumococcus, type III, was found in the pericardial exudate (by smear and culture) and in a postmortem heart blood culture. The nature of the organism, the absence of demonstrable underlying valvular changes, and the necrotizing nature of some of the lesions were all consistent with the diagnosis of *acute* bacterial endocarditis. The presence of considerable organization in some of the lesions indicated that the disease had been modified to the "*subacute*" variety, probably by the administration of antibiotics in quantity insufficient to cure. It should be emphasized that the cardiac lesions were *bacterial* and, therefore, were not directly related to the patient's lupus erythematosus. However, the development of the bacterial disease was doubtless promoted by the mysterious "lack of resistance" which so often results in terminal infections in patients with chronic "fatal" diseases.

The patient had rather large patches of lobular pneumonia in her right middle and left upper lobes. There was also considerable organizing fibrinous pleuritis on the left.

Tracheobronchial lymph nodes contained several old tubercles and some which showed recent spread. Like the acute infections the spread of the tuberculosis was associated with the lupus erythematosus only in the sense that tuberculosis often becomes reactivated and spreads in "debilitated" patients.

Dr. Appelbaum: Bacteremia associated with a pneumonic process may have led to acute endocarditis. Pneumococcal endocarditis is usually very resistant to therapy. Penicillin should be given in doses of 12,000,000 units a day for at least one month.

Dr. Cooper: The acute lobular penumonia observed at postmortem examination was prob-

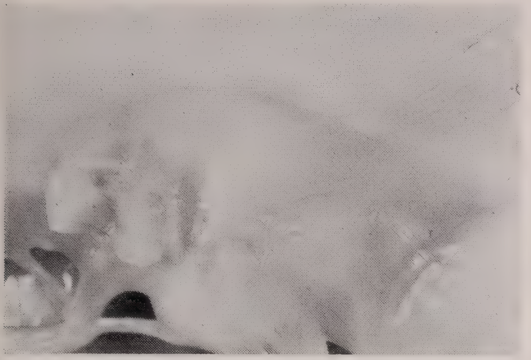

FIG. 5. Small vegetations on the mitral valve. Macroscopically these are consistent with the atypical verrucae of Libman and Sacks, but histologically they proved to be bacterial endocarditis.

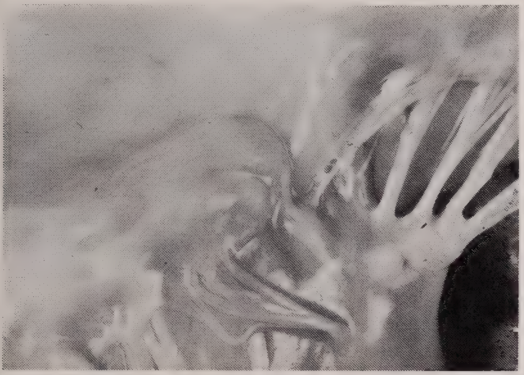

FIG. 6. Similar bacterial lesions on the endocardium of the right ventricle.

ably present for about one week. Endocarditis must have been present for a longer time.

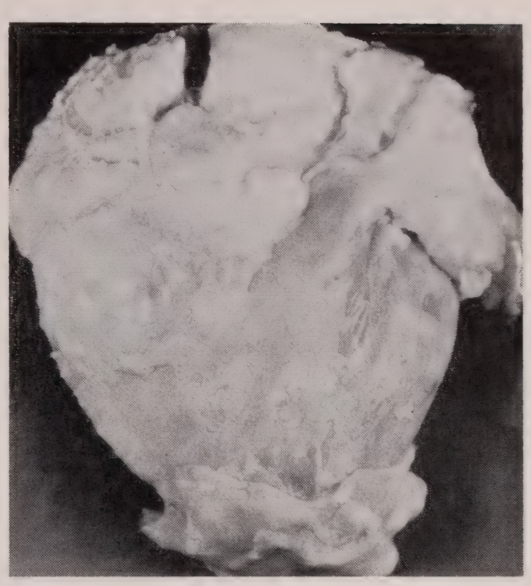

FIG. 7. Acute fibrinous pericarditis. Pneumococcus, type III, was cultured from this lesion.

DR. APPLEBAUM: This would be hard to prove, Dr. Cooper.

DR. COOPER: If one doesn't see organization of the pneumonic process, one must conclude that it is of short duration.

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The Treatment of Tuberculous Infections of the Genitourinary Tract

Usually secondary to pulmonary involvement, the interval between the original tuberculous infection and the onset of urinary symptoms perhaps averages about eight years. Even though patients still die of kidney tuberculosis, chemotherapy has definitely improved the prognosis of this formerly fatal disease, particularly where there is bilateral involvement. In their experience with 625 patients, Dr. John K. Lattimore, Columbia University and Kingsbridge Veterans Hospital, New York City, and his associates have arrived at certain conclusions about treatment schedules, dosages, and indications for surgery. Chemotherapeutic treatment, they believe, should be continued for a year without interruption. No drug ever should be used singly because this tends to develop bacterial resistance. At present a combination is being tested which, says the author, has brought the best results to date. More and more surgery is being deferred because of increasing success with drug therapy. Where surgery is indicated, as in far advanced unilateral involvement, the author believes that the patient should have a year of chemotherapy in addition to the operation.

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CASE REPORTS

Intrathoracic Goiter as a Cause of Obstruction of the Superior Vena Cava

ALLAN R. ARONSON, M.D., AND DAVID LYALL, M.D., NEW YORK CITY

THE syndrome of superior vena caval obstruction presents a striking clinical picture to the examining physician. The diagnosis, once established, usually carries with it a grave prognosis. Since the original report by William Hunter[1] in 1757 of a case of superior vena caval obstruction due to aortic aneurysm, the various causative mechanisms described in the literature have made the therapeutic outlook a pessimistic one.

During recent years malignant neoplasms, primary or metastatic, have been the most common cause of the syndrome. Aneurysm of the aorta has gradually lost its former prominence as a frequent offender. Metastatic disease with resulting obstruction may be produced by bronchogenic carcinoma or epidermoid carcinoma. Sarcoma arising in the mediastinum, carcinoma of the thymus, lymphoma, neuroblastoma, and teratoma are other etiologic factors.

A fairly frequent cause of superior vena caval obstruction is mediastinitis with subsequent scar formation. Schechter,[2] reviewing 274 cases gathered from the literature, listed the causes of this syndrome as follows: carcinoma of lung (37.9 per cent), aortic aneurysm (28.8 per cent), mediastinitis (11.3 per cent), lymphomas (10.9 per cent), and thrombosis of superior vena cava (5.8 per cent). McIntire and Sykes,[3] in a careful review of cases verified by autopsy or surgery, report findings generally similar to the above. Rosenbloom[4] analyzed eight cases of superior vena caval obstruction caused by carcinoma of the lung. He emphasized the grave prognosis and noted that all his patients died three to fourteen weeks after the onset of obstructive symptoms. In all instances the tumor originated in the right upper lobe.

The role of benign lesions of the thyroid in producing this clinical picture has either been overlooked or is extremely rare. It seems probable that a relatively common condition, such as intrathoracic goiter, would be a frequent cause of obstruction of the superior vena cava. Neither McIntire and Sykes[3] nor Schechter[2] mention benign goiter as a basis for the syndrome. In another review[5] of 309 cases from the literature, benign lesions of the thyroid are omitted. A surgically proved case of lymphocytic thyroiditis, thought preoperatively to be carcinoma, caused this syndrome and was corrected by resection.[6] A dramatic cure is reported by McArt and associates[7] who removed a nodular intrathoracic goiter with prompt postoperative relief. These authors were not aware of any previous report of benign substernal goiter producing this syndrome. In reports of intrathoracic goiter in the surgical journals an occasional case may be found which is suggestive of superior vena caval obstruction.[8,9]

The superior vena cava is 7 cm. in length, the terminal 2 to 3 cm. being intrapericardial. Just before it enters the pericardium, the superior vena cava is jointed by the azygos vein which ascends along the vertebral column. If the vena cava is obstructed above the entry of the azygos vein, a large part of the blood may be carried from the upper half of the body to the azygos and returned to the vena cava proximal to the obstruction. If the superior vena cava is constricted below the azygos, reverse flow may take place in this vessel, and collateral circulation will eventually drain into the inferior vena cava. In such case extensive abdominal venous dilatation will occur.

The clinical findings in superior vena caval obstruction are dependent on the degree, duration, and site of occlusion. An increase of venous pressure in the area drained by this vessel makes itself apparent by distention of veins, the appearance of collateral channels, and varying degrees of cyanosis in the upper half of the body. As mentioned above, collateral circulation may be noted in the abdominal wall if compression takes place below the entry of the azygos vein. Edema of the head, neck, and upper

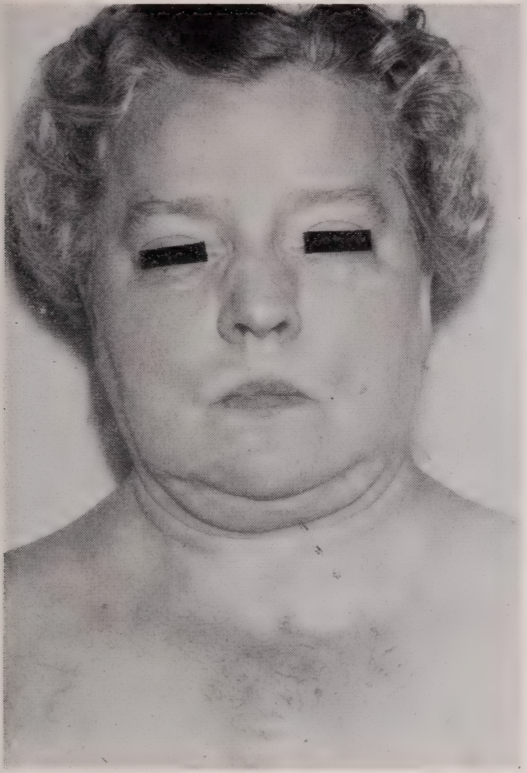

Fig. 1. Swelling of face and neck with telangiectases over upper chest.

extremities, dyspnea, headache, and chest pain are frequently present. Cough, dysphagia, buzzing in the ears, nosebleed, and deafness are other complaints the patient may offer. Phlebography, which is usually unnecessary, may substantiate and help locate the site of the obstruction.[10]

Case Report

R. C., a fifty-nine-year-old, white female, was first seen on December 29, 1954, because of widening of the mediastinum discovered on routine chest x-ray. Further questioning revealed symptoms which started four years previously.

In 1950 occasional coughing spells which had caused no particular annoyance were replaced by severe spasms which gave the patient "a feeling of choking to death." During the past year dyspnea was noted on climbing one flight of stairs. In 1952 enlargement of the neck was observed, and during the past three months her face "puffed up like a balloon." Her complexion became flushed, and on stooping marked redness and throbbing of the face and head occurred. These last symptoms did not disappear until after the upright position had been resumed for three to four minutes. Difficulty in swallowing solid food had been present for six months. During the last year increasingly prominent veins were observed on the chest wall and down the arms to the level of the elbow.

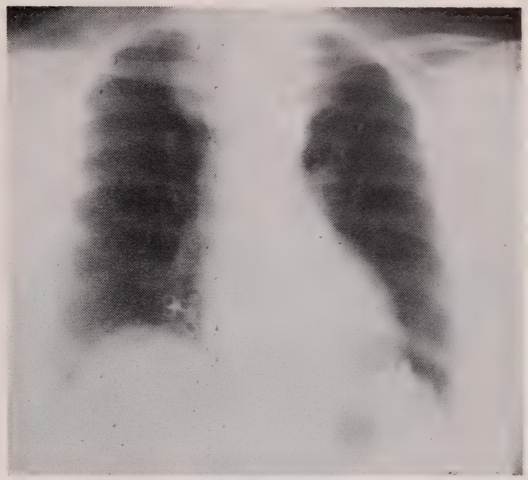

Fig. 2. Preoperative x-ray showing large superior mediastinal mass. Trachea narrowed and deviated to right.

The patient was a short, stocky, middle-aged woman, 60 inches tall and weighing 169 pounds. There was marked plethora and swelling of the face (Fig. 1). Extensive venous engorgement of the head, neck, upper chest, and arms was present. The neck was short and thick, and the trachea was deviated considerably to the right. There was no tracheal tug. The abdominal wall was free of venous dilatation indicating a high obstruction above the azygos vein.

An ill-defined, hard mass was felt in the region of the left lobe of the thyroid. The lower pole of the gland could not be delineated. Blood pressure was 150/90 in both arms. The lungs were clear, and heart findings were within normal limits. Neither the liver nor spleen was palpable. No abdominal masses could be felt. There was no evidence of generalized lymphadenopathy. The lower extremities were normal.

The patient was admitted January 3, 1955, to Midtown Hospital. Blood count and urinalysis were unremarkable. The basal metabolic rate and the serum cholesterol were normal. A widening of the mediastinum at the thoracic inlet was seen in the chest x-ray. Deviation of the trachea to the right was noted (Fig. 2). The aortic shadow was normal. A diagnosis of intrathoracic goiter was considered to be most likely, but malignant neoplasm could not be excluded.

Operation was performed on January 6, 1955, under general anesthesia using an intratracheal tube. It was noted that the veins encountered in the neck, at the beginning of the operation were extremely dilated and that the blood within them was quite dark. This was particularly noticeable in the anterior jugular veins which were 12 mm. in diameter and markedly distended. A large, lobulated mass was found to arise from the left lobe of the thyroid. This extended substernally as far as the arch of the aorta and was firmly impacted between the upper trachea and the sternum. The right lobe was

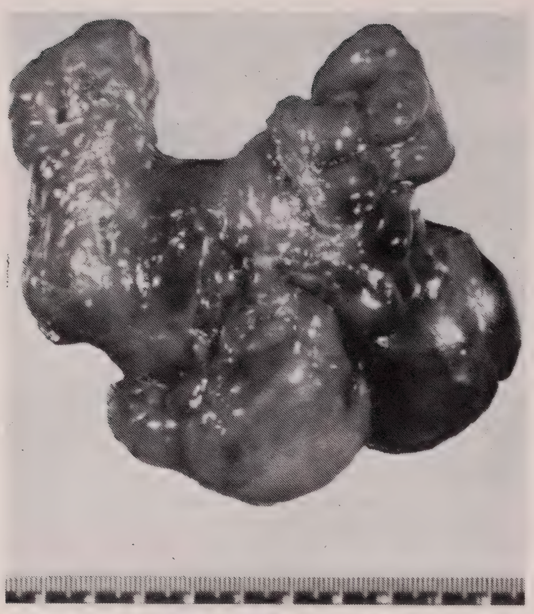

FIG. 3. Operative specimen.

slightly enlarged and contained two small nodules on its anterior aspect.

The neck was entered through a long collar incision 2 cm. above the sternal notch. The strap muscles were separated in the midline from the thyroid notch to the sternal notch and then divided transversely between clamps. The left lobe of the thyroid was mobilized with some difficulty and a plane just beneath the capsule identified. By following this plane and ligating the inferior thyroid vessels when encountered, it was possible to deliver the mass from below. Several lateral thyroid veins were divided. The left superior pole was freed and divided. The right lobe was sectioned, and about half of it, including the nodules, was removed. The anterior portion of the right lobe and the isthmus were then freed from the trachea. The left recurrent nerve was identified. A small amount of glandular tissue was left around the left recurrent nerve. The specimen was then removed. This left a large cavity, the base of which actively moved with respiration. Hemostasis was assured with ligatures and warm packs. Palpation of the walls of the cavity revealed the arch of the aorta with its branches. A drain was placed through a stab wound in the inferior skin flap to the center of the dead space. The muscles and skin were then resutured. A dry dressing was applied. During closure it was evident that the previously dilated veins were of normal size. The patient was sent to her room with a tracheotomy set. However, there was never any difficulty with respiration. The drain was removed on the second postoperative day, and a completely uneventful recovery ensued.

The specimen in the fresh state measured 14 by 11 by 8 cm. (Fig. 3). The parenchyma contained calcium deposits, cystic areas, and numerous areas of hemorrhage. Abundant colloid was seen.

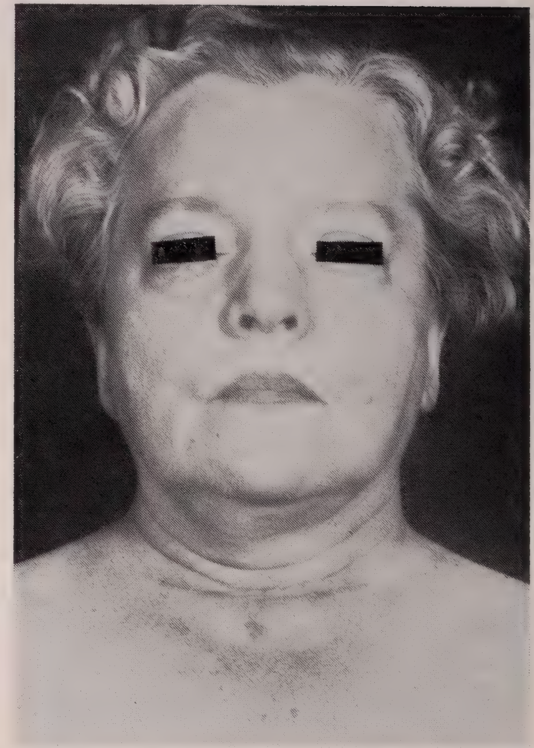

FIG. 4. Two weeks postoperative. Note change in expression and in contour of neck.

Histologic examination showed most of the acini to be large. Some were ruptured and formed large pools of colloid. In many there was hemorrhage. There were scattering foci of lymphocytes throughout. The epithelium lining the acini was cuboidal. The fibrous tissue was not increased. The diagnosis was colloid goiter.

Comment

Intrathoracic goiter, if the term is applied only to goiters which lie entirely or in major portion within the thorax, constitutes between 1.6 and 3.1 per cent of all goiters.[11,12] Most of the so-called substernal goiters, which occur in 25 per cent of adenomatous goiters, have only a small proportion of the gland lying within the thoracic cavity.[8] Pathologically the intrathoracic goiter is always adenomatous and can undergo the same types of degeneration as any nodular goiter. Postoperative complications include tracheal collapse, tracheitis, laryngeal obstruction, vocal cord paralysis, hemorrhage, and pulmonary atelectasis.[13]

As in our patient the individual with intrathoracic goiter usually is stocky in build and possesses a short neck with thick muscles. This makes for a long, tedious, and sometimes hazardous operation.

Our patient, in whom the signs of superior vena caval obstruction were so prominent, showed a distinct reversal of these findings after surgery (Figs. 4

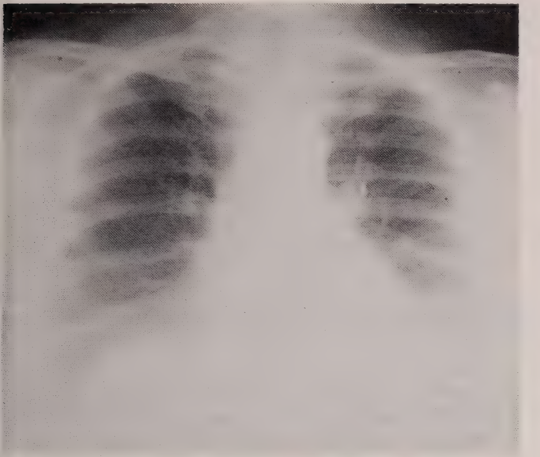

FIG. 5. Postoperative x-ray. Trachea virtually in midline and of normal caliber. Normal superior mediastinum.

and 5). Most striking was the diminution in the circumference of the neck and the decrease in prominence of the collateral venous channels. The plethora, noted on initial examination, disappeared. Symptomatically all the pressure effects were eliminated.

Summary

1. A case of intrathoracic goiter causing manifestations of superior vena caval obstruction is presented.

2. Surgical removal of the goiter resulted in reversal of the symptoms and signs of superior vena caval obstruction.

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Generalized Allergy to Protamine

ROBERT J. HEALY, M.D., AND JOSEPH P. McDONALD, M.D., BROOKLYN, NEW YORK

(*From the Department of Medicine, St. Catherine's Hospital*)

The medical literature is replete with instances of allergic reactions to insulin, but a degree of confusion still persists regarding the antigenicity of the insulin modifiers. Hypersensitivity to insulin was noted early in its clinical use; however, as pharmaceutic research reduced the amounts of impurities, the incidence of untoward responses likewise declined. The advent of modified insulin was soon followed by reports of allergic reactions, generally of a mild local nature. This was particularly true with protamine zinc insulin, although earlier investigators[1,2] were unable to incriminate protamine alone as the causative factor.

Case Report

A. M., a sixty-two-year-old Jewish male, was admitted to the hospital on August 4, 1954, complaining of swelling of the hands and pruritis involving the forearms, legs, feet, neck, and occipital region of the scalp.

Two weeks prior to his admission the patient had gone to his family physician because of weight loss of approximately 15 pounds during the previous two months without an associated anorexia or decreased food intake. Diabetes mellitus was discovered, and the patient was placed on a diet and given 10 units of protamine zinc insulin daily. Ten days after the institution of this therapy he was awakened from his sleep by an intense itching of the palms of his hands. Several hours later the palms and dorsa of his hands began swelling. He came to the emergency room seeking advice and treatment and was given Benadryl, which relieved the pruritis. Later that day, however, he noted welts and itching behind the ears and over the occipital region of the scalp, and hospitalization was advised.

The past history was essentially negative. The patient denied exposure to any strange foods or drugs. No history of asthma, hay fever, or other allergic conditions was elicited. Heart disease, renal disease, tuberculosis, and hypertension were all denied. Mild intermittent claudication had been present for the past six months. To the best of his knowledge there was no family history of diabetes or allergies in any form. The system review failed to uncover any additional information referable to his complaints.

Physical Examination.—Temperature was 100 F., pulse 60, respirations 18, and blood pressure 120/80 mm. Hg. The patient was a well-developed, well-nourished white male in no acute distress. Pertinent physical findings included the following: There were several small, scattered, elevated, indurated, erythematous lesions over the occipital region. Urticarial wheals were present beneath the chin. Eyes, ears, nose, and throat were normal. The heart revealed a regular rhythm with a grade 1 apical systolic murmur. Lungs were negative. The liver edge was palpable one to two fingerbreadths below the right costal arch; no other organs or masses were palpable. Urticarial wheals were scattered over the lower abdomen and back; 2 plus edema was noted on the dorsa of both hands. An erythematous maculopapular rash with some amount of induration was present over the flexor and extensor surfaces of both forearms. Wheals were present over the dorsa of both feet. No lymphadenopathy was noted. Neurologic and rectal examinations were normal.

Laboratory Data.—Chest film was negative except for chronic basal pleurisy on the right. Electrocardiogram was within normal limits. Serology was negative. Nonprotein nitrogen was 32.5 mg. per cent, cholesterol 150 mg. per cent with 47 mg. per cent esters. The urine had a specific gravity of 1.015 with 1 plus sugar. Hemoglobin was 12.6 Gm., red blood count 4,320,000, white count 11,000 with 73 per cent neutrophils, 18 per cent lymphocytes, 2 per cent monocytes, and 7 per cent eosinophils. Fasting blood sugars ranged between 213 and 227 mg. per cent.

Hospital Course.—The wheals and the maculopapular rash persisted for several days but gradually receded. The patient was treated with Pyribenzamine, Benadryl, and local applications of calamine lotion. The protamine zinc insulin was discontinued, and the patient was then given intradermal tests with the following substances: beef extract, pork extract, crystalline insulin, and protamine sulfate. All of these were unequivocally negative except the protamine sulfate, which within five minutes showed an indurated wheal approximately 1.5 cm. in diameter with a surrounding erythematous flare 3 to 4 cm. in diameter. The intradermal tests were performed with 0.05 cc. of each substance on the volar aspects of the forearms after the initial skin manifestations had cleared up.

The patient's diet varied from 1,500 to 2,000 calories with carbohydrate ranging from 150 to 200 Gm. per day. He was placed on coverage with crystalline insulin, 5 units for each plus of glucose over 1 plus on preprandial urine specimens. No reaction was noted to the unmodified insulin, but the fasting blood sugars remained elevated, and periodic glycosuria was noted. He was then changed to NPH insulin with resultant correction of urine glucose spillage, but the fasting blood sugar remained high.

Following discharge from the hospital the patient was seen in the outpatient department and was being maintained without incident on 20 units of NPH insulin daily.

Review of the Literature

Reactions to protamine have occurred but are extremely rare.[3] Generalized reactions to the insulins have been noted in from 0.1 to 1 per cent of all allergic responses to these compounds.[4,5] The generalized types of allergic response to insulin are well known, and the symptoms are categorized into gastrointestinal, circulatory, and cutaneous reactions,[6-8] the last being by far the most common.

Kern and Langner[1] found local reactions at the injection site in 16 per cent of their patients receiving protamine zinc insulin. However, they were unable to obtain positive skin tests with protamine in any of these people. In spite of the fact that protamine is a protein substance, they were likewise unable to induce sensitivity to this material in guinea pigs.

Later investigators[9,10] were able to indict protamine as an allergen with intradermal tests. Page and Baumann[9] noted a surprisingly high percentage of positive skin tests with protamine in both diabetic patients and nondiabetic allergic patients. However, this study revealed the incidence of positive reactions to be considerably higher in the nondiabetic allergic group, and the authors postulated that this discrepancy might be explained by the fact that a good number of the diabetic patients were receiving protamine zinc insulin and that some degree of desensitization to protamine had occurred in many of them.

Another interesting facet to this problem is met with in a condition known as the "protamine edema syndrome."[11] This has been reported in diabetic patients employing protamine zinc insulin exclusively, and it bears a superficial resemblance to the Kimmelstiel-Wilson syndrome. It is manifested by periorbital and pretibial edema and several derangements in laboratory tests, including low renal threshold for glucose, albuminuria, high blood cholesterol, and anemia. When patients exhibiting such changes are placed on unmodified insulin, these abnormalities disappear, unlike the Kimmelstiel-Wilson syndrome where the changes are irreversible.

Hughes and McAlester[10] reported a case of a diabetic patient who had been employing regular insulin for eighteen years without incident and who was switched over to protamine zinc insulin. Approximately one month later she developed urticaria for the first time. Skin testing was done with regular insulin and with protamine zinc insulin derived from both beef and pork. Positive reactions were obtained with the last two substances, which were considered to be conclusive evidence in incriminating protamine as the allergen. However, these investigators did not skin test the patient with protamine alone but rather with protamine zinc insulin. There has been some evidence which suggests that the addition of protamine to insulin injections might render it easier to sensitize an animal to this insulin.[1] Whether or not this premise would have held true in this particular instance is a moot point.

Comment

The case reported herein represents a clear-cut instance of hypersensitivity to protamine.

The time of onset and the symptoms exhibited in this case were very similar to those seen in serum sickness, a fact noted by others in reference to insulin allergy.[7] Although the patient's symptoms at the time of admission were not deemed serious enough to necessitate hormonal therapy, the prompt removal of the offending antigen and the liberal use of antihistaminic compounds undoubtedly helped to shorten his disability.

Intradermal tests quickly identified the allergen and allowed us to continue therapy with other forms of insulin. In a similar case it must be remembered that the odds would be overwhelmingly in favor of insulin per se being the offending allergen.

The fact that the patient did not get an allergic reaction following NPH insulin is probably due to the fact that there is approximately three times as much protamine per unit of insulin in protamine zinc insulin as there is in NPH insulin.[12] This excess of free, uncombined protamine in protamine zinc insulin undoubtedly accounted for the reaction precipitated in this patient.

Summary

1. A case exhibiting a generalized allergic reaction to protamine has been presented.

2. A review of the American literature revealed one previously documented case of such a response to protamine.

3. The role of intradermal tests in elucidating the allergen has been stressed.

We wish to thank Dr. Martin A. Murphy and Dr. Thomas Costigan for their advice and encouragement in the preparation of this report.

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TREATMENT OF CANCER

IRWIN E. SIRIS, M.D., *Editor*

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Treatment of Soft Tissue Tumors

DANIEL BURDICK, M.D., SYRACUSE, NEW YORK

(*From the State University of New York Upstate Medical Center at Syracuse*)

How often does a patient casually confront his physician with, "I have a small lump in the arm, Doctor," and how often does the doctor dismiss the patient just as casually with the vague, "Oh, it's nothing—just a small nodule!" In reality is not the physician in many instances just as vague in his *own thinking* about this "nodule" as in his response to the patient? Does he not more often think of this lump as some kind of an insignificant soft tissue mass, rather than as a precise pathologic entity—be it fibroma, lipoma, sebaceous cyst, or, more seriously, sarcoma? This failure on the part of physicians to attempt to label soft tissue tumors has led to a lack of proper orientation towards their management and has been responsible in many instances for inadequacy of treatment.

The *benign* soft tissue tumor, while extremely common, is important chiefly because it must be distinguished from the malignant tumor. In a series reported from Columbia University Stout[1] was able to collect 7,337 benign mesenchymal tumors over a forty-five-year period. This figure may be compared with 1,349 malignant mesenchymal tumors seen in the same laboratory over the same period of time. This series excludes skeletal tumors, lymphomas, and neurogenic tumors. The most common benign tumors seen were lipomas, fibromas, hemangiomas, ganglions, and xanthomas. Surgical excision of the benign tumor will usually result in cure. The treatment of benign and malignant tumors will be discussed together as a general problem in the management of soft tissue masses.

Soft tissue sarcomas are rare, accounting for approximately 2.1 per cent of all deaths from malignant disease. At the present time approximately 15 per cent of these sarcomas are "permanently cured," but it is estimated that this figure could be increased to 25 per cent if maximum use were made of available knowledge.[2] These tumors may occur in patients of any age, and a significant percentage in any series are those in infants and children. The etiology of these sarcomas is unknown, and it is generally believed that they arise *de novo* and not from preexisting fibromas, lipomas, myomas, and the like. While patients frequently give a history of antecedent trauma, it is felt that the trauma is not a precipitating factor in tumor growth but rather calls attention to a tumor which has already been present. It may be that a limb containing the tumor is more liable to injury, and, in fact, treatment has occasionally been delayed because of the mistaken diagnosis of a "Charley horse."[3] These tumors may appear anywhere in the body where the parent tissue is present. While occurring more commonly in the extremities, they are not infrequently found in the neck, chest wall, and retroperitoneal space.

The fibrosarcoma, the malignant tumor of the fibroblast, is the most common form of soft tissue sarcoma. It forms a round or ovoid, firm, homogeneous mass with a variable degree of fixation. It may appear encapsulated. It is characterized by varying periods of growth activity over a long period of time. There may be prolonged periods of relative inactivity followed by sudden bursts of very active growth. During the latter periods the tumor may become invasive and may metastasize. Local recurrence is common, occurring in roughly 60 per cent of the cases.[4]

The malignant tumor of fat tissue, the liposarcoma, is the second most common form of soft tissue sarcoma. It occurs commonly in the gluteal and popliteal regions and is the most frequent primary sarcoma occurring in the retroperitoneal space. As a general rule it tends to be firmer, more nodular and fixed, and less easily compressed than does the benign lipoma. It has a marked tendency to recur locally.

The rhabdomyosarcoma is the malignant tumor arising in skeletal muscle and is less common than the above types. It is usually deep seated and quite firm in consistency. It may undergo extensive hemorrhagic necrosis, giving the lesion the appearance of a large hematoma. Recurrences following attempted removal occur in approximately 60 per cent of cases.[1] Metastases with all three of the above sarcomas are through the venous system to the lungs.

The malignant neurilemomma is the malignant tumor of nerve sheath origin. It has also been referred to as malignant schwannoma, malignant neurofibroma, and neurogenic sarcoma. The majority of these tumors develop along a recognized peripheral nerve. They may expand a nerve sheath forming a fusiform swelling with a variable degree of mobility from side to side but not in the long axis of the extremity. Characteristic is the multicentricity of origin along the course of the nerve. It is encountered in 10 to 15 per cent of patients with von Recklinghausen's disease, and in these cases the malignant tumors are observed more frequently in the deeper nerve trunks.[5]

Synovial sarcoma and angiosarcoma are rarer types of soft tissue sarcomas. The synovial sarcoma occurs in the vicinity of the joints, tendon sheaths, or bursae. It may metastasize to the regional lymph nodes as well as through the bloodstream to the lungs. Angiosarcomas metastasize readily through the venous system to the lungs.

Regardless of individual characteristics the most important feature of all of the soft tissue sarcomas is their great tendency to recur locally. With each recurrence the tumor is apt to become more aggressive and more difficult to eradicate. While grossly these tumors appear encapsulated, this appearance is an illusion or pseudoencapsulation for in reality the tumor is invasive and extends beyond the apparent boundaries of circumscription. This fact alone, resulting often in incomplete excision, accounts for the majority of local recurrences. Other factors leading to local recurrences are the multicentric origin of some of the tumors, especially nerve sheath tumors, and autoinoculation or implantation of tumor cells into the wound at the time of original surgery.

A Proper Clinical Philosophy

From a clinical standpoint the patient may present himself to the doctor because of a small painless lump, or the tumor may be discovered accidentally during a routine physical examination. Pain is a late symptom, and for this reason the tumor may reach a large size before the doctor is consulted. In the retroperitoneal area the sarcomas may become huge before they produce symptoms due to encroachment upon vital organs.

Because of the paucity of symptoms and because of the apparent encapsulation, it may be difficult to differentiate the sarcoma from the benign tumor on clinical examination alone. The benign tumors usually have a long period of clinical evolution with very little, if any, recent increase in size. They are freely movable and not attached to underlying structures. The sarcoma, on the other hand, ordinarily grows fairly rapidly and becomes moderately or intimately fixed to the underlying tissue. Many of the benign surface tumors, such as fibromas, lipomas, sebaceous cysts, and the like, may be recognized clinically, but the vast majority of the deep tumors cannot be. The surgeon need not excise every soft tissue tumor that he sees, but rather he should attempt to label precisely every tumor on clinical examination. He should view suspiciously all firm, fixed, or deep-seated tumors, those with pain or discomfort, and those in which there is a history of recent growth. In the latter instances he must not be satisfied until the tumor has been removed and examined microscopically by a competent pathologist. The practice of removing small tumors in the doctor's office or emergency room of the hospital and disposing of the tissue in the wastebasket without histologic examination is to be condemned. Under these circumstances, when a recurrence develops, it becomes evident that the supposed benign lesion was actually malignant.

The best chance of curing a patient with a soft tissue sarcoma lies in the hands of the doctor who first treats the lesion. If the first attempt fails, the chances that subsequent attempts will succeed are enormously reduced, no matter how radical they may be. For this reason the initial surgeon should properly orient himself for all the possibilities he may encounter. He should be familiar with the various types of tumors and with their growth potentialities. It would be well for the surgeon to call his pathologist into consultation from the start. If the pathologist is familiar with the clinical features of the case, he will be in a better position to interpret the biopsy and will be better prepared to advise the surgeon as to the behavior of the tumor and the optimum form of therapy.[1] Equipped with the knowledge that the local recurrence rate is high and that the encapsulation of the tumor is more apparent than real, the surgeon will be oriented *mentally* for an adequate resection and will not be content with a simple shelling out of the tumor.

Diagnosis Before Treatment

Before definitive therapy in the suspicious tumor may be undertaken, an adequate incisional biopsy must be performed. Incisional biopsy is to be preferred to the excisional biopsy for in the latter instance the surgeon tends to hug the "capsule" of the tumor and runs the danger of disseminating or implanting tumor cells throughout the operative field. If it is possible to make a diagnosis by frozen section, this may be done and the appropriate treatment instituted at once. However, because the extent of the surgery is dependent on the precise diagnosis, frozen section may often be indefinite, and in this instance it would be well to delay treatment a day or two until the fixed paraffin sections have been studied. Pack[3] recommends that incisional biopsy be done under tourniquet control and with frozen section analysis. The immediate diagnosis would then be followed at once by either surgical dissection or amputation.

Definitive Management

For most soft tissue sarcomas the treatment of choice will be adequate surgical resection rather than radiotherapy. Once the surgeon has performed the biopsy and has obtained as much information as possible from the pathologist concerning the nature and potentialities of the tumor, he is equipped with the pertinent information necessary to proceed with the proper definitive management. His principal concern in all instances will be to obtain an adequate, complete resection of the tumor. The decision as to whether wide local excision or amputation of the extremity is necessary will depend on the gross extent and location of the tumor and the pathology. Obviously, if a tumor recurs locally, the original excision was inadequate. "How wide of the gross tumor should the surgeon go?" is a question which is difficult to answer precisely. A good rule to follow is that his knife should be cutting through normal tissue at all times and that, if possible, the surgeon should remove the sarcoma without seeing or encountering it.[3] It is important for the surgeon to remember that he must be as far from the gross extent of the tumor on its *deep* aspect as on any one of its lateral aspects. The surgeon must be prepared to sacrifice important nerves, muscles, and blood vessels if necessary to encompass the tumor, being concerned at the moment only with cure. The dissection should proceed with meticulous care to avoid spillage, and retraction should always be away from rather than toward the tumor. If the tumor has previously been explored but not removed, or if previous incisional biopsy has been performed and time has elapsed while awaiting the fixed section report, it is extremely important that a wide elliptic segment of skin be removed far beyond the limits of the original scar.

Fibrosarcomas, liposarcomas, rhabdomyosarcomas, and malignant neurilemommas lend themselves to wide excision or amputation depending on the gross and microscopic characteristics.

If the tumor is small and well differentiated and there is little evidence of gross extension to surrounding structures, wide local excision may be adequate and amputation unnecessary. On the other hand, if the tumor is large, very anaplastic, and adherent to skeletal structures or situated in unfavorable places such as deep in the thigh, primary amputation may have to be done. Recurrence of the tumor may be characterized by extensive invasion, making amputation mandatory. Synovial sarcomas are so invasive and so adherent to surrounding structures that local resection is very often followed by recurrence, and for this reason amputation as a first procedure may be preferred.[6] When the tumor is situated near the hip or shoulder joint, hemipelvectomy or interscapulothoracic amputation will usually be the procedure of choice.

Most soft tissue sarcomas metastasize by way of the bloodstream to the lungs. However, synovial sarcomas may metastasize via the lymphatics, and for this reason regional lymph node dissection may be indicated with this type of sarcoma. The presence of metastases in the nodes should be confirmed by biopsy prior to node dissection.

When the sarcoma occurs in the retroperitoneal space, a special problem in management arises because of neighboring vital structures and because the tumor may be extremely large before it is diagnosed. However, the same general principle of wide excision should apply. Adequate exposure to the area is important, and for this purpose the combined thoracoabdominal incision may be helpful.[7] Preoperative bilateral evaluation of kidney function should be done in all cases since it may be necessary to sacrifice one kidney in removing the tumor. Insertion of ureteral catheters will aid in identifying the ureters. The inferior vena cava may be ligated below the renal veins if the tumor is adherent or infiltrating in this region.

Roentgen ray therapy is the treatment of choice in Kaposi's sarcoma. In addition, many undifferentiated liposarcomas are radiosensitive,[8] and surely postoperative irradiation is indicated in every instance in which the resected liposarcoma was recurrent. With primary retroperitoneal tumors roentgen ray therapy should be given if the tumor was inoperable, where the tumor was incompletely resected, or as an adjuvant to surgery for rhabdomyosarcomas, neuroblastomas, and all other undifferentiated and anaplastic sarcomas.[9]

After definitive therapy has been carried out, all patients must be followed closely for the development of recurrence. The local site must be examined carefully, and frequent chest roentgenograms are in order. Periodic follow-up examinations should be conducted for the duration of the patient's life.

Conclusions

1. The physician or surgeon should carefully attempt to catalog or label all soft tissue nodules. Nodules that are firm, fixed, or deep seated, those causing pain or discomfort, and those with a history of recent growth should arouse suspicion and should be removed surgically and submitted for histologic examination.
2. Soft tissue sarcomas are characterized by a high rate of local recurrence.
3. The surgeon should thoroughly acquaint himself with the behavior of the particular tumor prior to the institution of therapy.
4. After the diagnosis has been established by biopsy, the treatment for most soft tissue sarcomas is adequately wide excision.
5. The decision as to whether wide local resection or amputation is necessary will depend on the gross extent and location of the tumor and the pathology.
6. All patients with soft tissue sarcomas should be followed carefully for evidence of recurrence.

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Surgical Treatment of Sinusitis Associated with Asthma

RUSSELL CLARK GROVE, M.D., NEW YORK CITY

(*From the Institute of Allergy, Roosevelt Hospital*)

When I first became interested in the treatment of sinusitis associated with asthma over twenty-five years ago, it was one of the most controversial subjects in the field of allergy. Few allergists and otolaryngologists conceded that infection in the sinuses caused asthma, and they opposed any sinus surgery as a form of treatment for asthma.

Cooke[1] has been the foremost proponent of infection as a cause of asthma, and many physicians are in agreement with his theories. I shall try to present evidence, in this short treatise, to show that surgery on the sinuses is worth while when there are proper indications and when the sinus infection is removed as completely as possible.

A thorough medical and allergic workup is essential in determining the etiologic factors in any case of asthma. One must be certain that the patient has true bronchial asthma. "All that wheezes is not asthma" is a maxim which is often true. It must be determined whether there is evidence of a foreign body, tuberculosis, or cancer in the lungs. It is necessary to obtain a concise history of the beginning of the asthma and its subsequent course in order to decide whether infections, environment, contacts, or foods play a role in the case. After doing complete skin testing, the positive reactions must be evaluated to determine which ones may be important in causing the asthma.

I have emphasized this thorough study because it is most essential to know with what type of asthma we are dealing before deciding on any surgical treatment of the sinusitis. In other words, is the asthma caused by sensitivity to certain allergens, by infections, or by a combination of both factors? If the asthma is caused by house dust, pollens, feathers, animal contacts, or foods, sinus surgery will not be helpful. If, however, associated upper respiratory infections produce additional attacks of asthma, then sinus treatment must be considered. I feel that many of the poor results obtained with sinus surgery in asthma are due to the improper selection of patients.

When the otolaryngologist first sees the asthmatic patient, he must examine the sinuses very carefully. Evidence of pus or polyps in the nose should be sought with the nasopharyngoscope. Roentgenograms of the sinuses should be made since polyps or cysts may not be demonstrated by transillumination. If there is still doubt as to the diagnosis, a radiopaque medium should be introduced into the sinuses. Lavage of the antrum, sphenoid, or frontal sinuses may be done. However, a clear return flow does not always mean that there is no infection present. In the hyperplastic type of sinusitis seen in asthmatic patients, the infective agents are deeper in the tissues of the hyperplastic sinus membranes and often only on the surface during an acute respiratory infection. Furthermore, the "gob" of thick white discharge washed out is usually not infected when cultured, but this has nothing to do with the underlying primary infection in the sinus membranes.

The maxillary sinuses are most frequently infected, the ethmoids second, the sphenoids third, and the frontals least often. Polyps are found in about 15 to 20 per cent of the patients who have not had any previous sinus surgery. Cooke[1] in a study of 470 patients over ten years of age found sinusitis was the only cause of the asthma in 45 per cent.

The allergist and otolaryngologist should consult with each other regarding the etiologic factors and the proper treatment. In many patients treatment of the allergic factors and the use of autogenous or stock vaccines may be helpful. However, when the infection is the active cause of the asthma and there are sufficient pathologic changes present, operation should be performed. Antibiotic and steroid hormone treatment is only palliative.

When surgery is performed, it should include removal of the infected membranes and polyps from all the sinuses involved. Often a Caldwell-Luc operation is performed, and polyps are left in the ethmoids, or a single Caldwell-Luc or ethmoid operation is done when a bilateral operation is necessary. Not too long an interval of time should elapse between the two-stage operation. I have found that the quicker all the infection is removed, the better are the results. It is necessary to emphasize that complete removal of the infected membranes is essential because our results show that simply removing a nasal polyp without doing an ethmoidectomy or making a "window" into the antrum (antrostomy) does not suffice to eliminate the infection and produce benefit.

In evaluating the results of the surgical treatment of sinusitis in asthmatic patients, it is necessary to consider the effects on the sinuses themselves and also on the asthma. When the surgery is done completely, I feel that not more than 20 to 25 per cent of the results are unsatisfactory in the nose. Other otolaryngologists[2] quote higher percentages. Even with a recurrence of nasal polyps patients may still remain free of asthma. Postoperative treatment with antibiotics and the steroid hormones, particularly Meticorten, is most helpful in promoting good healing and avoiding a recurrence of the polyps.

Since 1935 we have made six comprehensive studies of the results of sinus surgery on patients with asthma. These patients were divided first into two groups depending on the cause of the asthma, namely, infection or infection and sensitizations. They were further divided into those who had had complete surgery and those with incomplete surgery. The group in which asthma was caused by infection plus sensitizations was more improved than the group with pure infection. The group which had complete surgery showed over twice as much improvement as that with incomplete surgery. The best results were obtained in the patients with associated sensitizations, probably because in these cases the infection was merely a secondary factor. The poor results obtained in the incompletely operated patients were due to the difficulty in eliminating all of the infection and to the probable extension of secondary infection to the cervical and bronchial lymphatic glands and the bronchial mucosa. It is important that all secondary infections in the teeth, tonsils, and adenoids be removed. Autogenous vaccines made from sinus discharge or infected membranes removed at operation have been used postoperatively. When indicated, house dust injections have been given, and these injections often aid in obtaining a better result in the healing of the sinuses.

My most recent survey of sinusitis in patients with asthma who were treated by surgery comprises 300 patients who were followed for periods up to twenty-three years (Table I). These patients are divided into postoperative periods of one year except for the first six months. This period is excluded because the relief experienced may be due to the general anesthetic agent or contrariwise these patients may be made worse temporarily because of the surgical handling of the infected sinus membranes.

TABLE I.—RESULTS OF SURGERY OF THE SINUSES IN 300 CASES OF ASTHMA

Postoperative Period (Years)	Number of Cases	Improvement* 1 Plus	2 Plus	3 Plus
1/2 to 1	24	9	10	5
1 to 2	36	9	19	8
2 to 3	30	7	14	9
3 to 4	40	13	18	9
4 to 5	24	3	13	8
5 to 6	16	7	4	5
6 to 7	9	4	3	2
7 to 8	53	19	18	16
8 to 9	15	8	4	3
9 to 10	9	6	3	0
10 to 11	5	1	0	4
11 to 12	10	1	7	2
12 to 13	8	3	3	2
13 to 14	6	1	3	2
14 to 15	4	1	2	1
15 to 16	4	0	2	2
16 to 17	2	0	1	1
17 to 18	1	0	1	0
18 to 19	1	0	0	1
19 to 20	1	0	0	1
20 to 22	1	0	0	1
22 to 23	1	0	0	1
TOTAL	300	92	125	83
Per cent		30.66	41.66	27.66
			69.32	

* 1 plus, slight or no improvement; 2 plus, definite improvement; 3 plus, no asthma or rare attack.

The designations 1 plus, 2 plus, and 3 plus have been selected arbitrarily to demonstrate the improvement in the asthma. One plus signifies slight or no improvement or even worsening; 2 plus indicates definite improvement in the asthma as agreed upon by the patient and the physician; 3 plus signifies no asthma or a rare attack. The percentage of cases which fell in the 1 plus group was 30.66 per cent; the 2 plus group comprised 41.66 per cent, and the 3 plus group comprised 27.66 per cent. The improvement in the whole group, as expressed by the sum total of the 2 and 3 plus results, was 69.32 per cent. This compares favorably with most of our past six surveys. I would like to state that the group with associated sensitizations and that which had been operated on completely comprised the greater number of improved patients.

There are many studies on the effect of sinus surgery reported in the literature. Some[3] are favorable, while others are discouraging.[2] I feel that to some extent the disagreement may be due to different criteria used in deciding what represented infection in the sinuses in allergic patients. Whether sufficient pathologic changes were present to justify operation, how completely the infection was removed, and whether all associated sensitizations were treated will also affect the surgical results. If these criteria are met, I feel that the treatment of sinusitis in patients with asthma should be surgical when indicated and that the proper surgery will produce favorable results.

Summary

Sinusitis associated with asthma is frequently of the hyperplastic type. Suppuration is not frequent except during acute exacerbations of infection. Careful diagnosis is required. Sinusitis is a cause of asthma in many patients. Antibiotics and steroid hormone therapy are usually a palliative form of treatment. Surgery is still indicated in properly selected patients, and it should attempt to remove the infected sinus membranes completely. An analysis of 300 patients with sinusitis and asthma who were treated surgically is presented. These patients were followed for periods of six months to twenty-three years. The results show improvement in the asthma in 69.3 per cent of the total group.

60 EAST 58TH STREET

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(*Number nine of a series of Fundamentals on Modern Allergy*)

Annual Meeting, May 7 to 11, 1956, Hotel Statler, New York City

CLINICAL ANESTHESIA CONFERENCE

A series of conferences on medical emergencies
in the operating room including causes of death
during anesthesia

Prepared by the Anesthesia Study Committee of the
New York State Society of Anesthesiologists

BARNETT A. GREENE, M.D., *Chairman*

Carotid Sinus Syndrome

THIS report concerns the differential diagnosis of carotid sinus syndrome occurring during the course of major neck surgery. The increasing number of cases submitted to this type of surgery and the age group from which the patients are derived require discreet anesthetic management and expert medical care by the anesthesiologist during the operation.

Case Report

An eighty-two-year-old male was prepared for excision of a mixed cell tumor of the right parotid gland and extensive neck dissection. The patient was relatively well preserved and had good tissue turgor and muscle tone. His physical condition included hypertension with a blood pressure of 190/110 and slight right ventricular hypertrophy. The expected amount of arteriosclerosis for the age was present. The chest was slightly emphysematous, and there was a slight prolongation of the expiratory phase of respiration. The laboratory workup was not remarkable. The electrocardiogram showed only left ventricular strain.

Anesthesia was administered with cyclopropane-oxygen by the oral endotracheal route. Induction was smooth and relatively rapid; after cocainization of the pharynx and larynx to minimize vagal reflexes, intubation was performed adeptly. Blood pressure prior to induction of anesthesia was 190/100 with pulse of 88. This level prevailed at the time of incision. Approximately twenty minutes after operation had begun, there was a moderate amount of bleeding; simultaneously there was a precipitous fall in systolic and diastolic pressures to 98/56. The pulse and respiration did not change in character or rate.

Since the surgical incision had extended into the anterolateral triangle of the neck, the diagnosis of carotid sinus syndrome of the depressor type was suspected. To corroborate this, 0.8 mg. of atropine was injected intravenously without a significant change in pulse rate or blood pressure. This was expected with the reflex primarily of the depressor type. Consequently 25 mg. of ephedrine were slowly injected intravenously. Within five minutes the blood pressure rose from 100/76 to 180/90. The pulse, meanwhile, remained at about 88 beats per minute.

Surgery progressed for an additional forty-five minutes, at which time the carotid sheath and artery were widely exposed. Because the systolic pressure again began to fall, the carotid bulb was infiltrated with 1 per cent Pontocaine. This was followed by a return of the blood pressure to 180/100, and it remained at this level throughout the next two and one-half hours of operation. Fluid therapy consisted of 500 cc. of blood and 500 cc. of

5 per cent dextrose in water. The postoperative course was smooth.

Comment

This case illustrates the medical problem of carotid sinus syndrome, which is also encountered in general medical practice. In the ambulatory person a hyperactive carotid sinus reflex produces episodes of fainting and convulsions. The syndrome was originally elucidated by Soma Weiss in 1933. The mechanisms and varieties of the condition have been described by Ferris and Weiss. During anesthesia the carotid sinus reflex can be more easily elicited, probably because anesthetic agents interfere with the compensatory mechanisms which in the normal person usually counteract the effects of strong carotid sinus stimulation. Three types of carotid sinus syndrome are recognized:

1. The vagal type is characterized by cardiac slowing or asystole, hypotension, and cerebral hypoxia. This type of reflex is potentiated by digitalization and parasympathomimetic drugs and abolished by atropine.

2. The second type is represented by the case cited in this report. It is characterized by a fall in blood pressure without significant change in pulse. It is accented by the nitrites and counteracted by epinephrine or ephedrine.

3. The third or cerebral type does not lend itself to diagnosis during anesthesia since the patient is already unconscious. However, cases showing both bradycardia and hypotension have been considered to be partly of the cerebral type. The cerebral type is not influenced by atropine or epinephrine but responds to local anesthetic infiltration of the carotid bulb.

(*Number five of a series of Clinical Anesthesia Conferences*)

Health Examination Form Available

At a recent meeting of the Subcommittee on General Practice of the Council Committee on Public Health and Education of the Medical Society of the State of New York, it was voted to call to the attention of all county medical societies the availability of the Health Examination Form.

Some apparent advantages, especially to general physicians, in the use of this form in daily practice are as follows:

1. Time-consuming features of routine office examinations are simplified and shortened.
2. Cancer detection in the doctor's office, including the obtaining of cytologic smears and other simple office procedures, is emphasized.
3. A comprehensive record is readily available when a doctor must appear in court.
4. This record of an orderly and systematic examination makes a physician's services more valuable to his patient.
5. Complete and thorough physical examinations by family doctors will counteract arguments for the mass screening approach to detection put forth by certain agencies.
6. The cost is only one cent for each form.

Physicians may order these forms from their County Medical Society Secretary.

SPECIAL ARTICLES

Health and Medical Services for Indians Residing on Reservations in New York State

WALTER C. LEVY, M.D., ALBANY, NEW YORK

(From the New York State Department of Health)

PRECEDING by one month a similar action taken by the Federal government, the New York State Department of Health on June 1, 1955, assumed responsibility for the supervision of health and certain medical services for Indians in New York State residing on the eight Indian Reservations in the State. This transfer of responsibility from the State Department of Social Welfare was made on the recommendation of the Interdepartmental Committee on Indian Affairs and by agreement between the two State departments with the approval of the Budget Bureau. The action occurred as a result of studies conducted by the Joint Legislative Committee on Indian Affairs and by the Interdepartmental Committee.

The studies of each of these committees showed that although there were many health and medical services available for Indians, these services were administered by different agencies with relatively little coordination and with some undesirable inequities in the distribution of the health activities. Also it was the opinion of the Interdepartmental Committee that the State Department of Health was best organized and staffed to provide the medical supervision of these health services because of its program of the decentralization of health districts.

Unlike the transfer of these functions in the Federal government, the responsibility for the provision of hospital care and direct medical service in New York State was not changed but remains a private responsibility in the case of nonindigent Indians and the responsibility of the local welfare district in the case of indigent or medically indigent Indians with the exception of a limited medical clinic and emergency care program.

Indians on the eight reservations in New York do not come under Federal control as do those in the western states. In New York there are approximately 7,000 Indians, most of them of Iroquois descent, residing on reservations. Except for about 150 on two reservations in Suffolk County, these Indians reside on six reservations: the Allegany Reservation in Cattaraugus County, the Cattaraugus Reservation (the largest part of which is located in Erie County), the Onondaga Reservation in Onondaga County, the St. Regis Reservation in Franklin County, the Tonawanda Reservation (the largest part of which is in Genesee County), and the Tuscarora Reservation in Niagara County. The largest numbers live on the St. Regis and Cattaraugus Reservations.

No substantial change in program has as yet been effected by the transfer of supervision. Local health officers, either town or county as appropriate, are still responsible for local public health activities on the reservations. Public health nursing service is furnished either by the county health department or by the county public health nursing service administered by the county public health committee in unorganized counties. General medical clinics continue to be conducted by physicians who are now employed part-time by the State Department of Health on five of these reservations. On the Cattaraugus Reservation the medical clinic continues under the direction of a physician employed by the State Department of Social Welfare. A small number of special clinics, such as dental, eye, and child health clinics, are conducted on three of the reservations—the Cattaraugus, Tonawanda, and Onondaga Reservations.

The Division of Local Health Services of the State Department of Health functions in a coordinating capacity, while the county health commissioners or district health officers of the counties or health districts in which the reservations are located furnish the immediate direction for the program on behalf of the State Department of Health.

The long-term objective of the health and medical program for the Indians residing on reservations is to assist them in achieving their complete social and economic integration and the eventual elimination of any special projects or programs on their behalf. However, for the present and the foreseeable future, the objective of these programs is to bring to the Indians health and medical services of a standard equivalent to that of the population of New York State as a whole.

Pertinent Questions Regarding Convalescent Care

REGINALD A. HIGGONS, M.D., GREENWICH, CONNECTICUT

(*Director of Convalescent Research, St. Luke's Hospital, New York City, and St. Luke's Convalescent Hospital, Greenwich, Connecticut*)

The United Hospital Fund of New York, the Hospital Council of Greater New York, and the New York Academy of Medicine formed a Committee on Convalescent Care Practice to discuss the possibility of a comprehensive study on convalescent care and convalescent homes in the New York area. It is our understanding that final arrangements have been completed for such a study to be carried out by Columbia University through the research and study program of the School of Public Health and Administrative Medicine. We understand that a very careful study is contemplated with the use of full-time, part-time, and voluntary researchers in the course of the next eighteen to twenty-four months.

We applaud this study for we feel strongly that adequate convalescent care facilities, properly equipped and integrated, should play an important role in the over-all medical care program for the Greater New York area.

With this in mind, we asked ourselves some pertinent questions regarding our concept of how to accomplish the desired ends.

1. WHAT PROFESSIONAL SERVICES AND PHYSICAL EQUIPMENT SHOULD BE CONSIDERED ESSENTIAL IN THE RENDERING OF SATISFACTORY CONVALESCENT CARE?

We suggest that the convalescent institutions should be divided into three different classifications:

A. *The convalescent hospital*, which is constructed and staffed to accept the patient who has just passed the stage which needs the facilities of an acute hospital ward, but who needs very close medical and nursing supervision for another period of a few weeks or longer. This facility naturally needs a more organized professional staff of doctors, nurses, dietitians, social service worker, physical therapist, occupational therapist, and technicians. There should be at least a small clinical laboratory with facilities for electrocardiograms, basal metabolism measurements, and fluoroscopy. There must be registered nurse supervision throughout the twenty-four hours. Such a hospital requires regular scheduled rounds by members of its voluntary attending staff or else must have full coverage by paid physicians in order to direct and modify the medical orders and program of therapy at frequent intervals.

B. *The convalescent home*, which is geared to accept only those patients who will require minimal semiacute medical care. Such patients are there because of a need for an organized regimen with such modalities as special diets, physical therapy, etc., designed to hasten their rehabilitation and subsequent return to their own environments. Such an institution needs less physician and registered nurse coverage than the convalescent hospital but still needs adequate medical supervision on a periodic basis.

C. *The convalescent rest home* could be designed for the care of patients who require no acute medical follow-up but are in need of a period of proper rest, diet, freedom from responsibility, and a change of environment to allow them to recuperate more rapidly from an acute episode than they could under self-care in their own environment.

The per patient day cost of the above would probably run about $10 to $12 a day for Type A, $8.00 to $10.00 a day for Type B, and $6.00 to $8.00 a day for Type C. This focuses attention on one of the primary reasons for convalescent facilities, namely, that adequate care can be rendered at a considerable saving in patient-day cost when compared with the costs in the acute hospital.

2. WHAT TYPES OF PATIENTS MAY BE EXPECTED TO DERIVE GREAT BENEFIT FROM ADEQUATE CONVALESCENT CARE?

(*a*) Patients with major nutritional problems associated with poor or imbalanced food intake for long periods; patients with acute nutritional problems following periods of partial starvation due to acute illness; patients needing nutritional buildup before elective surgery or between two-stage surgical procedures; young children with nutritional diseases such as celiac disease, etc.; patients requiring expert diet control, such as poorly balanced diabetics, chronic cardiovascular disease patients requiring restricted sodium intake, etc.

(*b*) Patients with cardiovascular disease with borderline compensation, who require adjustment of the dose of mercurial diuretics and determination of their digitalis dosage, etc., all of whom require close medical supervision with restriction of activity until a proper balance is established.

(*c*) Patients with low-grade infections, such as smoldering rheumatic heart disease, bronchiectasis, infectious hepatitis, etc., who require a medically directed balance between activity, therapy, and their disease.

(*d*) Certain orthopedic and surgical patients in casts, braces, and/or crutches, who need a protective environment while being trained by the physical therapist to the point when they become physically competent for self-care in their home environments and able to return to an outpatient department for necessary follow-up.

It is worth noting here that such patients receive definite benefit from the convalescent facility because they can move about more freely and get outdoors without a special attendant. This may be difficult at home where stair climbing is usually involved before the patient has reached that stage of rehabilitation needed to handle this problem.

(*e*) Certain other surgical patients, such as those with colostomies, who require training both physically and emotionally in the proper care of their own dressings.

(*f*) Patients with long-range illnesses with a potential of possible recovery, such as lipoid nephrosis, severe eczema, glomerulonephritis, etc., who need closer medical and nursing supervision than can be obtained in the average patient's home.

(*g*) Certain patients with psychosomatic syndromes, such as situational asthma, where the emotional factors have their basis in the home environment. The majority of these patients do very well in the convalescent facility, but a full program should include trained workers active in trying to modify the home environment during the patient's absence and should probably include psychologic counseling where indicated.

(*h*) Patients recovering from simple operative procedures or short-term acute illness, who benefit from a short period of supervised diet and hygiene by shortening the time required for full rehabilitation and return to work.

(*i*) Certain patients in the outpatient department who would benefit by a prophylactic stay at a convalescent facility before the development of threatened acute episodes such as cardiac decompensation, etc.

(*j*) Certain patients in acute hospital wards awaiting completion of plans already under way for more permanent placement and who have no home or family facilities for the interim care period. Our main reason for including this group in a convalescent facility is the element of cost, combined with the element of freeing a bed in the acute hospital. This does not indicate any feeling on our part that the convalescent facilities should accept cases for indeterminate length of stay or terminal care cases.

The distribution of the above types of patients between facilities A, B, and C, as described under Question 1, would depend on their diagnosis, degree of incapacity, and the ability of the convalescent facility to render the required care.

3. What Is the Problem Regarding the Continuity of Medical Care?

The bugaboo of "continuity of medical care" comes up repeatedly. One obvious answer would be to have all convalescent facilities hooked up at least administratively with some acute hospital. This would necessarily mean many more and much smaller convalescent facilities, which would care primarily for the patients of their own parent hospitals. Such small units would be more expensive to run. In our opinion such a scheme is inconceivable at present in any metropolitan area.

Even if the convalescent facility were attached to the parent hospital, we believe it would still be unlikely that the attending physicians on service in the hospital wards during the acute phase would also be on service in the convalescent wards at the time those same patients were residing there.

At present most hospitals lack true "continuity of medical care" by the same doctors between their ward service and their own outpatient department. However, the availability of the clinical records and the ability of the clinic doctor to contact the referring ward doctor when needed result in a fairly satisfactory "continuity of medical care."

We feel that the convalescent facility which accepts patients with active medical problems should develop its own voluntary attending staff or have an adequate paid staff. If then an adequate clinical record abstract is required for admission to the convalescent facility, the ideal of "continuity of medical care" would approximate that of most outpatient department follow-ups or that of the patient who is now discharged from the wards to return to the care of his own neighborhood physician. The telephone is still available for consultation with the referring doctor, and any reputable referring physician should be encouraged to visit his patient at the convalescent facility and should even be allowed to cooperate with the staff in the patient's convalescent medical care and rehabilitation program.

We are of the opinion that the convalescent facility should preferably be in a suburban or country environment. Some of the reasons for feeling this way could be summarized as follows: Since space required per patient in the convalescent and rehabilitation phase should be greater than that required during the acute phase, the cost of the necessary land and structures would be considerably higher in the city. We believe that a convalescent facility should be able to operate adequately on the basis of a per patient-day cost in the vicinity of one half or less of the acute hospital patient-day cost in the New York area.

We also believe that it is a definite psychologic boost for the average patient when he is told that he is doing so well that he can now be adequately cared for in a convalescent setting. This boost is increased in the average patient by the less rigid environment and the greater freedom of motion at the convalescent facility in a country setting. This environment also has a stimulating effect in most instances upon the patient's desire to improve in his ability for self-care and ultimate return to his normal environment.

The question will be raised regarding the duplication of costs in such departments as occupational therapy and physical therapy. To be sure, there is some duplication, but there again we feel that the necessary increase in space, personnel, and equipment needed to handle the increased load of an attached convalescent and rehabilitation department in the acute hospital would cost so much more in the city that it would eat up a good slice of the duplicated cost of these departments in the outlying convalescent facility.

4. What Is the Role of the Physician in a Convalescent Facility?

We believe that the physician in the convalescent facility should be responsible for the following:

(*a*) On admission he should review the history and findings in the fields of the medical condition, the nutritional condition, and the emotional condition.

(*b*) He should screen the admission medical orders and correct as indicated and arrange for special diets with or without vitamin and food supplements after an assessment of the patient's nutritional state.

(*c*) He should plan any use of physical therapy and occupational therapy with an aim toward improving the patient's physical condition, both in specific local disabilities and over-all return to a state of optimal physical capacity.

(*d*) He should make regular chart rounds and have periodic visits with the patient in order to modify various drug, diet, physical therapy, and occupational therapy orders as indicated by the patient's progress. While attending to this he has an excellent opportunity for patient education with regard to diet, hygiene, work program, and other preventive measures to help the patient maintain an optimal state of health after discharge.

(*e*) The social history should be reviewed and plans made for any social service help which is apt to be needed either during the patient's stay or on his discharge. The physician should determine roughly the expected length of stay at the convalescent facility so that necessary machinery may be set in motion for eventual discharge to home or transfer of the patient who is not improving satisfactorily to some other type of facility, such as a nursing home or chronic disease hospital.

(*f*) He should hold regular staff conferences, preferably once a week, at which each patient is discussed by representatives from the executive department, nursing department, occupational therapy and physical therapy departments, dietary department, social service department, and medical care department. Such conferences assure the proper integration of the efforts of the various departments. They afford the physician an opportunity for continuous direct and indirect education of the staff regarding their understanding of the patient's problems of a medical, emotional, and social nature and constitute recognition of the staff's part in helping the patient attain the maximum recovery compatible with his pathology.

(*g*) The physician should be responsible for the treatment of any intervening acute illness or an acute relapse of the previous illness until such time as he can make a decision regarding the need for transferring the patient back to an acute hospital. The physician making this decision must always consider carefully the calculated danger of moving patients with certain acute conditions. He should also be responsible for medical care of the staff for simple illnesses, although the staff should always have the privilege of free choice of physician if they prefer not to be treated in the institution.

(*h*) The physician should cooperate with the executive and nursing departments regarding plant factors which might affect the patient-care program.

(*i*) The convalescent facility should have registered nurse coverage through the twenty-four hours, at least in a supervisory capacity over an adequate staff of trained practical nurses and nurse aids. The ratio between the numbers of these classes of nursing care would naturally vary with the classification of the convalescent facility as expressed in Types A, B, and C described under Question 1.

(*j*) Any convalescent facility caring for people who are even mildly ill should have laboratory facilities for simple tests, such as blood counts, urinalyses erythrocyte sedimentation rates, blood sugar, blood nonprotein nitrogen, electrocardiograms, and basal metabolisms. This laboratory should be run by a trained technician who may be on part or full time, depending on the type of facility. There should be available for the medical staff a fluoroscope. X-ray is not essential provided there are facilities in the vicinity which can be used for such things as potential fractures and routine periodic x-ray examination of the chest for the employes. In any facility other than a simple rest home, we believe there should be a suitably equipped and properly staffed physical therapy department and occupational therapy department. In the case of the convalescent hospital we believe that the physical therapy department should include hydrotherapy with full immersion tank if the facility plans to take part in the rehabilitation program of patients with such conditions as paralytic poliomyelitis. In our opinion it is very important that the physical therapist be well trained and registered, and the treatment program should be supervised closely by a competent orthopedic surgeon or a qualified general surgeon with experience in this field if a doctor of physical medicine and rehabilitation is not available. We also feel that the occupational therapist should be a properly trained person and that the patients' activities in that department should be supervised by the medical staff so that the activities in occupational therapy will supplement those in physical therapy whenever possible.

5. What Are Some of the Limitations in the Convalescent Facilities as to Their Physical Equipment and the Breadth of Their Medical Care Program?

With regard to certain limitations in services offered by the convalescent hospital or home, we are certain that they vary considerably from institution to institution. Certainly, in these days convalescent facilities, such as Types A and B above, should be properly equipped and able to carry out a reasonable type of rehabilitative program. In our opinion, however, this does not mean that they should make any effort to approximate the Bellevue setup. We have a feeling that through the dynamic program of the Rusk group, too much emphasis is being put on physical rehabilitation in combination with a convalescent program. There are patients who need all the Rusk program offers, and there should be physical rehabilitation facilities developed in proportion to the needs of those patients with major disabilities who can be benefited. We cannot believe, however, that there are enough such cases to require a full physical setup in each convalescent facility. Neither do we believe that a majority of the convalescent patients passing through a convalescent hospital are in need of any more elaborate rehabilitative program than that which can be offered as part of the physical therapy program. In those cases requiring major rehabilitative procedures or prostheses, we feel that it would be to their advantage to be transferred to a facility such as the Bellevue setup or others of a similar type.

With respect to admission of adult bed care patients to the convalescent facilities, we believe that those institutions described under Type A should perhaps develop a program for the care of patients who will require bed care for a relatively short period but whose prognosis is good and indicates a high potential for complete recovery. This would transfer some of the beginning ambulation care from the acute hospital to the convalescent hospital where we believe it could be handled just as well and again at a reduced cost.

The one danger, as we see it, is that carelessness in the admission department might result in filling some of the convalescent facilities with chronic bed care illness. There is of course a need for such chronic bed care, but we feel that this need should be met by the development of certain other facilities. Since such patients are almost universally unable to pay their own way, it seems to us that county units should develop such facilities in conjunction with their old age institutions or county hospitals.

In the field of endowed or semiendowed convalescent facilities, some might be interested in developing a separate wing or building for a chronic bed care program, but there should be a sharp physical division between those patients and the convalescent patients for psychologic reasons. It is also possible that some of the endowed old persons homes might be persuaded to develop a chronic bed care department which would be physically separate from their present facility but in which, through the overlapping of certain services and equipment, the cost of care for the bed patients would be lessened. Such an auxiliary service would also give the home an advantage in taking care of their own oldsters who become bedridden.

In the City of New York the Hospital Division of the Public Welfare Department is not permitted to pay for a patient in a convalescent facility who has not been referred from the ward of an acute hospital. This one stumbling block in the adequate use of the various convalescent facilities in the Greater New York area prevents many patients from obtaining needed medical care which is short of the need for acute hospital ward facilities. We are convinced that if this policy could be changed, it would have a very prompt beneficial effect on the percentage of occupancy of all the convalescent facilities in the area.

Another stumbling block in the path of the full use of the convalescent facilities is the fact that Associated Hospital Service contracts in this area do not pay for convalescent care. This seems to us to be a shortsighted policy since the A.H.S. would only be expected to pay the regular rate for the convalescent facility, which is always considerably less than the rate paid the acute hospital facility. We believe that with proper education and propaganda the use of convalescent facilities by A.H.S. subscribers in the long run would probably save money for A.H.S. and would also free beds in the crowded semiprivate rooms of the acute hospitals.

Chronic Illness—A Survey

HERBERT NOTKIN, M.D., SYRACUSE, NEW YORK

(*From the Onondaga County Department of Welfare and the Department of Public Health of the State University of New York College of Medicine at Syracuse*)

EPIDEMIC disease has been considered a major scourge of society since the dawn of history. In sharp contrast chronic illness has been so newly recognized as an important problem that Dr. Ernst Boas[1] was able to make this statement as recently as 1940:

> As yet there is but a dawning realization of the social import of chronic disease. No organized effort has been made to envisage the problem of chronic disease in all of its aspects, and to develop an orderly program for combating its disastrous consequences.

Long-term illness is a serious problem in Occidental society today for various reasons. The ravages of chronic disabling illness per se have caused untold pain and misery to huge numbers of people. The financial effects of reduced family income, tremendous medical expenses, lessened national productivity, and increased financial dependency have had definite effects on our economy. Next, we face the problem of social disintegration caused by removal of individuals from the family. Last, the psychologic effects of serious long-term disease in hitherto healthy and productive individuals, while statistically immeasurable, have produced many serious untoward effects on individuals and society.

Since 1940 the United States has awakened to the challenge. Many individual communities, most states, the Federal government, and numerous private agencies have attacked the problem. Possibly the clearest realization that we have faced the situation was the formation of the Commission on Chronic Illness in 1949. This independent voluntary agency is sponsored by the American Medical, Hospital, Public Health, and Public Welfare Associations with the collaboration of the U.S. Public Health Service. In its brief existence the commission has made basic contributions to the field and continues to publish studies which add to our knowledge.

There have been any number of definitions of chronic disease, but the newest one has been coined by the Commission on Chronic Illness:[2]

> "Chronic Disease" comprises all impairments or deviations from normal which have one or more of the following characteristics: are permanent; leave residual disability; are caused by nonreversible pathologic alteration; require special training of the patient for rehabilitation; may be expected to require a long period of supervision, observation, or care."

Genesis, Incidence, Prevalence

A natural question to ask is, "Why this sudden upsurge in interest in chronic illness over the past fifteen or twenty years?" This question has a multiplicity of answers. Chief among these are the relative leisure on the part of professional health workers to look at this problem since the problems of infectious illness are now so much less urgent, the aging of the population with its related increase in chronic degenerative disease, improvement in diagnosis and treatment of chronic illness, and the impact given to rehabilitation by the Armed Forces in World War II.

Although this is not a statistical presentation, a few figures are needed to understand the total picture of chronic disease today. By applying the findings of the National Health Survey (1935–1936) to the current population of the United States, we find that approximately 3.5 per cent of the people (one in 30) or a total of 5,300,000 people have a chronic condition which has been disabling for three months or more. This is a relatively small figure compared to the 28 million people who have a mental or physical impairment (not necessarily disabling).[3] It is estimated that this 5,300,000 will be 6,400,000 in 1960 and 7,400,000 in 1970, or an annual increment of 104,000.

Interestingly enough, 78 per cent of the disabled chronically ill are *not* institutionalized. The remaining 22 per cent are in institutions for long-term patients. Over half reside in mental hospitals, and the rest are divided among tuberculosis hospitals, almshouses, schools for the handicapped, nursing homes, and chronic disease hospitals.

These relatively few statistics should serve to point up the current and future magnitude of the problem. The remainder of this paper will present an approach to the solution of the problem of chronic illness, omitting any discussion of tuberculosis, mental illness, or long-term illness in children.

Prevention

The first public health approach to a new disease problem is a preventive one. We must confess that the great mass of chronic disease is not now

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Adapted from the Convocation Lecture, State University of New York College of Medicine at Syracuse, October 6, 1954.

preventable in the best tradition of public health. Since chronic illness is composed of a wide variety of diseases with a host of causes, it can be seen that no one preventive method can be effective. In order to clarify this complex problem some relatively new terminology distinguishes between two types of prevention:

1. *Primary prevention* is the prevention of the *occurrence* of disease and may be exemplified by forestalling an epidemic of typhoid fever through water supply purification or prevention of pellagra by dietary measures.

2. *Secondary prevention* is halting the *progression* of disease from an early to a more severe stage. One example is the checking of contractures by physical therapy instituted shortly after a stroke. Another is curbing the appearance of bedsores through good nursing care.

Because we lack much of the specific knowledge needed for the primary prevention of chronic illness, today's approach must be mainly one of secondary prevention. In other words, early detection of disease and the use of good medical care early in the course of illness are the most hopeful present-day methods of preventing chronic illness from becoming chronic *disabling* illness.

A corollary to this situation is our relative inability to apply *mass* preventive technics to chronic illness. Possibly the only currently effective method of reducing the occurrence of a chronic disease on a mass basis is reduction in dental caries by fluoridation of water supplies.

With minor exceptions, therefore, the only available effective approach is one of individual education and motivation. For example, it is well known today that excess weight increases the possibility of contracting such chronic illnesses as cardiovascular disease and diabetes. Nevertheless, there are huge numbers of obese Americans. Although mass media of communication may be used in educating the public to the dangers involved, the problem is basically one of educating and motivating *individuals* to decrease their caloric intake.

Since it is so difficult to prevent the occurrence of most chronic diseases, it becomes particularly important to detect them early enough so that medical care may be most effective. If possible, this detection should occur before the symptoms cause the patient to seek medical advice. For years some public health and medical leaders have urged periodic physical examinations for adults, similar to the better known examinations of well children. In general, this approach has been quite unsuccessful. People are often reluctant to spend money for medical care when they feel well. Many people are afraid that the doctor will discover something seriously wrong. Finally, busy physicians frequently do not wish to spend time examining supposedly healthy people.

For these and other reasons an experimental but potentially important method of early detection of chronic disease was proposed a few years ago and is now being widely tested. This is the so-called multiphasic screening method. Its origins were in mass x-rays for tuberculosis detection and serologic testing for syphilis. From this grew the idea of combining the two. Other tests were added so that these clinics may now screen for lues, tuberculosis, hypertension, some types of heart disease, diabetes, glaucoma, and certain forms of cancer.

The advantages of this approach are its relative lack of expense to each person screened and its offer of an early mass method of detecting some chronic diseases. Its major disadvantage is that it can only screen for certain diseases and that negative results may give people a false sense of security for the unscreened illnesses. False positive results may also cause serious and unwarranted fright.

The method is still experimental, and no definitive statements as to its permanent value can as yet be made.

Care and Treatment

It can easily be seen that any current preventive program will leave a huge residue of chronically disabled patients who need care. This care may encompass the services of one or more of a large variety of disciplines, including all types of medical and paramedical personnel, social workers, housekeepers, vocational counselors, and others. Many agencies, voluntary and governmental, may be asked to exercise their professional skills or to help finance the care of long-term patients.

FACILITIES FOR CARE.—The chronically ill individual can be cared for in a variety of facilities depending on the severity and type of his illness, the suitability of his home, and a host of social, economic, and psychologic factors. The various facilities for the care of the chronically ill person are as follows:

Home—This may be the person's own home, a boarding home, or a foster home. Chronically ill individuals have been cared for in their own homes for centuries. In recent generations a combination of more effective hospitals, smaller homes, and a lessened sense of family unity has caused an upswing in institutional care. During the past few years the pendulum has begun to reverse its swing. There is now a fairly clear realization that under certain conditions the home is the most satisfactory place for the care of the long-term patient. The basic requirements are the family's desire to have the patient at home, reasonably satisfactory home conditions, and the ability to procure the necessary services. Successful home care programs, now in operation from Boston to Seattle, are demonstrating that even very ill people can be adequately treated at home. Properly administered and utilized, such programs can save large sums in hospital construction and operation, along with freeing hospital beds for acutely ill persons.

Present-day terminology makes a distinction between *home care* and care in the home. Care of a chronically ill individual in the home by family and friends, with occasional visits by the physician or nurse, has always been known. *Home care,* by contrast, has come to mean an *organized* program of caring for a patient at home with various types of medical, social work, and housekeeping personnel working as a *team* for the purpose of rendering care of high quality.

General Hospitals.—This type of facility has traditionally and fairly regularly refused chronically ill persons because they use beds needed for acutely ill persons and prevent the rapid turnover of patients deemed necessary for teaching purposes. Nevertheless, during periods of acute exacerbation of disease, for complicated diagnostic studies, or during terminal illness the general hospital can be the proper place for a chronically ill person. A recent study indicates that possibly 12 per cent of the patients in the average general hospital have been hospitalized over thirty days.

Nursing Homes.—In recent years nursing homes have become extremely common in many parts of the country. They fill a definite need, generally caring for chronically ill or aged and infirm individuals with unsuitable homes or who are unwanted in the home. These institutions, usually organized for profit, provide care ranging from very good to extremely poor. They are generally isolated from the mainstream of medical progress, and patients are often denied many of the benefits of modern medical care.

A basic problem of the proprietary nursing home is the necessity of earning a profit as opposed to the desire to give good care. The wider the range of services and the better the quality of care, the higher the charges must be to meet the costs and still allow a reasonable profit. Since nursing home care is often already almost prohibitively expensive (considering that patients often remain for years), any marked increase in fees might mean that nursing homes would price themselves out of the market.

Deplorable conditions, including poor medical and nursing care, inadequate food, and unsafe buildings, have led many states and localities to pass laws requiring licensure of nursing homes. When vigorously enforced and combined with educational measures, they have markedly improved the physical care given to patients and the safety of buildings. As yet, there has been little improvement in rehabilitation programs, although some experiments are under way.

Chronic Hospitals.—These may be publicly or privately owned and are meant for the care of long-term patients too ill to be at home or in a nursing home. While this purpose is at times fulfilled, it is achieved all too rarely. The problem is not that hospital staffs wish to give a poor quality of care, but they are often not in a position to give good care for a variety of reasons. Chronic hospitals, particularly public ones, are often understaffed, both in quantity and quality. They frequently must keep, often for years, patients who have obtained all the benefits of hospitalization but who have no other place to go. As the hospital fills up with people needing only custodial care, any active program of medical care and rehabilitation eventually stagnates. That this problem can be solved is shown by the bold and imaginative efforts of some institutions in this country and abroad.

The Cowley Road Hospital in Oxford, England, has been singularly successful in maintaining a free flow of patients by a combination of an active rehabilitation service, good social work, and imaginative administration. An example of the program's flexibility can be seen by the arrangements made with children who take chronically ill parents home. Not only does the hospital guarantee a bed when needed, but it will even take the patient back during the children's vacation.

In the United States an unusual public program based on physical rehabilitation and social service has been developed in the Allegheny County Institution District in the Pittsburgh area.[4]

Coordination of Care.—A thread which runs through the entire fabric of care for the person with long-term disabling illness is that of coordination or, what has recently been termed, "*the right patient in the right bed at the right time.*" This means free transfer of patients to and from their own homes and institutions, as determined solely by the physical, social, and emotional needs and desires of the patient and his family and without regard to artificial legal, administrative, or financial barriers. Every community can cite case after case of chronically ill people who, because of a financial or administrative problem, do not reach the proper facility at the time when they can be helped most or who remain in highly expensive facilities much longer than necessary.

Financing.—An essential to proper care is, of course, adequate financing. The costs of chronic illness can be staggering to the average family for bills of several thousand dollars in a year or less are not uncommon. Increasingly, this cost is being met by voluntary insurance, but current voluntary coverage for chronic illness is quite incomplete and highly spotty in its distribution.

Philanthropy has helped too, particularly in building and maintaining hospitals and other institutions. In the last analysis the major source of financing care for the chronically ill after liquidation of family resources is government—at local, State, or Federal levels—or often a combination. A major problem in government financing is that appropriating bodies rarely pay for care before the person is poverty stricken. It seems that what may be called "preventive financing," which could pay for care before the family's resources are completely gone, might well be considered by government on an experimental basis.

A major aspect of financing is the huge capital outlay needed for construction. This has always caused the beds available for chronically ill persons to lag behind the need. From the statistics heretofore cited, it seems that this situation will continue well into the future, so that proper utilization of existing facilities will become ever more important.

Rehabilitation

Rehabilitation of the chronically ill individual to the maximum possible degree is an essential goal during any phase of treatment. A working definition of rehabilitation is as follows: "Rehabilitation is a service designed to enable the individual who is physically or emotionally handicapped, chronically ill, or convalescing, to live and work to the utmost of his capacity."

It is fashionable to talk of rehabilitation as the "third phase of medical care," following diagnosis and treatment. It is probably more correct to think of it as being concomitant with the care of chronic illness from its inception. To be most effective, rehabilitation should begin early in the course of illness. For example, the immediate and simple treatment of paralyzed limbs following a stroke may be more important in determining the final function of the extremities than long periods of therapy started weeks or months later.

There has also been a tendency to equate rehabilitation with physical medicine. Practically any physician can practice rehabilitation. An illustration can be taken from internal medicine. The physician who treats a patient with congestive heart failure with the correct dose of digitalis and the proper diet and thus gets him out of bed and practicing self-care is practicing rehabilitation just as much as the physiatrist who teaches a bilateral mid-thigh amputee to use his artificial limbs.

The tremendous emphasis placed on *vocational* rehabilitation over the past few years has tended to obscure the equally important rehabilitation of those who can never function vocationally. Many thousands of chronically ill individuals may regain such useful functions as bladder and bowel control, locomotion, dressing, or eating. These abilities may spell the difference between total helplessness on one hand and complete or partial self-help on the other. Rehabilitation may also help to turn a hospital patient into one who can be cared for at home. In view of the psychologic gains involved in attaining even a minor degree of independence, as well as decreasing the cost of personal attendants and hospitalization, the value of rehabilitation (even without a vocational goal) becomes self-evident.

Rehabilitation is a teamwork function involving many types of personnel. Since the physical and psychologic factors of any two handicapped people are different, the team must individualize its approach to patients. There is no set pattern for helping to rehabilitate the amputee, the cardiac, or the hemiplegic, but rather there should be an individual program based on common principles for each person.

Rehabilitation is as much in need of coordination as other phases of patient care. With proper organization, rehabilitation can begin immediately upon an individual's admission to an institution caring for the chronically ill. More difficult but easily as important is the early inception of a rehabilitation program in the physician's office or the patient's home for those who may never enter an institution. The primary problem here is the education of key people such as physicians, visiting nurses, and social caseworkers to the possibilities of an early and effective rehabilitation program.

Research

From a long-range point of view there is one activity in the field of chronic disease which may be more important than prevention, case-finding, patient care, or rehabilitation—this is *research!* Not one facet of the problem of long-term illness is even well on the way to complete solution! We need better preventive methods to forestall disease instead of only slowing its progress. We can use more accurate laboratory tests for the early detection of chronic illness. We need better methods of diagnosing and treating patients with most forms of chronic disease. The field of rehabilitation still requires a tremendous amount of knowledge to improve its methods. Outside of the strict medical field there is much to learn in such areas as nutrition, housing, the social and psychologic origins and effects of disease, and the efficient and humane administration of programs to control long-term illness.

Fortunately with the recent upsurge of interest in chronic disease there has been a simultaneous increase in both governmental and private research. Nevertheless, there are no grounds for complacency. The fact that the Commission on Chronic Illness and numerous other groups are conducting huge morbidity surveys show that we have not yet accurately identified the problem—let alone learned how to solve it!

Personnel

It is evident that many types of personnel are needed in chronic disease control. A partial listing would include physicians, nurses, physical and occupational therapists, social workers, housekeepers, and vocational counselors. One of today's major problems in organizing programs to control chronic illness is the inability to recruit sufficient well-trained personnel. The solutions lie in the areas of improving training facilities, increasing job satisfactions, and raising salaries to the point where it is possible to compete realistically for personnel.

Summary

Chronic illness is one of the major health problems facing this country. Its magnitude and complexity demand the coordinated efforts of a wide variety of disciplines and many types of social and health agencies. The problem is far from completely soluble in the light of present-day knowledge, but many of the tools to minimize its impact are available for immediate use.

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Committee Outlines Program for Poison Control

The American Medical Association's Committee on Toxicology recently outlined four methods for combating the perennial problem of accidental childhood poisonings. The methods include education, more stringent laws, establishment of poison centers, and greater efforts by local physicians. They were discussed in a report prepared for the committee by Dr. Jay M. Arena, Durham, North Carolina and published in the December 17 *Journal of the American Medical Association.*

Bernard E. Conley, secretary of the committee, said " . . . the curiosity of children coupled with the casualness with which many parents handle and store drugs and chemicals are predisposing factors to most unintentional poisonings." The "alarming feature" of the problem is the regularity with which various household agents and drugs are swallowed by children, the report said. Leading causes are drugs, especially aspirin and barbiturates, petroleum products, lead, corrosive agents such as lye, and arsenic.

Of approximately 14,000 accidental deaths that occur each year among children from one to fourteen years, almost 1,500 are reported as being caused by accidental poisoning, but this figure is "far from correct" for many cases are never recorded, the report said. Childhood deaths from poisoning occur disproportionately often in 12 southern states—Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North and South Carolina, Oklahoma, Tennessee, Texas, and Virginia, the report said.

For the barbiturates and aspirin there is little regional difference, but for corrosives and arsenic the rate in these southern states is six times that for the rest of the country. The rate for petroleum products, principally kerosene, is four times as high. "Quite apparent to everyone" is the need for educating laymen and parents to the dangers of household agents, but many physicians also are unaware and must be educated, the report said. Manufacturers must be made aware of the seriousness of the problem and of their responsibilities. They should consider the use of distinctive safety containers and better labeling with warning statements and when necessary uniformly standardized doses for drugs.

While the present federal laws are useful as far as they go, they are far from adequate, the report said. Laws regulating the sale of household articles not now covered by existing laws must be considered. Physicians and lay groups should work for state laws to strengthen federal ones and to bring about correction of their special state problems. The report suggested that the sale of kerosene be restricted except in a special type of container, which would also carry a label warning of its poisonousness and inflammability.

Poison centers should be set up to collect and distribute information on the type, frequency, treatment, and preventive measures for poisonings.

Another step forward would be a concentrated effort by every physician to educate parents to the hazards of household agents. This could be done by pointing out corrective measures while making house calls, distributing safety literature to mothers, using bulletin board displays in the office, encouraging community programs to study the problem, and giving information to radio stations, newspapers, and magazines. Much can be accomplished by asking pharmacists to put labels such as "Keep out of the hands of children" on all dangerous drugs and agents, the report said.

Dr. Arena is associate professor of pediatrics at Duke University and director of the Poison Control Center of Durham.

NECROLOGY

John McGregor Barnes, M.D., retired, of Cambridge, Maryland, formerly of Buffalo, died on January 1, of a coronary occlusion at the age of fifty-five, in the Cambridge-Maryland Hospital. Dr. Barnes graduated from the University of Michigan Medical School in 1924. A former director of the Radiology Laboratory and Roentgenological Department at the Millard Fillmore Hospital, Buffalo, he was a Diplomate of the American Board of Radiology, a Fellow of the American College of Radiology, and a member of the Radiological Society of North America, Inc., the American Roentgen Ray Society, the Buffalo Academy of Medicine, the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

George W. Davis, M.D., of Katonah, formerly of Oneida, died on January 26 at the age of ninety. Dr. Davis graduated in 1891 from the University of Buffalo School of Medicine. He was an honorary member of the staff of the Oneida City Hospital and before his retirement had been an active member of the medical staffs there as well as at the Hamilton Memorial Community Hospital. He was a member of the Madison County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Manoel de Bono, M.D., of Amityville, died of a heart attack at his home on January 7 at the age of sixty. Dr. de Bono received his degree from the University of Malta Faculty of Medicine and Surgery, Valletta, in 1922 and from the University of London Faculty of Medicine in 1924. Before coming to this country, Dr. de Bono served with the British Health Service on the Gold Coast of Africa. During World War II he served with the U.S. Medical Corps with the rank of captain. Dr. de Bono was a member of the Suffolk County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

William Henry Hodge, M.D., of Niagara Falls, retired, died on January 13 in Memorial Hospital at the age of ninety. Dr. Hodge graduated from Hahnemann Medical College and Hospital of Chicago in 1889. Following graduation he served as an assistant instructor in the University of Michigan's Medical Department and in 1891 began practicing in Niagara Falls. Dr. Hodge was one of the doctors responsible for the founding of the Niagara Falls Memorial Hospital and was one of the organizers of the Medical Advisory Board in 1905, on which he served as chairman for ten years. He was a member of the first board of trustees of the Martha H. Beeman Foundation Child Guidance Clinic and served as its president for eighteen years. The board of directors of the Martha H. Beeman Foundation honored him at a dinner on his eighty-ninth birthday in recognition of his work with the foundation.

For thirty-five years he was senior surgeon for the New York Central Railroad in Niagara Falls and was a past president of the New York and New England Association of Railway Surgeons. Last May, Dr. Hodge was honored at a dinner on his ninetieth birthday at which the Board of Trustees of Memorial Hospital also celebrated the sixtieth anniversary of the hospital. Dr. Hodge was an honorary member of the staff of Mount St. Mary's Hospital, of which he had been chairman of the active staff for many years, and Memorial Hospital, as well as an honorary member of the Council of Social Agencies and the Niagara Falls Memorial Commission. He was a member of the Niagara County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Elisha Roberts Richie, M.D., retired, of La Habra, California, formerly of Brewster, died of a heart attack on January 5 at the age of eighty. Dr. Richie graduated from Hahnemann Medical College of Philadelphia in 1902. While in Brewster he was a director of the District Nursing Association of Southeast, Brewster Branch of the Putnam County Chapter, American Red Cross, and the Putnam County Health Association. As a public health officer, Dr. Richie served the Town of Southeast for more than thirty years. He was an honorary physician and surgeon of the Northern Westchester Hospital, Mount Kisco. Dr. Richie was a retired member of the Putnam County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Marshall Ellis Ross, M.D., of New York City, died on December 26, 1955, at the age of sixty. Dr. Ross graduated from Howard University College of Medicine in 1922. He was an associate in gynecology at the Harlem Hospital. Dr. Ross was a member of the Harlem Surgical Society, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Karl Rubner, M.D., of New York City, died in January at the age of fifty. Dr. Rubner received his medical degree from the University of Vienna in

1938. He was an assistant in ophthalmology at Montefiore Hospital and a member of the New York County Medical Society and the Medical Society of the State of New York.

Henry Paul Schugt, M.D., of New York City, died on January 30 at Lenox Hill Hospital at the age of sixty. Dr. Schugt received his medical degree from the University of Wurzburg in 1920. He was attending otolaryngologist at Lenox Hill Hospital as well as chief of otolaryngology at the Outpatient Department there, and a consultant in otolaryngology at St. Francis Hospital, Port Jervis. He had lectured in otolaryngology and bronchoscopy at New York Polyclinic Medical School and Hospital and was the author of many papers and articles. Dr. Schugt was a Diplomate of the American Board of Otolaryngology, a Fellow of the American College of Surgeons, and a member of the American Academy of Ophthalmology and Otolaryngology, the New York Society for Thoracic Surgery, the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Oscar Walter Steinlein, M.D., retired, of Brooklyn, died of a heart attack on January 9 at the age of eighty-seven. Dr. Steinlein graduated from the University of Buffalo School of Medicine in 1901.

Armin Wurmfeld, M.D., of New York City, died at his home on February 2 following a brief illness at the age of seventy-six. Dr. Wurmfeld received his medical degree in 1903 from the University of Vienna. He was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

NEWS FROM THE MEDICAL SCHOOLS

Albany Medical College

Postgraduate Teaching Course—Chest problems, hematology, interesting cases, cardiology, and gastroenterology were discussed at the second program of the current postgraduate teaching course. Dr. William P. Nelson, III, assistant professor of medicine, at the College, and chief, Medical Service, Veterans Administration Hospital, was the moderator. Other participants were Dr. James H. Cullen, assistant professor of medicine, Dr. John A. O'Hern, chief, Thoracic Surgery Section, Veterans Administration Hospital, Drs. William U. Reidt and Rolf H. Scholdager, members of the College faculty, Dr. Charles A. Hall, assistant professor of medicine, Dr. Edward P. Nolan, assistant in medicine, Drs. Robert J. Cassidy and Anita A. Chase, junior instructors in medicine, Dr. Donald W. Drew, assistant professor of medicine, Drs. Eliot Rapaport and Myron H. Weisbart, instructors in medicine, Dr. John M. Fiore, assistant in medicine, Dr. Irving LeVine, instructor in medicine, Drs. James R. Greene and Walter Wartonick, assistants in medicine, and Dr. Richard D. H. Flaherty, internist, Veterans Administration Hospital.

"Medical Clinical Seminar Day and Recent Advances in Clinical Medicine," another in the series of postgraduate teaching programs for area physicians was held January 13, 14, and 15.

The February program was held on February 2, 3, and 4 with Dr. C. Stuart Welch, associate professor of surgery, acting as moderator. The subject was recent advances in the treatment of cardiovascular disease, and visiting physicians who participated were: Dr. Ralph A. Deterling, Jr., associate professor of clinical surgery, College of Physicians and Surgeons, and associate attending surgeon, Presbyterian Hospital, New York City; Dr. Jere W. Lord, Jr., professor of clinical surgery, New York University Post-Graduate Medical School, and visiting surgeon, Bellevue Hospital, and Dr. Robert A. Linton, associate clinical professor of surgery, Harvard Medical School, and visiting surgeon at Massachusetts General Hospital.

Credit for attendance is given by the American Academy of General Practice.

Public Health Service Grants—Dr. C. Stuart Welch, associate professor of surgery, received a U.S. Public Health grant of $6,900 to continue the investigation and treatment of acute and chronic liver disease. Dr. John E. Kiley, assistant professor of medicine, and a research staff are assisting Dr. Welch.

The graduate training program in neurology received $203,812. Dr. Robert W. Graves, professor of neurology, assisted by Dr. Frederick H. Hesser, associate professor of neurology, will administer the grant, and other members of the teaching staff will include Dr. Samuel Tarnower, assistant clinical professor of neurology, and Drs. Thomas M. Drislane and Stanley M. Ball, instructors in neurology.

New York University-Bellevue Medical Center

Long-Range Study Program—A long-range study program to determine the methods by which a medical center can best relate its programs of medical teaching, research, and patient care to the current and future needs of the community was launched at the Center. Dr. Allen O. Whipple is the consultant and will serve on a part-time basis. Dr. William N. Hubbard, Jr., associate dean of the College, and Dr. Raymond S. Jackson, associate professor of medicine, Post-Graduate Medical School, have been assigned to work with Dr. Whipple on a full-time basis.

Physically Handicapped Puerto Ricans—A grant from the Office of Vocational Rehabilitation, Department of Health, Education, and Welfare, for a study aimed at improving rehabilitation services for physically handicapped Puerto Ricans living in the continental United States has been received. Victor D. Sanua, a Spanish-speaking clinical psychologist, will direct the study.

Medical Education for National Defense Committee—The College is one of ten medical schools to be accepted for permanent full affiliation with the Medical Education for National Defense Committee. Dr. Arthur C. Fox, full-time assistant in medicine and researcher in the Department of Medicine, will be the coordinator for the program. MEND was established by the Department of Defense and the U.S. Public Health Service in order to incorporate into the present medical educational program information vital to the treatment of casualties of modern warfare or mass disaster. Funds are provided by MEND for visiting lecturers, faculty travel to the Federal research-teaching establishments, purchase or rental of teaching materials, and part salary for the local coordinator.

State University of New York College of Medicine at New York City

Department of Pharmacology—Dr. Robert F. Furchgott, associate professor of pharmacology at the Washington University School of Medicine in St. Louis, has been appointed professor and chairman of the new Department of Physiology at the College. Pharmacology, which has been combined with physiology as a joint department under the chairmanship of Dr. Chandler McC. Brooks, will assume equal departmental status with the other basic science departments when Dr. Furchgott assumes his new post sometime this spring.

As professor and chairman, Dr. Furchgott will be responsible for expanding the teaching staff and developing research and educational projects in his department. In addition, he will supervise the ordering and allocation of departmental equipment in preparation for the College's move to its new Basic Sciences Building on Clarkson Avenue next fall.

Leave of Absence for Dr. Gross—Dr. Jack Gross, associate professor of anatomy, who won the 1955 Ciba Award for his work in endocrinology, left during February on a six months leave to do special investigative work at the National Institute for Medical Research in England. He will work with Dr. Rosalind Pitt-Rivers on the identification of a product of thyroid hormone which has been found in work carried out here. The Ciba Award, in addition to a stipend of $1,800 granted last June, will provide $700 toward Dr. Gross' expenses in England.

Adam M. Miller Lecture—The College's twentieth annual Adam M. Miller Memorial Lecture was delivered on February 2 by Dr. Paul Weiss of the Rockefeller Institute for Medical Research. His topic was "Prospecting in the Field of Growth and Differentiation."

State University of New York College of Medicine at Syracuse

Booklet—A booklet on what makes a desirable candidate for medical school, and educational and personal characteristics needed by the practicing physician, the talks given at the August, 1955 guidance conference for college students, parents, and undergraduate university and college counselors at the College, was published the second week in January. Dean William R. Willard wrote the introduction.

Contributors are: Dr. William W. Faloon, assistant professor of medicine; Dr. Gordon D. Hoople, professor emeritus of otolaryngology, and founder of the Hoople Hearing and Speech Center; Dr. Leon G. Berman, clinical professor of surgery, and Dr. Martin F. Hilfinger, associate professor of pathology. Dr. Davis G. Johnson, assistant dean for student personnel, is the editor. Copies have been mailed to premedical counselors at New York and other northeastern universities and colleges. Other copies are available on request from the College.

University of Rochester School of Medicine and Dentistry

New Discovery—Dr. Jean L. Cook, instructor, Department of Medicine, and Dr. Martin Morrison, instructor, Department of Biochemistry, have discovered a method of breaking down hemoglobin which is expected to lead to new clues in research on certain anemias and other blood disorders caused by faulty hemoglobin. This project was sponsored by the National Heart Institute of the National Institutes of Health in cooperation with Dr. Elmer H. Stotz, chairman, University of Rochester Department of Biochemistry, and Dr. William S. McCann, chairman University's Department of Medicine.

MEDICAL NEWS

Mental Retardation Clinic—A clinic for mentally retarded children was opened February 1 by the Department of Pediatrics of the University of Rochester Medical Center, it has been announced by Dr. Donald G. Anderson, dean of the University of Rochester School of Medicine and Dentistry and director of the Medical Center.

A grant of $8,367 made to the Medical Center last fall by the Rochester chapter of the Sunshine League for Retarded Children will be used to help finance operation of the clinic during its first year. The clinic will offer diagnostic and consultative services concerning mentally retarded children under the age of six. The number of children to be studied during the first year of clinic operation will be limited to 80.

The Clinic will accept children upon referral by a physician, clinic, or health agency which has a physician on its staff. Each patient must be referred in this manner and be seen by appointment.

Physicians and health agencies may direct inquiries concerning the program to the Mental Retardation Clinic, University of Rochester Medical Center.

Mental Health Boards—A three-day conference of the New York State community mental health boards was held in Syracuse beginning on January 30. The conference was the first joint meeting of the members of the 12 community mental health boards which have been established under the provisions of the Community Mental Health Services Act.

New AMA Film—The American Medical Association's committee on medical motion pictures has added "The Doctor Examines Your Heart" to its film library. The film demonstrates the methods used by physicians in examining the heart and touches on such things as percussion, listening with a stethoscope, determining blood pressure and pulse rate, fluoroscopic examination, and use of electrocardiograms. Running time for this black and white film is eleven minutes.

Civil Defense Aid—A new civil defense aid, designed to assist hospitals in preparing their comprehensive plan to meet disaster, is now available for use by the more than 400 general and allied hospitals in New York State.

The aid, "Outlining a Hospital Disaster Plan," is a loose leaf outline-questionnaire intended to guide the organization of emergency hospital services for civil defense. Copies may be obtained from the State Department of Health's regional offices in Albany, Buffalo, Rochester, Syracuse, or White Plains.

Dr. Wertz Presents Merit Certificate—Dr. Carlton E. Wertz, (*left*), member of the Council of the American Medical Association, presented a certificate of special merit for medical television pioneering to Carlton P. Cooke, (*right*), president of the board of trustees of the Buffalo General Hospital, on January 30 following the national network telecast of "Medical Horizons." The presentation originated from the hospital and featured methods for the treatment of rheumatoid and gouty arthritis used at the Buffalo General Hospital. The certificate was in recognition of the hospital's contribution to the public understanding of the medical profession on the program sponsored by Ciba Pharmaceutical Products, Inc., in cooperation with the American Medical Association.

Biometrics Unit for Psychiatry—A biometrics unit, a research group which will bring biometric methods to bear on the problems of psychiatry, was added to the New York State Department of Mental Hygiene over-all organization on February 1, it has been announced by Dr. Paul H. Hoch, commissioner of mental hygiene. The unit will be located at the New York State Psychiatric Institute, 722 West 168th Street, New York City.

Biometrics (the mathematical analysis of biologic data) will provide technics and methods for assaying the physical, physiologic, psychologic, and social characteristics of individual and groups of mental patients.

The work of the division will be carried on partly in the offices of the Institute, but will be basically State hospital-centered. The unit will work directly with the patients and their records and the personnel and procedures involved in the project under study.

Hill-Burton Grants—The Department of Health, Education, and Welfare reports that as of December 31, 1955, the status of all Hill-Burton grants for the State of New York is: Projects approved during the past month: Huntington Hospital at Huntington, at an estimated total cost of $2,150,700, an approved Federal share of $605,672, and 102 additional beds; Aurelia Osborn Fox Memorial Hospital at Oneonta, at an estimated total cost of $1,140,721, an approved Federal share of $366,920, and supplying 65 additional beds; Rockaway Beach Hospital at Rockaway Beach, with an estimated total cost of $2,620,600, an approved Federal share of $850,000, and supplying 150 additional beds; Richmond Memorial Hospital in Staten Island, at an estimated total cost of $498,300, an approved Federal share of $155,433, and 24 additional beds; and St. Charles Hospital in West Islip, at an estimated total cost of $3,498,000, and an approved Federal share of $853,778.

Approved, but not yet under construction, including the above, are 12 projects at a total cost of $14,038,970, including $4,208,686 Federal contribution, and designed to supply 787 additional beds.

Sixteen projects are under construction at a total cost of $52,749,973, including Federal contribution of $7,484,172 and designed to supply 1,561 additional beds.

Completed and in operation are 73 projects at a total cost of $73,684,913, including Federal contribution of $21,101,404 and supplying 4,029 additional beds.

New York Doctors' Orchestral Society—The New York Doctors' Orchestral Society took part in the Arthritis Foundation telethon on January 15, performing the fourth movement of Dvorak's "New World Symphony."

Rehearsals are held every Thursday at 8:30 P.M. in the auditorium of P.S. 33, 9th Avenue and 26th Street, New York City. Interested physicians, dentists, and others in allied professions, should contact Dr. Benjamin A. Rosenberg at NEvins 8-2370.

Eye, Ear, Nose and Throat Society—The 195th meeting of the Eastern New York Eye, Ear, Nose & Throat Society was held on January 5 at the Mohawk Golf Club in Schenectady. Dr. Maynard Wheeler of New York City addressed the eye section and spoke on muscle defects in children.

Roswell Park Lecture—On February 9, the Buffalo Surgical Society sponsored the Roswell Park Lecture which was given by Dr. Robert E. Gross, Ladd professor of children's surgery, Harvard University, and surgeon in chief at the Children's Hospital, Boston.

Dr. Gross was awarded the Society's gold medal, being given for the ninth time in honor of Dr. Roswell Park, professor of surgery at the University of Buffalo from 1883 to 1914.

Personalities

Elected

Dr. Antonio Acosta-Velarde, practicing physician in the Washington Heights area, and Dr. Robert C. Darling, professor of physical medicine and rehabilitation, College of Physicians and Surgeons, Columbia University, to the board of directors of the New York Tuberculosis and Health Association . . . Dr. George L. Branch, Catskill, president, Dr. Mahlon H. Atkinson, Catskill, vice-president, Dr. J. Earl McQuade, Coxsackie, secretary, of the medical staff of Greene County Memorial Hospital . . . Dr. Irving M. Pallin, Brooklyn, as president-elect of the American Society of Anesthesiologists, Inc. . . . Dr. Solomon Schussheim, director of surgery and president of the medical board at Greenpoint Hospital, Brooklyn, to the board of the United Medical Service, New York's Blue Shield . . . Dr. Jerome P. Webster, professor emeritus of plastic surgery at Columbia-Presbyterian Medical Center, New York City, as vice-president of the American Society for Surgery of the Hand.

Drs. Daniel G. Butera, Solomon Fineman, Lewis R. Lawrence, New York City; Dr. Charles Gartenlaub, St. Albans; Drs. Alexander Lewitan and Vincent A. Melomo, Brooklyn; Dr. John F. Roach, Albany, and Dr. Thomas N. Sickels, Watertown, as Fellows of the American College of Radiology . . . Dr. Frank G. Calder, Johnstown, president; Dr. Kurt Kaiser, Gloversville, vice-president, and Dr. William H. Raymond, Johnstown, secretary-treasurer, of the Johnstown Hospital . . . Dr. E. J. Foley, New York City, as vice-president of Winthrop Laboratories, New York City . . . Dr. Frank A. Gagan, president; Dr. George J. Ward, vice-president, and Dr. Frank C. Starpoli, secretary-treasurer, of the medical staff of St. Francis Hospital, Poughkeepsie . . . Dr. Fred E. Gorman, chief of the medical and surgical staff of the Corning Hospital, Corning . . . Dr. Worden Kane, chief of staff of Lourdes Hospital, Binghamton.

Dr. M. Ralph Kaufman, president; Dr. Robert K. Lipmann, vice-president, and Dr. Sergei Feitelberg, secretary, of the medical board of Mount Sinai Hospital, New York City . . . Dr. Samuel L. Lieberman, president; Dr. B. Joseph Galdys, vice-president; Dr. Benjamin A. Siech, treasurer, and Dr. Thaddeus F. Reszel, secretary, of the medical staff of DeGraff Memorial Hospital, North Tonawanda . . . Dr. John K. Lucey, president of the medical board of St. Vincent's Hospital, Staten Island . . . Dr. Harold Pender, president; Dr. Patrick Mullins, vice-president, and Dr. John Manganelli, secretary-treasurer, of the Catholic Physicians' Guild of St. Rene Goupil in Utica . . . Dr. Max Michael Simon, Poughkeepsie, president; Dr. Joseph F. Rooney, New York City, vice-president; Dr. Sam Clayton, Kew Gardens, secretary; Dr. John J. Sauer, New York City, treasurer, and Dr. Horace E. Ayers, New York City, regent, of the New York State Surgical division of the United States section of the International College of Surgeons . . . Dr. W. Webber Young, president; Dr. James C. Harberson, vice-president, and Dr. Harold B. Thurston, secretary-treasurer, of the medical staff of Mercy Hospital, Watertown.

Speakers

Dr. John J. Duggan, chief of medical services, Veterans Administration Hospital, Syracuse, before the Jefferson County Medical Society on February 21 at the Black River Valley Club in Watertown, on "Acid Base Disturbances in Clinical Medicine" . . . Dr. Frederick J. Lewy, assistant medical director of the American Heart Association, before the Geneva Academy of Medicine on February 20 at the Belhurst in Geneva, on "Diagnosis and Prevention of Rheumatic Fever Through the Control of Streptococcal Infections" . . . Dr. Lawson G. Lowrey, assistant professor of psychiatry at Columbia University College of Physicians and Surgeons, before the hospital staff of the Veterans Administration Hospital at Northport on February 2, on "Aspects of Psychotherapy for Both Hospitalized and Office Patients" . . . Dr. Frederick Reiss, associate clinical professor of dermatology at New York University Post-Graduate Medical School, at the Veterans Administration Hospital, Bronx, on January 6, on "The Diagnostic Importance of Systemic Fungus Infection."

Dr. Lewis H. Bronstein, chief of work classification units at Bellevue and Beekman-Downtown Hospitals, before the Suffolk County Medical Society on January 25, on "Work Classification for Cardiacs" . . . Dr. Edith Klemperer, New York City, before the Society for Clinical and Experimental Hypnosis on December 3, on "Primitive Object-Relationships in Hypnoanalysis" . . . Dr. Alexander H. Leighton, professor of sociology at Cornell University, before the New York Academy of Medicine on January 18, on "Mental Health and Acculturation" . . . Drs. Julius Lempert and Samuel Rosen, New York City, before the American Medical Association Convention in Chicago, June 12 through 14, on "Hearing Conservation—Fenestration or Stapes Mobilization" . . . Dr. Frank W. Woolsey, Jr., assistant dean and director of postgraduate education at Albany Medical College, before the Rensselaer County Medical Society on January 10, on "Postgraduate Education and Two-Way Radio Conferences."

Appointed

Dr. John A. Bell, Chelsea, as physician for Beacon Laboratories of the Texas Company and director of its medical services . . . Dr. William R. Donovan, White Plains, Dr. Martin A. Gruber, Far Rockaway, Dr. Klaus Mayer, New York City, Dr. John B. Sullivan, Buffalo, and Dr. Leonard Tunis, Bronx, to the inactive reserve component of the United States Public Health Service commissioned officer corps . . . Dr. Alexander J. Friedman, supervising psychiatrist at Hillside Hospital, Queens, to the post of medical director of the child guidance center of the Great Neck Medical Center . . . Dr. Herman E. Hilleboe, New York State Health Commissioner, as honorary chairman for the 1956 Heart Fund in New York State . . . Dr. Paul H. Hoch, New York City, as New York State commissioner of mental hygiene . . . Dr. Edwin H. Ober, Corning, as chairman of the public relations committee of the Steuben County Medical Society . . . Dr. Leon L. Rackow, director of professional services at the Veterans Administration Franklin D. Roosevelt Hospital at Montrose, to manager of that hospital.

Dr. Edward W. Douglas, surgeon-in-chief; Dr. Abraham J. Tatelbaum, chief of obstetrics and gynecology, and Dr. Harry L. Segal, physician-in-chief of Genesee Hospital in Rochester . . . Dr. Edward R. Egan and Dr. James J. Creighton as Erie County medical examiners . . . Dr. Leonard C. Evander, Lockport, as director of the Niagara County Sanatorium . . . Dr. A. Milton Jacobs, as assistant director of Willowbrook State School, Staten Island . . . Dr. William Wayne Manson, to the attending medical staff of Mary McClellan Hospital in Greenwich as a specialist in obstetrics and gynecology . . . Dr. Nathaniel E. Reich as consultant in cardiology to St. Joseph's Hospital in Far Rockaway and the Long Beach Memorial Hospital.

Awarded

Dr. A. Leonard Luhby, New York Medical College, New York City, $6,000 for studies of the evaluation of urinary formamido-L-glutamic acid excretion as a clinical test for folic acid undernutrition, by the National Vitamin Foundation, Inc.

New Offices

Dr. Arthur W. Adams, formerly of 146–148 Barrett Street, Schenectady, to 1356 Union Street for the practice of general surgery . . . Dr. William H. Bockman, practice of medicine and surgery in Ellenville . . . Dr. William J. Jameson, Jr., practice of obstetrics and gynecology in association with Dr. C. F. Ackerknecht in Schenectady . . . Dr. F. F. Youngs, practice of radiology in association with Dr. B. J. Toth in Olean and Salamanca.

Dr. Raymond J. Byron, general practice at 1003 Union Street, Schenectady . . . Dr. Alfred S. Dooneief, practice of internal medicine in Mount Kisco . . . Dr. Richard J. Kenline, practice of internal medicine and diseases of the chest in Tonawanda . . . Dr. Sanford Pariser, practice of internal medicine and hematology in Freeport . . . Dr. Joseph F. Ruh, general practice in Orchard Park . . . Dr. Antonio A. Versaci, practice of internal medicine in Schenectady.

Honored

Dr. Eugene D. Rosenfeld, executive director of the Long Island Jewish Hospital, as guest of honor at a dinner of the Queens-Nassau Physicians Division of the Federation of Jewish Philanthropies on February 1 . . . Dr. Samuel J. Stabins, recently retired surgeon-in-chief at Genesee Hospital, with a silver plaque at a testimonial dinner on January 12 . . . Dr. Marie Pichel Warner, New York City, included in a volume "Modern Trends in Gynecology and Obstetrics," a compilation of papers given by the International Congress on Gynecology and Obstetrics, Geneva, Switzerland, July 26 through 31, 1954.

Retired

Dr. Harry J. Sheffield, Frankfort, after more than fifty years in the practice of medicine.

Dr. John A. Faiella, Yonkers, as deputy health commissioner of Yonkers . . . Dr. Hyman J. Millman, Peekskill, from general practice.

Inducted

Dr. F. Donald Napolitani, New York City, into Fellowship in the American Academy of Obstetrics and Gynecology.

Resumes Practice

Dr. Sarah E. Flanders, in Oneonta, only woman surgeon of Otsego County.

MEDICAL MEETINGS

Vitamin Symposium

A symposium on vitamin metabolism will be held at the Biltmore Hotel, New York City, on March 6 in conjunction with the eleventh annual meeting of the National Vitamin Foundation, Inc. The meetings of the symposium will begin at 9:30 A.M. in the Ballroom of the Biltmore, Madison Avenue at 43rd Street, and will continue through 4:50 P.M.

Schenectady Medical Society

The Medical Society of the County of Schenectady will hold a meeting on March 6 at 8 P.M. at the Mohawk Golf Club in Schenectady. Dr. Horace S. Baldwin, associate professor of clinical medicine at Cornell University Medical College, will speak on "Allergic Dermatoses and Other System Allergies."

New York Cancer Society

A meeting of the New York Cancer Society will be held on March 6 at 8:30 P.M. in Hosack Hall, New York Academy of Medicine, Fifth Avenue at 103rd Street, New York City. Topic of the meeting will be "Present Status of Adrenalectomy and Hypophysectomy in Metastatic Cancer of the Breast." Surgery will be discussed by Dr. Bronson S. Ray, New York Hospital; radiotherapy by Dr. James J. Nickson, Memorial Center for Cancer and Allied Diseases, New York City, and management by Dr. Olof H. Pearson, Sloan-Kettering Institute for Cancer Research, New York City.

Society of Medical Psychoanalysts

The Society of Medical Psychoanalysts of New York will present a symposium on schizophrenia as seen in psychoanalytic office practice, on March 10 and 11 at the Hotel Delmonico, Park Avenue at 59th Street, New York City. The symposium includes discussion of the concepts of schizophrenia, treatment in the psychoanalytic office, and special clinical problems such as transference and anxiety. Further information may be obtained from Dr. J. H. Merin, chairman, Committee on Arrangements, 49 East 78th Street, New York 21, New York.

International Fertility Association

The regional meeting of the United States division of the International Fertility Association will be held at the Schenley Park Hotel, Pittsburgh, Pennsylvania, on March 14. Scientific papers and panel discussions on infertility will be presented. For further information contact Dr. Maxwell Roland, chairman, Liaison Committee, 1141 Eastern Parkway, Brooklyn.

Geneva Academy of Medicine

The regular monthly meeting of the Geneva Academy of Medicine will be held at 8:30 P.M. on March 19 at the Belhurst in Geneva. Dr. C. Stuart Welch, associate professor of surgery at Albany Medical College, will speak on "Diagnosis and Management of Massive Upper Abdominal Hemorrhage."

Symposium on Occupational Disease

A symposium on occupational disease will be held on March 22 at the Medical Society of the County of Queens, 112–25 Queens Boulevard, Forest Hills.

The symposium, which will afford a comprehensive view of current concepts of occupational diseases, is approved for formal credit by the American Academy of General Practice.

For further information, call or write Miss Charlotte von der Heyde, consultant in Professional Education, Queensboro Tuberculosis and Health Association, 159–29 90th Avenue, Jamaica, JAmaica 6–2557.

Buffalo Medical Alumni

The 19th annual spring clinical day of the University of Buffalo Medical Alumni will be held at the Hotel Statler in Buffalo, March 24, from 9:00 A.M. to 4:30 P.M. Class reunions of the classes of 1896, 1901, 1906, 1911, 1916, 1921, 1926, 1931, 1936, 1941, 1946, and 1951 will be held in the evening. Among the subjects discussed will be "Practical Problems in the Diagnosis and Treatment of Old and New Virus Diseases," by Dr. Horace L. Hodes, clinical professor of pediatrics at Columbia University, and "The Management of Occlusive Arterial Disease," by Dr. A. Wilbur Duryee, professor of clinical medicine at New York University. Further information may be obtained from Dr. John H. McCabe, 2387 Seneca Street, Buffalo 10, New York.

Association for the Advancement of Psychoanalysis

The Association for the Advancement of Psychoanalysis will sponsor the fourth annual Karen Horney lecture at the New York Academy of Medicine at 8:30 P.M. on March 28. Dr. Frederick H. Allen will speak on "Horney's Concept of Basic Conflict in Child Psychiatry."

Pediatric Oncology

The Pediatric Department of the Memorial Center for Cancer and Allied Diseases will hold its annual comprehensive three-day course in pediatric oncology for pediatricians, general practitioners, and health officers, from April 25 through 27. The class is limited to 15 physicians. Classes will be held from 8:30 A.M. to 4 P.M. at the Children's Pavilion, Memorial Center. For further information, address the Director, Pediatric Service, Memorial Center, 444 East 68th Street, New York 21, New York.

Postgraduate Medical Courses

During the closing two months of this academic year, the New York University Post-Graduate Medical School will hold courses in the following fields: An intensive two-week course in regional anesthesia will be offered from May 7 through 19 under the direction of Dr. Emery Rovenstine, professor and chairman of the Department of Anesthesiology. Beginning May 21, Dr. Rovenstine will also conduct a one-week course on "Anesthesiology: Endotracheal and Related Methods."

"Acute Neurologic Problems of General Practice" will be given from April 30 through May 5 under the direction of Dr. Thomas I. Hoen. A course in culdoscopy will be given under the direction of Dr. Wayne H. Decker during three two-hour periods from April 30 through May 4. An advanced course in urology for specialists will be offered from May 14 through 25 under the direction of Dr. Robert S. Hotchkiss.

A symposium on tuberculosis and other pulmonary diseases of childhood will be given under the direction of Drs. Edith M. Lincoln and Margaret H. D. Smith, full-time, from June 4 through 8. A symposium on dermatology and syphilology will be available to specialists, full-time, from May 14 through 18 under the direction of Dr. Marion B. Sulzberger. Orthopedics in general practice is a full-time course from June 11 through 13 to be given under the direction of Dr. Walter A. Thompson.

There will be a full-time, three-week course beginning May 7 on cardiology under the direction of Dr. Charles A. Poindexter. Electrocardiography is an integral part of this course. A ten-day symposium on modern therapeutics in internal medicine will be held from June 11 through 22, and from July 9 through 20 a review course in general medicine, full-time, will be given under the direction of Dr. Charles F. Wilkinson.

Further information on these and other courses offered during the academic year may be obtained from the Dean, Post-Graduate Medical School, 550 First Avenue, New York City.

American College of Cardiology

The fifth annual convention of the American College of Cardiology will be held at the Hotel Drake in Chicago, May 16 through 18. The scientific sessions will cover all aspects of research, diagnosis, and therapy. In addition, there will be scientific exhibits on cardiovascular research. Further information may be obtained from Dr. Philip Reichert, secretary, Empire State Building, New York City.

THE MONTH IN WASHINGTON

All too frequently overlooked in Congressional activity on health and related bills each year are the little-publicized but highly important appropriations measures—without which no program of the Federal government could move forward. The appropriations hearings in the House (where all money bills must originate) rarely get headlines; they are conducted behind closed doors. Weeks and sometimes months later, the hearings are published, but by then the bill supplying money for an agency has been reported to the House.

It's only when the measure gets to the Senate that private groups and individuals are heard—by then in open sessions. Closed House sessions are not new. That is the way it has been done ever since Congress set up a separate committee on appropriations back in 1865.

The importance of appropriations in running the Federal government was clearly illustrated when the President submitted to Congress his 1,272-page budget message in which he sought 65.9 billion dollars for all Federal programs for the fiscal year beginning July 1.

While there was no over-all total of projected spending by all the agencies in the health field, the budget requests for the Department of Health, Education, and Welfare showed a sharply upward trend. And if certain new legislation is voted on this session—like the projected five-year program of construction grants for medical schools and private laboratory facilities—the total figure for subsequent years is likely to be even higher.

On the medical school-laboratory construction bill, the President asked Congress for 40 million dollars for the first year (estimated cost over five years is 250 million dollars). Construction grants, which would have to be matched on a 50–50 basis, would be available for private medical schools as well as nonfederal laboratories conducting research into a wide range of crippling diseases.

The budget message also calls for another 30 million dollars in outright grants to the states to help them in financing poliomyelitis vaccination programs, the same amount appropriated by Congress last session. The administration in a separate request asked for extension of the polio law, from February 15, 1956, to June 30, 1957, and both the House and Senate with only brief debate voted the 17-month extension. Since only half of last year's 30 million dollars was spent up to the February 15 expiration date of the original act, there was no rush for Congress to act on the new account.

Other new spending asked by the administration, contingent, of course, on enabling legislation, includes 10 million dollars for initial capitalization of mortgage loan guarantees for health facilities, 5 million dollars for graduate and practical nurse and professional health personnel training, 3 million dollars for water pollution grants, 1.5 million dollars for mental health expansion programs, and 1 million dollars for sickness and disability surveys in the U.S.

If Congress approves the requests, virtually all segments of the Department of HEW will have more money to spend than in this fiscal year. None would benefit more, however, than the medical research arm of government, the National Institutes of Health. The total sought for the seven institutes is 28 per cent more than estimated spending this year. Here are some examples: National Cancer Institute, $32,437,000, up 29 per cent; National Heart Institute, $22,106,000, up 17 per cent, and the National Institute of Allergy and Infectious Diseases (formerly the National Microbiological Institute), $9,799,000, a 26 per cent increase.

The President requested 130 million dollars for the Hill-Burton hospital-clinic construction program which will be ten years old this August. In this connection Congress has been asked to extend the act for two years beyond next year, and action is expected this session.

Notes: After a study of possibilities in the peaceful uses of atomic energy, a panel has recommended, among other things, that the U.S. encourage states and private organizations to take full advantages of the opportunities offered by radioactive material for medical research and treatment.

It now appears that an improved and more uniform program of medical care for service families will be adopted this session—possibly before this is published. One feature: A $25 deductible charge in civilian hospitals, but with the government paying the full insurance premium, and a mandatory subsistence charge in military hospitals.

Making slower progress is the plan—under consideration for more than a year—for a health insurance program for U.S. civilian workers. Here the government would pay about half the cost.

Several committees are urging stricter penalties and other changes to bring the illicit narcotic traffic under better control; so far no suggestion of more controls over the medical profession in the handling of narcotics.

Prepared by the Washington Office of the American Medical Association, Washington, D.C.

Woman's Auxiliary

to the MEDICAL SOCIETY OF THE STATE OF NEW YORK

Mental Health Program

The Mental Health Program of the Woman's Auxiliary to the Medical Society of the State of New York was first organized in December, 1953. The program undertaken has followed the promotion of better mental health through education of the Auxiliary members and others as to what mental health is and its related health problem—mental illness; the support of programs for research, training of more psychiatric personnel, and the setting up of clinics and other day care services for the mentally ill; the provision for diagnosis, care, treatment, and rehabilitation of those already ill.

Five points were undertaken by the chairman of the State Auxiliary to enable her to instruct, guide, and encourage the 47 county auxiliaries in setting up their mental health chairmanship and county program, and to learn what was being done by others: contacts were made with the A.M.A. Council on Mental Health, Woman's Auxiliary to the A.M.A. chairman of Mental Health, National Mental Health Committee, Inc., president and secretary of the Medical Society of the State of New York, director of the New York State Society for Mental Hygiene, and the New York State Joint Legislative Committee on Problems of the Aging.

The chairman was appointed to the Governor's Mental Health Committee and participated in a three-day conference in October, 1955, where over 300 experts discussed problems of health, medical care and rehabilitation, income, maintenance and employment, education, housing, and community planning with the purpose of determining responsibilities—private, community, or State, in working out a cooperative program. She attended the public hearing of the New York State Joint Legislative Committee in December, 1955, where some of the foremost authorities in the nation discussed health, housing, and economic aspects of the problems of aging.

To create interest in mental health, two sets of suggestions accompanied by supplementary reading lists and other educational helps were sent to all county presidents and chairmen, both of whom were approved by the State president and the advisory council of the State Medical Society. As each county plan is submitted, it will have to meet with the approval of the county medical advisers.

Mental illness is the greatest single problem in the nation's health picture. The first directive outlines a general plan for education aimed ultimately towards constructive plans in the prevention of mental illness. It urges relationship with and the support of other groups in mental health programs. It calls attention to the need of psychiatric services in connection with the courts. The over-all plan is designed to be inclusive enough as to be applicable in any type of community where there is interest or, perhaps, even lack of interest in mental health. The goal is better personal mental health and better community mental health.

The plan presented to the counties this year emphasizes mental health dealing with problems of the aging. This consideration is the outcome of the statistics on past birth rates and death rates which indicate a progressively aging population. Self-preservation compels the consideration of this age group as well as the older people themselves. It has been learned that there are valuable resources in the aging which, if not translated into dollars and cents, will probably cause a burden for today's youth. In carrying out this directive, study is important, aiming at an awareness and understanding of the problems arising from old age and its associated diseases, the state of dependency, and the makeup of present-day society. The Auxiliary's goal is the development of a long-range effort in making the days of the old people more meaningful.

The county presidents and presidents-elect as well as members attending State conventions have heard experts on mental health and problems of the aging. At these times exhibits were also set up, and educational material was dispensed. Through articles in the *Distaff* by the chairman of the A.M.A. Council on Mental Health and the State chairman on problems of the aging who has given talks at county auxiliary meetings efforts have been made to reach the general membership.

New York State is not only a pioneer but also a leader in an Auxiliary mental health program. The A.M.A. Auxiliary has incorporated the Auxiliary's general mental health plan in the national directives to all state auxiliaries.

The Woman's Auxiliary to the Medical Society of the State of New York will share in a national effort during National Mental Health Week, April 29 to May 5, 1956, when 1,200 county auxiliaries as well as Hawaii and Alaska plan to put into action some program or project for the education of the public or a segment of the public in some phase of mental health.

Mrs. Albert M. Biglan, *Chairman*
Committee on Mental Health

Central Islip, New York

MINUTES OF THE COUNCIL

The following is a summary of the minutes of the January, 1956, meeting of the Council of the Medical Society of the State of New York.

The Council met January 12, 1956, from 9:15 A.M. to 1:25 P.M. at the Manhattan Club, New York City; Dr. Renato J. Azzari, president, was in the chair.

The minutes of the meeting of December 8, 1955, were approved with one correction: deletion of the following passage from the report of the Blood Banks Commission, "There will also be over $3,000 set aside for blood reserves. This total, between $9,000 and $10,000, is estimated to be sufficient to insure the claims now in effect and those which will be in effect if the two contracts are honored." (*This was erroneously included on page 435 of the February 1, 1956,* NEW YORK STATE JOURNAL OF MEDICINE.—*Secretary*)

Secretary's Report

Executive Committee.—Dr. Anderton reported on communications considered by the Executive Committee on January 11, 1956.

1. Letter from Dr. Edward R. Cunniffe resigning from the War Memorial Committee of this Society due to ill health.

It *was voted* to accept the resignation.

The president appointed Dr. Walter W. Mott to fill the vacancy, with approval of the Council.

2. Letter of November 2, 1955, from the New York State Citizens' Council, inviting this Society to become one of the first institutional members of the Council, with annual dues of $250; also a letter of January 5, 1956, from Dr. Curphey expressing the opinion that we should not go to this expense. The Executive Committee recommends that the Council accept Dr. Curphey's recommendation.

It *was voted* to accept Dr. Curphey's recommendation.

3. Letter of December 15, 1955, from Dr. Walter W. Mott, transmitting a suggestion from Mr. Martin that the Society make a contribution to the Christmas Fund of the employes of the Manhattan Club. The Executive Committee so recommends.

It *was voted* to recommend this contribution to the Board of Trustees.

4. Letter of December 29, 1955, from Mr. Alex E. Norton, president of the Greater New York Hospital Association, inviting the Society to send two representatives to a meeting on January 24 "to discuss the feasibility and desirability of organizing to secure if possible a careful and comprehensive study of the blood situation as it exists today in the New York City area." The Committee recommends that two representatives be so appointed.

The president with the approval of the Council appointed Dr. James Greenough and Dr. J. Stanley Kenney.

5. Letter of January 12, 1956, to the president from Dr. Henry I. Fineberg, resigning from the Nominating Committee.

It *was voted* to accept the resignation.

The president with the approval of the Council appointed Dr. Frank J. Cerniglia of Queens County to fill the vacancy.

6. Letter of January 6 from Dr. Alfred P. Ingegno regarding a letter received by him from the State Insurance Department, which stated, "A complaint has been received against you from the Medical Society of the State of New York through its attorneys, Waters and Donovan."

The Committee referred this letter to the Malpractice Insurance and Defense Board, requesting that it be returned with comment.

President Azzari stated: "At this time, gentlemen, I would like to make a statement for the record as to our position in this particular matter.

"You will recall that last October the Council approved a resolution submitted by the Malpractice Insurance and Defense Board which authorized an investigation of defections occurring from our Group Plan of Malpractice Defense and Insurance. It was brought out then that these defections threatened the survival of our Group Plan and that these defections were brought about by the solicitations by agents of an insurance group which was not authorized by the State Insurance Department to do business in New York State. The primary reasons for these defections were due to the low rates quoted. The resolution also permitted our legal representatives in this matter to negotiate with the State Insurance Department.

"As a result of this investigation certain evidence was obtained which was placed before the Insurance Department, which in turn continued the investigation, and it continued this investigation by contacting certain doctors who were listed in a publication known as the *Guild Bulletin*, official publication of the Kings County Physicians Guild, Inc. It is well known that there appeared in this publication from time to time articles and editorials dealing with the protection afforded by the malpractice coverage by Lloyd's of London at much cheaper rates.

"Upon receiving the evidence, the State Insurance Department wrote letters to several of the doctors that were listed in the masthead of the Kings County Physicians' Guild publication, and that is the reason that the State Insurance Department has written to these doctors.

"I want to state for the record that at no time has the Medical Society of the State of New York through its counsel or officers or anyone made a specific complaint against any one doctor or group of doctors and that the responsibility for these letters is entirely due to the action taken by the State Insurance Department as a result of the investigation.

"I hope I have made myself clear. That is the way the situation stands today."

Thereupon Dr. Azzari presented Dr. Solomon Schussheim of Kings County, who had requested permission to address the Council.

Dr. Schussheim, after his preliminary remarks, read a letter he had received from the Superintendent of Insurance of New York State. He explained that he felt aggrieved and asked: "Why did the Medical Society of the State of New York offer such a complaint to the Insurance Department, and who authorized any individual or individuals to file a complaint and a brief against the members of the Medical Society of the State of New York, in view of what has transpired?"

It was pointed out before he withdrew that Dr. Schussheim had been allowed to present certain facts but that it would not be possible for the Council to discuss them at this time.

> In executive session it *was voted* that an Ad Hoc Committee be appointed to investigate this matter and bring back to the Council all of the facts pertaining thereto.
>
> A motion *was adopted* to direct some officer of the Society to communicate orally with the gentlemen who had received these letters to state that they were sent by the Insurance Department without knowledge of this Council.

In response to a request by the secretary for the names of the persons to be contacted, it was explained they appeared on the masthead of the *Guild Bulletin*, official publication of the Kings County Physicians Guild, Inc.

> Upon rising from executive session, it *was voted* that the actions taken in executive session be accepted by the Council.

Dues Remissions.—The Council voted to remit annual State dues of one member for 1956 and of seven members for 1955 because of illness; to remit 1955 annual State dues of three members because of service in the armed forces; to request remission of American Medical Association dues of five members for 1955 and of three members for 1956; to request exemption of two members from further payments of national dues because they are more than seventy years of age; and to rescind previously granted remissions of 1955 annual State dues of two members returned from military service.

General.—Dr. Anderton requested that annual reports for the House of Delegates reach him by February 1, 1956. He stated that the annual office Christmas party was held at the Hotel Statler on Wednesday, December 21, 1955, and he reported that Dr. Chung Kuchoong, vice-president of the Korean Medical Association and chairman of the Seoul Medical Society, had recently visited the Society's office.

Dr. Anderton continued: "On December 8 the Board of Trustees, in accordance with your recommendation, approved an initial appropriation of $2,000 in the 1955–1956 budget to be available for preparations for the sesquicentennial celebration.

"Your secretary visited Dr. Edward R. Cunniffe, chairman of the Board of Trustees, at Union Hospital, Bronx, the day following your last meeting. Your resolution was handed to Dr. Cunniffe, but I am afraid his physical condition prevented appreciation of its context. Reports I have received since then augur no good."

This statement was followed by a report of the secretary's activities since the preceding Council meeting.

He also said "As a result of your instructions December 8, 1955, a memorandum was sent to the component county medical societies recommending establishment of Committees on Hospital and Professional Relations.

"Replies have been received from the Nassau County Medical Society and the Medical Society of the County of New York, that each has an appropriate committee. No other counties have been heard from.

"It gives me pleasure to report that Dr. J. Stanley Kenney, trustee, has been appointed a member of the Committee on Relations with Lay-Sponsored Voluntary Health Plans, of the Council on Medical Service of the American Medical Association."

The secretary's report *was accepted.*

The Treasurer's report was approved.

Reports of Committees

Blood Banks Commission.—Dr. James Greenough, chairman, reported: "I should like to read a letter from Dr. Hilleboe. One of the stumbling blocks in regard to blood procurement in this State has been inability to transfer blood between intrastate banks because of lack of inspection. I have talked with Dr. Hilleboe in regard to this, and I received this letter:

> The question as to whether or not we should assume more active interest in blood banks than we are already doing is one that will require much thought and consultation before any action could be taken. If within the Department we should decide that blood banking should be considered a part of public health, then it would be necessary to consult with the Medical Society and make sure that their views coincide with ours before we would have to persuade the State administration that it should provide funds for the closer supervision of blood banks than is currently provided. As a starter I would suggest that you get the feeling of the State Medical Society, and then we would be glad to sit down and discuss whether we should proceed further.

"As a result of that letter, I move that the Council go on record as favoring inspection of intrastate blood banks by the State Department of Health and refer the matter to the Committee on Public Health and Education for negotiation with the Department of Health."

Approval *was voted.*

Temporary Committee to Confer with the New York State Department of Insurance.—Dr. Greenough stated: "The Special Committee met Mr. William F. Martin, December 15, 1955. Present were Drs. Greenough, chairman, Berger, Eggston, Kenney, and Mott. As invited guest was Dr. Dorothea Worcester of the Nyack Blood Bank.

"After conferring during lunch, the group met Mr. Gould and Mr. Haley of the State Department of Insurance. We were very courteously received. The entire program of blood assurance was reviewed. The new master certificate was presented. Mr. Gould had not been previously aware of this contract. It was intimated that if no guarantee of blood provision were in the contract, the Insurance Department might reconsider its preliminary opinion that blood assurance was in fact insurance. Dr. Kenney stated that the individual contract could be discontinued.

"At the conclusion of the conference, Mr. Gould requested samples of all brochures put out by the Blood Banks Association. On receipt of these, further consideration would be given to the problem.

"Mr. Gould assured the committee that bleeding under existing contracts could be continued provided the Medical Society of the State of New York guaranteed the contracts. The officials of the Blood Banks Association agreed to enter into no new contracts, pending the decision of the Insurance Department."

Dr. Greenough stated he had received a letter from Dr. J. Stanley Kenney, president of the Board of Directors of the Blood Banks Association, transmitting a motion adopted by the Board on January 10 and giving the reasons therefor. The motion requested the chairman of the Blood Banks Commission "to urge the Council to hold in abeyance, at least temporarily, their decision to discontinue the Blood Assurance Program at this time and to permit its continuance until the final recorded opinion of the State Insurance Department is received."

The Directors assured the Commission and the Council that due care would be exercised to maintain the strictest economy of operation and to reduce the Association's expenditures further if possible.

Dr. Greenough accordingly moved, "that the action taken at the last Council meeting in regard to terminating the Blood Assurance Program be rescinded, and final action be withheld pending further decision of the New York State Department of Insurance, and in the meanwhile direct the Blood Banks Association to negotiate no new contracts."

After discussion approval *was voted.*

It *was voted* to approve the report as a whole.

Budget.—Dr. Maurice J. Dattelbaum, chairman, presented the final budget for the year ending June 30, 1956, which was recommended to the Board of Trustees.

Civil Defense.—Dr. Anderton stated that the committee had met on January 11, but no report had been received.

Economics.—Dr. John C. McClintock, chairman, presented the report of Mr. George P. Farrell, director of the Bureau of Medical Care Insurance, which detailed Mr. Farrell's activities during the preceding month.

Dr. McClintock stated: "The subcommittee on Medical Expense Insurance is meeting this afternoon.

"The Subcommittee on Public Medical Care met in Albany on December 14, and essentially the important item there was a change in the Social Welfare Department's manual to make it permissive for local welfare boards to extend, from forty-eight hours to five days, the time allowed a physician to notify the Department when he has attended a welfare patient in an emergency. This is in keeping with the request of the House of Delegates in May."

The Council *adopted* this report.

Dr. McClintock further stated: "Mr. President, although we are deferring discussion on the question of the Department of Defense's request for medical and health coverage of the dependents of members of the armed forces until Dr. Bauer arrives, I had it in my report to call the Council's attention to the bill that has been introduced into Congress. It is H.R. 7994 and is currently in the Subcommittee of the House Armed Services Committee under the chairmanship of Representative Paul J. Kilday, a democrat from Texas. Unlike previous bills this new one does not make any provision for a home-town care plan for dependents. I wrote requesting a copy of the brochure prepared by the Department of Defense in support of their bill and was advised by Dr. Alphin's A.M.A. office in Washington that they are revising it and that it would not be available for another couple of weeks. I think, perhaps, further discussion might be deferred until Dr. Bauer comes, but you might be thinking that as the armed forces change due to the draft, we are creating a large segment of our population who will be trained to expect the Government to provide health insurance for them."

Dr. Azzari stated: "Dr. Bauer is here as a result of a letter addressed to us by him as chairman of the United Medical Service, asking an opinion as to whether or not the members of this Society would participate in a program for supplying medical care at government expense to dependents of military personnel by contract with Blue Shield Plans. Dr. Bauer enclosed copies of inquiries on this point from Blue Shield Medical Care Plans addressed to Blue Shield Medical Directors and to the Western New York Medical Plan, Inc. The Executive Committee instructed the secretary to invite Dr. Bauer to attend the Council meeting this morning, and I am very happy that Dr. Bauer could find the time to come."

Dr. Bauer stated: "This proposition, as you may know, has arisen because of the demand by the services that all dependents of military personnel be given medical care. You know the medical profession has been opposed to the military services rendering that medical care to their dependents, and if the military services do it, it will mean that a large number of doctors will be drafted into service to take care of civilians. As you know, some physicians in the service now are spending 40 per cent of their time taking care of civilians.

"The Government has asked whether or not Blue Cross and Blue Shield could render such a program of medical care. Blue Cross, of course, would have little difficulty because they have a universal service benefit no matter where they are. Blue Shield does not. Some plans of Blue Shield are indemnity, and they have varying service benefit levels. The government wants any organization that takes this on to agree that services will be rendered without additional charge. This I want to impress on you is not a Blue Shield Plan; we simply are willing to act as the administering agents of any plan which may be agreed upon between the medical profession and the government.

"We are asked whether or not the plans in our vicinity here could get the agreement of the medical profession to render this care on a service basis without limitation of income, which in itself, of course, is against the Blue Shield principle that there should be a service limit. So far as the service limit is concerned, I don't think it matters very much because most of the officers' families would be at once above the service limit and would get their medical care through medical personnel anyway. It would be largely the dependents of enlisted personnel who would be the ones that would be serviced by such a program.

"I have here a memorandum which was written by the chairman of the Blue Shield Government Relations Committee to the National Blue Shield Plans, and it summarizes the situation so far as Blue Shield is concerned so well that I would like to take the time to read it to you. It is not very long:

> In reviewing the needs of the Department of Defense in this matter, it becomes apparent that health services are an important career incentive and morale building factor. A program to be most helpful must offer all dependents roughly equal opportunities to obtain these services under the American standard, with free choice of physician. It should have roughly equal charges in or out of service facilities but with the assurance that no additional charge will be made for services in civilian hands. All efforts must be voluntary and with good will on both sides because even a small number of dissidents can harm morale greatly. Only the doctors and the hospitals can give these necessary services. The conditions of work must be by cooperative agreement between government and these groups. In discussion of these matters in recent weeks between Defense Department officials and Blue Shield, the position of Blue Shield as a nonprofit community agency has been clearly defined.
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> Among the important principles which are well established are the following:
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> 1. Blue Shield acts now as a limited agent for the medical profession at the local level. Any contract to provide care for the dependents of servicemen must be on the basis of an agreement between groups of physicians and the government. Although no third party may intervene in such a contract, either the physician groups or the government may utilize agents to accomplish their objectives. In the case of the physicians, local and state societies may develop fee schedules as many have done for the home-town veterans care program. They may administrate programs for the dependents of servicemen through their own chosen agencies. It is true, of course, that Blue Shield Plans are sponsored by local and state medical societies and serve as agents in other fields. It might logically be that Blue Shield Plans could serve as the agent for medical societies in most cases in which many members of the medical profession would commit their position in providing their services to dependents of servicemen on a cost basis as defined in the schedule.
>
> 2. The services are to be rendered at cost. Inasmuch as physicians throughout the country may feel that any program which provides total coverage on a fee schedule basis without the right to make additional charges is an unwarranted restraint on individual freedom in the profession, it should be emphasized that Blue Shield is not sponsoring such a program. What Blue Shield is offering is the use of its organization and facilities in order to make available on a local basis without central control a program which will give health services to large segments of servicemen's dependents by civilians. In this case Blue Shield is serving as the agent for the medical profession to provide a program at cost based upon fee schedules agreed upon by the medical profession in advance. Although insurance technics would be used to establish estimated rates for budgetary purposes, there is no regular insurance program contemplated by Blue Shield in this connection. The actual operation of the program would be on the simple basis of a claim being received from a physician, payment being made to the physician by Blue Shield as the coordinating agency. Blue Shield would receive the exact claim cost from the government with the addition of the bare operating expense. No reserves would be established for such a program, and no risk factor would be involved. The safeguard of the government would be the agreed upon fee schedule which would apply as payment in full.
>
> 3. There is no similarity of this program with the usual Blue Shield program. Under the contemplated program there would be no reason to fear that the principle of full coverage based on stipulated fees would spread out into the normal group business conducted by a Blue Shield Plan. The coverage for the dependents of servicemen would not be a Blue Shield program or an operation involving insurance risk even on an experience rated basis.

"I think that summarizes the situation as far as Blue Shield is concerned. Blue Shield is perfectly willing to be the administrative agency for such a program as an agent of the medical profession if the medical profession wishes us to do it. We want it clearly understood that this is not our policy, it is not our program. I think I can state without fear of contradiction that Blue Shield is not in favor of unlimited service benefit income, that this is really a violation of it, and we have circularized all of the county societies in the U.M.S. area to get their opinions.

"I have so far, out of the 17 societies, had answers from, I think, ten. All said they would go along. Westchester County stated that they did not approve of it in principle, and I can understand. I don't either, but they stated they would go along with it because they felt it was the lesser of two evils. In other words, this service means medical care is going to be given one way or another. It is a question of whether we can turn it over to the medical profession and let them administer it or whether we will turn it over to the Government and let the military services render that medical care. It is as simple as that, and if we agree to do it ourselves, we will have to put up with some things we don't like; otherwise I think we will have to put up with a lot of things we don't like.

"Thank you very much for the opportunity of appearing here."

Dr. Azzari thanked Dr. Bauer in the name of the Council and stated: "You have before you the report that Dr. Bauer gave us, together with a resolution from the Medical Society of the County of Kings, which has reference to this same subject. I shall ask the secretary to read the resolution."

Secretary Anderton: "The following resolution, which was submitted by the Kings County Chapter of the Medical Veterans Society on behalf of the National Medical Veterans Society, has been approved by the Committee on Civil Defense, Military and Naval Affairs, by the Comitia Minora and by the membership at the stated meeting held December 20, 1955:

> WHEREAS, the problem of medical care for dependents of military personnel is of prime importance to American medicine today; and
>
> WHEREAS, the present method of caring for dependents of military personnel is undesirable both from the viewpoint of the patient and the military physician; and
>
> WHEREAS, the National Veterans Society is desirous of remedying the situation in cooperation with the American Medical Association; therefore, be it
>
> *Resolved*, that the Medical Society of the County of Kings urge the Medical Society of the State of New York to record its approval of a plan of prepaid medical care insurance for dependents of military personnel embodying the principles of: (*a*) voluntary participation, (*b*) insurance premiums to be collected by allotment from pay, (*c*) free choice of physician and hospital, (*d*) recognition of the necessity for dependent care at military facilities in isolated bases in the U.S. and most bases outside the U.S., and (*e*) provisions whereby the families of servicemen could request inclusion, if the serviceman does not request it himself (much the same as family allotments are now handled); and be it further
>
> *Resolved*, that the Medical Society of the County of Kings urge the Medical Society of the State of New York to transmit its approval of such a plan in the form of a resolution to the American Medical Association for appropriate action.

After discussion it *was voted* to refer this to the Economics Committee for study and report as soon as possible.

Legislation.—Dr. Henry I. Fineberg, chairman, reported: "The executive officer and the legal counsel of the Legislation Bureau have reported that the drafting of all bills sponsored by our Society, with one exception, has been completed, and they will be introduced according to schedule.

"The bill concerned with the establishment of panels of specialists for evaluation of Workmen's Compensation cases is being held in abeyance pending additional clarification, guidance, and recommendations from our Workmen's Compensation Bureau.

"A meeting of the Executive Committee of the Legislation Committee was held in the office of the Medical Society on the afternoon of January 5. All members attended. Present, by invitation, were Dr. Dominick F. Maurillo, a member of the Board of Regents, and Mr. Frederick Miebach, director of Bureau of Public and Professional Relations.

"Our main item was the chiropractic licensure bill that was introduced the other night by Senator Peterson and Assemblyman Noonan.

"Dr. Maurillo, the only physician on the Board of Regents, who had alerted us a short time ago, reviewed the situation. For many years the chiropractors have made attempts to have a licensing law enacted. Their efforts have varied. Last year they fought among themselves. At present, however, the chiropractors are apparently well organized and appear to have a considerable amount of money for publicity purposes.

"Last month the president of the Chiropractic Guild of New York, Inc., requested the commissioner of the State Department of Education for a hearing. The chiropractors will appear before a committee of the Board of Regents in Albany on January 26 to present their case for a chiropractic licensure law. Approval by the Board of Regents would bolster the cause of the chiropractors and could influence the Legislature.

"The following program was outlined:

"1. That we request an audience with the Board of Regents, or one of its committees on January 26 at 3:30 or 4 P.M., after the chiropractors, and that an ad hoc committee be appointed by our president to meet with the Regents, if our request is granted, to present the facts as we see them.

"2. That we enlist endorsements of our stand from other professional organizations and agencies, such as dentists, pharmacists, nurses, engineers, and the Health Department of the State of New York.

"3. That a brief, consisting of scientific facts and refuting the statements of the chiropractors, be submitted to each member of the Board of Regents: Mr. Charles Brind, Jr., Commissioner James E. Allen of the State Department of Education, and Mr. Robert C. Killough, Jr. This will be prepared by Dr. Harold B. Smith.

"4. That our plans must be definite, not nebulous.

"Mr. Chairman, I move approval of this part of the report, which contains a recommendation that a committee be appointed to meet with the Regents."

It *was voted* that this recommendation be approved.

The president, with the approval of the Council, appointed the following ad hoc committee: Drs. Edward T. Wentworth, Henry I. Fineberg, W. P. Anderton, and Harold B. Smith, and himself.

Dr. Fineberg continued: "Other phases of the program to combat chiropractics were discussed. It was the consensus that a small 'steering committee' should be appointed to blueprint the campaign, including a study of funds."

It *was voted* to approve the report, which contains the recommendation that a steering committee be appointed.

The president, with approval of the Council, appointed the following Steering Committee: Drs. Floyd S. Winslow, Theodore J. Curphey, Henry I. Fineberg, W. P. Anderton, and Harold B. Smith, and Mr. Frederick W. Miebach.

Dr. Fineberg continued: "Our negotiations with representatives of the State Psychological Association have apparently been unsuccessful. Mr. Burns tells me this morning that they have changed their mind. They would like a licensure, not a certifying, bill.

"A letter from Dr. Walter S. Walls, president of the Medical Society of the County of Erie, was read. It appears that the population of Erie County will soon reach the million mark, and the physicians in this area are vitally interested in 'our bill' which provides for the abolition of the Medical Practice Committee of the Workmen's Compensation Board in counties with over a million people. Dr. Walls recommends that should this bill fail to pass—and I understand there is a good possibility of that—it would be wise to support an amendment to make it permissive rather than mandatory for the chairman of the Workmen's Compensation Board to appoint a Medical Practice Committee in counties where there are more than a million people. This would simply involve changing the word 'shall' to 'may' in the opening sentence of Section 13-B, paragraph 1, of the Workmen's Compensation Law. In this way the Counties of Erie and Nassau might benefit.

"This recommendation was approved by the executive committee of your Legislation Committee, and I present it to you here, gentlemen, for approval."

Approval *was voted.*

Dr. Fineberg continued: "A letter from Dr. Frank D. Carroll, chairman of the Ophthalmology Section of the Medical Society of the State of New York, was read. It appears that the Attorney General has ruled that it is illegal in the State of New York for ophthalmologists to employ refraction technicians. Dr. Carroll reports that refraction technicians have been used in hospitals and private offices and that if it is illegal as stated, the law should be changed. The Executive Committee instructed the chairman to write to some of the ophthalmology societies to obtain their opinion.

"In October the Council approved a recommendation of the Committee on Medical Licensure and Medical Service that paragraph b of Subdivision 1 of Section 6512 of the Education Law (in relation to the practice of medicine by resident physicians in hospitals) be amended by adding the following sentence, as suggested by the Education Department: 'Notwithstanding any other provision in this chapter, a temporary certificate in accordance with this paragraph may be issued to a graduate of a recognized medical school of Canada who has been granted the degree of bachelor or doctor of medicine from said school who meets all the requirements of Section 6509 of this article except United States citizenship.'

"The State Education Department favors this amendment. However, without asking the opinion of our Society, the State Education Department has proposed a new phrase in the next to the last sentence of the same paragraph b, subdivision 1 of Section 6512, 'in the performance of duties outside of hospitals or other institutions.' The next to the last sentence would then read, 'Nothing herein contained shall be construed to prevent the practice of medicine by a physician who is a full time employe of the State or a municipality *in the performance of duties outside of hospitals or other institutions*, provided such physician shall have a temporary certificate issued by the department in accordance with this subparagraph.' (*new material in italics*).

"The Executive Committee expresses its disapproval of this phrase—it is confusing to say the least—and notes that our secretary has already notified Mr. Killough that it does not conform to our recommendation.

"Dr. Larimore, the Deputy Commissioner of Health, spoke to us about that yesterday afternoon. He had a letter from Mr. Brind discussing this phrase. There has been no explanation as to why this new phrase was included. The inference is made that it probably means that a resident working in our hospitals may ride an ambulance and in that way may practice outside, or he may take care of home care cases on the outside, but I feel that the way it is stated we cannot approve.

"Mr. Chairman, I would like approval of this part of the report; that we disapprove of the insertion of that phrase, which is very confusing and ambiguous."

It *was voted* to disapprove the insertion of the phrase, "in the performance of duties outside of hospitals or other institutions."

Dr. Fineberg continued: "After considerable study, it is the consensus of our Executive Committee that the resolution introduced by Dr. Leonard J. Schiff, concerning questionable advertising of medical books written for the laity, which may lead to 'lewd and lecherous curiosity rather than scientific study,' is not a matter for our Legislation Committee to decide. It is recommended that this subject be referred to the Committee on Ethics.

Approval *was voted.*

Dr. Fineberg said further: "In our attempt to establish liaison with societies and associations of our brother professions, your chairman will attend a luncheon of the Council on Legislation of the Dental Society of the State of New York at the Hotel Astor on January 14.

"Our Executive Committee has been invited to meet representatives of the New York State Pharmaceutical Association on January 17."

The report as a whole *was approved.*

Malpractice Insurance and Defense Board.—Dr. Joseph A. Lane, chairman, submitted a report regarding the formation of county medical society committees advisory to the Malpractice Insurance and Defense Board and a plan proposed by the Board for cooperation between county medical societies and this Society for reducing the incidence of malpractice claims.

After discussion it *was voted* to defer action until the next meeting of the Council.

Nursing Education.—Dr. Raymond S. McKeeby, chairman, stated: "I would advise you of a bill which is coming up in the House of Representatives, House Joint Resolution 171, to establish a commission on nursing services, introduced by Representative Frances P. Bolton, of Ohio. The purpose primarily is to establish a commission which would study the needs of nursing services in the United States. This bill has been opposed by the American Medical Association and by the National League of Nursing simply because they feel that it would duplicate work that has been done, that the needs are known, and now it is time for something to be done about them. We have no opinion as a committee.

"The other thing that I would like to report is that the objections of the Council members at the last meeting in regard to the *Principles for the Promotion of Better Nursing Care* have been withdrawn. This is confirmed by a telephone message to me and also a letter which our secretary has in his possession. Inasmuch as this Council has approved the unrevised principles at an earlier session, it is my feeling that these principles now can be acted upon by this Council and be approved."

Approval *was voted.*

Office Administration and Policies.—Dr. John J. Masterson, chairman, reported that at the regular monthly meeting of the committee on January 11, 1956, the following actions were taken:

1. Various personnel matters were approved;
2. A proposed change in the nature of the annual Christmas party for the staff was approved "if a majority of the staff desire it";
3. Alterations for the elimination of drafts in the mail room and at the switchboard and
4. Painting of three office areas was authorized;
5. Services of the office manager to the Blood Banks Association were limited to continuance of his supervision of the Association's office and its staff;
6. It was voted to recommend to the Council that the Physicians' Home be permitted to use space in the Society's offices and that the amount to be paid for expenses be developed between Dr. Anderton and representatives of the Home.

Approval of the report *was voted.*

Publications.—Dr. Masterson, chairman, stated: "The regular monthly meeting of the Publication Committee was held on January 11, 1956.

"The monthly report of the editor was approved.

"The business manager reported regarding the Journal advertising finances.

"It was stated that we had received notice from West Virginia Pulp and Paper Company that on February 1, 1956, there would be an increase in the price of paper for the Journal amounting to $1.20 per hundredweight. This would cost the Journal an additional $4,800 per year.

"The business manager reported that West Virginia Pulp and Paper Company had been unable to deliver paper to us between October 1 and December 20, 1955. Estimates had been received from the Linde Paper Company which, based on the increase in price which we would have to pay West Virginia, would involve an additional expenditure of less than $100 per year on the part of the Society. This estimate was based on paper used during the 1954–1955 calendar years and on present rates of postage. The business manager was authorized to negotiate a contract with the Linde Paper Company for Journal paper for one year.

"The question of the amount and type of *Directory* paper to be used for the 1957 edition was tabled until the February meeting.

"A printer for the 1957 *Directory* was discussed, and the business manager was requested to obtain estimates from various printers, including the Williams Press of Albany.

"The elimination of the street listings from the *Directory* was questioned by Dr. Morris Katcher. Dr. Katcher requested that it be included in the next edition. The committee voted that Dr. Anderton write to Dr. Katcher stating that because of the expense involved the committee deleted this particular section from the *Directory*.

"Dr. Rebecca Liswood requested that the Marriage Council of Brooklyn be included in the hospital section of the 1957 *Directory*. Action was deferred. Dr. Anderton and Dr. John G. Masterson were requested to report on this matter at the February meeting.

"The committee voted to include in the 1957 *Directory* the New York Allergy Society, the American College of Allergists, and the American Academy of Allergy, designating fellows and associate fellows.

"It was voted to approve the request to exchange the Journal with *Industrial Medicine and Surgery.*

"Dr. Redway reported that FM radio talks sponsored by the New York Academy of Medicine would appear in March, 1956, and probably one a month thereafter.

"The committee voted that as we are running a series of articles on allergy, allergists outside of the State of New York be contacted with the thought of interesting them in a subscription to the Journal.

"Dr. Redway reported that he desired to hold the annual editorial dinner the second Wednesday in March."

It *was voted* to approve the report.

Public Health and Education.—Dr. Theodore J. Curphey, chairman, stated that he had attended two meetings and arranged 19 postgraduate lectures and teaching days in 11 counties since his last report to the Council.

He reported as follows:

A. A meeting of the Subcommittee on Epilepsy was held December 15. Drs. Wortis, Merritt, and Rabiner, with helpful suggestions from Dr. Anderton, arrived at the following recommendations for the Commissioner of Motor Vehicles, Mr. Joseph P. Kelly:

1. That the regulations of the New York State Bureau of Motor Vehicles be amended to include the principles of the law of the State of Wisconsin with respect to the issuance of drivers' licenses to epileptics.

2. That the Commissioner of Motor Vehicles appoint an advisory group on epilepsy to include representatives from the fields of medicine and law and any lay persons he may deem advisable.

3. That any cases of pending applications by epileptics for drivers' licenses be considered in the light of the recommendation of this subcommittee relative to amending the present regulations of the Bureau.

4. That the Medical Society of the State of New York advise the physicians of the State that "In the case of an epileptic applying for a driver's license the physician should merely state that (*a*) to the best of his knowledge and belief, according to the report of the patient, the latter has had no attacks for (specify time), (*b*) and that the patient is under medication (or not); furthermore, the physician should make no specific recommendation as to the fitness of the patient to drive."

These recommendations were approved by the Council Committee later that day and because of the Commissioner's desire for quick action on pending applications for drivers' licenses, a letter embodying the recommendations and enclosing suggested possible legislation patterned after the Wisconsin Law was dispatched to the Commissioner.

The Ad Hoc Committee meets again on January 12, 1956, with the Commissioner of Motor Vehicles, the Commissioner of Mental Hygiene or his representative, and the State Health Department, to process those applications. These are coming to us in code; there will be no names appended. Mr. Kelly writes that he is very grateful to the Society, and he says here: "I would like to reassure you again that it is not our plan to involve the Committee in passing judgment on individual cases but rather on classes of cases. The further responsibility of deciding about specific case situations will rest in my hands, with the help of representatives from the State Health Department. It may be possible further to consider your recommendation that we explore the present Wisconsin Law with the thought of establishing something similar here in New York State."

Dr. Curphey: "Mr. President, may I recommend that you consider the following to be appointed as the committee to study the over-all accident prevention problem: Dr. Arthur S. Abramson, Dr. Conrad Berens, Dr. Norman S. Plummer, Dr. Edmund P. Fowler, Sr., Dr. S. Bernard Wortis, Dr. Frederick W. Williams, Dr. Harold Brandaleone, and Dr. Walter Ludlum."

The president, with the approval of the Council, appointed the above committee.

B. Four major matters were discussed at the December 15 meeting of the committee with representatives of the State Health Department. By special invitation Mr. J. R. Connelly, executive director of the American Diabetes Association was present.

1. The action of the Subcommittee on Epilepsy was reported. It was agreed that information should be obtained on the experience of Wisconsin since the enactment of its legislation concerning epileptic drivers. Dr. Hilleboe will inquire of Dr. Carl Neupert, Health Commissioner for Wisconsin.

2. Diabetes Program for Upstate New York: This program had been discussed by the Subcommittee on Diabetes at its most recent meeting, which was reported to the Council on November 10. Again there was discussion of the suitability of the Health Department's entering into a diabetes program, objection being expressed on the grounds that diabetes is neither an infectious nor an epidemic disease.

Dr. Hilleboe pointed out that there are many cases of diabetes which come under the department's jurisdiction primarily as cases of cancer, tuberculosis, congenital deformity, and even Welfare cases. He declared the department had no desire to usurp any responsibilities of the physicians of the State in the care of the disease. There is no State budget allocation for this work; there is no personnel assigned to it. The Health Department, he said, is trying to accelerate the diagnosis of diabetes and needs the advice of the Medical Society as to the best means to accomplish this.

It was finally decided that Mr. Connelly of the American Diabetes Association, Dr. Gates (a member of the Subcommittee on Diabetes and a state governor of the A.D.A.), and Dr. Reynolds of the Health Department confer as to possible steps to be taken in collaboration for the purpose of working out a long-term plan to achieve the highest possible degree of detection.

3. Narcotics—Oral Prescription: Dr. Larimore explained that legislation was enacted by Congress whereby individual states can pass local regulations to permit the prescribing of nonhabit-forming drugs by word of mouth (i.e., telephoned prescriptions). Early in 1955 Federal Commissioner of Narcotics Anslinger issued a memorandum specifying certain narcotic drugs as nonhabit-forming.

Recently the State Pharmaceutical Association expressed to Dr. Hilleboe a desire to introduce such permissive legislation. However, the Narcotic Control Section of the Office of Legal Affairs of the State Health Department did not agree with the Federal classification of nonaddictive drugs and felt it would lose control of the situation completely if permissive legislation were put through in this State.

At a subsequent meeting of the State Narcotics Control Board only two votes were cast against the enactment of such a law.

It was agreed that the matter should be brought to the attention of the Committee on Legislation, indicating the opinion of the committee and the Health Department that this type of legislation should be opposed on the grounds that there is need for further study, including the experience of those states which have enacted such laws.

4. Tuberculosis Hospitals and Sanatoria: There

was prolonged discussion of the problem of utilization of the county, State, and local tuberculosis hospitals in view of the decrease in incidence and the shorter period of hospitalization now required.

It is the Health Department's desire that the local tuberculosis hospitals shift patients to county or State tuberculosis hospitals. Local communities would still have need for a limited number of beds for short-term therapy and treatment of nonhospitalized tuberculosis patients. The remaining beds could be used for the specific needs of the community. The Health Department wants a change in the law to permit the inclusion of cases of at least "other chest diseases, including heart disease." State aid would apply only to tuberculosis patients as in the past.

Certain county medical societies had approached the State Society protesting the projected transfer of the local tuberculosis hospital patients to State institutions and the consequent closing of county hospitals. One county proposed that the State hospitals could be turned over to the Department of Mental Hygiene. On the other hand, Dr. Hilleboe reported that some county medical societies had asked that their local tuberculosis hospitals be allowed to take nontuberculosis cases and wanted the law changed to permit this.

It was finally agreed to hold a meeting prior to the next Council meeting, the committee to consist of representatives of the Legislation Committee, the State Department of Health, and of the county sanatoria. Dr. Hilleboe will prepare facts and figures for their consideration.

This meeting was held January 11, 1956. Impending permissive legislation to make it possible for a county tuberculosis hospital to change its pattern in those counties where there is a dwindling incidence of tuberculosis and to change those hospitals into hospitals for chronic diseases was discussed. A copy of this bill will be sent to all county medical societies by the chairman of the Committee on Legislation to give them a chance to voice their approval or disapproval.

C. The desirability of cooperation and exchange of information between the Subcommittee on Heart Disease and the American Heart Association was stressed at the committee's meeting December 16. The association's efforts in the prevention of rheumatic fever and rheumatic heart disease could be made more effective by wider dissemination of the recently revised criteria for diagnosis, through the State and county medical societies. Among other suggestions it was agreed that Dr. Hiss would request the Heart Association to transmit to Dr. Redway their most recent releases for publication in the JOURNAL and that additional material would be supplied as it is revised.

The complexity of the problem of the cardiac in industry was discussed, with emphasis on the need for the doctor to educate the patient and the employer still further as to the ability of the cardiac to work. Various work classification units conducted in certain universities were described, and concern was expressed that the doctors should determine medical policy and treatment in all such ventures lest lay or governmental organizations pre-empt control. The physicians themselves must recognize their responsibility to keep informed on all activities in this field. Here again the Subcommittee on Heart Disease could play the role of a clearing house and coordinator of information with the Public Relations Bureau contributing their important services.

Plans were discussed for an exhibit on rheumatic fever for the Annual Meeting in 1956, as well as for the presentation of a report on the prophylactic use of antibiotics.

D. During the winter of 1953–1954 a request was received from Dr. E. B. Wilson, medical consultant of the Division of Vocational Rehabilitation of the State Education Department, for assistance in revising their fee schedule. This led to the realization on the part of your chairman that each of the State administration's departments which provide medical services to the public had its individual fee schedule as well as its own disease nomenclature, which appeared to differ from those of the other agencies. Upon inquiry it was agreed by each department head that a re-evaluation was in order with the view of standardizing the categories of service and bringing the fees into an equable relationship between the various departments.

Mr. George Farrell, director of the Bureau of Medical Care Insurance, was assigned to the study, which has been a tedious procedure. As a result of personal conferences between Mr. Farrell and the department heads there was made available to him recently revised schedules, particularly that of the Department of Social Welfare. Mr. Farrell has arrived at a standard nomenclature, and a comparison of existing fees has been set up. Mr. Farrell has also prepared a comparative schedule of fees, based on the same nomenclature, for all Blue Shield plans in New York State.

It would seem that the next step is to have these comparative charts studied by the chairmen of the respective Council Committees and that subsequently a meeting should be requested between State Medical Society officials and the heads of the State Departments of Health (Division of Medical Services for the Rehabilitation Program), Education (Vocational Rehabilitation), and Social Welfare (Medical Services) and the chairman of the State Workmen's Compensation Board.

Dr. Curphey supplemented his report as follows: "We had a letter from Dr. Roger Knipe, Commissioner of Health of the County of Genesee, asking for approval or wanting to know the policy of the State Medical Society in regard to health educators. On inquiry I found that health educators have been operating in the State; there are people so employed in Nassau, Westchester, and Cattaraugus; their prime purpose is to promote health programs and to assist in case-finding projects; the American Medical Association has said that health education should be an integral part of every health program.

"In the light of that I would request, Mr. President, the right or privilege to communicate with Dr. Knipe and to say that insofar as the State Medical Society is concerned, there is nothing inconsistent with the appointment of a health educator in their county. However, the county medical societies should be consulted."

After discussion approval *was voted* and Dr. Curphey authorized to answer the letter as he indicated.

Dr. Curphey continued: "The next is a request from Dr. Brightman, Assistant Commissioner for Medical Welfare Services of the Department of Social Welfare, for approval by the Medical Society for an experimental or pilot project connected with rehabilitation in the rural areas.

"In attempting to boil it down without losing the important facts I might say that Dr. Brightman communicated with me by telephone, and I advised him to refer the matter to our chairman of the Physical Medicine and Rehabilitation Subcommittee. Along with his letter to Dr. Abramson he sent an outline of the survey, the sponsors, the direction of the survey largely by the State University group in Syracuse, and the plans to be followed.

"When I received Dr. Brightman's inquiry, I obtained from Syracuse copies of the blank that each doctor is asked to fill out. That blank not only has the name and address of the patient but calls for diagnosis. For that reason I put it up to Mr. Martin after expressing my own opinion that a doctor who gave out confidential information without a signed permission from his patient would be liable to jeopardy.

After discussion it *was voted* that Dr. Curphey write to Dr. Brightman pointing out the legal difficulties involved and that a solution might be to have the doctor advise the patient to send the information that is requested by the survey group.

Dr. Curphey continued: "We have a letter here from the secretary of the Medical Society of the County of Greene, and I shall read it. It was directed to Mr. Miebach.

> The Greene County Medical Society has requested me to get an opinion from you as to charges for Salk vaccination in private practice.
>
> Since the retail distribution of the vaccine is to be free of charge, this Society feels that its administration should be billed to the nonindigent private patient as regular office call.
>
> Please advise whether there has been a general ruling on this question on a State level.
>
> Sincerely,
> Hans W. Leeds, M.D., Secretary

"Mr. President, it occurred to me that it might be well—and I have not had the opportunity of discussing it with Dr. Givan, who is also a member of the Polio Advisory Committee representing the Society—for the State Society to recommend a policy in respect to the use of vaccine, and I would put up for discussion and possible approval that the State Society goes on record in favoring, first, the administration of vaccine to the various groups according to priorities established from time to time, because these priorities change; that no individual should be denied vaccine because of inability to pay; that the doctors will be willing to administer vaccine supplied by the State Health Department if the patient is indigent, to supply it free; that, in the case of individuals able to afford to pay, no charge be made for the free vaccine but that an office charge be made for the administration of the vaccine as is now done with any immunologic agent; that the members be reminded that it is necessary to keep accurate records in view of the recent amendment of the Sanitary Code brought in by Attorney General Javits and that those records must include the patient's name, the age of the batch, the batch number of the vaccine, and the manufacturer's name as well as the date of the vaccination—all of those things be included in our recommendation to the members."

After discussion approval *was voted.*

The report as a whole *was adopted.*

Public Relations.—Dr. Floyd S. Winslow, chairman, presented the following report: "During the last month of 1955 your committee and the Public and Professional Relations Bureau worked with groups inside and outside our Society carrying on our normal projects.

"Among these was assistance to the county medical societies expressing interest in courses for medical assistants in doctors' offices. Since the last report several additional societies have indicated that they will sponsor lectures during 1956. To assist these groups, a letter and postcard were drawn up to be used by county medical society public relations chairmen to find out how many local doctors are interested.

"Several inquiries were received from outside sources for information about the course. The Academy of Medicine of Cleveland and the Cuyahoga County Medical Society, Ohio, requested several copies of the Bureau's publications 'How to Conduct Training Courses for Physicians' Office Personnel' and 'Seven PR Pointers for Medical Personnel.' An editor of the McGraw-Hill Publishing Company, planning a book to be entitled 'The Medical Assistant,' received background material as to what is happening in New York.

"Looking forward to the annual meeting, the Bureau's staff assisted Dr. Henry I. Fineberg, chairman, Public Relations Session, in preparing his program.

"In cooperating with other Society committees, Mr. Miebach was invited to a meeting called by Dr. Fineberg as chairman of the Legislation Committee. One of the purposes of the meeting was to discuss plans for a campaign against chiropractic licensure.

"During December the Bureau also assisted the Woman's Auxiliary. We helped arrange for the judging of the Health Poster Contest, prepared press releases for the county and State contests, reviewed material for the *Distaff*, and conferred with the president in regard to a letter to each new member of the Auxiliary.

"Editors in various parts of the State were mailed press releases covering postgraduate lectures in the following counties: Dutchess, Jefferson, Onondaga, Ontario, Otsego, Rensselaer, Suffolk, and Sullivan.

"An indication of the value of the *Newsletter* to its readers was the many requests received for the Bureau's brochure 'Proposed Cash Disability Benefits Under Social Security' offered to physicians in the December issue; 201 brochures had been mailed as the result of 127 requests by physicians and their secretaries.

"Your chairman also would like to report that the Bureau has mailed 4,507 copies of 'Seven PR Pointers for Medical Personnel.'

"On December 13 your chairman had the pleasure of attending the annual meeting of the Monroe County Medical Society in Rochester. One of the highlights of the meeting was the awarding of a plaque to radio station WHAM, Rochester. The plaque cited the station for twenty-five years of public service in broadcasting the society's program 'Speaking of Health.' Your committee congratulates the county society and the station for devoting twenty-five years to the practice of good public relations through the medium of a radio program. We commend the society also for showing its appreciation to a nonmedical group. This is a novel public relations technic which we recommend to county medical societies in this State."

It *was voted* to adopt the report.

Dr. Winslow continued: "The *Newsletter* at present is mailed under third-class rates, and it is desired this be changed to second class. As a result of negotiations the Bureau has been advised that a substantial saving in costs may be achieved by changing the mailing classification of the *Newsletter* to second class.

"In order to change the classification, I move that this Council approve the following resolution:

> Whereas, the *Newsletter* is an authorized publication of the Medical Society of the State of New York, which is published by its Public and Professional Relations Bureau monthly, except August and September; and
>
> Whereas, the *Newsletter* was mailed for the first time in March, 1951, to every paid-up member of the Society and has been mailed since that time to every paid-up member; and
>
> Whereas, no official action has been taken by the Medical Society of the State of New York stating that such members are entitled to the *Newsletter* as a privilege of membership; therefore, be it
>
> *Resolved*, that all paid-up members of the Medical Society of the State of New York are entitled to receive the *Newsletter*, its authorized publication, by virtue of their membership in the Medical Society of the State of New York."

The resolution *was adopted*

Veterans Administration, Liaison with.—Dr. Herbert H. Bauckus, chairman, reported that an alteration in the wording of the fee schedule, proposed by Veterans Administration, had been accepted by the committee and is in effect. He stated that the fee schedule had had very little substantial change since 1946 but was still fairly up to date. Copies are in short supply, however, and the Veterans Administration has no money available to have more printed.

Dr. Bauckus asked permission of Dr. McClintock to appear before a meeting of the Committee on Economics to supply information collected during the last seven years regarding medical care provided to dependents of military personnel.

Dr. McClintock stated he would be happy to have Dr. Bauckus appear.

Woman's Auxiliary, Advisory to.—Dr. Dan Mellen, chairman, reported: "The Woman's Auxiliary wishes to undertake a Christmas Card Project on behalf of the American Medical Education Fund. They have it worked out where there is a profit of 5 cents per card, and they are in hope of selling 50,000 cards, which will result in a profit of $2,500. As chairman, I see no reason why we should not allow them to do this.

"The second project is designated as '80-Dime Week.' The A.M.A. has suggested that, as part of National Medical Education Week (April 23 to 30), our Auxiliary appoint a committee to solicit a contribution of 80 dimes, or eight dollars, from everyone who might be willing to contribute. All proceeds from the 80-dimes project would also go to the American Medical Education Foundation. As I do not know whether our State Committee Chairman plans to ask the doctors to participate in this drive, I thought it best to ask your opinion before I advised the ladies on this. Dr. Edward P. Flood is the chairman."

Since no suggestions were proffered, Dr. Mellen was advised by the president to use his own judgment.

Dr. Mellen continued: "I should like to mention some of the Auxiliary's work during the last six months and ask your permission to have the attached report entered into the Council minutes. These projects are as follows:

"*Auxiliary Exhibit at New York State Fair:* The continuous showing of health films attracted a large attendance. Several thousand copies of "Today's Health" were distributed with large quantities of pamphlets on subjects corresponding to the films.

"*Poster Contest:* Approximately the same number of counties are participating as in the previous year. The contest receives much local newspaper publicity. The State judging will be held in New York City in April.

"*Anniversary Issue of Distaff:* This is being prepared for publication in March prior to the Convention concluding twenty years of Auxiliary organization.

"*Problems of the Aging:* The Mental Health Committees throughout the State are working on various facets of this program; in some counties the Auxiliary is cooperating.

"*Gems:* The Auxiliary training course for babysitters (Good Emergency Mother Substitutes) is being well received. In Monroe County there are 48 groups taking the course.

"*Legislation:* Mrs. Charles Brane, chairman, has sent several communications to county presidents, county legislation chairmen, and district legislation chairmen. These communications contained recommended legislative programs. It is hoped that local committees are organized and prepared to promote any request that may come from the Medical Society.

"*Fall Conference:* The Fall Conference held in Poughkeepsie in October, 1955, was planned to cover 'Auxiliary programs with three age groups.' In line with this plan, the program included 'GEMS' and Future Nurse Clubs for the teen-age groups; Home and Child Safety for the Homemaker; and 'Problems of the Aging' for our senior citizens. A feature of the conference was a panel discussion by four members of the Vassar College faculty on 'Leadership.' The meeting was well attended with representation from the entire State.

"*President's Activities:* To date the president has attended eight district meetings of the Auxiliary, seven district meetings of the Society, 33 Auxiliary meetings and conferences, three-day Fall Conference in Poughkeepsie, three-day National Conference in Chicago, and three days at State Fair.

"All of the officers and committee chairmen are actively engaged in their projects at this time, and we hope to present a satisfactory report to the Advisory Committee at the conclusion of this, our twentieth, year."

It *was voted* to adopt the report.

Workmen's Compensation.—Dr. Gerald D. Dorman, chairman, stated: "The director of compensation has completed a revision of the fee schedule from the point of view of the Medical Society and is prepared to submit it to the carriers and Mr. Henry Sayre.

"Another item of interest to the Council is the matter of Dr. Harold Somberg. In Miss Mary Donlon's administration on four occasions he did not appear for hearings, and as a result he was disciplined by the previous chairman of the Workmen's Compensation Board with a six-month suspension of his right to compensation practice. He has appealed this suspension, and it was stayed by the Supreme Court. The matter is now before the Appellate Division.

"One of the things that makes this of particular interest is that Mr. Phillips, who represents Dr. Somberg, stated that the subpoena was not properly served. However, Mr. Leo Murin, counsel for the Compensation Board, has stated that he does not feel a subpoena is necessary, that the mere request is sufficient to have a physician appear before a hearing and, if he fails to appear, to have him disciplined.

"The question comes up, however, whether we should present a brief as amicus curiae on the problem of having a doctor held accountable when he has not been served a subpoena but has been merely notified that he is expected to appear at a hearing.

"I talked to one of my legal friends, and he said the power of subpoena and the question of punishment for contempt of a subpoena is a right which should be very carefully protected, and he felt, without going into any of the details, that the doctor should be very careful to preserve that right.

"I would be interested if our counsel could give us his opinion on the matter, and I should also like to request permission to have my director speak."

Permission was granted, and Dr. David J. Kaliski stated: "We had very little time to study the brief and just have been able to get in touch with our counsel today, but we support the viewpoint of the attorney who is defending Dr. Somberg. The importance of proceeding against an individual who has been properly served, if he fails to comply with the subpoena, as a contempt of the court should be stressed. Under the proceedings that are now being tested in court, they proceeded against the doctor under Section 13(d)2-f, which is punishment for improper medical conduct. There is no improper medical conduct involved at all.

"We feel that we should support the attorney for Dr. Somberg. We must preserve our rights under the law to be served a subpoena and not be guilty of contempt unless we receive a subpoena properly and fail to comply. I think we should enter into this case in some way to support the right of doctors to be properly served and to be properly tried under the law for contempt, for failure to appear."

Dr. Dorman moved that "the matter be submitted to our counsel and, if he so recommends, that he be authorized to proceed with this matter."

After discussion the motion *was carried.*

The report as a whole *was adopted.*

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Medical Society of the State of New York

When? *May 7 to 11, 1956*

Where? *Hotel Statler, New York City*

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C I B A SUMMIT, N. J.

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BOOKS RECEIVED

(The following books were received during the month of January, 1956)

The Complete Medical Guide. By Benjamin F. Miller, M.D. Illustrated by R. Paul Larkin. Octavo of 913 pages, illustrated. New York, Simon and Schuster, 1956. Half cloth, $4.95.

Cybernetics. Circular Causal and Feedback Mechanisms in Biological and Social Systems. Transactions of the Tenth Conference April 22, 23, and 24, 1953, Princeton, N.J. Edited by Heinz Von Foerster. Assistant Editors, Margaret Mead and Hans Lukas Teuber. Octavo of 100 pages, illustrated. New York, The Josiah Macy, Jr. Foundation, 1955. Cloth, $2.75.

The Habit of Tobacco Smoking. By W. Koskowski, M.D. Octavo of 292 pages, illustrated. London, England, Staples Press, (New York, John de Graff, Inc.), 1955. Cloth. $5.00.

Planning New Institutional Facilities for Long-Term Care. By Edna E. Nicholson. Octavo of 358 pages. New York, G. P. Putnam's Sons, 1956. Cloth, $4.50.

Cancer of the Lung. Pathology, Diagnosis, and Treatment. By Milton B. Rosenblatt, M.D., and James R. Lisa, M.D., with eight contributors. Octavo of 330 pages, illustrated. New York, Oxford University Press, 1956. Cloth, $15.

The Medical Clinics of North America. Chicago Number. January, 1956. Octavo, illustrated. Philadelphia, W. B. Saunders Company, 1956. Published bimonthly (six numbers a year). Cloth, $18 net; paper, $15 net.

The Role of Algae and Plankton in Medicine. By Morton Schwimmer, M.D., and David Schwimmer, M.D. Octavo of 85 pages. New York, Grune & Stratton, 1955. Cloth, $3.75.

Medical Department United States Army. Surgery in World War II. Vascular Surgery. Edited by Daniel C. Elkin, M.D., and Michael E. DeBakey, M.D. Quarto of 465 pages, illustrated. Washington, D.C., Office of the Surgeon General, Department of the Army, 1955. Cloth, $4.25.

Recueil Périodique de l'Encyclopédie Médico-Chirurgicale paraissant cinquante-quatre fois par an, à raison de deux cahiers pour chacune des matières. Section #42-43, Stomatologie (I). Folio. v.p. Paris, Editions Techniques, 1955.

Integrated Gynecology. Principles and Practice. By I. C. Rubin, M.D., and Josef Novak, M.D. In three volumes. Octavo. Illustrated. 589 pages; 496 pages; 682 pages. New York, McGraw-Hill Book Company, 1956. Cloth, $60 set.

On the Nature of Man. An Essay in Primitive Philosophy. By Dagobert D. Runes, Ph.D. Octavo. 105 pages. New York, Philosophical Library, 1956. Half-cloth, $3.00.

James Parkinson (1755–1824). A bicentenary volume of papers dealing with Parkinson's Disease, incorporating the original "Essay on the Shaking Palsy." Edited by Macdonald Critchley, M.D. With the collaboration of William H. McMenemey, D.N., Francis M. R. Walshe, M.D., and J. Godwin Greenfield, M.D. Duodecimo of 268 pages, illustrated. London, Macmillan & Co. (New York, St. Martin's Press), 1955. Cloth, $4.50.

Subacute Bacterial Endocarditis. By Andrew Kerr, Jr., M.D. Octavo of 343 pages, illustrated. Springfield, Charles C Thomas, 1955. Cloth, $6.50. (American Lecture Series #274)

Pathologic Physiology. Mechanisms of Disease. Edited by William A. Sodeman, M.D. Second edition. Octavo of 963 pages, illustrated. Philadelphia, W. B. Saunders Company, 1956. Cloth, $13.

Handbook of Toxicology. Volume 1. Acute Toxicities of Solids, Liquids and Gases to Laboratory Animals. Edited by William S. Spector. Prepared under the Direction of the Committee on the Handbook of Biological Data, Division of Biology and Agriculture, The National Academy of Sciences, The National Research Council. Quarto of 408 pages. Philadelphia, W. B. Saunders Company, 1956. Cloth, $7.00.

Speech After Laryngectomy. A Comparative Study of the Breathing and Speech Coordinations of Laryngectomized and Normal Subjects, and the Relationships Between the Breathing and Speech Coordinations and Articulatory Errors of Laryngectomized Subjects to Their Speech Intelligibility. By Louis M. Di Carlo, Walter W. Amster, and Gilbert R. Herer. Octavo of 184 pages, illustrated. Syracuse, Syracuse University Press, 1955. Cloth, $4.00.

Impartial Medical Testimony. A Report by a Special Committee of The Association of the Bar of the City of New York on the Medical Expert Testimony Project. Octavo of 188 pages. New York, The Macmillan Company, 1956. Cloth, $3.95.

Medical Photography. Radiographic and Clinical. By T. A. Longmore. Fifth edition. Duodecimo of 990 pages, illustrated. London & New

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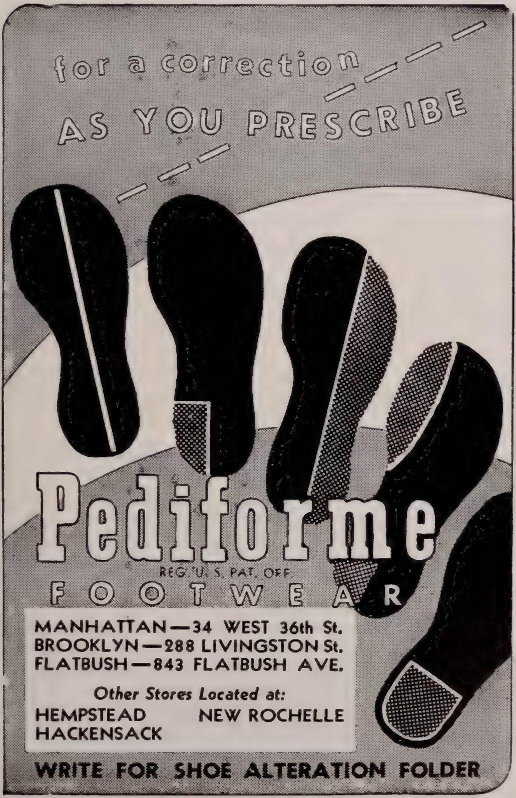

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[Continued from page 764]

York, The Focal Press, 1955. Cloth, $15.

The Interpretation of the Unipolar Electrocardiogram. By Gordon B. Myers, M.D. Quarto of 164 pages, illustrated. St. Louis, The C. V. Mosby Company, 1956. Paper, $4.75.

BOOKS REVIEWED

Progress in Clinical Surgery. By Various Authors. Edited by Rodney Smith, M.S. (Eng.). Octavo of 414 pages, illustrated, Boston, Little, Brown & Co., 1954. Cloth, $7.50.

This book is not a textbook of surgery, but is prepared to bring the reader up to date with new ideas in those fields where progress is being made. Many subjects are not included as there have been no particularly new developments in such fields. The chapters are the work of 20 surgeons of experience. The book is designed primarily for the young surgeon or the candidate for a specialty certificate in surgery.

On the whole it is very well written and illustrated. The individual subjects are well covered in a brief, easily readable manner. Young surgeons in training would find it a valuable source of information.—Edward P. Dunn

Physical Medicine and Rehabilitation. Edited by Basil Kiernander, D.Phys.Med. Octavo of 610 pages, illustrated. Springfield, Ill., Charles C Thomas, 1953. Cloth, $12.75.

The rapid advances which have taken place in the field of physical medicine and rehabilitation necessitate constant review of the changing status of the specialty. This volume represents the contributions of outstanding writers and practitioners in the field of physical medicine and rehabilitation and associated subjects. In any compilation of this type a certain amount of repetition is inevitable, but this does not detract from the value of the work. Also a small amount of contradiction can be observed. This is natural since certain differences of opinion are bound to occur among various observers. This book is distinctly a medical one, not intended for lay use or information. It is well written and clearly printed and illustrated, and should be carefully studied by all practitioners and students regardless of what specialties they may prefer.—Jerome Weiss

Breast Cancer and Its Diagnosis and Treatment. By Edward F. Lewison, M.D. Quarto of 478 pages, illustrated. Baltimore, The Williams & Wilkins Company, 1955. Cloth, $15.

This excellent textbook brings up to date a panoramic consideration of the problem of breast carcinoma. Periodically one volume treatises on this subject have appeared. The necessary space devoted to repetitious material already adequately presented in previous volumes cannot be avoided. Particularly valuable in this book are the chapters on prognosis and statistics. The section devoted to radiation therapy has been written by Dr. Vincent P. Collins, until recently at the Delafield Hospital. Dr. Collins has devoted a considerable amount of energy to improving the technical modalities used in the radiation treatment of carcinoma of the breast and particularly in the inclusion of the substernal gland bearing areas. While there is no unanimity of procedure in the handling of radiation therapy for breast carcinoma, the methods outlined by Dr. Collins are acceptable and thorough. The whole approach to the problem of internal mammary metastasis is still in flux. The statistics not of the incidence of internal mammary metastasis but of the effectiveness of their treatment either by extended surgery or by intensive radiation therapy are still inconclusive. The chest wall injuries following the McWhirter type radiation are duly noted by the author.

The book is well illustrated. The printing is good and the text readable.—Asa B. Friedmann

Standard Values in Nutrition and Metabolism. Being the second fascicle of a Handbook of Biological Data. Edited by Errett C. Albritton, M.D. Prepared under the Direction of the Committee on the Handbook of Biological Data, American Institute of Biological Sciences, the National Research Council. Quarto of 380 pages, illustrated. Philadelphia, W. B. Saunders Co., 1954. Paper, $6.50.

This book provides a compilation of the food values of almost all substances used in animal nutrition including cattle feed and human food substances and would be fine not only for the medical doctor but for the veterinarian. As a matter of fact a physician engaged in nutritional research should have this book at hand. The organization of the book could be improved by dividing it into man

[Continued on page 768]

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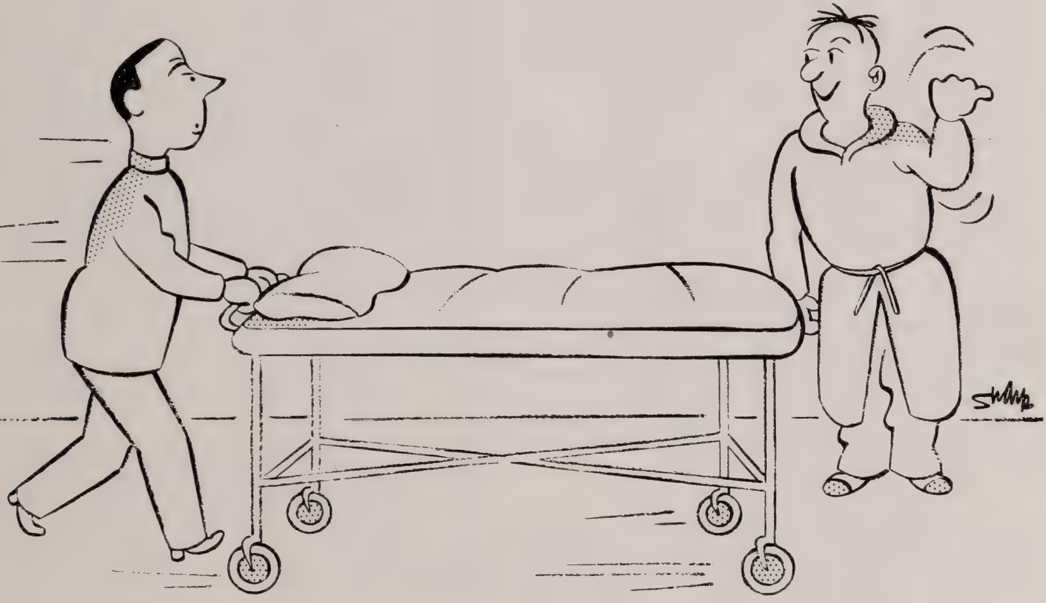

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[Continued from page 766]

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Human Embryology. By Bradley M. Patten, Ph.D. (*Physiol.*) Second edition. Octavo of 798 pages, illustrated. New York, Blakiston Co., 1953. Cloth, $12.

This very readable book of approximately 700 pages is abundantly illustrated, primarily in black and white with a few colored illustrations where desirable.

In general, the descriptions of the developmental processes are presented in such a way as to emphasize the continuity of process. Much of the information is of a practical nature and functional viewpoints are stressed.

The book is intended especially for medical students and for physicians and is so recommended.—Walter H. Schmitt

The Foundations of Surgery. By George Perkins, M.Ch. Duodecimo of 236 pages. Edinburgh, E. & S. Livingstone (Baltimore, Williams & Wilkins), 1954. Cloth, $3.00.

This is a small volume prepared for the medical student who is beginning the study of surgery. It covers fundamentals such as wound healing, inflammation, methods of examination for various types of injury, and for the various diseases which may require surgery. There is very little discussion of therapy. The volume is small enough to be carried in a pocket for use when a free moment is at hand.—Edward P. Dunn

Handbook of Medical Treatment. Edited by Milton J. Chatton, M.D., Sheldon Margen, M.D., and Henry D. Brainerd, M.D. Fourth edition. Sextodecimo of 569 pages, illustrated. Los Altos, Calif., Lange Medical Publications, 1954. Paper, $3.00.

This handbook is fairly comprehensive and follows the usual pattern of handbooks of medical treatment in that a standard classification of diseases is embodied in the organization. The type is particularly small making it rather difficult to utilize and its purpose is limited probably to use by internes. However, a practitioner might find this book a useful supplement to more comprehensive books used in his library. While the form is good and the text modern it is of course impossible to include all the medicine in less than 600 pages. Medical treatment, as the title purports, should include a great many more exhaustive descriptions in order to present the whole picture. A more exact title would be an *Outline of Medical Treatment.*—Theodore M. Feinblatt

Nontuberculous Diseases of the Chest. Sponsored by the American College of Chest Physicians. Editor, Andrew L. Banyai, M.D. Editorial Committee, Seymour M. Farber, M.D., Alvis E. Greer, M.D., Charles M. Hendricks, M.D., Minas Joannides, M.D., *et al.* Octavo of 1,139 pages, illustrated. Springfield, Charles C Thomas, 1954. Cloth, $18.75.

Under the aegis of the American College of Chest Physicians, Charles C Thomas has published a most comprehensive work on *Nontuberculous Diseases of the Chest.* Numerous authors, all of high qualification, have contributed to this most extensive symposium. As would be expected, the individual articles are not all of high uniform value. The great majority, however, are written in a most informative, erudite, and lucid manner. The contributions on tumors of the lung are exceedingly worth while.

Considerable space is devoted to those systemic diseases which not infrequently manifest pulmonary invasions or complications. Especially to be noted are the chapters devoted to the fungi diseases, the collagen, and the granulomatous diseases of the lung. In each of these the etiology, the pathology, the pathogenesis, the symptomatology, the physical signs, the roentgenographic features, and the therapy—where such exists—are most adequately covered. All of these contributions are fully documented.

All in all, the volume makes for an excellent reference work—the best which has appeared to date.—Foster Murray

Management of Addictions. Edited by Edward Podolsky, M.D. Octavo of 413 pages, illustrated. New York, Philosophical Library, 1955. Cloth, $7.50.

The author has done yeoman service in marshalling the main facts and factors entering into the concepts, mechanisms (physiologic, chemical, psychologic), therapy, and sociologic aspects of various types of addiction. In this timely and challenging task, he has garnered the experiences of experts in this field.

Part one aims to clarify the "multifactorial problem" of alcohol addiction. Psychodynamics, concept of genetotrophic disease, nutrition, endocrine, and psychologic factors are explored as well as the multiplicity of therapies—steroids, endocrine, drug aversion, calcium, sedation, tolserol, antabuse, conditioned reflex, thiopental (pentothal), and hypnotherapy. This section is rounded out by a comprehensive chapter, "The Alcohol Problem," by Oskar Diethelm.

Part two is devoted to "Drug Addiction." Herein is described the present status regarding hypoadrenocorticism, group psychotherapy, hospital treatment, electric-convulsive therapy, and uses of Benadryl in withdrawal syndrome. A general survey of the problem of "Narcotic Drug Addiction" is succinctly covered by M. J. Pescor.

This comprehensive volume is a *must* for the physician who would keep abreast of this difficult aspect of medical practice. It will also find a useful place on the bookshelf of the sociologist, clergyman, psychologist, welfare worker, educator, and others more or less concerned and obligated to help solve this increasingly devastating problem of addiction.—Frederick L. Patry

Mercaptopurine. George H. Hitchings, Ph.D., and C. P. Rhoads, M.D. (Conference Co-Chairmen). N. Alberstadt, F. J. de Asúa, J. Bernard, F. H. Bethell, M.D., *et al.* Octavo of 326 pages, illustrated. New York, New York Academy of Sciences, 1954. Paper, $4.50. (*Annals of the New York Academy of Sciences*, v. 60, Art. 2, pp. 183-508)

This volume was edited by Dr. C. P. Rhoads and presents the papers read at the conference of the New York Academy of Sciences, December, 1954. It is devoted to the present understanding in the use of 6-Mercaptopurine in the management of acute leukemia. 6-Mercaptopurine is another in the list of radiation mimics and growth inhibitors used in the study and control of experimental and human malignancies. Many of the papers represented are primarily theoretic and deal with experimental work, others with clinical experiences of Burchenal, Farber, Pierce, and others.

While the use of 6-Mercaptopurine is experimentally interesting, as are the histologic changes it produces in the blood picture, the over-all failure in the control of acute leukemia is still the unfortunately dominant theme of the book. Acute leukemia patients treated with 6-Mercaptopurine live and then die with fewer blast forms in their blood stream than when untreated. Also, the clinical course is possibly milder and probably slightly longer and the remissions a little more frequent in the treated cases.

Workers in the field of hematology are members of the Academy of Sciences who have received this book. They certainly will agree that it is a comprehensive and valuable compilation of original papers covering the use of 6-Mercaptopurines.—Asa B. Friedmann

Reconstructive Surgery of the Eyelids. By Wendell L. Hughes, M.D. Second Edition. Quarto of 260 pages, illustrated. St. Louis, C. V. Mosby Co., 1954. Cloth, $8.50.

It has been twelve years since the author wrote the first edition of this book as his thesis for admission to the American Ophthalmological Society. The changes in the second edition are not as numerous as one might expect after the lapse of so many years. The first three chapters are entirely unchanged. In chapter four there is an added section on the delayed pedicle flap, and additions in chapter five include extremely detailed and useful descriptions of types of dressings and methods of taking and using free grafts.

Chapters 10, 11, and 12 are new and are devoted to descriptions of upper lid reconstruction, reconstruction of both lids, and choice of treatment for various growths. The list of references is even longer than in the first edition.

The type of surgery described will not appeal to every ophthalmologist for it appears formidable and

[Continued on page 770]

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requires infinite patience with knowledge of the behavior of tissues as well as a certain amount of art. For those who choose to or are in a position where they must handle these cases for reconstruction this book, with its clear text, profuse and excellent illustrations, is an invaluable aid.—E. Clifford Place

Cancer: Race and Geography. Some Etiological, Environmental, Ethnological, Epidemiological, and Statistical Aspects in Caucasoids, Mongoloids, Negroids and Mexicans. By Paul E. Steiner, M.D. Octavo of 363 pages, illustrated. Baltimore, Williams & Wilkins Company, 1954. Cloth, $5.00.

This monograph of 328 pages is an outstanding contribution to the statistical evaluation of cancer. The author presents a statistical study of the necropsy records of the Los Angeles County Hospital from 1918 to 1947. In the 35,293 necropsies, 6,072 malignant tumors were found. These are classified into 53 different types of cancer and the 20 commonest varieties, representing 91 per cent of the total, are explored individually in relation to racial and geographic differences, and these, if present, are further examined for etiologic implications of environmental and hereditary factors. There is extensive reference to the reported incidence of malignancies from all parts of the world.

By its repeated references to the inadequacy of information regarding cancers, this work emphasizes the great need for cancer registries which should be an integral part of all institutions which competently care for cancer patients. By pooling carefully recorded information, even the small hospital can make a valuable contribution to our knowledge of cancer.—Philip G. Cabaud

Financing Hospital Care in the United States. In three volumes. Vol. 1. Factors Affecting the Costs of Hospital Care. Edited by John H. Hayes. Vol. 2. Prepayment and the Community. Edited by Harry Becker. Vol. 3. Financing Hospital Care for Nonwage and Low-Income Groups. Edited by Harry Becker. Octavo, illustrated. 300 pages; 356 pages; 110 pages. New York, Blakiston Division, McGraw-Hill Book Company, 1954, 1955. Cloth. $4.00; $4.50; $2.50.

These three volumes comprise a supplementing sequel to the 1947 report of the Commission on Hospital Care and as such it is a timely and monumental compilation of data, which obviously represents a major undertaking and an important contribution to the available resources on the subject. It is an excellent reference work for those concerned with the problem of hospital finance and effectively presents the complicated reasons for the still rising costs of institutional medical care. Although the material is heavy reading, even for the statistically minded, this comprehensiveness is possibly its principal merit. The committee's recommendations, based on its interpretation of these substantial revelations, are much less impressive.

Among the few minor practical suggestions and a larger number of often familiar general principles, the disappointed reader searches vainly for a realistic approach, if not an actual answer, to the fundamental questions posed by the well-documented observations. He feels, somehow, that despite occasional references to related aspects of medical care, such as services to private as well as dispensary outpatients, the hospital has been considered as an almost isolated problem, out of context and without appropriate regard for the over-all area of community health.

The subject of financing services provided by other than hospital employees, including the physicians who provide much of the professional attention within, not to mention outside, these institutions, is hardly mentioned. Similarly slighted are provisions for an expanding program of prevention, which, in contradistinction to an ever-increasing number of hospital beds, must be the ultimate means of insuring medical and social solvency. This work is recommended to those desiring an authoritative explanation for the financial ills that beset our hospitals—providing they aren't expecting more than a limited consideration of medical economics and are duly forewarned that the fundamental problems presented—as much by implication as by factual statement—are, unfortunately, brought little nearer to practical solution.—ROBERT W. HILLMAN

Textbook of Pediatrics. Edited by Waldo E. Nelson, M.D. With the Collaboration of 70 Contributors. Sixth Edition. Quarto of 1,581 pages, illustrated. Philadelphia, W. B. Saunders Company, 1954. Cloth, $15.

The editors of this very popular and complete one-volume system of pediatrics have again accomplished a thorough revision which, by reducing repetition and making the thought more concise, has shortened the volume by 70 pages. The panel of authors has had changes and additions as dictated by deaths and advances in the knowledge of various subjects.

There is no one-volume, pediatric reference book on the market which provides such adequate coverage of the whole field of pediatrics.

It is an essential book for the pediatrician, general practitioner, medical student, nurse, and all medical libraries.—KENNETH G. JENNINGS

Modern Diagnosis and Treatment of the Minor Venereal Diseases. The Management of Chancroid Granuloma Inguinale and Lymphogranuloma Venereum in General Practice. By Orlando Canizares, M.D. Octavo of 131 pages, illustrated. Springfield, Ill., Charles C Thomas, 1954. Fabricoid, $3.75.

The subject of chancroid, granuloma inguinale, and lymphogranuloma venereum are dealt with from all aspects in this monograph. Exact details are given, for each disease, of the clinical appearance, laboratory diagnosis, treatment, and management.

[Continued on page 772]

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[Continued from page 771]

A most useful chapter contains a table of facts whereby these diseases can be distinguished from one another; to round out the appraisal of a genital lesion, the chapter also includes concise and complete data whereby other venereal and nonvenereal conditions—including cat scratch disease—can be recognized and differentiated from the three diseases which form the subject of the monograph. Excellent instructions are given for the management of a patient with a minor venereal disease. Twenty illustrations include an excellent high power photomicrograph of Donovan bodies; there are 106 references.—ARTHUR W. GRACE

Clinical Diagnosis. By Elmer G. Wakefield, M.D. Octavo of 1,611 pages, illustrated. New York, Appleton-Century-Crofts, 1955. Cloth, $22.50.

This is a most remarkable book in the field of medicine with extraordinary extensive views of internal medicine and tremendous clarity of presentation and outstanding thoroughness.

Certain trends in medical book publication are characterized by stress today. Size, weight, and number of pages are often outstanding. This book is large, 1,611 pages in completeness, and presents a weight of $5^1/_2$ pounds. Excellently written, the presentation of the medical matters in clinical diagnosis is superbly done. The volume can be opened at any page and will supply a presentation of some aspect of medicine that is wonderfully thorough, complete, and definitive.

Regional diagnosis is excellently phrased and discussed in 532 pages, then 663 pages are applied to the presentation of systemic diseases, and finally the body as a whole is reviewed in 355 pages. In other words, 1,550 pages are classically devoted to the manifestations of disease.

The clarity of presentation is excellent throughout the book, and it is entitled to every consideration in the office of the physician specially interested in internal medicine, from the standpoint of disease origin, variable course, and profound body reflexes. —FRANK BETHEL CROSS

Anatomy for Surgeons: Volume 1. The Head and Neck. By W. Henry Hollinshead, Ph.D. Quarto of 560 pages, illustrated. New York, A Hoeber-Harper Book, 1954. Cloth, $10.

As its title implies, this book is intended primarily for surgeons but it contains much of academic interest for those interested in anatomy.

There is a wealth of detailed anatomic description as well as discussion relating to function and embryologic facts. Illustrations are in black line drawings and are diagrammatic but not lacking in essential and informative substance. References are mostly confined to the end of each chapter and are plentiful.

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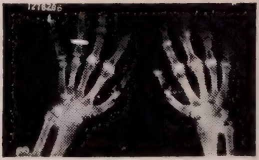

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1. J.A.M.A. 159:645 (Oct. 15) 1955.
2. J.A.M.A. 158:386 (June 4) 1955.

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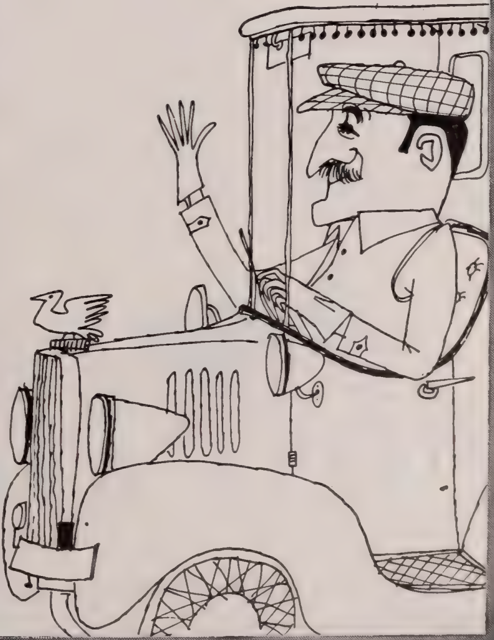

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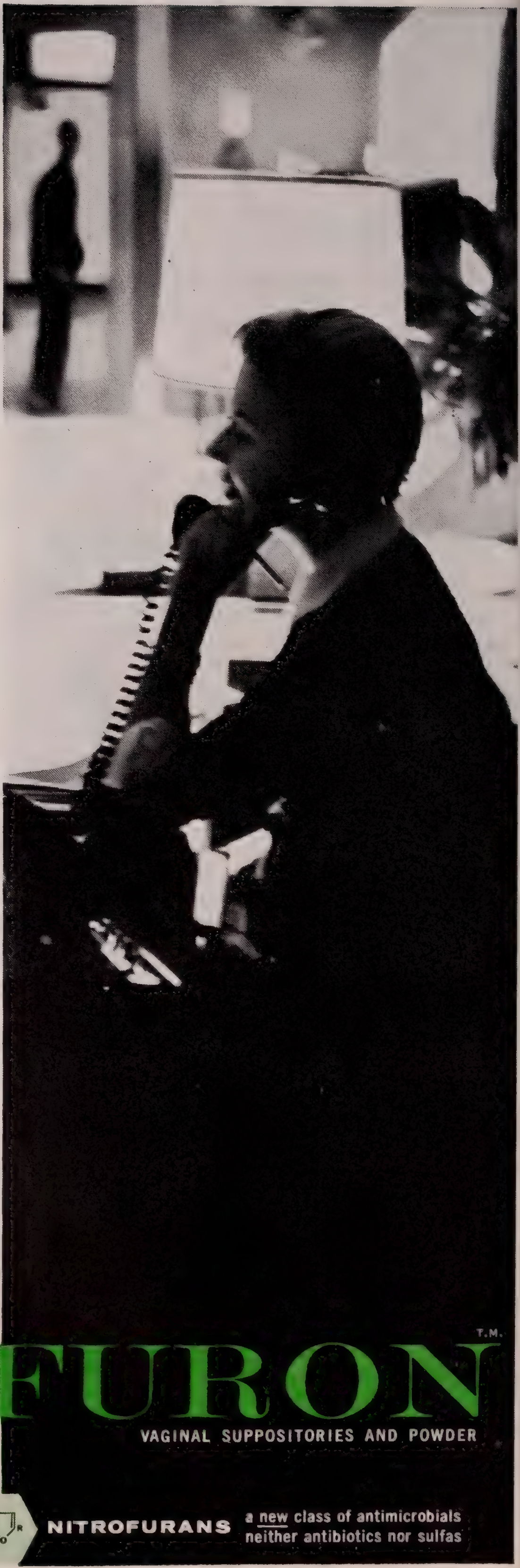

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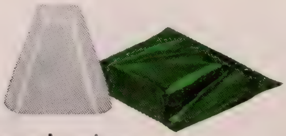

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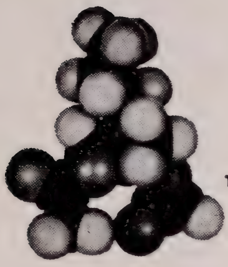

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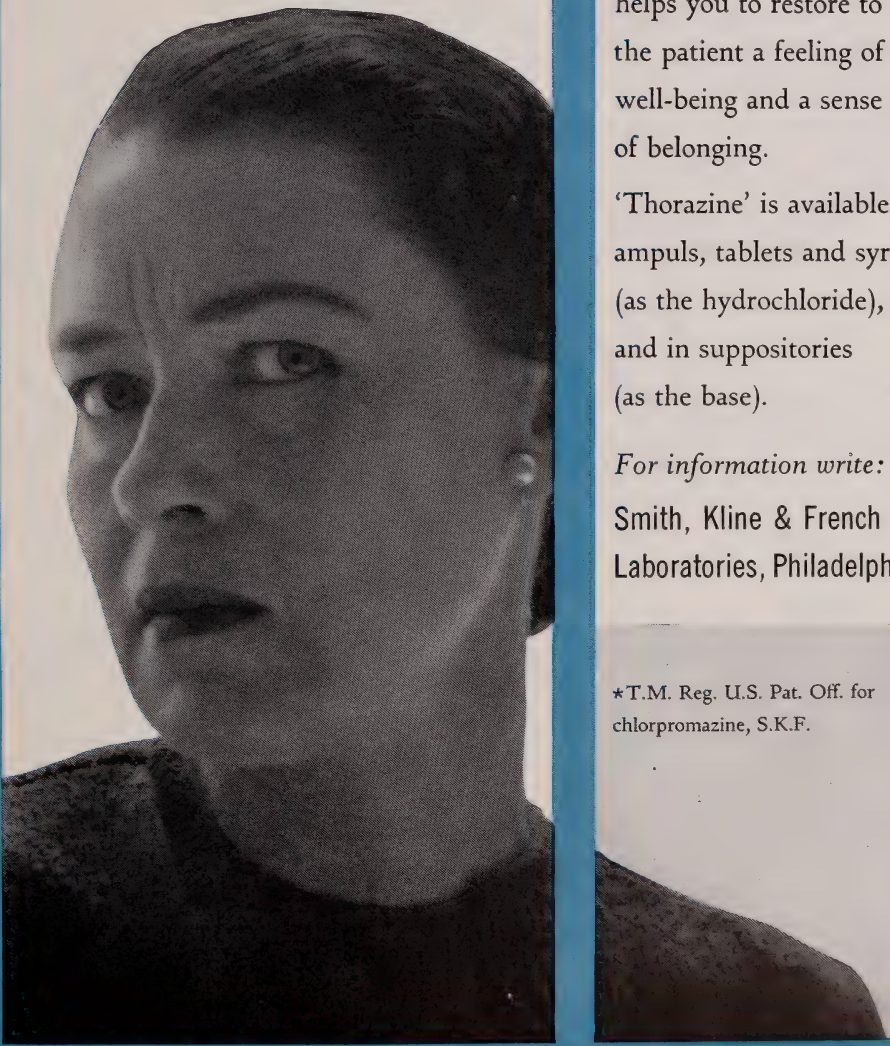

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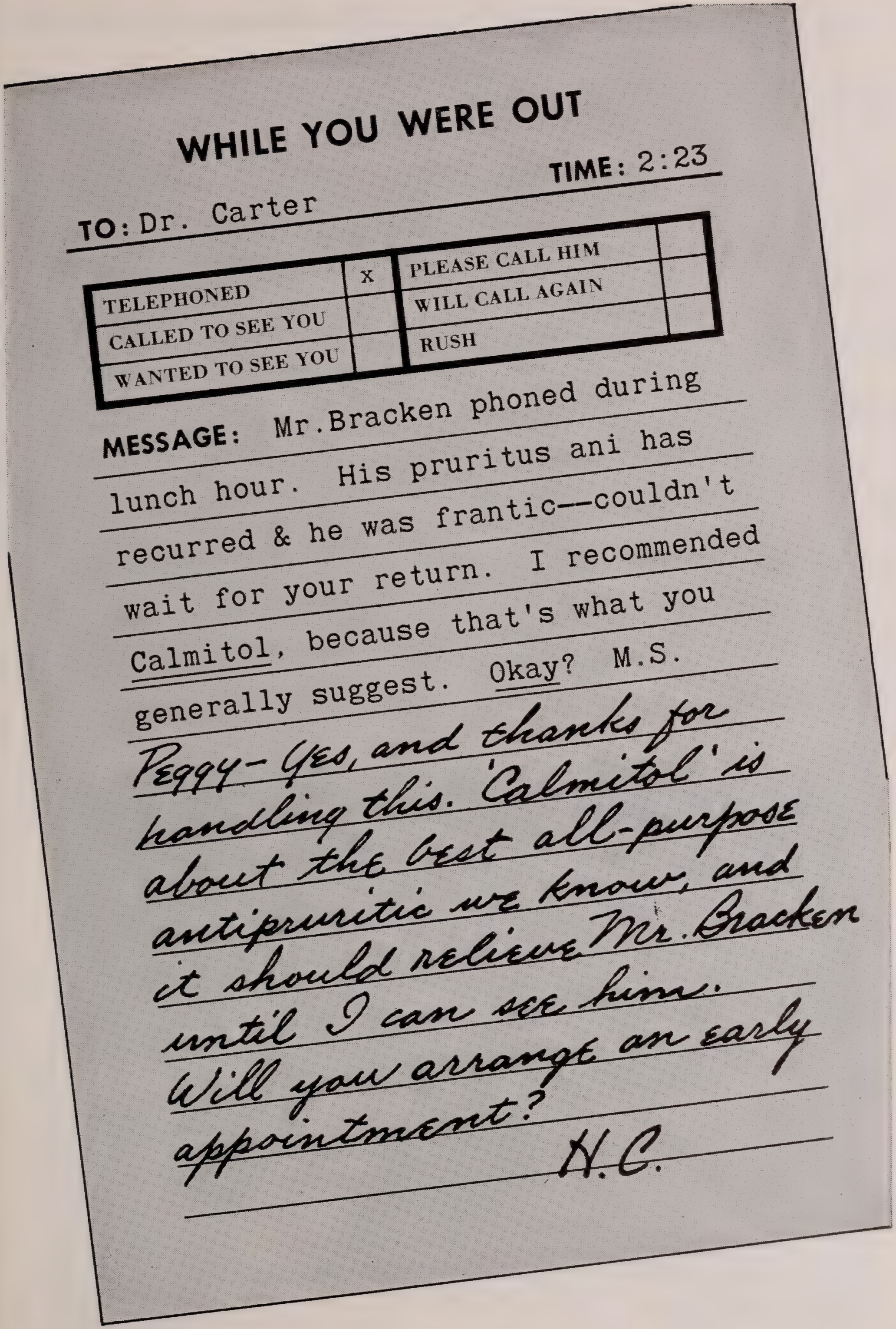

WHILE YOU WERE OUT

TIME: 2:23

TO: Dr. Carter

TELEPHONED	X	PLEASE CALL HIM	
CALLED TO SEE YOU		WILL CALL AGAIN	
WANTED TO SEE YOU		RUSH	

MESSAGE: Mr.Bracken phoned during lunch hour. His pruritus ani has recurred & he was frantic--couldn't wait for your return. I recommended Calmitol, because that's what you generally suggest. Okay? M.S.

Peggy — Yes, and thanks for handling this. 'Calmitol' is about the best all-purpose antipruritic we know, and it should relieve Mr. Bracken until I can see him. Will you arrange an early appointment?

H.C.

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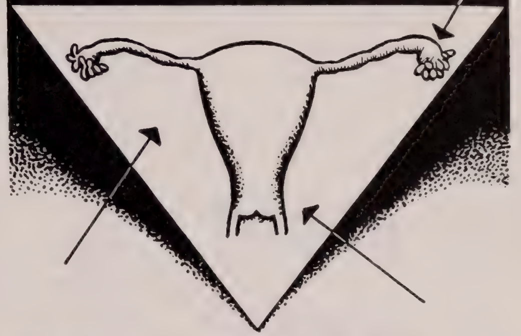

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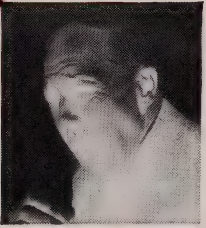

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Levin, S. J. Ped. Cl. of N. A. 1:975,1954.

Epinephrine suspended in oil has the disadvantages that because of delayed action it cannot be used when prompt effect is desired as in acute asthmatic attack, and it must be given intramuscularly making self-administration difficult. Aqueous suspensions have a prompt, as well as a prolonged action, and may be self-administered subcutaneously as readily as epinephrine hydrochloride solution.

Naterman, H. L. The Journ. of Allergy. 24:60,1953.

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Unger, A. H. and Unger, L. Annals of Allergy. 10:128,1952.

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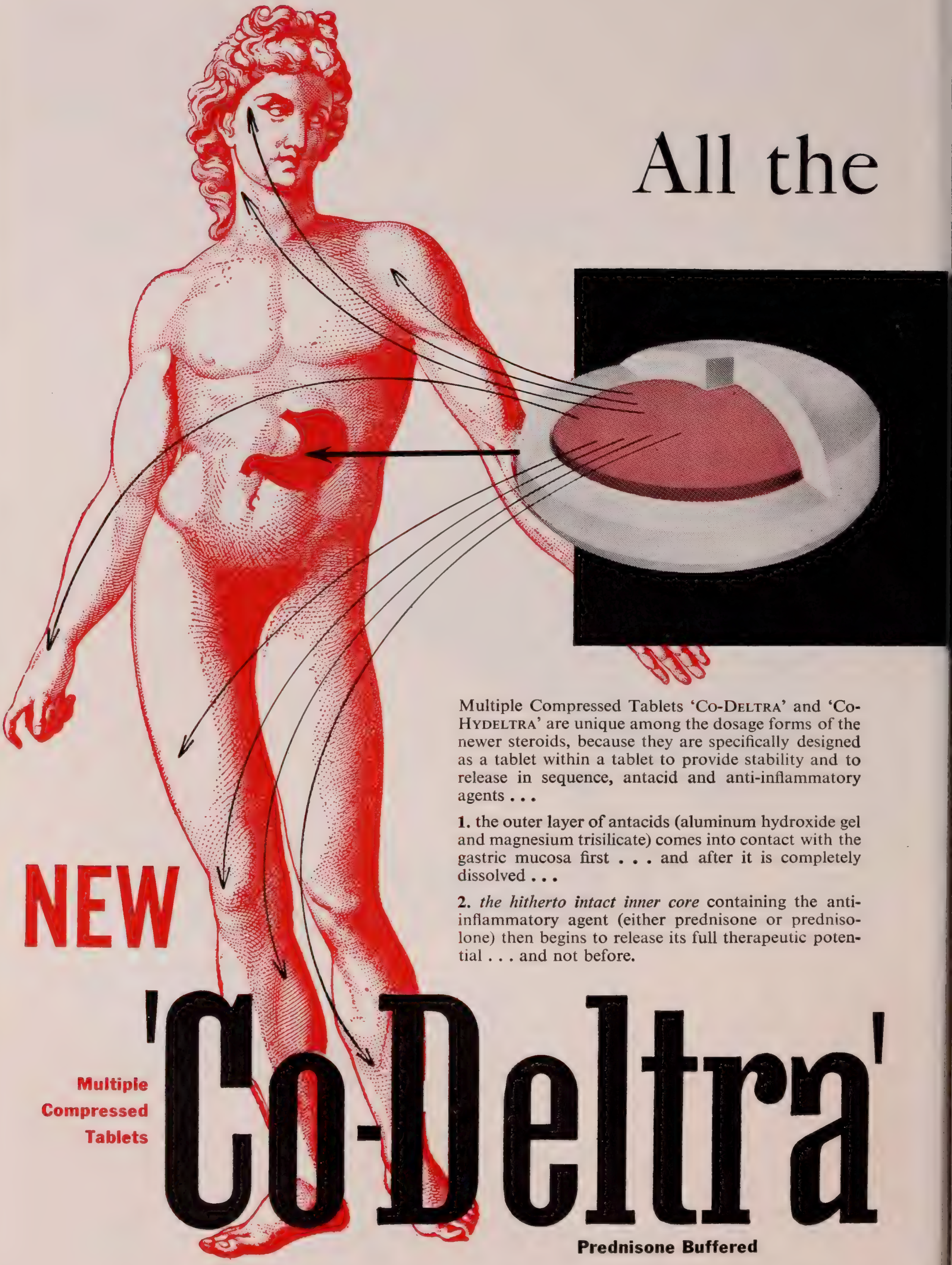
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[1] Bollet, A. J., Black, R., and Bunim, J. J.: *J.A.M.A.* **158**: 459, June 11, 1955.

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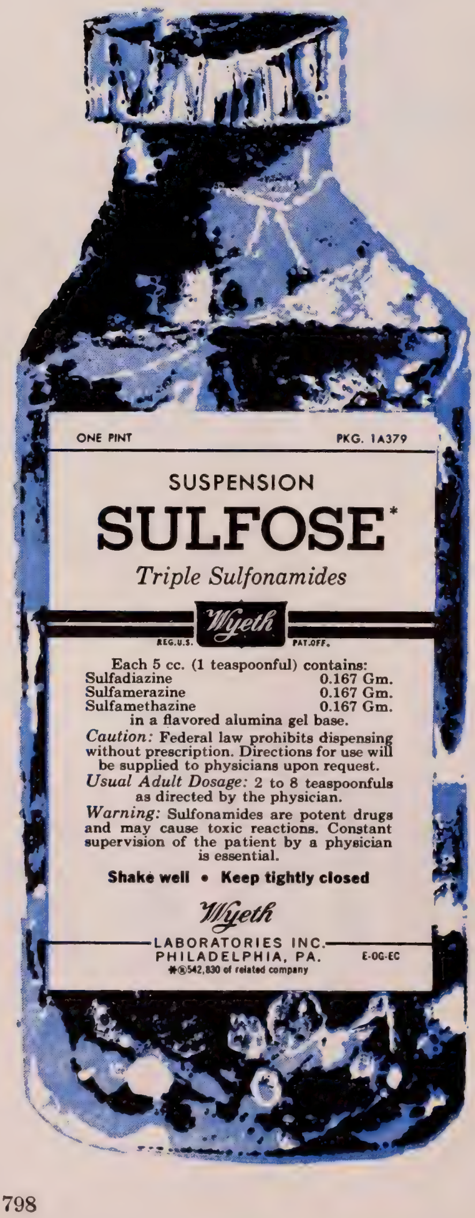

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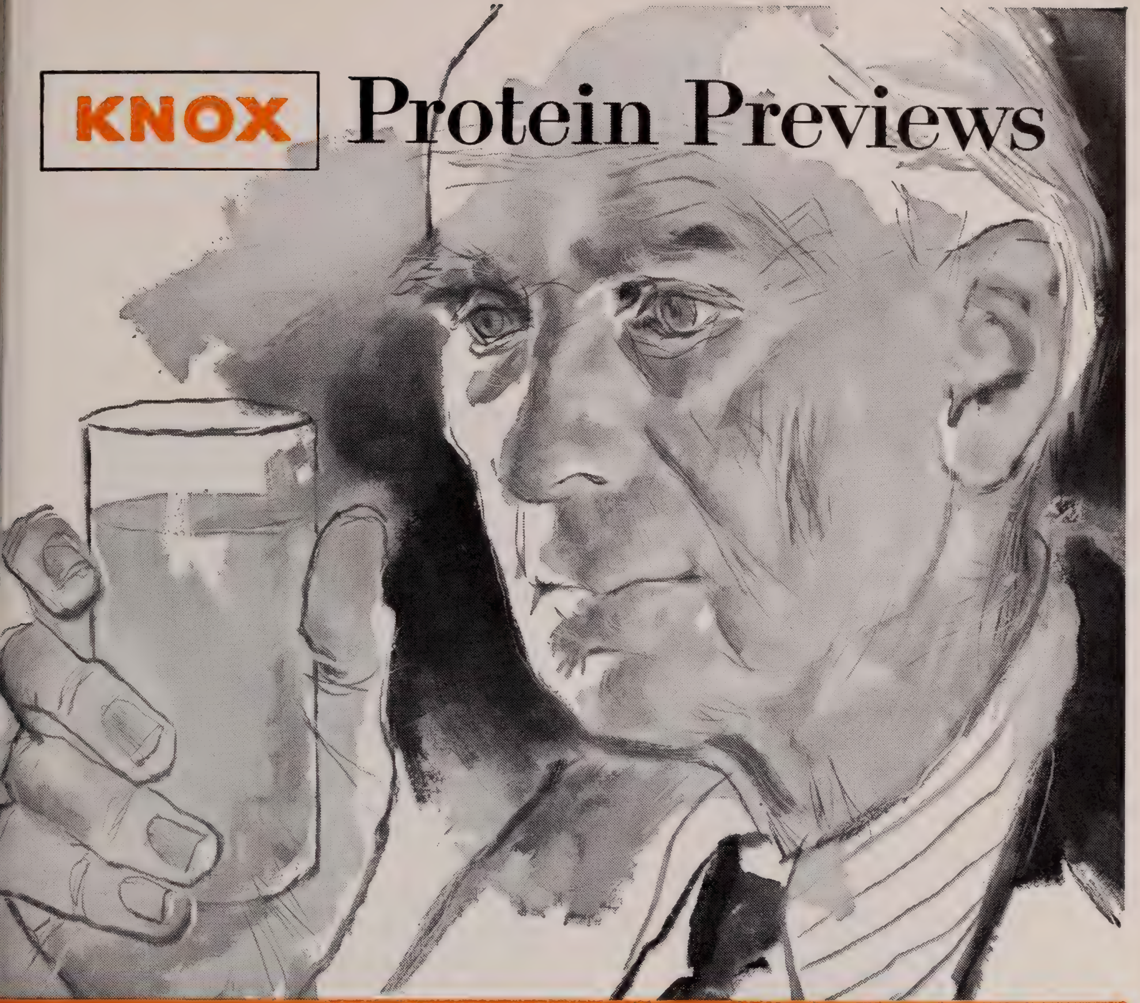


Maintaining Lean Body Mass in the Edentulous Geriatric Patient

KNOX
UNFLAVORED
32 ENVELOPE ECONOMY DIET SIZE
GELATINE

tensive loss of body protein can occur in either spare or obese geriatric patient. But whatever patient's somatotype, a decrease in lean body ss is usually the result of inadequate protein ake due to poor dentition, slowed-down diges- n and quite frequently, unappetizing main nes.

Knox Gelatine is an excellent non-residue pro- n which is easy to chew and readily digested and imilated. As a vehicle for many foods, Knox atine brightens bland diets, giving a new inter- to jaded appetites. As a concentrated protein nk, Knox Gelatine supplies seven out of eight ential amino acids and a majority of the other ino acids composing protein.

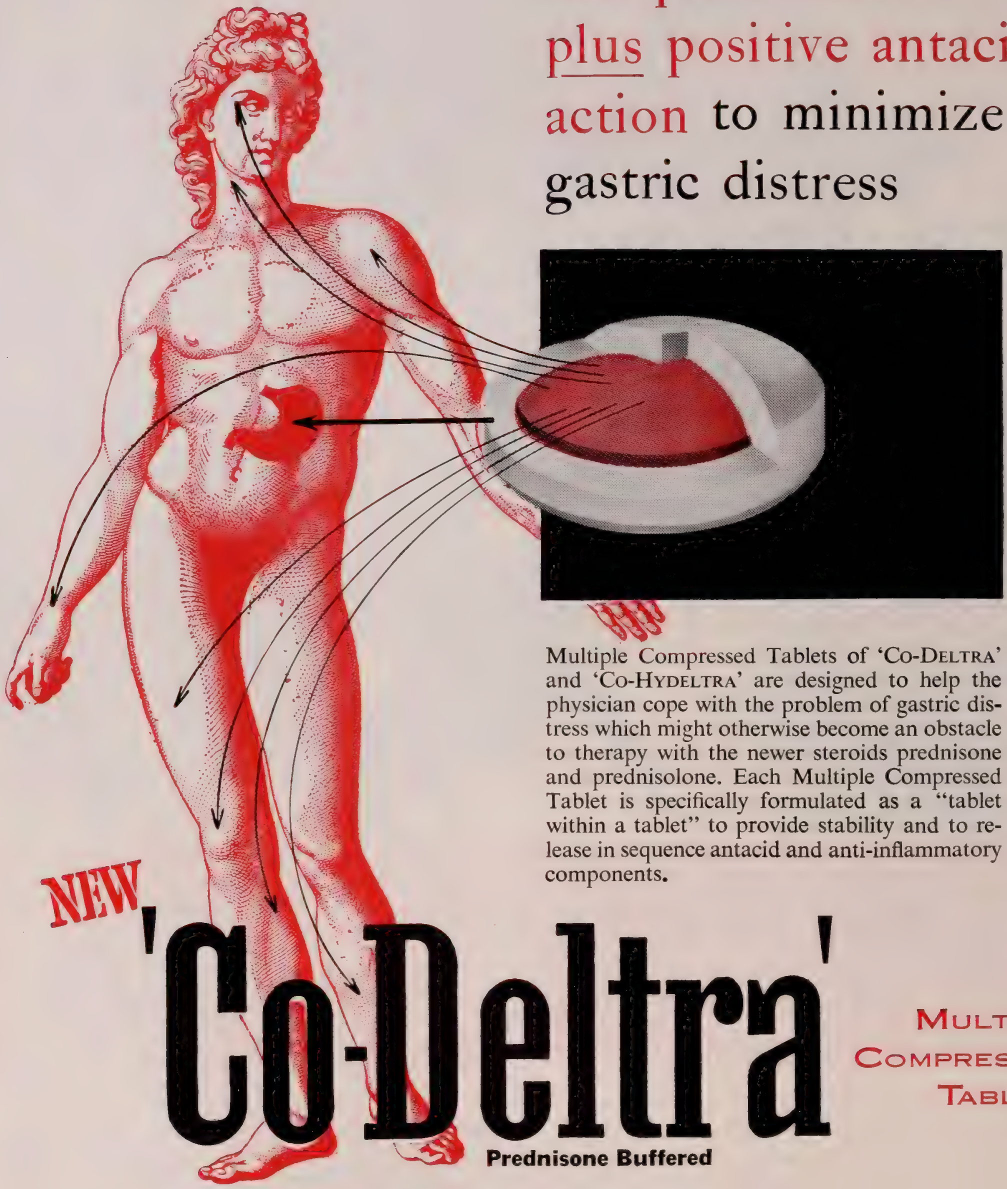
Specific suggestions on how to use Knox Gelatine in different types of geriatric diets are described in the booklets listed in the coupon below.

Chas. B. Knox Gelatine Company, Inc.
Professional Service Department NM-15
Johnstown, N. Y.

Indicate number of special diet booklets desired for your patients opposite title:

GERIATRIC______ REDUCING______
DIABETIC______ CONVALESCENT______
YOUR NAME AND ADDRESS

All the benefits of prednisone and prednisolone plus positive antacid action to minimize gastric distress



Multiple Compressed Tablets of 'Co-Deltra' and 'Co-Hydeltra' are designed to help the physician cope with the problem of gastric distress which might otherwise become an obstacle to therapy with the newer steroids prednisone and prednisolone. Each Multiple Compressed Tablet is specifically formulated as a "tablet within a tablet" to provide stability and to release in sequence antacid and anti-inflammatory components.

NEW

'Co-Deltra'

Prednisone Buffered

MULTIPLE
COMPRESSED
TABLETS

and

'Co-Hydeltra'

Prednisolone Buffered

Supplied: Multiple Compressed Tablets of 'Co-Deltra' and 'Co-Hydeltra', each containing 5 mg. prednisone or prednisolone, 300 mg. of dried aluminum hydroxide gel, U.S.P., and 50 mg. of magnesium trisilicate, U.S.P., bottles of 30 tablets.

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DIVISION OF MERCK & CO., INC.

'Co-Deltra' and 'Co-Hydeltra' are the trademarks of Merck & Co., Inc.

for
profound
vasodilation
in acute
vasospastic
disorders

ILIDAR 'ROCHE'

increases peripheral
circulation and
reduces vasospasm by
(1) adrenergic blockade,
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Provides relief
from aching, numbness,
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of the extremities.
Exceptionally
well tolerated.

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prolonged
vasodilation
in chronic
circulatory
disorders

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acts primarily on
the small arteries
and arterioles
to enhance
collateral circulation.
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for long-term therapy
in older patients
whose feet are
"always cold."

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BRAND OF
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24 hours of relief

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One or two 'Perazil' 50 mg.
usually provides freedom
from the discomfort of allergy
up to 24 hours.

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Chlorcyclizine Hydrochloride
50 mg., compressed, scored.

A new, *long-lasting,* potent
ANTIHISTAMINE
with exceedingly low incidence
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SULFASUXIDINE® — NEOMYCIN SUSPENSION WITH PECTIN AND KAOLIN

new – for prompt diarrhea control, quick return to work

MAJOR ADVANTAGES: Combines 'Sulfasuxidine' with neomycin for broader antibacterial action. Pectin and kaolin have soothing, detoxifying properties. Fruit flavor tastes good.

In diarrhea—whether specific or nonspecific—prompt relief is assured with CREMOMYCIN. 'Sulfasuxidine' and neomycin have a wide range of effectiveness—their combined action is complete and prompt, and they are virtually nontoxic.

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Each fl. oz. (30 cc.) of CREMOMYCIN contains 3.0 *Gm.* 'Sulfasuxidine,' 300 *mg.* neomycin sulfate, 0.3 *Gm.* pectin and 3.0 *Gm.* kaolin. Supplied in 8 oz. bottles.

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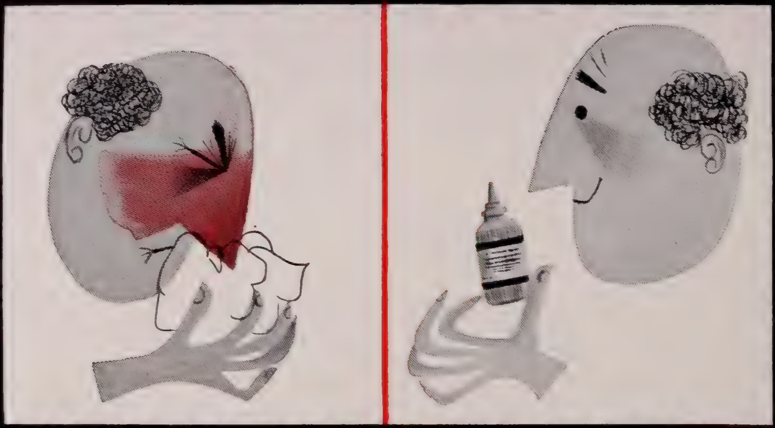
RELIEVE NASAL CONGESTION SAFELY



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Pamine* BROMIDE

Tablets

Each tablet contains:
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Average dosage (ulcer):
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Dosage:
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Methscopolamine bromide .... 1 mg.

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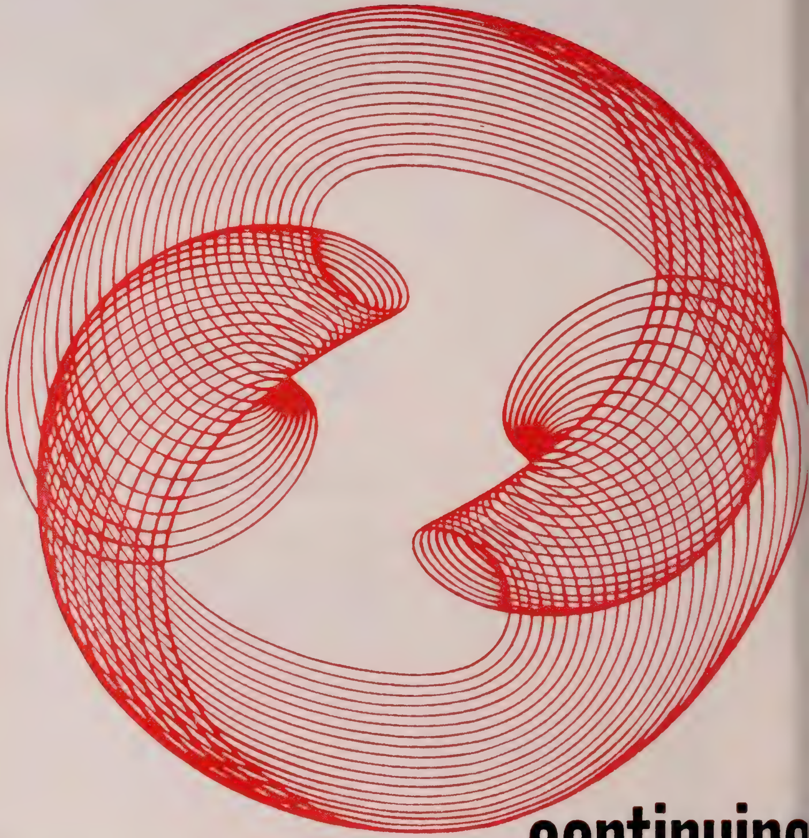

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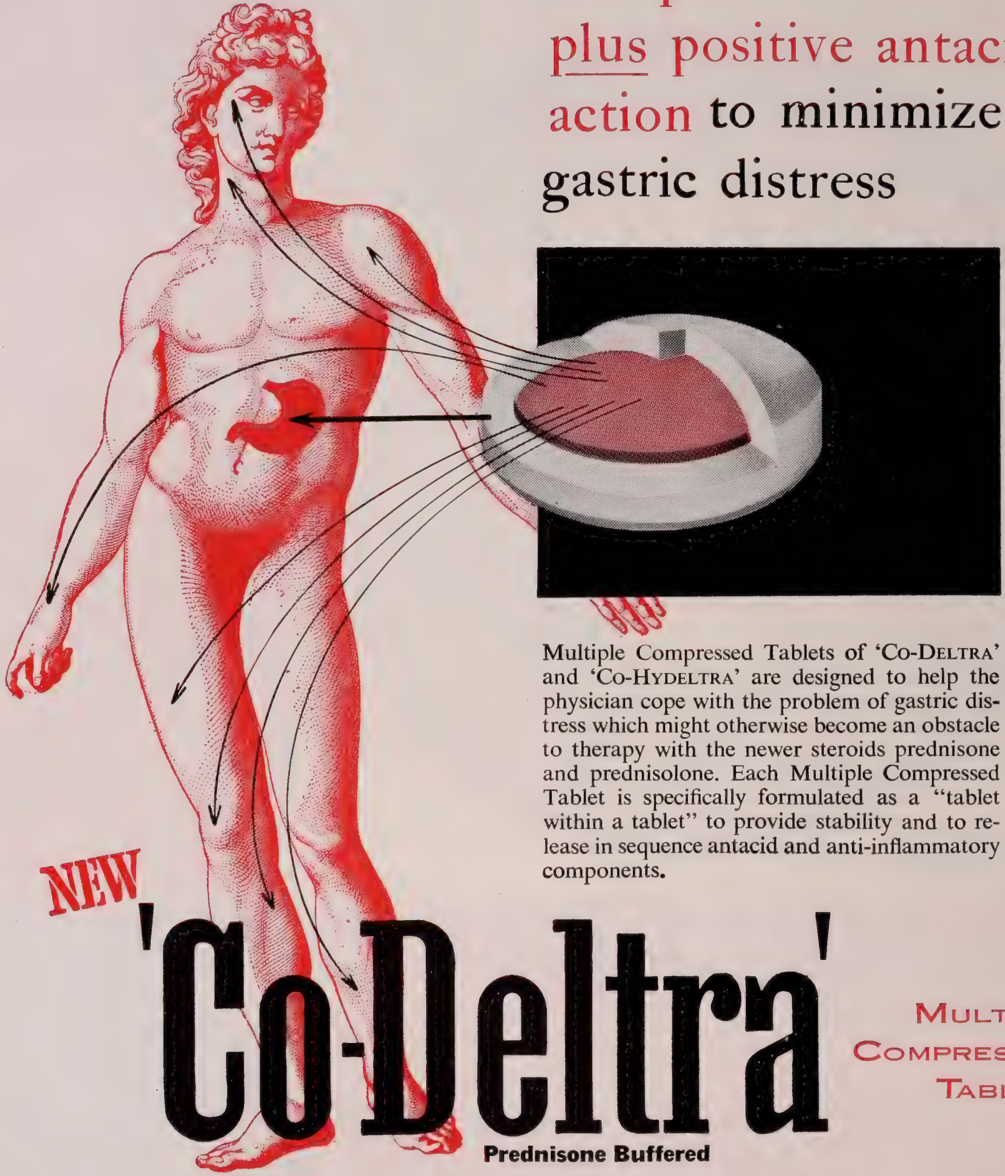
ORTELONE is supplied as buff-colored tablets of 1, 2.5 and 5 mg., and in capsules of 2.5 and 5 mg.

ORTELONE,® brand of prednisolone. ML-J-614-394

All the benefits of prednisone and prednisolone plus positive antacid action to minimize gastric distress



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NEW

'Co-Deltra'

MULTIPLE
COMPRESSED
TABLETS

Prednisone Buffered

and

'Co-Hydeltra'

Prednisolone Buffered

Supplied: Multiple Compressed Tablets of 'Co-Deltra' and 'Co-Hydeltra', each containing 5 mg. prednisone or prednisolone, 300 mg. of dried aluminum hydroxide gel, U.S.P., and 50 mg. of magnesium trisilicate, U.S.P., bottles of 30 tablets.

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Acetazolamide Lederle

A nonmercurial oral diuretic. Acts by inhibiting the enzyme carbonic anhydrase. Produces prompt, ample diuresis lasting from six to twelve hours. Morning dosage allows an uninterrupted night's sleep. Well-suited to long-term use. Nontoxic. The most widely prescribed drug of its kind !

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LEDERLE LABORATORIES DIVISION *AMERICAN Cyanamid COMPANY* PEARL RIVER, NEW YORK Lederle

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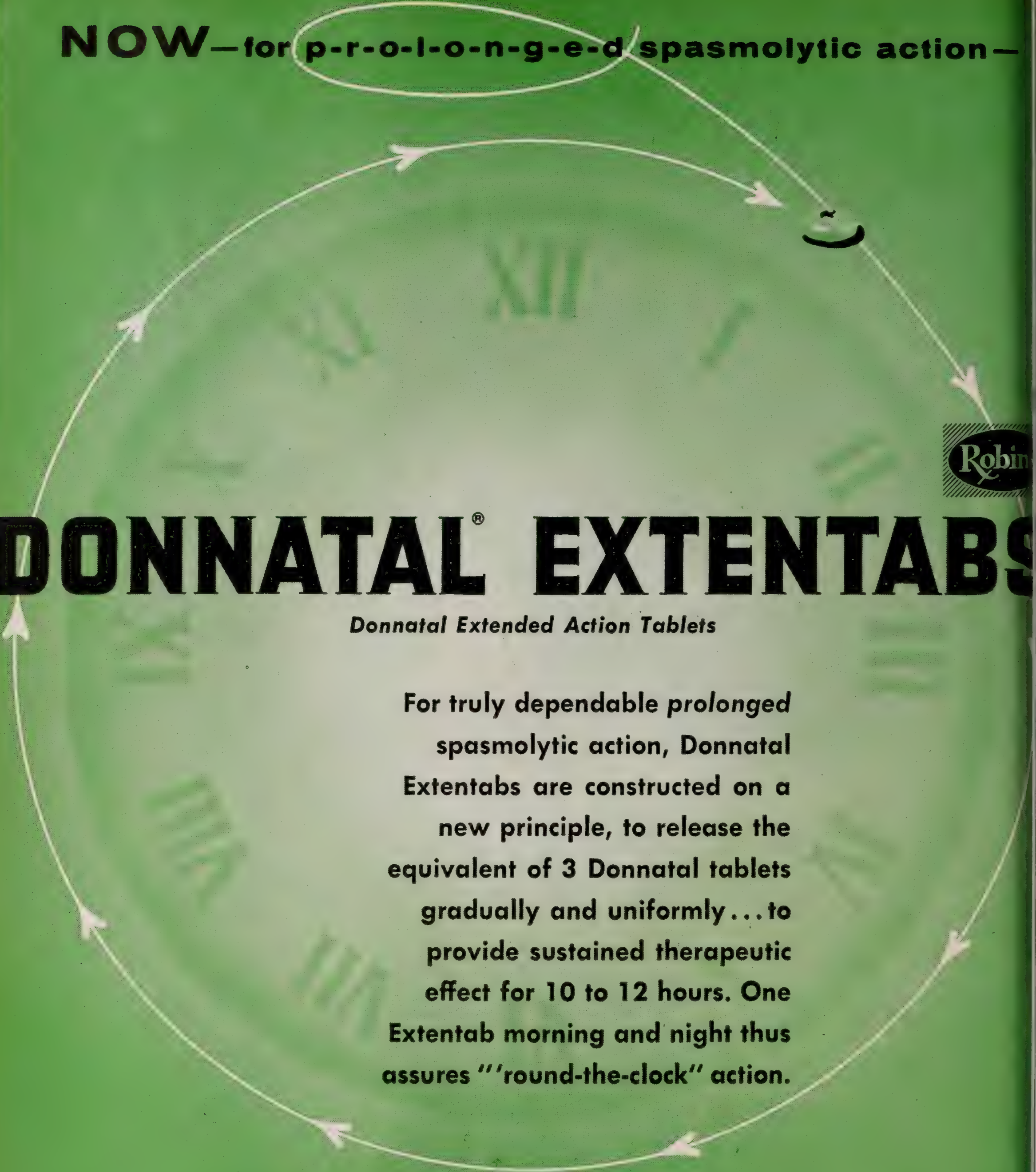


NOW—for p-r-o-l-o-n-g-e-d spasmolytic action—

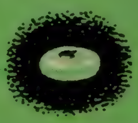
DONNATAL® EXTENTABS

Donnatal Extended Action Tablets

For truly dependable *prolonged* spasmolytic action, Donnatal Extentabs are constructed on a new principle, to release the equivalent of 3 Donnatal tablets gradually and uniformly... to provide sustained therapeutic effect for 10 to 12 hours. One Extentab morning and night thus assures "'round-the-clock" action.

Each Donnatal Extentab contains:

Hyoscyamine Sulfate	0.3111 mg.
Atropine Sulfate	0.0582 mg.
Hyoscine Hydrobromide	0.0195 mg.
Phenobarbital (¾ gr.)	48.6 mg.



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When Appetites Lag and Spirits are Low

There may not be too many pleasant anticipations in the lives of your elderly or convalescent patients—but a glass of wine before meals or at bedtime can give a much needed "lift" not only to appetite but to spirits.

Moreover, the use of wine for its "tonic" effect need no longer be based on empiricism or age-old tradition. Recent research is shedding new light on the true rationale of wine in clinical practice.

Thus it has been shown recently that:

—2 or 3 ounces of dry table wine can markedly increase olfactory acuity and appetite in anorexia

—moderate amounts of wine increase appreciably not only the volume but the proteolytic power of gastric juice

—the buffering action of the phosphates, organic acids and tannins in wine induces a sustained increase in gastric secretion and gastric motility

—wine offers a quickly metabolized source of nutrient energy

—wine possesses significant diuretic, vasodilating and relaxing properties—ideal for bedtime sedation

For a few cents a day your patients can have wines produced from the world's finest grape varieties, grown in an ideal climate and handled with consummate skill.

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a new substance

flexin*

the first orally effective lissive†

dosage: Adults — 1 to 2 tablets three or four times a day with food or immediately after meals. Children — 1 tablet two to four times a day.

supplied: Yellow, scored tablets (250 mg.), bottles of 50.

†**lissive:** Spasmolysis of voluntary muscle without interference with normal function.

*T.M.

00256

true spasmolysis of skeletal muscle in musculoskeletal and neurological disorders effective up to 6 hours

Synthesized and characterized by McNeil Laboratories, FLEXIN is the first skeletal muscle relaxant *truly effective by mouth*. Its lissive action relieves the disability and pain of skeletal muscle spasm—common denominator of many musculoskeletal and neurological disorders.

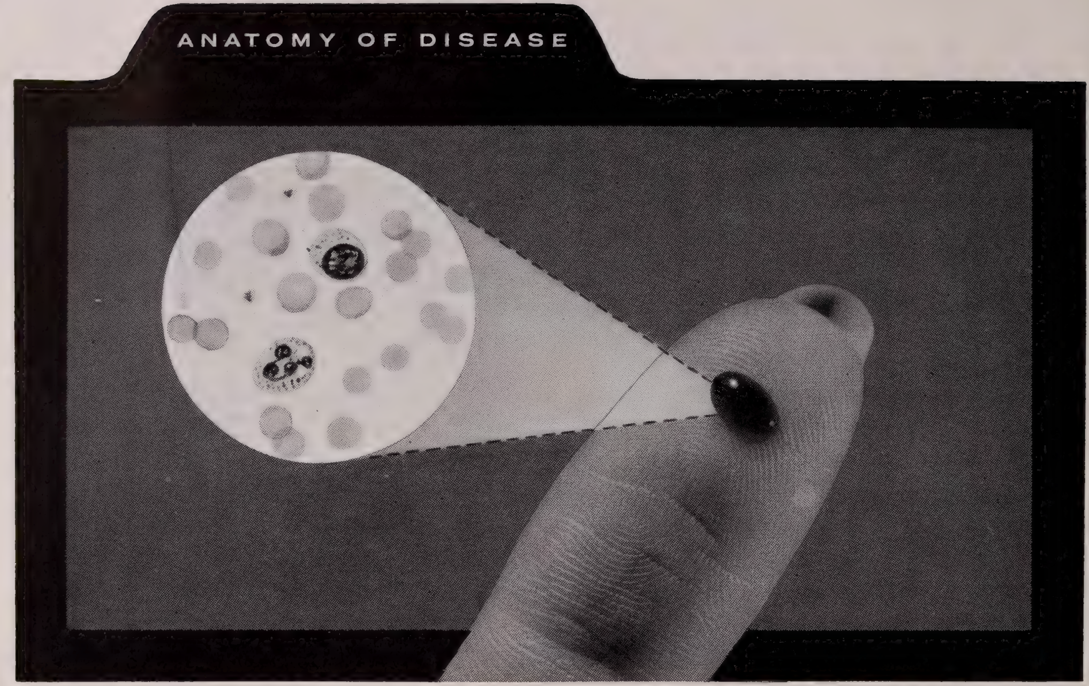
not a mephenesin derivative

FLEXIN provides superior and long lasting—up to 6 hours—spasmolysis of voluntary muscle in low back syndromes, fibrositis, strains, sprains, and in noninflammatory rheumatic and arthritic disorders.

Striking results are reported in cerebral palsy. Over 65 per cent of spastics obtained definite reduction of excessive muscle tone. In addition, a highly significant number of patients with multiple sclerosis, spinal spasticity and Parkinsonism were benefited.

McNeil Laboratories, Inc., Philadelphia 32, Pa.

McNEIL



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for better patient response . . . use the latest development in antianemia therapy

ARMATRINSIC

- with new ferrous betaine hydrochloride . . . releases hydrochloric acid, important for proper iron absorption
- provides complete therapy for all treatable anemias

Just 1 Armatrinsic capsule b.i.d. supplies:

Vitamin B_{12} with Intrinsic factor Concentrate*	1 U.S.P. Unit (Oral)
Liver Fraction 2 N.F. with Duodenum (Containing Intrinsic factor)	100 mg.
Vitamin B_{12} Activity concentrate	10 mcg.
Ferrous Betainate HCl equivalent to: 100 mg. of Elemental Iron 18 cc. of N/10 HCl	666 mg.
Folic acid	1.4 mg.
Ascorbic acid U.S.P.	100 mg.
Cobalt Chloride	20 mg.
Molybdenum	1.5 mg.
Copper	0.50 mg.
Manganese	0.50 mg.
Zinc	0.50 mg.

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Adults: 2 or 3 capsules daily with meals
Bottles of 50 capsules (small, attractive, odorless)

AND WHEN A LIQUID HEMATINIC IS PREFERRED
PRESCRIBE **ARMATINIC®** *Liquid*
FOR A FAST START AND VIGOROUS IMPROVEMENT

Bottles of 8 and 16 fl.oz.

THE ARMOUR LABORATORIES
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OINTMENT

A basically new concept in the treatment of PSORIASIS

combining the principle of synergism between known effective agents and topical lipoidal therapy; with over ten years background practical experience.

CAINOLIN ointment was conceived as a new approach to the topical treatment of psoriasis, parapsoriasis, eczematoid dermatitis and other erythemato-squamous skin conditions such as seborrheic dermatitis, lichen planus, pityriasis rosea and many long-standing chronic resistant lesions.

Marsh reports that CAINOLIN has been found to have a high level of patient acceptability and to produce superior results to previously used medications.

CAINOLIN contains 5% tar distillation derivatives in combination with 0.5% each of anthralin and salicylic acid in an especially developed lipoidal base containing white beeswax, and petrolatum.

Marsh, W. C.—Medical Times
Vol. 83-No. 6-609-1955

Write for professional literature.

CAUTION: Federal Law prohibits dispensing without prescription.

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Throughout the world...

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BRAND OF OXYTETRACYCLINE

...well-tolerated, rapidly effective broad-spectrum antibiotic of choice.

Capsules, tablets, taste-tempting liquid forms and special preparations for parenteral, topical and ophthalmic use.

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All the benefits of prednisone and prednisolone plus positive antacid action to minimize gastric distress

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'Co-Hydeltra'

Prednisolone Buffered

MULTIPLE COMPRESSED TABLETS

and

'Co-Deltra'

Prednisone Buffered

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establishing desired eating patterns

Obedrin®

and the 60-10-70 Basic Plan

In the development of good eating habits, medication is important, not only in initiating control, but also in maintaining normal weight.[1,2,3]

Obedrin contains:

- Methamphetamine for its anorexigenic and mood-lifting effects.
- Pentobarbital as a balancing agent, to guard against excitation.
- Vitamins B_1 and B_2 plus niacin to supplement the diet.
- Ascorbic acid to aid in the mobilization of tissue fluids.

Since Obedrin contains no artificial bulk, the hazards of impaction are avoided. The 60-10-70 Basic Plan provides for a balanced food intake, with sufficient protein and roughage.

Formula

Semoxydrine HCl (Methamphetamine HCl) 5 mg.; Pentobarbital 20 mg.; Ascorbic acid 100 mg.; Thiamine HCl 0.5 mg.; Riboflavin 1 mg.; Niacin 5 mg.

1. *Eisfelder, H.W.: Am. Pract. & Dig. Treat.*, 5*:778* (*Oct., 1954*).
2. *Sebrell, W.H., Jr.: J.A.M.A.*, 152*:42* (*May, 1953*).
3. *Sherman, R.J.: Medical Times*, 82*:107* (*Feb., 1954*).

Write for
60-10-70 Menu pads, weight charts,
and samples of Obedrin.

THE S. E. MASSENGILL COMPANY
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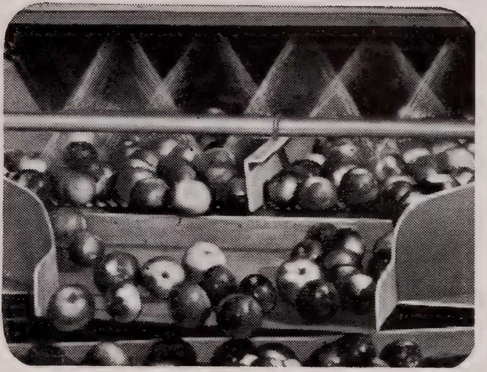
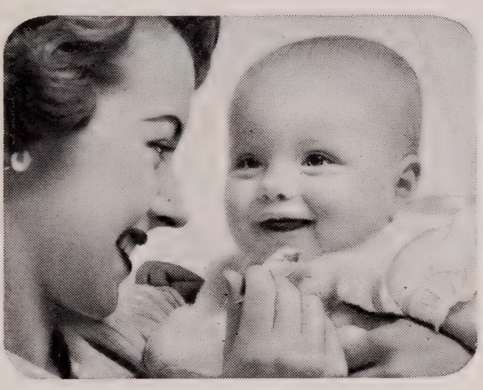
WHAT BEECH-NUT QUALITY MEANS

FRESHNESS in every jar. Fruits and vegetables are picked at perfection and processed to provide the most in eating pleasure.



PURITY is guarded all the way by Beech-Nut —from the careful washing of every ingredient, to the sterilization of each sparkling glass jar.

FLAVOR is constant. A panel of taste testers makes daily checks to positively guarantee Beech-Nut's uniformly fine flavor.



NUTRITION is another important factor in Beech-Nut quality. Precious vitamins and minerals have been retained in high degree.

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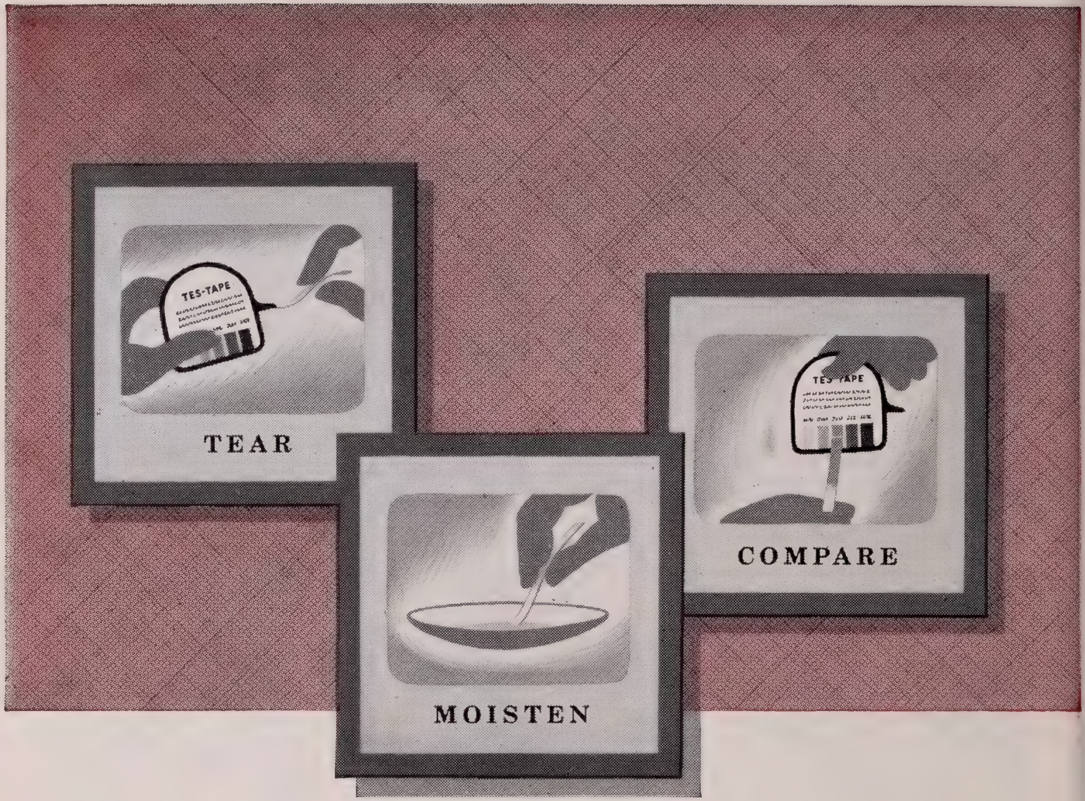
Beech-Nut CARROTS

VARIETY is the spice of Baby's life with Beech-Nut. There are 5 pre-cooked Baby Cereals, 28 Strained Foods, 26 Junior Foods.

Pediatricians know that Beech-Nut keeps up with the very latest scientific methods developed for taking better care of Baby. Also, the research department at Beech-Nut is continually searching for new ways to improve packaging, to guarantee important flavor control, to preserve all possible nutritional value. It's no wonder doctors recommend Beech-Nut Baby Foods to mothers for their babies.

Beech-Nut
Baby Foods



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urine sugar test of unmatched simplicity

'Tes-Tape'

(URINE SUGAR TEST TAPE, LILLY)

'Tes-Tape' completely eliminates the need for test tubes, heat, reagents, or any other paraphernalia in urine sugar determinations. Simply moisten a strip of 'Tes-Tape' with the specimen. After just sixty seconds, compare it with the color chart on the 'Tes-Tape' dispenser. Then read off the percentage of sugar. The selective action of 'Tes-Tape' prevents false positive reactions, assures complete accuracy.

The convenient size of the 'Tes-Tape' dispenser permits you to carry it on house calls for on-the-spot determinations. Your patients also will welcome the convenience, simplicity, and accuracy of 'Tes-Tape.'

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VOLUME 56 MARCH 15, 1956 NUMBER 6

EDITORIALS

The New York Academy of Medicine

The art and science of medicine are a continuing growth, or so they should be. Outside of the great university hospitals and teaching medical centers, there is a tendency for medical sophistication to remain static. Progress in these less favored areas has of necessity depended upon reading, medical meetings, individual experiences of a trial and error nature, and the incessant flow of brochures, displays, and samples provided by the giant pharmaceutical industry. Even in a great metropolitan area such as New York City, the physical problem of getting to an important meeting, one of many such, may be too great for the fatigued physician at the end of the day. In time he too will accept the easy way of inactivity in medical congress and depend upon casual reading and the catered service mentioned above.

For a number of years the New York Academy of Medicine, through its Committee on Medical Information, has produced a weekly broadcast on FM radio, generously provided through the New York City station WNYC. Mr. Seymour Siegal, the director of the station, has given every possible assistance and time to this project. In this local area those who hear the program have made a large demand for reprints of the programs, and the Academy has done as well as it could with the complex problem of supplying such material.

Now, for the first time the NEW YORK STATE JOURNAL OF MEDICINE has undertaken to publish selected contributions from this program. The panel discussions, the prepared lectures, the considered reviews of special subjects, many of which are recorded at the important Graduate Fortnight activity of the Academy, will now be offered to the reading physicians throughout the circulation of the State Society JOURNAL. The presentation of this current, important material is, we feel, a promising forward step in postgraduate medical education.

We welcome the participation of the State Society in this activity. The distribution of these important contributions will greatly benefit the doctors of the entire State and elsewhere. In these days progress goes on apace, and we hope it may be possible in the near future to unite the resources of the State Society with those of the New York Academy of Medicine in radio production throughout the State of New York of programs such as we have already experimented with at great length.

Here is a splendid opportunity for frequent intellectual concourse between doctors. The publication of these exercises of the New York Academy of Medicine has the potentiality of whetting the intellectual appetite, and the opportunity for this is gratefully acknowledged.—NORTON S. BROWN, M.D.

More Accidental Deaths in 1955

Briefly summarizing an unpleasant report by the *Statistical Bulletin*,[1] it would appear that the number of fatal injuries in this country increased in 1955. The death rate per 100,000 of population in 1955 was 56.

The rise in accident fatalities "reflects very largely the increase in mortality from motor vehicle accidents. Deaths from such accidents climbed to about 38,500 in 1955, about 2,500 more than the year before and the highest number in fourteen years." Related to miles traveled, the motor vehicle accident rate is said to be about the same in 1955 as in 1954. This at least is something, but as the *Bulletin* remarks, it will be necessary for both drivers and pedestrians to exercise much greater caution in the use of streets and highways.

Catastrophes, accidents in which five or more persons were killed, were responsible for about 1,500 deaths in the United States during 1955, about 300 more than in 1954. This increase "reflects the rise in the number of disasters ...."

Civil aviation accounted for about three major catastrophes; all of them involved passengers, two of them on scheduled flights.

Natural disasters were responsible for about one third of the 1,500 lives lost, says the *Bulletin*, during the year in accidents which took five or more lives. Motor vehicles were involved in approximately one fourth of the fatalities; civilian air transportation and conflagrations each accounted for a somewhat smaller proportion of the deaths in catastrophes.

It would appear that some 92,000 persons were fatally injured in the United States during 1955. The number of these fatalities, about one fourth, resulting from the operation of motor vehicles could be materially reduced but only with the intelligent cooperation of pedestrians, automobile operators, and law enforcement agencies.

---

[1] Statistical Bulletin, Metropolitan Life Insurance Co., Dec., 1955, p. 5.

DRAMAMINE® IN VERTIGO

Notes on the Diagnosis and Management of "Dizziness"

II. False Dizziness

1. Romberg's Sign

The patient stands with his feet together and his eyes closed. Inability to maintain equilibrium may indicate locomotor ataxia or sclerosis of the posterior columns of the spinal cord (tabes dorsalis).

2. Inability to Walk a Straight Line

3. Inability to Stand on One Foot

A patient's inability to stand on one foot without lurching may be a helpful test in distinguishing between "dizziness" which is purely psychogenic and that which is of organic origin.

False dizziness is a sensation of sinking or lightheadedness which is often of psychogenic origin. It should be distinguished from true "dizziness" or vertigo[1] in which there is a definite whirling, moving sensation.

Unsteadiness, lightheadedness and similar manifestations of false dizziness[2] may be psychogenic or the result of arteriosclerosis, hypoglycemia, drug sensitivity and general metabolic disturbances such as anemia and malnutrition. Hypertension is often the cause of these symptoms.

Psychogenic dizziness probably originates at the highest brain centers. It may be described as a sense of uncertainty with occasional mild lurching but not to the point of falling. In these patients there is no nausea, no disturbance of vestibular pathways and otologic and neurologic examinations are negative. The sensation is unaffected by head movement. Symptoms usually disappear[3] with complete rest.

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1. Swartout, R., III, and Gunther, K.: "Dizziness:" Vertigo and Syncope, GP *8*:35 (Nov.) 1953.
2. DeWeese, D. D.: Symposium: Medical Management of Dizziness. The Importance of Accurate Diagnosis, Tr. Am. Acad. Ophth. *58*:694 (Sept.-Oct.) 1954.
3. Kunkle, E. C.: Central Causes of Vertigo, J. South Carolina M. A. *50*:161 (June) 1954.

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SCIENTIFIC ARTICLES

Criteria for and Results of Surgery for Mitral Stenosis

CHARLES P. BAILEY, M.D., AND HOUCK E. BOLTON, M.D., PHILADELPHIA, PENNSYLVANIA

(*From the Division of Thoracic Surgery, Hahnemann Medical College and Hospital of Philadelphia, and the Bailey Thoracic Clinic*)

Part II. Results of Mitral Commissurotomy*

In a recent evaluation of the results obtained in the first 1,000 patients operated for mitral stenosis at our clinic, we were impressed by the fact that the majority of the patients initially had received satisfactory benefit. It was noted that the patients in whom some mild to moderate degree of mitral insufficiency existed along with the stenosis could expect an operative risk of the same order as that incurred by those who presented a pure mitral stenosis to the examining finger. It was observed also that those patients in whom a 1-plus degree of mitral insufficiency was produced at surgery did almost as well as those patients in whom no detectable insufficiency was created at the time of surgery (Table IV). However, in those patients in whom 2 or 3 plus regurgitation was produced, the results were proportionately poorer. Marked cardiac enlargement and the subsequent development of congestive heart failure were prominent features in them. Our over-all mortality is indicated in Tables IV, V, and VI.

In reviewing this group of patients, it has been found that 56 additional patients died at some time after return to their homes, and 73 cases cannot be contacted at this time. The outcome in the operated cases is available for clinical evaluation in Table V.

TABLE IV.—Influence of Mitral Regurgitation on the Operative Results of Mitral Commissurotomy in 1,000 Consecutively Operated Cases

	Mitral Stenosis	Mitral Stenosis with Mitral Insufficiency	Total
Total cases			
Number	781	219	1,000
Per cent	78	22	100
Operative deaths			
Number	21	5	26
Per cent	8.8	8.5	8.8
Regurgitation created or increased			
Number	238	59	297
Per cent	30.5	27	29.7
Operative deaths			
Number	40	13	53
Per cent	7.4	8.1	7.6
No alteration in valve compensation			
Number	543	160	703
Per cent	69.5	63	70.3
Total operative mortality			
Number	61	18	79*
Per cent	7.8	8.2	7.9

* 2 of these patients committed suicide, leaving an actual over-all operative mortality rate of 7.7 per cent for 1,000 patients.

TABLE V.—Results of First 1,000 Patients Operated for Mitral Stenosis, Left-Sided Approach (Longest Follow-up 7 Years)

	Number of Cases	Per Cent
Mitral commissurotomy	1,000	100
Operative deaths (excluding 2 cases of suicide)	77	7.7
Late deaths (2 of these deaths were due to carcinoma)	56	5.6
Follow-up of survivors		
Improved	711	89.8
Unchanged	49	6.2
Worse	32	4.0
Unknown	73	

It is obvious that many individual factors and

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* Part I, Technics, appeared in the March 1, 1956, issue of the Journal.

TABLE VI.—Late Deaths Among 848 Patients Followed as Long as 7 Years Postoperatively*

	Mitral Stenosis	Mitral Stenosis with Mitral Insufficiency	Total
Patients surviving surgery who had regurgitation increased or created			
Number of cases	201	49	250
Late deaths			
Number	13	6	19
Per cent	6.5	12.2	7.6
Regurgitation not increased or created			
Number of cases	464	134	598
Late deaths			
Number	19	18	37
Per cent	4.1	13.4	6.2
Total late deaths			
Number of cases	32	24	56
Per cent	4.4	13.1	6.6

* 2 of these patients died of carcinoma, making the over-all late mortality rate 6.4 per cent.

clinical variations might influence the early and late results of surgery in patients subjected to commissurotomy for mitral stenosis. We are making an attempt in this review to correlate the most common of these variations with the outcome in this series. Among these are age, heart size, heart failure, acute pulmonary edema, atrial fibrillation, arterial embolization, pulmonary fibrosis, coexistence of other rheumatic valvular lesion, pregnancy, and chronic recurring pleural effusion.

Age

The age distribution in our first 1,000 patients subjected to mitral commissurotomy is presented in Table VII. The mortality rates, as might have been expected, indicate that patients up through the fourth decade have the best prospects for survival following mitral commissurotomy. It should be noted that the one (rheumatic) patient included herein who was less than ten years old (four and a half) at the time of surgery had such a diminutive auricular appendage that not even the operator's fifth finger could have been inserted into the left atrial chamber in order to palpate the mitral valve. Hence, the procedure necessarily was an entirely blind instrumental one. While initially she was improved, her symptoms recurred subsequently, and she died fifteen months postoperatively. Two other children who have been operated for severe mitral stenosis, one aged three and a half and one aged four years at the time of surgery, were not included in this series because they were cases of congenital stenosis and because they were not operated in Philadelphia hospitals. The method of selection, postoperative management, and follow-up in patients operated in distant hospitals are not fully subject to our established criteria. In both of these children direct digital guidance of the commissurotomy procedure was possible. They have done extremely well (postoperative one and three years, respectively). This experience indicates that extreme youth alone should not deter us from performing mitral surgery when properly indicated.

TABLE VII.—Relation of Age to Operative Mortality in the First 1,000 Patients

Ages (Years)	Number of Cases	Number of Deaths	Per Cent Mortality
0 to 9	1	0	0
10 to 19	12	0	0
20 to 29	147	9	6.1
30 to 39	386	26*	6.7
40 to 49	356	33*	9.3
50 to 59	96	10	10.4
60 to 70	2	1	50

* 1 patient died in each of these two groups as a result of suicide.

TABLE VIII.—Relationship of Heart Size and Operative Mortality in 878 Patients

Heart Size	Number of Cases	Operative Mortality	Per Cent Operative Mortality
Normal	69	3	4.3
1 + enlargement	192	10*	5.2
2 + enlargement	423	29*	6.9
3 + enlargement	178	27	15.2
4 + enlargement	16	1	6.3

* 1 patient died in each of these two groups as a result of suicide.

The apparent operative mortality of 50 per cent in two patients of this series who were operated during the seventh decade would seem to us to be misleading in view of the fact that subsequently two patients in this age group and one in the eighth decade (seventy-three years) have been operated without mortality or serious morbidity.

Size of the Heart

While alterations in the over-all heart size and changes in the relationships between the capacities and wall thicknesses of the various cardiac chambers may be influenced by many varied and often unrelated factors, there is a strong clinical impression among most cardiac surgeons that the immediate and late outcome of surgery for mitral stenosis is related rather directly to the stage of over-all cardiac enlargement which exists at the time of operation. Table VIII does not bear this out completely but only because the

TABLE IX.—Comparison of the Preoperative and Postoperative Heart Size of 153 Patients

Preoperative Heart Size	Number of Cases	Postoperative Heart Size				
			Enlarged			
		Normal	1+	2+	3+	4+
Normal	7	3	3	1	0	0
Enlarged						
1+	29	5	13	10	1	0
2+	86	5	21	42	18	0
3+	30	0	0	9	18	3
4+	1	0	0	1	0	0

TABLE X.—History of Congestive Heart Failure Prior to Surgery

	Number of Cases	Number of Operative Deaths	Operative Mortality Rate	Late Deaths	Per Cent Late Deaths
No distinct history	57	5	8.8%	5	8.8
Mild or moderate failure	664	43	6.5%	36	5.4
Severe or recalcitrant failure	279	29	10.4%	20	7.2
Total	1,000	77	7.7%	61	6.1

number of patients operated with 4 plus enlargement is so small that it is not statistically significant. Patients with a degree of cardiac enlargement estimated at 3 plus do present an operative mortality which is double that of the over-all average. However, it is probable that certain other coexisting factors may have played a significant role in the total operative risk. Certainly the information obtained from this survey would not justify denying surgery to any individual patient with a pure or predominant mitral stenosis on the basis of over-all enlargement of the heart alone.

It has been stated by some[24,25] that the over-all cardiac size does not become reduced significantly following technically satisfactory mitral valve surgery. Table IX indicates the comparative preoperative and postoperative heart size in 153 of our patients in whom the members of our Department of Radiology were willing to express a definite opinion. This evidence would seem to refute the expressed contrary opinions which usually have been based on studies of a very small series of patients.

History of Congestive Heart Failure

Table X indicates that over 90 per cent of this series of patients had experienced one or more bouts of congestive heart failure prior to surgery. Interestingly, neither the early nor late mortality figures indicate that these patients did less satisfactorily than those who had never experienced heart failure. This was somewhat surprising to us since frank heart failure usually is considered to be indicative of marked deterioration of the myocardium. Probably in most of these patients it merely represented exhaustion due to the overwork produced by the mechanical (valvular) lesion. Presumably in but few instances was rheumatic "myocarditis" the cause of the failure.

In some cases the episodes of heart failure have been due primarily to improper management of atrial fibrillation. Preoperatively this has occurred usually as a result either of the sudden, unexpected, and unrecognized appearance of the arrhythmia, or of unwillingness on the part of the patient to accept prolonged digitalis therapy. Postoperatively also bouts of avoidable heart failure caused by unsatisfactory management of atrial fibrillation have been observed. It would seem evident for a number of reasons that even after successful anatomic release of the obstruction, some of these patients must be maintained indefinitely on the same type of strict cardiologic management which has been required preoperatively. In the absence of facilities for such care, even a technically perfect surgical intervention may be rendered worthless.

History of One or More Bouts of Pulmonary Edema

One third of this series of patients had suffered from one or more episodes of acute pulmonary edema prior to surgery. Doubtless there may be an element of error in such an evaluation, and we purposely have stayed on the side of noninclusion of any equivocal attack.

In general, those patients who previously suffered from acute pulmonary edema have done well during surgery (Table XI). Generally, the initially achieved improvement has been maintained well (Table XI). It would seem from this experience that the preoperative occurrence of acute paroxysmal pulmonary edema should not be considered a deterrent to surgery for mitral

TABLE XI.—PULMONARY EDEMA

	Number of Cases	Number of Operative Deaths	Operative Mortality Rate	Late Deaths
No history	431	31	7.2%	4.4%
Positive history	209	20	9.5%	8.6%

TABLE XII.—INCIDENCE OF TEMPORARY AND PROLONGED ATRIAL FIBRILLATION IN 374 PATIENTS WITH NORMAL SINUS RHYTHM PREOPERATIVELY

	Number of Cases	Per Cent
Total cases	374	100
Digitalized preoperatively	271	72.5
Not digitalized preoperatively	103	27.5
Developed auricular fibrillation postoperatively	94	25.2
Auricular fibrillation converted in hospital	53	14.2
Permanent auricular fibrillation	21	5.6

stenosis. Rather, it would seem to urge prompt intervention lest a subsequent attack prove fatal.

Persistent Atrial Fibrillation and Arterial Embolization

It is important to recognize that the development of persistent atrial fibrillation usually is preceded by one or more episodes of transient atrial fibrillation of paroxysmal onset and of spontaneous or easily induced remission. It is uncertain just what the exact mechanism is by which this arrhythmia becomes initiated during the course of mitral stenosis. It seems to be related in some way to the increase in the size of the left atrium or perhaps to an increase in the left intra-atrial pressure. Generally, it denotes an advanced stage in the progressive physiologic and pathologic degradation of the patient. No doubt in the future its development in a patient with mitral stenosis will be viewed as evidence of a certain element of neglect on the part of the medical advisors since earlier definitive intervention logically might have been expected to prevent it.

Table XII indicates clearly that only 5.6 per cent of patients who have had a predominantly sinus type of rhythm prior to operation have developed persistent atrial fibrillation postoperatively. However, 25.2 per cent of patients with a normal rhythm have developed a transient bout of atrial fibrillation within the first week after operation. This arrhythmia may revert spontaneously to a sinus rhythm within a few days or weeks, or quinidinization may be required.

TABLE XIII.—OPERATIVE MORTALITY RATE IN PATIENTS WITH NORMAL SINUS RHYTHM AS COMPARED TO THOSE WITH ATRIAL FIBRILLATION

Number of Cases	Cardiac Rhythm	Operative Deaths	Per Cent Mortality
412	Normal sinus rhythm	18	4.4
380	Atrial fibrillation	47	12.4
19	No report	0	0

The importance of this transient type of arrhythmia is related nearly entirely to the unexpectedness of its onset in the postoperative period and the possibility that it may be associated with suddenly developing heart failure. Immediate vigorous digitalization, accomplished by intravenous administration of one of the rapid-acting purified preparations (Cedilanid*), in our experience has always sufficed to handle such emergencies efficiently. While the preoperative establishment of full digitalis effect would seem capable of providing an element of security against such a possible eventuality, this measure usually has not been deemed advisable by our medical colleagues unless there has been some additional appropriate medical indication for digitalization.

On the other hand, only 6.2 per cent of patients with chronic atrial fibrillation have become converted to sinus rhythm following operation.[26] Usually quinidine therapy has been required for the conversion. Unquestionably, this is accomplished more frequently in individuals in whom technically satisfactory valve openings have been achieved. However, in most of these patients with pre-existing atrial fibrillation who have become rhythmic subsequent to surgery and quinidinization, maintenance dosage of quinidine has been required to prevent relapse.

In general, one may expect that after a properly performed commissurotomy operation for mitral stenosis, the patient's dominant rhythm will remain the same as preoperatively.

Table XIII shows that the comparative operative mortality associated with mitral commissurotomy in patients with chronic atrial fibrillation is significantly higher than that experienced by those with normal sinus rhythm at the time of surgery. Logically, this should be expected since the existence of atrial fibrillation usually implies an advanced state in what Likoff[27] has described as the "devolutionary pattern of mitral stenosis."

However, these poorer operative results which are to be expected from mitral surgery in patients with chronic atrial fibrillation do not indicate that such patients should not be operated. Indeed, the converse is true; because of this evidence of serious advance in the disease process and hence the greater imminence of fatal termination, the necessity for surgical intervention should be considered to be more than usually urgent.

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* Obtainable from Sandoz Pharmaceuticals—Division of Sandoz Chemical Works, Inc., Hanover, New Jersey.

There is a very high incidence of thrombosis of the left auricular appendage when atrial fibrillation is present. Fifty-three per cent of our patients with atrial fibrillation were found to have thrombosis within the operatively opened auricular appendage. Thrombosis occurred in 8.5 per cent of those patients with a normal sinus rhythm.

It follows logically that there should be a high incidence of systemic arterial embolization in patients with atrial fibrillation who do not undergo surgery, for atrial thrombosis is by far the commonest source of such emboli. Of our patients with this arrhythmia 32.3 per cent definitely had had one or more episodes of arterial embolization (other than pulmonary) before surgery. An additional 9.3 per cent of them had a history suggestive but equivocal of embolization, and 9.6 per cent of the patients with a normal sinus rhythm presented a reliable history and 3.8 per cent a suspicious history of embolization. These findings are consistent with the observations reported by Storer *et al.*[28]

Cerebral or peripheral arterial embolization complicated the immediate operative course in 39 (8.3 per cent) of 471 patients with chronic atrial fibrillation. In contrast, such untoward episodes were encountered in only 13 (2.5 per cent) of 520 nonfibrillating patients.

While it may be difficult at times to be sure of the accuracy of a history of previous embolization, great concern is warranted even in an uncertain case. The possibility of a sudden repetition of such an episode, which may result in death, or permanent injury to the brain or an abdominal viscus, or perhaps in loss of an extremity, justifies no equanimity on the part of the medical advisor. On the contrary, it may well stimulate him to urge corrective mitral surgery on an almost emergency basis.

Before making such a decision, it is essential always to consider the potential of medical management which may embrace the permanent employment of anticoagulant therapy. The dangers inherent in the maintenance of a state of prolonged incoagulability of the blood are obvious and manifold. Undoubtedly, in the aggregate they offer an appreciably greater total risk than does valvular surgery in most instances, without the hope of definitive solution of the problem which the latter implies.

Pulmonary embolism and infarction of the lung in mitral stenosis also are related, for the most part, to the existence of a state of chronic atrial fibrillation with partial obstruction of the circulation which leads to inadequate emptying of these chambers. In an individual who suffers from pulmonary embolism there sometimes may be an element of coexisting tricuspid stenosis (present in 15 per cent of 98 cases routinely explored digitally during the course of mitral commissurotomy performed from the right side). The existence of mitral valve obstruction plus atrial fibrillation has been shown by Storer[28] to be the most effective combination in the initiation of left appendageal thrombosis. However, obstruction of the mitral valve plus atrial fibrillation may lead to such a degree of stagnation of flow through the pulmonary circuit and the right side of the heart that right auricular clotting also may develop. Detachment from the right atrium of such particulate matter which then must enter the pulmonary arterial tree may lead to infarction, especially if the bronchial arterial circulation is impaired by the low cardiac output. It would seem probable that such right-sided atrial thrombosis never occurs in the absence of a similar left-sided process since the essential factors which predispose toward intra-atrial thrombosis necessarily must be more intensely effective on the left. Thus, while 29.9 per cent of our patients with mitral stenosis have been demonstrated to have old or fresh left atrial thrombosis, the frequency of occurrence of right atrial thrombosis is believed only to be about a fraction of this figure.

Clinically it may be difficult sometimes to diagnose with certainty the presence of a pulmonary infarct since other pulmonary complications (fibrosis, pneumonic processes, localized or generalized pleural effusion) frequently are seen in patients with mitral stenosis. Even when diagnosed definitely, it usually is impossible to rule out a site of origin of the arterial occlusion in an area of perhaps silent peripheral phlebothrombosis, especially when infarction occurs in a bedridden patient.

In general, it is our feeling that a definite history of recent systemic arterial embolism in a patient with mitral stenosis and atrial fibrillation indicates left appendageal thrombosis due to a

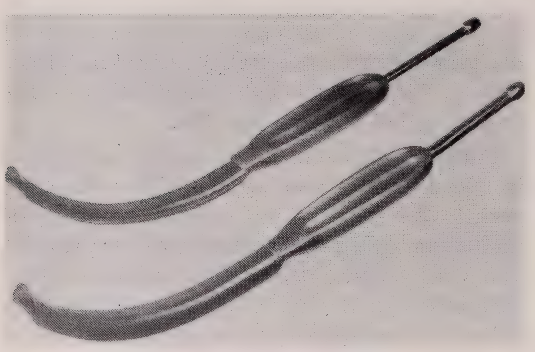

FIG. 16. Litwak aspirating tips.

severe grade of valvular obstruction and consequent stagnation of blood flow. Since there would seem to be every reason to expect a (probable) repetition of such an episode, we do not hesitate to urge immediate operative intervention in these patients unless a reasonable contraindication exists.

A patient who has had arterial embolization prior to surgery, or even a suspicious history of such, is a somewhat greater surgical risk than is the patient who has a distinctly negative history. A review of 718 patients in our series[26] showed that 8.9 per cent had had previous cerebral embolization, and 8.6 per cent had experienced peripheral (other than cerebral), while only 4.5 per cent had had both cerebral and peripheral. There was a surprisingly high incidence of operatively produced embolization in this group. Out of 37 patients with such a history, six developed embolization during or immediately after operation: two cerebral, two pulmonary, one to an extremity, and one to the abdominal viscera (superior mesenteric artery).

The persistence of clotted material within the left atrial appendage was corroborated at surgery in only 43 per cent of the patients with a history of previous systemic arterial embolization. Presumably in the other 57 per cent the entire thrombus had become detached at the time of the embolic episode. Insertion of the operator's index finger through the left auricular appendage in the presence of a fresh thrombus would seem to be associated unavoidably with an increased risk of cerebral or peripheral arterial embolism incident to surgery. Obviously this is not true with respect to the more frequently seen well-organized and adherent atrial clots. As indicated previously,[26,29] the risk of producing cerebral embolism operatively can be reduced to a minimal

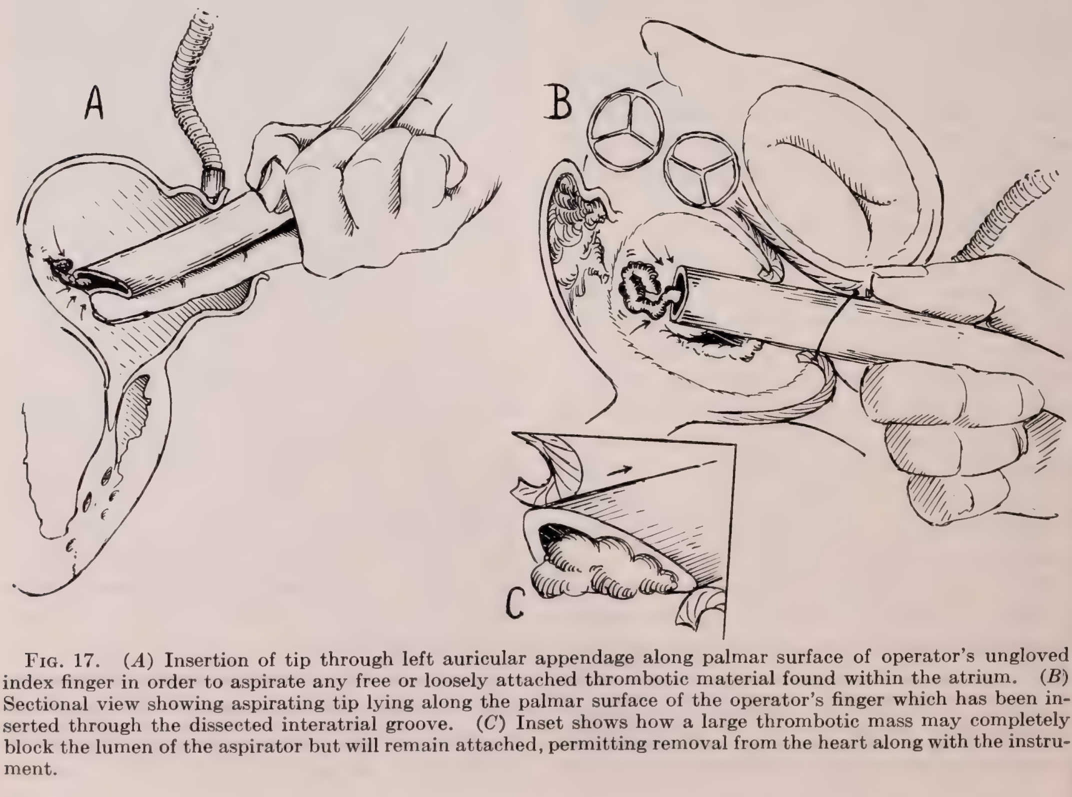

FIG. 17. (*A*) Insertion of tip through left auricular appendage along palmar surface of operator's ungloved index finger in order to aspirate any free or loosely attached thrombotic material found within the atrium. (*B*) Sectional view showing aspirating tip lying along the palmar surface of the operator's finger which has been inserted through the dissected interatrial groove. (*C*) Inset shows how a large thrombotic mass may completely block the lumen of the aspirator but will remain attached, permitting removal from the heart along with the instrument.

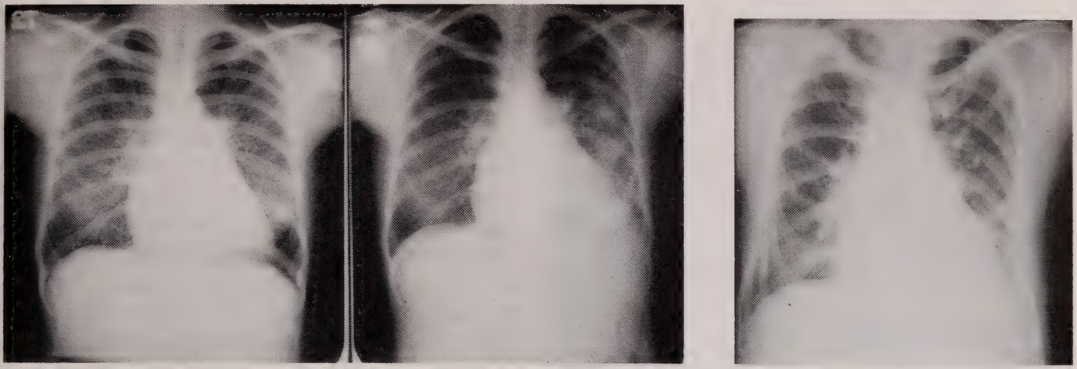

Fig. 18. (*A*) Preoperative and postoperative x-rays showing pulmonary fibrosis in patient A. E. due to long-standing mitral stenosis. (*B*) Extensive pulmonary fibrosis in patient C. W. due to Boeck's sarcoid associated with severe stenosis. Patient died of respiratory insufficiency several days after mitral surgery.

one by proper application of transient tape constriction of the origins of the innominate and left common carotid arteries (5.5 to 1.8 per cent). However, this technic does not reduce but actually increases the incidence of peripheral embolic phenomena since the redirected embolic particles must lodge elsewhere. It now seems that both cerebral and peripheral operative embolization practically may be abolished by use of the right-sided entrance into the left atrium, thus avoiding digital contact with the clotted appendage. In the 13.6 per cent in which the thrombus extends into the true left atrial chamber, no attempt should be made to remove it unless a portion is found floating nearly or completely detached within the cardiac chamber. In such a case the valve should be opened as adequately as possible, taking care persistently to keep the operating finger close to and in front of the valve orifice to prevent the clot from approaching it. Then, one of the Litwak aspirating tips may be passed into the atrium along the palmar surface of the intracardiac index finger (Figs. 16 and 17). As transfusion blood is administered rapidly (in order to replace the unavoidable loss of blood from the heart by aspiration), the tip of the aspirator is caused to approach as closely as possible to the free thrombotic mass. Then suction is applied. In nearly every instance even a large clot, if free, will enter the sizable lumen of the aspirator. The system then may become blocked, but the potential embolus usually will have been evacuated from the circulation. Should any loose mass remain within the atrium, the finger must continue to protect the valve while the instrument is withdrawn from the heart, is cleaned out, and then reinserted to complete the removal.

Pulmonary Fibrosis

Under this term must be included a variety of lesions, such as hemosiderosis, emphysema and fibrosis, healed stages of previous infectious conditions such as tuberculosis or bronchiectasis, the various pneumoconioses, and Boeck's sarcoid. Some of these conditions may be related to the cardiac disease itself; others are coincidental (Figs. 18 and 19). In all these conditions the chief physiologic effect seems to be a reduction in the pulmonary ventilatory function, the exact degree varying with the extent of involvement of the pulmonary parenchyma. The decision as to the desirability of surgery in such a case must be based primarily on the estimated ability of the patient to survive the operation. It is wishful thinking to speculate that the "fibrosis" may be related to pulmonary vascular changes secondary to the mitral obstruction and that they possibly may be reversible. For practical purposes it is best to consider that the anatomic and functional pulmonary changes will remain unaltered by the surgery and any accomplished relief of the circulatory stagnation.

Coexistence of Other Rheumatic Multivalvular Lesions

The commonest valvular abnormality observed in association with mitral valvular disease is aortic stenosis. This lesion is found in approximately 20 per cent of the patients who have rheumatic valvular disease at autopsy.[30] It is important to differentiate a nondynamic distortion of the aortic valve, which is associated only with moderate thickening of the leaflets with a limited narrowing of the valve aperture, from one with a

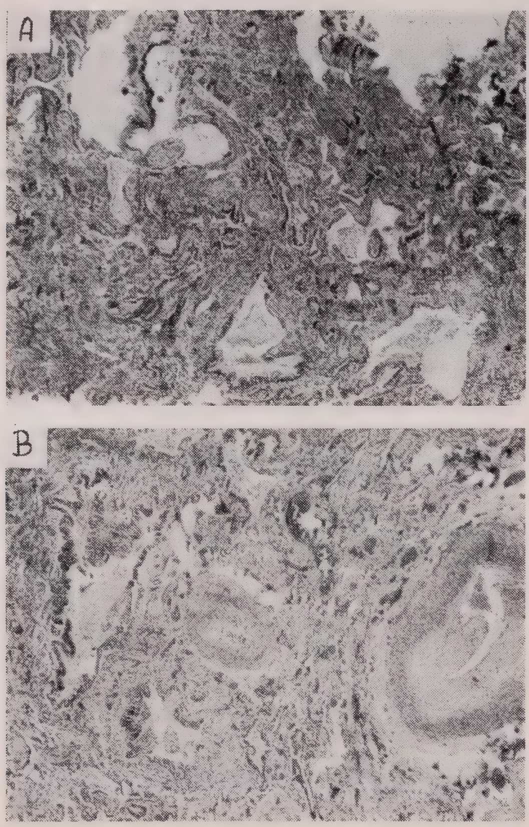

Fig. 19. (*A*) Chronic congestion of lung in a case of rheumatic heart disease with mitral stenosis showing marked thickening of the alveolar wall. The alveolar spaces contain hemosiderin-laden macrophages and edema fluid. (*Courtesy of Dr. Carl Koiwai, Department of Pathology, Hahnemann Hospital, Philadelphia*)

(*B*) In the same case as (*A*) there is marked narrowing of the lumen of the pulmonary arteries due to thickening of the wall and subintimal proliferation. There is also diffuse fibrosis involving the perivascular, peribronchial, and intralobular areas. (*Courtesy of Dr. Carl Koiwai, Department of Pathology, Hahnemann Hospital, Philadelphia*)

degree of stenosis which causes physiologically significant obstruction to the circulation. Each of these conditions is manifested by similar auscultatory findings, chiefly a short, harsh, basal systolic murmur which may be transmitted up the carotid vessels. An accompanying thrill may or may not be present. The aortic second sound may be diminished or absent. Its presence is indicative of some residual valvular flexibility with or without significant narrowing of the valve passage. The aortic second sound for this reason usually is well preserved in the valvular abnormality of congenital aortic stenosis.

In nondynamic aortic distortion, corrective surgery for the aortic lesion at the time of mitral commissurotomy is unnecessary. On the other hand, failure to relieve a severe aortic obstruction at the time of release of a mitral stenosis throws an excessive burden on the left ventricle which thereby has been rendered capable of ready filling but remains incapable of evacuating its now increased content adequately through the residual, diminutive outlet passageway. Hence, the patient's clinical condition must deteriorate, and the left ventricle ultimately must fail sooner as a result of this surgery than if the mitral stenosis had been permitted to persist.

It appears that the only reliable differentially diagnostic measure applicable in this situation is left heart catheterization, using the method of Björk[31] and Fisher.[32] Simultaneously performed, combined left and right heart catheterization is even superior in making this evaluation since the measured diastolic gradient across the mitral valve and the measured systolic gradient across the aortic valve can be related to the total minute and stroke output across them. Thus the degree of valvular narrowing can be estimated.

The next commonest valve lesion found in the presence of mitral disease is aortic insufficiency. Adynamic aortic insufficiency was reported in 6.6 per cent of our patients operated for mitral stenosis, and a dynamic form (with low diastolic pressure and left ventricular enlargement) was present in 3 per cent. At first it was our policy to exclude the latter group from surgical intervention and to operate only for the mitral lesion in the former group. Now, with advances in our technics of management of aortic insufficiency, we have adopted the policy of attacking both valves during the same operative session whenever the patient's condition has appeared to justify it.

Tricuspid insufficiency detectable to the exploring finger has been recognized at operation in 17 per cent of 98 individuals in whom routine exploration of the tricuspid valve has been carried out during the course of mitral valve surgery performed from the right side. In the same group 15 were found to have a significant degree of tricuspid stenosis. Preoperatively, a precise diagnosis had been made in only three of these patients with tricuspid abnormality, although it had been suspected in four other patients.

While tricuspid insufficiency usually is relative and may be spontaneously reversible, at least in part, following relief of the mitral obstruction, in some of the more severe cases suture plication of

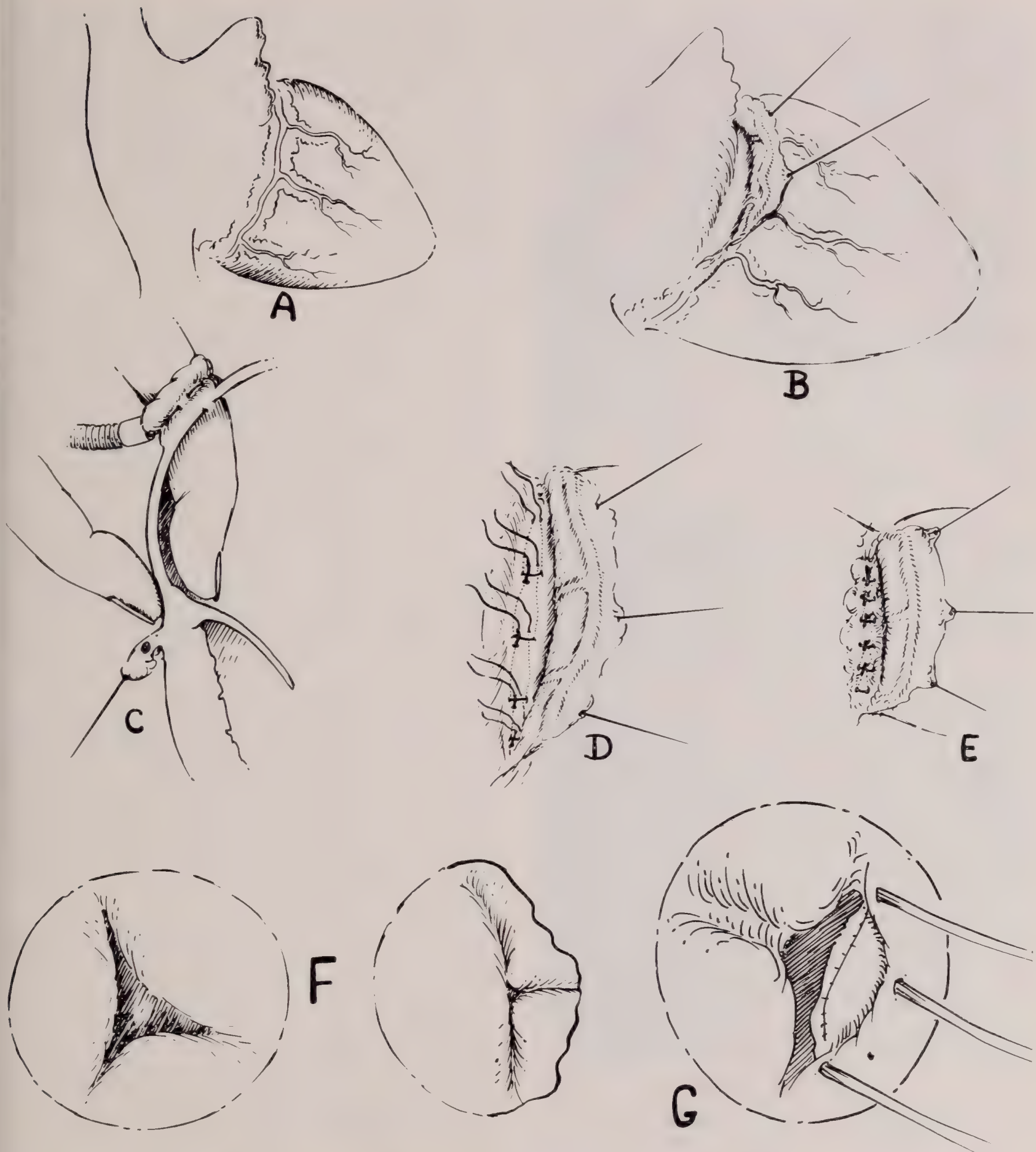

Fig. 20. Plication of tricuspid annulus fibrosus in the correction of tricuspid insufficiency.

(*A*) External appearance of right atrioventricular sulcus. (*B*) Fat pad, veins, and right circumflex coronary artery are dissected away from the mural portion of the tricuspid annulus. (*C*) Bidigital examination of the annulus both from within the atrium and externally. (*D*) Plicating mattress sutures placed within the substance of the annulus. (*E*) Reduction in the size of the annulus produced by tying down the plicating sutures.

(*F*) Changes produced in the outline of the valve annulus and aperture by plication of the mural portion of the ring. (*G*) Method of applying a graft of living (pericardial) tissue to retracted edge of tricuspid leaflet. (*Bailey*,[26] *Courtesy of Lea & Febiger*)

the tricuspid ring or the application of pericardial tissue to the incompetent valve orifice has been carried out with apparent benefit (Fig. 20).[33]

Tricuspid stenosis, if at all severe, should be relieved definitively, either by digital pressure splitting or by an instrumental commissurotomy technic, as previously described (Fig. 21).[26,34,35] The relatively frequent operative finding of preoperatively unsuspected tricuspid stenosis (14 per cent) in patients with presumably isolated mitral stenosis is a cogent argument for the routine use of the right-sided approach to the mitral valve

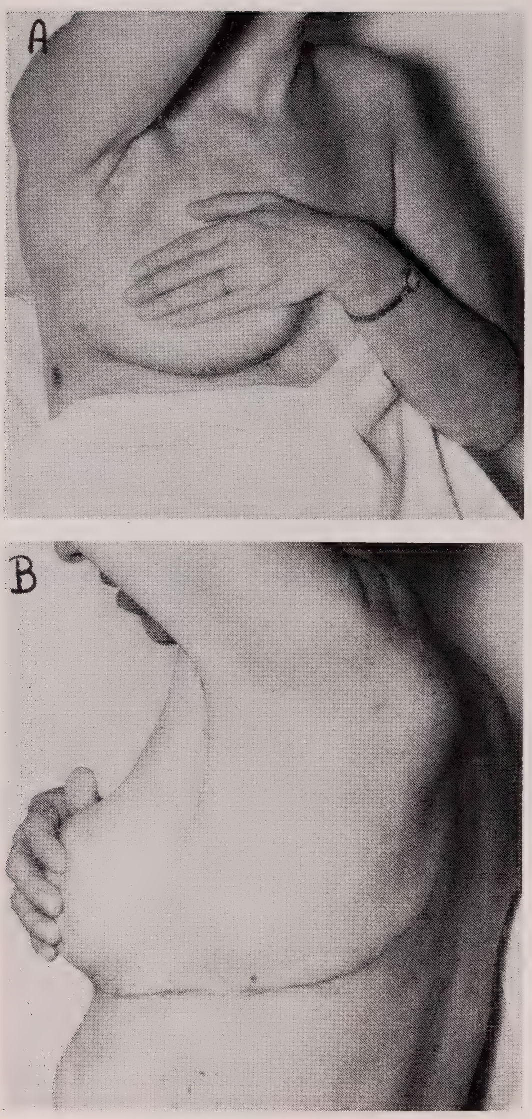

FIG. 21. (*A*) Photograph of highly esthetic right-sided incisional scar used in performing commissurotomy of the mitral valve from the right side. A simultaneous attack upon an aortic or a tricuspid stenosis may be accomplished through it. The length averages 25 cm. Very few thoracic wall muscle fibers are divided in making it.

(*B*) Photograph of less esthetic and longer (average 47 cm.) incisional scar used in the older left-sided approach to the mitral valve and in present-day operations for mitral insufficiency. The latissimus dorsi muscle is transected, and the fibers of the serratus anterior and the rhomboidei are divided extensively. This may lead to some limitation of arm and shoulder function.

since it is only by this approach that both valves routinely can be explored simultaneously and, if necessary, treated immediately in adequate fashion.

Mitral insufficiency, on the other hand, can be corrected definitively by existing surgical technics only when the left-sided approach is employed. Hence, the existence of a prominent systolic murmur at the apex or of other signs suggestive of mitral regurgitation points out the desirability of making the surgical approach through a posterolateral left thoracic incision.

Pregnancy

The physiologic alterations which occur in the circulation during the course of pregnancy appear to have the power of aggravating any pre-existing condition of cardiac insufficiency. This effect becomes most pronounced during the second trimester of pregnancy, although it may become ameliorated somewhat during the third.

The patient with mitral stenosis classically follows this pattern tending, even if asymptomatic previously, to develop both generalized dependent edema and increased manifestations of pulmonary congestion (including bouts of acute pulmonary edema) during the fourth to the seventh months of gestation.

To date we have operated definitively for mitral stenosis during the course of pregnancy in seven patients. In all instances the cardiac procedure has been successful technically, and the patient has survived. In each case the circulatory status has been improved, and the pregnancy has been maintained successfully.

On the basis of this satisfactory experience and similar ones reported from other clinics, it would seem that the occurrence of pregnancy in a patient with severe mitral stenosis often indicates the need for definitive surgical intervention to relieve the valvular obstruction at the earliest feasible moment, certainly, if possible, before the end of the first trimester.

Chronic Recurring Pleural Effusion

Nearly always a persistent pleural effusion in a patient with mitral stenosis is found to involve the right hemithorax, which is one of the sites of initial fluid retention due to heart failure. In certain instances this type of fluid accumulation may be associated with a tricuspid valve lesion. With the passage of time and because of the very persistence of this transudate within the thoracic cavity, local secondary changes take place on the pleural surfaces, which render much greater the tendency toward further accumulation of fluid at this site (and toward prompt reformation after evacuation by thoracentesis). Hence, measures designed to overcome the general bodily fluid retention associated with heart failure usually will be found to be ineffective for this condition. The local changes appear to vary from chronic irritability of the pleural surfaces, which may tend increasingly to secrete fluid or perhaps conversely to fail to absorb pleural fluid, to the frank development of a coating of organized fibrous (initially fibrinous) exudate upon the imprisoned and collapsed lung.

Because of the associated marked reduction in the vital capacity and function of the partially collapsed right lung, surgery performed from the left side may be unduly hazardous. Even if technically satisfactory and clinically successful mitral surgery can be performed from the orthodox left-sided approach, the right-sided pleural effusion subsequently will tend to persist, perhaps to increase in amount, requiring repeated aspiration indefinitely in order to restrain its deleterious effects upon the cardiorespiratory mechanism.

It seems to the authors, therefore, that the preoperative existence of a chronic right-sided pleural effusion in mitral stenosis demands that the valvular surgery be performed from the right side. Not only can a probably more adequate commissurotomy of the mitral valve be performed safely by this approach, but one is enabled to undertake simultaneously the correction of any tricuspid lesion which may be discovered during operation, or decortication of the right lung if this should prove necessary. Subsequently, the traumatic insult of surgery induces an acute noninfectious pleuritis which helps to bring about permanent obliteration of the pleural space after re-expansion of the formerly collapsed lung with cross-adherence of the approximated visceral and parietal pleural layers.

In a number of such patients operated from the right side, complete expansion and early obliteration of the pleural space have been accomplished without noteworthy incident.

Postoperative Febrile Response

Various authors have reported the occurrence of unexplained, often prolonged, and sometimes recurrent febrile episodes in a certain percentage of patients who have been subjected to mitral valvular surgery. Certain of them[36-38] have been inclined to relate these episodes to "rheumatic exacerbation," presumably "lit up" by the surgical intervention. The appearance of the fever following surgery in a group of known rheumatic patients made this seem plausible. Others,[39] and especially our own group,[26] have opposed this opinion strongly, pointing out that similar episodic and recurrent bouts of fever sometimes associated with myalgia or arthralgia occur equally frequently following cardiac surgery performed on adult patients with obviously nonrheumatic lesions, such as congenital malformations of the heart and arteriosclerotic heart disease, when the pericardium had been invaded surgically.

The demonstration of a significant, perhaps excessive, amount of pericardial or pleural fluid, which usually is discolored by the products of degeneration of retained old blood or clots, in practically every such case when needle aspiration is practiced routinely has reinforced our expressed conviction. The dramatic drop in temperature which nearly always follows even the incomplete evacuation of such exudate would seem further to strengthen this stand. Certainly such a therapeutic approach and the resulting symptomatic benefit are unheard of in the treatment of ordinary rheumatic fever.

Furthermore, the continuing failure to demonstrate any definite serologic evidence of recent rheumatic or even of streptococcic affection in these patients three years after the theory of rheumatic reactivation was first proposed seriously weakens the stand of the proponents. The clinical benefit obtained from the use of ACTH and the various adrenal corticoid products would not particularly tend to establish the process as "rheumatic" since these drugs basically are effective against most types of tissue "stress" and, therefore, are ideally indicated to suppress certain manifestations of the bodily response to the absorption of degenerated blood constituents.

However, it is unwarranted to infer from existing evidence that every one of these febrile episodes necessarily must be of such origin. Undoubtedly, some of them may be related to the existence of an unrecognized patch of pulmonary atelectasis, to pulmonary infarction, to bacteremia or septicemia, to distant visceral infarction (embolic issue), or even to an occasional undeniable rheumatic exacerbation. Certainly an occasional bout of rheumatic activity must be expected at a calculable frequency in any population of known rheumatic patients of given age, with or without surgical interference. Only if it can be shown that its incidence is statistically greater following cardiac surgery than under strictly medical management will one be justified in assuming that the mechanical stimulus of surgical trauma to the heart or pericardium can bring about a rheumatic exacerbation in a formerly rheumatic patient.

Recurrence of Mitral Stenosis

The very nature of the stenosing process, the specific pathologic changes associated with the development of mitral stenosis as described by Rokitansky,[40] Coombs,[41] and Magarey,[42] seem clearly to imply that once well advanced, they tend to become self-perpetuating and then must continue to progress until complete valvular obstruction (or rather intervening death) has been brought about. The only exception seemingly would be those valves in which the rheumatic inflammation has been rather mild, resulting in relatively little thickening of the leaflet edges and in only a moderate degree of cross-fusion at the commissures. In such valves a considerable amount of leaflet mobility persists, and the overall size of the mitral orifice remains sufficiently large to permit adequate filling of the left ventricle without necessitating an increase in the velocity of blood flow. Therefore, there is no flow trauma to the edges of the valve aperture. In the absence of further rheumatic activity, progression of the stenosing process in such a valve would seem unlikely. Such patients perhaps make up 10 to 20 per cent of our entire operated series. While the ability of these individuals to undertake extreme activity is increased by surgery, probably their respective life spans are not lengthened significantly.

In patients with very small valve apertures, even if the greater amount of thickening and consequent stiffening and immobilization of the cusps does not play a significant part (which they undoubtedly do), gradual progression of the stenosis seemingly is inevitable due to the effect of trauma imparted to the free valve edges by the blood flowing through the diminutive orifice at increased velocity (nozzle effect). This trauma produces further constant or intermittent inflammation of the substance of the valve edges. It results not only in increased interstitial fibrosis of the marginal tissue about the valve orifice but also in the periorificial deposition of a fibrinous exudate which subsequently must undergo fibrous organization. This leads to additional thickening of the leaflet substance and to further encroachment upon the already narrowed aperture. Ultimately, the normal tendency of any scar tissue to contract manifests itself with resultant further reduction in the size of the diminished valve opening. This narrowing increases the nozzle effect, which enhances the trauma imparted to the valve margins by the flowing blood and so intensifies the rate of the stenosing process. Thus, a vicious mechanism is set up whereby the increased trauma of high velocity blood flow inflames the valve edges, causing further stenosis which leads to even higher velocity of flow, and, hence, to even greater trauma, etc.

It is both unreasonable and unduly optimistic to presume that existing surgical technics are capable of so modifying the pathologic condition of the fibrotic and often calcific (38 per cent) mitral valve that this tendency to further progression of the stenotic process can be abolished completely. It is true that the valve orifice usually (but not always) is enlarged by surgery at least to a minimally adequate size. This enlargement of the opening tends to destroy the "nozzle effect"—the necessity for an increased velocity of flow through the mitral orifice—and so may eliminate the effect of blood flow trauma against the free margin of the valve orifice. However, the thickened, fibrotic, and perhaps calcified valve leaflets often are sluggish in their movements in response to the incessantly varying intracardiac hydrodynamic pressures. Hence, the effective functional size of the valve orifice, as differentiated from the anatomic, may be less than expected. This is particularly true when the surgeon has been able to separate only one of the two fused commissures.

Following surgery the raw cut or digitally lacerated valve surfaces at either extremity of the orifice must become "smoothed over" by accretion of an initially fibrinous (later fibrous) exudate and then covered with an endothelial layer, a process not unlike that effective in the pathogenesis of rheumatic valvular stenosis. This healing of the surgical "wounds" inflicted upon the valve may in itself entail the development of some stenotic changes; they even may take the form of partial readherence of the extremities of the separated leaflets.

Furthermore, there is no reason to presume that the fibrous tissue which may be infiltrated throughout the previously inflamed valve substance and the fibrous laminae which have become superimposed upon the valve surfaces will fail to continue to contract, as scar tissue always does, thus shortening the length of the bicommissural axis of the valve and so progressively reducing the effective size of the orifice, eventually perhaps to a physiologically significant degree.

And why should these surgical patients, perhaps previously subject to a long-smouldering rheumatic process, suddenly be relieved of the risk of a possible flareup of rheumatic activity? Would not further acute or subacute rheumatic activity tend to re-establish all of the previously mentioned elements which originally led to the development of the stenosis?

Certainly, from these considerations it must be evident that recurrence of rheumatic valvular stenosis after even the most ideal type of commissural separation is inevitable in a significant, although presently incalculable, percentage of operated patients. In those in whom the surgical mobilization of the valve leaflets has been inadequate (valvular separation not extended as far as technically feasible) or unsatisfactory for reasons which are considered unavoidable (extreme calcification of the valve, extension of the involvement into the annulus fibrosus, or the appearance of regurgitation before the size of the valve aperture has been rendered sufficient), obviously the tendency toward re-establishment of the valvular obstruction must be appreciably greater. Whether this condition should be described as recurrence, restenosis, or simply as progression of the stenosing process is largely a matter of semantics and of little practical clinical importance. It is reasonable to presume that those valves in which the pathologic process is of minimal intensity, amounting essentially to commissural fusion without much leaflet thickening, will be less likely to refuse after adequate surgical separation than will those valves in which the pathologic changes have become extreme or in which the orificial enlargement has been unsatisfactory. However, young patients, in whom there is a greater likelihood of the persistence of residual rheumatic activity and, hence, in whom there is a much greater chance for acute rheumatic reactivation, must run a greater risk of restenosis than do patients in older age groups. Indeed, even the greater prospect of younger individuals for longevity would tend to render the apparent incidence of recurrence of stenosis greater among these individuals than among older persons.

And have these logically to be expected recurrences actually appeared? While some authors[43,44] have suggested that restenosis is not likely to develop after mitral commissurotomy, others[45-48] have reported cases in which recurrence of the stenosis undoubtedly has developed. We have re-explored the mitral valve in nine of the 1,000 patients herein reported, at periods from eighteen months to five and one-half years postoperatively, for recurrence of symptomatology after an initially satisfactory result and have found and relieved a serious and definite stenosis in seven of them; all but one have survived and have been improved. Four other such patients have been shown by left heart catheterization to have developed anew a diastolic gradient across the mitral valve which we consider indicative of serious stenosis. Undoubtedly, there have been other patients in this and in every other large operative series in whom a technically adequately relieved mitral stenosis has recurred at a late date, but in whom the correct diagnosis has not been made. In some the continuing or recurring disability has been attributed incorrectly to additional coexisting valvular or myocardial disease. In most cases both the surgeon and the attending clinician, as well as the patient, have been subconsciously or consciously unwilling to face up to the possibility that there may be an increasing impedance to blood flow at the mitral valve level and so have not considered it. Even the pathologist at autopsy may exhibit to some degree such a mental block. Undoubtedly, in the future an appreciably greater number of patients who initially have experienced considerable benefit from mitral commissurotomy for a year or more, but who then have lost it and gradually have begun to deteriorate, will be found on examination to be suffering chiefly from re-establishment of the stenosis (whether completely relieved initially or not).

Therefore, it seems reasonable to the authors that every patient who has been subjected to commissurotomy of any cardiac valve or any combination of valves thereafter should remain permanently under enlightened medical supervision if only in order that a possible recurrence of the stenosis may be recognized before additional and perhaps irreversible damage to the myocardium and other viscera becomes superimposed upon his other burdens. At the least suspicion that stenosis of the mitral valve may have begun to recur, catheterization of the left side of the heart should be performed in order to measure the possible existence of an abnormal pressure gradient across the orifice of the mitral (and aortic) valve. This investigation has proved safe in practice and seems nearly always to be capable of establishing an exact physiologic diagnosis.

Once recurrence is definitely present, obviously a repetition of the commissurotomy procedure is indicated. While it may be carried out successfully through the existing left-sided thoracic incisional scar, the secondary procedure is likely to be complicated technically by the presence of extensive pleuropulmonary and pericardial adhesions, and by surgical obliteration of the appendageal lumen as a result of the previous operation. Entrance of the operating finger into the left atrium by way of an incision made in the side of a pulmonary vein or directly through the left atrial wall may be attended by difficulties with hemostasis, with consequent hampering and hastening of the necessary surgical maneuvers (and instrumentation if required). Such hurried and handicapped surgery often proves unsatisfactory.

In striking contrast, entrance into the left atrial chamber by way of the virginal right pleural cavity and through the unobliterated interatrial groove permits unhurried and methodical digital or instrumental mobilization of the valve commissures. Indeed, the inherently greater facility, which is experienced in separating the posterior commissure by this approach than by the less convenient left-sided one, may enable the surgeon to accomplish a much more satisfactory commissurotomy operation with consequent achievement of a much greater enlargement of the valve aperture than at the initial operative procedure.

Summary and Conclusions

The indications for commissurotomy for mitral valvular stenosis still have not been entirely clarified with respect to the question of how early such surgery should be done. The patient who is operated early in his disease is a much better operative risk and avoids progression of pulmonary and cardiac damage which must become advanced and irreversible in the later stages of his disease. Of course the degree of rehabilitation possible in late cases is limited. However, while the optimal time for surgery has been lost in far-advanced patients, salvation of many of these invalids can be accomplished, at least in part, although at considerable additional surgical risk.

It is our present feeling that any patient who has mitral stenosis and evidence of left atrial enlargement or electrocardiographic evidence of right ventricular strain should be relieved of his valvular obstruction. A physiologic demonstration of pulmonary vascular hypertension or increased pulmonary arterial resistance by right heart catheterization or of an abnormally increased diastolic pressure gradient across the mitral valve by left heart catheterization offers strong support to these purely clinical criteria.

If an adequate surgical enlargement of the stenotic mitral valve is achieved, a certain percentage of patients will suffer a minor degree of valvular insufficiency. The results in such cases are almost as good as in those individuals in whom no regurgitation is produced. However, a large amount of mitral incompetence always is serious. The approach to the mitral valve from the right side affords ready accessibility to the tricuspid and aortic valve for simultaneous corrective surgery. Because a significant proportion of the patients now considered for mitral surgery are found to have multivalvular disease, the approach from the right side of the heart offers a solution for concomitant correction of these lesions if also stenotic. In the case of the triscuspid valve the exact diagnosis can scarcely be made except by routine digital exploration of the interior of the right atrium. However, the left-sided approach should be used whenever it is felt that a significant element of mitral insufficiency is present since it best can be treated definitively through a left posterolateral thoracic incision.

Unexpectedly, the right-sided approach to the mitral valve has been found to be of great value for two other reasons. It permits a much safer and more effective attack on the usually more inaccessible posterior (posteromedial) valve commissure, while still allowing effective mobilization of the anterior (anterolateral). As a result we feel that we are able on the average to accomplish about 66 per cent more valvular separation without any increased tendency toward the creation of insufficiency.

A second great advantage afforded by the right-sided approach is the ability to insert the operating finger into the left atrial lumen without traversing the possibly clotted appendage and without encroaching upon the dorsal portion and left side of the chamber where true intra-atrial thrombosis may be found. Left auricular thrombosis of varying extent and stage of organization was found in 29.9 per cent of our entire series. Hence, the usual risk of causing arterial embolization during mitral commissurotomy should be reducible to a minimum by the routine use of the right-sided approach, at least in fibrillating patients.

Clinical improvement may be expected following mitral commissurotomy in nearly 90 per cent of the patients surviving surgery. The operative risk associated with the performance of mitral commissurotomy, when the case is not far advanced, is hardly greater than that to be expected in other types of major surgery.

However, re-establishment of the mitral obstruction is inevitable in a certain percentage of patients and can be recognized only by long-term follow-up observation. When definitely present, it warrants repetition of the commissurotomy procedure, preferably from the right side.

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Electroretinographic Procedures

Details of electroretinographic procedures were outlined at the annual membership meeting of the National Society for the Prevention of Blindness on December 15 at the Waldorf-Astoria Hotel. Dr. Jerry H. Jacobson, New York Eye and Ear Infirmary, pointed out that the electrical change, called the electroretinogram, or ERG, is picked up by means of an electrode held in place by a contact lens and that the employment of ERG has enabled ophthalmologists to diagnose certain types of retinal degenerative diseases "years before we can tell in any other way."

Also "other parts of the eye are amenable to electrical analysis. For example, there are six muscles in each eye which move the eyes up, down, and to the sides. Disorders of these muscles result in eyes which are not straight. Recently, we have been studying the changes of electric potential in these little muscles, in an attempt to determine how their activity is changed when the eyes' motion is abnormal. This work is still very early in its development, but the day may not be distant when it will be possible to tell, by its electric activity or the lack of it, which of the twelve muscles is the one at fault and thus should be subjected to surgical treatment. . . . These tests will, however, be of assistance to the ophthalmologist in the treatment of his patient and will, I feel, be of some value in improving the efforts being made to prevent blindness."

The Changing Spectrum of Autopsy Material in a Tuberculosis Hospital

KORNEL TERPLAN, M.D., BUFFALO, NEW YORK,* AND LEONARD C. EVANDER, M.D., LOCKPORT, NEW YORK

(From the Buffalo General Hospital and the Niagara Sanatorium)

This study concerns an analysis of the postmortem findings, in relationship to the major causes of death, as they were observed at the Niagara Sanatorium, Lockport, New York, during the past nine years, starting with 1946 and ending in 1954. This time was chosen only for the reason that the performance of the postmortem examinations was with rare exceptions the obligation of one trained pathologist alone, or in the few exceptions the findings were carefully controlled by the same individual. Although consent was not obtained in all the fatalities which occurred during this period, the percentage figure for the time is comparatively high (69 per cent). During this time 169 postmortem examinations were performed. It is this material only which will be analyzed here.

It has become increasingly clear to physicians in general and pathologists in particular that a distinct change has taken place in the predominance of diseases leading to death during the past twenty years. The successful treatment of the large group of infectious diseases, the nearly complete elimination of some of them with the advent of potent specific drugs and the antibiotics, has changed considerably the spectrum of fatal diseases when compared to their registration as major causes of death in the past. We have been interested in investigating these changes as they emerged during the last ten years in general hospitals as well as in children's hospitals, and some of these findings have been previously reported.[1] Although the material examined here is small and extends over only a comparatively short and recent period, the last ten years, it is during the very recent years that the radical change in the treatment of tuberculosis has taken place, and some of the effects of this certainly could be anticipated in altering conspicuously the postmortem patterns in a tuberculosis sanatorium as they have been previously known.

TABLE I.—MAJOR FINDINGS IN DEATHS FROM TUBERCULOSIS

	1946 to 1951	1952 to 1954
Pulmonary tuberculosis	108	25
Massive tracheal and/or laryngeal tuberculosis	25	3
Intestinal tract tuberculosis	52	4
Chronic hematogenous extrapulmonary tuberculosis*	13	2
Fatal hemorrhage from aneurysms in tuberculous cavities	9	2
Amyloidosis	5	0
Cor pulmonale	26	7
Marasmus	33	5
Surgical complications	10	1
Primary childhood tuberculosis with tuberculous meningitis	4	1

* Terminating in tuberculous meningitis (7 cases in 1946–1951) with meningoencephalitic tuberculomas (2 cases in 1946–1951); no cases in 1952–1954.

We have arbitrarily divided the total number of 169 cases into two groups, using the beginning of the year 1952 as the dividing line, since only from this time on was a more effective and consistent antibiotic drug therapy regime instituted at the sanatorium. The first group includes 112 cases of tuberculosis, four of which were children, and the second group includes 26 cases of tuberculosis with one child among them. In addition, there were 17 deaths from other causes in the first group and 14 in the second group. Already these two latter figures show the significant increase of nontuberculous causes of death in relation to the fatal cases of tuberculosis. During the last three years more than 35 per cent of the causes of death were in no way related to tuberculosis, while in the first group this relative figure is about 16 per cent.

In Table I we have summarized the major findings in all cases which died from tuberculosis.

No attempt is made in this report to dwell on the pathogenetic analysis of our cases of chronic pulmonary tuberculosis. Some results of such

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* By invitation.

Presented at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Section on Chest Diseases, May 12, 1955.

studies on this material have been reported briefly elsewhere.[2] All fatal cases of tuberculosis represented either the classic pattern of true reinfection or that of gradually progressing primary tuberculous infiltration of the lungs. Neither the clinical course nor the final anatomic picture was of any significant difference in these two groups. In the following discussion all these cases will be referred to as chronic pulmonary tuberculosis. A study of the cases individually, that is, those belonging to the first group, does not show results too different from the well-known ensemble of pathologic changes as observed all over the world during the past hundred years. Most of these cases presented the typical phthisic form of chronic pulmonary tuberculosis with cavitations and considerable progression via bronchi. Nearly a fourth of them showed the effects of this intracanalicular spread in the upper respiratory passages, in the larynx in particular, and the spread by deglutition into the intestinal tract, with nearly half of all showing various degrees of ulcerative tuberculosis of the small or large intestine or both. Also, the scattered involvement by small tubercles of various organs, which could be reached only by hematogenous dissemination, was present in a considerable number of our first group. This finding is of no clinical significance except that it very clearly denotes the steadily progressive disease, in the final stages of which hematogenous dissemination can always be observed if routinely looked for in the examination of such organs as liver, kidneys, spleen, and adrenals. It is also of some significance that impressive hematogenous extrapulmonary tuberculosis, involving in particular the genital organs or the skeleton, or kidneys and adrenals, or the serous mesothelial membranes, was more prevalent in our first group than in the second. Some of these cases of active caseated extrapulmonary tuberculosis, although originally associated with pulmonary disease and formation by hematogenous spread, had finally led to bloodstream infection with miliary tuberculosis involving the lungs in particular and with tuberculous meningitis in some.

Amyloidosis associated with chronic tuberculosis was found in comparatively few cases (less than 5 per cent), although it was of the classic type, as usually seen in so-called secondary amyloidosis. No case of amyloidosis has occurred during the last three years.

Unfortunately, in a rather high percentage death was caused by bleeding from an aneurysm of the pulmonary artery following an erosion by the progressive intracavitary process. If any comparisons are permissible from the smaller number of fatal cases of tuberculosis observed in our second group, it is obvious that fatal bleeding from aneurysms in tuberculous cavities was observed about as frequently during the last three years as it had been in the previous years.

Sudden death from complications following various surgical procedures, including deaths from lobectomies, anesthesia, shock, massive aspiration, or air embolism (which caused about 9 per cent of the deaths during the first six years), have practically disappeared during the last three years, although the number of surgical procedures has markedly increased during the same period.

As far as the pattern of childhood tuberculosis is concerned, there has been no difference whatsoever in the postmortem findings. They all conform to the typical picture of progressive primary tuberculosis in connection with the primary lesion, with or without cavitation of the primary focus, terminating in tuberculous meningitis. Although there has been a remarkable decrease in the incidence of the progressive primary complex disease pattern in infants and children, all five cases observed in the past nine years were fulminating and fairly rapidly fatal with the very recent one being the same as those in the preantibiotic era.

The incidence of generalized marasmus has decreased moderately from slightly lower than one-third in the first group to about one-fifth in the second. There has been no change, however, in the incidence of right heart failure (so-called cor pulmonale) in both groups. One of the reasons for this is the fact that several of the fatalities during the last three years were older chronic cases of tuberculosis with extensive adhesions and interstitial fibrosis, preceded years previously by thoracoplasty.

The most striking change, of which many pathologists have become aware, is the considerable reduction of active tuberculosis in the upper respiratory passages and in the intestinal tract. In fact, in some of the older cases very distinct scar formation could be observed in the small intestine, actually leading to some degree of constriction. We had not observed this localized stricture formation, occurring at the site of only a few tuberculous ulcerations, in the years before

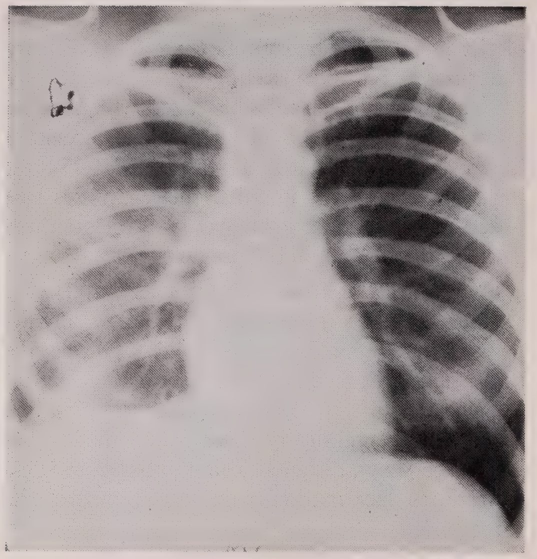

FIG. 1. December 7, 1950. Initial x-ray showing the right-sided infiltration.

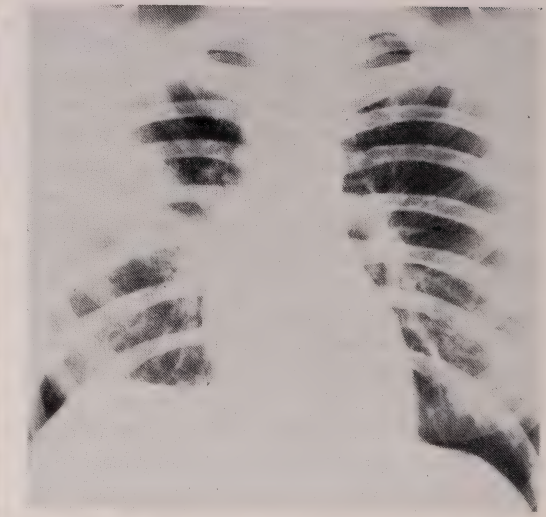

FIG. 2. January 16, 1952. Patient finally consented to admission; x-ray shows considerable increase of the disease on the right.

antibiotic treatment was introduced. The complete absence of ulcerative tuberculosis in the majority of our second group of 25 fatal cases of pulmonary tuberculosis is perhaps the most impressive finding. Also to be noted is the distinct reduction of conspicuous extrapulmonary tuberculosis and the almost complete absence of small, incidental hematogenous tubercles in the various parenchymatous organs.

That the structural picture of the lung tissue under the effect of antibiotic medication has distinctly changed is common knowledge to all who have studied the resected lung tissues in the past few years. It is not intended to discuss in this report the histologic aspect of the tuberculous pulmonary process in surgical material after prolonged antibiotic treatment. It suffices to state at this time that the material of each individual case has to be analyzed very carefully before reliable criteria as to the change of the reaction pattern can be accepted.

In the fatal cases of tuberculosis in our second group the pulmonary picture is not basically different from that observed in the past, but it is obvious that at least in some cases the drug therapy was not consistently adhered to by the patients. It is just such instances which display all the classic findings of rapidly and massively spreading cavitary tuberculosis, as the following case will illustrate:

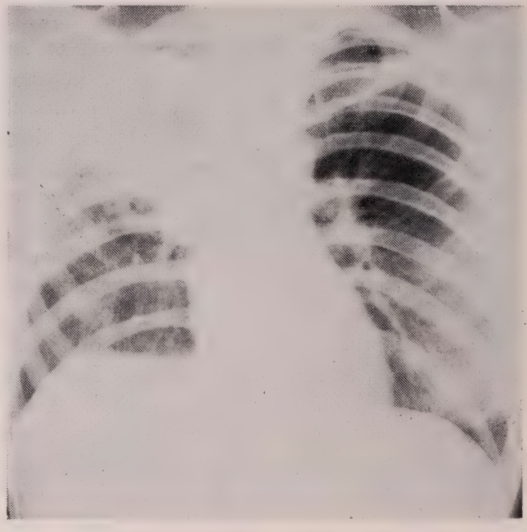

FIG. 3. August 12, 1952. Second admission of the patient, revealing further increase of the infiltration.

CASE 1.—M. W., white housewife, born September, 1923, was admitted to a general hospital in October, 1950, with a diagnosis of right-sided pneumonia (Fig. 1). The shadows persisted on subsequent x-rays, although there was some improvement. In February, 1951, a tuberculin patch test was reported negative. X-rays in December, 1951, and January, 1952, showed increased disease, and the patient was admitted to Niagara Sanatorium on January 15, 1952 (Fig. 2). Minimal pulmonary tuberculosis was diagnosed on the basis of positive sputa and gastric cultures. She was discharged at her own request on February 11, 1952.

Subsequent x-rays showed increasing disease in the right lung, and patient finally consented to

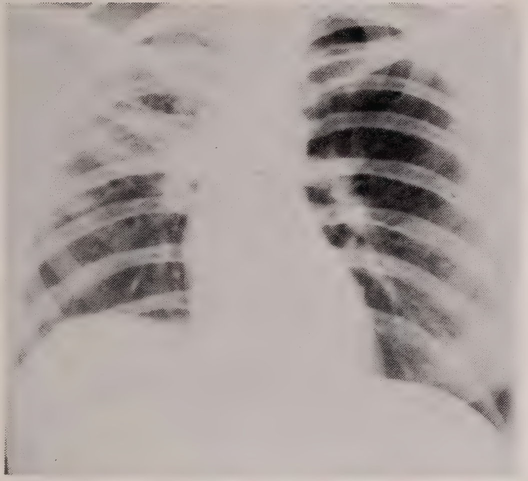

FIG. 4. November 11, 1952. Patient had been receiving streptomycin and PAS since August 19, 1952. This film, taken at time of discharge at patient's own request, shows considerable improvement of the infiltration.

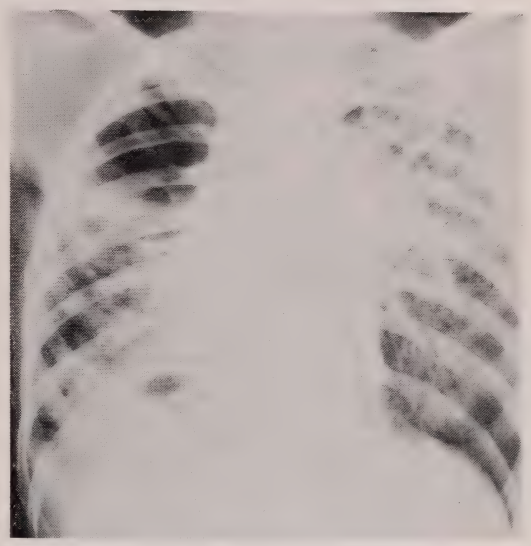

FIG. 6. October 25, 1954. Readmission film showing the marked bilateral extension of the infiltration.

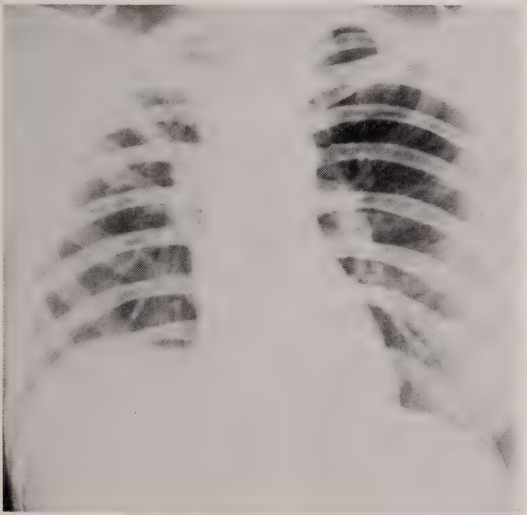

FIG. 5. July 28, 1953. Patient reported that she was still taking her antibiotics. X-ray shows further fibrosis and clearing of the exudative areas.

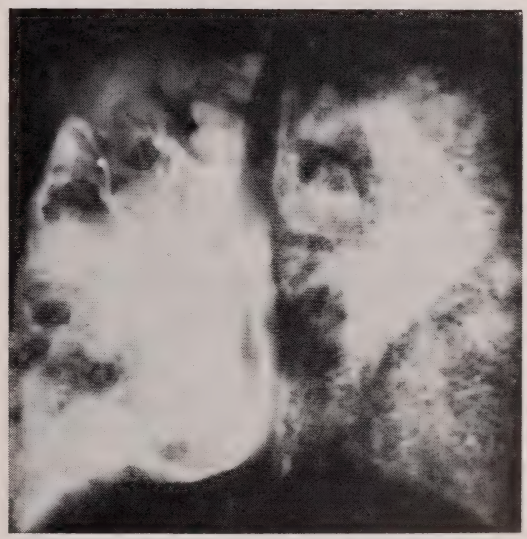

FIG. 7. Postmortem roentgen film of the tuberculous lung, November 2, 1954.

readmission on August 12, 1952 (Fig. 3). Disease was now moderately advanced. A gastric examination was positive, and streptomycin (1 Gm. daily, reduced to twice weekly after one month) and PAS (12 Gm. daily) were begun on August 19. There was considerable x-ray improvement and only one subsequent positive sputum culture (one colony on September 17, 1952). The patient did not adjust to sanatorium life, and again at her own request she was discharged on November 18, 1952 (Fig. 4). The patient had her last x-ray and supply of drugs on July 28, 1953 (Fig. 5). Thereafter she could not be located by the public health nurse. During this period she had received approximately 100 Gm. of streptomycin and 4,320 Gm. of PAS.

The patient was admitted to the sanatorium for the third time on October 25, 1954 (Fig. 6). For about seven to eight months prior to admission her condition had deteriorated steadily. She had lost about 25 pounds and had symptoms of severe cough, expectoration, and dyspnea. She had not had an x-ray until one week prior to admission. She was in critical condition with extensive cavitation and infiltration in both lung fields. Streptomycin and isoniazid were begun on October 25. The patient's condition became worse, and she expired on November 2, 1954.

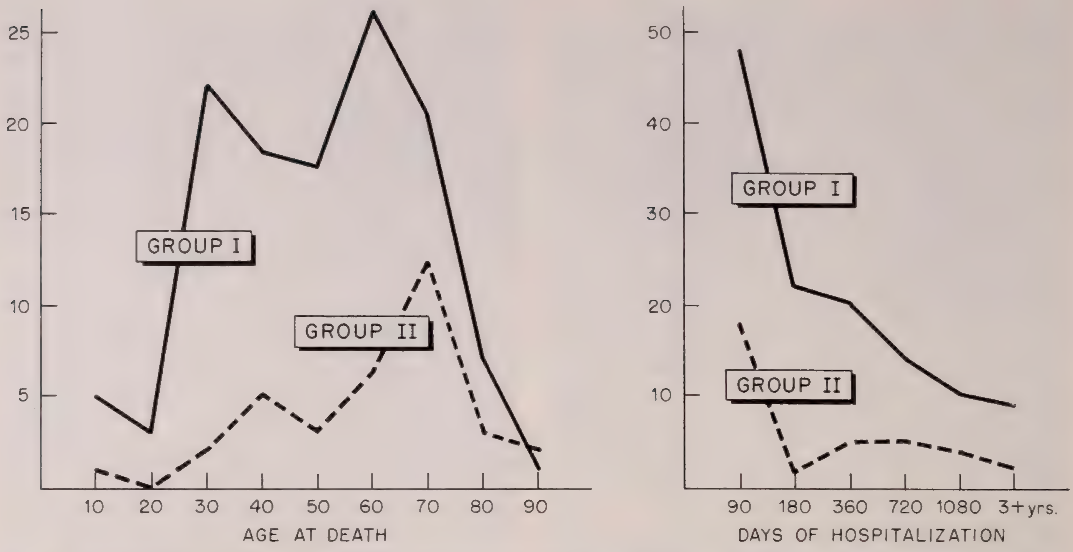

FIG. 8. Age at time of death and number of days hospitalization in Group I (1946–1951) and Group II (1952–1954).

Autopsy examination revealed a classic case of chronic cavitary tuberculosis of the right lung with extensive intrabronchial spread and confluent caseated pneumonia in both lungs (Fig 7). In spite of the extensive disease there was no evidence of laryngitis or gastroenteritis; only an occasional tubercle was noted in the spleen and liver, but all bronchomediastinal lymph nodes showed recent tubercules.

We would also like to remind physicians who are treating patients with even only small cavities that antibiotic therapy is no absolute safeguard against tuberculous arteritis with aneurysm formation and fatal hemorrhage. We have had two of these catastrophes during the past two years.

With the sanatorium population including more and more older people, it was to be expected that a variety of causes of death might be observed, usually afflicting the older age groups. Table II lists these findings, among which the prevalence of cancer is the most impressive.

TABLE II.—CAUSES OF DEATH (OTHER THAN TUBERCULOSIS)

	1946 to 1951	1952 to 1954
Carcinoma of the lung	4	4
Carcinoma of gastrointestinal tract	3	2
Reticulum cell sarcoma of the pelvis	1	0
Hodgkin's disease	1	0
Rhabdomyosarcoma of adrenal	0	1
Myogenic sarcomatosis of the lung secondary to sarcoma of the uterus	0	1
Carcinomatosis of lung from breast cancer	0	1
Cardiovascular disease	2	4
Fungus disease (torula)	2	0
Ruptured peptic ulcer	1	0
Staphylococcic septicemia and chronic bronchiectasia or lobar pneumonia	3	1

We have plotted the curves showing the age at time of death of the patients in both groups, noting that the peak of age incidence has shifted from the fifty-one to sixty-year bracket in Group I to the sixty-one to seventy-year bracket in Group II and fully realizing that the second group is far too small for comparison (Fig. 8). For comparison of similar observations in the future it might be of interest that the curves showing duration of hospital stay are somewhat similar to each other in spite of the apparent change of the entire disease of tuberculosis under the effect of modern treatment.

Summary

A total of 169 postmortem examinations from 1946 through 1954 have been completely analyzed. The most significant changes in the anatomic picture are listed in Table I. This demonstrates particularly the marked reduction of the effects from intrabronchial extension to the larynx and gastrointestinal tract and the almost complete elimination of fatal complications following various types of surgical treatment.

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Clinical Problems in Fluid and Electrolyte Imbalance Emphasizing Iatrogenic Forms

THOMAS F. FRAWLEY, M.D., AND WILLIAM P. NELSON, III, M.D., ALBANY, NEW YORK

(From the Sub-Department of Endocrinology and Metabolism, Albany Medical College, and Endocrine Clinic Albany Hospital, and the Albany Veterans Administration Hospital)

WHILE the unswerving goal of all physicians is alleviation of illness, occasionally by word or action he may unwittingly produce or aggravate sickness. In the psychosomatic sphere iatrogenic heart disease has become relatively common. In the organic disease sphere serious disorders are resulting from the ill-advised use of antibiotics, hormones, sedatives, and stimulants.

An increased interest in electrolyte and fluid metabolism has developed in the last few years. Specific electrolyte and fluid correction programs are sometimes instituted which overshoot or undershoot the desired goal, resulting in undesirable situations clinically. At times severe electrolyte disturbances result from the therapy of a condition having essentially no basic electrolyte disorder; prolonged milk and alkali therapy for ulcer or the use of excessive dosages of vitamin D for arthritis are examples of this situation.

The present paper deals with some of the more common types of fluid and electrolyte disorders which may arise in the course of medical therapy. The disturbed chemical physiology and the clinical manifestations are discussed, and points that may be of help in avoiding the occurrence of these disorders are emphasized.

Disturbances in Water Metabolism

Disturbances in water metabolism will be associated generally with at least minor disturbance in sodium chloride. However, since the primary factor is an alteration in water balance, for simplicity in discussion the sodium chloride abnormality will be disregarded.

Disturbances in water metabolism can be conveniently divided into two main classes: dehydration and overhydration. Each may occur acutely or chronically. With startling rapidity diarrhea and/or vomiting can produce acute dehydration, which may go completely unrecognized. Chronic illness with its attendant dulling of the mental process and unawareness on the part of the patient of dehydration, along with the occasional inability to mobilize the body for the swallowing reflex, can produce a slow chronic dehydration.

Overhydration is relatively uncommon but can at times be produced by overzealous efforts at hydration and by specialized water-loading tests. Chronic overhydration can result from frequent water enemas, particularly in a megacolon situation[1]; recently, two examples of this situation came to the authors' attention.

Water depletion should be readily recognized by the excessive dryness of the mouth, the decrease in urine output with a rising specific gravity, the loss of weight and of normal skin turgor.

Alterations in mental processes may become progressively evident.

Excessive hydration leading to water intoxication should be recognized first and foremost by a

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Presented at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Section on Medicine, May 12, 1955.

TABLE I.—Mechanisms Producing Low-Sodium Syndrome

Dilution of Sodium
Excess water retention, parenteral fluids free of *or* low in sodium
Depletion of Sodium
Skin—sweating
Gastrointestinal—starvation, diarrhea, drainage
Urine—diuretics, salt-wasting nephritis
Other—paracentesis, thoracentesis
Redistribution of Sodium
Hypodermoclysis of glucose, invert sugar, or amino acids

simple observation of the water balances. An excessive introduction of water without a concomitantly high urinary flow in the absence of excessive overt perspiration and sweating should arouse the suspicion of water intoxication. The symptomatology of fatigue, apathy, muscle cramps, and nausea is quite characteristic.

Disturbances in Sodium Metabolism

Deficiencies.—The sodium ion functions to maintain osmotic equilibrium (water balance) between the solutes of the extracellular fluid and solutes contained within the cell. It is intimately associated with the disposition of water. It is not difficult to find numerous examples of sodium deficiency in any large hospital (Table I). Important questions are the following: Was the deficiency recognized? How was it handled? Abnormal losses from the gastrointestinal tract by diarrhea and vomiting and as a result of prolonged aspiration or excessive fistulous discharge of intestinal secretions is common. Abnormal renal losses of the sodium ion occur in such conditions as Addison's disease and salt-losing nephritis.[2] Common etiologic factors in the production of symptomatic sodium deficiency are therapeutic measures which involve energetic mercurial diuresis, severe salt restriction, prolonged exchange resin therapy, repeated paracenteses for ascites, and replacement of fluid losses with solutions which are insufficient in salt content.

The syndrome of salt depletion has certain characteristics which are helpful in recognizing it clinically. Weakness, both subjective and objective, may be present. Headache of a dull type, aggravated by assuming the upright position, is frequent. With the not uncommon fall in blood pressure, lightheadedness, and syncopal sensations may occur. Anorexia, nausea, and vomiting develop later. Interestingly, the complaint of thirst is uncommon unless sought. Abdominal and muscle cramps are variable but may occur. Mental confusion is not rare.

Prophylactically, emphasis should be placed on the recognition of its potential development. Once it has occurred, treatment involves primarily a reduction or elimination of salt-losing therapeutic measures. The salt intake should be liberalized either by dietary measures preferably or, if this is not possible, by intravenous preparations either in normal or hypertonic concentrations.

Excesses.—For practical purposes a high serum sodium usually means a lack of water; the body content of salt is excessive to that of water. Hypernatremia, therefore, is an expression of dehydration, which may occur in renal insufficiency with inability to excrete a concentrated urine, with diabetes insipidus, or in patients too ill to respond to the thirst mechanism. Occasionally, it may also occur in seriously ill patients by the injudicious administration of sodium. Continued water losses of a patient will commonly be found to have been replaced incorrectly by isotonic solutions.

When total body salt and water are both present in excessive but in relatively equivalent amounts, then edema formation is observed without any particular disturbance in the concentration of sodium within that edema fluid. Postoperatively, at a time when sodium is avidly retained by the adrenal sodium-conserving mechanisms, any significant sodium administration may in actuality be excessive and may result in either hypernatremia or edema formation. This iatrogenically produced illness can have serious consequences when cardiac failure and pulmonary edema supervene. Fortunately today the desirability of withholding sodium during the immediate postoperative period is generally well recognized. Isotonic saline is given only in amounts equal to external losses, as from fistulas, vomiting, perspiration, or gastric suction. The remainder of fluid replacement consists of 5 to 10 per cent dextrose and water.

Formerly available adrenal steroid drugs have considerable potentiality for causing retention of sodium; it is not rare that a patient is observed who has been on these drugs for a considerable period of time and who has gained greatly in weight and manifests clinical edema. It is a happy event that today new steroids are becoming available which have all the usual anti-inflammatory and metabolic carbohydrate and protein potency with relatively much more limited electrolyte metabolic activity. However, although these compounds cause little alteration in sodium metabolism, the losses of potassium may be considerable and need to be kept in mind.

Therapeutically hypernatremia almost invariably calls for increased quantities of water regardless of the initial etiology. Edema with normal serum electrolyte determinations generally requires the elimination of administration of the sodium ion by whatever means has been utilized; additionally it may require any of the more energetic appropriate methods for bringing about delivery of the edema fluid, such as digitalization and the use of diuretics.

Potassium Metabolism

Either deficiencies or excesses can present serious and often quite confusing clinical manifestations. Unfortunately, neither the serum concentration nor the electrocardiogram nor any other laboratory tool is necessarily a reliable index as to the status of total body potassium stores. The normal serum value falls between 3.5 and 5.3 mEq. per L.; however, the extracellular content represents only a small percentage of the total, approximately 60 to 80 mEq. The remainder and major proportion of body potassium is located within the body cells. While all extracellular potassium is completely ionized and freely diffusible, intracellular potassium is partially and indeterminately bound to the cellular protoplasmic constituents and, in a practical sense at least, is not freely diffusible.

Deficiencies.—Hypokalemia, a low serum potassium level, occurs under circumstances conducive to negative body potassium balance. The situations in which potassium metabolism may be disturbed sufficiently to produce negative balance require emphasis because of the very disturbing morbidity and occasional mortality which may ensue (Table II).

Excessive loss from the gastrointestinal tract in the presence of restricted intake is probably the most common etiologic factor; such losses may follow excessive vomiting or diarrhea or prolonged gastric or other gastrointestinal suction or fistulas. Rarely potassium loss may occur in severe acute renal disease. In chronic renal disease such a possibility must frequently be entertained since the symptomatology may be quite bizarre and the condition pass unrecognized.

TABLE II.—Potassium Deficiency States Complicating Therapy

1. *Inadequate supply*
    (*a*) Starvation
    (*b*) Parenteral fluids free of potassium
2. *External losses*
    (*a*) Gastrointestinal—Drainage of secretions, vomiting, laxative habit
    (*b*) Urine—mercurial diuretics, renal losses due to parenteral therapy free of potassium, ACTH, cortisone, prednisone
3. *Compartment Shifts*—Parenteral therapy free of potassium, ACTH, cortisone, prednisone, glucose, adrenalin, insulin

Subclinical states of potassium deficiency may exist which are compensated for until the administration of saline or glucose, which increases rather than decreases the potassium deficiency because of the increased renal losses of potassium so induced. This may occur during the therapy of diabetic ketosis, at which time there has also developed a shift of potassium from the extracellular compartment to the intracellular compartment.

Chronic debilitated patients, in general, appear to maintain a somewhat low total body potassium. With the initiation of digitalization for improvement of cardiac failure it has been repeatedly observed that striking arrhythmias sometimes occur which are related to severe potassium deficiency; on administration of potassium the arrhythmia often quickly improves or disappears.[3] Certain of the adrenal steroids have a marked tendency to produce potassium diuresis. Under these circumstances it is important that small amounts of potassium be added to the hormone regimen along with the potassium of the normal diet. Even the new prednisone derivatives may lead to considerable losses of potassium without sodium retention.

The suspicion and detection of potassium deficiency often will rest on history and clinical findings rather than laboratory observations because the latter are variable and confirmatory rather than diagnostic. The laboratory findings include a low serum potassium and abnormal electrocardiograms with low T waves and prolonged Q-T interval. The development of metabolic alkalosis and hypochloremia is suggestive evidence of a coexisting potassium deficiency, and any severe unexplained alkalosis suggested by the finding of a high whole blood or serum carbon dioxide content should alert the physician to the possibility of potassium deficiency. The most common symptoms of such deficiency are weakness, drowsiness, anorexia, nausea, chronic ileus with distention, edema, oliguria, and shallow infrequent respirations.

Deficiencies require potassium administration, preferably by mouth. Occasionally intravenous administration is necessary and may be performed safely if the rules indicated below are carefully observed.

Excesses.—Hyperkalemia, the abnormal elevation in concentration of potassium in the serum, is uncommon as an iatrogenically produced condition. Perhaps this occurs most commonly in the late phases of chronic renal disease, at which time it is important to consider this potentiality. Steps must be taken to eliminate potassium from the diet when indicated; potassium exchange resins have been used with success on occasion.

The increasing tendency to employ intravenous preparations of potassium to correct hypokalemia requires that care be exercised because on rare occasions accidents have occurred and death resulted from this procedure. It must be repeatedly emphasized that potassium must be administered slowly when given by infusion. Whenever oral administration is possible, this is definitely the route of choice. Death from rapid intravenous administration continues to occur, as one of the authors observed within the last few weeks.

A few simple rules will eliminate these unfortunate accidents:

1. Precede the administration of potassium by initiating replacement of water and extracellular electrolytes and other measures which will correct dehydration, hypotension, and reduced renal function.
2. Intravenous potassium should never be prepared in a concentration greater than 80 mEq. per L., and 40 mEq. per L. is a more desirable concentration to use where there is no necessity for water restriction.
3. It should seldom be given more rapidly than 20 mEq. per hour.
4. Its administration should be observed frequently by competent personnel in order that a gross change in the speed of infusion can be remedied immediately.

Calcium Metabolism

In serum the normal concentration of calcium is 5 mEq. per L. (10 mg. per 100 ml.) with a range of 4.5 to 5.5 mEq. per L. (9 to 11 mg. per 100 ml.); 50 to 70 per cent of the calcium is diffusible, and most, although not all, of this is ionized. The nondiffusible calcium is bound to plasma protein. Calcium is absorbed in the gastrointestinal tract under the influence of vitamin D. It is excreted through the urinary system under the indirect influence of parathyroid hormone which has its first action on phosphate diuresis and a second action with regard to mobilization of bone salts. Serum calcium tends to be elevated with increased parathyroid activity and lowered with decreased activity.

In therapeusis high dosages of vitamin D have been utilized in a nonspecific manner in a number of conditions, including rheumatoid arthritis, osteoarthritis, pulmonary and cutaneous tuberculosis, scleroderma, Boeck's sarcoid, hypoparathyroidism, and certain allergic states. Dosages of vitamin D above 50,000 units a day may cause the development of a pseudohyperparathyroid state.* Diffuse metastatic calcifications along with nephrocalcinosis, severe renal damage, and development of progressive uremia can result. The calcium concentration of the serum is elevated, and the concentration of phosphorus may be slightly elevated. The alkaline phosphatase is usually normal. The treatment is the withdrawal of the vitamin D, under which circumstance the renal changes will usually show a slow but definite reversal of the pathologic process, provided the condition has not progressed too far.

The Burnett syndrome[4] resulting from excessive milk and alkali therapy for treatment of peptic ulcer is another serious condition iatrogenically induced. Metastatic soft tissue calcification, along with severe renal insufficiency and azotemia, and a picture of pseudohyperparathyroidism occur. This condition is distinguished from hyperparathyroidism by (1) normal or elevated serum phosphorus, (2) absence of hypercalcuria and hypophosphatemia, (3) lack of skeletal demineralization, and (4) normal serum alkaline phosphatase.

Both vitamin D intoxication and the Burnett syndrome represent examples of alterations which may occur in calcium metabolism secondary to therapy not directly related to disturbances in calcium metabolism. Both conditions are caused unwittingly by the physician. Hypercalcemia should be considered under the circumstances of the above therapy when the following occur: (1) lassitude and weakness, (2) nausea, vomiting, and constipation, (3) polyuria and polydipsia, and (4) the development of renal calculi and nephrocalcinosis.

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* High unitage vitamin D preparations (50,000 units or more): Ertron, Deltalin, Davitin, Dalsol, and Darthronal.

Conclusions

It is evident from the foregoing that it is not difficult to be led astray in the management of fluid and electrolyte metabolism. Iatrogenic morbidity and even mortality is unfortunately not a terribly rare phenomenon. Probably the most common source of iatrogenic electrolyte difficulty occurs in the therapy of edema resulting in undue deficiency of sodium. However, deficiencies or excesses can occur with respect to water, potassium, and calcium metabolism, too, with the greatest of ease on occasion.

The following simple rules can at least help in avoiding iatrogenic illnesses of this type:

1. *Alertness* to the potentiality for such an illness is probably the first rule. The physician must be equipped with knowledge as to when to suspect the possibility of such an abnormality.

2. The physician must be aware of the most common *symptoms*. It should be remembered that the complaints are generally quite diffuse. They commonly involve the central nervous system and the muscular system, manifesting themselves as fatigue, weakness, anorexia, lethargy, and often paresthesias.

3. *Signs* commonly include apathy, somnolence, nausea, perhaps vomiting, muscle flaccidity, and disturbed neurologic reflexes, either exaggerated or depressed.

4. Routine *laboratory examinations* can be an important aid. Hematocrit and hemoglobin determinations may indicate hemoconcentration with its concomitantly reduced blood volume. The routine urinalysis may indicate an unusually high or low specific gravity, suggesting dehydration or excessive hydration. Elaborate laboratory electrolyte analyses, of course, will be a help in further defining specifically the abnormalities and their degree of disturbance. Finally the electrocardiogram can be an important help in evaluating a suspected potassium or calcium abnormality.

Summary

1. The relative ease with which abnormalities in fluid and electrolyte metabolism can be produced by the unsuspecting physician without his knowledge has been indicated.

2. Rules for the prevention of these accidents have been suggested including the necessity for knowledge concerning the possibility of development of an iatrogenic electrolyte disturbance.

3. It is suggested that the physician holds a sacred trust to know clearly, exactly, and completely what he is doing in the use of his therapeutic armamentarium.

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Discussion

George F. Koepf, M.D., *Buffalo.*—This is a very difficult paper to discuss, as is any paper in which the author talks about mistakes and errors of judgment. Most of the situations encountered by Drs. Frawley and Nelson in Albany occur frequently in Buffalo and, I am sure, elsewhere in this country. Since the advent of flame photometry and the detection of electrolyte disturbances as a cause of heretofore poorly understood disabilities in both medical and surgical cases, the frequency of these iatrogenic situations has lessened. The importance of this instrument cannot be re-emphasized too frequently.

Rather than to attempt to re-emphasize the well-outlined experiences of the authors, it would perhaps be more beneficial to all if an additional situation, which in our experience is most difficult to prevent, were discussed. This is the occurrence of vitamin D intoxication in patients with hypoparathyroidism who are receiving vitamin D or closely related substances for the control of their hypoparathyroidism. These patients may be well controlled clinically for many years, and all of us are lulled into a false sense of security until they are incapacitated by an unrelated disease. If this unrelated illness is severe enough to cause a change in their activities and perhaps even to drive them to bed, the calcium stored in the bones is very apt to be excreted rapidly into the serum, and metastatic calcification with all of its local signs may occur. We have actually seen one kidney destroyed by this situation in one of our hypoparathyroid patients. In this patient the serum calcium, which had for years been under good control between 8 to 10 mg. per 100 cc., rose to 17 after one week of bed rest.

Ectopic Pregnancy

SCHUYLER G. KOHL, M.D., VINCENT TRICOMI, M.D.,* AND ALVIN M. SIEGLER, M.D., BROOKLYN, NEW YORK

(*From the Department of Obstetrics and Gynecology of the State University of New York College of Medicine at New York City*)

In 1859 Meigs[1] in his discussion of ectopic pregnancy wrote

> . . . the only consolation for you, under such circumstances, consists in your ability clearly to point out the nature of the causes, and predict the verification of your decision after the death of the victim, which may be pronounced unavoidable. We could make an incision in the abdomen, and clear away the coagula and the serum. But who is he bold enough to do so? Who is he astute enough to discriminate betwixt all the possible causes of such phenomena with so much clearness as to warrant him in the performance of a gastrotomy for fallopian pregnancy? There is no such wise and bold surgeon; and, therefore, nothing remains for us but to extend all the relief within the narrow boundaries of our power, and calmly await and submit to the inevitable end.

Since operation became the accepted treatment, the literature on this complication of pregnancy has increased voluminously. There have been few studies, however, which have included more than 400 oviductal pregnancies treated in one institution.

The diagnosis is frequently obscure, and the consequences of error may be disastrous. In the fourteen years from 1937 to 1950 in Brooklyn, New York, there were 64 maternal deaths associated with early ectopic gestation.[2] That is, slightly fewer than five women lost their lives each year as a result of this complication of pregnancy. The diagnosis was incorrect in 30 of these cases. In 18 other patients, although tubal pregnancy was suspected, therapy was delayed sufficiently to cause death.

Material and Methods

An analysis was made of 454 consecutive early ectopic pregnancies treated at the Kings County Hospital during the period January 1, 1942, through December 31, 1951. All diagnoses were proved by operation or autopsy and tissue study. The chart of each patient was reviewed, and certain data were entered on a "code sheet" designed especially for the project. Subsequently the coded data were transferred to punch cards and tabulated by machine sorting. Advanced extrauterine pregnancies over twenty-eight weeks gestation and abdominal pregnancies were not included. No patient on whom a preoperative diagnosis of ectopic gestation was made was included unless the diagnosis was confirmed.

TABLE I.—Frequency of Early Tubal Pregnancy by Race

	White	Negro	Total
Number of cases	141	313	454
Deaths	1	5	6

Results

The distribution of patients by race is shown in Table I.

Sixty-nine per cent of the patients were Negro, and 31 per cent were white. The death rate for white patients was 0.7 per cent and for Negro patients 1.5 per cent, a total for the entire study of 1.3 per cent.

The incidence of ectopic gestation increased gradually during the ten years.

Tables II and III demonstrate this rising incidence. On the basis of both obstetric deliveries and gynecologic admissions, there has been approximately a twofold increase in the incidence of eccyesis during the period studied.

Although the Negro population of the clinic increased in the ten-year period, the racial variation alone did not account for the observed rise in frequency. The figure for 1953 (Table III) indicates that the trend is continuing.

The median age was 27.6 years for the Negro patients and 30.2 years for the white patients.

Sixty-nine per cent of the Negro patients were

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* By invitation.

Presented at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Section on Obstetrics and Gynecology, May 13, 1955.

TABLE II.—FREQUENCY OF TUBAL PREGNANCY BY YEAR AND TYPE OF HOSPITAL ADMISSION

Year	Number Ectopic	Per Cent Obstetric	Per Cent Gynecologic	Per Cent Total
1942	30	0.9	0.9	0.4
1943	35	1.1	1.3	0.6
1944	28	1.1	1.1	0.6
1945	23	0.8	0.9	0.4
1946	43	1.1	1.3	0.6
1947	57	1.5	1.5	0.7
1948	52	1.3	1.5	0.7
1949	60	1.5	1.7	0.8
1950	63	1.7	1.7	0.8
1951	63	1.5	2.0	0.9
TOTAL	454	1.3	1.4	0.7

TABLE III.—RATIO OF ECTOPIC PREGNANCY TO OBSTETRIC DELIVERIES

Year	Number Ectopic	Ratio
1942	30	1:118
1943	35	1:90
1944	28	1:92
1945	23	1:130
1946	43	1:89
1947	57	1:67
1948	52	1:77
1949	60	1:68
1950	63	1:61
1951	63	1:66
1953	92	1:49

TABLE IV.—PERCENTAGE (CUMULATIVE) DISTRIBUTION OF ECTOPIC PREGNANCY BY AGE AND RACE

Age	White	Negro
Less than 15 years	0.0	0.3
15 to 19 years	2.8	3.5
20 to 24 years	17.0	30.1
25 to 29 years	48.9	69.3
30 to 34 years	83.7	88.8
35 to 39 years	98.6	98.1
40 to 44 years	100.0	100.0

under age thirty, while only 49 per cent of the white patients were of this age (Table IV).

At least one previous pregnancy was recorded for 80 per cent of the patients. Of these 6.3 per cent had previously experienced an ectopic gestation (Table V).

The frequency of previous ectopic pregnancy was twice as great in the white patients as in the Negro patients. This difference is not statistically significant.

Further investigation into the past obstetric history of the patients revealed that almost 35 per cent of the women had had at least one abortion prior to the present ectopic gestation. Of the 838 pregnancies previously experienced by these patients, 187 (22.2 per cent) had terminated as abortions (Table VI). An abortion rate of such magnitude is considerably greater than that exhibited by the obstetric patients (12.5 per cent). However, it is similar to that exhibited by all gynecologic patients (23 per cent).

TABLE V.—PERCENTAGE FREQUENCY OF PREVIOUS ECTOPIC GESTATION

	White	Negro	Total
Number of patients previously pregnant	118	245	363
Previous ectopic	9.3	4.9	6.3
No previous ectopic	90.7	95.1	93.6

TABLE VI.—PERCENTAGE FREQUENCY OF PREVIOUS ABORTIONS

Number of Previous Abortions	Per Cent
0	66.1
1	23.3
2	6.1
3	2.8
4	0.8
5	0.6
6	0.3

TABLE VII.—PERCENTAGE DISTRIBUTION OF ECTOPIC PREGNANCY BY ETIOLOGY

Etiology	White	Negro
Salpingitis	29.1	38.2
Previous appendectomy	9.2	0.6
Previous laparotomy	10.0	3.2
Fibromyomas	0.0	3.2
Other causes	2.1	0.6
None demonstrated	49.6	54.2

TABLE VIII.—PERCENTAGE FREQUENCY OF GROSS TUBAL PATHOLOGY

Pathologic State	Per Cent
Tubal rupture	80.6
Chronic tubal pregnancy	8.6
Tubal abortion	5.4
Tube intact, recent	5.4

It was impossible to assign a definite etiologic factor in 50 per cent of the patients (Table VII). Salpingitis was present in 29 per cent of the white patients and in 38 per cent of the Negro patients. Other factors seemed to be of negligible frequency.

The gross pathologic state of the oviduct was observed at operation or autopsy (two patients died unoperated). These findings are detailed in Table VIII.

TABLE IX.—PERCENTAGE FREQUENCY OF TUBAL PREGNANCY BY SIDE INVOLVED

Location	Per Cent
Right side	57.4
Left side	41.5
Not recorded	1.1

TABLE X.—PERCENTAGE FREQUENCY OF LOCATION OF ECTOPIC GESTATION

Portion of Oviduct	Per Cent
Interstitial	4.2
Isthmic	17.8
Ampulla	33.6
Infundibular	25.2
Not stated	19.2

TABLE XI.—PERCENTAGE FREQUENCY OF AMENORRHEA IN ECTOPIC GESTATION

Duration	Per Cent	Cumulative Per Cent
None	4.9	4.9
1 to 2 weeks	3.3	8.2
3 to 4 weeks	10.0	18.2
5 to 6 weeks	17.6	35.2
7 to 8 weeks	30.2	66.0
9 to 10 weeks	12.7	78.1
11 to 12 weeks	12.3	90.4
13 to 14 weeks	3.1	93.5
15 to 16 weeks	3.6	97.1
17 to 18 weeks	1.1	98.2
18 weeks or more	1.8	100.0

TABLE XII.—PERCENTAGE DISTRIBUTION OF ECTOPIC PREGNANCY BY VAGINAL BLEEDING

Amount	Per Cent
None	26.8
Spotting	26.0
Vaginal bleeding	47.2

Eighty-one per cent of the patients suffered rupture of the fallopian tube prior to operative interference.

The predominance of right-sided ectopic gestation is not peculiar to this study. It has been reported by several authors.[3-7]

The incidence of right-sided ectopic gestation (57.4 per cent) was significantly greater than 50 per cent (Table IX).

Most authors agree with the observation that the ampullary portion of the tube was most frequently involved.[3,4,6,7] However, this was observed less frequently than the 91 per cent reported by Word[7] or the 61 per cent indicated by MacFarlane[6] (Table X).

Symptoms

The symptoms most frequently present were amenorrhea and pain. Over 95 per cent of the patients had missed at least one menstrual period at the time they presented themselves for treatment (Table XI).

TABLE XIII.—PERCENTAGE FREQUENCY OF PAIN IN ECTOPIC GESTATION

Type of Pain	Percentage
Present	96.7
Severe	66.5
Sudden	68.8
Crampy	61.5
Shoulder pain	17.0
Right	9.5
Left	2.4
Bilateral	5.1

TABLE XIV.—PERCENTAGE FREQUENCY OF FAINTING IN ECTOPIC GESTATION

Fainting	Per Cent
None	66.7
Once	22.9
More often	10.4

TABLE XV.—PERCENTAGE FREQUENCY OF INITIAL SYMPTOMS IN ECTOPIC GESTATION

Symptoms	Per Cent
None	0.9
Pain	45.8
Bleeding	50.2
Fainting	1.8
Pregnancy symptoms	1.3

Crawford and Hutchinson[8] report amenorrhea in only 75 per cent of their series.

Only 27 per cent of the patients had no spotting or other vaginal bleeding (Table XII).

"Spotting" is the type of vaginal bleeding thought to be typical of ectopic pregnancy. This was present only 26 per cent of the time. Vaginal bleeding of varying degrees was recorded for almost one half of the patients.

Pain, which was present in 97 per cent of the entire group, was severe in only 67 per cent (Table XIII).

Shoulder pain was reported only 17 per cent of the time. Pain was more frequent in the right shoulder than in the left.

Fainting was experienced by one third of the patients (Table XIV).

The initial symptom observed is tabulated in Table XV.

Pain or bleeding occur as the initial symptom with equal frequency.

The classic symptom complex of amenorrhea, bleeding, pain, and fainting was present in only one fifth of the Negro patients and one third of the white patients. Thus it would appear that this symptom complex is of limited diagnostic value. On the other hand, two thirds of the patients exhibited amenorrhea, vaginal bleeding,

TABLE XVI.—Percentage Distribution of Ectopic Gestation by Admission Temperature

Temperature	Per Cent
98 to 99.4 F.	67.7
99.5 to 101.4 F.	29.2
101.5 to 102.4 F.	1.1
102.5 F. or higher	0.0

TABLE XVII.—Percentage Distribution of Ectopic Gestation by Admission Hemoglobin

Hemoglobin	Per Cent
Less than 5 Gm.	3.1
5.0 to 5.9	1.5
6.0 to 6.9	3.7
7.0 to 7.9	13.0
8.0 to 8.9	10.8
9.0 to 9.9	17.2
10.0 to 10.9	18.7
11.0 or more	28.6
Unknown	3.4

and pain. Of the patients having this triad, the initial symptom was bleeding in two thirds of the cases. Pain was the initial symptom in less than one third.

The following physical findings were observed as follows: abdominal tenderness 76 per cent, tenderness of cervix on motion 62 per cent, and pelvic mass 46 per cent. Shock was present in 30 per cent of the patients; this frequency parallels that reported by several observers. In contrast to the frequency with which Falls[9] reported jaundice to be present, it occurred in this study only 1.8 per cent of the time. Even though 81 per cent of the patients suffered tubal rupture, Cullen's sign was observed in no patient.

Laboratory Data on Admission

This analysis substantiates the reports of Crawford and Hutchinson[8] and Beacham[3,4] that hyperpyrexia is not a prominent finding in ectopic gestation. In fact, only 1 per cent of the patients had an elevation of temperature in excess of 101.5 F. (Table XVI).

No patient had a temperature in excess of 103.5 F.

Hemoglobin determinations were made on admission to the hospital for practically all patients.

The hemoglobin was less than 9 Gm. in 35 per cent of the patients (Table XVII). The obstetric patients in the clinic, on the other hand, had such low hemoglobin determinations only one third as often. Repeat hemoglobin determinations prior to operation were performed on 28 per cent of the patients. Over half (54 per cent) of the patients suffered appreciable decreases, and 28 per cent of the repeat determinations were within 1 Gm. of the original determination.

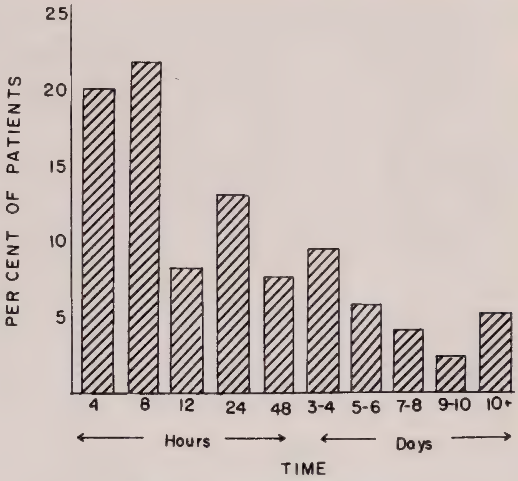

Fig. 1. Preoperative delay.

TABLE XVIII.—Operations Performed in Treating Ectopic Gestation

Operation	Number	Per Cent
Unilateral salpingectomy	196	43.0
Unilateral salpingectomy and oophorectomy	174	38.3
Cornual resection	45	10.0
Salpingectomy and appendectomy	3	0.7
Supracervical hysterectomy	18	4.0
Other operations	16	3.5
Died unoperated	2	0.5
Total	454	100.0

The sedimentation rate was recorded for 63 per cent of the patients. Our experience was similar to that of most authors in that this determination was of little value.[5,7,10,11]

The usual diagnostic procedures of pregnancy tests, uterine curettage, culdoscopy, cul-de-sac puncture, and posterior culpotomy were performed so infrequently that no statements can be made as to their place in aiding diagnosis.

Preoperative Diagnosis

The correct preoperative diagnosis was made in 89 per cent of the cases. It should be remembered that this study is concerned only with patients with a proved diagnosis of ectopic pregnancy. The most common error in diagnosis was ovarian cyst (6 per cent). The remaining 5 per cent of missed diagnoses were equally divided among pelvic inflammatory disease, myomata uteri, appendicitis, and several miscellaneous diagnoses.

Preoperative Delay

Twenty per cent of the patients were operated on within four hours of admission to the hospital, 44 per cent within eight hours, 52 per cent within twelve hours, and 65 per cent within twenty-four hours of admission to the hospital (Fig. 1). In spite of the apparent rapidity with which surgery was performed, 17 per cent of the patients were not operated on for more than three days after admission to the hospital.

The operations performed in the treatment of these patients are detailed in Table XVIII.

It was possible to conserve ovarian function in almost all patients. Appendectomy was associated with definitive surgery in only three patients. Seventy-eight per cent of the patients received varying amounts of blood. Thirty-nine per cent of the patients received 1,000 cc. or more of whole blood.

Postoperative Morbidity and Mortality

In accordance with the definition of the American Committee on Maternal Welfare, 52 per cent of the patients were morbid. In addition, 22 per cent of them had "one day fever." Thus, a total of 74 per cent of the patients had postoperative elevations of temperature in excess of 100.4 F. It was not possible to ascertain from examination of the hospital charts the exact cause of the temperature elevation in the majority of patients.

Thirty-seven per cent of the patients spent nine or more days in the hospital following operation. Only 8 per cent of the women treated required more than a two-week postoperative stay. When hospital stay is tabulated in three periods, 1942–1944, 1945–1947, and 1948–1951, there is a marked increase in early discharge. During the first period the median postoperative stay was 11.4 days, while in the last period it was 6.9 days.

The total mortality in the series was six patients, or 1.3 per cent. Four of them died of hemorrhage; two were unoperated. One death was attributed to acute pulmonary edema, and the sixth death was a result of intestinal destruction and pulmonary embolus.

Comment

The increase in incidence of ectopic gestation observed over the period of the study may be due, in part, to the effect of chemotherapeutic and antibiotic agents. Perhaps partial tubal patency is maintained or renewed when pelvic inflammatory disease is treated with these drugs. Prior to the time of this therapeutic regimen it is perhaps possible that more often oviducts so infected became totally occluded. Tubal dysfunction or peritubal adhesions may also be sequelae in cases of salpingitis. These latter states may enhance the possibility of an oviductal pregnancy.

The other factor which may be partially responsible for the observed increase in incidence of ectopic gestation is the increase in the Negro population of the hospital. Anderson[12] noted that the incidence of ectopic pregnancy was 2.3 times greater in the Negro population of Baltimore than it was in the white population. In this study, however, while the incidence of ectopic gestation has increased twofold, the number of Negro patients treated has increased from 45 per cent to 61 per cent. For the increase in Negro population alone to have been responsible for the increased incidence, it would have been necessary for the Negro population cared for on the gynecologic service to have increased from 45 per cent to 90 per cent.

The ratio of eccyesis to total deliveries in 1950 and 1951, 1:61 and 1:66, is considerably higher than that reported by other investigators.[3,4,6,11–14] Anderson[12] reported an incidence of 1:160, and Beacham[3,4] noted one ectopic pregnancy in 126 obstetric deliveries. The observed incidence in the last two years of this study is approximately twice as frequent as in Beacham's.

Salpingitis was the most frequent known cause of ectopic gestation in this series. It is strongly suspected that had more detailed study of the fallopian tube been made in the laboratory and had the fallopian tube been examined in areas at a considerable distance from the implantation site, the presence of an inflammatory process would have been demonstrated more frequently.

The fact that 6.3 per cent of the patients in this series were experiencing a second ectopic gestation does not mean that the recurrence rate is of such magnitude. In order to determine this rate for oviductal pregnancy, it would be necessary to follow the entire reproductive careers of a group of women after an initial tubal gestation.[5]

The analysis of the signs, symptoms, and laboratory data found in patients with ectopic gestation emphasized the difficulty of establishing a specific clinical pattern characteristic of this condition. The physical findings alone will be of little assistance in differentiating tubal pregnancy from pelvic inflammatory disease, abortion, or ovarian cyst.

The accuracy of diagnosis achieved in this study may be very misleading because the patients studied had proved cases of ectopic gestation. There is a two-way approach to this problem. One is the accuracy with which the diagnosis is made prior to operation, and the other is to determine what erroneous diagnoses are made in the presence of ectopic gestation. Our method of keeping records prior to 1952 does not permit the former type of study.

Pregnancy tests are of little value in establishing the diagnosis. The tests will only determine whether or not functioning chorionic tissue is present. Pregnancy is usually apparent from the history and physical signs. No information is gained in regard to the location of the gestation. Cul-de-sac puncture and posterior culpotomy are not without danger. When the proper cavity is entered, these procedures merely indicate the presence or absence of blood. As recently reported by Bobrow and Winkelstein,[15] they are of limited diagnostic value (55 per cent correct).

Culdoscopy may be of considerable value in isolated cases which are diagnostic problems. In the presence of intraperitoneal hemorrhage, visualization of the oviducts may be obscured. It is not always possible to enter the cul-de-sac with the culdoscope.

The consequences being what they are, it is better to operate in the absence of ectopic gestation than to prolong the preoperative period unduly.

Early operation combined with adequate blood replacement is the method of treatment to be recommended in all cases of ectopic gestation.[13] Shock is no contraindication to surgery. Shock may be treated during the operation with adequate blood replacement. When necessary, intra-arterial transfusion may be employed.

Summary

1. A total of 454 consecutive early ectopic pregnancies which occurred from January 1, 1942, through December 31, 1951, are reported.

2. The incidence of tubal pregnancy in 1951 was twice as great as in 1942.

3. Previous tubal pregnancy occurred in 6.4 per cent of the patients.

4. The triad of amenorrhea, vaginal bleeding, and abdominal pain was present in two thirds of the patients.

5. Only 1 per cent of the patients had an elevation of temperature in excess of 101.5 F. No patient had an elevation of admission temperature in excess of 103.5 F.

6. The mortality was 1.3 per cent.

7. The recommended therapy is immediate operation and adequate blood replacement.

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Myxoma of the Heart Complicated by Bloodstream Infection by Staphylococcus Aureus and Candida Parapsilosis

HERMAN J. DICK, M.D., AND EDWARD W. MULLIN, M.D., SYRACUSE, NEW YORK

(*From St. Joseph's Hospital*)

Myxoma of the heart is a rare tumor,[1-6] the origin of which has been a matter of debate for many years. In recent reviews of tumors of the heart, Prichard[1] and Raeburn[6] present arguments for and against a true neoplastic origin and contend that the preponderance of observational evidence is in favor of a neoplastic origin rather than from auricular thrombi. As complications of these tumors, embolization to the brain, lungs, aorta, renal arteries, and extremities has been reported. Two cases have been reported with signs of subacute bacterial endocarditis, i.e., peripheral embolic manifestations, low-grade fever, changing heart murmurs, but with sterile blood cultures.[1] It is our purpose to report the following case with the unusual features of bacteremia complicating an undiagnosed myxoma of the heart and, subsequent to cure of the bacteremia with antibiotic therapy, lung and bloodstream infections with an uncommon species of fungus, Candida parapsilosis.

Among prominent complications of antibiotic therapy is the development of localized or generalized infections by various fungi, presumably saprophytic. Of these, infections with C. albicans are most common, and it has been thought that this species of Candida is the only one possibly pathogenic since it is the only one proved to be pathogenic for animals. A recent study on identification of 100 yeastlike fungi isolated from children shows an increase from zero in 1940 to 2.5 per cent of total cultures in 1951, of which 74 per cent were C. albicans. The remainder were other species of Candida of which 6 per cent were parapsilosis. In this series three were isolated from the nose and throat, one from catheterized urine, one from the bronchi, and one from the vagina. In another recent series increase in appearance of C. parapsilosis was noted,[7] although C. albicans was the most important species.

The most frequently reported site of fatal moniliasis is in the bronchopulmonary system.[8] There are a few scattered reports on monilial endocarditis and myocarditis due to C. albicans[9-13] and other fungi,[14] usually as part of a generalized infection. Most of these reports have implicated prolonged treatment with antibiotics in the pathogenesis of these infections, either on the basis that most other organisms disappear or that the antibiotics increase the pathogenicity of fungi. Mycotic endocarditis due to C. parapsilosis has also been reported in heroin addicts,[12] which suggests another portal of entry, the bloodstream, and other predisposing factors, such as debility and avitaminosis.[12,15,16]

Case Report

Mr. J. W. S., age thirty-nine, was first admitted on September 5, 1951, with the history of a sudden onset of loss of speech and right hemiplegia. Physical findings at this time confirmed the history. Laboratory and x-ray examinations were within normal limits. A bilateral angiogram was performed, and an obstruction, apparently a thrombus, was found in the left internal carotid artery. The patient gradually regained his speech and most of the function of the right leg, but use of the right arm did not return. He was again admitted on May 10, 1952, because of a grand mal seizure during which he sustained a fracture of the outer third of the right clavicle. This was reduced, and the patient returned home. The third admission was on March 24, 1953. In the interim he had had several grand mal seizures and, for the six weeks before admission, a constant fever, for which he had had various antibiotics without effect.

On admission temperature was 102.8 F., pulse 108, respirations 20, and blood pressure 110/70. Essential physical findings were a grade 2 systolic murmur at the apex with a reduplicated second sound and

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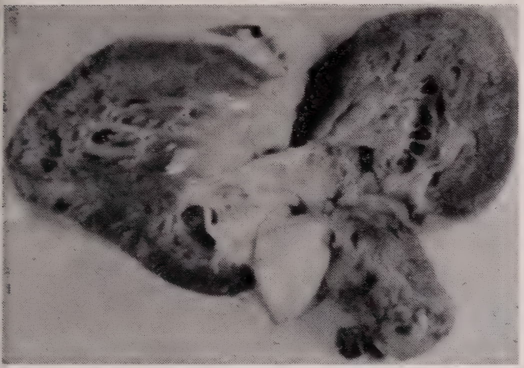

FIG. 1. Gross photograph of the heart showing myxoma in the left auricle.

TABLE I.—CULTURES TAKEN DURING THIRD ADMISSION

Date	Type of Culture	Organisms
Sept. 25	Blood	No growth
30	Blood	Yeast identified as C. parapsilosis
Oct. 1	Blood	No growth
2	Blood	No growth
3	Blood	No growth
5	Spinal fluid	No growth
7	Blood	No growth
8	Blood	C. parapsilosis
12	Blood	C. parapsilosis
Nov. 11	Blood	C. parapsilosis
	Urine	Coliform and Proteus
13	Blood	C. parapsilosis
Dec. 7	Blood	C. parapsilosis
8	Blood	C. parapsilosis
10	Blood	C. parapsilosis
12	Urine	Proteus
15	Urine	Proteus
Jan. 8	Decubitus ulcer	Proteus and Pyocyaneus

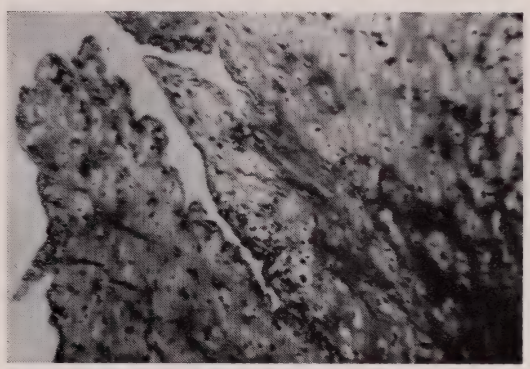

FIG. 2. Photomicrograph of myxoma. (*Hematoxylin-eosin stain*)

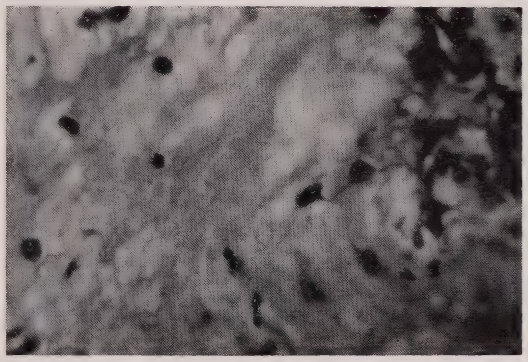

FIG. 3. Photomicrograph of myxoma showing stellate cells in myxoid stream. (*Hematoxylin-eosin stain*)

fine rales at the bases of both lungs. A blood culture taken on admission yielded hemolytic Staphylococcus aureus which was insensitive to penicillin, moderately sensitive to streptomycin, and markedly sensitive to erythromycin. Blood culture taken on the following four days yielded hemolytic Staph. aureus. The patient was treated with 200 mg. erythromycin every four hours for three days, and this was later increased to 400 mg. every four hours. Examination of the spinal fluid and urine as well as x-ray examination of the skull, left shoulder, mandible, and chest were essentially negative. On April 20 streptomycin, 0.5 Gm. every four hours, was started, and erythromycin was continued. The patient also received vitamin B_{12} and Mol-iron during his stay in the hospital. From March 25 to June 22, 15 blood cultures were negative, and the patient was discharged improved.

He was readmitted for the last time on September 24, 1953. Two weeks before admission fever had recurred, and he had gone steadily downhill. On admission temperature was 101 F., pulse 108, respirations 20, and blood pressure 100/68. Purpuric spots were noted on the dorsum of the feet, and there was a fine, diffuse rash over the chest and abdomen which blanched on pressure. Examination of the heart and lungs was negative. On September 26 a few petechiae were noted on the conjunctival sac; the spleen was palpable, and inguinal adenopathy was noted. A blood culture taken on admission yielded hemolytic Staph. aureus. The cultures taken after admission are shown in Table I.

During this admission a grade 2 presystolic murmur was heard. The patient gradually became more anemic but never developed a leukocytosis. Red cells were found constantly in the urine. The patient continued steadily downhill and died on January 20, 1954.

PATHOLOGIC REPORT.—Autopsy was performed one and one-half hours after death. The essential findings were as follows:

Pericardial cavity: The pericardial cavity contained 100 cc. of cloudy fluid. Culture yielded no growth.

Heart: Weight was 320 Gm. Mitral valve was nodular with thickened and fused chordae tendineae. There was a myxoma of the left auricle (Figs. 1, 2, and 3).[2,4,5] Culture of blood from the left side of the heart yielded C. parapsilosis.

Lungs: Right weighed 520 Gm., and left weighed

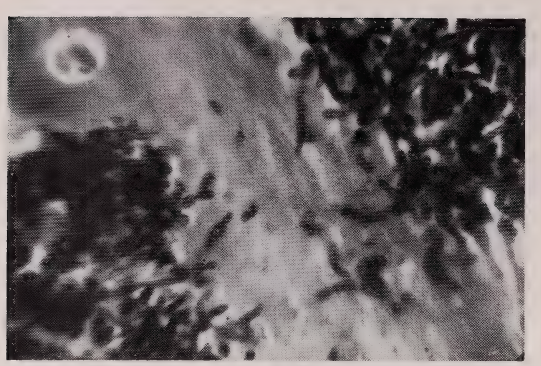

FIG. 4. Photomicrograph of C. parapsilosis on surface of myxoma. (*Hotchkiss-McManus stain*)

520 Gm. with edema of both. There were confluent abscesses of the left lung. Culture yielded no growth.

Spleen: Weight was 330 Gm. A single sterile infarct[1] was present.

Kidneys: Right kidney weighed 220 Gm., left 180 Gm. Mild chronic pyelonephritis was present.

Brain: The brain weighed 1,450 Gm. There was a large infarct of the left cerebrum and small infarcts of the right cerebrum.[1]

Microscopically, fungi were only found on the surface of the myxoma in the left auricle and a few in abscesses in the lungs. The structures found on the myxoma were typical (Fig. 4). Those found in the lungs were questionable.

Comment

This case represents a myxoma of the heart complicated by bacterial and monilial infection of the bloodstream. Apparently the first illness of the patient in September, 1951, represented infarction by embolism from the myxoma, and his third and fourth admissions in March and September, 1953, may have represented bacterial infection at the same site.[17] The superinfection with C. parapsilosis occurred at the fourth admission, the route being through the bloodstream or through the bronchopulmonary system. The site of major growth in the superinfection was the myxoma. Since we have been able to find no previous report of the isolation of the species of fungus from the bloodstream except in heroin addicts, we suggest that its persistence is due to special factors, i.e., the presence of a relatively avascular tumor, antecedent antibiotic therapy, and debility.

Neither have we been able to find any reports of superimposed infections of a myxoma in this location. No portal of entry was found for the original bacteremia,[17] and at the autopsy no evident focus was found. The apparent focus for entry of the fungus was the lung where suggestive P.A.S.-positive structures were found, but cultures were negative.

The antemortem diagnosis of myxoma of the heart is notoriously difficult. These tumors have often been associated with signs of mitral stenosis, although only one case reported had a definite history of rheumatic fever. Changing murmurs and arterial embolization may be suggestive.[18] Relentless cardiac failure and lack of response to digitalis are common findings. Angiocardiography has been suggested, and pneumopericardiography once demonstrated a myxoma.[19]

Resection of the tumor might be feasible in the present status of cardiac surgery and could result in cure because these tumors rarely metastasize.[5,18]

Summary and Conclusion

1. A case of myxoma complicated by acute bacteremia is presented.
2. This bacteremia was due to Staph. aureus and apparently was cured.
3. Two months after apparent cure the patient was readmitted with a recurrence complicated by bloodstream infection with C. parapsilosis, apparently as a result of long-term antibiotic therapy, debility, and poorly vascular tumor.
4. The secondary infection proved fatal, and an autopsy revealed a myxoma of the left auricle on which large numbers of fungi were found. Cultures at the autopsy were negative except for blood culture of the heart.

The authors gratefully acknowledge the technical assistance of Onnely Cohen, B.S., M.T. (American Society of Clinical Pathologists), and Monica Raymond, R.T. (Canada).

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Discussion

James W. Jordon, M.D., *Buffalo.*—Drs. Dick and Mullin are to be congratulated for their presentation of a case of generalized bloodstream infection with Candida parapsilosis following antibiotic therapy.

Candida infections, chiefly C. albicans, have been known to the dermatologists for years. This is primarily because of the predilection of the organism to involve the skin, mucous membranes, and cutaneous appendages. This organism has been frequently found in moderate number in the saliva and in the stool and from the skin in the absence of a disease state. It has also been found not infrequently in large numbers complicating such diseases as pulmonary tuberculosis, carcinoma, and other primary disease states.

Prior to the onset of the use of broad-spectrum antibiotics, occasional proved cases of bronchopulmonary and disseminated moniliasis were found. C. albicans is the only member of the Candida genera generally accepted as being pathogenic since it is the only one which will produce disease in laboratory animals. However, C. parapsilosis (C. parakarusei) has been reported to have produced endocarditis in four heroin addicts who used the intravenous technic for administration of the drug. Hence, this organism seems to have some affinity for endocardial tissues. In the authors' case it was isolated by blood cultures and was present on the surface of a myxomatous mass present in the left auricle and possibly in lung abcesses.

In their summary and conclusions the authors state that the bloodstream infection with C. parapsilosis resulted from long-term use of antibiotics, and aside from the importance of recording a bloodstream infection caused by a fungus which has rarely been found pathogenic, I believe that the consideration of the part played by the antibiotic in the development of this infection is of the utmost importance. Since the introduction of broad-spectrum antibiotics a great many reports have appeared on the developments of various clinical syndromes due to fungi previously regarded as of low pathogenicity or nonpathogenic. Most of these have been C. albicans infections, some which have been disseminated and fatal; disseminated Aspergillus infections also have occurred. A marked increase in Candida in the stool and in the saliva of patients on broad-spectrum antibiotics has been repeatedly observed. There have been numerous instances of Candida infection of the skin, of vaginal and oral mucosa, and intestinal, bronchial pulmonary, and other systems. Various explanations have been given for this, among them that the killing of susceptible organisms by the antibiotic permits the overgrowth of nonsensitive organisms and that the antibiotic in some way stimulates the growth of such organisms as C. albicans. Whatever the mechanism, the fact is clear that there has been a great increase of incidence of Candida infections since the introduction of broad-spectrum antibiotics.

Clinicians, therefore, should be warned against the indiscriminate use of broad-spectrum antibiotics in the treatment of minor, unimportant infections since the complications due to the growth of nonsensitive organisms may be much more serious than the original disease.

Recent introduction of an antibiotic which inhibits the growth or kills Candida may be an important discovery in the prevention of moniliasis following therapy with regular antibiotics.

Intravenous Cholangiography: Preliminary Report

Although intravenous cholecystography was almost completely abandoned after the introduction of certain oral contrast media, these latter left something to be desired in roentgenographic examination of the extra-hepatic ducts following cholecystectomy. This paper is a report on the use of Dholografin (Schering), a substance developed for intravenous use which Dr. John P. Fotopoulos, in presenting 84 cases, found to be a rapid, safe, and accurate means of visualization of the biliary system with or without the gallbladder, but particularly where the gallbladder had been removed. The writer emphasizes that excretion of this medium by way of the biliary tract depends on satisfactory hepatic function. With significant jaundice, a total serum bilirubin of over 3 mg. per cent, or bromosulphalein retention of over 30 per cent, visualization usually fails. While the chief contraindication is hypersensitivity to iodine compounds, cases of severe renal disease or Graves' disease also should be excluded.—*University of Michigan Medical Bulletin, July, 1955*

Indications for Ileostomy and Colectomy in Ulcerative Colitis

BURRILL B. CROHN, M.D., NEW YORK CITY

(*From the Medical Services of Mount Sinai Hospital*)

Ulcerative colitis is unfortunately a common malady, at least in urban practice. Whether the disease is actually increasing in frequency is difficult to state since statistics of its incidence over the last fifty years are not available. In my own intern days at Mount Sinai Hospital in the first decade of this century, cases of ulcerative colitis were so unusual as to arouse great interest because of their rarity. Today the wards of the hospitals, public and private, contain so large a percentage of cases of colitis as to make the disease a conscious and a constant problem.

Ulcerative colitis of the acute fulminating type or of the chronic recurrent form is a nonspecific ulcerative lesion of indeterminate etiology. The disease is characterized by severe diarrhea with the discharge of pus, mucus, and blood, fever, toxic manifestations of prostration, loss of appetite, abdominal pain, and malnutrition. Joint manifestations in the form of polyarticular arthritis, areas of gangrenous dermatitis with extensive sloughing of fascia and superficial tissues, hemorrhoids, rectal fistulas, fissures, perianal abscesses, and rectovaginal fistulas denote the more severe types of disease. Gross rectal hemorrhage and spontaneous perforations, complete and free or more frequently walled-off, are less usual but frequent among the more severe instances of severe colonic involvement.

The disease is a chronic recurrent one. True and lasting instances of cure for many years of follow-up are few but do occur, unfortunately in only a small percentage of cases. In most individuals the disease has a tendency to recur, these recrudescences being often seasonal or due to psychosomatic influences, or just in the course of the clinical nature of the malady. No generally accepted method of therapy is agreed upon by various schools of clinicians. Diet has little effect; antibiotics have little direct influence but are useful in handling the complications. The corticotropic agents and the corticosteroids are of great assistance, often brilliantly and excitingly so, but are not lastingly curative and are administered with known risk of hemorrhage and perforation.[1,2]

Such being the unpromising prospect of a chronic disabling disease, prone to continuous or repeated recurrences, in the face of inadequate means of medical therapy, it is little wonder that surgical means of eradicating the disease have been meeting with greater favor. Surgery serves at least one means of attacking an often insoluble problem and of restoring to efficiency and health an individual who otherwise would be a chronic semi-invalid. Unfortunately, in the decades before the introduction of the newer antibiotics and more scientific methods of anesthesia, the mortality of the ileostomy operation was high and even forbidding, particularly when ileostomy was performed as an emergency measure in the acute toxic, fulminating type of disease. The diseased colon was allowed to remain on the basis of the conviction that once a diversion of the fecal column was accomplished, the residual diseased segments would undergo healing. This was an erroneous conception. The disease continues, although in a somewhat abated form, in spite of ileostomy; rectal complications continue, hemorrhage may be severe from the rectocolonic stump, and carcinoma of the colon becomes increasingly a problem.

Hence, today ileostomy *with* colectomy is the accepted procedure, usually in one stage. Because of improved surgical technics and the use of antibiotics, this undertaking, although of greater magnitude, can be carried out today with an operative risk far less than that of simple ileostomy alone in the past decades. In the hands of some daring and extremely competent surgeons, ileostomy and colectomy, including a combined abdominal-perineal resection of rectum and sigmoid, are often performed in one

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stage. The addition of the abdominal-perineal resection adds considerable risk, prolongs the operative time, and is feasible only when the disease is of low grade and the condition of the patient satisfactory to withstand such a massive assault.

Indications for Operation

The indications for operation may be discussed under the following headings: (1) intractable disease, (2) hemorrhage from the colon, (3) perforation, (4) carcinomatous degeneration, and (5) perirectal abscesses and fistulas.

INTRACTABLE DISEASE.—Ulcerative colitis is recognized as a malady with a constant tendency to recur. In the milder forms the patient remains ambulatory. There is minor loss of efficiency, and secondary anemia and loss of nutrition are minimal. Complications such as perirectal abscesses and fistulas can be handled. In this larger group radical operative steps rarely are considered. It is in the more severe types with recurrent febrile manifestations, joint metastatic focal infection, progressive severe anemia, and uncontrollable abdominal pain and diarrhea that a surgical alleviative or curative procedure is indicated. The loss of appetite is an alarming symptom. Temporary or prolonged amenorrhea characterizes the more severe cases in women. Hypoproteinemia and vitamin and electrolyte losses are extreme. If, in addition, there exists a permanent psychosomatic factor, if the personality of the patient is disturbed by deep psychic problems which fail of solution, the prospect of cure of the disease is remote. Before the advent of the corticotropic agents the main reliance was on the antibiotics, the insoluble sulfa preparations, the newer soluble antibiotics, streptomycin, Terramycin, chloramphenicol, and Achromycin. While these agents were useful in controlling complications, they were ineffectual in curing the disease and in preventing recurrences. A successful specific therapeutic agent does not now exist. For this type of disabling intractable disease, surgery eventually becomes clearly indicated. In some large clinics in this country all cases are regarded as intractable as soon as the diagnosis is established by sigmoidoscopy and barium enema. It is maintained by the exponents of this procedure that the disease being recurrent and incurable, the operative procedure might as well be carried out immediately and thus avoid years of semi-invalidism with the inevitability of future operation as a late or final resort. This seems an extreme view and an untenable assumption.

At the Mayo Clinic about 5 per cent of patients with ulcerative colitis come to surgery.[3] At Mount Sinai Hospital Garlock[4] reports operating on about 20 per cent of admitted cases. However, if one takes into consideration the vast numbers of ambulatory, less seriously ill patients and if one considers that only the very sick ones are admitted for hospital care, it will be seen that 5 per cent of operative selections probably more likely represents the mean average. At the Lahey Clinic 47 per cent of the cases that were subjected to surgery were instances of chronic invalidism.[5]

In the past, acute fulminating ulcerative colitis was often regarded as a type appropriate for an emergency ileostomy. Operation on such cases when the patients were so seriously ill was attended by forbiddingly high mortalities varying from 20 to 40 to 70 per cent even if only a simple diverting ileostomy was performed. Fortunately the advent of ACTH has materially changed this picture. The late Dr. Frank Lahey stated the use of ACTH would obviate the need for emergency operation and make immediate ileostomy an unnecessary and a dangerous procedure.[6] According to my own experience he was absolutely correct. The brilliant and striking effect of ACTH in this type of acute fulminating colitis is so convincing that emergency operation in this group should be regarded as inadvisable. The risk of the administration of ACTH is far far less than the excessive liability of any operation.

HEMORRHAGE.—Hemorrhage from the colon, either as a constant chronic seepage or as an acute abrupt manifestation, is an indication for operation. Massive hemorrhage of alarming proportions is not an unusual occurrence and may be so overwhelming as to threaten the life of the patient. Exsanguination may be so complete as to drop the hemoglobin values to below 6 or 7 Gm. per cent within a few hours with its incident shock and prostration.

Since the use of ACTH the occurrence of gross hemorrhage has unfortunately increased, particularly after the intravenous use of the corticotropic agents. In the face of such an emergency immediate ileostomy with colectomy are clearly mandatory as a procedure of urgency.

PERFORATION.—Walled-off perforation of the colon in the face of severe ulcerative colitis is a not uncommon phenomenon. A sudden rise of temperature in an otherwise afebrile case, an increasing leukocytosis, abdominal pain, and abdominal rigidity mark a beginning or an accomplished perforation. Any part of the colon is susceptible to perforation, although the sigmoid colon and the cecum are the points of greatest frequency. Fortunately these perforations are usually walled off, covered by omentum or adjacent loops of bowel, and often may be successfully treated by antibiotics. Free perforation is an acute and urgent phenomenon associated with peritonitis and calls for urgent surgical intervention.

Again the increasing use of ACTH and cortisone has occasionally and infrequently been followed by free perforation of the colon. In my own hands, among 82 cases treated by injections of ACTH by the intramuscular route, perforation occurred in three instances. One case was lost because of failure to act quickly and decisively and by too great reliance on massive application of antibiotics; the other two cases were saved by immediate colectomy.[1]

Carcinomatous Degeneration.—Inflammatory polypoid changes are said to occur in approximately 65 per cent of severe cases of ulcerative colitis.[3] In recent years it has been asserted and recognized that carcinoma of the colon occurs in a larger percentage of cases of ulcerative colitis than in the control population of the same age group. It has been stated that in cases of ulcerative colitis of eight years duration or longer, the incidence of cancer or "malignant degeneration" is as high as 25 to 30 per cent,[7] although this is probably an overstatement. In the literature the incidence of carcinoma in ulcerative colitis ranges from 3.8 to 4.5 per cent.[8] Lyons and Garlock[9] report nine cases of carcinoma among 226 surgically treated cases, an incidence of 3.9 per cent. All of these persons had suffered ulcerative colitis for twelve years or more. Eight of the nine cases died within three years of the discovery and removal of the carcinoma; only one patient survives today, implying the extremely pessimistic prognosis of this complication. Practically all carcinomas of the colon occurring in and with ulcerative colitis are rectal or rectosigmoid growths. Many pathologists do not regard the carcinoma arising on the field of polypoid ulcerative colitis as causally related; they do not believe that carcinoma is a malignant degeneration of inflammatory polyps but that it arises on the basis of an incidental adenomatous polyp such as may be found in a large percentage of the control population or on the basis of a familial colonic polyposis with superimposed ulcerative colitis.

There seems little doubt that carcinoma occurs in an increased frequency in ulcerative colitis, that it occurs in longstanding cases, and that it has a markedly severe prognosis. This adds another and a weighty argument in favor of ileostomy and colectomy in protracted, grave cases of colitis.

Multiple Perianal Infections.—Perirectal abscess, ischiorectal suppurative infections, and infected, fissured hemorrhoids commonly complicate the course of ulcerative colitis. These infections, which usually arise in the rectal crypts, break down, perforate, and form perirectal fistulas or rectovaginal fistulas which are intractable and persistent and fail to heal in the presence of enduring colonic infection accompanied by diarrhea and tenesmus. If for no other reason than these fistulous tracts become very annoying, painful, and disabling, a diversionary ileostomy is sought as the only means of alleviation. These fistulas practically all heal spontaneously after a diverting ileostomy. Any rectal operation without an ileostomy is destined to serious disappointment.

Type of Operation

There is little question today, where operation is indicated, that ileostomy, colectomy, and combined abdominal-perineal resection are all mandatory. The ileostomy must be accompanied then and there by a partial colectomy or be followed shortly thereafter by this procedure if the symptoms are to be abated. If the colon is left in situ and an ileostomy alone is performed, the residual diseased large bowel acts as a source of local and focal infection, and the numerous and persisting toxic and metastatic manifestations of the disease may persist until colectomy is accomplished.

Few cases of ileostomy and partial colectomy are ever followed by an attempt to re-establish intestinal continuity. Once the rectum is involved in the disease, any attempt to take down the ileostomy and implant the ileum into the sigmoid or rectum is almost invariably futile and invites immediate recurrence of the disease in a most fulminating form. Such a procedure may even be followed by a severe recurrence not only in the rectum but in the terminal ileum and jejunum. Personally I know of only one case successfully re-established. Garlock and Lyons[4] quote four such examples. The procedure is a hazardous one fraught with disappointment and had better never be essayed.

The mortality rate of ileostomy as an operative procedure has shown marked improvement in recent years. Rogers, Bargen, and Black[3] quote a mortality rate of 5.2 per cent for ileostomy during the period 1948 to 1952. Kiefer[5] reports a death rate of 4.3 per cent from 1947 to 1952. Ripstein, an ardent advocate of simultaneous ileostomy and colectomy even in the most severe cases, performed this operation in 43 cases with but two deaths[10] or 3 per cent of 135 cases in his more recent experience.[11]

The life of the ileostomy case is not an unhappy one. Usually the patient is restored to full efficiency, health, and working capacity. The operation is followed by cessation of all symptoms, rapid and extensive regain of weight, rise of hemoglobin values to normal levels, ravenous appetite, and an optimistic approach to life which is the reverse of the pessimism and hopelessness that characterized the previous state of protracted invalidism. The rectal complications heal rapidly. The care of the ileostomy bag presents few if any problems. The disposable plastic bag attached to a ring is easily adjusted in a waterproof, leakproof rubber cement attachment. Sex libido and sex life follow a normal range. The female now is capable of pregnancy and childbirth where previously childbearing introduced a serious and often forbidding additional risk. This aspect of the problem is all the more important since colitis is a disease of young people, often adolescent; the problem of ileostomy at that early age introduces factors of great psychic and emotional portent. At what earliest age can ileostomy be performed for intractable colitis? Probably at any age after puberty. The earliest case I have seen was seventeen and one-half years with a remarkable physical and psychic rehabilitation.

The ileostomy clubs, which have been established as group meeting places for ileostomy patients to allow them to congregate and mix and discuss their problems, are usually gatherings of happy people. They are resigned, complacent, and fully optimistic. They have their romances and their intermarriages and their progeny.

The postoperative picture is somewhat marred by the occasional mishaps of a physical nature that are complications of or incidental to a mechanical procedure. Among these operative or postoperative complications are obstruction of the ileum by angulation or bands, hemorrhage, fistula at the stoma, prolapse of the mucous membrane, retraction of the ileostomy stoma, and stricture. In their experience 33 to 38 per cent of the group cases seen at the Mayo Clinic required revision of the stoma.[3] This seems from my experience an unusually large percentage of mechanical complications which in the hands of any single competent experienced surgeon would be more unlikely.

Perhaps the skin-grafting technic for ileostomy of Dragstedt will obviate some of the postoperative complications of simple ileostomy and will eliminate prolapse as a factor.

The last generation confused ileostomy with colostomy and associated colostomy with cancer and correctly so. The present generation, a much younger group of persons, are beginning to understand that an ileostomy implies restoration to health and efficiency. The "ileostomy clubs" have been a large factor in educating the public and making it today a much simpler task to "sell" to the ailing patient the idea of the permanent ileostomy.

1075 Park Avenue

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The world is his, who has money to go over it.—Ralph Waldo Emerson

RECENT ADVANCES IN MEDICINE AND SURGERY

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ROBERT TURRELL, M.D., *Editor*

Physiologic Data Bearing on the Clinical Problem of Anxiety

MARK D. ALTSCHULE, M.D., WAVERLEY, MASSACHUSETTS

(*From the Laboratory of Clinical Physiology, McLean Hospital, Waverley, Massachusetts, and the Department of Medicine, Harvard Medical School, Boston, Massachusetts*)

> *"He who, in the study or treatment of the human machinery, overlooks the intellectual part of it, cannot but entertain very incorrect notions of its nature, and fall into gross and sometimes fatal blunders in the means which he adopts for its regulation or repair. Whilst he is directing his purblind skill to remove or relieve some more obvious and superficial symptom, the worm of mental malady may be gnawing inwardly and undetected at the root of the constitution. He may be in a situation like that of a surgeon, who at the time he is occupied in tying up one artery, is not aware that his patient is bleeding to death at another. Intellect is not omnipotent; but its actual power over the organized matter to which it is attached is much greater than is usually imagined. The anatomy of the MIND, therefore, should be learnt as well as that of the body; the study of its constitutions in general, and its peculiarities, or what is technically called its idiosyncrasies, in any individual case, ought to be regarded as one of the most essential branches of a medical education."*—John Reid, *Essays on Hypochondriasis* (1821)

It should not be necessary to emphasize that physicians need to know about the workings of the mind. Nevertheless, at present the teaching of normal and pathologic psychology at medical schools is so fragmentary[1] that physicians are forced to educate themselves in this field. The information that physicians should have includes (*a*) the facts of the neurophysiology of behavior, (*b*) the data of experimental psychology, and (*c*) material derived from dynamic and social psychology. Current medical writings on the psychologic aspects of illness are based largely or entirely on the last named; accordingly, the present review will touch only on the first two. Since the entire field of psychologic medicine is too extensive and in part too specialized for discussion here, only one aspect of it, i.e., anxiety, will be covered.

Anxiety is believed by many to occupy a central position in explanations of all disturbances of emotional origin and also, in a negative sense (that of the need to avoid anxiety), in explanations of all behavior. The idea that anxiety and the need to avoid it are the basis of all behavior was given much prominence in the writings of Hecker, Freud, and Löwenfeld in the late nineteenth and early twentieth centuries. Actually, however, these concepts entered medicine long before that. The philosopher Locke, who was a physician but did not practice much, wrote (1689):

> What is it that determines the will in regard to our actions? And that, upon second thoughts, I am apt to imagine is not, as is generally supposed, the greater good in view; but some (and for the most part pressing) uneasiness a man is at present under. This is that which successively determines the will, and sets us upon those actions we per-

> form. . . . All pain of the body, of what sort soever, and disquiet of the mind is uneasiness.

British physicians of the eighteenth century frequently referred to anxiety in their works.[2] One of them, William Battie, extended the concept of anxiety to include all instinctual drives. Battie said: "For uneasiness is so interwoven in the very frame of mortals, that even the greatest satisfaction implies the removing or stifling the greatest uneasiness which before disquieted." The validity of this concept and of its more modern versions has of course never been either established or disproved.

Another eighteenth-century British idea about anxiety also is worthy of note: the idea that the somatic manifestations of emotion are due to activity of the sympathetic nervous system. This concept was developed in specific detail in the mid-nineteenth century by Lobstein[3] in Germany and also was referred to by a host of clinical writers in Europe and America before, during, and after that time.

It is evident that some of the now widely accepted basic ideas about anxiety are not new. What is new is a considerable body of physiologic data bearing on the mechanisms of that feeling and of the associated somatic changes. Before these are discussed, it would be well to clarify certain matters:

1. Anxiety is a feeling, and, strictly speaking, its presence can be detected only by the person experiencing it. On the other hand, some persons may exhibit the cardiovascular and other bodily changes commonly associated with anxiety without being conscious of the feeling, even when their attention is directed to the possibility that they might or should be experiencing it at the time. This has led many psychiatrists to conclude that anxiety may be present but not in the field of consciousness, a view that requires that there be some mechanism in the brain that makes the anxiety unconscious rather than conscious, i.e., "represses" it. On the one hand, this concept is logically weak, since the anxiety must be perceived before it can be repressed. Furthermore, the concept requires that there be one part of the brain that decides what other parts of it may consciously know, and of course there is no evidence that such a mechanism exists in the brain. On the other hand, there is good evidence that ordinary external sensations may cause somatic changes without the subject's being conscious of them: (*a*) when he is asleep,[4,5] (*b*) when the sensory stimuli are presented too quickly to be recognized,[6,7] or (*c*) when they are actually below the sensory threshold.[8,9] There is no reason to conclude that the same cannot be true for feelings, including anxiety. This difficulty can be resolved by concluding that the somatic changes constitute the fundamental phenomena of anxiety and that the feeling of anxiety is merely an epiphenomenon. Contradictory to this view is the well-known clinical fact that some patients may have, or may claim to have, anxiety without showing any of its somatic changes; even more convincingly contradictory is the fact that anxiety may be induced experimentally by infusing epinephrine in amounts too small to evoke gross somatic changes (see below).

Another attractive hypothesis is that anxiety is caused not by epinephrine itself but by some pharmacologically inactive metabolite of that hormone. According to this concept anxiety and the cardiovascular manifestations of epinephrine action could occur separately or together: Production of large amounts of epinephrine without the accumulation of the hypothetic metabolite would cause the well-known somatic changes but no anxiety; production of large amounts of epinephrine together with accumulation of the hypothetic metabolite would cause both the somatic changes and the anxiety; production of only small amounts of epinephrine in company with accumulation of large amounts of the hypothetic metabolite (owing to some metabolic disturbance) would cause anxiety alone. This hypothesis, although logically sound, suffers from one serious deficiency: There is no evidence to support it.

2. Anxiety commonly occurs in association with certain bodily disorders, such as coronary artery disease, acute pulmonary edema, and pulmonary embolism. The idea advanced by some psychiatrists that this anxiety is precipitated by the patients' knowing or thinking they have a serious and perhaps fatal disease of the heart is manifestly absurd; experienced clinicians sometimes encounter patients in whom the anxiety is the only manifestation of the cardiac or pulmonary disorder for many minutes, the other symptoms (those that presumably might frighten the patient) appearing later. The anxiety that occurs under such circumstances can readily be explained on physiologic grounds (see below). At this point it is sufficient to

point out that anxiety is not necessarily always emotional in origin.

3. The somatic manifestations associated with anxiety are indistinguishable from those that accompany other emotions and feelings, pleasant or unpleasant, and even from those of concentrated thought alone.[10,11] The idea that under these circumstances the person showing these somatic changes is really feeling anxiety has nothing to support it except circular reasoning.

Available data suggest no solution of the problem of the nature of the relation between anxiety and the somatic changes commonly associated with it.

Mechanisms That Produce Anxiety

THE ROLE OF THE TEMPORAL LOBE.—Physicians have known for many years that severe anxiety often occurs in association with epileptic seizures that originate in the temporal lobe.[12–14] In addition, severe trauma to this area may be followed by severe persistent or recurrent anxiety.[15] Recent work of Penfield *et al.*[16] has shown that stimulation of certain parts of the temporal lobe in man also may produce anxiety. It is evident, therefore, that the temporal lobe contains structures the stimulation or irritation of which causes anxiety. How these areas might be stimulated by thoughts has not yet been ascertained.

THE ROLE OF EPINEPHRINE.—Epinephrine causes anxiety when injected in normal man[17]; norepinephrine, which closely resembles it, has no such effect. However, other sympathomimetic amines, such as ephedrine and methoxyphenamine, do cause anxiety. On the other hand, many such amines cause no mental or emotional changes at all, whereas others, such as amphetamine and desoxyephedrine, do cause such changes but differ in this respect from epinephrine in that anxiety is not prominent among their effects. The reason for these differences is unknown.

The amount of epinephrine that may cause anxiety when injected intravenously may be too small to cause detectable cardiovascular changes.[17] There is some dispute about whether epinephrine increases cerebral blood flow and oxygen consumption when it produces anxiety.[18,19] However, these measurements do not increase with spontaneous anxiety.[20] (They also are unchanged during concentrated mental effort.[21])

It is not known whether there is any final common mechanism for the anxiety produced by stimulation of the temporal lobe and the anxiety produced by the injection of epinephrine. Nor is it known whether the latter is caused by epinephrine itself or by a breakdown product of epinephrine. At any rate, it is evident that the physician interested in anxiety should know something about the production and disposal of epinephrine.

The Production and Disposal of Epinephrine

Discussions of epinephrine in the psychiatric literature are frequently based on one fundamental error, i.e., the idea that the sympathetic nervous system and the adrenal medulla function as a unit, the so-called sympathico-adrenal-medullary system, whose head ganglion is said by some to be the hypothalamus. This concept is not supported by available data. Von Euler[22,23] has reviewed recent work from his own and other laboratories and has presented strong evidence that the chief neurohumor of the sympathetic nervous system is norepinephrine. Von Euler believes that much, or perhaps all, of the small amount of epinephrine released in various viscera by stimulation of their sympathetic nerves is derived from the chromaffin cells in the organs. This epinephrine constitutes a very small proportion of the amines contained or produced in the tissues; nearly all of the sympathomimetic amine consists of norepinephrine.[22–27] Norepinephrine appears to be the neurohumor responsible for the normal minute-by-minute activity of the sympathetic nervous system. Under ordinary conditions the amount of norepinephrine excreted in the urine far exceeds the amount of excreted epinephrine.[28,29]

In most mammals the medulla of the adrenal gland contains much more epinephrine than norepinephrine.[22,23] However, the output of the resting gland chiefly consists of norepinephrine.[30–32] Carotid occlusion causes a discharge of both from the gland,[30,33] but splanchnic[32] or hypothalamic stimulation[33] causes the output of much epinephrine and very little norepinephrine. The two sympathomimetic amines are formed in different types of cells in the adrenal gland,[34] and the release of the two hormones is selectively effected by different parts of the hypothalamus.[35]

Physical exertion causes an outpouring of both epinephrine and norepinephrine[36]; the discharge of the latter is probably a reflection of the sympathetic nervous system activity that is responsible for the vasomotor adjustments associated with exercise. It is possible that there is a relation between the production of large amounts of epinephrine and the development of some symptoms experienced by anxious persons during exercise. On the other hand, it is known that injecting epinephrine into normal subjects before exercise does not cause the abnormal changes in pulse and blood pressure that are seen in neurotic patients during exertion.[37]

Hypoglycemia causes the release of large amounts of epinephrine[38–40] without increased excretion of norepinephrine.[39,40] This fact should be borne in mind with regard to the etiology of anxiety attacks in some neurotic patients who eat irregularly and take an unbalanced diet; the not uncommon occurrence of anxiety attacks at around 4 A.M. may perhaps be due to hypoglycemia. The release of epinephrine during hypoglycemia can be prevented by ganglionic blocking agents, such as hexamethonium[41]; anxiety associated with hypoglycemia also can be prevented by such agents, even in neurotic patients.[42]

Surgical operations cause a considerable outpouring of both norepinephrine and epinephrine, particularly the latter.[43] This has little significance with respect to anxiety, since patients receive large amounts of sedative drugs after their operations and usually are unable to experience anxiety or any other sensations or feelings.

The injection of ACTH is followed by no increase in epinephrine excretion and an unexplained decrease in norepinephrine excretion.[44]

In addition to all the above, there are older observations on animals that show that hunger, rage, fear, pain, and cold also cause release of epinephrine. It is evident from the present discussion that whereas norepinephrine is the hormone responsible for the activity of the sympathetic nervous system, epinephrine is the hormone specifically related to the effects of various stresses.[45]

The production of epinephrine having been discussed, attention should now be directed to the manner of its disposal. Epinephrine leaves the blood stream rapidly.[46,47] It accumulates in the liver and kidney,[48] where at least some of it is inactivated.[49] Very little is excreted unchanged.[50,51] The mechanism of its destruction has not been established.[46,52,53]

The Association Between Epinephrine and Anxiety in Clinical Conditions

Reference has already been made to the correlation between the production of epinephrine and the occurrence of anxiety in one clinical condition, i.e., hypoglycemia.[42] There is little published work on the production of epinephrine in association with anxiety due to psychologic factors.[54,55] What studies have been made involved the use of inadequate methods, and consequently the data are not reliable. Nevertheless, certain indirect data show conclusively that epinephrine is released into the circulation in man during psychologic stress. This work consists in observations of slightly delayed digital vasoconstriction[56] and increased forearm flow[57,58] in sympathectomized limbs during emotion. These changes, acral constriction and arm (or calf) dilatation, are characteristic of the action of both the sympathetic nerves and epinephrine (the action of the latter being slower in onset), but since they can be produced by emotion in a sympathectomized limb, it is evident that epinephrine must be a factor. It should be noted in passing that hyperventilation increases forearm flow and decreases hand flow,[59] just as epinephrine and sympathetic nervous activity do, but hyperventilation lowers rather than raises the blood pressure.

The rise in cardiac output which usually occurs with emotion[10] also can be explained as the result of the action of epinephrine, as can the venoconstriction of emotion.[60] However, both these changes could also be ascribed to sympathetic nervous activity. Similarly, the hyperventilation of anxiety[10,61] could be due either to the action of epinephrine, to the action of the sympathetic neurohumor norepinephrine,[62] or, as a third possibility, to direct neurogenic stimulation of the respiratory center.

The question whether all the bodily manifestations of emotion are due to epinephrine can definitely be answered in the negative. For example, the well-known vasomotor phenomena of emotion (constriction in the acral areas and dilatation elsewhere) have been studied under experimental conditions,[10,11] and it is clear that the changes occur too quickly after the induction of the stress to be explained as due to circulating epinephrine. The initial changes must be mediated by direct action of the autonomic nervous system. The reaction is often biphasic, the slightly slower component being due to the action of epinephrine.[56-58] However, none of the reported studies describes the temporal relation between the onset of *anxiety* (if any occurred) and the onset of vasomotor changes due to epinephrine. Accordingly, although it can be stated unequivocally that many of the bodily changes seen in *emotion* are not due to epinephrine, no statement can be made concerning possible relations between the secretion of epinephrine and the development of the feeling of *anxiety*, except in hypoglycemia (see above). Much work remains to be done along these lines.

Relations Between Emotion and Autonomic Symptoms in Some Clinical Conditions

The relation between the feeling of anxiety and bodily changes induced by emotion is not clear; however, certain relations between emotion in general and bodily changes are worthy of notice. These have been discussed fully elsewhere[10,11] and will merely be touched on here.

The acral vasoconstriction induced by emotion is clearly important in exacerbating peripheral vascular diseases, including Raynaud's disease, frostbite, etc. The increase in cardiac output which is induced by emotion may precipitate angina pectoris in patients with coronary sclerosis. The physiologic changes in both instances might be due to sympathetic activity, circulating epinephrine, or both. Not only are arterioles constricted during emotional reactions, but the veins also contract; this phenomenon, by raising capillary pressure, may accelerate transudation in patients with some kinds of cutaneous lesions.

Venous stasis caused by emotion also may result in elevation of the hematocrit, a change that perhaps contributes to the likelihood of venous thrombosis in some situations. More important with respect to blood clotting is the well-known acceleration of clotting by epinephrine; emotion also accelerates the clotting time.[63]

Elevation of the portal venous pressure has been shown to occur in man after injection of epinephrine.[64] This suggests that emotion may perhaps aggravate the accumulation of ascites in some patients with hepatic disease.

The effects of epinephrine on urine formation are worthy of note. Small doses of epinephrine inhibit the production of pituitary antidiuretic hormone[65,66] and thereby increase urinary volume. The possible relation of this physiologic finding to the well-known diuresis of emotion should be borne in mind. Renal vasoconstriction induced by either epinephrine or norepinephrine causes albuminuria[67]; this fact may explain the albuminuria which sometimes occurs during emotion.[68]

The fact that the tremor of Parkinson's disease may be exacerbated by the injection of epinephrine[69,70] is interesting in view of the fact that emotion also exacerbates the tremor.

Epinephrine and norepinephrine both impair placental blood flow by inducing vasoconstriction and thereby induce anoxia in the fetus;[71] this suggests one possible mechanism of the effect of emotion in preventing the normal course of pregnancy.

Some years ago it was widely believed that epinephrine, since it causes eosinopenia, stimulated the adrenal cortex to produce its hormones. More recent and more direct studies[72-78] show that the adrenal cortex is not stimulated under these conditions. If emotion has any effect on the adrenal cortex, it must take place through some other mechanism.

It must not be supposed that all bodily changes associated with emotion are due to the effects of epinephrine or of sympathetic nervous activity. For example, the prolonged P-R interval seen in the electrocardiogram in emotion[78,79] is more likely due to vagal hyperactivity. Similarly, the increased sensitivity to pain which is associated with anxiety[80] might be due to an increase in cholinergic substances[81-83] or to the effects of hyperventilation alone.[84]

Although the above-cited data indicate how emotion may cause certain symptoms in various clinical conditions, they do not establish a relation between these symptoms and the presence of the feeling of anxiety. Actually, any strong emotion, pleasant or unpleasant, or even concentrated thought alone may produce the same autonomic changes.[10,11] It is clearly not valid to conclude that the occurrence of autonomic changes proves that the patient who has them also has anxiety—which if not overt must therefore be unconscious.

The Clinical Problem of Anxiety

The magnitude of the clinical problem of anxiety needs no discussion here; the numbers of patients whose effectiveness is impaired by the feeling of anxiety or by the somatic symptoms associated with it cannot be estimated, but they must be large. Moreover, the burden of the physician is greatly increased by the complexity of the problem. As has been pointed out, the neurophysiologic mechanisms underlying anxiety and the relations between the feeling and the autonomic changes which commonly accompany it are not clear. This internist has gained no understanding of anxiety from psychologies that declare (*a*) that everybody is anxious most or all of the time but some repress the feeling, (*b*) that anxiety represents awareness of a threat of any kind to the integrity of a hypothetic ego, or (*c*) that anxiety wanders about the body, settling in one organ or another and thereby causing arthritis, peptic ulcers, colitis, skin diseases, asthma, and other disorders. (This last idea does not differ greatly from the Platonic concept of hysteria, in which that condition was presumed to be caused by the uterus, which wandered about the body interfering with the function of various organs.)

In the present circumstances the physician must do the best he can, basing his treatment on the data that are available. These basic data are as follows:

1. There is no evidence that anxiety (or any other feeling or emotion) can cause any known organic disease. On the other hand, there is excellent evidence that anxiety, or the autonomic changes commonly associated with it, exacerbates many organic diseases, either symptomatically, in the sense of making the patient feel sicker, or by exacerbating the disease itself.

2. There is no evidence that either hyperfunction of the sympathetic nervous system or the excessive production of epinephrine causes any organic disease (except, of course, in the case of pheochromocytoma).

3. There is no evidence that anxiety is associated with specific autonomic effects (and hence with specific mechanisms for exacerbating diseases). The autonomic effects commonly associated with anxiety also occur with any other strong emotion, pleasant or unpleasant, or with concentrated mental effort not overtly tinged with emotion.

4. There is no evidence that the feeling of anxiety is necessarily accompanied by somatic changes, nor can it be said that the occurrence of certain autonomic changes proves that the patient who shows them must be having anxiety at the time.

5. There is no evidence that anxiety is at the core of the problem of neurosis, either as cause or as manifestation of that disorder. A statistical study of neurosis would probably show that hypersensibility is found in more patients, and more frequently in each patient, than is anxiety. (Why not call the syndrome "hypersensibility state" instead of "anxiety state"?)

These largely negative conclusions do not, of course, provide a basis of therapy; that must depend on other considerations. Fortunately for both patient and physician, acute anxiety attacks are self-limited, and sedation, reassurance, and the passage of a brief interval can be counted on to secure remission. On the other hand, the self-limited nature of these attacks may lead physicians to make erroneous conclusions about the efficacy of whatever treatment they happen to favor.

The problem is different in patients who have mild or moderate recurrent anxiety at frequent intervals but also have the associated autonomic reactions at these times and perhaps at other times as well. Here the physician's first duty is to make a correct diagnosis. The vasoconstriction of emotion, for example, causes sensitivity to cold, which is often misdiagnosed as due to anemia or hypothyroidism, especially when lassitude or fatigability also are present. More persons in this country are receiving liver, iron, or thyroid for unrecognized neurosis than are receiving such treatment for anemia or hypothyroidism. Similarly, antithyroid therapy, including surgery, is sometimes used to treat neurosis misdiagnosed as hyperthyroidism. The number of patients who are labeled cardiacs and are given digitalis (and thus, incidentally, made invalids) for the palpitation and other intrathoracic discomforts associated with anxiety is large. In short, the physician treating the neurotic patient must be sure that he does not treat the wrong condition—and he must be especially sure that he does not induce a state of invalidism.

Reassurance is extremely important, and it must be employed intelligently. The patient should not be told that his complaints are imaginary; such comments are likely to alienate him. Besides, they are untrue; the complaints associated with anxiety are as real as the pain of a broken leg and are frequently more disabling. Reassurance should include the statement that the patient has no organic disease of the heart—or of whatever other organs are the foci of the symptoms. In many instances the patient's belief that he has, for example, serious cardiac disease greatly increases the anxiety and the other symptoms. Removing this fear gives a large measure of relief quickly.

However, the patient must be given a positive diagnostic explanation of some sort. One that this author has found helpful is as follows: The condition is not a disease of the heart (or whatever other organ is involved in the symptoms) but is a disorder of the nerves leading to that organ; it is an uncomfortable disorder, but not dangerous; it is probably inborn; anything that constitutes a nervous strain, such as excessive mental work, emotion, lack of sleep, etc., will aggravate the symptoms but will not damage the organ; there is no specific treatment for it, but much can be done to make it tolerable. The explanation is particularly gratifying to some neurotic patients who believe that sensitive nerves are an evidence of delicate breeding or fine ancestry, since they believe that peasants can have no feelings at all. Another type of reassurance which must be given concerns the patient's sanity, namely, that psychoses are infrequent in neurotic persons in proportion to their total number, and when changes in that direction occur they are usually only mild or moderate reactive depressions.

Sedatives are helpful in varying degrees. They are important in securing some sleep for the nervous patient; in addition, they may be given in small doses during the day for the purpose of reducing the hypersensibility to all stimuli, both external and internal, that so many neurotics experience. The prolonged use of barbiturates raises the possibility of habituation or even addiction. Morphine and its derivatives should never be used for anxiety attacks (except in morphine addicts). The new tranquilizing agents are useful in controlling hypersensibility and perhaps also serve to diminish anxiety, although it is difficult to prove the latter; they usually do not eliminate acute anxiety attacks but perhaps diminish their frequency.

Regulation of the patient's eating habits may be important. Many neurotic patients have markedly irregular hours for eating and take diet slow in protein. In view of the fact that hypoglycemia may cause an outpouring of epinephrine, attempts to prevent excessive falls in blood sugar level are worth while in general and may secure demonstrable improvement in some instances.

If the anxiety or its associated complaints still cause serious disability, psychiatric help should be invited, with the expressed expectation that the expenditure of many months and a large amount of money will be required. The object is to change the patient's emotional reactions to the environmental phenomena involved in daily living, and this process, if at all feasible, necessarily takes a long time. Sometimes adjustments can be made in the environment itself and the number of daily stresses somewhat lessened thereby. The results of psychotherapy in such patients have never been presented in a convincing statistical study based on a large number of cases and including adequate controls.

The patient who has both severe recurrent anxiety and a chronic bodily illness represents quite another problem. In the first place, emotional factors should be suspected in those patients with bodily illnesses in whom the response to ordinarily effective therapeutic measures is abnormally slow or otherwise unsatisfactory. The treatment of patients with organic illnesses which have been exacerbated by emotional factors is one of the most discouraging aspects of medical practice. The combined efforts of internist and psychiatrist, together with those of other specialists who may be needed, are likely to secure little improvement in proportion to the effort expended.

Summary

Current knowledge of physiologic data bearing on anxiety is most unsatisfactory; important data on its mechanism and even its significance are not available. Accordingly, the interpretation of its role in disease and the treatment of its manifestations are extremely difficult.

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(*Number two of a series of articles on Recent Advances in Medicine and Surgery*)

Next to entertaining or impressive talk, a thoroughgoing silence manages to intrigue most people.—MRS. J. BORDEN HARRIMAN

Hypoadrenocorticism in Otolaryngologic Surgical Procedures

JOHN W. TINTERA, M.D., YONKERS, NEW YORK, AND HERBERT B. GOLDMAN, M.D.,
ROCKVILLE CENTRE, NEW YORK

(From the Endocrine Clinic, St. John's Riverside Hospital, Yonkers, New York, and the Department of Otolaryngology, Kings County Hospital, Brooklyn, New York)

It was found that a certain percentage of patients, although not seriously ill, when subjected to otolaryngologic procedures, were ill equipped physiologically to withstand the emotional impact of surgery or even its anticipation. The purpose of this report is to recognize and prepare adequately these constitutionally inferior individuals so that they may withstand the stresses and rigors of these procedures with a minimum of adverse reactions which normally would not be encountered if the endocrine and autonomic nervous systems were stable.

The problems associated with otolaryngologic surgery in children was found to be as closely related to adrenocortical function as in adults. One difference, however, is that many of our children scheduled for tonsillectomy had been seriously affected by the disease process present in their body. It was found that some children showed constitutionally inadequate adrenocortical response to psychologic and physiologic surgical trauma because of inheritance. If one or the other parent has hypoadrenocorticism, then the child is liable to inherit this condition. If the mother had this condition and was untreated during pregnancy, the child is more apt to be of the congenital type. A careful personal and familial history as well as examination of the child are imperative for the otolaryngologist in order to evaluate the glandular integrity of the child. Our professional status should be more than that of a surgical technician.

Other children had an acquired secondary hypoadrenocorticism due to repeated stress situations caused either by infectious diseases, injuries, surgical procedures, or home situations. Conversely, it was also felt that a constitutional hypoadrenocorticism led to lowered resistance to viral infections in many of our youngsters.

For many years it has been our observation that this type of child resisted the bacterial complications of the common cold. It is only the debilitated child who succumbs to coccal infections. It is the hypoadrenocortical child, however, who is most subject to viral infections, and the "usual childhood diseases," being viral in origin, are more serious in these children.

A previous study was made of the psychologic factors operating during tonsillectomy. Our patients were given an adequate understanding of what they were going to be exposed to, and it was found that the operation was less shocking to them both physically and psychologically. However, the children under four years of age or the very sick youngsters still presented the problem of abnormal response to stress. We soon realized what Selye[1] had very aptly described, that disease consists of two components, damage and defense. He suggests that we should rely upon more effective means of aiding adaptation to nonspecific local or systemic injury by supplementing the natural defensive measures of the general adaptation syndrome whenever they are suboptimal.

Selye noted the importance of the adrenals in facilitating a person's adjustment to his environment. Emotional factors such as worry or fear may act as alarming stimuli causing deficiencies of the adrenal cortex, hypoadrenocorticism. On the other hand, hypoadrenocorticism, however developed, whether constitutional or acquired, is itself responsible for nervous symptoms ranging from irritability to depression. Here then is an example of subtle psychosomatic interplay in which mental stimuli initiate pathologic somatic response.[2-4]

Our hypoadrenocortical patients were classified into several groups which we knew would react poorly to the psychologic and physiologic stress of the operative procedure. We decided to study the effects of administering supplemental adrenal cortex extracts to those receiving general anesthesia (children) and those receiving local anesthesia (adults). Inevitably our work led us into preventive aspects. Indeed, the essence of medicine is prevention.

Any surgical or stressful procedure calls for an adequate supply of adrenocortical hormones to meet the increased need for cellular activity. The sudden demands may at times be enormous, compared to ordinary daily physiology, and some adrenals are not adequate to cope with the situation. An increased secretion of glucosteroids is essential for resistance to stress. There is a feeling of well-being which goes with nourishment at an increased blood sugar level. It has been our practice to tell patients to have a full meal before any operative procedure under local anesthesia except oral and endoscopic surgery. They are much more tranquil and cooperative, rarely have any undue reactions, and require less preoperative medication.

It would appear that intravenous hydrocortisone is the agent of choice in surgical procedures because "approximately 80 per cent of the corticosteroids found in adrenal venous blood is hydrocortisone."[5] The hypothalamic-pituitary-adrenocortical system is set into action during even the most minor surgical procedure requiring anesthesia, producing between 50 to 100 mg. of hydrocortisone during the first day. With infusions of hydrocortisone side-effects are common, particularly if surgery is prolonged, especially in liver disease, chronic debilitating diseases, or any acute infection. If as little as 50 mg. of hydrocortisone are given, adrenal cortical suppression is imminent. Changes in the adrenal may persist for six months or permanently after hydrocortisone therapy has been terminated.[6,7] On the other hand, the amount of *cortisone-like activity* in 10 cc. of adrenal cortical extract* is of the order of 1 mg. of cortisone. This amount, or ten times this amount, cannot suppress adrenal-cortical activity and has no adverse effect on infections, acute or chronic. Adverse psychologic reactions are commonly encountered during or on withdrawal of hydrocortisone, but *never* have we had, or have there been reported, any but tranquilizing effects with the adrenal cortical extract. Moreover, we have contended that there is a physiologic balance of hormones in the adrenal cortical extract, whereas the use of cortisone produces an imbalance in the glandular setup. Recently Selye[8] has succeeded in demonstrating that aldosterone,† which has a close chemical relationship to desoxycorticosterone, antagonizes cortisone-like compounds, verifying the theory of balance between two opposing types of corticoids. Adrenocortical extract offers 81 per cent protection against shock, almost twice as much as cortisone and hydrocortisone.[9] Neither cortisone nor hydrocortisone is equal to adrenal cortical extract in restoring work ability to adrenalectomized rats.[10]

Once the otolaryngologic diagnosis has been made, a further evaluation of the patient is necessary. In the general history it is important to elicit excessive fatigue or weakness, nervousness or irritability, mental depressions (cyclic or otherwise), and, most important, fears or apprehensions, frustrations, and tendencies to negativism. A poor surgical response has often been noted in patients having previously experienced such emotional stimuli as sustained worry, grief, or fear. It may be of note at this time to point out that an acute attack of Ménière's syndrome will follow such stimuli.

Oftentimes a quick evaluation can be made of the patient who is the thin, asthenic type of individual. In children we are usually dealing with a thin, short-statured individual, very fearful and sickly. They are the mouthbreathers with the typical adenoid facies and receding chin, high palatal arch, generalized cervical lymphadenopathy, allergies, and long, narrow chest with its acute costal angle. The women are of the thin asthenic type, most often flat-chested and with long thin necks, complaining of tinnitus, faintness or fainting spells, insomnia, palpitations, menstrual disorders, etc. Men are often the lean, smooth-bearded, intellectual types, emotionally labile, responding rigorously to crucial stressful situations.[11] In general, all these individuals usually fall into the allergic diathesis group complaining of hay fever, urticaria, asthma, eczema, or other neurodermatitides. Many of the more serious complications of probable adrenal involvement—notably the collagen diseases, disseminated lupus erythematosus, periarteritis nodosa, pemphigus, exfoliative dermatitis, hemolytic anemia, purpura, and sarcoidosis—should not be operated on unless in an extreme emergency since the adrenals will become further damaged through the added surgical and anesthetic stress. One is alerted to the fact that when the adrenal is involved, there is often a marked craving for salt and carbohydrates. Most of these symptoms are dependent on an imbalance or deficiency of any or all of the three general groups of adrenal cortical hormones: (1) glucosteroids (cortisone or compound E, hydrocortisone or compound F), (2) mineralosteroids (desoxycorticosterones, aldosterone), and (3) 17-ketosteroids and sexogens (estrogens, androgens, progesterone, pregnandiol, etc.).

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* Eschatin, Parke, Davis & Company, Detroit, Michigan.

† There are 4 micrograms of aldosterone per cc. of Eschatin.

Since we consider all allergic manifestations to be on an adrenocortical deficiency basis, and with the history of craving for salt and carbohydrates and the typical sex characteristics, diagnosis could be facilitated if we had one test for corroboration. We feel we have this in the glucose tolerance test. In children and younger adults with a pituitary-adrenal condition, a low, flat curve is generally found. In older individuals who have ingested carbohydrates or alcohol to excess, we may find a curve reaching hyperglycemic levels but eventually falling to hypoglycemic levels. It is this hypoglycemia which precipitates many of the symptoms enumerated above, and it is with this sudden fall in blood sugar that autonomic nervous system symptoms are generally found, i.e., dilatation of the pupils, circumoral pallor, fine tremors of the extremities, and in more marked cases involuntary twitchings, tachycardia, etc.

No other laboratory work is necessary except for the routine urinalysis and blood count. From these routine tests a relative lymphocytosis and eosinophilia will usually be observed. Total eosinophil count is of little value, particularly in children, since even the anticipation of the surgery initiates the alarm reaction of Selye producing an overabundance of the cortical steroids.[4] Further hormonal determinations are superfluous, time-consuming, and expensive. In a previous article one of us stressed the fact that diagnosis is possible with a careful history and physical examination.

Treatment

In the typical patient described above, we should consider the necessity of supplemental preoperative adrenocortical hormonal therapy. In addition to supplying the vastly increased need for adrenocortical hormones during surgery, we are also in a position to place the adrenocortical cells in a better functioning condition to produce these hormones. At the same time other organs depending on these steroids receive a sufficient amount to insure their proper function during increased cellular activity.[12] The need for these hormones varies greatly with respect to the condition of the patient and the surgical trauma, and, therefore, a depot of these steroids, as pointed out by Hayes,[13] is not the ideal situation. It is preferable to have the cells restored to normal in order to function according to the stress demands. Therefore, as can be well imagined, the surgeon must really *know* his patient before subjecting him to surgery. With proper hormonal therapy there is no need for concern over the electrolyte and water balance of the body. If indicated, glucose or saline may be given as desired. Also during prolonged procedures intravenous adrenal cortical extract in doses of 10 to 200 cc. should be given in saline solution as indicated. In view of the above, we consider it unwise to persist in giving cortisone, hydrocortisone, or corticotropin when so many complications can conceivably arise. Children with hypoadrenocorticism, since they are poor surgical risks, need a regimen which includes a course of treatment with adrenal cortical extract. Very often, before surgery is attempted, it is necessary in the severe cases to give injections of from 2 to 5 cc. of adrenal cortical extract at weekly intervals for as long as several months plus a low-carbohydrate diet. In many cases there is an involvement of the thyroid-adrenal axis in which easy bruisability due to capillary fragility is a prominent feature. Depending on the age of the child a thyroid extract (Proloid) is administered in doses of $^1/_{10}$ to $^1/_4$ grain daily. In support of this adrenal function large doses of vitamin C and bioflavonoids are also given from four to seven days prior to surgery.

Of much more serious import in the very young child ranging up to the age three years is the recognition of the thymus gland. A persistence of the thymus gland beyond a certain age inhibits the normal development of the adrenal cortex, and, conversely, it is assumed that the administration of adrenal cortical extract causes a regression of the thymus gland. We are in favor of this procedure over x-ray radiation since the latter only obliterates the thymus without treating the hypoadrenocorticism. Adrenal cortical extract therapy, on the other hand, not only accomplishes the regression of the thymus but also enhances the function of the adrenal cortex. This treatment is within the province of the pediatrician or the endocrinologist.

The uncomplicated, mild hypoadrenocorticism of the child or adult presents no such problem. The dosage varies according to individual requirements. A very apprehensive child may require an intramuscular or intravenous injection of 5 to 10 cc. the day prior to surgery, repeated again an hour or two before surgery, if necessary during surgery, and finally a similar dosage postoperatively. Excellent results have been obtained, however, with as little as 2.5 cc. just prior to surgery and 2.5 cc. on completion of surgery. During prolonged operations, such as mastoidectomies and operations for malignancy of the head and neck, adrenal cortical extract may be added to the intravenous infusions.

The child who received adrenal cortical extract seemed much more relaxed under anesthesia and required a smaller amount of ether to keep it at a surgical anesthetic level. During the postoperative recovery the tranquilizing effect of adrenal cortical extract was very obvious in the treated group, while the control group cried and whimpered and were less cooperative. Generally there is little need for sedation for patients receiving adrenal cortical extract for this drug potentiates the effect of narcotics and analgesics and also by itself has a sedative action. Many of the new water-soluble steroids have been studied to determine their anesthetic activity, and one of them, Viadril, has been found most promising with a wide margin of safety.[14]

Otolaryngologists are familiar with the badly infected tonsil and adenoid bed that continues to ooze during and following surgery. These are the cases which reveal endocrine disturbances causing capillary fragility and which with adequate hormonal treatment show a marked decrease in postoperative bleeding. It has been shown experimentally that animals subjected to various stressor agents and adrenalectomized animals during stress develop numerous petechial hemorrhages and capillary fragility.[15–18]

An essential factor in the general adaptation syndrome (Selye) is the response of the capillary system to the alarm reaction. This fact should be fully realized for on the ability of the capillary system to cope with "the emergency calls" imposed by stress reactions depends the outcome of the general adaptation syndrome. It might lead to the stage of resistance in which adaptation is optimal or to the stage of exhaustion in which the acquired adaptation is lost again.

A normal capillary system is well adapted to meet the emergency calls. But once the capillary wall is altered and increased capillary fragility is evidenced, the capillary system can no longer withstand the burden of the stress reaction. The importance of increased capillary fragility in various grave diseases is much greater than generally assumed, not only because capillary activity is closely associated with the adrenocortical system, as demonstrated by Menkin[19] and others, but also because of the high susceptibility of the capillary wall to the chemical and physical changes induced by these stress reactions.

Menkin demonstrated that adrenal hormones decrease capillary permeability and normalize it. There is in this respect some similarity to this biologic activity and CVP.* Both decrease capillary permeability and prolong the life span of adrenalectomized animals. Proof by Sokoloff and Eddy[20] that the adrenal gland contains at least two flavonoid compounds still further suggests a possible relationship between cortical hormones and bioflavonoids. While cortisone alone might produce some undesirable side-effects, such as a state of hypercoagulability or thromboembolism, bioflavonoids such as CVP have been completely nontoxic, even when administered for a long period of time, e.g., 300 to 600 mg. daily for three to four months.

Clinical Reports

Our present study covers a three-year period during which 552 tonsillectomies were performed on children, of whom 120 received Eschatin, about one in every five. We have estimated that roughly one person in six has an adrenocortical deficiency of varying degree, not all of whom necessarily require treatment.

The age distribution of children receiving adrenal cortical extract was as follows:

Age (Years)	Number of Cases
1	2
2	17
3	21
4	30
5	31
6	10
7	8
8	1

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* CVP, U.S. Vitamin Corporation, New York City.

The age distribution of all 552 cases was as follows:

Age (Years)	Number of Cases
1	4
2	30
3	66
4	113
5	134
6	92
7	56
8	17
9	12
10	12
11	3
12	10
13	3

It is thus interesting to note that adrenal cortical extract was considered necessary in a greater percentage as the age of the child decreased. Therapy was needed in 50 per cent of the one and two-year-olds, 33.3 per cent of the three-year-olds, 26.5 per cent of the four-year-olds, 23.1 per cent of the five-year-olds, 11 per cent of the six-year-olds, and 14.3 per cent of the seven-year-olds.

The following case history was considered fairly typical of the children.

A five and one-half-year-old, white girl had been ill since six months of age with frequent sore throats. She experienced difficulty in breathing at night and snored loudly. Her nose was always clogged and often had a greenish discharge. She sneezed frequently in the morning. She had infantile eczema involving the face, scalp, and chest during the first year of life. She had had angioneurotic edema preceded by a rash or hives since three years of age. A sensitivity to chocolates, nuts, oranges, and wheat cereals was found.

On examination she was pale, thin, asthenic, and small for her age. She appeared undernourished and was very apprehensive. The tonsils were very large and moderately injected. The nasal passages were blocked completely by adenoids, although the pale, shrunken turbinates allowed for a good nasal airway. The ear drums were normal. There were many small, palpable, posterior and lateral and a few large anterior cervical nodes.

The blood examination showed 3,920,000 red blood cells with a 73.4 per cent (11.4 Gm.) hemoglobin. The color index was 0.93. There were 7,100 leukocytes of which there were 78 per cent lymphocytes, 3 per cent eosinophils, and 19 per cent neutrophils. Bleeding time was four minutes thirty seconds, and clotting time was five minutes forty-five seconds. Urine was negative except for a faint trace of albumin.

She was considered a hypoadrenocortical patient. Eschatin, 2.5 cc., was given intramuscularly at the beginning of the tonsillectomy and repeated at the conclusion of surgery. There was no undue oozing or abnormal bleeding. During the immediate postoperative period she was tranquil and responded better than had been anticipated. At home during the postoperative week the child ate well, including many solid foods, was uncomplaining and cooperative.

She was seen one year later with her brother, who presented almost the identical original complaints. The mother stated that she had had no angioneurotic edema or allergies and had ridden a two-wheel bicycle with no difficulty after having tried unsuccessfully before. Her nose was dry. Her breathing and sleeping were normal despite an occasional slight cold. There had been no severe intercurrent nasopharyngeal infections.

Eight adults received adrenal cortex extract. The group was considered too small to be of statistical significance as to age or type of operation. The operations were all performed under local anesthesia. They were not considered to be major prolonged operations in a seriously ill patient. The latter type of patient is usually carefully followed and treated.

However, otolaryngologists are familiar with the reactions of certain patients subjected to local anesthesia. A rapid differential diagnosis must be made to rule out cocaine, Pontocaine, or procaine sensitivity. The surgeon frequently is unable or unwilling to continue with the operation for fear of severe or dangerous reactions. We feel that the surgeon's ability to recognize the hypoadrenocortical patient preoperatively and to treat his condition before and during surgery will provide for a smooth, uneventful operation and convalescence. It has come to our attention recently that prednisone and prednisolone products have been prescribed rather indiscriminately for such minor conditions as allergic rhinitis and sneezing. Every patient coming to operation must now be questioned as to any medication they have taken in the recent past.

The reactions of hypoadrenocortical patients to operative stress were considered to be fairly typical. They frequently complained of nausea. There was a heavy cold perspiration, pale coloring to the skin, and apprehension as to being able to continue through to the end of the operation.

Some had a feeling as though they wanted to move their bowels. They wanted to faint or actually did so. There was a desire to lie down. The pulse became quite rapid and weak. There was a fall in both systolic and diastolic pressure.

After an intravenous injection of adrenal cortical extract in amounts varying with each patient (5 to 30 cc.), there was an abrupt change in condition within a few minutes. The nausea invariably disappeared. The heavy cold perspiration would stop; the skin would become warm and dry and resume a normal pink color. The patients no longer were affected by the sight of blood or tissues. There was a much brighter appearance. They would frequently state that they no longer were as anxious about the length of time consumed by the operation and were willing to remain until all the technical requirements were completed. The renewed feeling of self-confidence was particularly noteworthy. If the operation could be facilitated by having the patient in a sitting angle, they were again able to assume this upright position. The pulse slowed down to its original rate, and the blood pressure returned to normal.

Summary

It is important to recognize the hypoadrenocortical patient by careful personal and familial history and thorough physical examination. These are the patients who withstand surgical stress poorly. Even minor operations may endanger their lives. Through supplemental whole adrenal cortical extract they are able to withstand the alarm reaction and stage of resistance incident to surgical stress. Cortisone and hydrocortisone, etc., are contraindicated because of the many dangerous side-effects, most important of which is the suppression of adrenal cortical function. These severe reactions following cortisone and hydrocortisone therapy are now being reported in the surgical literature. Aqueous adrenal cortical extract is not dangerous and is physiologic. It not only helps restore general body physiology to normal but also helps maintain normal general capillary permeability in its reaction to stress and surgical procedures. These general principles can afford a smooth and uncomplicated operative course for patients who otherwise are considered poor surgical risks.

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Life Expectancy

Expectation of life at birth in New York at the midcentury was 66.3 years for white males and 71.3 years for white females, according to the statisticians of the Metropolitan Life Insurance Company.

For the United States population as a whole–as reported by the National Office of Vital Statistics, a part of the Public Health Service–the comparable figures are 66.3 years for males and seventy-two years for females.

The midcentury figures for New York mark a gain of 3.4 years for males and 4.3 years for females over those for 1940.

Essentials of Graduate Training for Physicians in Physical Medicine and Rehabilitation

HOWARD A. RUSK, M.D., F.A.C.P., AND JOSEPH G. BENTON, M.D., F.A.C.P., NEW YORK CITY

(From the Department of Physical Medicine and Rehabilitation and Institute of Physical Medicine and Rehabilitation of New York University-Bellevue Medical Center)

A MOST striking phenomenon in medical practice in the United States since World War II has been the realization of the increasing importance of comprehensive care or consideration of "the patient as a whole." The concept of the "team approach" to the patient is being increasingly emphasized in medicine and is being universally presented in undergraduate medical curricula in this country. None of the medical specialties epitomizes this more than does that of physical medicine and rehabilitation. While rehabilitation methods have been dramatically delineated in clinical experience with physically disabled individuals, the conceptual approach is as effective for patients without skeletomotor impairment or more commonly a combination of both physical and emotional problems.

Another factor of significance which brings into sharp focus the importance of rehabilitation is that, paradoxically, contemporary advances in medical and surgical technics have resulted in increased longevity with concomitant increments in incidence of the chronic diseases. Until the etiology of clinical entities such as arteriosclerosis, hypertension, chronic neurologic disease, the collagenoses, among others, are determined the only positive approach to the sequelae of these entities is the therapeutic approach of medical rehabilitation. Because of this, the discipline of physical medicine and rehabilitation is rapidly assuming the status of an accepted specialty in the family of the older, more established medical and surgical specialties. The American Board of Physical Medicine and Rehabilitation was established in the United States in 1947, and at present there are approximately 300 certified specialists in the United States and Canada.

With medical education undergoing a continual process of evolution, an ever-increasing interest is being evidenced in this field for American as well as foreign trained physicians. Community, hospital, medical school, national, and international demands for physicians trained in this field will increase in the near future as the result of greater emphasis being placed on rehabilitation by State, Federal, and international agencies. It is clearly evident that rehabilitation, with its interest in conservation of human resources, is a common thread cutting across national boundaries with significant world-wide implications.

The development of training programs in this country has proceeded along a variety of lines. In general, it is believed essential that a minimum required period of three years of full time be spent in training after an approved, preferably rotating, internship of at least one year. This chronologic pattern conforms with many of the other specialties and allows, in a graduated program, for the assumption of an increasing degree of responsibility and maturity of clinical judgment. Physicians trained at the residency level in other closely related specialties may require less time, and credit is given by the certification body for certain periods of time spent in internal medicine, pediatrics, neurology, and orthopedic surgery, as well as others, provided this has been performed under approved auspices.

The general purpose of training in this field should be to prepare sound physicians with a comprehensive knowledge of the technical skills which a specialist in the field of physical medicine and rehabilitation is required to have. Rehabilitation is a medical and not a technical discipline, and from an ethical as well as medicolegal point of view it is the physician who has the ultimate responsibility for the patient.

To this end and in conformity with the patterns established for the older medical specialties, the resident physician's program should encompass, as a salient feature of his training, an increasing clinical responsibility for patient care under adequate supervision. Recent trends in the United States indicate that more and more training programs are establishing independent bed services in hospitals and other centers around which the resident's experience revolves. It can be safely said that control over inpatient beds, small in number as they might be, is an essential feature of good residency training. In such a program the final or third-year senior residency would allow the candidate actual administrative and medical experience in operating a service and assignment of junior residents, fellows, and undergraduate medical students, as well as participation in teaching and research activities. At the present time in the United States there are a large number of unfilled residency positions in approved programs, both in civilian and military and Veterans Administration hospitals. Sponsorship for civilian training for American graduates is afforded by the National Foundation for Infantile Paralysis, the Office of Vocational Rehabilitation of the Department of Health, Education, and Welfare, and others.

Selection of Candidates

Residents and fellows are usually selected on a competitive basis with consideration of such factors as undergraduate medical education (approved medical school), recommendations of previous chiefs of service, eligibility for licensure, personality, and caliber of work in the internship period. Similar considerations apply for the foreign physician, and in these individuals other factors, such as designation by a national health agency with eventual assumption of a specific position in the health plans of the sponsoring country, are also considered. Every consideration is given the otherwise qualified foreign physician since the need for trained medical leaders in this discipline in these countries is even more critical than in the United States. For obvious reasons these candidates must have a reasonably good command of the English language. While it is desirable for the foreign physician to spend three years in training, the exigencies of need and time often require less training time. As a consequence considerable variation is required in establishing a training program for most foreign physicians.

Training Program

Instruction in the principles and practices of physical medicine and rehabilitation should incorporate selected lectures, clinical case presentations, seminars, inpatient bedside teaching, active outpatient attendance, and increasing responsibility for patient care and management under competent supervision. Journal club participation should also be required to afford acquaintance with the literature in this as well as allied fields. Experience should also be gained in the theory and practice of electrodiagnostic technics, and opportunity should be afforded under supervision to utilize these technics in clinical practice.

Training programs should also allow for exposure to a variety of clinical material, i.e., adult, children, chronic disease, and geriatric on both inpatient and outpatient physical medicine and rehabilitation services. The availability of such a variety of clinical material makes it desirable to rotate the trainee, within certain limitations, through the various services, including children's and possibly electrodiagnostic services, for intervals of three to six months. In addition, if he is on a three-year program, the trainee should spend time on affiliated orthopedic surgical, neurologic, and psychiatric services for short intervals of time (one to three months).

To broaden the three-year candidate's outlook, periods of time (up to three months) may be scheduled in other training institutions for specific purposes. He may also attend short courses at other clinics in selected instances. He is also expected to attend meetings of the local societies in the field of physical medicine and rehabilitation as well as closely related specialties and the annual sessions of the American Congress of Physical Medicine and Rehabilitation and to undertake research if so inclined.

It is becoming a standard procedure in this country to begin the resident's training with an introductory series of lectures and practice sessions concerned with basic concepts of physical medicine and rehabilitation. These may be called indoctrination courses and can extend to twelve weeks in duration. They are both didactic and practical and may incorporate functional anatomy and kinesiology of the various extremities, back and hip as well as functional muscle and joint testing. An attempt should be made to coordinate manual muscle testing training with that of the physical therapist. This allows for better understanding between the physician and the therapist. It is desirable to perform dissections of the arm and leg in the anatomic laboratories concomitantly. General introductory concepts of rehabilitation are also included.

In accordance with the requirements for basic science training in the other medical disciplines, the resident in rehabilitation should also have a formal review in the anatomic, physiologic, pathologic, and pharmacologic disciplines as especially pertains to this specialty. This is generally offered at the beginning of the training period but may be taken with equal advantage at any period of the training program. Most postgraduate medical schools have such courses for residents in other specialties, and where available, they should be attended by the resident in physical medicine and rehabilitation as well.

In addition, two-hour in-service training sessions are held, during which is presented material such as the following: electrophysics; electrophysiology; electromyography; the physical agents; history and scope of rehabilitation; review of basic principles of neurology; indications for use of physical agents; dynamics of skeletal and muscular development and response to mechanical stress; rehabilitation in arthritis; orthopedic procedures which facilitate rehabilitation; urologic and neurosurgical problems important in rehabilitation; occupational therapy; mechanics of normal and pathologic gait; review of low back syndrome; speech and hearing rehabilitation; workmen's compensation; industrial medicine and rehabilitation; paralytic scoliosis; training in upper and lower extremity prostheses; theories of dyskinesia; functional significance of spinal cord levels; peripheral vascular disease and rehabilitation; psychometric evaluation including aphasia and language deficit; social service work; vocational testing and counseling; the philosophy of a total rehabilitation program and special problems affecting the rehabilitation program such as the cardiac status and its relationship to activity, the geriatric patient in the rehabilitation program, and management of the arthritic patient.

Journal Club

Biweekly "Journal Club" meetings are conducted by the residents with consideration, among others, of the following:

1. Muscle re-education and support in convalescent poliomyelitis.
2. Clinical problems in neuromuscular physiology.
3. Classification of the arthritis with a practical approach to physical medicine and rehabilitation management.
4. Prosthetic devices.
5. Phantom limb phenomena and their management.
6. Shoulder-hand syndrome.
7. Spinal cord injuries with some aspects of rehabilitation management.

These sessions should prove of special significance to the resident since they afford opportunity for presentation and active discussion and for library research.

Patient Care

It is generally agreed that as a medical discipline the basis of graduate training for the physician in physical medicine and rehabilitation should be assumption of responsibility for patient care. This should be under direct supervision of competent instructors and in both inpatient as well as outpatient services. On admission of the patient a medical, vocational, and social history is taken and a complete physical examination performed with special emphasis on the skeletomotor system. The patient is then presented at evaluation clinics which are attended by both medical and coprofessional personnel. Requisite diagnostic studies and consultations are obtained as indicated before presentation. Rehabilitation programs are then outlined by the resident with review by the attending staff. During his training program the patient is followed frequently with periodic re-evaluation by the combined staff. In addition to patient care responsibility, the resident attends back, brace, amputee, and shoulder clinics. Attendance at patient presentation psychosocial conferences given by staff psychiatrists and auxiliary staff is another important feature of graduate training. Patient care should be supervised by qualified attending rehabilitation specialists. In addition, internists, orthopedists, neurologists, neurosurgeons, general and plastic surgeons, psychiatrists, and, on children's rehabilitation services, pediatricians should be in attendance, whose function would be the teaching of the respective disciplines where applicable to rehabilitation. This subserves two important functions: (1) It allows for a high level of patient care and (2) provides interdisciplinary opportunities for learning.

Rehabilitation services in this framework operate as a service department, much as pathology, radiology, and laboratories serve in existing hospitals. Rehabilitation personnel can be called as consultants to other departments, and in these instances medical responsibility remains in the hands of the referring service. When it is agreed mutually that the patient should be transferred to the rehabilitation service, then the medical responsibility passes into hands of the personnel on the rehabilitation service.

In the final year of training, as part of his duties, the resident should participate in the teaching of undergraduate third and fourth-year medical students, as well as nurses, physical and occupational therapists, and the other coprofessional personnel. This conforms to the pattern in the other medical specialties and affords opportunity to consolidate the essentials of his special area of competence. Where feasible, he should also have the opportunity to participate in research, either social, library, physiologic, or clinical if he is interested. There is a particularly wide field in these aspects of rehabilitation.

Summary

It should be the primary purpose of graduate training programs in physical medicine and rehabilitation to develop a physician with a diversified background in medicine who can work in complementary fashion with other members of the medical and coprofessional team and who is competent in the general principles and practices of rehabilitation medicine. It is essential that he possess the faculty to get along well not only with his patients but with the other members of the professional team. Such a program should prepare the candidate for private practice or hospital or teaching responsibilities in the field of physical medicine and rehabilitation.

Don't Forget . . . .

Make your hotel reservations for the annual convention, May 7 to 11, 1956, Hotel Statler, New York City

Transurethral Resection of the Vesical Neck for Relief of Diabetic Neurogenic Dysfunction of the Bladder

SIDNEY R. WEINBERG, M.D., NEW YORK CITY

(*From the Department of Surgery, State University of New York College of Medicine at New York City*)

URINARY tract infection is a frequent cause of morbidity in diabetes mellitus. In Duncan's study[1] of 618 consecutive patients with diabetes severe enough to require admission to a hospital, urinary tract infection was third in a list of major complications. Pyelonephritis was the most common lesion noted, and it has been estimated that in 25 per cent of these patients necrotizing lesions of the renal papilla occur. Any suppurative process alters the intensity of diabetes so that a diligent search for such a process must be made when treating a patient with diabetic coma. Many of these urinary tract infections are symptomless.

A less common cause of persistent urinary tract infection in the diabetic patient is vesicular neurogenic dysfunction. Some degree of neuropathy is common in diabetics. Collens[2] has stated that 93 per cent of patients examined by himself and his associates were so affected. The earliest abnormality noted is a loss of vibratory sense. Tingling sensations in the extremities are common. The disturbance of the nerve supply of the bladder is only one result of a degenerative neuropathy which occurs in diabetics, usually in those that are uncontrolled or are taking only haphazard treatment. The components of the nervous system affected in this condition are the sensory parts of the peripheral nerves, the ganglia of the autonomic nervous system, and localized areas in the spinal cord. The basic pathologic change is a demyelinization of the affected nerve fibers. Lesions of the autonomic nervous system may produce peripheral circulatory changes, orthostatic hypotension, and alterations in the function of the urinary and rectal sphincters. Whereas sensory peripheral nervous dysfunction usually responds favorably to medical treatment, there is no evidence of such improvement in diabetic neurogenic dysfunction. A bladder with a large residual urine or a chronic infection must cause upper urinary tract damage.

The urinary vesical lesion that has been described in diabetic neuropathy is a hypotonicity of the detrusor muscle, the so-called "cord bladder," since this condition resembles the hypotonic bladder which occurs in tabes dorsalis. This disorder is manifested by a hesitancy and weakness of the urinary stream, urinary retention, and persistent infection. In the elderly male it may be mistaken for the difficulties caused by an obstructing hyperplastic prostate and in the female for symptoms caused by a cystocele. Because the peripheral neural changes brought about by diabetic neuropathy are reversible if recognized and treated early, there may be a tendency to overestimate the effect of medical treatment. However, as a result of residual urine and urinary infection, secondary muscular defects in the fibers of the detrusor muscle result in trabeculation and scarring. These permanent changes affect the expulsive power of the bladder, so that physiologic imbalance between the detrusor muscle and the sphincter muscle results. Transurethral resection of the vesical neck weakens or ablates the so-called internal sphincter, so that the detrusor can empty the bladder with greater efficiency. As a result there is less residual urine, upper urinary tract damage is diminished, and urinary infection can be alleviated.

Neurogenic disease of the urinary detrusor muscle can be manifested by hypertonicity, as well as by hypotonicity. In the course of multiple sclerosis, a demyelinating disease, a hypertonic bladder may become hypotonic as the disease progresses. Although the cases of dia-

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Presented at the 7th meeting of the Research Society of the State University of New York College of Medicine at New York City, April 13, 1955.

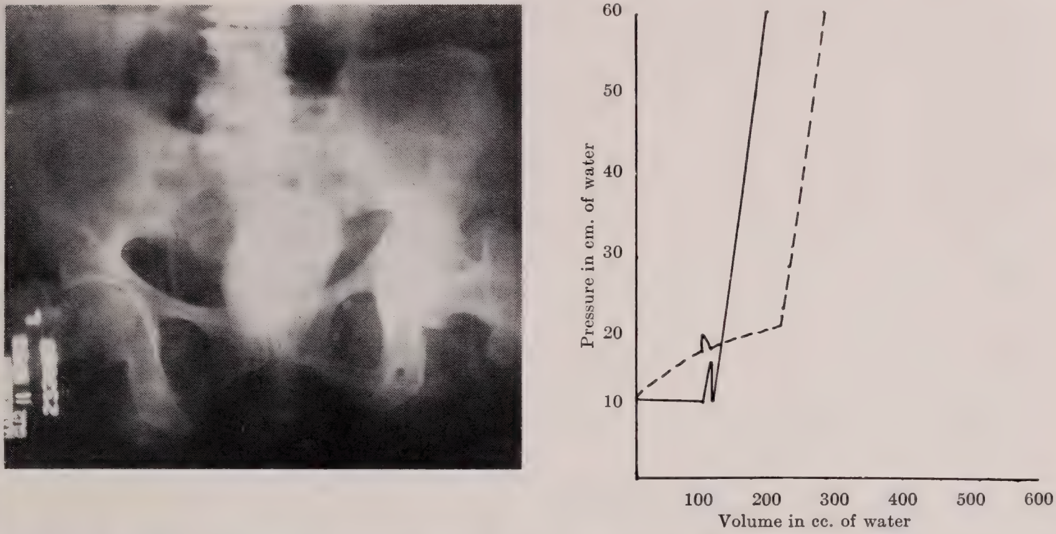

FIG. 1. *Case 1*—Cystogram and cystometrogram showing hypertonicity and asymmetry of the bladder (*straight line, preoperative data; broken line, postoperative data*).

betic vesical neuropathy previously reported have been hypotonic, it is conceivable that alteration in the localization of the nervous bladder lesion at a different spinal level may result in hypertonicity. Hypertonicity may also result from overstimulation induced by acute cystitis. In this condition the detrusor is placed in a state of spasm or tetany, causing severe urgency with dribbling. Upper urinary tract symptoms are also to be expected in the untreated hypertonic bladder, for powerful spasms of the detrusor cause vesicoureteral reflux with resultant attacks of pyelonephritis. Unfortunately, the hypertonic bladder is not so amenable to improvement after transurethral resection of the vesical neck as is the hypotonic bladder.

Emmett [3-5] studied the results of a large series of cases where the neurologic causative agents of hypertonicity were multiple sclerosis and other lesions of the central nervous system. Approximately 50 per cent were improved by transurethral resection of the vesical neck. However, in one of the cases about to be presented, there was marked urinary tract improvement following transurethral resection of the vesical neck. Improvement in the degree of infection may have also reduced vesical irritability. This case is unique in that there was residual urine present while the bladder was spastic.

This apparent contradiction was also noted by Emmett[3] and discussed in detail in his description of a case of diabetic vesical neuropathy treated by transurethral resection. Emmett's case was that of a man of twenty-six, a severe diabetic, who had a residual urine of 500 cc., but whose bladder was so spastic that the transurethral resection was difficult to perform because only 3 ounces of water could be let into the bladder at a time. After two transurethral resections of the vesical neck, this patient was so improved that residual urine was no longer present. This patient and the patient whose case history is to be presented are the only two such cases noted in the literature as far as could be determined.

Case Reports

CASE 1.—R. R., a fifty-three-year-old, white married woman, was admitted to the hospital on November 9, 1953, complaining of marked urinary tenesmus and urgency associated with severe dysuria. Because of urinary dribbling the inner aspects of both thighs were severely excoriated.

The patient, a known diabetic for three years, was treated with 10 units of protamine zinc insulin daily. She was an obese person whose diet was dedicated to gustatory pleasures rather than therapy. She admitted that she failed to take insulin regularly. In addition to urinary difficulties she complained of severe numbness and tingling of both fingers and toes for the past three months.

The abnormal physical findings were obesity, an intense ammoniacal dermatitis of the inner aspects of both thighs, a diminution of vibratory sensation in both feet with marked gastrocnemius tenderness, and hyperesthesia over both lower extremities, more marked on the right below the knee. The

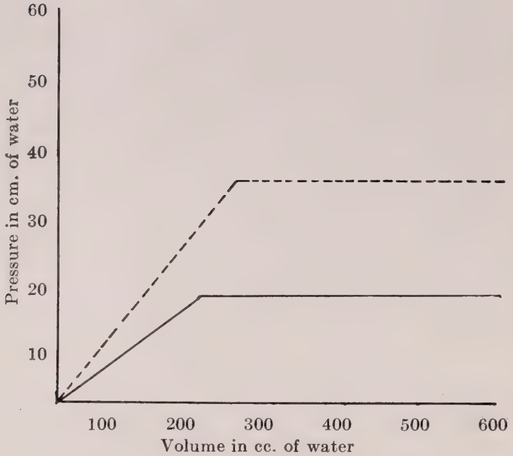

FIG. 2. *Case 2*—Cystometrogram illustrating marked hypotonicity (*straight line, preoperative data; broken line, postoperative data*).

pertinent laboratory reports were blood sugar 122 mg. and a urine culture that disclosed an Aerobacter aerogenes growth from the bladder and right kidney. X-ray study of the urinary tract showed normal morphology of upper urinary tracts, but a contracted irregular bladder was seen (Fig. 1). Cystometrographic curve showed definite hypertonicity, but a residual urine of 100 cc. was noted (Fig. 1). As described in Emmett's[3] case, there is no ready explanation for this apparent contradiction. Panendoscopy of the bladder disclosed marked detrusor trabeculation and contracture of the vesical neck.

A diagnosis of diabetic neuropathy with hypertonic bladder was made. Four grams of fibrous tissue were removed by transurethral resection of the vesical neck. Postoperatively she lost a few drops of urine in stress but became completely continent three weeks after discharge from the hospital. At that time the abnormal neurologic signs and symptoms had disappeared. A cystometric study six months postoperatively showed improvement, although less than that expected from the subjective improvement. At present the patient has only occasional nocturia, is gainfully employed, and her diabetic status is under medical control.

CASE 2.—B. Z., a sixty-seven-year-old female, had been treated for persistent cystitis for six months. When admitted to the hospital on December 21, 1952, her main complaint was severe urinary frequency with dysuria. Urinary frequency, diurnal and nocturnal, disturbed her rest and aggravated her impaired cardiac status. At the time of admission she complained of angina pectoris following minimal effort, dyspnea, and orthopnea. Patient was a severe diabetic, requiring 45 units of protamine zinc insulin and 10 units of regular insulin per day. The continuing urinary infection made control of her diabetic condition difficult. Previous urologic treatment consisted of bladder lavage, urethral dilatations, and urinary antiseptics. Intravenous pyelogram revealed normal upper urinary tracts. A cystometric study disclosed hypotonicity of the bladder musculature (Fig. 2). Bacillus proteus mirabilis was recovered from the urine by culture.

Two days after admission the bladder was visualized with a panendoscope; marked detrusor trabeculation but no calculi, tumors, or diverticular orifices were seen. Circumferential resection of the vesical neck with excision of 3 Gm. of tissue was performed without mishap under caudal anesthesia. The patient was discharged one week after admission. Her symptoms were reduced to only occasional nocturnal frequency and no dysuria. Furadantin therapy was continued for another week postoperatively. Examination then revealed a residual urine of 100 cc., but the urine was clear and uninfected. Eighteen months postoperatively the patient showed improvement in the cystometric study (Fig. 2). She had been in good general condition since her discharge from hospital. Urinary antiseptics are no longer required.

CASE 3.—A. M., a sixty-nine-year-old female, was referred for urologic investigation because of persistent urinary tract infection. She had been a known diabetic for fifteen years, taking 33 units of protamine zinc insulin daily. The referring physician stated that the patient had been incapacitated because of severe dysuria and intense urinary frequency for the past eighteen months. She had complained of urinary symptoms of a milder degree for ten years. Treatment with antibiotics and high vitamin regime did not produce any improvement. When examined, diminished nerve reflexes were detected. There was no cystocele discernible. Intravenous urography did not disclose any changes in the patient's renal or ureteral function or morphology. Cystoscopic examination divulged a residual urine of 180 cc., marked bladder trabeculation, chronic cystitis, and a circular contracture of the vesical neck. Culture of the urine showed Bacterium coli.

Treatment consisted of urethral dilatations and administration of urinary antiseptics. After three months of this treatment no improvement was noted, and hospitalization was advised. This was refused until November 8, 1954, when the patient was admitted to the hospital for a transurethral resection of the vesical neck. Preoperative cystometrographic study is shown in Fig. 3. A transurethral resection of the vesical neck with removal of 4 Gm. of vesical neck tissue was effected. By the fourth postoperative week the patient's symptoms were mitigated, and she was able to resume a normal social life.

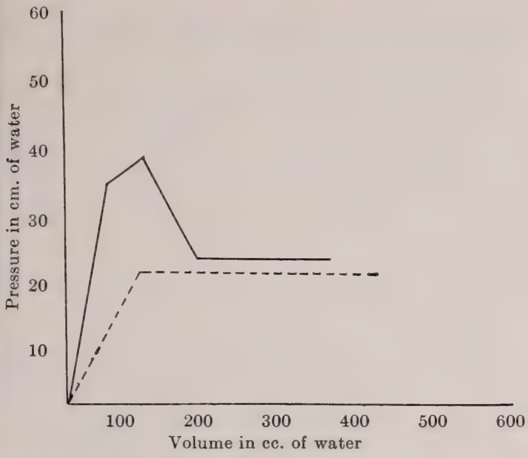

FIG. 3. *Case 3*—Cystometrogram showing moderate hypotonicity altered by concomitant infection of the bladder (*straight line, preoperative data; broken line, postoperative data*).

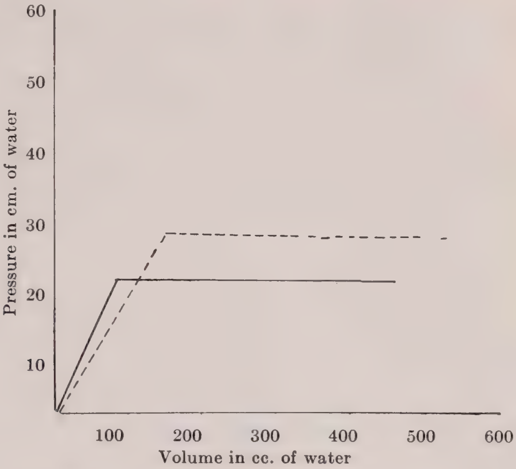

FIG. 4. *Case 4*—Cystometrogram showing marked hypotonicity (*straight line, preoperative data; broken line, postoperative data*).

CASE 4.—H. D., a forty-seven-year-old, white male, a known diabetic for ten years, was examined on July 24, 1954, because of marked dysuria and severe nocturnal and diurnal frequency. He had experienced an increasing loss of sexual desire and finally complete impotentia during the past two years. Together with the urinary disorders he complained of obstipation and constant frigidity and tingling of his feet. Suprapubic prostatectomy had been done in another hospital one year prior to this hospitalization because of urinary obstructive symptoms. Benign prostatic adenomas were removed.

Physical examination was normal except for diminished neurologic reflexes. A severe pyuria was present. Cystometric study demonstrated severe hypotonicity of the urinary bladder (Fig. 4). Residual urine was 100 cc. Intravenous urography did not disclose any renal or ureteral abnormalities. Endoscopic examination was done after a spinal anesthetic had been given, and a contracture of the vesical neck with an elevation of the floor of the bladder because of a median bar was detected. A transurethral resection of the obstructing bar and a clockwise resection of the vesical neck contracture were then performed. Three grams of vesical neck and prostate tissue were removed. There were no postoperative complications. Four weeks later the patient's urine was clear, and the urinary symptoms had been alleviated. The circulatory and rectal symptoms were improved by use of a high-vitamin and crude liver extract regime. There was no improvement of the sexual difficulties. At a follow-up examination six months later there were no urinary complaints, but the cystometric curve was only minimally improved.

Summary

1. Four cases of diabetic neurogenic vesicular dysfunction are presented with clinical improvement after transurethral resection of the vesical neck.

2. One of the cases showed hypertonicity of the bladder with diabetic neurogenic dysfunction. This is the second recorded case of this syndrome.

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The greatest task before civilization at present is to make machines what they ought to be, the slaves, instead of the masters of men.—HAVELOCK ELLIS

Medical Care of the Child Patient Before and After Adenoidectomy and Tonsillectomy

EDWARD ORZAC, M.D., VALLEY STREAM, NEW YORK

Many papers have been written on the psychologic preparation of the child for adenoidectomy and tonsillectomy, and many more have described new technics for the operation. The primary concern of this paper, however, is the routine medical care of the patient before and after operation.

The object of surgery is not only to effect a clean excision but a rapid and uncomplicated return to health as well. Therefore, the surgeon strives to devise technics which are relatively bloodless and free from danger of primary and secondary hemorrhage and also to develop efficient methods for control of postoperative pain and the infections which too frequently retard recovery.

It is easy to compile statistics on hemorrhage, but postoperative discomfort and infectious complications are more difficult to evaluate. Pain is an individual experience, which, on transfer from child to parent, can be exaggerated or minimized according to the temperament of one or both. The presence of infection generally may be detected by clinical examination. However, as observed by others,[1] in some cases, especially in the younger age groups, the child may harbor an unrecognized, low-grade infection and may even be suspected of having behavior difficulties rather than infectious illness. In such patients convalescence from surgery may be definitely handicapped.

Method

In the initial discussion of proposed nose and throat surgery with the parent (usually the mother), we have found it helpful to give her a printed sheet of instructions, explaining the operation, the anesthesia, etc., and suggesting methods to employ in home management of the patient so that he will be psychologically prepared for the ordeal.

Naturally, before any preoperative or postoperative medication is prescribed, a careful history is always recorded concerning the possibility of allergy to penicillin, sulfonamides, and codeine.

In this study 500 children, two to twelve years old, were subjected to tonsillectomy and adenoidectomy throughout the winter and spring of 1954 and from October to June, 1955—in all, a period of about fifteen months. Each patient received preoperative and postoperative medical treatment designed to eliminate, as far as possible, the common infectious and other complications attending nose and throat surgery. Three hundred control patients received no medication before or after operation.

1. Preoperative medication: For seven days before operation Adrenosem, in doses of 1 mg., was administered three times a day and a mixture of benzathine penicillin and triple sulfonamides,* in doses of 1 teaspoonful three times a day.
2. At operation: Immediately after induction, 1 cc. Adrenosem and 1 cc. procaine penicillin† were administered intramuscularly.
3. Postoperative medication: Two hours after completion of surgery, the patient again received 1 cc. Adrenosem and 1 cc. procaine penicillin† intramuscularly.

At the time of discharge of all patients after tonsillectomy and adenoidectomy, the parents were given a printed form containing complete and detailed directions for home care of the patient. They were instructed fully as to what to expect, what to do and what not to do, and when additional medical attention is indicated.

In this study the medicated patients four years of age or older received the benzathine penicillin-triple sulfonamide mixture in doses of 1 teaspoonful with $^1/_4$ grain of codeine four times a day. This combined medication was administered by mouth for six days after operation.

For children less than four years old the dose of codeine was reduced to $^1/_8$ grain four times a day.

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* Bicillin-Sulfas Suspension (benzathine penicillin G, 150,000 units, and 0.167 Gm. each of sulfadiazine, sulfamerazine, and sulfamethazine per teaspoonful) was supplied by Wyeth Laboratories, Philadelphia, during the first five months of this study.

† Wycillin Suspension (procaine penicillin G in aqueous suspension, 300,000 units per cc.), Wyeth Laboratories.

TABLE I.—Postoperative Complications in Medicated and Control Patients

	Medicated Group	Control Group
Number of patients	500	300
Primary hemorrhage	0	1.7%
Secondary hemorrhage	0	1.0%
Postoperative infections	1%	4.4%
Postoperative pain	1%	3.0%

Records were kept on each patient concerning the occurrence of (1) primary and secondary hemorrhage, (2) postoperative infections, as determined by clinical examination and evidence of undue elevation of temperature, and (3) postoperative pain, as measured by the number of telephone calls from parents and questioning of the parent and child in the postoperative period.

Results

Primary hemorrhage occurred in 1.7 per cent and *secondary hemorrhage* in 1 per cent of the 300 control patients, but in *none* of the 500 children who received preoperative and postoperative medical treatment (Table I).

Postoperative infections retarded convalescence in 13 (4.4 per cent) of the 300 unmedicated controls but in only seven (1.4 per cent) of the 500 treated children.

Three of the treated patients had catarrhal acute otitis media, three pharyngitis with adenitis, and one had bronchopneumonia. Viral gastroenteritis developed after operation in another patient in this group but was not counted a true postoperative complication since three family contacts had become ill with the disease the day before the child was operated upon.

In the unmedicated group otitis media occurred in seven patients, the acute catarrhal form in six and purulent acute in one. Two had bronchopneumonia, three had pharyngitis with cervical adenitis, and one had cystitis.

Postoperative pain severe enough to warrant one or more phone calls from the parents for additional treatment was three times as frequent for the controls as for the medicated patients.

Summary

Routine medical care before and after removal of tonsils and adenoids has definite advantages. Statistics collected in this series of 500 treated children with 300 controls showed, in the medicated group, a reduction of bleeding to a minimum at time of surgery and elimination of primary and secondary hemorrhage with a postoperative course as free from pain and infection as it is presently possible to achieve. Postoperative infections were only about one-fourth as frequent in the medicated as in the control patients.

The treated group received Adrenosem in doses of 1 mg. and a mixture of benzathine penicillin and triple sulfonamides, 1 teaspoonful three times a day for seven days before operation; additional doses of Adrenosem and penicillin intramuscularly during and two hours after completion of surgery; and in the postoperative period 2 teaspoonfuls of the benzathine penicillin-triple sulfonamide mixture with $^1/_8$ to $^1/_4$ grain codeine, according to age, four times a day for six days.

460 Rockaway Avenue

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Skin Necrosis with the Intravenous Use of Nor-Epinephrine

Although some writers condemn the use of Nor-epinephrine because of undesirable side effects, Drs. Gordon H. Hardie and Daniel C. Hunter, Jr., University of Michigan, believe that under certain conditions its virtues overbalance its drawbacks—provided certain precautions are observed. They suggest that when maintenance of blood pressure is a matter of saving life, this powerful vasoconstrictor should be used even though sloughs may occur. The core of this paper, which presents two cases of skin necrosis after intravenous administration of Nor-epinephrine, is a list of recommended procedures to prevent sloughing at the injection site. In the cases cited from the literature, as well as their own, sloughs were rather superficial. Of the patients surviving their primary disease, all wounds, except in one case, healed successfully.—*University of Michigan Medical Bulletin, July, 1955*

The Richmond County Medical Society's Plan for the Control of Narcotic Addiction

HERBERT BERGER, M.D., F.A.C.P., STATEN ISLAND, NEW YORK

In January, 1953, the Medical Society of the County of Richmond in New York after considerable study passed the following resolution:

1. Whereas, the medical profession in its traditional role as guardian of the public health has been distressed by the narcotic problem and its apparent increase; and
2. Whereas, the average user of narcotics must spend from $15 to $100 per day to keep himself supplied with drugs; and
3. Whereas, the crime in drug addiction stems from the inability of persons of moderate means to purchase drugs at present illegal prices; and
4. Whereas, the most serious of these crimes is the conversion of each addict into a salesman with consequent formation of new addicts; and
5. Whereas, the use of morphine and heroin in themselves do not incite these unfortunate people to crime, as both drugs are depressants; and
6. Whereas, the narcotic trade exists only because of the huge profits involved (for example, 2 pounds of heroin can be bought for $10 in China and sold after cutting and packaging for $80,000 or more); then therefore be it

Resolved, that the Medical Society of the County of Richmond favors the legalizing of the distribution of narcotics free of charge with proper safeguards, hereinafter to wit:

1. Establish narcotics clinics in all cities as the need appears under the aegis of the United States Public Health Service.
2. Register and fingerprint all who apply to prevent reregistering in other clinics.
3. Do not demand that they be enforcibly confined, as they are now.
4. Determine the smallest amount of pure drug that will relieve the patient of his symptoms.
5. Administer this uncut material by the doctor or under his supervision and under sterile precautions.
6. Keep accurate records of dosages.
7. No supply ever to be given to the addict, dosage to be given only at the clinic.
8. Nominal charge for the actual cost of the drug, possibly 15 to 30 cents.
9. Make an effort to effect a cure, where possible, using hospitalization if the patient acquiesces.

The passage of this resolution excited the enthusiasm of the public press and has been followed in turn by a not inconsiderable degree of interest among social workers, psychologists, psychiatrists, the clergy, and addicts themselves. Those who are seeking a solution to the problem of juvenile deliquency, as well as a number of organizations devoted to the study of criminology, have seen fit to comment favorably on these suggestions. After appropriate action by the Coordinating Council of the five counties comprising the City of New York, this resolution was presented to the House of Delegates of the Medical Society of the State of New York. It was referred to the Council Committee on Public Health and Education and studied for an entire year. In May, 1954, the House of Delegates of our State Society passed this resolution and referred it to the American Medical Association. The problem is now before a committee of the American Medical Association. Therefore, it seems proper that the resolution be called to the attention of physicians throughout the United States who may now have an opportunity to understand the background and the thinking that went into the preparation of these thoughts. Similar joint resolutions have been introduced into Congress. If some of the material that follows seems elementary, it is written so only because by Federal fiat the medical profession has been separated from the care of these sick people, the narcotic addicts. It is quite possible that many physicians have neither seen, recognized, nor treated a person afflicted with addiction.

The Narcotic Addict as a Person

There are few people in this enlightened country of ours who are so badly misunderstood and maligned as these unfortunates. Our novelists and some of our less well-informed sources of general information have pictured him as a fiend and a devil, subhuman, and possessed of none of the gentler civilized attributes. Since most physicians are inexperienced with the votaries of opium, even we, who of all people should be aware of this faulty characterization, know little about these individuals. I was utterly amazed to meet a veritable Casper Milquetoast, my first experience with a long-addicted person. Perhaps as this story unfolds, the reasons for our lack of authoritative information in this important medical area may become apparent.

There are no individuals who do not at times experience periods of depression or elation. A mature personality recognizes these alterations in his mood as normal. Most of us have learned that blue days are temporary and will ultimately be followed by better ones. We overcome our despair with patience or sometimes by the finding of a new hobby, a vacation, a new job or home, or perhaps a new interest. The narcotic addict, however, cannot tolerate these depressions and valleys in his daily living. He is incapable of using his own native talents for overcoming these unpleasant episodes. He wants to reach and stay at the heights of elation and happiness constantly. This is a perfectly normal, human desire shared by all of us. Our narcotic patient, however, differs in that he seeks to attain this plateau of joy chemically rather than from the use of his own inner strength and convictions. Even this small introduction to a large and involved subject should make it apparent that drug addiction isn't even a disease. It is merely a symptom of one.

What then is wrong with the euphoria that these people seek to achieve endlessly? The fault lies not with the pleasant state of mind which they hope to perpetuate, but rather with their lack of insight into themselves and their lack of understanding of reality. A problem deferred with narcotics remains unsolved. It persists tomorrow or the next day so that these individuals, like so many of the rest of us, are procrastinators of the worst sort. Whatever strength of character they may once have possessed is lost as they everlastingly retreat from life and the making of decisions. Without going into this subject to a length interesting only to the serious student of psychiatry, it becomes apparent that these are sick individuals, suffering not from narcotic addiction but from lack of will power and strength of personality. They differ little from those of us who eat too much and hardly at all from the alcoholic who seeks as well to solve life's problems chemically.

The Nature of Addicting Drugs

We physicians have been using narcotics for thousands of years, and we know full well the effect of these medicaments on our patients. They are sedatives, inducing sleep or relieving anxiety. With them our patients may achieve surcease from pain or worry. Their larger problems may become smaller or even insignificant to them. Can the lurid articles in the daily press make us, who have a grounding in pharmacology, believe that narcotics do anything else for an addict? Under the influence of opiates the addict like our other patients becomes relaxed and at ease. He is incapable of violent crime while under the influence of these drugs and cares nothing for sex. He is incapable of sex. Many of them tell me that their entire interest in this subject disappears when they are so sedated. In fact, many of these individuals are better citizens with narcotics than they are without. Please do not interpret this as a suggestion that they be used in the treatment of certain psychogenic states. An observation that those of us who are interested in this subject make, time and time again, is that the individual who has been using these materials as self-treatment for anxiety demonstrates all of his symptoms as he is removed ever further and further from the addicting material. Many calm and quiet individuals who are able to work steadily while using narcotics find themselves becoming antisocial, belligerent, and endlessly difficult without these substances.

This, then, should introduce us to a new concept of these patients because actually every reader of this paper probably has met, and knows now, a narcotic addict who may hold a position of responsibility in his own community extending from bank presidents to doctors to locomotive engineers. These people perform their work perfectly without detection until for some reason they run afoul of the law in their efforts to gratify their habit. Compare our addict, if you will, with a diabetic. The latter is able to lead a normal life as long as he gets all of life's necessities and insulin. The drug addict, similarly, is able to function adequately as long as he receives the same necessities of life that our diabetic needs, but he, in addition, needs not insulin but narcotics.

There are two features which are ascribed to narcotics as though they exhibited these pharmacologic characteristics alone. These drugs produce both tolerance and dependence. By the former we mean that it takes ever-increasing doses to produce the same effect. Your self-treated constipated patient tends to use ever larger and larger doses of his favorite laxative in order to produce the same effect on his bowels. Dependence is some characteristic of the nerve cell which demands these materials in order to function properly. Such dependence appears in many other diseases, for example, the use of vitamin B_{12} in the treatment of pernicious anemia.

Let us picture for a moment a potential narcotic addict who has never met a peddler. He might be the antisocial person who throws a stone through the stained glass window of the church to which he does not belong or who sets fire to his school when he has been disciplined therein. Perhaps he is a member of one of our numerous lunatic fringe societies, or he may be found in our jails or in our underworld because some of his antisocial behavior has made him a criminal. Not too long ago such a person came to my attention who, after experiencing many difficulties in adolescence, became a moderate user of narcotics. For the past forty-five years he has operated a railroad switch tower at a busy junction. He has been praised by his supervisor as a diligent, conscientious worker who "never misses a day" and on whom he "can depend utterly." This individual unfortunately acquired tuberculosis and came to my attention only when he was admitted to a sanitorium, thereby being separated from his usual sources of supply. In summary, then, these materials are used as self-treatment by certain mentally sick individuals. They do not incite the user to violence. In fact, the very opposite is true.

Crime and Drug Addiction

If these drugs do not promulgate criminal tendencies, why are crime and narcotic addiction so closely allied in our minds? In the United States the addict is not recognized officially as a psychopath but rather as a criminal. Now this is an entirely man-made situation. We could make our diabetics criminals just as quickly were we to forbid them insulin. Similarly, our experience with Prohibition proved to us that we could make criminals out of devotees of alcohol. We recognized this error in our thinking when the 18th Amendment was repealed. Now, by the ukase of the Bureau of Narcotics, we have divorced the addict from a legitimate source of drugs. He may not obtain these materials from his physician, nor can he obtain them through his pharmacist. To him they have become a way of life. They are, in his warped reasoning, necessary for his very existence. Therefore, he obtains them through the underworld or by stealth. The peddler, like the bootlegger of the 1920's, was happy to have this artificial opportunity created for him by our legislative efforts.

Narcotics are not very expensive, costing little more than aspirin to produce. There is a rather large tax on these materials, but even so, 20 or 30 cents would supply the daily needs of most addicts. Actually, however, since the price of these materials has been artificially heightened by the nature of their source, many of these people spend from \$15 to \$100 a day to gratify their addiction. *This, then, is the source of crime.* How many individuals do any of us know who can spend \$100 per day on drugs in addition to all the other expenses of living. It becomes apparent that few could hope to do this by legitimate means. Actually the situation is compounded even further by additional factors. The narcotic addict must keep his illness secret to avoid the censure of his neighbors, so that he can stay out of the clutches of the law. As we have pointed out before, the materials are sedatives so that every capacity which he may have once had for earning large sums has been lost by this action of narcotics. Therefore, as one addict described the situation, each day is spent in a frequently futile effort to acquire sufficient money to gratify the habit.

The type of crime to which these individuals turn is interesting. Since many of these people are rather meek, their methods of acquiring money are rarely violent. They are shoplifters, policy slip runners, bookies, pilferers, and the like. Murder is a rare crime among them. Females practice prostitution. Married women have been known to sell the furnishings from their homes to obtain monies which should have been spent for food and other necessities. Many prostitutes have never seen the money their efforts have earned. Instead their procurer or madam pays them in narcotics. This tends to keep them from leaving the house. In some cities of the United States as many as 86 per cent of all apprehended prostitutes were narcotic addicts.

Actually these are the least of their crimes. The most serious is the introduction of neophytes to addiction. The narcotic peddler is usually an addict. In New York City he is given 25 per cent of all the narcotics he can sell. Therefore, the addict is the largest single cause of the spread of this symptom complex. Who are these initiates? In most instances they are children of high school age who are easily induced to take narcotics as a new adventure. They want desperately to be one of the crowd and intensely fear criticism of being "chicken."

The Magnitude of the Problem

Because the sale and distribution of narcotics is illegal in the United States, we have no accurate figures as to the number of addicts in this country. Actually we know only of those individuals who run afoul of the law. This amount seems to be increasing. An estimate made in 1918 by a commission appointed by the then Secretary of the Treasury estimated that we had a million addicts. This was about four or five times the number of sufferers prior to the passage of our first law of control, the Harrison Act. None of the figures from any source, whether it be the Commissioner of Narcotics, our courts of law, the Federal hospitals for the care of narcotic addicts, our prison population, or the Bureau of Customs who seize a certain amount of narcotics each year, are accurate. The United Nations estimates that no more than 10 per cent of all of the material smuggled into the United States is ever seized. In 1952, 4,000 ounces were so acquired by the government, and if this were 10 per cent of the total, then 40,000 ounces were smuggled into the country, which should be sufficient to supply 180,000 addicts. The number of individuals who have been apprehended for narcotic violations has increased 1,200 per cent in the last seven years. The adoption of our resolution will lead to the acquisition of some accurate information as to the nature of this problem and its magnitude.

The Cause of Our Present Situation

Most of the narcotics introduced into the United States in the latter part of the nineteenth century and the first fourteen years of the twentieth reached this country through Chinese Tongs. A good deal of the material so introduced was powdered crude opium which was smoked in parlors, very much as liquor is consumed in saloons. An occasional non-Chinese member of our community used this substance. Perhaps even larger numbers of individuals had become accustomed to various proprietary medications, which were sold across drugstore counters without prescriptions, which contained more or less narcotics. Querulous children were treated with nostrums containing paregoric. This was a well-recognized remedy for teething. Women used such substances for the relief of menstrual cramps and discomfort. A great number of apprehensive people used patent medicines containing opiates rather regularly to reduce their nervous tension.

In an effort to cope with this situation which had become a matter for concern in the press of the early twentieth century, there was passed the Harrison Stamp Act. The purpose of this piece of legislation was to control the sale of these materials and to tax them. Since that time each vial of narcotics carries a stamp very much like that found on bottles of liquor. It is obvious that the Congress expected that this would be a tax measure because its enforcement was placed in the Treasury Department. The term "narcotic addict" does not even appear in the Act. As a result of rulings by the chief of the Bureau of Narcotics and by subsequent interpretations of these decrees by the Supreme Court, it has become illegal for practicing physicians to administer narcotics to addicts. The legal machinations by which we in medicine were separated from these unfortunates is a story in itself. It has been told very well by Mr. Rufus King[1] recently in the *Yale Law Review*. Remember the regulations were made by the Bureau and not by Congress.

All of the legislation, Federal, state, and municipal, is punitive in nature. The net result of this type of control has been to make the acquisition of narcotics ever more difficult and consequently ever more expensive. It follows then that each new measure actually incites new crime. In every instance this observation has been borne out. I am sure that those who have profited enormously from the sale of these substances welcome every new legal effort at control. There is no need to question why there are so many who are interested in "pushing" narcotics. The profits are beyond all realization. Five or ten dollars spent for narcotics in the Orient easily secreted under the shirt of a seaman can be smuggled into this country and sold for over $100,000 after being properly cut, diluted, and peddled. When one considers how impossible it was to prevent the smuggling of alcohol, which is thousands of times more bulky and with a considerably smaller profit involved, one can readily sense the futility of legally controlling narcotic addiction by such means.

Senator Royal S. Copeland, a physician from New York, recognized that many addicts would be left without any legitimate source of supply after the enactment of the Harrison Act. He suggested, therefore, that clinics be made available for these individuals so that they might be able to gratify their needs at small prices without recourse to the underworld. These clinics followed none of the regulatory devices which are suggested in our resolution. Nonetheless, they were attended by thousands of patients throughout the country. They were not well conceived, but they were an attempt in the right direction. They might ultimately have been made to work properly, had they been given the opportunity to correct their own errors. They were closed by a decree from the Bureau following a report by a committee of the American Medical Association in 1919 which suggested that narcotic addiction could best be cured within an institution. While the Bureau of Narcotics acted rapidly on the A.M.A. suggestion, closing the clinics at once, it was not until 1935 before proper, government-controlled institutions were inaugurated, first at Lexington, Kentucky, and later in Fort Worth, Texas, in an effort to handle this problem.

At the present time the United States has become a vast game preserve stocked with hundreds of thousands of narcotic addicts, a few of whom can be apprehended at will by our enforcement officers. The apprehension of an occasional smuggler or of some user or peddler (and the latter two terms are frequently synonymous) receives newspaper headlines, and we, who may not be interested in the subject, might then feel that the problem is being solved.

Present Methods of Treatment of Narcotic Addiction

Narcotic addicts who are not convicted of a crime and, therefore, incarcerated in jails may either by their own volition or on recommendation of appropriate penal, social, or medical authorities be recommended for admission to either of the Federal hospitals. Only one of these accepts females. Treatment in these institutions is excellent, there being brought to bear on the problem not only medical but religious, social, and vocational guidance. The treatment is long, from four to twelve months, and costs on an average $4,000 per patient.

The relapse rate of these patients is unknown. It is probably extremely high. Authorities in the institutions speak of 69 or 75 per cent in various articles. Addicts give us the impression that the relapse rate is practically 100 per cent. One addict that I interviewed received his first dose of heroin, after leaving the hospital at Lexington, in Pittsburgh as he changed trains to New York City. It would seem that only 5 per cent of these patients stay completely well. If this figure is true, and it is probably quite accurate, then each cure costs the taxpayers of the United States $100,000. We in medicine would never accept so poor a record in the treatment of any disease. It becomes very difficult to say much in favor of a program of therapy with so enormous a rate of failure.

Yet our government is committed to this utterly untenable policy. Perhaps the degree of ineptitude of our methods can best be exemplified by studying the situation in England where addicts may be treated by their own physicians and where there are reported for the year 1953 311 addicts, and there may be, according to the British authorities 50 or 75 more in the entire British Isles, an area with a population of 40,000,000.

There is some light to be found in this picture in that in Detroit, Chicago, and New York City some follow-up methods are now being utilized. The report of the Provident Hospital under Dr. Walter Adams[2] in Chicago makes excellent reading, and I commend it to those of you who are interested. In New York City where the problem is most acute, particularly in our underprivileged areas, we have some facilities for the hospitalization and follow-up of juvenile patients, but nothing for adults.

In the therapy of so complex an individual as a narcotic addict, embracing as it does every class of human being, it becomes apparent that some, perhaps many, patients are incurably addicted. For such an individual there remains only three possibilities: (1) incarcerate him for life, (2) put him to death, or (3) grant him some narcotics legally under proper regulation.

The first of these is too costly and would take many valuable citizens out of circulation. In addition, the addicts themselves would not voluntarily enter hospitals. They rarely go to Lexington or Fort Worth now of their own volition and then it is not to break the habit but to "kick it down" to a price they can afford.

The second has been tried at various times in dictatorships in the Orient. It hasn't worked there, and it is not likely to be enacted in any civilized country like the United States.

The third represents to us the only likely approach.

The Richmond County Plan a Practical Remedy

The plan which has been described in the original resolution is as simple as it is direct. It embraces really only two steps:

1. Recognize the addict for what he is, a mentally sick person whose prime symptom of illness is addiction.
2. Let us bring to bear on this unfortunate psychopath the whole weight of our great knowledge in medicine, sociology, psychiatry, religion, and humanity so that this sick individual may again be made well and to rehabilitate him so that he can live without narcotics if this can possibly be done. If this is not possible with our present state of knowledge, then let us carry him on narcotics under our control until we learn enough about this subject to effect eventually a permanent cure.

What can we expect from this program?

1. To learn the magnitude of the problem.
2. To stop crimes committed by addicts in order to obtain the price of drugs.
3. To stop the introduction of addiction to new people by the present users who are trying to guarantee their own sources of supply.
4. To prevent death and disaster to those addicted individuals who inject impure, dirty, infected materials into themselves. Many lose their lives from overdosage or from "hot shots" which contain poison. This is the way the underworld disposes of a dangerous addict who has no money to purchase drugs or who informs on the "higher-ups."
5. To empty our jails of these noncriminals or those people who have become criminals only through our own inept legislation.
6. To give us the opportunity to study addiction so that we may eventually discover a real cure for this disease.

Naturally such a program will require careful safeguards:

1. It will demand the establishment of clinics in our larger cities and individual physicians[3] in smaller localities.
2. Narcotics should be administered only at the clinic. The addict will never be given a supply of medications.
3. He must be fingerprinted and properly identified, registered, and photographed. Only those who are actually addicts can be treated. These can be readily recognized either by incarcerating them and withdrawing them from the narcotics after strict seclusion or by the administration of narcotic antagonists such as Nalline.
4. Hospitalize those patients who the medical personnel at the clinics feel can best be served by inpatient technics. These should be individuals who request hospitalization after being so advised by the clinic physicians. They should not be forcibly incarcerated unless their physical or mental condition is so critical as to make them a menace to society.

Objections to the Plan

This plan is opposed by the Federal Bureau of Narcotics. I believe these gentlemen to be entirely sincere in their concept of narcotic addiction as a wholly criminal matter. I can only cite in rebuttal the existence of the problem after forty years of such methods and its apparent growth under this technic. They feel that pride would keep addicts from registering in such clinics, and it is quite true that some might not, but 1,500 registered in the early clinics of 1918 on the first day. At the present time *all* addicts are cheats since they will do practically anything to secure the drugs they so urgently need. Under our plan some may continue to be dishonest, but that number ought to be a great deal smaller than it is now.

We hear a great deal about the contagious nature of addiction and that clinics, by bringing addicts together, will increase their numbers. Actually the necessity to sell drugs on the part of one addict to another in an effort to guarantee his own sources of supply is the most common cause of the spread of this condition. The disease itself is not contagious. There seems little reason to believe that an individual would continue to steal and commit crimes in order to obtain drugs when they can be obtained free.

Since some individuals use drugs frequently during the course of a day, we hear the objection that it will be inconvenient for them to return to the clinics as often as necessary. Pharmaceutical chemists* tell me that any time that the need arises they can prepare a repository narcotic that will have a twenty-four-hour or longer effect.

Conclusion

It seems that narcotic addicts, like the rest of us, by normal attrition tend to reach the termination of their span on this earth. By such natural means many of our present incurable addicts will in time disappear. Should the pusher no longer find it necessary to induce our youth to become addicts to gratify his own narcotic needs, then it would seem that time alone under our technic will solve this problem even if we acquire no new information from our experience with these people when we have the opportunity to treat them. In view of the medical profession's extraordinary record of accomplishment in the past with the management of so-called incurable diseases, it seems probable, God willing, that we might find the answer to this one as well.

7440 Amboy Road

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* Merck & Co., Inc., Rahway, New Jersey

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Use of Silicone Spray on the Skin of Bedridden Patients

DONALD D. BRUSCA, M.D., CENTRAL ISLIP, NEW YORK

(From the Central Islip State Hospital)

One of the most difficult problems encountered in hospitals is the prevention of contact dermatitis, intertrigo, and miliaria among bedridden, incontinent patients and the subsequent attempt to prevent decubitus ulcers from forming. This is particularly true in the care of senile, infirm patients who because of degenerative changes in the skin, together with a decreased blood supply due to varicosities, arteriosclerosis, and chronic cardiac conditions, are so prone to have widespread breakdowns of the skin around the perineum, buttocks, and back.

Many different approaches were made to the problem, such as trying to "leatherize" the skin with various tannic acid mixtures, drying the skin with alcohol, using mixtures which included zinc oxide ointment and balsam of Peru, dermassage, powders, lotions, etc. Skins continued to show inflammatory eruptions due mostly to the fact that senile, infirm patients are so often incontinent of urine.

In an effort to find a water-repellent substance it was decided to try a silicone preparation. Many preparations are presently on the market in which silicone is incorporated either in a vanishing cream or an ointment. These are quite expensive and, therefore, prohibitive in cost for routine hospital use on a large number of patients. There is the additional very serious objection that silicone ointments are sticky, and the patients are uncomfortable because the bedsheets cling to the body.

Although most silicone polymers are poorly soluble or insoluble in the usual vehicles found in the drug room, there is a fairly recently developed silicone, known as 555 Fluid, which is not only clear, colorless, heat stable, oxidation resistant, and water repellent but is also soluble in 95 per cent alcohol.

A 2 per cent solution was used for this investigation as a spray rather than an application because the silicone will not wash off the hands with the usual soap and water.

Forty-one bedridden, incontinent patients were chosen for treatment with this solution because they were not responding to the usual applications and nursing care. Twenty-six of these patients had signs of contact dermatitis, intertrigo, or miliaria. Previously, rashes had been kept under control and decubiti prevented only because the patients were made to lie on one side and then periodically shifted to the opposite side. Propping them up and changing their position was not only uncomfortable for the patient, but it also created a great deal of additional work for the already overworked nurses and attendants.

Procedure

Each morning these patients were given a complete bath, and the skin was wiped dry with a towel. Then they were sprayed on the perineum, buttocks, and back with the 2 per cent silicone solution in 95 per cent alcohol. An ordinary, hand-operated, continuous spray gun, such as is used for insecticides, was used. Only a thin, almost imperceptible coating was applied. Nothing else was done except that they were bathed as frequently as their incontinence required. The spray was applied once daily for a period of two months.

Results

During the course of the investigation it became apparent that the work load was lessened because the patients could lie on their backs if they wished. Since the silicone is water insoluble and water repellent, there undoubtedly was a cumulative effect of the coating during the first few days, after which the excess was probably wiped off by rubbing against the sheets. Those patients who had rashes cleared up. There was also an improvement of the skin of those patients whose skin tended to become macerated from constant wetting.

All of the patients showed an improvement which was maintained, whereas they had formerly been difficult to take care of. After two months there were no signs of dermatitis, the patients were more comfortable and required less frequent attention, and the treatment was simplified.

Two of the patients presented decubitus ulcers at the beginning of the treatment. In these cases the spray was kept away from the ulcerated area which was treated with gentian violet, but the rest of the skin of the back and buttocks was sprayed daily with the silicone solution. Both these ulcers healed during treatment.

Conclusion

1. Two per cent silicone 555 Fluid dissolved in 95 per cent ethyl alcohol, when sprayed daily on the buttocks and backs of 41 bedridden, incontinent, senile patients, prevented dermatitis from forming, and it caused clearing of the skin of 26 patients in whom a dermatitis was already present.
2. There were no toxic or allergic reactions present.
3. The work load in caring for these patients was simplified and decreased.

When Charles V retired in weariness from the greatest throne in the world to the solitude of the monastery at Yuste, he occupied his leisure for some weeks in trying to regulate two clocks. It proved very difficult. One day, it is recorded, he turned to his assistant and said: "To think that I attempted to force the reason and conscience of thousands of men into one mould, and I cannot make two clocks agree."—HAVELOCK ELLIS

CLINICOPATHOLOGIC CONFERENCE

ST. JOSEPH'S HOSPITAL

ELMIRA, NEW YORK

Conducted by JOSEPH F. SHORTSLEEVE, M.D. MARCH 9, 1955

Discussed by VICTOR W. LOGAN, M.D.*

Case History

FIRST ADMISSION.—The patient was a forty-two-year-old plant guard who was admitted to the hospital complaining of chronic indigestion, intolerance to fried and greasy food, and weakness.

The patient had seen many physicians over the preceding eight years because of vague upper abdominal pain and "indigestion." The pain was variable in location and severity and seemed to come on at any time of the day or night. For six to eight weeks before admission the pain would come on thirty minutes to one hour after meals, and it would subside after an hour. Little relief had been obtained on a careful dietary regime with alkalies and antispasmodics. He never had vomiting, diarrhea, melena, or jaundice. He had lost 5 pounds in weight and had noticed increasing weakness.

An x-ray diagnosis of gastritis had been made three years previously but had not been confirmed one year later by a repeat gastrointestinal series. Gallbladder x-rays were normal. The patient was a nervous person. He had used alcohol in the past but not excessively. For several years he had given it up entirely.

The patient was a thin man who did not appear ill. The liver was palpable, slightly tender, and one fingerbreadth below the costal margin, and the spleen was just palpable at the costal margin. There was tenderness to palpation in the left upper quadrant which was not constant. The remainder of the examination was within normal limits. Temperature, pulse, and respirations were normal. The blood pressure was 112/60.

The urine was negative. The red blood cells were 3,400,000 with a hemoglobin of 10.7 Gm. (68 per cent). The white blood cells and differential were normal. The sedimentation rate was 58. Gastric analysis showed free hydrochloric acid to be present. Gastrointestinal series and barium enema were negative.

Gastroscopy showed an area of hypertrophic gastritis on the posterior wall. He was given one transfusion. He was treated with a bland diet, sedatives, and antacids and was discharged improved after nine days.

SECOND ADMISSION (TWENTY DAYS LATER).—The patient had been well until he developed "grippe," and with this his digestive symptoms became worse. The pain in the left upper quadrant, especially after eating, became more severe. He thought he had lost another 5 pounds in weight. After five days at home he entered the hospital.

The positive findings were again limited to the abdomen, which seemed distended and showed shifting dullness in the flanks. The liver was four fingerbreadths below the costal margin and was tender. The spleen was visibly enlarged and tender. There was tenderness in the mid-epigastrium. The temperature was 100 F.; pulse and respirations were normal.

The blood count was the same. Prothrombin time was eighteen seconds (control fifteen seconds). Serum cholesterol was 94 mg. with esters 51 per cent. Alkaline phosphatase was 39 units. Bromsulfalein retention was 23 per cent. Bilirubin was 1.25 mg. Cephalin flocculation was negative. Sedimentation rate was 64. Total proteins were 6.5 with an albumin of 2.3 Gm. and a globulin of 3.7 Gm. Two stools for occult blood were negative. Bone marrow aspiration was within normal limits.

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* Assistant Physician, Strong Memorial Hospital, Rochester, New York.

Repeat barium enema and a sigmoidoscopy were negative. Needle biopsy of the liver showed "some cloudy swelling and a degeneration of the liver cord cells and some infiltration with small round cells."

The patient remained in the hospital fifteen days. Two transfusions were given. His temperature remained elevated to 100 to 101 F. most of the time despite penicillin, 400,000 units daily. The liver and spleen did not change in size, and the fluid in the abdomen may have increased. He was discharged at his request.

Third Admission (Twenty-two Days Later).—There had been no change in his condition until one week before readmission. The abdominal swelling then seemed to increase rapidly, and edema of the legs appeared. He developed hiccoughing, and anorexia became severe. Further weight loss occurred. He still complained of the same left upper abdominal pain.

The patient now appeared jaundiced. The liver was palpable at the level of the umbilicus and was hard and nodular. The spleen was further enlarged and tender. Ascites and dependent scrotal and leg edema were present. The temperature was 100 F., pulse 108, and respirations 28. The blood pressure was 90/60.

The hemoglobin was 9.4 Gm. The white blood cell count was 5,000 with a normal differential. The urine was negative. Alkaline phosphatase was 24 units, and bilirubin was 1 mg. Total proteins were 6.3 Gm. with albumin 1.8 Gm. and globulin 4.5 Gm.

Paracentesis was done and repeated as needed to keep the patient comfortable. On one occasion the abdominal fluid was reported as showing "abnormal cells." Transfusions and serum albumin were given. The jaundice became more marked. The liver increased in size and became more nodular and painful. His fever of 100 to 102 F. continued. He continued downhill and died five weeks after his last admission.

Discussion

Dr. Victor W. Logan: This problem concerns a forty-two-year-old man who died less than six months after the onset of his final illness, an illness which was not appreciably influenced by any of the several therapies which were directed to his symptoms. At no time does the protocol suggest that exploratory laparotomy was considered, and I will hazard the prediction that nothing will be revealed at the end which could have been cured or was amenable to surgery. One senses that the seeds of death were already in full flower when the patient presented himself here on his first admission some three and one-half months before his death. To simplify matters, I should like to consider all three admissions as one unit, with temporary leaves of absence to go home.

The long history of eight years of vague upper abdominal pain and indigestion would have been described by our grandfathers as chronic dyspepsia. It was, however, troublesome enough for the patient to seek almost continual advice from many sources. He seems to have been a medical shopper. He had no better luck in his search for health than the woman, who was described by St. Mark and who "for twelve years had suffered many things of many physicians, and had spent all that she had, and was nothing bettered." The patient was described as nervous. These years of dyspepsia may have been the expression of a psychoneurosis, but I think that this is unlikely, not only because he eventually died, but for reasons which I will go into later.

There seems to have been a change in his symptoms about two months before his admission. The upper abdominal pain assumed a clear-cut relationship to meals, following eating by thirty to sixty minutes and subsiding after an hour. This is the classic syndrome for gastric ulcer. However, the patient failed to respond to good antiulcer therapy.

The history gives no other clues of a positive nature. There was a notable absence of vomiting, diarrhea, melena, or jaundice until the terminal icterus. I also assume he had no other systemic complaints referable to the heart, lungs, kidneys, or nervous system. It is very interesting that the patient did not appear ill on his admission. The liver occupied the center of the stage in all of the physical examinations. It was already palpable on admission and rapidly enlarged to become hard and nodular with increasing tenderness. The spleen followed a similar pattern except that it was not described as nodular. I am not quite clear as to whether the inconstant tenderness in the epigastrium and the left upper quadrant were apart from liver and spleen tenderness. No masses were ever felt, however, except for the viscera mentioned.

There was no adenopathy, and no spider nevi were described.

The patient's deterioration seems to have been accelerated after the episode called "grippe." The details of that are not given and were possibly vague even in the patient's mind. Perhaps he had fever and aching. The fever was constant during the latter months of his illness. Ascites developed slowly at first and then with great rapidity. In the final months many paracenteses were needed. Jaundice seems to have lagged behind the ascites but was marked at his death. Massive dependent edema appeared with the increase of the ascites and the jaundice. In the protocol there is no description of the patient having a rectal shelf, so we assume that there was none. Dr. Burch, will you show us the x-rays at this point?

Dr. Hobart A. Burch: The x-ray diagnosis of gastritis was made elsewhere, and we have never had the opportunity to review those films. Our examinations, consisting of gallbladder visualization, upper gastrointestinal series, and barium enemas, were all within the limits of normal. His duodenal loop was not abnormal. His duodenal cap showed no niche but was slightly asymmetric in outline. We were able on several of the abdominal films to see a larger-than-normal spleen. We never did a pyelogram.

Dr. Logan: The x-rays, then, showed no lesion except one reported as "gastritis," which is not a reliable diagnosis unless it is confirmed by gastroscopy. I think it should always be received with some skepticism when it is made as an x-ray finding. Later, the gastroscopist located an area of hypertrophic gastritis on the posterior wall. If this means anything in this case, it suggests an extragastric inflammation in the retroperitoneal tissues back of the stomach, possibly in the pancreas. If an erosion had developed in this area of gastritis, it could have caused blood loss, but the protocol suggests that this was not the case. The stools were negative for occult blood. We have no intravenous pyelogram so that we can say nothing about the kidneys. Certainly there was nothing to direct suspicion to the kidneys. My own feeling is that the upper gastrointestinal films show a constant defect in the duodenal area, but Dr. Burch disagrees with me.

The laboratory findings showed moderately severe anemia, which was present from the time the patient first presented himself. Transfusions failed to sustain the blood level appreciably. I assume that the anemia was normocytic from the values which are given. We have no suggestion of hemolysis in the laboratory findings. One would assume, therefore, that the liver lesion was responsible for the anemia, especially since the bone marrow was normal and hydrochloric acid was present in the stomach. Blood loss, if it occurred, was not detected. There was a steady deterioration of serum albumin and a rising globulin, which eventually reached 4.5 Gm. per cent.

The bromsulfalein test showed a retention of 20 per cent at the time the serum bilirubin was only slightly elevated (1.25 mg.). The liver was able to clear bilirubin almost completely until just before death. The cholesterol was low (95 mg. per cent). However, the esterification was adequate. The one flocculation test was negative, even when the liver and spleen were markedly enlarged. During the febrile and ascitic phase of the disease the serum alkaline phosphatase value was appreciably elevated. In the face of these tests, and admitting that liver tests are of themselves often misleading, I think one would have to suspect that there were areas of damage in the liver with blocked-off lobules amid a fairly normal parenchyma. One thinks of such lesions as metastases, hepatoma, or some granulomatous lesion. The liver biopsy, however, can only be interpreted by me as a hepatitis. It is recorded as cloudy swelling and degeneration of liver cord cells with some infiltration with small round cells. If metastases or tumor or granuloma were present, the Vim-Silverman needle missed them. Yet the clinical picture of hepatitis is somehow not here in my estimation.

If you will permit me, I will give you my most plausible explanation first instead of raising up straw men and demolishing them one by one. One explanation which takes into account most of the facts in this case seems to me to be the following: The man had a chronic inflammation of his pancreas for about eight years. He then developed a carcinoma of the pancreas. This metastasized to the liver and later involved the common bile duct and portal vein by pressure. It possibly caused a thrombosis of the portal vein or involved the inferior vena cava, causing a hepatic vein block (Chiari's syndrome).

Chronic pancreatitis can give vague but persistent and painful symptoms such as this patient had. Such patients are often accused of having psychoneurosis. The absence of radiation of the pains to the back is unusual but can occur. Pancreatitis can occur without calcification, diabetes, or steatorrheal diarrhea. Chronic pancreatitis predisposes a person to cancer of the pancreas to quite a considerable extent. Pain is the one cardinal sign of early carcinoma of the pancreas. This patient's presenting symptom was pain throughout. The x-ray findings suggest to me that such a lesion might have been present, although the duodenal loop was not embarrassed by pressure from the head of the pancreas. The course of the illness was compatible with cancer of the pancreas. The continued deterioration and the sudden worsening of the patient with rapidly developing ascites, jaundice, and enlargement of the liver and spleen are said to be characteristic of portal vein thrombosis.

On the other hand, rapidly developing ascites, massive dependent edema, and rapid enlargement of liver and spleen are also suggestive of Chiari's syndrome or hepatic vein thrombosis. Jaundice is not conspicuous until late in its course, as it seems to have been in this case. Abdominal tumors are notorious causes for both portal and hepatic vein thromboses. Hypernephroma or carcinoma of the kidney is also a frequent cause of Chiari's syndrome, but we have no evidence of a kidney lesion here. I do not believe we have enough evidence for a diagnosis of carcinoma of the stomach with metastases.

The question of primary liver disease arises. It is said that a hard nodular liver and a downhill course are very suggestive of primary tumor of the liver. Most of these arise in cirrhotic livers. The evidence for cirrhosis is fairly good. He had loss of weight, an alcoholic history, early enlargement of both liver and spleen, anemia, relative leukopenia, low albumin and a rise in globulin, retention of bromsulfalein, a negative flocculation test, and low cholesterol. The late onset of jaundice and ascites is also compatible with cirrhosis. The biopsy is rather against cirrhosis, however, as are the high value for alkaline phosphatase and the absence of esophageal varices and spider nevi. In addition to the objections, I find no suggestion of poor food intake, and there were no abnormal liver function tests recorded on the first admission when the liver was already palpable and anemia was already present.

Atypical hepatitis seems unlikely with such marked anemia at the onset. Negative flocculation tests, elevation of alkaline phosphatase, and a patient described as not looking ill on admission would seem to be evidence against hepatitis at that time. There is one possibility that should not be overlooked. The patient may have developed, in addition to his primary disease, a superimposed homologous serum hepatitis from that first transfusion. This could have resulted in a terminal nodular postnecrotic cirrhosis, but I think it rather unlikely.

The rapidly developing ascites and edema could have been simply due to his continued illness and the lowering of the serum albumin. We recently saw a fatal case of sarcoidosis, involving only the liver and attended by splenomegaly and jaundice, in which ascites appeared only terminally. The patient was ill over a period of three years and had marked enlargement of the liver and a positive biopsy. The elevated globulin and high phosphatase values are compatible with sarcoidosis of the liver, but this case bears no other resemblance to ours. Other granulomatous diseases should be considered, such as abdominal Hodgkin's disease with so called Pel-Ebstein fever, but the early and persistent pain and tenderness of the liver seem to be out of place in chronic granuloma. This is true also for a cirrhotic liver.

I would place my bet on a cancer of the pancreas, despite the absence of migratory phlebitis, with metastases to the liver, and possibly portal vein thrombosis or thrombosis of the hepatic vein.

Question: Would you not expect jaundice to have appeared sooner if the patient had carcinoma of the pancreas?

Dr. Logan: I think, despite my trying to pin something on the duodenal defect in this case, that carcinoma of the head of the pancreas of any size would have caused jaundice much sooner. I think that the cancer, if I am right in there being a pancreatic carcinoma here, was in the body or the tail.

Question: Do you think that a glucose tolerance test might have contributed anything to the diagnosis?

Dr. Logan: I think that would have been very interesting to make. If the prolonged indigestion and pain were due to chronic pancreatitis, one might very well have found an abnormal glucose tolerance test. It is true that in some tumors of the pancreas diabetes develops, but those cases are relatively rare. If one had found an elevation in the glucose tolerance test here, one wouldn't have been sure whether it was from fibrosis of the pancreas or from tumor. Pancreatic function tests of duodenal drainage following stimulation by secretin show such wide variations in normals that we have almost given up doing them for diagnostic purposes in such cases as the one under discussion.

Question: In the presence of chronic pancreatitis of eight years duration, would you not have expected to see pancreatic calcification on x-ray?

Dr. Logan: Pancreatitis without calcification or stones does occur. In the large series of patients with chronic relapsing pancreatitis reported from the Mayo Clinic, about a third did not have calcification. We have two cases of extensive calcification of the pancreas in which the patients are asymptomatic. One was discovered on reading a film of the spine, and the other was seen in a urogram. These two patients deny any indigestion and anything remotely resembling attacks of acute or of chronic pancreatitis and have no abnormalities of their feces or glucose tolerance curves. There is another patient who has been seen at our hospital for years. From the age of seven or eight he had had chronic recurring episodes of abdominal pain. At the age of nineteen he suddenly showed calcification of his pancreas. In some cases calcification occurs very early, in some cases never, and in some cases rather gradually and after long periods of time.

Diagnoses

Clinical.—*Portal cirrhosis of the liver.*

Dr. Logan.—*Carcinoma of the pancreas with metastases to the liver and Chiari's syndrome.*

Anatomic.—*Cirrhosis of the liver and hepatoma.*

Pathologic Report

Dr. James A. Mitchell: At autopsy there was rather marked jaundice of the skin and sclera. The abdomen was markedly distended, and there was pitting edema of the feet, legs, and scrotum. The peritoneal cavity contained approximately 6 L. of straw-colored fluid. The spleen was enlarged, weighing approximately 400 Gm. The capsular surface was dark blue and smooth, and the pulp was a deep red color, firm, and homogeneous throughout. The liver was immensely enlarged to about twice its normal size, weighing about 4,000 Gm. The surface was coarsely nodular, the nodules consisting of yellowish, glazed tumor masses, situated mainly in the right lobe. The surface of the left lobe had the finer nodularity of cirrhosis with fewer tumor nodules.

On section the liver parenchyma was almost entirely replaced by large tumor masses varying from yellowish to whitish-gray in color. The central portions of many of the nodules were soft and necrotic. Only very small discrete islands of liver tissue could be seen between the nodules in the right lobe.

The gallbladder was somewhat distended but was otherwise normal in appearance, and bile could be easily expressed through the cystic and common ducts. The kidneys and adrenal glands were normal. The pancreas was normal in size and showed no evidence of tumor. The stomach and intestines showed no evidence of neoplasm. There was some hypertrophy of the rugae in the inferior portion and on the posterior wall of the stomach.

The tumor under the microscope was seen to be a hepatic cell tumor, or hepatoma. About 80 per cent of these tumors develop in livers already the site of cirrhosis. They grow very rapidly and metastasize through the hepatic veins. The average time from development of symptoms to death in a large series of cases is given as three to four months.

Summary

Dr. Logan: I think the term hepatoma is a most unfortunate one; it should be called carcinoma of the liver. Perhaps the best thing I said in the whole discussion was that when you have a really hard liver, especially in a patient in whom you suspect cirrhosis, with a downhill course, the first choice should be primary carcinoma of the liver. In retrospect, biliary drainage obtained by duodenal aspiration might have showed malignant cells in this patient.

Politics is the science of how who gets what, when and why.—Sidney Hillman

CASE REPORT

Osteopetrosis

ROBERT L. PEKARSKY, D.D.S., AND ALPHONSUS L. GROHOWSKI, M.D., ROCHESTER, NEW YORK

(From the Departments of Oral Surgery and Radiology, Rochester General Hospital)

ALBERS-SCHÖNBERG[1] in 1904 first described this rare disease characterized by excessive density of most, if not all, of the skeleton due to an increase in the size and number of trabeculae and excessive calcareous deposits. Karshner first applied the descriptive name osteopetrosis, but the disease is also called osteosclerosis, marble bone disease, chalky bone disease, and Albers-Schönberg disease. Less than 200 cases have been reported in the world literature.[2]

The etiology is unknown, although heredity plays a part. The pathologic process acts as a simple Mendelian recessive character[3,4] and shows familial and hereditary tendencies.[4,5] A viroid origin has been demonstrated in birds.[5]

Sex and race apparently play no part. The age range is from birth to seventy years,[6] and the disease was diagnosed radiographically in utero by Pirie[7] in 1930.

Pathogenesis and Pathology

Osteopetrosis is an anomaly of osteogenesis. The characteristics of adult bone are lost. Some writers state that bone deposition is accelerated and that the bones are largely calcified cartilage. Most authors, however, agree that there is a failure of normal resorption of the calcified cartilaginous matrix during endochondral bone formation. The excess cartilage matrix forms a dense, hard, brittle mass which may obliterate the marrow cavity; that is, there is a persistence of the calcified matrix which is normally destroyed during growth. The pathogenesis is related to a diseased vascular and osseomedullary anlage.

Although the blood chemical studies are normal, the analysis of the bone shows hypermineralization with a high ratio of inorganic to organic matter and an increase of the molecular ratio of calcium carbonate to calcium phosphate.[8] The compact bone is hypoplastic and poorly differentiated. The bones may be hard, like marble, or soft, like chalk.[6] The degree of hardness or softness of bone depends on the age of the patient, the site examined, and the duration of the disease.[9] Cassidy *et al.*[5] state that the degree of sclerosis is first noted in the metaphyses subsequently extending through the diaphysis.

Diagnosis is primarily radiologic, but the differential diagnosis must include chronic fluorine, lead, or arsenic poisoning; generalized osteoblastic carcinomatosis; infantile cortical hyperostoses; congenital syphilis; Gaucher's disease; Paget's disease; hypervitaminosis A and/or D. Osteosclerosis due to blood dyscrasias may also have to be considered.

No specific therapy is known; supportive measures may be indicated. In general, prognosis is poor in infants and favorable in adults. Furthermore, prognosis will depend on the type of case, whether benign (static), intermediate, or malignant (progressive). The type is dependent in turn on the distribution and amount of the diseased vascular and osseomedullary anlage.

Signs and Symptoms

Signs and symptoms may vary considerably. Some patients are asymptomatic, and the disease is frequently discovered accidentally when radiographs are taken for some other reason.

Anemia and thrombocytopenia may occur when the bone marrow is replaced by the encroaching calcified cartilage. Splenomegaly, hepatomegaly and lymph node enlargement, when found, are due to ectopic myelopoiesis. This is a compensatory mechanism, these organs attempting to take over a part of the function of the bone marrow.

Changes within the skull are important. Overgrowth of the facial bone results in a characteristic facial appearance of "square jaws," resembling acromegaly. Nasal obstruction due to bony encroachment may occur. The bones of the jaw are extremely dense. The mandible may become so enlarged that it encroaches on the tongue causing difficulty in speech and swallowing.

Neurologic disorders, especially of the cranial nerves, such as narrowing of the visual field, optical atrophy, deafness, etc., may occur. These are due to the bony encroachment on the cranial foramina with compression of the corresponding emerging nerves and blood vessels. Mental retardation has been described.[10]

Fractures, when they occur, are relatively painless and may be the first indication pointing to this diagnosis. These fractures usually heal rapidly with good callus formation, but delayed union is not unusual.[5] Pine and Lederer[8] state that the fractures are due to (1) the disproportion of the minerals to organic substances, (2) the purposeless architectural arrangement of the bone trabeculae, and (3) the poor arrangement of the organic elements. Kneale and Sante[9] write that the fractures and other bony deformities, such as coxa vara, coxa valga, and epiphysiolysis, are due to the disturbed blood supply of the nutrient vessels. The transverse and longitudinal bands seen in the long bones represent fracture lines in various stages of healing.[10]

In 1936 Kerr reported the development of a typical osteogenic sarcoma in a Negro patient who died with typical pulmonary metastases. This patient had an elevated serum phosphatase undoubtedly due to the presence of this malignant bone tumor. Osteomyelitis, especially of the maxilla and mandible may occur, and is a serious complication. Rickets is seen in young patients with this disease and responds satisfactorily to specific treatment.

Death is usually due to secondary anemia, hemorrhage, or intercurrent infection.

Radiographic Findings

The radiographs look like underexposed films. Most if not all of the skeleton appears structureless and increased in density with varying degrees of encroachment on the medullary canal. These findings are usually generalized and may show varying degrees of homogeneous sclerotic bone. The trabecular structure may be partially or completely affected. An interesting finding sometimes is an inset of diminished density of the bones, which has the approximate size and contour of a neonatal bony structure.

Sigman and Kilby[2] state that the vertebrae, the pelvis, the proximal femur, and the distal tibiae and fibulae are most severely affected.

The basilar portion of the skull most frequently shows the sclerosis. However, the normal markings, diploic spaces, the paranasal sinuses, and the mastoid cells may be obliterated by the sclerotic process. The sutures may be wide. Narrowing of the various cranial foramina may be demonstrated. The sella turcica may be shallow with the posterior clinoids showing a clubbed appearance. Prognathism is not unusual, with or without bulging of the mandible. Delayed dentition and defective teeth have been described.

In addition to the varying dedrees of sclerosis and encroachment on the medullary spaces, the long bones may show underconstriction. This latter is characterized by shallowness or loss of the usual concave lateral border of the distal ends. Transverse bands of greater or lesser density are seen through the metaphyses and parallel to the epiphyseal line. Longitudinal lines of such density also may be present. Fractures, when present, are sharp and transverse in appearance and may even show a crumbled appearance. The long bones are of normal length.

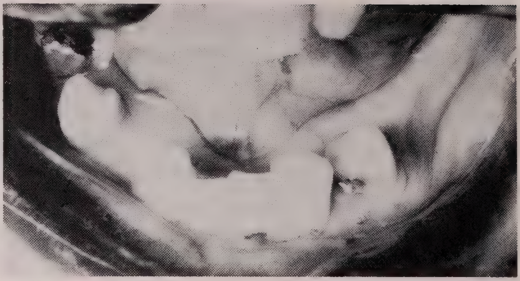

FIG. 1. Marked bulging appearance of mandible on both sides.

The phalanges are usually less affected than the rest of the skeleton.

Vertebral sclerosis may be prominent. The vertebral bodies may show retarded development and infantile characteristics with conspicuous vascular channels and sinuses.

The ribs may also show a striking appearance of an amorphous type of sclerosis.

Case Report

The patient was a thirty-three-year-old woman who was first seen on January 15, 1954. She complained of a marked enlargement of the lower jaw, difficulty in swallowing, and difficulty in speech with a feeling that the tongue was crowded. She was very self-conscious about her cosmetic appearance.

Oral and maxillofacial examination revealed marked bulging appearance of the mandible (externally and internally) involving both sides (Fig. 1). As a result of this expansion the skin was tight and rippled. The mandible was felt to be very thick buccolingually and very hard. There was no pain. The remainder of the physical examination was essentially negative.

RADIOLOGIC EXAMINATION.—Roentgenograms taken on March 8, 1954, revealed a diffuse, solid, structureless sclerosis of the skull involving the entire basilar portion in addition to the vault. The tables were definitely wider than normal and sclerotic with no diploic structures visible. The sella turcica was shallow. There was obliteration of the sphenoid and mastoid cells; however, the frontal and maxillary sinuses were developed. The body of the mandible was definitely thickened and sclerotic (Fig. 2).

The long bones showed varying degrees of sclerosis, most marked in the tibiae, humeri, and phalanges

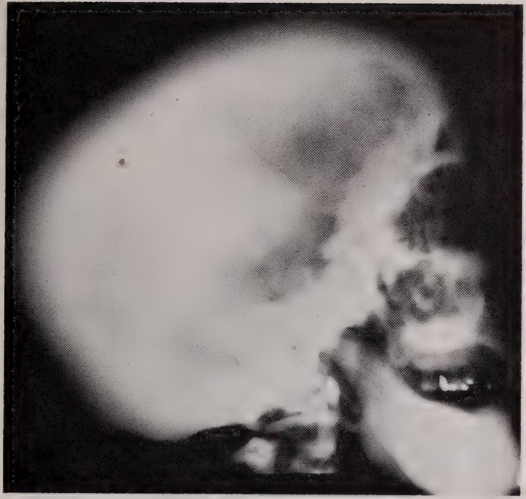

Fig. 2. Definite thickening and sclerosis of mandible and cranial vault.

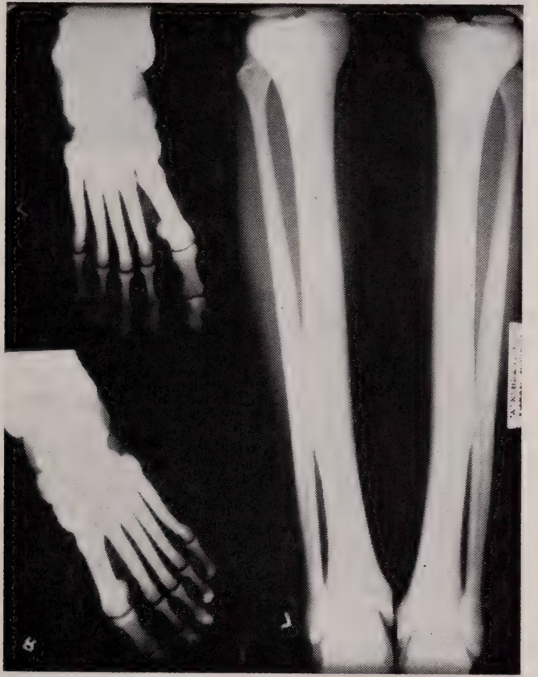

Fig. 3. Marked sclerosis of tibiae and tarsal bones.

of the hand (Figs. 3 and 4). There were varying degrees of encroachment on the marrow spaces with complete obliteration of this area in the tibiae. No transverse or longitudinal bands were present. No evidence of underconstriction was seen, nor was there evidence of coxa vara or coxa valga. The pelvis showed moderately severe sclerotic involvement (Fig. 5).

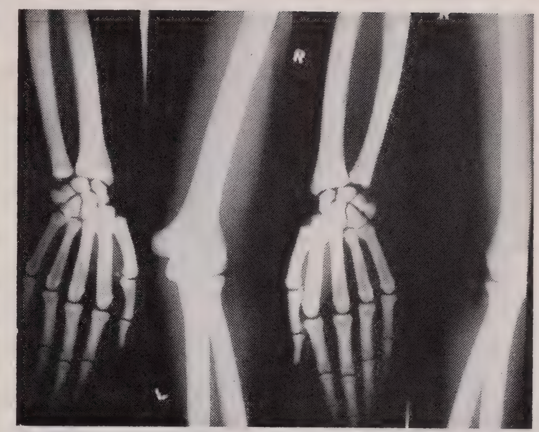

Fig. 4. Marked sclerosis of humeri and phalanges of hands.

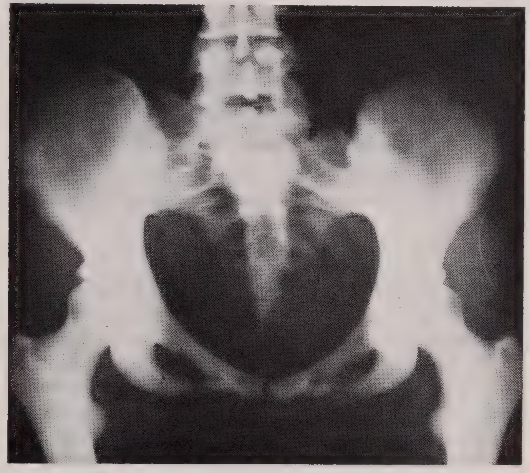

Fig. 5. Pelvis showed moderate degree of sclerotic involvement.

In the thorax the ribs and scapulae showed moderately severe sclerosis, but the most marked sclerotic changes were present in the clavicles (Fig. 6). The dorsal vertebrae were not so markedly affected as the lumbar bodies, except for the osteophytic changes which were more marked on the anterior aspects of the eighth and ninth dorsal vertebrae. The latter showed slight compression in their vertical heights, possibly traumatic in origin. No conspicuous sinuses or vascular channels were seen (Fig. 7).

In general, where the sclerosis was not marked, the trabecular pattern was normal in appearance. In summary, the findings showed osteopetrosis.

Laboratory Findings.—Complete blood count revealed red blood cells 4,120,000, hemoglobin 11.3 Gm. per cent, color index 0.95, and white blood cells 8,300 with differential count showing segmented forms 64, basophils 3, monocytes 2, eosinophils 1, and lymphocytes 30.

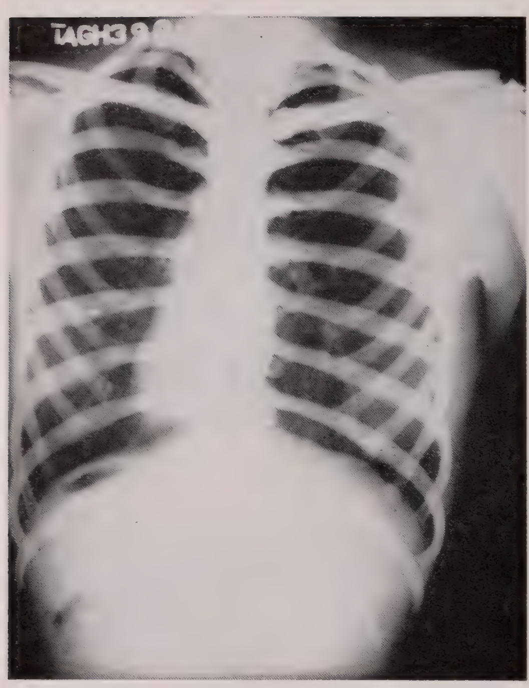

FIG. 6. Moderately severe sclerosis of ribs and scapulae but most marked sclerotic changes present in clavicles.

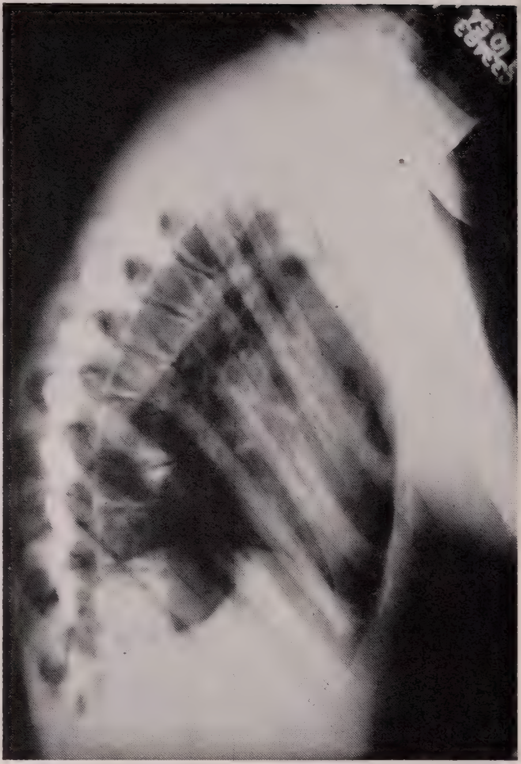

FIG. 7. Osteophytic changes on anterior aspects of eighth and ninth dorsal vertebrae. No conspicuous sinuses or vascular channels were seen.

COURSE.—The patient received 600,000 units of penicillin per day for two days prior to admission to Rochester General Hospital on March 8, 1954. While in the hospital she received one injection of combiotic per day. The following day, under endotracheal anesthesia, a lingual frenectomy was done. The large bulging masses of bone on the right and left lingual surfaces of the mandible were removed by means of surgical drills and chisels. The flaps of mucoperiosteum were sutured back into place. The lower right bicuspid and molar were removed because of their mobility and periodontoclasia. The patient was discharged from the hospital on March 13, 1954.

Postoperative healing was uneventful. The patient was last seen on November 15, 1954, at which time she had no complaints. There was no difficulty in swallowing, and the tongue was no longer crowded.

SURGICAL TISSUE REPORT.—Tissue from the mandible and several pieces of bony tissue were received. Microdiagnosis was as follows: In addition to bone, there seemed to be a large quantity of free calcium crystals among the bone spicules. These were in the form of parallel or radiating, long needles. Others were more platelike. Amorphous calcium and spheric crystals were not seen.

Comment

This case is reported with the hope of adding to the available material for study of this unusual disease. The case is also reported because of the generalized pathologic and roentgenographic findings, and perhaps for the first time surgery was performed with success in an attempt to retard the progress of this advancing bone condition.

Although no specific therapy is known for osteopetrosis, supportive measures can be taken. The literature reports cases in which osteomyelitis followed surgical intervention. However, these cases were reported before the introduction of modern antibiotics. Perhaps in this case the success in the surgery may be attributed to the use of antibiotics before and after surgery.

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TREATMENT OF CANCER

IRWIN E. SIRIS, M.D., *Editor*

Subcommittee on Cancer
Council Committee on Public Health and Education
Medical Society of the State of New York

with the cooperation of

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Hormones and Radioactivity in Cancer Therapy

FRANKLIN T. BRAYER, M.D., STANLEY R. GLASSER, PH.D.,
AND JOE W. HOWLAND, M.D., ROCHESTER, NEW YORK

*(From the Medical Division, Department of Radiation Biology,
University of Rochester School of Medicine and Dentistry)*

PRACTICAL therapy of malignant states must include a consideration of both hormones and radioisotopes in the over-all treatment plan. Major advances in endocrinology indicate that steroid hormones of gonadal nature produce beneficial results in cancer of breast and prostate gland; adrenocorticotropic hormone and cortisone show limited effects in the lymphoma-leukemia group, and surgical extirpation of ovaries, adrenals, and possibly the pituitary may alter endocrine balance with beneficial effect. Radioisotopes today have limited but specific usefulness and are generally combined with other methods of therapy. Since major usage of these new materials is and promises to be related to endocrine procedures, it is possible to discuss them in this joint report. In this summary report only the currently accepted practical method for hormonal and radioisotopic therapy will be discussed.

Endocrine Therapy[1]

PROSTATIC CANCER.—Bilateral orchidectomy and estrogen therapy, preferably with stilbestrol, is an accepted and generally employed regimen for treatment of prostatic cancer. The rationale behind this treatment is derived from work by Huggins[2] who deduced from the correlation of both clinical and laboratory studies of normal and malignant tissues that the malignant epithelial cell was partially dependent upon androgenic hormone for multiplication and survival. He also noted that acid phosphatase, which occurs in appreciable amounts in all tissues, increased in the blood when the tumor exceeded the confines of the gland. Castration and/or estrogen therapy lowered the serum acid phosphatase coincident with clinical improvement. Confirming reports also noted immediate relief of bone pain, improvement in the sense of well-being, improved appetite, gain in weight, and correction of anemia. Diminution of primary and metastatic tumors occurs along with a fall in the serum acid phosphatase and an increase in the alkaline component. The practical therapeutic program calls for initiation of estrogen therapy at the same time as castration. The 55 per cent survival noted in the treated cases is significantly greater than survival in untreated cases.

Androgen control therapy eventually fails. This may be explained by (1) the development of a new population of androgen-independent cells or (2) the secretion of androgen by the adrenal cortex which nullifies previous therapy. Recent advances using bilateral adrenalectomy as a therapeutic device should be more adequately explored. Rather limited experience indicates that remissions following adrenalectomy are of three to nine months duration. Reinstitution of estrogen therapy after the exacerbation allows further remission and gives promise of greater value for the adrenalectomy procedure than has been realized to date.[3]

Cancer of the Breast.—Inoperable carcinoma of the breast, whether primary, metastatic, original, or recurring, should have x-ray therapy preliminary to treatment by alteration of steroid metabolism if the dominant lesion can be irradiated effectively. The exception occurs in the distant metastatic lesion of soft tissue in women who are at least five years postmenopause. Preliminary palliation with estrogens is indicated.

Artificially induced menopause should precede the use of androgens in the premenopausal patient with inoperable mammary carcinoma. Unless contraindicated, bilateral oophorectomy is preferred. Menopause induced by roentgen therapy is satisfactory for women forty to sixty years of age (mid-pelvic dose of 600 to 1,200 r delivered in a minimum of ten days). Objective regression follows these procedures in a third of the patients treated, and hormones should not be employed until the disease exacerbates. The use of steroid hormones should be related to the physiologic age of the patient with androgens used up to the fifth year postmenopause and estrogens after that point.

Androgens.—The rationale for the use of androgens in the treatment of cancer of the breast stems from observations by Loeb[4] who noted that castration in the female depressed the incidence of spontaneous breast cancer in mice. Lacassagne[5] provided evidence that the prolonged administration of estrogen increased the incidence of breast cancer in the species. These studies directed investigation toward the consideration of an antagonism of estrogen by androgen as a significant therapeutic device in inoperable cancer. Adair[6] popularized androgen therapy in spite of experimental findings indicating value only if testosterone were given throughout the life of the mouse.

The most favorable results are obtained in patients with symptomatic osseous metastases. Less regular results are noted in patients with soft tissue metastases. Relief of pain and improvement of sense of well-being is a general result. Age is not a limiting factor in the institution of androgen therapy.

Subjective improvement was noted in 80 per cent of 450 cases, whereas 20 per cent showed objective improvement. Survival was twelve months in patients showing improvement after therapy as opposed to eight months in unimproved patients. There is no significant difference in survival time, therefore. Androgen therapy does not prolong life but offers greater comfort in bearing the disease.

The standard treatment reference for androgen is testosterone proprionate in oil, 50 mg. intramuscularly three times weekly. Achievement of objective response dictates maintenance of dosage schedule until reactivation of disease. No preference is noted as to superiority in the tumor-suppressing effect of various androgens. Dosage suggestions by the A.M.A. Subcommittee on Steroids and Hormones of the Council on Pharmacy and Chemistry[7] for other androgens are as follows:

1. Oral: Methyltestosterone, 100 mg. daily (25 mg. four times daily).

2. Parenteral (long duration): (*a*) testosterone cyclopentylproprionate, 200 mg. every two weeks; (*b*) testosterone phenylacetate, 20 mg. every two weeks.

A trial period of ten to twelve weeks is necessary before the altered steroid metabolism can be effectively evaluated since objective changes occur slowly. Should therapy prove efficacious, it should be continued until the condition exacerbates. Withdrawal of the steroid at this time may result in another remission. Careful observation at one to three-week intervals should be maintained during trial therapy. Side-effects which may cause therapy to be discontinued are virilism with hirsutism, deepening of the voice, acne, and increased libido. A transient edema due to impaired renal tubular function and greater absorption of sodium, as well as hypercalcemia of a secondary nature to the mobilization of bone calcium, may be noted.

Estrogens.—The use of estrogens in the control of cancer is more limited than androgen therapy. They are indicated only for symptomatic disseminated cancer in women who are at least five years postmenopause. Such restrictions avoid fulminating progression of the neoplasm. Subjective improvement, bone pain relief, regression of soft tissue metastases, especially lymph nodes, follow when cases are assiduously selected. No response occurs in the case of abdominal visceral infiltration.

There is no differential response between synthetic and natural estrogens as to their tumor-suppressing effect. Stilbestrol is used as a therapeutic standard of reference, 15 mg. daily in three divided doses, because of its oral potency and price. Dosage schedules for other estrogens as suggested by the A.M.A. Subcommittee on Steroids and Hormones[7] are as follows:

1. Oral: (*a*) ethinyl estradiol, 3 mg. per day; (*b*) dienestrol, 15 mg. per day; (*c*) dimethylether of diethylstilbestrol, 30 mg. per day.

2. Parenteral: (*a*) estradiol benzoate, 5 mg. three times per week; (*b*) estradiol diproprionate, 5 mg. two times per week.

Secondary plans of therapy are outlined by the subcommittee.

A prolonged trial period with frequent and careful observation is required as with the androgens. Side-effects demand careful control. Gastrointestinal symptomatology, edema, hypercalcemia, and uterine bleeding may be noted.

Of the patients so managed, 40 per cent show improvement, and their survival of fifteen months is twice that of those patients who failed to respond. Karnofsky[1] evaluates the prognosis as being best in patients over sixty years of age because the biologic characteristics of malignancy in the aged are less virulent.

Huggins[8] is of the opinion that bilateral adrenalectomy will modify disseminated breast cancer as well as prostatic cancer. At the present time there is insufficient evidence to allow a critical evaluation of adrenalectomy in breast cancer, although current interest points to future clarification.

CANCER OF THE BREAST IN MEN.—It has been noted that cancer of the breast in men regresses drastically after alteration of steroid metabolism. The malignancy is rarely recognized in time for surgery. Castration is indicated for the disseminated form. Remissions of three years in length are reported, but the number of cases does not allow statistical analysis. Present therapy calls for withholding stilbestrol until evidence of exacerbation presents itself.

LYMPHOMA-LEUKEMIA GROUP AND ACTH AND CORTISONE.—The hormones of the pituitary-adrenal axis appeared at one time to offer great promise as a universal panacea and received extensive screening in all areas of medicine including cancer therapy. Summarily the use of hormones of this group is indicated, with certain significant limitations, only in the treatment of malignancies of the lymphoma-leukemia group.

For lymphomas—including for general purposes Hodgkin's disease and the lymphosarcomas—ACTH and cortisone are not indicated since there is little evidence to suggest they destroy malignant cells. These hormones are helpful in certain situations where further therapy with cytotoxic drugs and roentgenotherapy is contraindicated. ACTH and cortisone improve what was formerly regarded as the preterminal stages of the disease in that they modify the effects of the malignancy on the patient rather than the disease per se. Symptoms reappear when supplements are withdrawn. The advantage in their use is that they temporize and palliate, thus providing sufficient clinical recovery to withstand further definitive treatment.

Acute leukemia of childhood is significantly influenced by ACTH and cortisone. Clinical remissions are noted in 70 per cent of the cases treated with hematologic remissions observed in more than half of these patients. The duration of the remission may be from two weeks to nine months. No prediction can be made as to the success of the treatment.

The frequency of remissions following exacerbation of the disease is progressively smaller with each successive course of treatment, and the disease eventually becomes refractory to ACTH and cortisone.

Toxic reactions, characteristic of therapy with these hormones, may ensue. These include edema due to sodium and water retention, increase in blood pressure, moon face, diabetes, and psychic aberrations. No basis exists for the preferential selection of ACTH or cortisone in the therapy of acute leukemia.

Radioisotopes in the Treatment of Malignant Disease

Of the hundred-odd radioisotopes available for clinical use, only five, radioactive iodine 131, phosphorus 32, gold 198, radium, and cobalt 60, have been widely used in the therapy of malignant disease.[9]

Any consideration of the use of radioisotopes in the therapy of malignant disease presupposes a familiarity with certain basic concepts of nuclear physics and the biologic effects of ionizing radiations.

Space does not permit a discussion of the physical nature of the radioactive isotopes. The biologic action is due to the destructive effect of the short-range beta particle and long-range gamma rays on the malignant cells. The effect of gamma rays from radioactive sources (cobalt, radium) is identical with high-voltage x-rays. With beta particle-producing isotopes the advantage lies in the localization of activity to a specific tissue so that very little normal host tissue is affected. An added practical condition is in the apparently higher sensitivity of certain cell populations (leukemia) over that of the resting host cells. Use of the various radioactive isotopes will be discussed separately.

RADIOIODINE 131.—I^{131} is a beta and gamma emitter with a half-life of eight days produced by the bombardment of tellurium (Te^{130}) with slow neutrons. The beta rays are chiefly responsible for the therapeutic effects observed. The gamma rays facilitate location and quantification within tissue. I^{131} is physiologically indistinguishable from I^{127}, the stable form of iodine, in the body.

The avidity of thyroid tissue for iodine allows for the concentration of effective therapeutic levels of I^{131} in any malignant thyroid tissue retaining its ability to concentrate iodine. Unfortunately, most thyroid malignancies do not retain their avidity for iodine so that therapeutic amounts of I^{131} cannot be concentrated in the malignant tumor.

Doses from 6 to 300 millicuries administered in single or repeated treatments have produced therapeutic results in favorable instances. In certain cases ablation of all normal thyroid tissue by surgical or radiologic means has resulted in effective stimulation of the I^{131}-concentrating ability of all malignant thyroid tissue present. Occasionally stimulation of the malignant tissue after removal of all normal thyroid tissue with the thyrotropic hormone (TSH) has brought about effective concentrations of I^{131} in the tumor.

Effective therapeutic levels of I^{131} may be obtained by preliminary administration of a goitrogen, such as thiouracil in doses of 0.5 to 1 Gm. daily, Tapazole 60 to 100 mg. daily, or propylthiouracil 0.4 to 0.6 Gm. for a period of six weeks to two months.[10] Discontinuation of medication results in a rebound phenomenon with the iodine-concentrating ability of tumor elevated to as much as 40 to 60 per cent of administered I^{131} dose. This approaches adequate therapeutic levels, which are often considered to be 1 millicurie of retained I^{131} per Gm. of tissue.

I^{131} therapy of thyroid malignancies, in general, has been disappointing. Attempts to take advantage of the nonspecific concentration of I^{131} that frequently occurs in other types of malignant tissues have also proved disappointing. A possible use of radioiodine may develop from certain current experiments directed toward isolation of metabolites or antibodies specific for malignant tissue. These substances can be effectively iodinated with I^{131} to the extent that a therapeutic radiation dosage will be transported directly to the cancerous tissues and fixed there.

PHOSPHORUS 32.—P^{32} is a beta ray emitter with a half-life of fourteen days produced from sulfur in the nuclear chain reactor. Like I^{131} it is physiologically indistinguishable from its stable form, P^{31}, in the body.

The fact that phosphorus is concerned in many metabolic pathways productive of relatively large amounts of energy allows for therapeutic concentrations of P^{32} in certain rapidly growing tissues and malignancies. Theoretically many rapidly growing tumors should concentrate effective therapeutic levels of P^{32}, but in practice this state is seldom realized except in certain of the blood dyscrasias. Hence, the clinical use of P^{32} has evolved into its use as the treatment of choice in polycythemia vera. Effective suppression in this disease can be obtained with from 5 to 7 millicuries of P^{32} administered as a single or divided dose. Several practical therapeutic regimes are described in the literature.[11] P^{32} deserves some consideration in the problem of treatment in chronic myeloid or chronic lymphatic leukemia,[12] but in general, it may be stated that other forms of therapy in these diseases deserve first consideration.

GOLD 198.—Au^{198} is both a beta and gamma ray emitter with a half-life of 2.7 days produced by the bombardment of metallic gold with neutrons and gamma rays. As with I^{131} the effective therapeutic effect is the result of the beta emanations. Unlike I^{131} and P^{32}, which are administered as molecules or ions, Au^{198} is administered in a colloidal form with an average particle size of

0.003 microns. Particles of this size, when administered parenterally, are phagocytized by the reticuloendothelial system. It is this phagocytic property of the reticuloendothelial system that allows for effective therapeutic levels of Au^{198} in certain malignant conditions. It is chiefly our inability to dispense Au^{198} evenly throughout a tumor by injection that limits the use of this radioisotope to those situations wherein the injected Au^{198} is evenly dispersed by the body itself after injection. The greatest use of Au^{198} is in the treatment of secreting serous membranes, pleural or abdominal, which are the result of the presence of malignancy within the chest or abdomen.[13] A dose of 75 to 85 millicuries in the chest or 130 to 150 millicuries of Au^{198} within the abdomen usually effectively suppresses the effusion for periods as long as six months.

In certain types of prostatic carcinomas, particularly disease which has broken through the capsule but has not yet metastasized, Au^{198} injections have been successfully used as a therapeutic measure.[14] One to two millicuries of Au^{198} per Gm. of estimated prostatic tissue has proved to be an effective therapeutic dose.

Within the past two years the prophylactic use of radioactive gold following surgery has shown great promise. It is possible that seeding of the pleural or peritoneal surfaces with tumor cells may occur, these later giving rise to metastases. This is particularly true of ovarian and bronchogenic tumors. Sufficient time has not elapsed for proper evaluation of this technic.

Colloidal chromic phosphate is used in the same fashion as colloidal gold 198. In this instance the phosphate contains P^{32} described above. Dosage of 15 to 25 millicuries is accounted for by the longer half-life.

RADIUM AND COBALT 60.—Radium is an alpha and gamma emitter. Cobalt 60 is a beta and gamma emitter. With few possible exceptions it is the gamma emanations from these isotopes that are utilized in the therapy of malignant disease. Much of the usefulness of these isotopes is related to the relatively high energy of the gamma rays emitted. Radium applicators allow for the placing of large amounts of radiation into cavities for effective therapeutic exposures. Recently Co^{60} applicators have been fabricated into specific shapes necessary for definite positioning within the tumor-bearing area. The usefulness of radium in the clinical therapy of disease is attested to by the large volume of literature describing its usage.

Both radium and Co^{60} can be utilized to provide sources of gamma rays equivalent to those obtainable from supervoltage x-ray machines.

The usefulness of radium and Co^{60} applicators is limited literally only to the ingenuity of the therapist in placing suitably designed applicators in position in or around malignant tissues.

A brief mention should be made of advances in radiation therapy. By use of supervoltage radiation generators, major strides have been made toward the placing of killing doses of radiation in the cancerous area, while reducing as far as possible harm to normal tissue through which the radiation must pass. Technics using radiation from nuclear reactors, betatrons, and the like are in the experimental stages only and are not ready for practical use.

Conclusion

A summary of current methods of use of hormones and radioactive isotopes has been presented. Specific use of these newer technics is necessary if benefit is to be gained by the cancer patient.

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Aerosol Therapy in the Practice of Allergy

SAMUEL J. PRIGAL, M.D., F.A.C.P., NEW YORK CITY

(From the Allergy Clinic of the New York Medical College, Flower-Fifth Avenue Hospital)

AEROSOL therapy has been widely used in the treatment of respiratory diseases. It is a form of inhalational therapy, which includes the administration of oxygen and other therapeutic gases. At times both the aerosol and the gaseous conveyor may serve therapeutic purposes.

Although inhalational therapy with steam dates back to earliest recorded medical history, aerosol therapy is relatively new. The first impetus to this therapy was given by the introduction of a concentrated solution of epinephrine (1:100) for the relief of bronchospasm. Since then other bronchodilators have been introduced. Then followed the use of chemotherapeutic and antibiotic agents for the control of infection frequently complicating respiratory allergy. Of more recent vintage has been the introduction of aerosols of various mucolytic agents.

Before considering the therapeutic application of these agents the nature of aerosols, the rationale of their use, and the methods of producing them will be reviewed.

Nature of Aerosols

An aerosol is a suspension of particles, solid or liquid, in a gaseous phase, usually air. To be of therapeutic value these particles should range in size from 0.5 to 3 microns. In nature, aerosols are responsible for the sunsets, rainbows, mists, fogs, and smogs. In wartime they are used to camouflage warships and to disseminate destructive chemical or bacteriologic agents. They are responsible for the radioactive fallout of the A and H bombs. On the other hand, aerosolization of insecticides and other agents have protected useful vegetation and crops.

Rationale of Aerosol Therapy

Aerosol therapy affords an opportunity to apply a therapeutic agent directly to the organ in need of treatment. Thus epinephrine or other bronchodilators are administered directly to the lung in pulmonary disease. Although some of the agents administered as aerosols affect the respiratory tract primarily or exclusively by topical action, such as bacitracin, most have a combined topical and systemic effect. This is true of the bronchodilators and some antibiotics. Proof of this contention is afforded by blood studies following the inhalation of penicillin and streptomycin aerosols in which blood levels were sustained up to six hours after a fifteen-minute period of treatment.[1] This indicated that the lung acted as a reservoir and slowly released antibiotics into the circulation. Evidence for absorption and systemic action of bronchodilators is provided when such symptoms as tachycardia, nervousness, pallor, and temporary elevation of blood pressure follow overdosage with the aerosol.

Although in the application of bronchodilators as aerosols the local action may be minor, this is not true of the antibiotics and mucolytic agents. Indeed, some antibiotics, such as neomycin, polymyxin, and bacitracin, are deliberately selected for aerosol therapy to produce local action without systemic absorption to avoid the systemic toxic reactions which each of these is capable of inducing. Not enough is known about the transpulmonary absorption of these antibiotics. Our own studies with bacitracin showed only rare instances of absorption via the pulmonary route.[2] Presumably the same behavior applies to the other two antibiotics since no toxic reactions have as yet been reported by inhalation of their aerosols. As for the mucolytics, they are intended solely for topical action.

The topical action of certain agents as aerosols has other advantages. Thus it may be possible to administer Terramycin for sinorespiratory infections when the oral administration has caused gastrointestinal disturbances. Indeed, with the aerosol method one can avoid the staphylococcal intoxication which may follow oral antibiotic therapy. Aerosolized penicillin and streptomycin, on the other hand, have a twofold action, local and systemic.

Finally, aerosol therapy is a simple method for the self-administration of certain drugs, particularly the bronchodilators, without resorting to costly or painful procedures. Many a physician has been spared a night call by the asthmatic obtaining immediate relief from the inhalation of a bronchodilating aerosol.

Production of Aerosols

Aerosols for therapeutic purposes may be obtained either by breaking down larger particles of liquids or solids or by beginning with exceedingly small particles and building these up to the required size. The latter process is used experimentally to produce aerosol particles of uniform size for study. The breaking down process involves the use of a variety of forces: explosive, fire (smoke is a solid aerosol), and propulsive or jet forces delivered by a liquid or gas (including steam), which may then also act as the conveyor. Propulsive forces may vary from the simple compression by hand of a rubber ball to the use of bicycle pumps, electric pumps, compressors, etc. Another method in use in Europe, and not yet available commercially in this country, utilizes the centripetal force of a spinning wheel to break a liquid into aerosol particles.

In addition to the force to break up the particles, a nebulizer is needed to produce the mist. Nebulizers are of many varieties and capacities, but their prime purpose remains the same: to contain the material, usually liquid, to be aerosolized and to baffle it so that the larger and therapeutically useless particles are condensed and returned for further aerosolization. In Europe elaborate devices are available, including those designed for mass treatment.[3] In this country, until recently, aerosol therapy was handicapped by nebulizers of small capacity, usually 2 to 5 cc. This has led to therapy of short duration with concentrated solutions. With the introduction of mucolytic agents for which continuous treatment is advocated, the capacity of the nebulizers has been markedly increased.[4] This should lead to improved aerosol therapy.

The choice of the nebulizer and the propulsive force (several permutations and combinations are possible) is determined by a number of factors. For self-treatment the small nebulizer with the hand bulb (De Vilbiss number 40, Vaponephrin, etc.) is adequate. It is best used for the administration of the bronchodilators, a few inhalations sufficing. For sustained treatment the hand bulb method is too tiring, in which case the nebulizer may be attached to any of the propulsive forces mentioned. Oxygen should not be used routinely as a propulsive force since it has no particular advantage over compressed air unless there is anoxemia and oxygen therapy is indicated.

The author has used for many years an insecticide sprayer converted into a nebulizer of therapeutic aerosols.[5] This apparatus generates steam power to produce the aerosol and, therefore, has added therapeutic value. Because of its relatively large capacity, combinations of bronchodilators, antibiotics, and mucolytic agents may be used.

It is not sufficient, however, just to produce the aerosol. It must be delivered to where it can be utilized effectively. This raises the question of the durability of aerosols and the use of masks and other devices to enhance aerosol therapy. Concerning the stability or durability of a given aerosol, it should be pointed out that most materials aerosolized are in aqueous solutions and that the small-sized particles produced have a tremendous area for evaporation with the result that the aerosol is very evanescent. This instability may not be a deterrent to the treatment of asthma with bronchodilators but is of great importance in the treatment with antibiotics and mucolytic agents and is probably the most important cause of failure of therapy by this method. The aerosol just does not last long enough to be therapeutically effective.

To overcome the instability of the aerosols, the writer has used propylene glycol as the principle solvent or vehicle. In this way it is even possible to produce long-lasting aerosols which may be confined to a tent or closed chamber (bathroom), making it suitable for the treatment of infants and children or for several members of the family simultaneously.[6] Propylene glycol has also enabled me to use a primary irritating agent such as Terramycin, which in this solution is tolerated but in aqueous solution is not. Furthermore, recent studies with propylene glycol reveal it to have mild antihistamine properties, which may account for the absence, in my experience, of allergic reactions to penicillin aerosol used with propylene glycol.

Commonly the patient is treated with an aerosol continuously produced. The total production, however, is much beyond the capacity to consume; the patient cannot possibly inhale all that is produced in a given period of time. This results in great waste and inefficient therapy. To overcome this, a demand type of mechanism may be incorporated into the apparatus which regulates the production of the aerosol only to the period of inhalation. This may be a complicated mechanical device or a simple one in which, by means of rubber tubing, the propulsive force of the gas may be temporarily shunted during exhalation away from the nebulizer. Here, by proper timing and coordination aerosol production may be synchronized with inhalation.

Other methods for the more efficient use of aerosols utilize closed systems (chambers, tents, or masks) so that the mist is not disseminated into the atmosphere. A device called by the writer, a "breathing box," utilizing a closed system, has been previously described and found of particular value in the administration of antibiotics.[6]

Having described the methods of production, conservation, and utilization of aerosols, we should now consider the therapeutic agents employed.

Classification of Aerosols

Bronchodilators.—The first type of aerosol to be introduced and still the most commonly used are the bronchodilators. These are epinephrine (1:100) and related substances, such as isopropylarternol (Isuprel, Aleudrine), and Vaponephrin, a sympathomimetic compound. Aerolone Compound is a combination of bronchodilators in propylene glycol solution. These bronchodilators are best used with the simple hand-bulb nebulizer. Occasionally patients employ a solid dust type of aerosol of isopropylarternol administered by inhalation of the drug in powder form (Norisodrine).

The ease of administration and almost instantaneous relief of bronchospasm obtained in this manner are the assets of this form of therapy. This is countered by the obvious liabilities: This is only symptomatic treatment and may delay the necessary investigation of the cause of asthma. Some patients become psychologically addicted to the nebulizer and do not budge unless they carry the apparatus and medication with them. Others abuse the medication by taking it too often and in excess, thereby producing states of anxiety along with "fastness" to the drug.

Aminophylline may also be used successfully as a bronchodilating aerosol, although it is less efficient than the sympathomimetic amines.[1] It cannot, however, be used with the ordinary hand-bulb type of nebulizer. With the steam generator and aerosolizer used by the writer, combinations of aminophylline and Isuprel (1:200) may be employed with excellent results.

Antibiotics.—Next to be introduced in aerosol form have been the chemotherapeutic agents and antibiotics. Not all of these can be used in this manner for technical reasons—insolubility, instability in solution, etc.—or because of irritative action on the bronchial mucosa. Most often this is due to high acidity or excessive alkalinity, and adjustments have to be made to counteract this. As previously noted, propylene glycol, when used as a vehicle, helps to overcome the irritation although it does not seem to affect the pH of the solution.

The antibiotics most commonly administered as aerosols are penicillin, streptomycin, Terramycin, and bacitracin. More recently polymyxin and neomycin have been added to the growing list. Erythromycin prepared for intravenous therapy (Abbot, Lilly) has also been used by this writer with good effect.

For acute infections of the respiratory tract, single antibiotics may be employed. For chronic infections it is best to investigate bacteriologically and to employ antibiotics selected on the basis of inhibition testing. This may be obviated, however, by the use of antibiotics in combination. A favorite combination of the writer contains neomycin, polymyxin, and bacitracin. This combination has the advantage of utilizing antibiotics not ordinarily encountered by the patient which avoids the problem of resistance. Furthermore, these antibiotics are best administered as aerosols for respiratory infections. To this combination may be added penicillin, streptomycin, or Terramycin. Where prolonged treatment is indicated, frequent changes in the combinations of antibiotics may help to avoid the development of bacterial resistance.

Aerosols of antibiotics may also be used prophylactically in those cases where asthma follows respiratory infections. The local topical application of these antibiotics during the viral phase of the common cold may prevent the secondary bacterial phase from developing, accompanied by asthma. Both the patient and the antibiotic should be chosen with care since this prophylactic use can lead to abuse.

MUCOLYTICS.—In recent years mucolytic agents of various kinds have been introduced as aerosols in the treatment of asthma and other bronchial conditions associated with thick, gelatinous sputum.[4] Unlike the bronchodilators and antibiotics which have proved their usefulness and are generally accepted as aerosols, the mucolytics are not yet in general use. Although some investigators have enthused over their usefulness, their true value remains to be established.

The mucolytic agents may be grouped into simple chemicals, such as ammonium chloride; surface-acting agents, such as Triton A 20 contained in Alevaire; and enzymes, such as trypsin and dornase. Last but not least is steam, a highly effective mucolytic agent.

Ammonium chloride was introduced a number of years ago but was never generally accepted Since it was employed with the steam generator, it is possible that the major improvement noted was due to the steam.

The surface-active agents are numerous and must be used with care since some of them are toxic. Alevaire is a compound containing sodium bicarbonate, glycerin, and Triton A 20. This chemical along with other surface-acting agents and trypsin has been investigated by Wasserman.[7] Using the sputum of asthmatic patients and measuring its viscosity and surface tension before and after mixing with these agents, it was found that none affected the surface tension, and only one, trypsin, affected the viscosity. It is possible that Alevaire, when employed as directed, introduces sufficient water along with sodium bicarbonate to produce some degree of mucolysis.

Trypsin and dornase are said to effect mucolysis through enzymatic action. Conflicting reports about their usefulness and their irritating action, particularly for trypsin, prohibit their indiscriminate use.

Limitations and Abuse of Aerosol Therapy

Like all modalities aerosol therapy has limits to its use. The following are the most frequent abuses encountered:

1. Employment of inadequate apparatus. The aerosol particles may be too large and settle in the upper air passages, or they may be too small and escape on exhalation.
2. Materials may be too concentrated, resulting in considerable loss, unless a closed system is used, or causing irritation of the bronchial mucosa.
3. Aerosols may be too cold when administered. As they expand from the nebulizer, they lose heat and, when inhaled cold, initiate coughing spells.
4. Continued use of oxygen or air may dry the mucous membranes. These gases should flow through water before reaching the nebulizer.
5. Aerosols of antibiotics should be adminis-

tered with a regularity comparable with that of oral therapy. Too often one hears of treatments given once or twice weekly. This must be condemned since it can only result in the development of bacterial resistance.

6. Finally, aerosols of antibiotics should not be given during an attack of asthma lest they aggravate the condition. It is better to precede the antibiotics with bronchodilators. During bronchospasm the antibiotics cannot be inhaled adequately to be utilized effectively.

Summary and Conclusions

Aerosol therapy has special value in allergy. It affords a direct attack on the organ involved in asthma and related conditions. A discussion of aerosols, how they are produced and the methods of utilization, is given. The various drugs used as aerosols may be classified as bronchodilators, antibiotics and chemotherapeutic agents, and mucolytics. These are described and evaluated. Aerosols are often abused. The most common abuses are listed.

55 Park Avenue

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Fatal Postural Hypotension

POSTURAL hypotension is commonly encountered in general medical practice as a benign condition whose worst effect is considered to be transient syncope. In the practice of anesthesiology postural hypotension, as a deliberate means of creating a relatively bloodless surgical field, is generally considered safe at a systolic blood pressure of 80 in a patient without cardiovascular disease. The following case report details a set of circumstances when postural hypotension caused death in the absence of cardiovascular disease.

Case Report

A forty-eight-year-old woman was admitted for bilateral cervical chordotomy to relieve intractable pain in the abdomen, back, and left lower extremity, caused by metastatic carcinoma of cervix. Two years earlier she had had a radical mastectomy for carcinoma. She was receiving morphine every two hours during the two days prior to surgery. She was thin and pale; hemoglobin was 9.7 Gm. per 100 cc., erythrocytes 3,800,000 per cu. ml., blood pressure 110/70 mm. Hg. There was no evidence of heart disease.

She received Demerol 100 mg. and scopolamine 0.6 mg. by subcutaneous injection thirty-five minutes before anesthesia. She was placed in the sitting position in a special operating chair. Anesthesia was then induced with 5 per cent thiopental sodium; a total of 300 mg. in two doses, with 40 mg. of succinylcholine, was given for endotracheal intubation. Immediately thereafter she was ventilated with 100 per cent oxygen; the blood pressure was found to be 80/60, pulse 110. Because of marked pallor, hypotension, and weak, thready pulse the operation was postponed. *After thirty-five minutes* she was placed supine and taken to the recovery room. She was breathing spontaneously, assisted by the anesthesiologist. Within two to three minutes of arrival in the recovery room the patient was pulseless and apneic with blood pressure zero and pupils widely dilated. The surgeon thumped the chest over the precordium vigorously and injected 1 cc. epinephrine 1:1,000 into the heart while the anesthesiologist administered artificial respiration by manual compression of the bag. The blood pressure immediately rose to 200/120, and the pulse rate became 140; spontaneous respiration returned after fifteen minutes. She was given 500 cc. of whole blood and returned to her room. The vital signs were satisfactory, but she was comatose. She never regained consciousness and expired with a terminal fever of 105 F. on the sixth day.

At postmortem examination there was no evidence of cerebral thrombosis or gross brain disease. There was early bronchopneumonia and metastatic carcinoma in the retroperitoneal and periaortic lymph nodes.

Comment

This patient died as a result of irreversible cerebral hypoxia precipitated by arterial hypotension in a patient already hypoxic as a result of anemia and hypovolemia.

The capacity to tolerate an upright position, especially when arterial hypotension is to be expected or desired, depends largely on the presence of adequate blood volume and hemoglobin concentration. These essentials must be emphasized particularly since anesthetic technics and drugs—narcotics, barbiturates, spinal and epidural anesthesia, and deep general anesthesia—regularly depress vasoconstriction and favor pooling in dependent veins.

When the sitting position is mandatory for anesthesia and/or operation, the blood volume and hemoglobin concentration should be corrected to normal. The patient's safety requires vigilant observation of arterial blood pressure, prompt application of vasopressor medication (preferably by dilute intravenous infusion in the poor risk patient), elevation of the legs to a level as high as is compatible with the surgical position, and, if necessary, the use of elastic bandages exerting compression of approximately 30 mg. Hg.

(*Number six of a series of Clinical Anesthesia Conferences*)

Health Examination Form Available

At a recent meeting of the Subcommittee on General Practice of the Council Committee on Public Health and Education of the Medical Society of the State of New York, it was voted to call to the attention of all county medical societies the availability of the Health Examination Form.

Some apparent advantages, especially to general physicians, in the use of this form in daily practice are as follows:

1. Time-consuming features of routine office examinations are simplified and shortened.
2. Cancer detection in the doctor's office, including the obtaining of cytologic smears and other simple office procedures, is emphasized.
3. A comprehensive record is readily available when a doctor must appear in court.
4. This record of an orderly and systematic examination makes a physician's services more valuable to his patient.
5. Complete and thorough physical examinations by family doctors will counteract arguments for the mass screening approach to detection put forth by certain agencies.
6. The cost is only one cent for each form.

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Problems in the Management of Peptic Ulcer

J. WILLIAM HINTON, M.D., NEW YORK CITY

(*From the Department of Surgery, New York University Post-Graduate Medical School*)

PEPTIC ulcer occurs in the terminal inch of the esophagus, in the stomach proper, and in the first 2 inches of the duodenum. The percentage in each locality varies considerably. In the esophagus it constitutes about 1 per cent of the total ulcers encountered, in the stomach about 15 per cent, and in the duodenum about 85 per cent of those seen. One might question these figures if hospital admissions were considered, but many patients with duodenal ulcer never enter a hospital, while the great majority of patients with gastric ulcer are admitted. The reasons for this are the danger of the gastric ulcer being malignant and the great rarity of the duodenal ulcer ever becoming malignant.

It is stated by most internists and practically all surgeons that increased free hydrochloric acid of the stomach is the chief etiologic factor in producing the ulcerative process. Medical management of the ulcer is usually directed toward lowering the acid secretion by different medications. According to many surgeons the surgical approach should be on a physiologic basis of altering gastric acidity, but this is questioned by some surgeons because the disease process is not removed. It is hard to believe that excess acid is the main etiologic factor when the area of ulceration in the stomach proper is along the lesser curvature or adjacent to it on the anterior or posterior wall of the stomach. This area constitutes a relatively small proportion of the stomach. The greater curvature, which is twice the area of the lesser curvature, and the anterior and posterior walls adjacent to it rarely develop a true peptic ulcer. It is of equal importance to remember that the embryonic parentage of the stomach and first portion of the duodenum is the same. They originate from the foregut, while the second and third portions of the duodenum, constituting 80 per cent of its total length, develop in the embryo from the midgut. These portions of the duodenum rarely develop an ulcer, but they do occasionally develop carcinoma.

Another factor in the occurrence of ulcer in the lesser curvature of the stomach may be attributed to the fact that the mucosa is tightly bound to the submucosa along the lesser curvature. Along the greater curvature it is much more loosely bound to the submucosa and is thrown into larger folds; in other words, it has more mobility, and there is possibly less likelihood of injury.

Still another factor is the type of blood supply along the lesser and greater curvatures of the stomach. Along the former there are terminal arterial vessels with arteriovenous fistulas between the terminal arterioles and veins. This makes it more difficult for blood to reach the end of the capillary tree. Those vessels along the greater curvature are short and thick-walled with abundant interarterial anastomoses. When compared to the arteries along the lesser curvature which are long, tortuous, and thin-walled with few anastomoses, one sees anatomically a real contrast.

As recently as 1951 a British investigator, Barlow, illustrated arteriovenous anastomoses in the submucosa of the human stomach. He gave credit to Lealis in 1707 as having recorded the arteriovenous anastomosis in the human stomach. This is of real significance when one considers the role of tobacco in arterial disease of the extremities in humans. It is well recognized that a human suffering from diminished blood supply to his extremities is benefited by discontinuing the use of tobacco since the vasospastic condition is relieved in the arteries. Therefore, it is equally significant that the use of tobacco in the human suffering from an ulcer is likely to cause spasm of the terminal arteries in the stomach, with diminution of nutrition and necrosis of the overlying cells and, ultimately, ulcer formation. Once the ulcer has formed, the sustaining factors play a most important role in preventing it from healing.

It is generally admitted that ulcers are more common in the male than in the female; the ratio is at least five to one. This cannot be attributed entirely to the use of tobacco but may have some bearing on the occupations pursued by the different sexes. The mucosa of the stomach and duodenum manufactures a surprising number of complicated and essential substances, including pepsin and hydrochloric acid, which play a very important role in sustaining the ulcer, and mucus, which is a protective mechanism. There are many other substances, including gastrin, secretin, hyperglycemic factor, amylase, protease, enterogastrone, enterokinase, acetylcholine, adrenalin, noradrenalin, and histamine. These are mentioned only to call attention to the complexity of the role of the gastric and duodenal mucosa. It is important to remember that no healthy living cell will be digested by the stomach, as has been demonstrated experimentally by placing cells in the gastric lumen through artificial fistulas. On the other hand, if there is increased activity of the enzymes in breaking the cells down (in contrast to those rebuilding the cells), it is easy to see that the peptic juices of the gastric digestion would cause injury and dissolution of the morphologically incomplete cell.

The initiating factor appears to be an imbalance in the activity of the intracellular enzymes because the destructive process is much more easily interfered with than the constructive process. The sustaining factor seems to be the digestive capacity of the gastric juice, of which acid is only one component. This is also suggested by the fact that ulcers occur on the lesser curvature and that the vascularity of this area of the stomach is less perfect than along the greater curvature.

Therapy of any disease can only be satisfactorily understood when one has a clear concept of the possible etiologic factors in the known process. The above statements have important significance in therapy, both medically and surgically.

The treatment of peptic ulcers, excluding those in the stomach proper (where there is considerable debate as to how long medical management should be employed), is nonoperative. With a properly balanced diet and medications for reducing the gastric motility and acidity and for relaxation when necessary, operative treatment is necessary in not over 25 per cent of cases over a ten-year period.

Over the past several decades there has been a feeling among prominent gastroenterologists that it is essential that all patients with ulcers be at bed rest for a few weeks for the best end results. There is certainly a question as to whether or not this is essential in a high majority of patients. In a combined medical and surgical clinic which we have conducted on the Fourth Medical and Surgical Division of Bellevue Hospital since January, 1928, it was felt that bed rest was not essential but that reassurance and education of the patient as to his exact condition was certainly of more value. Our particular clinic being in a municipal hospital where the patient does not have the financial burdens encountered in many endowed hospitals makes hospital treatment less of a financial burden. From our observations since the ambulatory treatment was adopted in 1928, we feel it is a sound policy for the majority of patients.

In 1939 Blackford of the Mason Clinic began an evaluation of the end results of medical management of ulcer patients by bed rest and by ambulatory treatment, with the conviction that the best results were obtained only in those patients under bed rest management. When he concluded his study, which was presented to the

American Gastroenterological Association, his conclusions were in the exact reverse. The patients who were treated by the ambulatory method—and he admitted that they were the incorrigibles who refused the treatment which had been advised—obtained better end results than those who submitted to hospital management. It is obvious that the reasons for this are perhaps many, but one rather outstanding reason is that mental reassurance is of more significance than physical rest when one is under economic stress and strain.

There are many drugs used in the management of peptic ulcer, but it can be said that the drugs which produce hypomotility or reduce excessive contractions of the stomach are the most effective therapeutic agents. It should be remembered that the pain from peptic ulcer is envisioned by many observers as due to excessive hydrochloric acid. It seems more realistic to consider pain as due to excessive contraction of the stomach with pulling and tugging on the nerve endings still viable in the ulcer base. Drugs which have the effect of blocking the pattern cell receptor of the vagus nerve, which controls motility and to a certain extent acid production of the stomach, will give relief of pain. One of the older ones is atropine, and the newer drugs which have a similar effect are Banthine and Pathilon. When vagotomy is employed to reduce the acid production of the stomach, its immediate effect in relief of pain is the slowing of the contractions of the stomach rather than the effect it has on diminished acid production.

One of our well-known gastroenterologists (Ruffin) and his associates have demonstrated that acid-barium mixture can be administered to patients and seen both fluoroscopically and by x-ray examination in the crater of the ulcer and that this acid mixture does not produce pain when the stomach is in a hypoactive state.

Most duodenal ulcers, if seen in the early course of the disease (meaning within the first few months of onset of symptoms), may be carried most satisfactorily on conservative management by a gastroenterologist. Many of these patients are permanently cured. A certain percentage (between 15 and 25 per cent) will be failures when observed over a ten-year period, and it is estimated that the percentage depends on the cooperation of the patient. Those who fail under medical management will then become surgical problems, not for the ulcer per se but for the complications which result from the chronic, indurated, progressive process, such as penetration into an adjacent viscus such as the pancreas or gallbladder, bleeding, or complete pyloric obstruction. The fear of malignant degeneration in the duodenal ulcer should not cause any real concern. Ulcers of the duodenum, as previously stated, are in the first 2 inches of the duodenum and rarely if ever beyond that point, while malignant tumors in the duodenum occur in the second and third portions where ulcers are rarely seen.

Gastric ulcers present a different picture from duodenal ulcers as to conservative versus surgical management. In most clinics and hospitals which have had the greatest experience it is admitted that any gastric ulcer which does not completely heal within three weeks time should be operated on, because in those lesions which persist, one cannot be sure that there is not an early malignant tumor. The diagnostic error, generally admitted to be at least 10 per cent, far exceeds the mortality for gastric ulcers when surgery is performed by an experienced gastric surgeon. The mortality from the operation is minimal, not over 1 or 2 per cent in any large clinic. For that reason, when one compares hospital admissions of duodenal ulcer to gastric ulcer, the percentage of gastric ulcers appears out of proportion to the percentage of duodenal ulcers since many of the latter never enter a hospital but are satisfactorily treated by the patient's physician.

The esophageal ulcer represents a minute percentage of all ulcers, constituting only about 1 per cent of the total. Management is similar to that of the duodenal ulcer (conservative management) unless the patient develops complications similar to those enumerated for the duodenal ulcer.

The total number of deaths in the United States in 1952 was 1,497,000, of which 4,537 were from gastric ulcer and 4,233 from duodenal ulcer, or a total of 8,770 from both. In other words, 6.5 deaths in every 1,000 resulted from an ulcer. This is excluding cancer of the stomach or duodenum where there were 23,466 deaths for stomach cancer and 704 for duodenal cancer, or a total of 24,170. There were 15.5 persons in every 1,000 dying from cancer of these organs.

When one discusses the surgical treatment of ulcer, there is considerable difference of opinion in the surgical profession. If one has had an opportunity to listen to arguments for the different forms of surgical therapy during the past three to four decades, one cannot help but be impressed by the fact that the arguments during these years have been based on some method of attacking the problem physiologically. If one were to go back four decades, the operation performed was a pyloroplasty of the Finney or Horsley type with the hope of altering acid secretions of the stomach. The gastrojejunostomy was performed with a similar hope. After years of follow-up the end results of these procedures were found to be unsatisfactory. Just a little over three decades ago the operation of subtotal resection of approximately two thirds of the stomach was introduced, once again based on the premise that gastric acidity was altered by this procedure and permanently reduced. It should not be forgotten that the surgeon who introduced the procedure in this country, Berg, also removed the ulcer.

It is well known that studies on gastric acidity in patients with two thirds of their stomachs removed usually showed a diminution of acidity to some degree and practically never showed complete absence of free hydrochloric acid. Then approximately one decade ago the operation of vagotomy was advocated by Dragstedt. Vagotomy has been used extensively since then. In the hands of some, excellent results are claimed, while in the hands of others it has met with failure. Recently there have been some who advocate a minimal resection of the stomach, or pylorectomy with vagotomy, as the best method for getting good end results.

The gastric secretory mechanism is a very complex process. A portion of the acid, approximately 45 per cent, is formed from the gastric mucosa. Another 45 per cent is formed in the stomach but comes under cephalic or vagal control, and another 10 per cent is under intestinal control. Therefore, even if the entire stomach and the vagi are removed, there is still the intestinal phase of acid production. It is now known that two chemical substances which play a marked role in gastric acidity, histamine and acetylcholine, are formed in the entire gastrointestinal tract from the esophagus through the large intestine. In most conditions treated surgically, the pathologic process is removed. Therefore, it seems most logical, if good results are to be obtained, that the ulcer which has penetrated into an adjacent organ or is bleeding should be removed with a large segment of the stomach. That is the policy which is adopted by some and to which we heartily subscribe. When the disease process remains, even though a large portion of the stomach and vagi has been removed, one should expect (and from our observations one encounters) more complications than when the ulcer is completely eradicated from its contact with other organs.

Summary

Since 85 per cent of all ulcers occur in the duodenum, one can employ conservative management over a prolonged period of time without fear of malignant degeneration. When the duodenal ulcer becomes intractable, surgery becomes necessary, either because of recurring or uncontrollable hemorrhages, intractable pain, or pyloric obstruction.

The patient with gastric ulcer should be given a brief trial of medical management not to exceed three weeks. If after that period of time the ulcer is still present, surgery should be employed without further delay. Superficial gastric ulcers will heal as rapidly as duodenal ulcers, but when there is any degree of penetration, one can never be sure whether one is dealing with a true ulcer or an early ulcerating carcinoma. For that reason the dangers of mortality from subtotal gastrectomy are far less than those resulting from diagnostic error.

(*This is the first of a series of Postgraduate Radio Programs to be published in forthcoming issues*)

The dissenting opinions of one generation become the prevailing interpretation of the next.—Burton J. Hendrick

Do You Have Your Hotel Reservation for the Annual Meeting?

If you do not now have a confirmed hotel reservation in New York City for the Annual Meeting of the Medical Society of the State of New York, May 7 to May 11, 1956, at the Hotel Statler, please fill out and mail the form at the bottom of this page, and send it directly to the Hotel Statler.

Should your request be received after the five hundred rooms set aside for the Society at the Hotel Statler have been assigned, your reservation will be turned over to one of the hotels in the neighborhood. Confirmation will come to you direct from the hotel making the accommodation.

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W. P. ANDERTON, M.D., *Secretary*

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NECROLOGY

Elias Barkan, M.D., of Brooklyn, died on January 21 in St. John's Hospital following a brief illness, at the age of sixty-two. Dr. Barkan graduated in 1916 from Long Island College Hospital Medical School. He was a member of the Industrial Medical Association, the American Academy of General Practice, the Kings County Medical Society, and the Medical Society of the State of New York.

Jack Jacob Bornstein, M.D., of Brooklyn, died on February 13 at his home at the age of fifty-two. Dr. Bornstein received his medical degree from the University of Berlin in 1929. He was an assistant attending physician at Maimonides Hospital and assistant physician in arthritis at the Maimonides Hospital Outpatient Department. Dr. Bornstein was a member of the American Rheumatism Association, the New York Rheumatism Association, the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Eldridge Campbell, M.D., of Albany and Loudonville, died on February 16 in the Albany Hospital following an illness of two weeks at the age of fifty-five. Dr. Campbell graduated in 1927 from Johns Hopkins University School of Medicine. During World War II he was chief surgeon of the Thirty-third General Hospital in the Mediterranean Theatre as well as neurologic consultant there, and during the Korean war he was a civilian consultant to the surgeon general. Dr. Campbell was chief of surgery and neurosurgery at Albany Hospital, a member of the consulting staff of the Memorial Hospital of Greene County, consultant in neurology at the Mary McClellan Hospital, Cambridge, and consultant in neurosurgery at the A. N. Brady Hospital, Albany. Dr. Campbell, who had served as a governor of the American College of Surgeons, was a Diplomate of the American Board of Neurological Surgery, a Diplomate of the American Board of Surgery, a Fellow of the American College of Surgeons, and a member of the American Surgical Association, the Society of University Surgeons, the Albany County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Zama Feldstein, M.D., of New York City, died on February 11 at the Pythian Home, Ogdensburg, at the age of eighty-three. Dr. Feldstein graduated from New York University Medical College in 1895. For many years he had served as a physician in India. In 1950 Dr. Feldstein retired from active practice. He had served as physician in charge of health and convalescence of the Pythian Order.

John J. Gerrity, M.D., of Woodside, died of pneumonia on January 19 at the age of thirty-two. Dr. Gerrity graduated in 1947 from New York Medical College, Flower and Fifth Avenue Hospitals.

Lloyd Louis Hollenbeck, M.D., of Brooklyn, died on February 7 at his home at the age of sixty-five. Dr. Hollenbeck graduated from the Medical College of Virginia, Richmond, in 1915. A former director and vice-president of Midwood Hospital, Brooklyn, he later had been a surgeon at Brooklyn, Caledonian, and Swedish Hospitals in Brooklyn. Dr. Hollenbeck was a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Sumner B. Kingsley, M.D., of Ithaca, formerly of Rome, died on January 20 at the age of eighty-eight. Dr. Kingsley graduated from Columbia University College of Physicians and Surgeons in 1896. Before his retirement in 1949 he directed a private cancer hospital from 1899 to 1942 in Rome.

David Lazarus, M.D., of New York City, died in St. Petersburg, Florida, where he had been living since his retirement in 1953, at the age of seventy-two. Dr. Lazarus graduated from Cornell University Medical College in 1904 and later served as a professor of obstetrics and gynecology at the New York Polyclinic Medical School and Hospital as well as an associate in gynecology at the Polyclinic Hospital. He was a Diplomate of the American Board of Obstetrics and Gynecology and of the International College of Surgeons, a Fellow of the International College of Surgeons, and a member of the New York Academy of Medicine.

Alfred Regan, M.D., of Buffalo, died on January 23 at his home at the age of seventy-one. Dr. Regan graduated in 1907 from the University of Buffalo School of Medicine. He had served with the old Buffalo City Health Department for more than thirty-one years beginning in 1908. On July 6, 1915, he became a medical examiner in the Communicable Disease Division where he remained until his retirement on November 1, 1946. For the past twenty years he had been an examiner for the Metropolitan Life Insurance Company.

[Continued on page 924]

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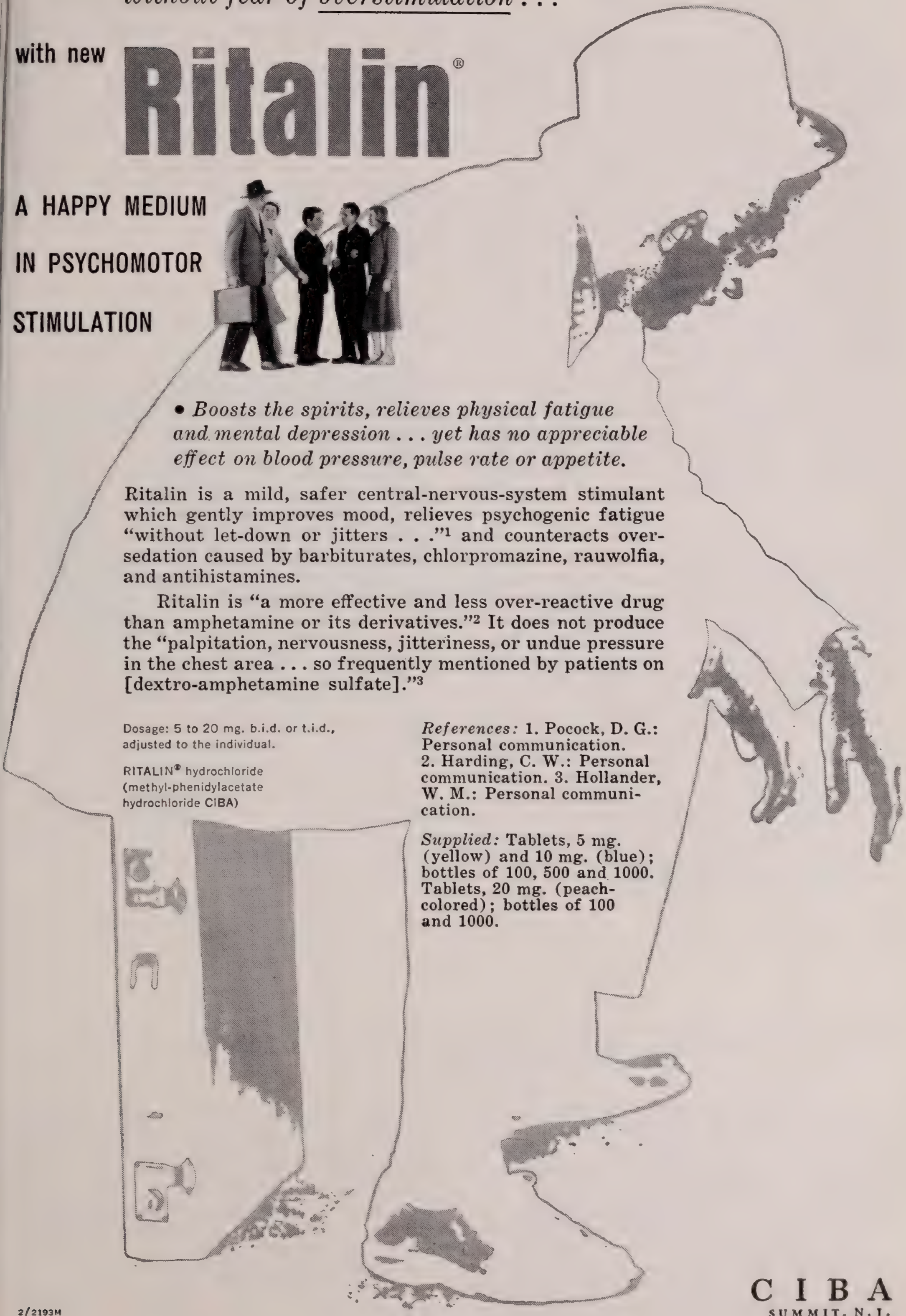

- *Boosts the spirits, relieves physical fatigue and mental depression . . . yet has no appreciable effect on blood pressure, pulse rate or appetite.*

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References: 1. Pocock, D. G.: Personal communication. 2. Harding, C. W.: Personal communication. 3. Hollander, W. M.: Personal communication.

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C I B A
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[Continued from page 922]

Henry William Schoeneck, M.D., of Syracuse, retired, died on January 22 at his home after a long illness, at the age of seventy-one. Dr. Schoeneck graduated in 1911 from Syracuse University College of Medicine. He had served as chief obstetrician at Syracuse Memorial Hospital and was a consultant in obstetrics at St. Joseph's Hospital. Dr. Schoeneck was a former director of prenatal clinics and maternal hygiene of the Syracuse Health Department. He was a past president of the Syracuse Academy of Medicine and a former member of the maternal welfare commission of the Medical Society of the State of New York. Dr. Schoeneck retired from practice in 1937 and taught obstetrics at Syracuse University Medical School until 1943. Dr. Schoeneck was a Diplomate of the American Board of Obstetrics and Gynecology, a Fellow of the American College of Surgeons, and a member of the American Association of Obstetricians, Gynecologists, and Abdominal Surgeons, the Syracuse Academy of Medicine, the Onondaga County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Hans Jorgen Schwartz, M.D., of New York City, died on February 15 at the age of seventy-nine. Dr. Schwartz graduated from McGill University Faculty of Medicine, Montreal, in 1898. From 1907 to 1941 he was a member of the faculty of Cornell University Medical College. From 1920 to 1941 he was professor of dermatology and then became professor emeritus. From 1924 to 1932 he was a specialist in dermatology at New York Hospital, from 1921 to 1935 a consultant at the Memorial Hospital for Cancer and Allied Diseases, and since 1922 at the New York Eye and Ear Infirmary, Booth Memorial, and Post-Graduate Hospitals. Dr. Schwartz was a Diplomate of the American Board of Dermatology and Syphilology and a member of the New York Academy of Medicine and the New York Dermatological Society.

Harold Ackerman Storms, M.D., of Dobbs Ferry, died in the Dobbs Ferry Hospital on February 4 after a short illness, at the age of sixty-six. Dr. Storms graduated in 1915 from New York Homeopathic Medical College and Flower Hospital. During World War I he served as a captain in the medical corps. An obstetrician at the Dobbs Ferry Hospital, he was a member of the Yonkers Academy of Medicine, the Westchester County Medical Society, the Medical Society of the State of New York, and the American Medical Association. Dr. Storms had been school doctor in Dobbs Ferry for thirty-five years.

Walter Timme, M.D., of Cold Spring, died on February 12 in St. Petersburg, Florida, at the age of eighty-one. Dr. Timme graduated in 1897 from Columbia University College of Physicians and Surgeons. He was a consultant in neurology and endocrinology at Presbyterian Hospital. He was the first professor of neuroendocrinology at the College of Physicians and Surgeons. From 1898 to 1901 Dr. Timme was associated with the Vanderbilt Clinic and served as chief neurologist there from 1914 to 1916. In 1910 he joined the staff of the Neurological Institute and served as senior attending physician there from 1918 to 1937, and from 1918 to 1937 he served as director of its Neuroendocrine Department. During World War I, Dr. Timme served as military director at the institute. In 1916 he was professor of neurology at the Post-Graduate Hospital and from 1929 to 1937 professor of clinical neurology at Columbia. He had been a consulting neurologist to the Broad Street, Volunteer, and Randalls Island Hospitals in New York, and the New Rochelle Hospital. Dr. Timme was a Diplomate of the American Board of Psychiatry and Neurology, and a member of the Endocrine Society, the Association for Research in Nervous and Mental Diseases, the New York Academy of Medicine, the New York Neurological Society, the Putnam County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Radioactive Iodine in the Management of Patients with Severe Pulmonary Emphysema

In certain intractable cases of pulmonary emphysema therapeutic measures are required other than those conventionally recommended. In these patients, disability is so severe that even slight activities assume the proportions of major efforts. Presenting a series of such patients treated with I_{131}, the authors note that the trials were inspired by published results of other investigators who used radiation thyroidectomy in treating patients with angina pectoris and congestive heart failure. The projected purpose is to alter basal oxygen requirements in order to make available a relatively larger amount of tissue oxygen for uses other than the basal state. This is done by lowering the basal metabolic level. Since the loss pulmonary reserve in emphysema presents a picture which parallels the loss of cardiac reserve in congestive failure, the rationale of the I_{131} therapy appeared as logical in one as in the other.

—*Allan Hurst, M.D., Morris H. Levine, M.D., and D. Russell Rich, M.D., Annals of Allergy, July–August, 1955*

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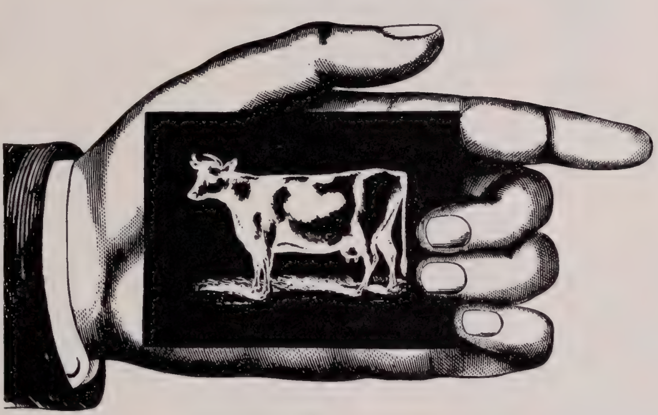

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Proteins are well-absorbed and supply calories lost by reduction in fat and carbohydrates.

prematures
Rapid growth plus low fat tolerance makes HI-PRO an ideal food.

fat intolerance
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normal newborns
With HI-PRO, you can provide extra protein without fat for rapid growth and good tissue turgor.

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Calories per oz.	121

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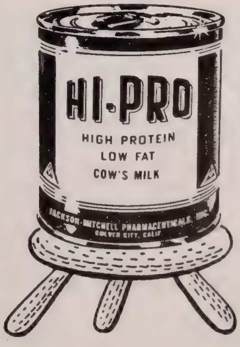

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MEDICAL NEWS

Phelps Memorial Hospital—The Phelps Memorial Hospital in North Tarrytown was opened with special ceremonies on January 7, consolidating the Ossining and Tarrytown Hospitals. The first patients for the new hospital were transferred from the Tarrytown Division on January 10. During the week of January 10 to 17, the hospital accommodated emergency cases only. In spite of this, the census rose from the original four to about 100. The remaining patients at Ossining Hospital were transferred on January 17, and both former divisions were closed. The average census has been between 130 and 140 patients.

Medical Education Week—The National Fund for Medical Education is appealing for an annual ten million dollars to operate the nation's 81 medical schools. The nation's first Medical Education Week will be held April 22 through 28, and is jointly sponsored by the National Fund for Medical Education, the Association of American Medical Colleges, the American Medical Association and its allied groups, A.M.A. Woman's Auxiliary, Student A.M.A., and the American Medical Education Foundation. Inquiries or contributions should be addressed to National Fund for Medical Education, 2 West 46th Street, New York 36, New York.

Symposium on Colds—A symposium on the common cold was held on February 17 at the Hotel Commodore, New York City. A panel consisting of the members of the scientific advisory committee of the Common Cold Foundation discussed present-day research on the common respiratory diseases and the progress that is being made. The panel was chaired by Dr. Yale Kneeland, Jr., associate professor of medicine, Columbia University, and chairman of the scientific advisory committee of the Foundation, and Dr. Melvin N. Newquist, medical director of the Texas Company and chairman of the medical advisory committee.

Ophthalmology Fellowships—Eighteen fellowships for residents in ophthalmology will be established over the next three years by the Guild of Prescription Opticians of America.

Each fellowship will provide a total stipend of $1,800, payable in monthly installments over the three-year period of residency. These fellowships are being provided on a regional basis, with the United States and Canada divided into six geographic areas. Selection of the recipient in each area will be made by a committee of ophthalmologists.

Applications and information may be secured from the Guild of Prescription Opticians of America, Inc., 110 East 23rd Street, New York 10, New York.

Academy of General Practice—The Westchester chapter of the American Academy of General Practice presented its third scientific assembly on March 14 at the Roger Smith Hotel in White Plains.

Speakers included Dr. Edward Allen, assistant senior psychiatrist at New York Hospital, Westchester division, on "The Psychosomatic Problems of Aging"; Dr. Walter Mersheimer, associate professor of surgery at New York Medical College, on "Surgery in the Aged"; Dr. Richard Gubner, visiting physician and chief of the cardiac clinic at Kings County Hospital, on "Cardiopulmonary Diseases of the Aged"; Dr. Thomas H. McGavack, professor of clinical medicine at New York Medical College, on "Replacement Hormone Therapy in Older People," and Dr. Frederic D. Zeman, chief of medical service, Home for the Aged and Infirm Hebrews, New York City, on "Common Clinical Errors in the Care of the Elderly."

Medical Student Awards—Ten fifty-dollar awards will be granted in June for the best case reports on patients with rheumatoid arthritis submitted by third and fourth year students in New York City medical schools. The awards are offered by the State of New York Chapter, Arthritis & Rheumatism Foundation. Information about the awards has been provided to the deans of the medical schools.

American Medical Education Foundation—New York State contributors to the American Medical Education Foundation for the month of January were: *Albany*—Dr. Robert W. Raymond; *Alton*—Dr. Ralph Munzner; *Belle Harbor*—Dr. Louis C. Abelson; *Bronx*—Drs. William Horowitz, Tiffany Lawyer, Jr., H. L. Margulies, Peter C. Pellegrino, and Max J. Weinstein; *Bronxville*—Dr. Edward P. Daly; *Brooklyn*—Drs. Donald J. Dickler, Joseph L. Gottesman, J. R. Handelsman, John J. Masterson, and Joshua J. Rabinowitz; *Brushton*—Dr. Philip E. Stamatiades; *Buffalo*—Drs. J. T. Andrews, J. Lorenzo, and C. L. Stinson; *Clyde*—Dr. John Pulvino; *Dansville*—Dr. Victor M. Breen; *East Williston*—Dr. Edward L. Seretan; *Gouverneur*—Dr. Arthur E. Head; *Great Neck*—Dr. Leonard J. Bloome; *Huntington*—Dr. William W. Heroy; *Kingston*—Dr. T. R. Smalldon; *Little Falls*—Dr. Joseph W. Conrad; *Lyons*—Drs. Myron Carmer and Frank Wood; *Massena*—Dr. Thomas E.

[Continued on page 928]

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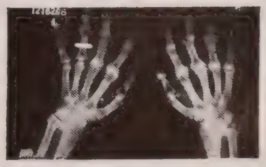
Exploit fully the use of salicylates in arthritis—give steroids in minimal doses—combine salicylates with corticosteroids for additive antiarthritic effect—this is the program Spies[1] advocates in a recent article in the Journal of the American Medical Association.

Treatment of rheumatoid arthritis demands a "highly individualized program," Spies[1] writes. The additive action of salicylates permits use of smaller amounts of hormones, thus lessening or eliminating their well-known side effects. "A proper mixture of salicylates and corticosteroids produces an effective antirheumatic agent in many cases."[1]

Suit your treatment to your individual arthritic patient. Use the hormone you prefer, in the dosage you think best, but for better results combine it with BUFFERIN, the salicylate proved to be better tolerated by arthritics.[2]

BUFFERIN contains no sodium, a marked advantage when cardiorenal complications make a salt-restricted diet necessary.

Each BUFFERIN tablet contains 5 grains of acetylsalicylic acid and the antacids magnesium carbonate and aluminum glycinate.



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[Continued from page 926]

Perdue; *Monticello*—Dr. Nathan Nemerson; *Mount Vernon*—Dr. Joseph G. Rothenberg; *Newburgh*—Dr. M. Charlap; *New York City*—Drs. David M. Bosworth, J. M. Chamberlain, Edwin J. Foley, Emil Froeschels, Mitchel G. Garren, Edward E. Jemerin, Barnard Kleiger, D. J. Richardson, Percy E. Ryberg, David Soletsky, H. Southworth, Aaron D. Spielman, T. C. Thompson, and Bella S. Vanbark.

Also: *Olean*—Dr. Leslie J. Atkins; *Ossining*—Dr. Laurance D. Redway; *Oswego*—Dr. Jerry J. Belden; *Palmyra*—Drs. James D. Bramer and John H. Marsh; *Plainview*—Dr. Neil M. Palladino; *Potsdam*—Dr. Ernst Klein; *Poughkeepsie*—Drs. John M. Jacobus and T. M. Rimai; *Ridgewood*—Dr. Edward A. Essex; *Rochester*—Drs. John N. Abbott, Lynn Rumbold, and Howard A. Spindler; *Scarsdale*—Dr. Herman Tarnower; *Sodus*—Dr. F. L. Myers; *Syracuse*—Dr. Ralph V. Chester; *Tarrytown*—Dr. Francis Gianmattei; *Troy*—Dr. Victor C. Jacobsen; *Utica*—Dr. H. J. Ehresman; *Watertown*—Dr. Alfred Kant; *Wolcott*—Dr. Robert Stuck; *Yonkers*—Dr. Liborio A. Volino.

Society of Medical Jurisprudence—The 695th regular meeting of the Society of Medical Jurisprudence was held at the New York Academy of Medicine, 2 East 103rd Street, New York City, on February 17 at 8:30 P.M.

The medical and legal aspects of the narcotic drug problem were discussed by Dr. Hubert S. Howe, clinical professor of neurology at Columbia University from 1936 to 1953, and author of "Narcotics and Youth."

Personalities

Elected

Dr. Martin J. Healy, Jr., Yonkers, president; Dr. Robert D. Tarpey, Bronx, vice-president, and Dr. Paul J. Devlin, New York City, secretary, of the medical board of St. Joseph's Hospital in Yonkers...Dr. Jerome P. Webster, professor emeritus of plastic surgery, Columbia-Presbyterian Medical Center, New York City, vice-president, and Drs. Herbert Conway and Lee R. Straub, New York City, as members, of the American Society for Surgery of the Hand at the 11th annual meeting in Chicago on January 27.

Honored

Drs. Lester A. Betts and the late John D. Gulick, Schenectady, with a new doctors' lounge and a medical library in the proposed Ellis Hospital wing, a gift to the hospital's two million dollar building fund...the late Dr. Ernst P. Boas, consulting physician at Mount Sinai Hospital and postgraduate teacher in diseases of the heart at Columbia University at the time of his death, with a trust fund in his memory...Dr. Benjamin Sherwin, director of surgery at Jewish Memorial Hospital and attending surgeon at Lebanon and Lincoln Hospitals, at a dinner and dance of the Bronx Physicians Division of the United Jewish Appeal on March 3 at the Essex House Hotel...Dr. Nathaniel E. Reich, Brooklyn, by the translation into Spanish of his book, "Uncommon Heart Diseases."

Speakers

Drs. Robert E. Carroll, L. Ramsay Straub, Edward H. Wilson, Ernest W. Lampe, Herbert Conway, John Bouve, J. William Littler, William Metcalf, and William Whalen, New York City, scientific papers at the 11th annual meeting in Chicago of the American Society for Surgery of the Hand on January 27...Dr. Raymond Harris, assistant medical director and cardiologist at the Ann Lee Home, at the Jewish Community Center in Albany on January 25 on "Physical Activity and the Heart"...Dr. Melvin Horwith, acting director of the Department of Metabolism at New York Hospital, before the Geneva Academy of Medicine on February 20 on "Recent Advances in Endocrinology"...Dr. Gustave Kaplan, director of x-ray therapy at Veterans Administration Hospital, Bronx, before the Utica Academy of Medicine on February 16 on "X-ray Therapy in Benign Disease"...Dr. Perrin H. Long, professor of medicine and chairman of the Department of Medicine at the College of Medicine of the State University of New York, before the Alumni Association of the Brooklyn College of Pharmacy, Long Island University, on February 19...Dr. Joseph Sorrentino, director of radiology at St. Francis Hospital, Poughkeepsie, before the Utica Academy of Medicine on February 16 on "Radioactive Isotopes."

Appointed

Dr. Walter J. Gorday, as the first full-time radiologist at Bath Memorial Hospital...Dr. William G. Richtmyer, Albany, to the Medical Advisory Committee of the Masonic Foundation for Medical Research and Human Welfare.

Resigned

Dr. John Douglas, Latham, as Town of Colonie health officer as of February 1.

Ask a woman's advice, and, whate'er she advise,
Do the very reverse and you're sure to be wise.
—THOMAS MOORE

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MEDICAL MEETINGS

Jefferson County Medical Society

There will be a meeting of the Jefferson County Medical Society on March 20 at the Black River Valley Club, in Watertown. Dr. Alfred M. Wedd, assistant professor of medicine, physiology, and pharmacology at the University of Rochester School of Medicine and Dentistry, will speak on "The Common Cardiac Arrhythmias."

New York County Medical Society

The 150th anniversary of the founding of the Medical Society of the County of New York will be celebrated in sesquicentennial events scheduled in April, according to Dr. Gerald D. Dorman, president of the Society.

Plans for the celebration include historical exhibits, programs in the city hospitals on the newest clinical applications of medicine, open house and special exhibits in the five medical schools of New York City, television and radio programs for the public on "New Horizons In Medicine," and special cancellation postmarks for all letters mailed in Manhattan during the event. A special anniversary seal has been created for use on all letters mailed by physicians and as a motor vehicle sticker on physicians' cars.

Dr. William B. Rawls, a past-president of the Society, is general chairman of the anniversary event which will climax at a formal dinner at the Waldorf-Astoria Hotel on the evening of April 5.

Stamford Heart Association

A symposium on cardiovascular disease sponsored by the Stamford Heart Association will be held on April 5 from 9:30 A.M. to 5:30 P.M. at the Connecticut Power Company auditorium, 429 Atlantic Street, Stamford, Connecticut.

Gynecology and Endocrinology

A course entitled "Gynecology and Endocrinology" will be given full-time during the week of April 9 by the Post-Graduate Medical School, New York University-Bellevue Medical Center, under the joint direction of Dr. Herbert S. Kupperman and Dr. Theodore Neustaedter.

The course will deal with the interrelationship of the glands of internal secretion and various gynecologic problems and will stress the effects of the thyroid, adrenal, and pituitary glands on ovarian function and menstrual physiology. Adrenal cortical factors in gynecology will be stressed, as well as the complications and management of menopause, dysmenorrhea, menstrual irregularities, hypermenorrheas, and other related problems.

Psychiatry and Neurology Institute

The sixth annual institute in psychiatry and neurology, sponsored by the Veterans Administration Hospital, Lyons, New Jersey, the New Jersey Neuropsychiatric Association, and the New Jersey District Branch of the American Psychiatric Association, will be held on April 18 at the Veterans Administration Hospital in Lyons. Dr. Paul Hoch, New York State commissioner of mental hygiene, will participate in a round table conference on "Effects of Tranquilizing Drugs in Psychiatry." Dr. Ralph Snyder, dean of New York Medical College, will speak on "Role of Psychiatry in Medical Education," and Dr. Sandor Lorand, professor of clinical psychoanalytic medicine at Long Island College of Medicine, will speak on "Type and Effect of Dynamic Psychotherapies."

Local Injections of Hydrocortisone as a New and Effective Treatment for Strictures of the Urethra and Meatus

Experience with 18 cases indicates that the regimen outlined by Drs. Charles D. Bonner, Melvin K. Lyons, and Daniel Shields is a simple, inexpensive, and effective method of treating urethral and meatal strictures. Ten patients with strictures were given local injections of hydrocortisone. The steroid was injected directly into the stricture, followed by dilatation. Both old and new strictures disappeared after an average of three injections, and all symptoms subsided. Follow-up of four to fourteen months has not revealed any return of stricture formation.—*New England J. Med., July 28, 1955*

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CORRESPONDENCE

Request for Information on Laryngeal Carcinoma

To the Editor:

In order to determine the prevalence of laryngeal carcinoma in New York State, I would appreciate your printing an appeal in the JOURNAL asking surgeons and radiologists who have treated such cases during the last ten years to furnish me information concerning such cases.

This is a continuation of a study of laryngeal carcinoma which I started while serving as assistant to Professor Doctor L. B. W. Jongkees of the Department of Otolaryngology at the University of Amsterdam. The report on my research and study at the Antoni van Leeuwenhoek Cancer Institute in Amsterdam is appearing in the near future in the *Archives of Otolaryngology* under the title, "A Comparative Study of the Diagnosis and the Treatment of Laryngeal Carcinoma in the Netherlands in Contrast to That in the United States of North America."

I would appreciate receiving criticisms on this article from the various New York physicians interested in laryngeal carcinoma.

Specific information I would like to receive is as follows:

1. Current nomenclatures used by individual New York doctors in diagnosis of laryngeal carcinoma.
2. Reactions to the simplified nomenclature as proposed in the Amsterdam study.
3. Indications for surgical intervention and for use of radiation therapy in laryngeal carcinoma, as recommended by individual New York authorities.
4. Any available statistics concerning number of cases treated, with cure rates for the various groupings.

A composite picture of all information received will be compiled in an article on laryngeal carcinoma in New York State. Due credit will be given all physicians who furnish information.

SAMUEL B. HENKEN, M.D.

169-18 Crocheron Avenue
Flushing, New York

BOOKS REVIEWED

Handbook of Cosmetic Materials. Their Properties, Uses, and Toxic and Dermatologic Actions. With a Bibliography of over 2,500 Titles. By Leon A. Greenberg, Ph.D., and David Lester, Ph.D., with a chapter on The Skin by Howard W. Haggard, M.D. Octavo of 455 pages. New York, Interscience Publishers, 1954. Cloth, $12.50.

This *Handbook* is based on lists of ingredients submitted by the Cosmetic Industry and is sponsored by the Toilet Goods Association, Inc. The extensive bibliography of 2,734 references was prepared and abstracted by a division of the Laboratory of Applied Physiology, Yale University.

[Continued on page 934]

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[Continued from page 932]

Each compound is listed alphabetically under the numerous names referred to in literature and is described under its more familiar name or the one believed to be correct. The description covers formula, properties, uses, toxic action, if any, and dermatologic action together with the references in the bibliography.

The book is encyclopedic in character and is intended entirely as a reference volume. It seems to fulfill this purpose completely and satisfactorily.—John C. Graham

Viral and Rickettsial Diseases of the Skin, Eye and Mucous Membranes of Man. By Harvey Blank, M.D. and Geoffrey Rake, M.D. Octavo of 285 pages. 56 full color illustrations, 63 black and white illustrations. Boston, Little, Brown and Company, 1955. Cloth, $8.50.

This book by Blank and Rake presents a group of dermatologic diseases of increasing interest. Herpes, chickenpox, zoster, smallpox, vaccinio, measles, etc., common cold, warts, molluscum contagiosum, viral diseases from animals, kerato conjunctivitis, chlamydozoaceae and rickettsial diseases constitute the diseases described in this volume. They are shown in good pictures and drawings and in many color photographs.

These diseases have not been discussed too much in medical magazines but this book of 263 pages sums up the information. It consequently has an outstanding value.—Frank Bethel Cross

Growth and Development of Children. By Ernest H. Watson, M.D., and George H. Lowrey, M.D. Second edition. Octavo of 296 pages, illustrated. Chicago, Year Book Publishers, 1954. Cloth, $7.00.

This compendium of pediatrics is full of valuable information for both student and pediatrician. The growth and development of the child are followed up by means of the systems of the body and are amply illustrated with graphs, tables, and pictures. Special attention is given to the premature infant and behavioral development. A special chapter on facial growth and dentition is noted. There is a good reference bibliography at the end of each topic.—Mark J. Wallfield

Peripheral Vascular Diseases. By Edgar V. Allen, M.D., Nelson W. Barker, M.D., and Edgar A. Hines, Jr., M.D., with associates in the Mayo Clinic and Mayo Foundation. Second edition. Octavo of 825 pages. 316 illustrations, seven in color. Philadelphia, W. B. Saunders Company, 1955. Cloth, $13.

The authors have prepared in this second edition a generally improved and expanded volume and present not only their own contributions but those of a number of others. This has been done particularly with the surgical aspects of peripheral vascular diseases and wisely so, since the recent major advances in the treatment of the degenerative occlusive diseases have been made by the surgeons.

This book is in better balance than the first edition. While arteriography as a diagnostic procedure was originally stressed to the point of devoting almost 100 pages to it, it is now given its proper role by having five pages on the subject.

The importance of the oscillating bed in treatment is still stressed in spite of the fact that there is no definitive data to prove its value, also creating even a transitory ischemia as part of the treatment makes it a dubious procedure.

The book is comprehensive, well written, has an excellent bibliography, and covers every known aspect of the subject.—William S. Collens

Psychoanalysis. Practical and Research Aspects. By Willi Hoffer, M.D. Octavo of 102 pages. Baltimore, published for Vanderbilt University by Williams & Wilkins Company, 1955. Cloth, $3.50. (The Abraham Flexner Lectures. Series No. 12)

These lectures are not only interesting from the standpoint of the eminence of the author in the field of psychoanalysis, but especially because of the chapters on some of the aspects of psychoanalytic investigation of childhood. The author's speculations as to the value of psychoanalytic research procedures in organic disease are well presented, in conjunction with a review of an analysis of a case of Parkinsonism; and certain interesting inferences considered in respect to the problems of ego-psychology and cerebral disease.—C. Milton Meeks

Metabolic Interrelations with Special Reference to Calcium. Transactions of the Fifth Conference. New York, N.Y., January 5–6, 1953. Edited by Edward C. Reifenstein, Jr., M.D. Editorial Assistants: Shirley L. Wells, M.S., and Beverly B. Turner. Octavo of 386 pages, illustrated. New York, Josiah Macy, Jr. Foundation, 1954. Cloth, $5.00.

This is another excellent Macy Foundation publication dealing with a conference on calcium metabolism. Some of the chapters are concerned with detailed biochemical experimental methods. These chapters do not make for exciting reading. However, there are a number of sections, particularly those on the use of chelating agents, which are intensely interesting and introduce a new concept of therapeutics.

This book is recommended to those who would have an insight into calcium and bone metabolism. It is also stimulating to read what the experts in the field are thinking and planning for the future and it is enjoyable watching them argue among themselves. It would be well if more medical reports were printed in this lively conference style.—Felix Taubman

Morbidity in the Municipal Hospitals of the City of New York. Report of an Exploratory Study in Hospital Morbidity Reporting. By Marta Fraenkel,

[Continued on page 938]

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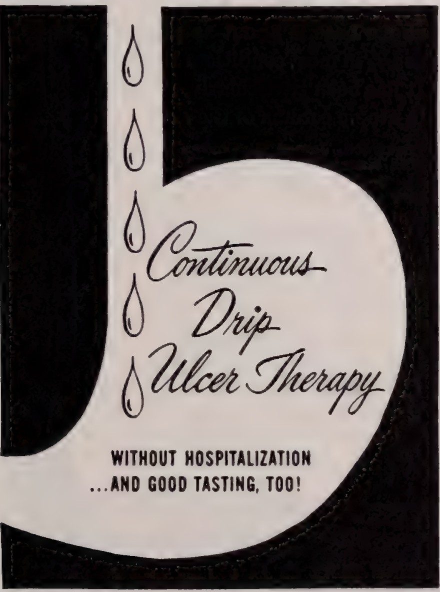

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*Steigmann, F., and Goldberg, E.: Ambulatory Continuous Drip Method in the Treatment of Peptic Ulcer, Am. J. Digest. Dis. *22*:67 (Mar.) 1955.

†Mg trisilicate 3.5 gr.; Ca carbonate 2.0 gr.; Mg oxide 2.0 gr.; Mg carbonate 0.5 gr.

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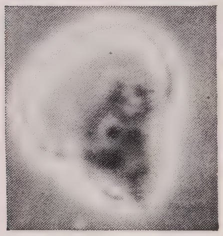
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References: 1. Davis, C. H.: J.A.M.A. 157:126 (Jan. 8) 1955. 2. Davis, C. H.: West. J. Surg. 63:53 (Feb.) 1955.

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Lockwood, James H., Cmdr., MC, USN
U.S. Naval Hospital, San Diego, Cal.
Bulletin of the Association of Military Dermatologists, June 1955, p. 2

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[Continued from page 934]

M.D., and Carl L. Erhardt. Octavo of 229 pages. New York, Russell Sage Foundation, 1955. Cloth, $4.50.

The publication is the report of a pilot study by the statistical chiefs of the Department of Hospitals and the Department of Health of New York City.

The report demonstrates very clearly that much valuable information presently available in the hospitals of any city, is not being used for the purpose of "planning and administration of medical care and public health programs."

The authors have demonstrated with what ease the indicated data may be collected. They have prepared only a few of the possible correlation tables. Also, the low cost of such activity has been approximated. They are to be congratulated upon their presentation and demonstration of a potentially valuable routine reporting system. It is hoped that a permanent study would include an aspect which would improve the reliability of the data and the standard of record keeping.—Schuyler G. Kohl

Essentials of Biological and Medical Physics. By Ralph W. Stacy, Ph.D., David T. Williams, Ph.D., Ralph E. Worden, M.D., and Rex O. McMorris, M.D. Octavo of 586 pages, illustrated. New York, McGraw-Hill Book Company, 1955. Cloth, $8.50.

This book, prepared by men working in physiology or physical medicine, covers a wide range of problems in a style which ranges from the abstruse to the elemental. Terms like "entropy" and "enthalpy" are used with no definition, and many complex equations are set forth. Yet it also is stated that the "Designer of the human body chose to use the muscle as a prime mover," and the "clinical conditions in which muscle strength is reduced" are listed. The book is well printed, logically planned, adequately illustrated, and discusses why glowworms glow, why flyers faint, and a large number of clinical phenomena. Readers with little mathematic ability will have to take much of the presentation on faith. —William Dock

The Medical Care of the Aged and Chronically Ill. With Particular Emphasis on Degenerative Disorders, Advanced Cancer and Other As Yet Incurable Diseases. By Freddy Homburger, M.D. Octavo of 253 pages, illustrated. Boston, Little, Brown & Co., 1955. Cloth, $5.75.

This book attempts a summary of the treatment of the chronically ill patient who is often the geriatric patient. The main purpose of the book is to take away the feeling of hopelessness which overcomes the physician who has a problem of inoperable malignancy or chronic osteoarthritis and its multitude of aches and pains. Certainly these are the problems of the present and future and they need all the patience and nursing care that lobar pneumonia needed before the days of antibiotics. Dr. Homburger's book is a wonderful guide to these problems and should be part of everyone's library.—Irving A. Zimmerman

Neurology. By S. A. Kinnier Wilson, M.D. Edited by A. Ninian Bruce, M.D. In three volumes. Second edition. Octavo of 2,060 pages, illustrated. Baltimore, Williams & Wilkins Company, 1955. Cloth, $37.50.

These volumes contain a detailed description of all neurologic disorders. The historical background of most neurologic conditions is given much attention. The book is especially noteworthy for the voluminous bibliography which is used as reference material. The section on aphasia, apraxia, and agnosia is especially commendable for its meticulous attention to the historical and chronologic development of our knowledge in this field. It is primarily a reference book for the specialist in the field of neurology.—Alexander Levine

Laboratory Identification of Pathogenic Fungi Simplified. By Elizabeth L. Hazen, Ph.D., and Frank Curtis Reed. Quarto of 108 pages, illustrated Springfield, Ill., Charles C Thomas, 1955. Fabricoid, $5.50. (American Lecture Series #253)

This monograph is based on the author's experience in the teaching of diagnostic mycologic methods. Photography and photomicrographs are used throughout the book. Textual descriptions together with media and diagnostic cultural characteristics are given for each pathogenic fungus commonly encountered in North America. There is included a list of media used and the amount of the various ingredients in their composition. There are extensive references to mycologic literature also.

This book is excellent in every particular and should be an essential part of the library of any student of mycology. It also will be useful in the library of all practitioners interested in the identification of pathogenic fungi.—John C. Graham

Communicable Diseases. By Franklin H. Top, M.D., and collaborators. Third edition. Octavo of 1,208 pages. 109 text illustrations and 15 color plates. St. Louis, C. V. Mosby Company, 1955. Cloth, $18.50.

Any physician, nurse, public health worker, or medical librarian who is looking for an adequate text or reference book giving a concise and complete exposition of the communicable diseases will do well to examine Dr. Top's work carefully.

This sturdy, well-bound volume contains 1,200 pages in the course of which 22 physician-author experts present formal textbook treatises covering their favored communicable disease or group of diseases. Nurse experts in the field develop for the reader the technics of hospital and home care. The chapter describing acute anterior poliomyelitis devotes a generous section to a résumé of the rationale of the rehabilitation technics of the Kenny Method of treatment. A glossary is included to help the

[Continued on page 940]

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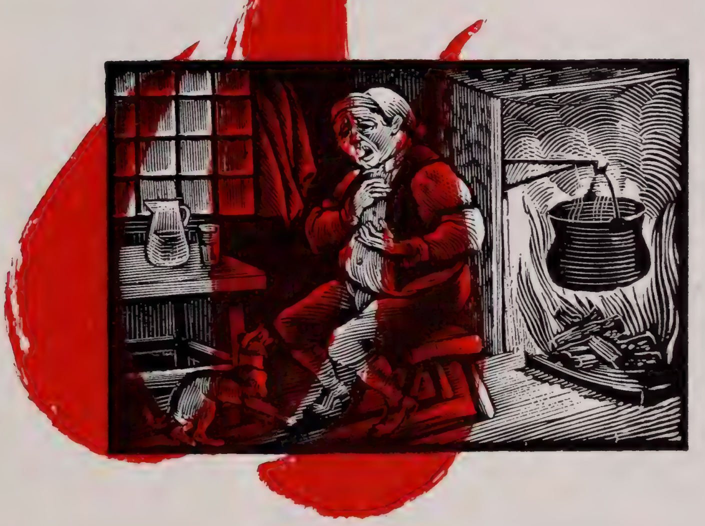

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* Combes, F. C. & Canizares, O.: New York St. J. Med. 52:706, 1952; Marsh, W. C.: U. S. Armed Forces M. J. 1:1045, 1950.

[Continued from page 938]

reader from the medical ancillary professions to more easily understand unfamiliar terminology, and this will prove very useful. The paper, print, tables, and illustrations are excellent.—KENNETH G. JENNINGS

Diseases of the Ear, Nose, and Throat. By William Wallace Morrison, M.D. Second edition. Octavo of 756 pages, illustrated. New York, Appleton-Century-Crofts, 1955. Cloth, $10.

In the second edition of *Diseases of the Ear, Nose and Throat* by Morrison, the book continues its purpose in being entirely written for the undergraduate student and general practitioner.

The author has added new material to keep his book up to date and has retained the style, simplicity, and ease of understanding of the basic principles underlying the various subjects, which made the previous edition so outstanding.

This book is highly recommended for the library of the general practitioner.—SYDNEY SHAPIN

The Body Fluids. Basic Physiology and Practical Therapeutics. By J. Russell Elkinton, M.D., and T. S. Danowski, M.D. Octavo of 626 pages, illustrated. Baltimore, The Williams & Wilkins Company, 1955. Cloth, $10.

This is the most comprehensive of all the books thus far published in the field of water, electrolyte, and acid-base balance. The volume is divided into four parts. The first two sections are devoted to fundamental principles; the last two deal with specific disease entities and therapeutic measures. The book contains a well-integrated summary of the literature as well as the basic contributions of the authors. It begins with a general discussion of homeostatic mechanisms followed by an interesting chapter on paleochemistry. In a concise manner it deals with modern methodology and then proceeds to discuss, in detail, the physiopathologic processes which involve the body fluids.

This volume fills a definite need and will be welcomed by the student and physician who are concerned with the problems of fluid balance.—I. S. FRIEDMAN

The History and Conquest of Common Diseases. Edited by Walter R. Bett. Octavo of 334 pages. Norman, University of Oklahoma Pr., 1954. Cloth, $4.00.

In keeping with a growing modern trend, this volume comprises a group of manuscripts on its subject. Each chapter is the contribution of experts on the topic covered and each is truly a fascinating literary gem. Although it is a medical treatise, this book is admittedly of interest to the lay reader as well. It certainly does make most interesting reading showing as it does how much has been accomplished in the advance of medical science and how much still remains to be achieved. The editor of this book and its contributors have done much by its preparation to afford a better understanding of medical progress.—JEROME WEISS

The Care of Your Skin. By Herbert Lawrence, M.D. Duodecimo of 95 pages, illustrated. Boston, Little, Brown & Company, 1955. Cloth, $2.50.

There is one criticism of this book which seems warranted, the title is totally misleading. The book has to do only with acne and has nothing in it concerning the care of the skin except as it applies to the adolescent. It has been written for the patient not for the physician. With a change of title the book could be wholly recommended. Nothing was found in the discussion of acne which does not conform to the accepted medical opinion.

The approach is rational and comment is from the commonsense standpoint. The book could safely be put in the hands of any young person with benefit to their skin and also the prevention of damage to the appearance which comes from self-manipulation of the skin.—JOHN C. GRAHAM

Management of Disorders of the Autonomic Nervous System. By Louis T. Palumbo, M.D. Octavo of 186 pages, illustrated. Chicago, Year Book Publishers, 1955. Cloth, $5.00.

This volume certainly makes an ambitious effort to cover all of the problems of the autonomic system in 167 pages. It is a bit too detailed to be an outline handbook and hardly extensive enough to be a text on any one of the problems. The brief reviews on the myriad disorders might help the general practitioner in the handling of some of these cases.

What is written is presented very lucidly and should be understandable to men who have been without contact for many years with the field. It does, however, seem to oversimplify the vast implications of the autonomic system in health and disease.—PHILLIP E. LEAR

Survey of Clinical Pediatrics. By Lawrence B. Slobody, M.D. Second edition. Octavo of 502 pages, illustrated. New York, The Blakiston Division, McGraw-Hill Book Company, 1955. Cloth, $9.50.

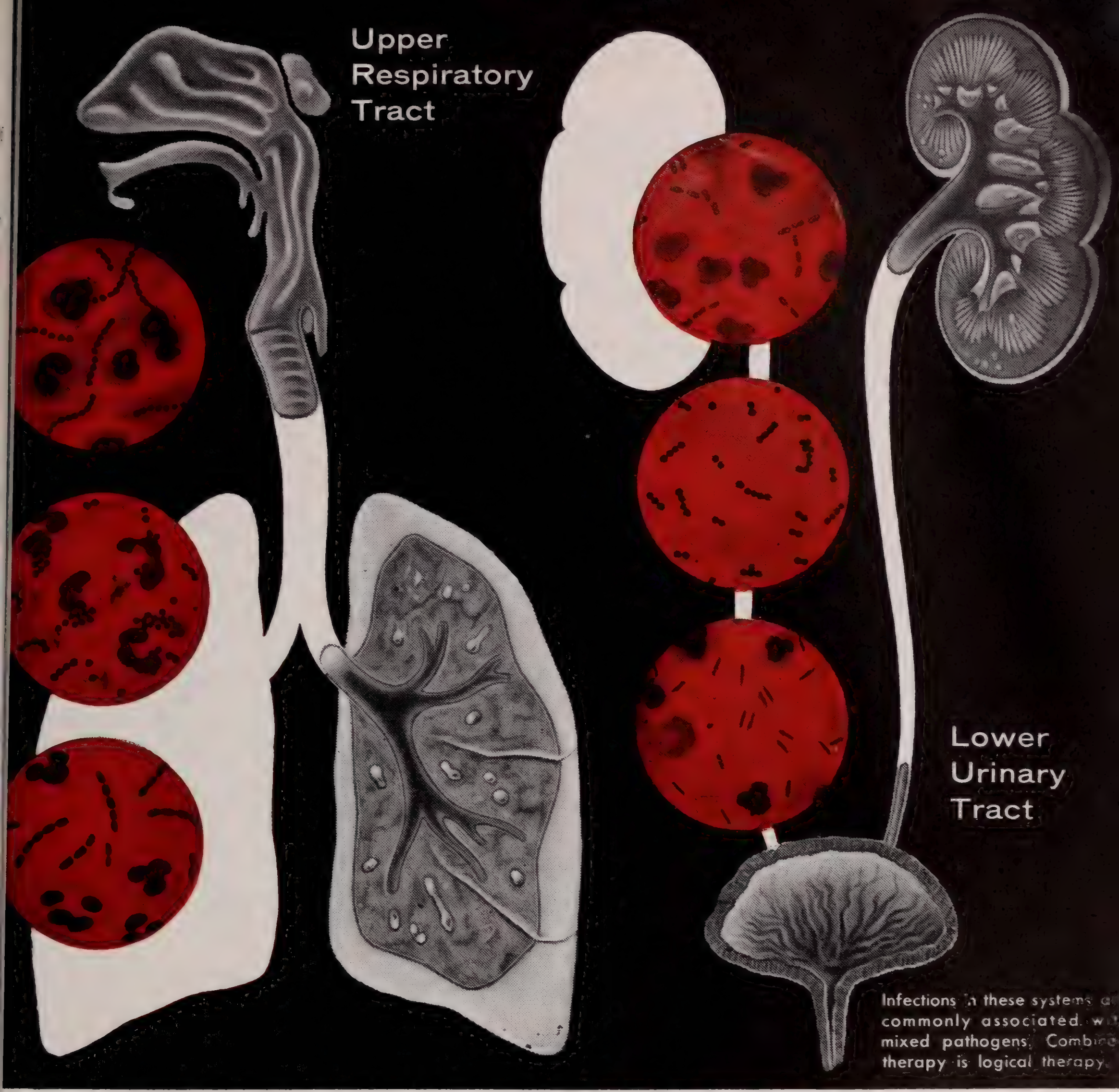
This book is designed for rather quick reference. The material is well presented and one has at his finger tips methods of diagnosis and treatment of various diseases encountered in pediatric practice.

At the end of chapters review questions are asked which makes one do a little thinking on one's own.—THURMAN B. GIVAN

Hearing Therapy for Children. By Alice Streng, M.A., Waring J. Fitch, M.A., LeRoy D. Hedgecock, Ph.D., James W. Phillips, M.D., and James A. Carrell, Ph.D. Octavo of 371 pages, illustrated. New York, Grune & Stratton, 1955. Cloth, $6.75.

This book covers the field of hearing therapy for children and includes the case finding and the general and special eduction for the hard of hearing

[Continued on page 942]



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1. Daly, J.W.: Antibiot. & Chem. *4*: 687 (June) 1954.
2. Bohne, A.W., and Chase, W.E.: Am. J. M. Sc. In press.
3. Editorial: J.A.M.A. *159*:1459 (Dec. 10) 1955.

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[Continued from page 940]

children. It is primarily for social workers and teachers of hard of hearing children. The authors are authorities in their field. There are many valuable cuts and illustrations. At the end of each chapter the authors have included their references and these, too, are very valuable and may serve as a source file to those interested in the field. At the end of chapter 7, one finds not only an exhaustive group of references but also a bibliography subdivided under the heading of General Auditory Training Materials, Lip Reading Materials for Children, Lip Reading Materials for Adults, and Speech Material for Children. At the end of chapter 8 again we find an exhaustive group of references as well as a subdivided bibliography. The authors also include a listing of the established Hearing Rehabilitation Centers throughout the United States. This work can be highly recommended for all interested in the problems of the hard of hearing—the social worker as well as the otologist—for this it will serve not only as a text and a guide but also as a ready reference.—SAMUEL ZWERLING

Etiology of Chronic Alcoholism. By Oskar Diethelm, M.D. With contributions by Mary J. Sherfey, M.D., M. Freile Fleetwood, M.D., Manfred Bleuler, M.D., and Milton L. Barnett, Ph.D. Octavo of 229 pages, illustrated. Springfield, Ill., Charles C Thomas, 1955. Cloth, $6.75.

Doctor Diethelm and his coworkers have presented a lucid, interdisciplinary study of chronic alcoholism. Findings related to psychodynamics, physiology, biochemistry, and cultural determinants are offered. Of particular interest are the comparative studies of Swiss and American alcoholics, the role of alcoholism among the New York Chinese and the American Indians. This book is a valuable study and should be in the library of every serious student of alcoholism.—THEODORE MELTZER

Practitioners' Conferences. Held at the New York Hospital-Cornell Medical Center. Volume I. Edited by Claude E. Forkner, M.D. Octavo of 411 pages, illustrated. New York, Appleton-Century-Crofts, 1955. Cloth, $6.75.

These conferences were held at the New York Hospital-Cornell Medical Center. They were open to all physicians, and invited guests from other medical centers were frequent participants.

The word "practitioner" is used in its broadest connotation and a great variety of subjects is covered, for example, "Disorders of the Feet" and "Newer Drugs for Malignant Disease." About half of the subjects covered are those problems which the general practitioner meets in his office and at the patients' homes, and the other half are problems which would tax the skill of the super-specialist in the hospital. For example, the treatment of meningeal tuberculosis and malignant disease.

The information is authoritative and up to date. Dr. Forkner's summaries at the end of each chapter are excellent. Many of the chapters contain much valuable information which even the specialist could read with much profit. The conference on "Headache" is particularly well done.—MORRIS ZUCKERBROD

Proctologic Anatomy. By R. V. Gorsch, M.D. Second edition. Octavo of 310 pages, illustrated. Baltimore, Williams & Wilkins Company, 1955. Cloth, $8.00.

This second edition of Gorsch's *Proctologic Anatomy*, which was originally published fourteen years ago as *Perineopelvic Anatomy* is a valuable book for all who are interested in surgery of the perineal and pelvic organs. It has been carefully revised and in part rewritten. As quoted by the author, notable revisions are the chapters on the anatomy of the anal canal, the anorectal musculature, and the perineopelvic spaces and the levator ani muscle. The thoroughness with which the author has covered the literature is evidenced at the end of each of the nine chapters where an exhaustive bibliography is appended. To quote the author again, where the anatomy is still equivocal, he has been guided by his own dissections.

Like its predecessor, this volume is profusely illustrated, many of the illustrations being full-page photographic reproductions of the author's anatomic dissections. Although these photographic reproductions are clearly labelled, it takes a little concentration for the pictures to crystallize. Perhaps, if the photographic reproductions were accompanied by schematic drawings, it would be easier for the readers of the book to identify and recognize the anatomy depicted in the reproductions.

The text is presented clearly and succinctly, and in a manner easy to follow. The index is exceptionally complete and the typography is all that could be asked.

The keynote of this edition is practicality, and it deserves a prominent place as a reference book.—A. W. MARTIN MARINO

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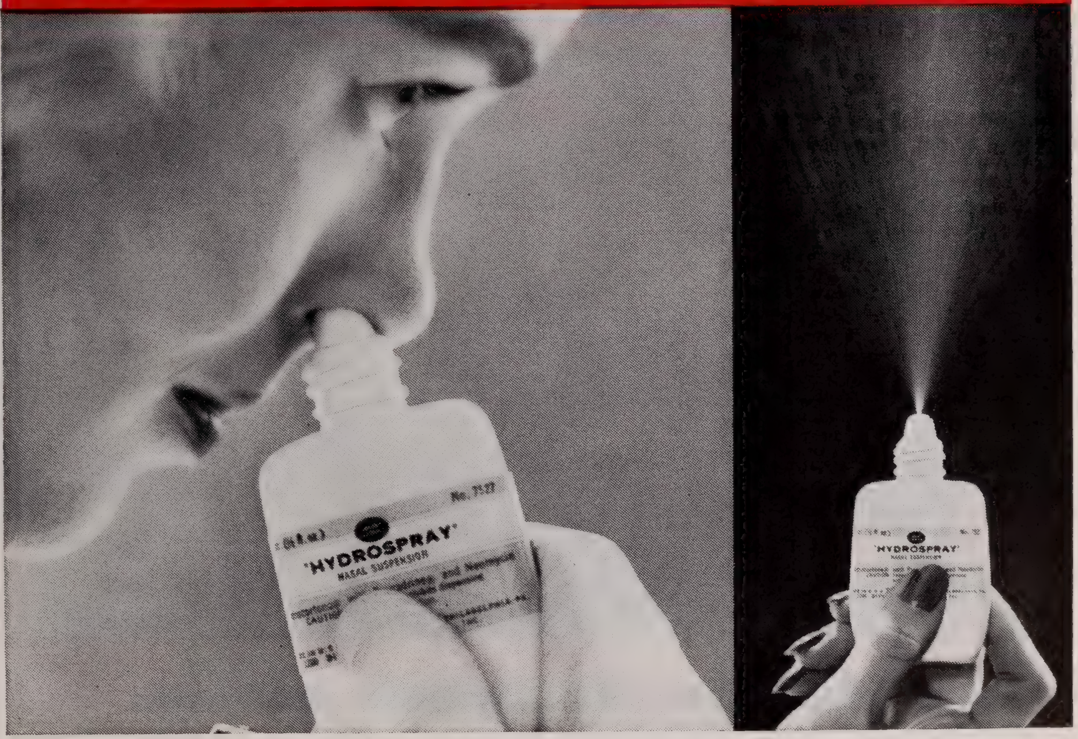

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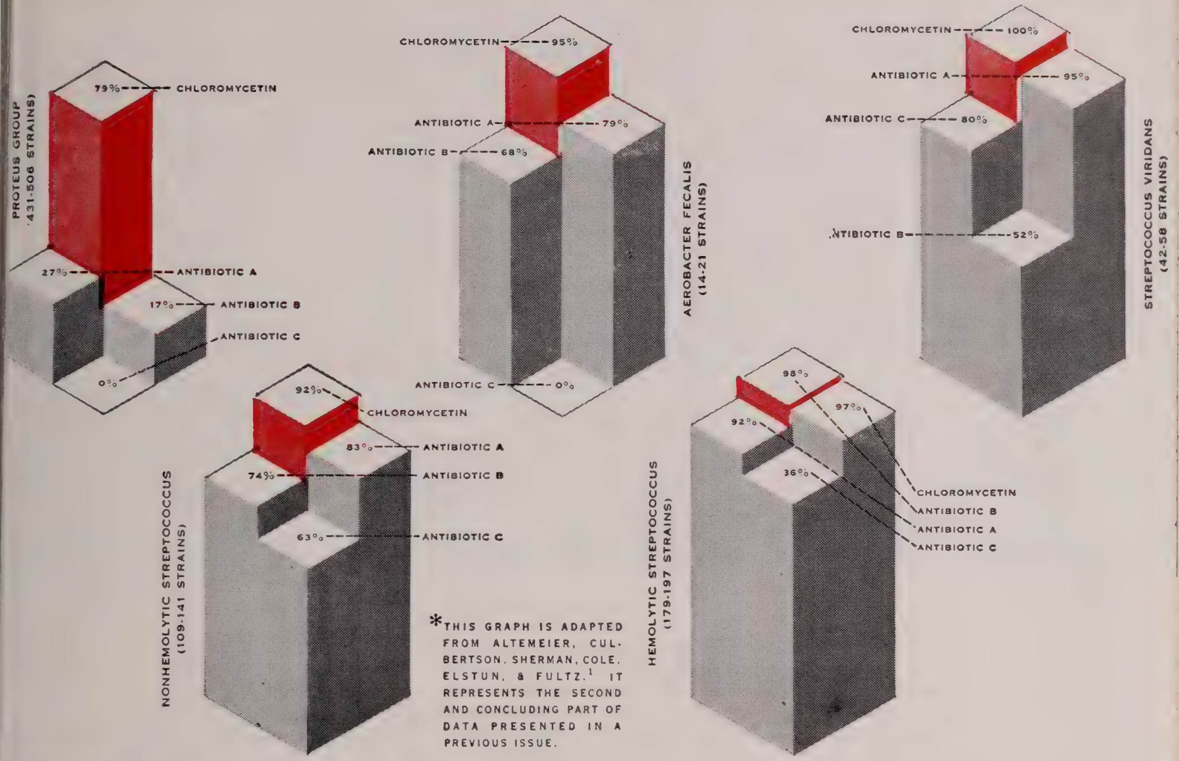

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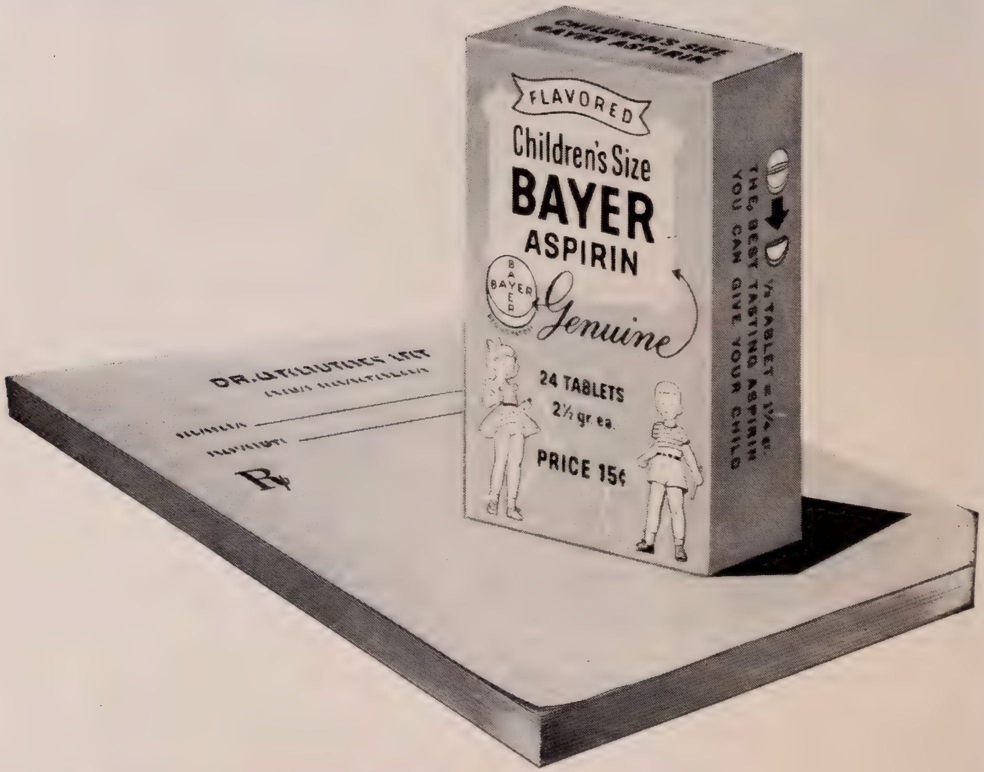
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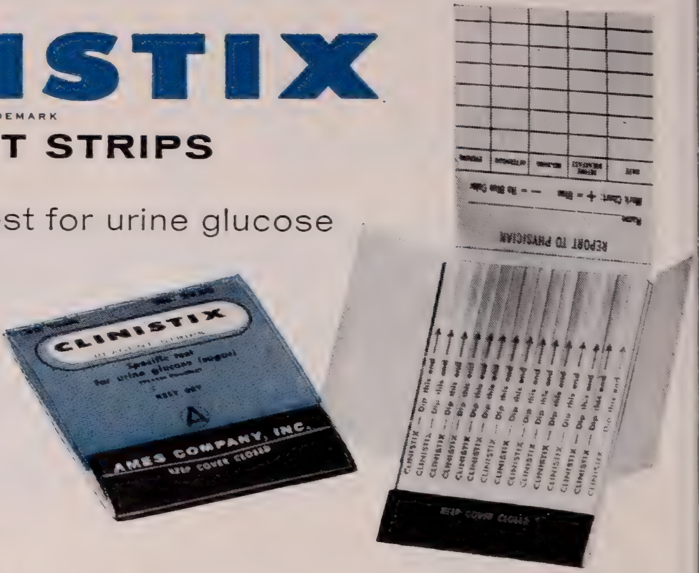

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VOLUME 56 APRIL 1, 1956 NUMBER 7

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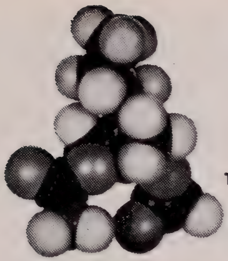

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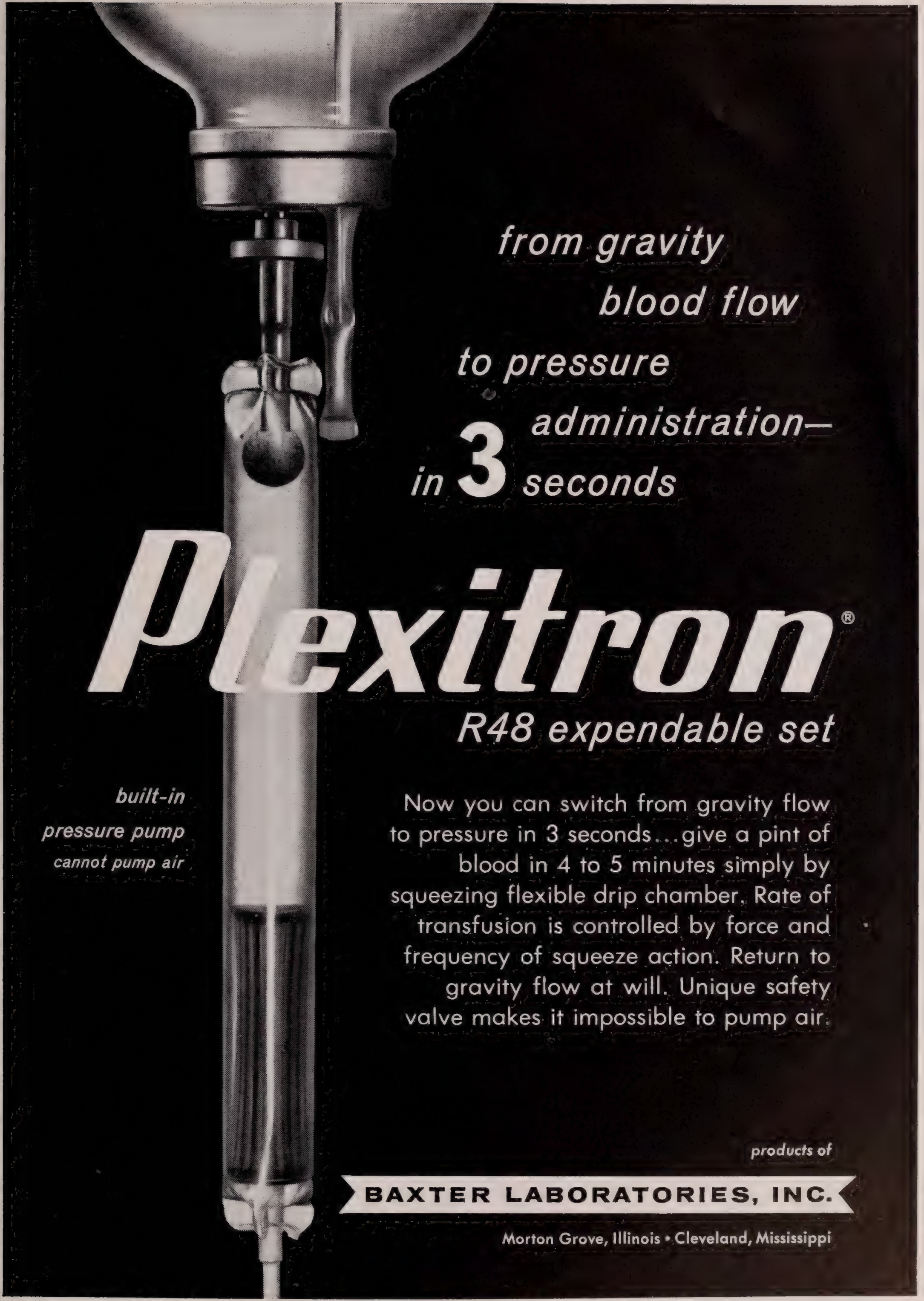

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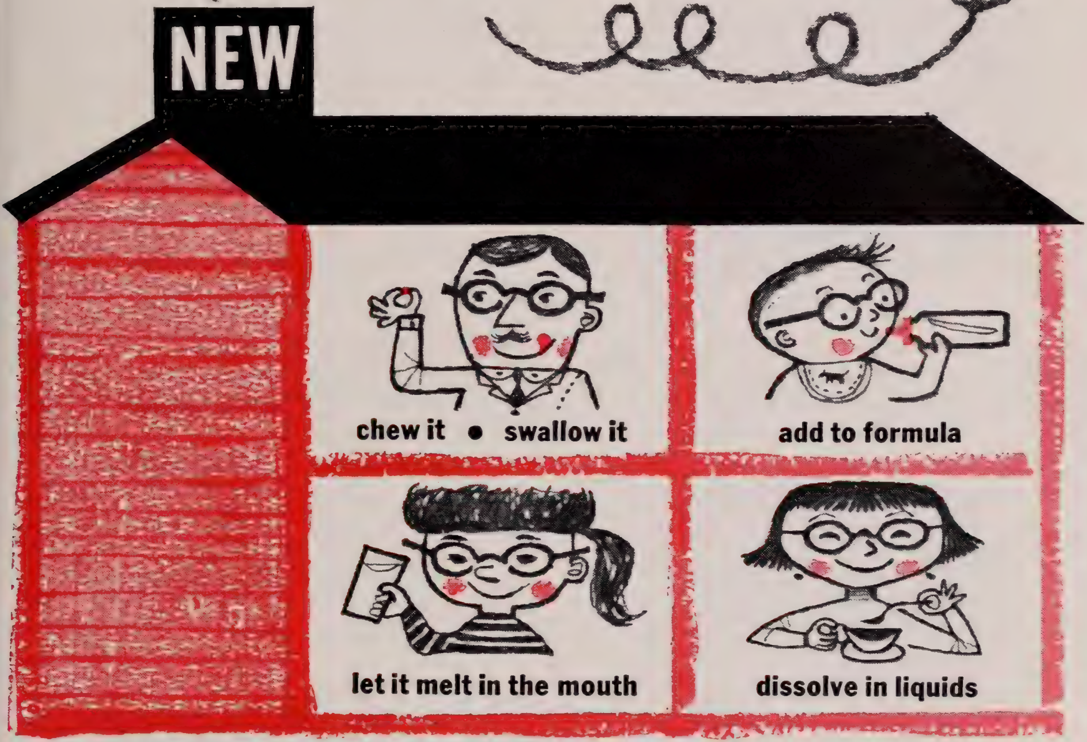

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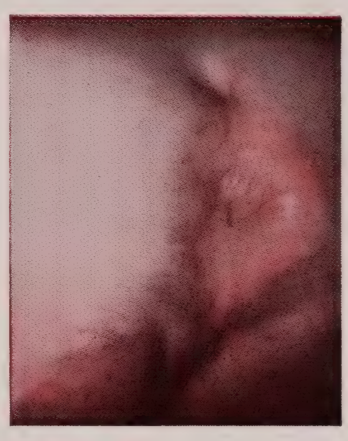

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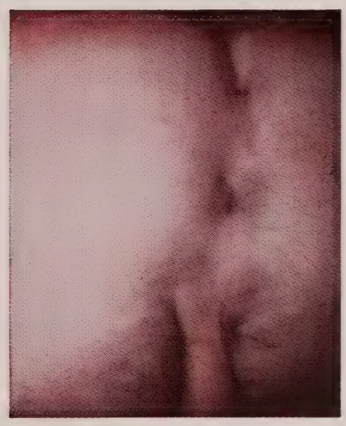

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REFERENCES:

1. Bodkin, L.G.. Amino Acid Therapy for Pruritus Ani, Am. J. Surg. 82:557 (Nov.) 1951.
2. Bodkin, L. G., and Ferguson, E. A., Jr.: Successful Ointment Therapy for Pruritus Ani, Am J. Digest. Dis. 18:59 (Feb.) 1951.
3. McGivney, J.: Recent Advances in Proctology, Texas J. Med. 47:770 (Nov.) 1951.

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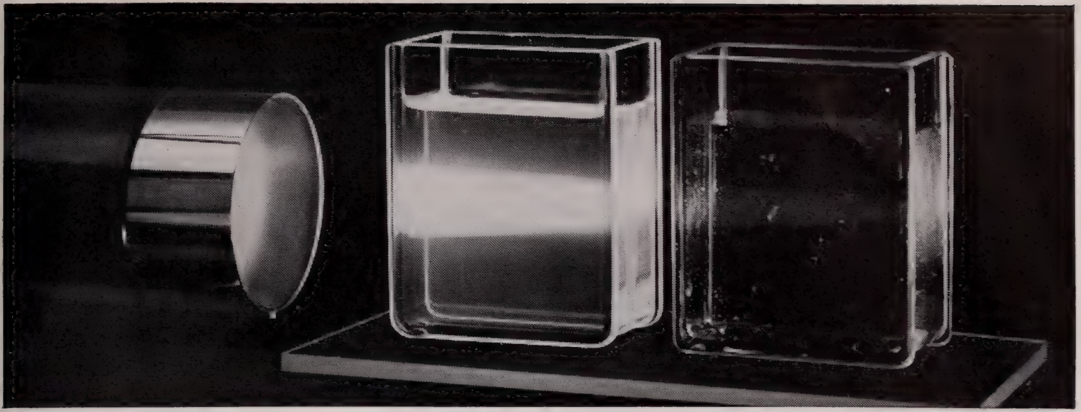

ANOTHER HIGHLIGHT ON LECITHIN – A NATURAL PHOSPHATIDE

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Phosphatides have been found in all vegetable and animal cells. There seems little doubt that they are part of the basic structure of protoplasm and also enter into cell metabolism. The most abundantly found phosphatides are the lecithins, whose surface active properties, when combined with proteins and carbohydrates, play an important role as physiologic emulsifiers of fats and oils.[1]

The following considerations highlight the importance of *adequate lecithin plasma concentrations.*

Phosphatides together with cholesterol are found in plasma in combination with proteins and circulate as lipoproteins.[2] The phosphatides in plasma protein are believed to be highly essential for the stability of the complex colloidal system represented by blood plasma.[3] A phosphatide content of 30% or more seems necessary to keep the plasma clear and non-lipemic;[2] lower concentrations will cause the plasma to remain cloudy. (In human plasma lecithin makes up about 80% of the phosphatides present; others are sphingomyelin and cephalin.[2]) A constantly cloudy, lipemic serum can be considered a sign of disturbed fat metabolism, which has been incriminated in the pathogenesis of many serious disturbances. Research on lecithin's potentially useful role in the management of the more complicated forms of deranged lipid and cholesterol metabolism – as in essential hyperlipemia, idiopathic familial hypercholesteremia, xanthomatosis and diabetes – is now being actively conducted. If you are interested in the progress of this research or if you desire to have clinical trial supplies, won't you write to us?

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Administration: "RG" Lecithin is presented in palatable granules which may be taken plain, in milk, in orange juice or other citrus juice, or sprinkled on cereal.

Literature available on request.

Bibliography: 1. West, E. S., and Todd, W. R.: Textbook of Biochemistry, New York, The Macmillan Company, 1952, p. 184. • 2. Drill, V. A.: Pharmacology in Medicine, New York, McGraw-Hill Book Company, Inc., 1954, p. 64/6. • 3. Ahrens, E. H., Jr., and Kunkel, H. G.: J. Exper. Med. *90*:409 (Nov. 1) 1949.

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References: 1. Miller, E.: New York State J. Med., to be published. 2. Reports to Clinical Research Division, Rystan Company.

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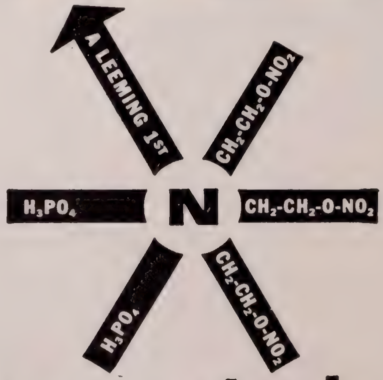

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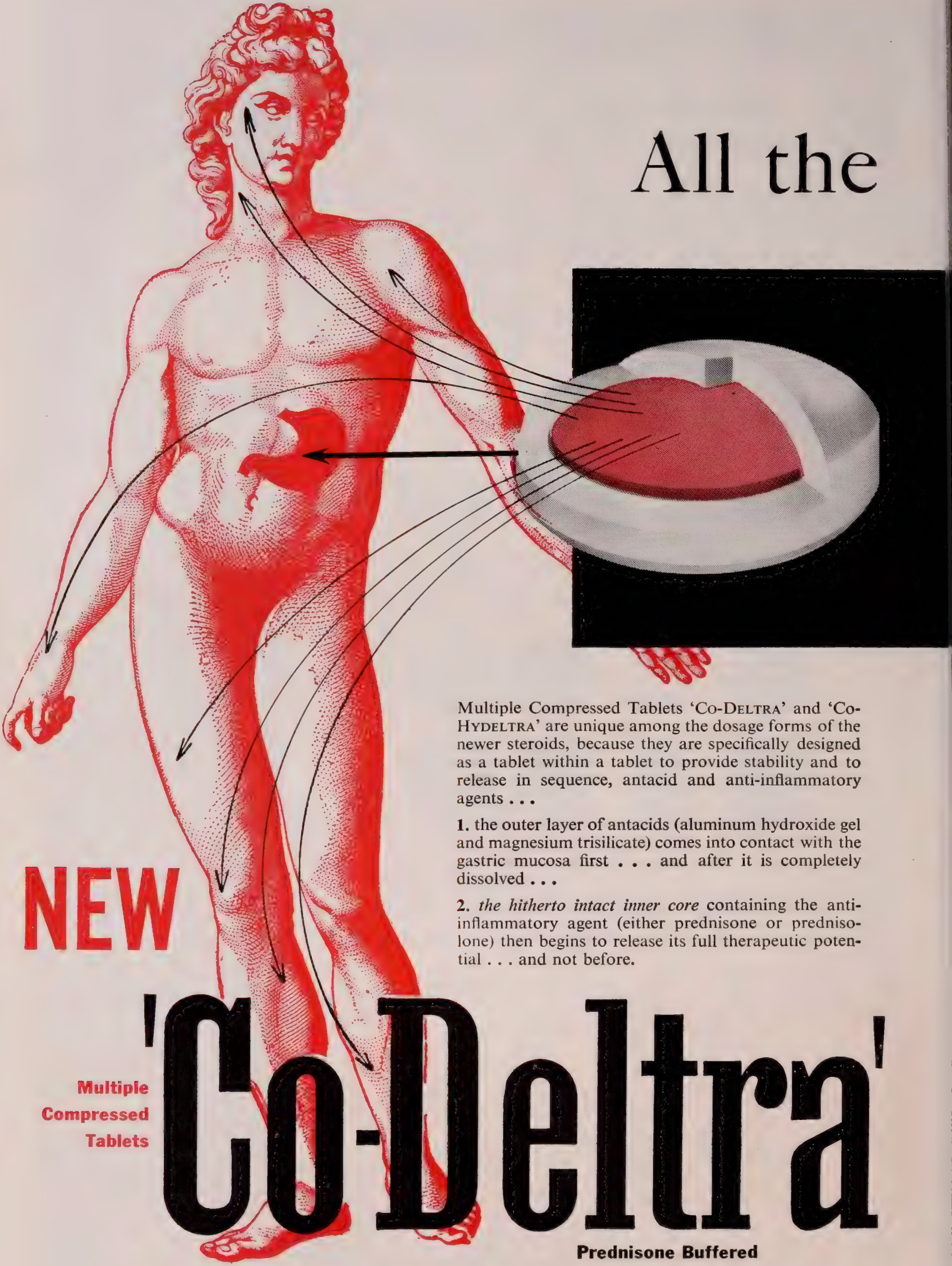

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[1] Bollet, A. J., Black, R., and Bunim, J. J.: *J.A.M.A.* **158**: 459, June 11, 1955.

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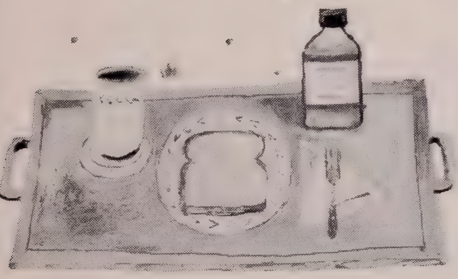

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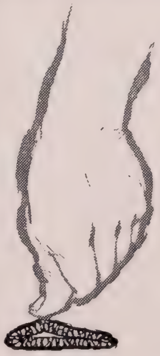

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1. Wolfson, W. Q.: Mississippi Valley M. J. 77: 66, 1955.

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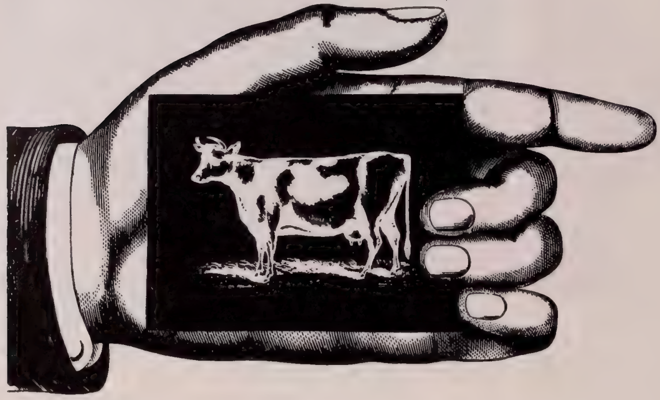

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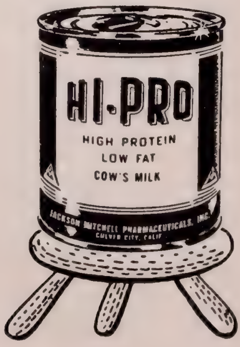

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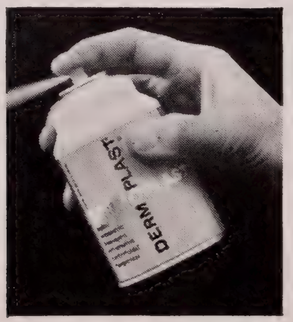

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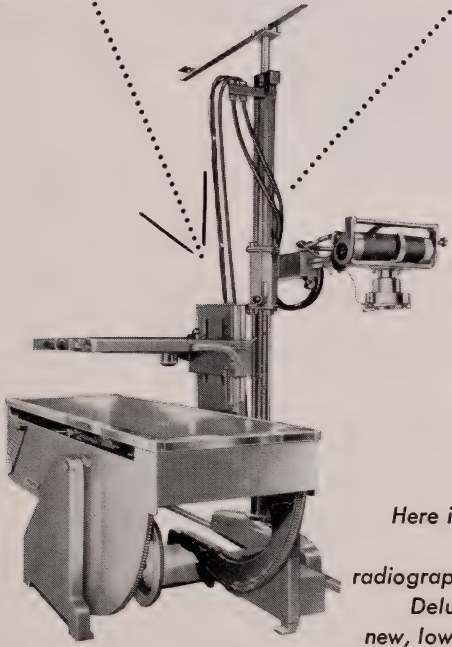

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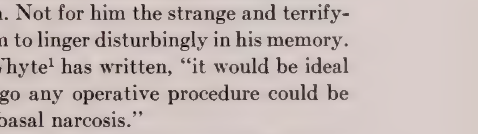

[1] Whyte, D. W., "Special Indications for Rectal Pentothal in Children", *Canad. Med. J.*, 64:525, June, 1951

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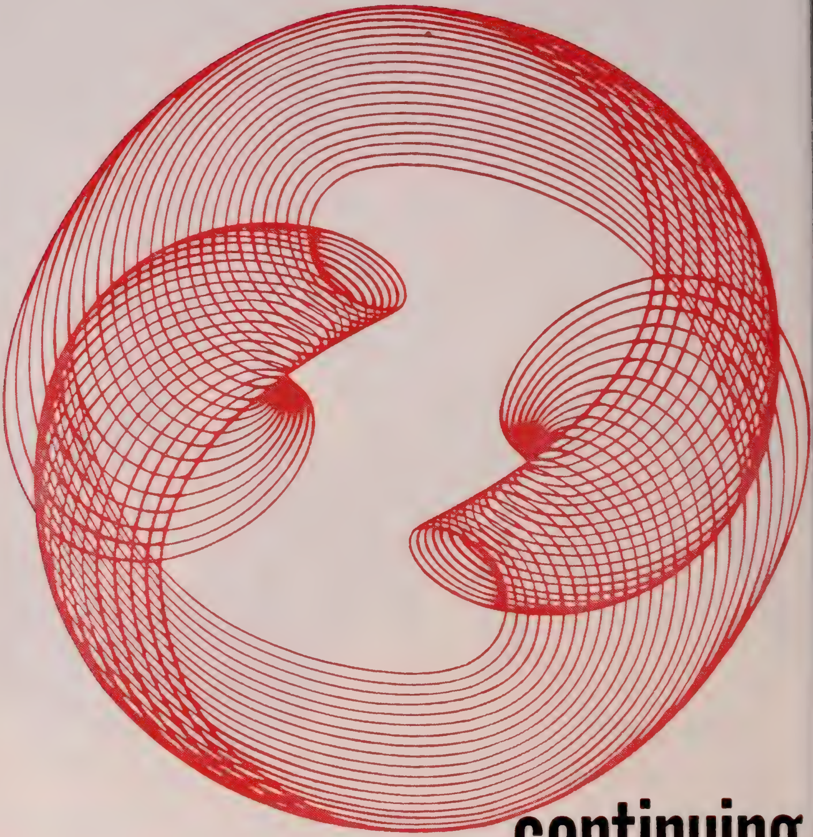

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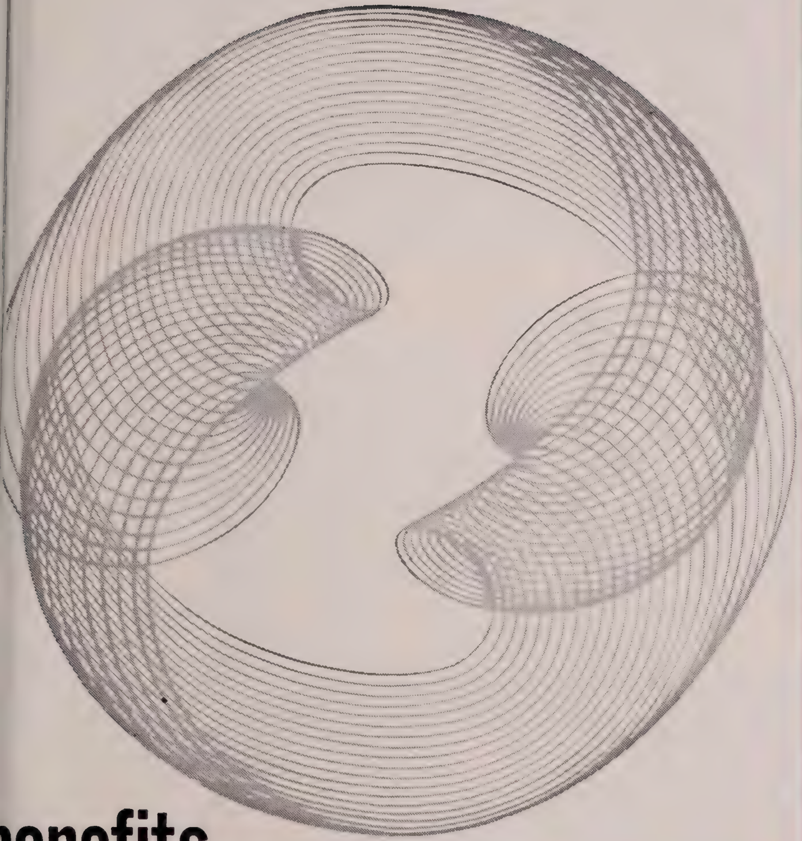

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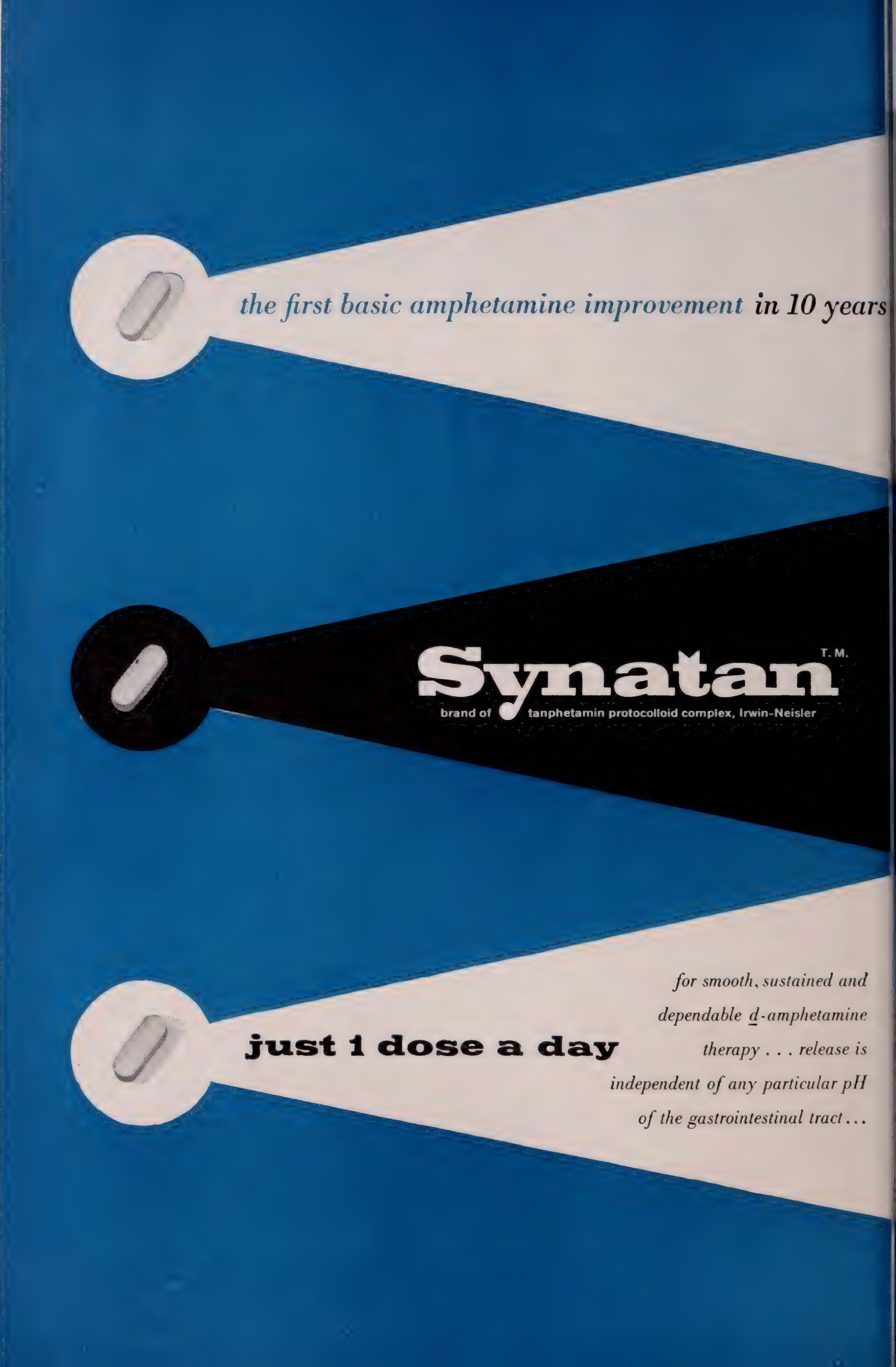

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[1] January, H. L. et al: Clinical experience with tetracycline. *Antibiotics Annual* 1954-55, p. 625.

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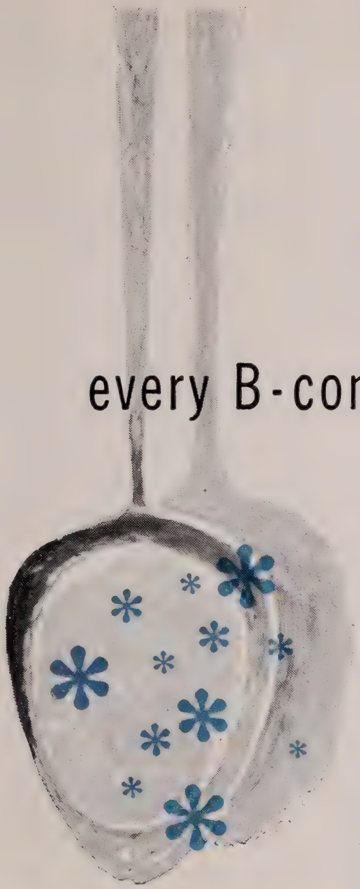

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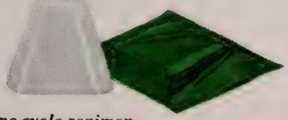
*Personal Communications to Medical Department, Eaton Laboratories. Detailed information available on request.



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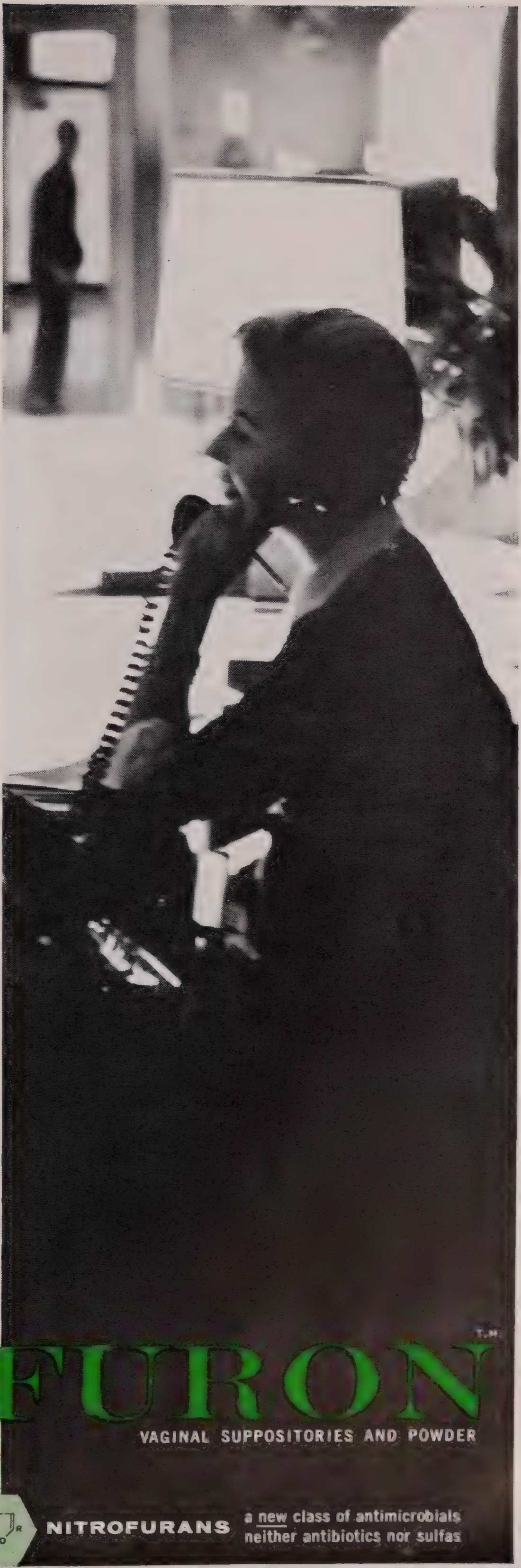

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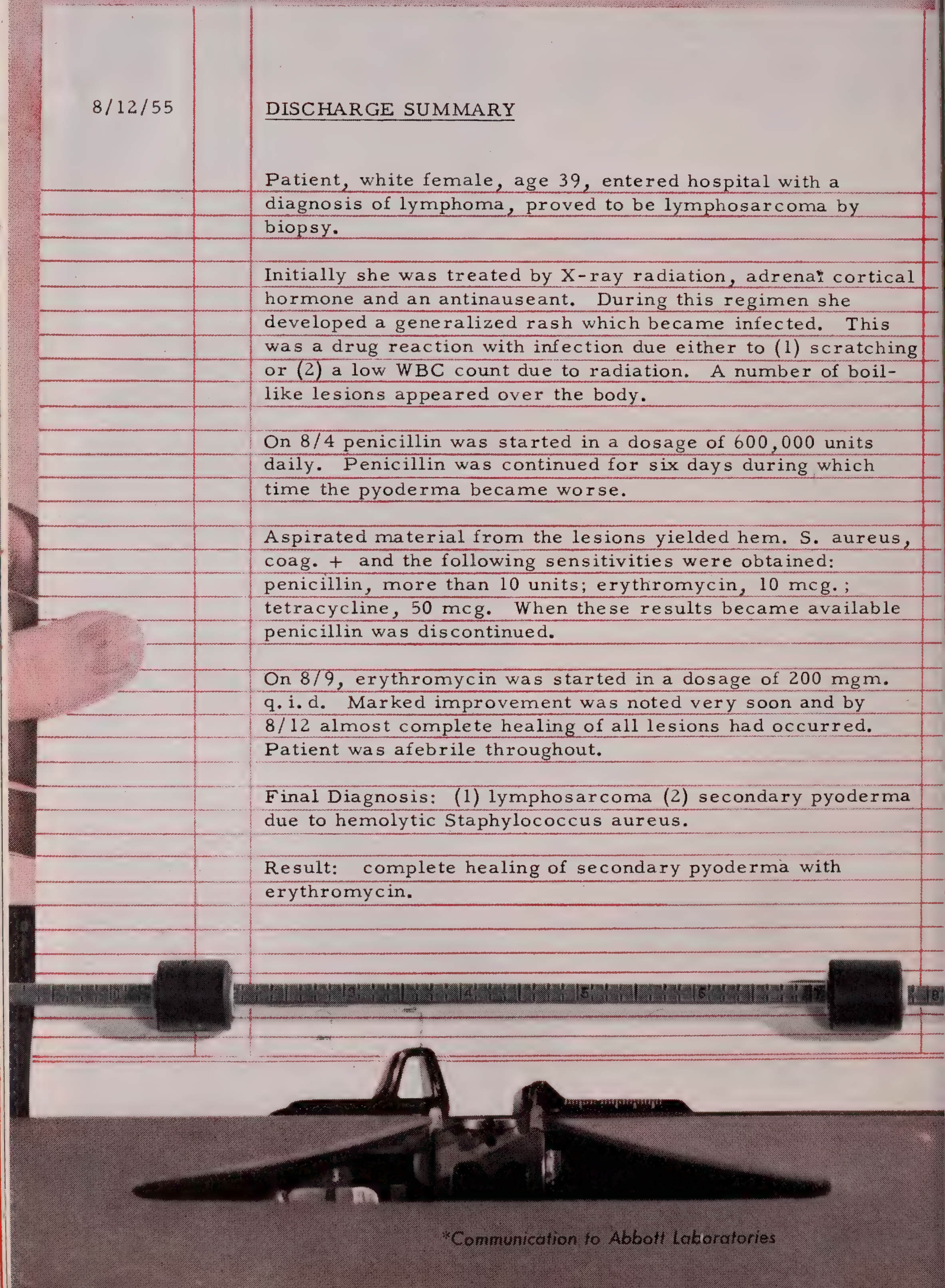

8/12/55

DISCHARGE SUMMARY

Patient, white female, age 39, entered hospital with a diagnosis of lymphoma, proved to be lymphosarcoma by biopsy.

Initially she was treated by X-ray radiation, adrenal cortical hormone and an antinauseant. During this regimen she developed a generalized rash which became infected. This was a drug reaction with infection due either to (1) scratching or (2) a low WBC count due to radiation. A number of boil-like lesions appeared over the body.

On 8/4 penicillin was started in a dosage of 600,000 units daily. Penicillin was continued for six days during which time the pyoderma became worse.

Aspirated material from the lesions yielded hem. S. aureus, coag. + and the following sensitivities were obtained: penicillin, more than 10 units; erythromycin, 10 mcg.; tetracycline, 50 mcg. When these results became available penicillin was discontinued.

On 8/9, erythromycin was started in a dosage of 200 mgm. q.i.d. Marked improvement was noted very soon and by 8/12 almost complete healing of all lesions had occurred. Patient was afebrile throughout.

Final Diagnosis: (1) lymphosarcoma (2) secondary pyoderma due to hemolytic Staphylococcus aureus.

Result: complete healing of secondary pyoderma with erythromycin.

*Communication to Abbott Laboratories

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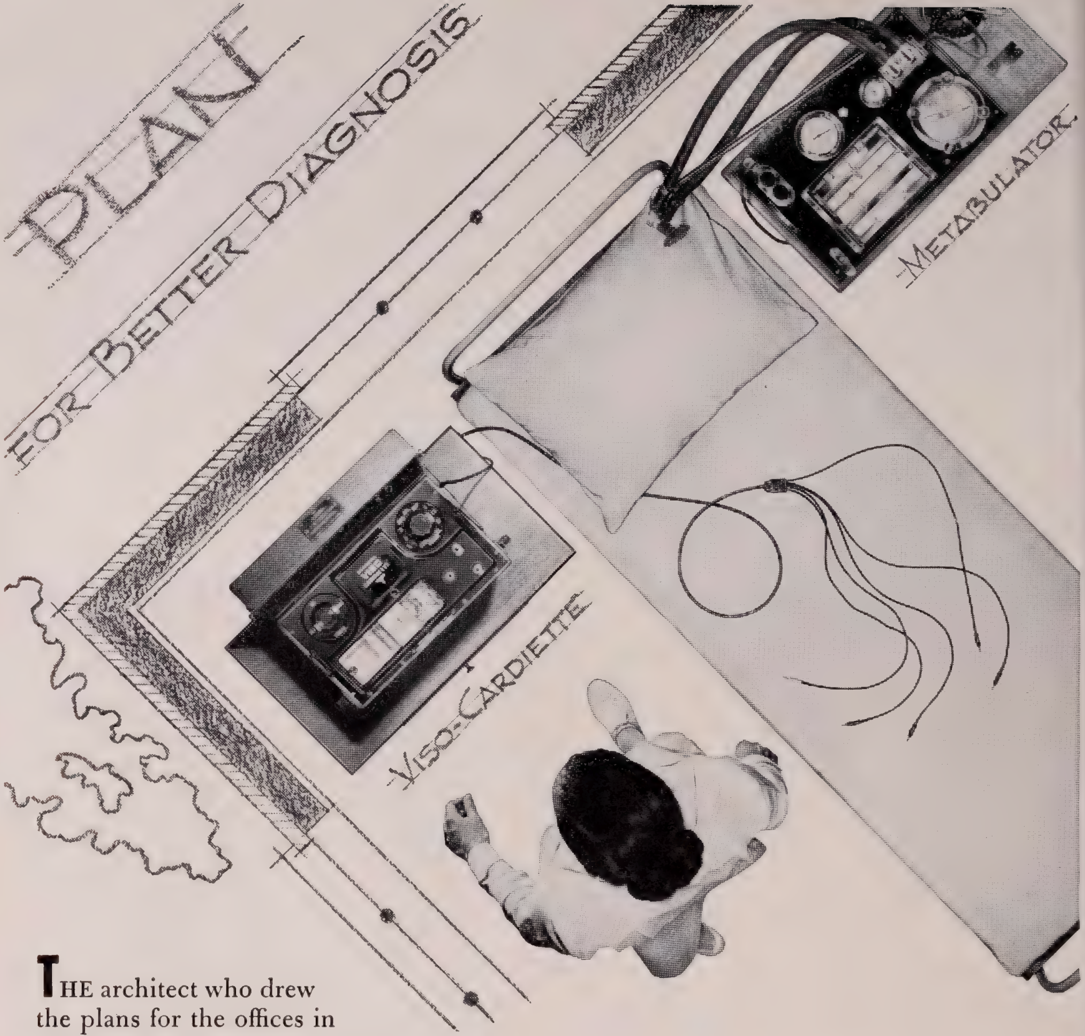

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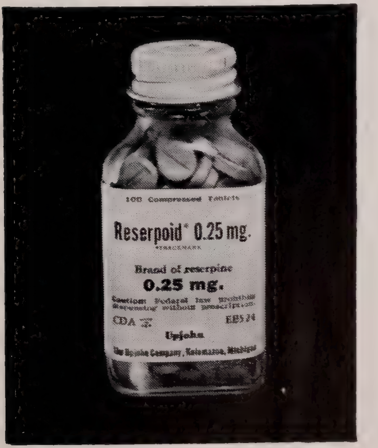
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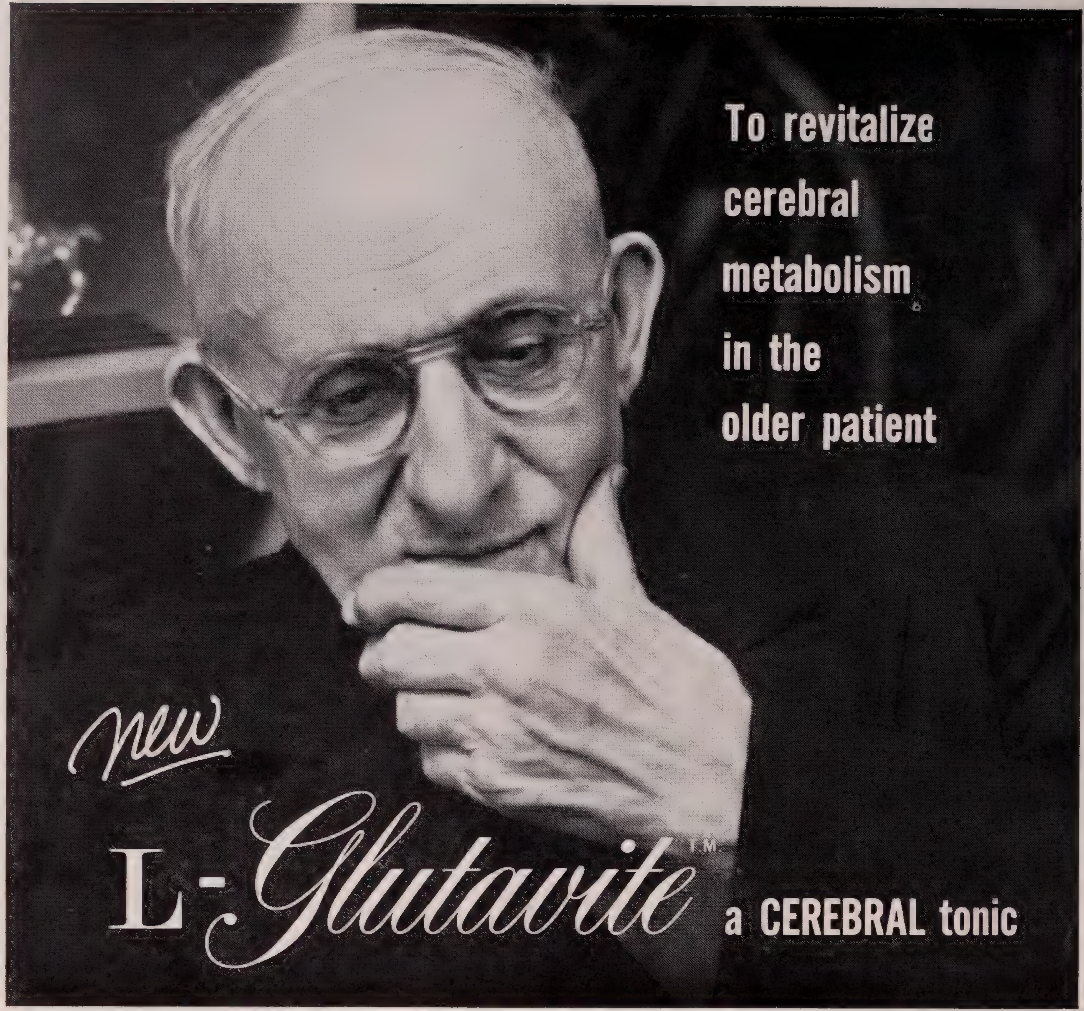

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a CEREBRAL tonic

L-Glutavite is specifically formulated to assist in the treatment of geriatric patients whose symptoms of weakness, apathy and fatigue are characteristic of waning cerebral metabolism. Himwich[1] reports excellent results with sodium glutamate in such cases, while Lehmann states that "a trial with nicotinic acid is always indicated . . ."[2] By combining these key factors with other vital nutritional elements, L-Glutavite effectively increases cerebral blood flow while it enhances the ability of cerebral tissue to utilize the increased nutrients provided. This unique therapeutic formula helps the tired, the apathetic, the depressed individual to face life more actively, and with greater interest.

Supplied in cartons of 30 individual dosage packets; initial dose, 3-5 packets per day for 5 to 6 weeks. Pleasant-tasting appetite-stimulating powder, to be mixed in vegetable juices or sprinkled on food. Contains monosodium L-glutamate, niacin, thiamine, riboflavin, ascorbic acid, ferrous sulfate and dicalcium phosphate, in high potencies.

1. Himwich H.E.: Paper presented at American Psychiatric Association meeting, St. Louis, May, 1954.
2. Lehmann, H.: 27th Annual Conference, Milbank Memorial Fund, New York, Paul B. Hoeber, Inc., 1952. p. 587.

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a "judicious combination..."

for antiarthritic therapy

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That cortisone and the salicylates have a complementary action has been well established.[1-5] In rheumatic conditions, functional improvement and a sense of feeling well are noted early. No withdrawal reactions have been reported.

One clinician states: "By a judicious combination of the two agents . . . it has been possible to bring about a much more favorable reaction in arthritis than with either alone. Salicylate potentiates the greatly reduced amount of cortisone present so that its full effect is brought out without evoking undesirable side reactions."[1]

INDICATIONS:

Rheumatoid arthritis . . . Rheumatoid spondylitis . . . Rheumatic fever . . . Bursitis . . . Still's disease . . . Neuromuscular affections

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Aluminum hydroxide gel, dried	0.12 Gm.
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Calcium carbonate	60 mg.

* U.S. Pat. 2,691,662

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1. Busse, E.A.: Treatment of Rheumatoid Arthritis by a Combination of Cortisone and Salicylates. Clinical Med. 11:1105 (Nov., 1955).
2. Roskam, J., VanCawenberge, H.: Abst. in J.A.M.A., 151:248 (1953).
3. Coventry, M.D.: Proc. Staff Meet., Mayo Clinic, 29:60 (1954).
4. Holt, K.S., et al.: Lancet, 2:1144 (1954).
5. Spies, T.D., et al.: J.A.M.A., 159:645 (Oct. 15, 1955).

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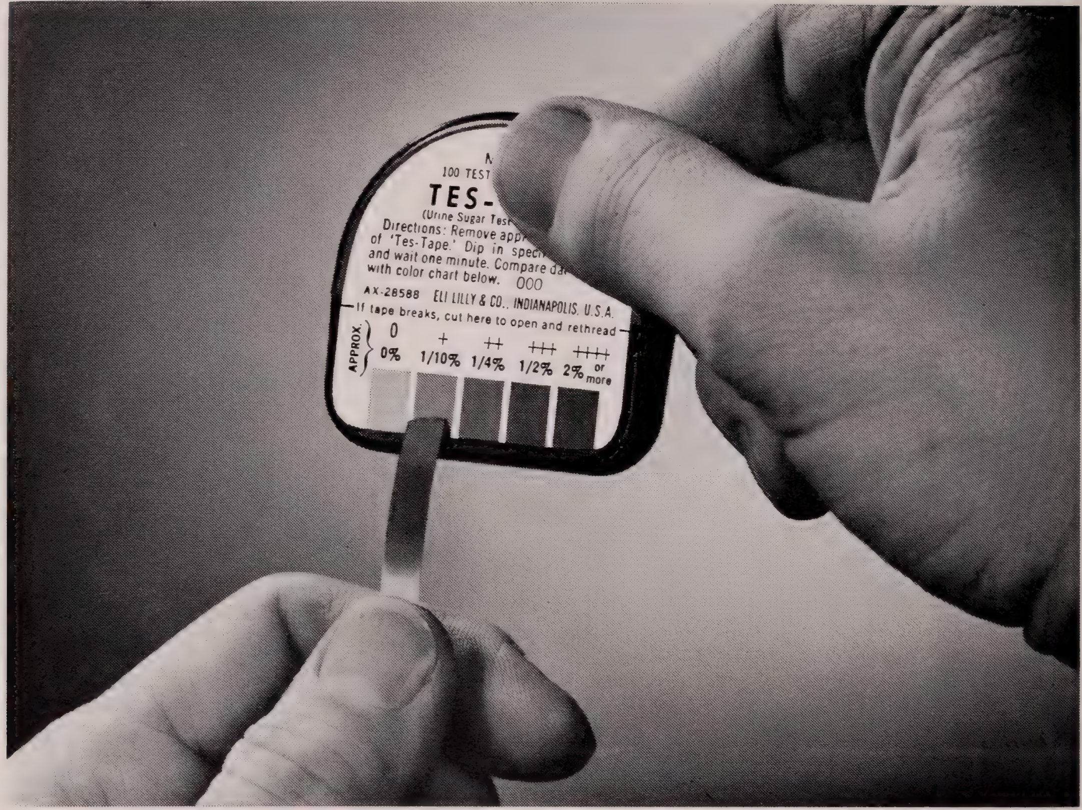
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EDITORIALS

The New Masthead

It will be noted that special information for authors and general information concerning the JOURNAL has now been placed conveniently for all on the first editorial page of each issue. It is hoped in particular that those authors who contemplate sending in material for possible publication will be guided by the instructions for the preparation of their manuscripts spelled out in detail.

When these instructions are not followed, much loss of time occurs since manuscripts then must be sent back to the authors for compliance with the rules before they can be further processed. It is, therefore, requested that authors check their manuscripts carefully before sending them to the JOURNAL editorial office. These rules for the preparation of manuscripts are standard practice, and many authors are familiar with them; nevertheless, there are always a certain number who submit articles single spaced or on flimsy second sheets or who send in drawings on blue ruled paper or irreproducible photostat negatives of electrocardiograms, et cetera.

It is the hope of the Publication Committee and the editors to reduce the time interval between receipt of a manuscript and its final disposition to a minimum. The cooperation of our authors in the preparation of their submitted articles will materially assist the editorial staff in attaining this objective.

The War Memorial Fund

According to information recently released by the Board of Trustees of the Medical Society of the State of New York transmitted through the office of the secretary, it will be of interest to the membership to learn that the War Memorial Fund created during World War II by the Society continues to fulfill its purpose of assistance to the children of medical officers of this State who became battle casualties or died from other causes in line of duty.

During the academic year 1955–1956, a total of 14 beneficiaries of the fund are each scheduled to receive $600 in three equal installments of $200 each. Two such installments have already been paid, the most recent one in January. The final payment will be made in April of this year.

Among 14 students who received aid from the fund during the 1954–1955 academic year, there were three who graduated from medical colleges. No finer tribute in our view could be accorded those officers who laid down their lives in the country's service than such aid to the education of their children. The Society may well be proud of its accomplishment through the War Memorial Fund.

Use the Hotel Reservation Blank on page 1062 for the May Convention

Congratulations, County Medical Societies

In the year 1956 numerous county medical societies in the State of New York will celebrate the 150th year of their existence. To all of those celebrants the Medical Society of the State of New York extends heartiest congratulations and felicitations.

The formation of county medical societies took place in the State of New York at various times following the passage by the Legislature on March 23, 1797, of "An Act to Regulate the Practice of Physic and Surgery in This State . . . . ." Westchester County (1797) was the first to comply.[1] Later, April 4, 1806, the Legislature passed a further act "To Incorporate Medical Societies and to Regulate the Practice of Physic and Surgery in this State."[2] Walsh states, "On the first Tuesday of July 1806, three months after the passage of the law, about twenty societies were organized pursuant to its provisions. . . . ."[2]

Of the county societies organized in 1806 there is available to this writer at this time the following names, and in some cases the date and place of the planned celebration this year: Broome, April 4; New York, April 5, Waldorf-Astoria Hotel; Onondaga, April 12; Albany, April 14; Richmond, April 18, Meurot Club, St. George; Otsego, June, Oneonta; Orange, October 9, Bear Mountain Inn; Dutchess, Queens, Suffolk, Oneida, Madison, Herkimer, and Jefferson.

Walsh quotes further from the New York Medical and Physical Journal of 1828, "and within two years (from July 1806) scarcely a county in the State of any considerable population was without a duly organized medical society." Unfortunately the twenty societies, more or less, organized on the first Tuesday in July, 1806, are not specifically named. Nevertheless, it must be apparent that in 1956 and the next succeeding two years, if the historical facts are correctly stated by Walsh, most of the county medical societies will be celebrating their sesquicentennial anniversaries.

We do know that there were approximately 35 counties in New York State in 1806, and further research is in progress so

---

[1] Medical Society of the County of Westchester: History of the Medical Society County of Westchester, 1797–1947, p. 22.

[2] Walsh, J. J.: History of the Medical Society of the State of New York, 1907, p. 57.

Health Examination Form Available

At a recent meeting of the Subcommittee on General Practice of the Council Committee on Public Health and Education of the Medical Society of the State of New York, it was voted to call to the attention of all county medical societies the availability of the Health Examination Form.

Some apparent advantages, especially to general physicians, in the use of this form in daily practice are as follows:

1. Time-consuming features of routine office examinations are simplified and shortened.
2. Cancer detection in the doctor's office, including the obtaining of cytologic smears and other simple office procedures, is emphasized.
3. A comprehensive record is readily available when a doctor must appear in court.
4. This record of an orderly and systematic examination makes a physician's services more valuable to his patient.
5. Complete and thorough physical examinations by family doctors will counteract arguments for the mass screening approach to detection put forth by certain agencies.
6. The cost is only one cent for each form.

Physicians may order these forms from their County Medical Society Secretary.

that during the coming year we may be able to publish further editorial comment on the subject.

Again, congratulations to all those county societies which celebrate their sesquicentennials in 1956.

Convention Announcement

The Medical Society of the State of New York has again arranged for the services of the Languild Convention Service during the 150th Annual Meeting, May 7 to 11, at the Hotel Statler, New York City. This service is available *without cost to our members* beginning now and continuing through the first four days of the meeting, May 7, 8, 9, and 10, when representatives of Languild will be on hand near the registration desk on the mezzanine.

The services offered are:

Tickets—Information about Broadway shows, concerts, radio and television programs, movies, sporting events—*and will help you secure tickets.* If you wish to make reservations in advance, write the Languild Convention Service indicating that you are planning to attend the May 7 to 11 meeting.

Night Clubs—Advice as to atmosphere, floor shows, dancing, cover and minimum charges—*reservations made for you.*

Restaurants—Information about type of food, atmosphere, cost, directions—*and make arrangements for you.*

Transportation—Assistance in making train and plane reservations.

Shopping Service—Advice regarding any type of shopping—*and even do it for you.*

Sightseeing—Arrange for trips around the city, the United Nations, to the Statue of Liberty, to Hyde Park and West Point.

Places and Activities of Interest—Information about exhibits, museums, galleries, athletic events, etc.

If you wish to make advance arrangements, you may write:

LANGUILD CONVENTION SERVICE
545 Fifth Avenue
New York 17, New York

Mention that you are a member of the Medical Society of the State of New York and expect to attend the May 7 to 11 meeting.

IN X-RAY VISUALIZATION

Reduced Hypermotility, Improved Delineation with Pro-Banthīne®: Case History

Basic film: pronounced hypermotility of stomach and bulb; diagnosis not possible.

Five-minute film after 15 mg. of Pro-Banthīne intramuscularly: large gastric ulcer on lesser curvature clearly visualized.

J. R., male, age 50, when first seen* complained of severe abdominal pain of six weeks' duration. Initial gastrointestinal roentgenologic examination revealed marked hypermotility of the stomach and duodenal bulb. Because of rapid emptying it was not possible to visualize a lesion either in the stomach or duodenal bulb. However, the patient's symptoms strongly suggested an ulcer, and he was reexamined after the injection of 15 mg. of Pro-Banthine (brand of propantheline bromide) intramuscularly. A marked diminution in motility occurred and a huge gastric ulcer was easily visible on the lesser curvature at the junction of the upper and middle third of the stomach.

This patient is now receiving 30 mg. of Pro-Banthine four times daily and gained 8 pounds during the first ten days of therapy. He was completely relieved of pain within twenty-four hours. The ulcer is presently healed and he is asymptomatic, six weeks following initiation of Pro-Banthine therapy. This is an excellent example of delineation of a lesion which escaped detection with the ordinary technique of gastrointestinal roentgenography. If an ulcer is suspected and the initial roentgenologic examination is negative or inconclusive, the roentgenographic study should be repeated following the oral administration of 30 mg. or the intramuscular injection of 15 mg. of Pro-Banthine. G. D. Searle & Co., Research in the Service of Medicine.

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*Roentgenograms and case history courtesy of I. Richard Schwartz, M.D., Kings County Gastrointestinal Clinic, Brooklyn, N. Y.

Trial packages of Pro-Banthine and the new booklet, "Case Histories of Anticholinergic Action," available on request . . .

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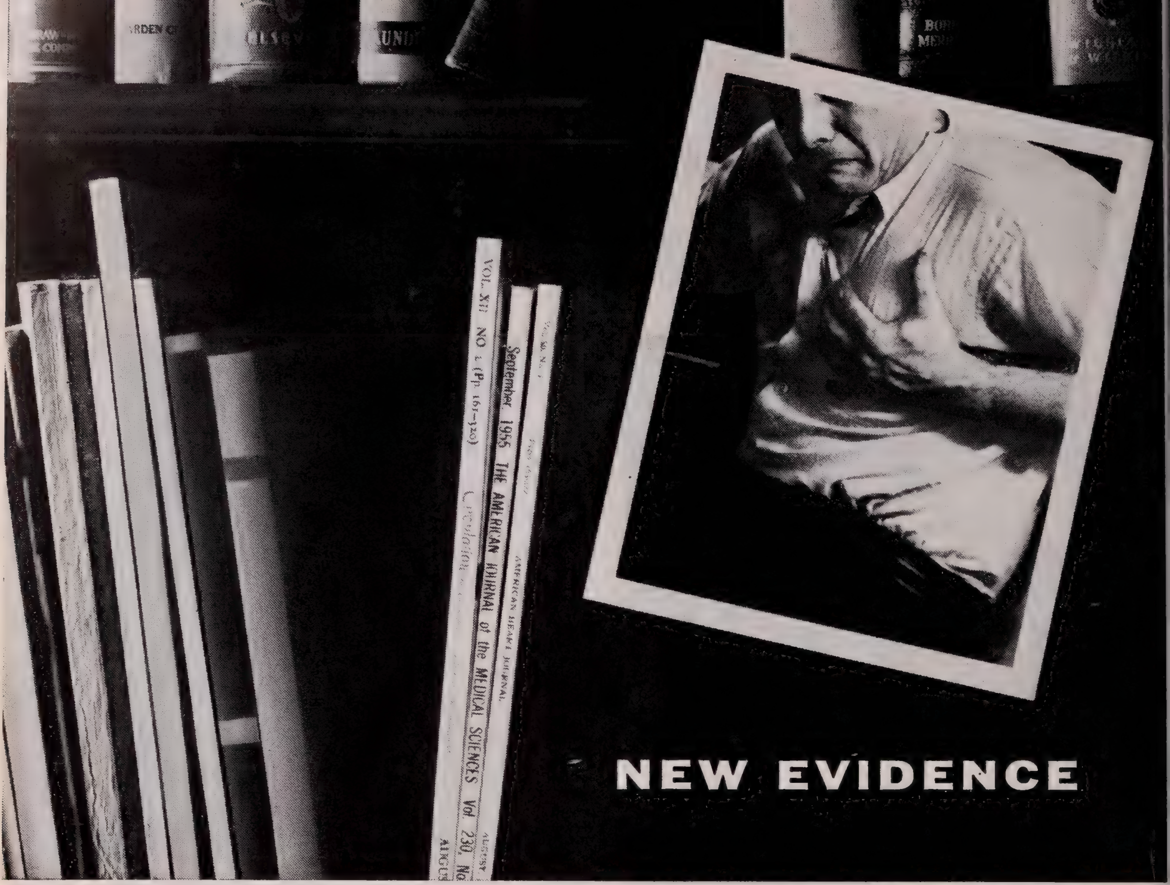
VOL. XII NO. 2 (Pp 161-320)
September 1955 THE AMERICAN JOURNAL of the MEDICAL SCIENCES Vol. 230, No
AMERICAN HEART JOURNAL
NEW EVIDENCE

How you can prevent attacks of angina pectoris

Three new studies have recently been added to the extensive investigation of Peritrate's effectiveness in preventing attacks of angina pectoris:

For some patients, state Rosenberg and Michelson, Peritrate "may mean the difference between complete, or almost complete, absence of symptoms, or a prolonged illness with much suffering." *Am. J. M. Sc.* 230*:254 (Sept.) 1955.*

"Impressive and sustained improvement" was also observed in a small number of patients treated by Kory *et al. Am. Heart J.* 50*:308 (Aug.) 1955.*

Among anginal prophylactic drugs evaluated by Russek's group "only this agent [Peritrate] appears worthy of the designation, 'long-acting coronary vasodilator.'" *Circulation* 12*:169 (Aug.) 1955.*

By prescribing Peritrate on a continuous daily dosage schedule (10 or 20 mg. 4 times a day) you can diminish the number and severity of attacks . . . reduce nitroglycerin dependence . . . increase exercise tolerance . . . improve abnormal EKG findings.

Usual dosage: 10 to 20 mg. *before meals* and at bedtime.

Five convenient dosage forms: *Peritrate* 10 mg. and 20 mg.; *Peritrate Delayed Action* (10 mg.) for extended protection at night; *Peritrate with Phenobarbital* (10 mg. with phenobarbital 15 mg.) where sedation is also required; *Peritrate with Aminophylline* (10 mg. with 100 mg. aminophylline) in cardiac and circulatory inadequacy.

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WARNER-CHILCOTT

1956 ANNUAL CONVENTION

Medical Society of the State of New York

May 7 to 11—Hotel Statler, New York City

House of Delegates

The regular annual meeting of the House of Delegates of the Medical Society of the State of New York will be called to order at 10 A.M. on Monday, May 7, 1956, in the Penn Top, 18th floor of the Hotel Statler, New York City.

In accordance with Chapter II, Section 3 of the Bylaws, the House will assemble according to the following schedule:

Monday, May 7, 1956, 10 A.M.
Tuesday, May 8, 1956, 9 A.M. and 2 P.M.
Wednesday, May 9, 1956, 9 A.M.

At the last adjourned session (9 A.M., Wednesday, May 9) the election of officers, councillors, trustees, and delegates to the American Medical Association will occur in accordance with Chapter III, Section 1 of the Bylaws.

FREDERIC W. HOLCOMB, M.D., *Speaker*
W. P. ANDERTON, M.D., *Secretary*

150th Annual Meeting

The 150th Annual Meeting of the Medical Society of the State of New York will be held on Wednesday, May 9, at 7 P.M. in the Penn Top, 18th floor, Hotel Statler, New York City.

RENATO J. AZZARI, M.D., *President*
W. P. ANDERTON, M.D., *Secretary*

Registration

Registration for delegates will be held in the foyer of the Penn Top, 18th floor of the Hotel Statler, on Monday, May 7, after 9 A.M.; for members and guests on the mezzanine, on Tuesday, Wednesday, and Thursday, May 7, 8, and 9, from 8:30 A.M. to 5:30 P.M., and on Friday, May 11, from 8:30 A.M. to 12 NOON.

Exhibits

SCIENTIFIC EXHIBITS—Ballroom floor and the ballroom balcony, Tuesday, May 8, to Friday, May 11.

SCIENTIFIC MOTION PICTURES—Dartmouth Room, mezzanine, Tuesday, May 8, to Friday, May 11.

TECHNICAL EXHIBITS—Ballroom floor and the mezzanine, Tuesday, May 8, to Friday, May 11.

Exhibits will open at 9 A.M. and close at 5:30 P.M. daily except Friday, when they will close at 12 NOON.

Scientific Program

GENERAL SESSIONS—Every afternoon, Monday through Friday, May 7 to 11, 2 P.M.

SECTION AND SESSION MEETINGS—Wednesday, Thursday, and Friday mornings, May 9, 10, and 11, at hours to be announced in program booklet and in the "Daily Guide."

POSTGRADUATE LECTURES—Tuesday and Wednesday mornings, May 8 and 9, 9 A.M.

ROUND TABLE DISCUSSION—Thursday evening, May 10, 8 P.M.

Annual Banquet

The Annual Banquet will be held in the Penn Top, Wednesday, May 9, at 7 P.M., guest speakers to be announced.

Tickets will be available at the registration desk on the mezzanine and on the 18th floor.

The Woman's Auxiliary

See page 1037 for program.

SCIENTIFIC PROGRAM

Alfred P. Ingegno, M.D., Kings, *Chairman*
Julius E. Stolfi, M.D., Kings, *Associate Chairman for General Sessions*
Bernard J. Pisani, M.D., New York, *Associate Chairman for Postgraduate Lectures*
John N. Edson, M.D., Kings, *Associate Chairman for Round Table Discussion*

and

Chairmen of Sections and Sessions

GENERAL SESSIONS

Alfred P. Ingegno, M.D., *Chairman*
Julius E. Stolfi, M.D., *Associate Chairman*

The presentations at these Sessions will consist of half-hour lectures, without discussion. The meetings will start promptly at the hour specified. Members and guests are requested to be in their seats at least five minutes in advance of the meeting time.

Monday, May 7—2 P.M.

Keystone Room, Ballroom Balcony

1. **Leukemia in Childhood: Current Therapeutic Considerations**
   Harold W. Dargeon, M.D., New York City, Attending Pediatrician, Memorial Center for Cancer and Allied Diseases; Associate Professor of Clinical Pediatrics, Cornell University Medical College
2. **Obesity: Its Relation to Disease**
   Martin G. Goldner, M.D., Brooklyn, Director of Medicine, Jewish Chronic Disease Hospital
3. **Hemoptysis**
   John F. Daly, M.D., New York City, Director of Otolaryngology, Bellevue and University Hospitals; Professor and Chairman, Department of Otorhinolaryngology, New York University Post-Graduate Medical School
4. **Malpractice Litigation and Prevention**
   Edwin J. Holman, Esq., Chicago, Illinois (By invitation), Staff Associate, Law Department, American Medical Association

Tuesday, May 8—2 P.M.

Keystone Room, Ballroom Balcony

1. **Treatment of Severe Osteoarthritis**
   Charles J. Sutro, M.D., New York City, Attending Orthopedic Surgeon, Fordham Hospital and Hospital for Joint Diseases
2. **Use of the Newer Steroid Hormones in Management of Rheumatic Disease**
   Charles M. Plotz, M.D., New York City, Director, Arthritis Clinic, Kings County Hospital, and Musculoskeletal Team, Mount Sinai Hospital
3. **The Nature of Injury from Ionizing Radiations: Detection, Prevention, and Control**
   Joe W. Howland, M.D., Rochester, Chief, Medical Division, Rochester Atomic Energy Project; Professor of Radiation Biology, University of Rochester School of Medicine and Dentistry
4. **The Licensing of Foreign Physicians in New York State**
   Dominick F. Maurillo, M.D., Brooklyn, Chairman, Licensing Committee, Board of Regents of the University of the State of New York

Wednesday, May 9—2 P.M.

Keystone Room, Ballroom Balcony

1. **Therapeutic Tools in Cardiovascular Disease**
   Sol Biloon, M.D., Bronx, Director of Medicine, Morrisania City Hospital; Physician, Montefiore Hospital
2. **Differential Diagnosis of Chest Pain**
   James Monroe, M.D., Ray Brook, Assistant Director, Ray Brook State Tuberculosis Hospital
3. **The A. Walter Suiter Lecture—Treatment of Cardiac Arrhythmias**
   Joseph R. DiPalma, M.D., Philadelphia, Pennsylvania (By invitation), Professor of Pharmacology, Hahnemann Medical College and Hospital
4. **Atherosclerosis: Our Present-day Knowledge**
   Joseph B. Wolffe, M.D., Philadelphia, Pennsylvania (By invitation), Chief of Medicine and Cardiology, Valley Forge Heart Institute and Hospital, Fairview Village, and the Wolffe Clinic and Hospital, Philadelphia

Thursday, May 10—2 P.M.

Keystone Room, Ballroom Balcony

1. **Present Status of the Diagnosis and Treatment of Syphilis**
   Jules E. Vandow, M.D., New York City, Chief, Division of Social Hygiene, New York City Department of Health; Clinical Instructor of Dermatology and Syphilology, New York University Post-Graduate Medical School
   Nathan Sobel, M.D., New York City, Associate Professor of Clinical Dermatology and Syphilology, New York University Post-Graduate Medical School
2. **Rehabilitation of the Handicapped Child**
   Jerome S. Tobis, M.D., New York City, Professor and Director of Physical Medicine and Rehabilitation, New York Medical College, Flower and Fifth Avenue Hospitals
3. **An Editor Surveys Medicine's Public Relations**
   Kirtland King, Albany (By invitation), New York State News Manager, United Press Association
4. **Reasons for the High Mortality in Pediatric Anesthesia**
   Robert M. Smith, M.D., Boston, Massachusetts (By invitation), Director of Anesthesia, Children's Hospital; Assistant Clinical Professor of Anesthesia, Harvard Medical School
5. **Blood Exchange Clearinghouse Functions, with Special Reference to National Reciprocity Program**
   James Griffitts, M.D., Miami, Florida (By invitation), President, American Association of Blood Banks; Director, Dade County Blood Banks

Friday, May 11—2 P.M.

Skytop, 18th Floor

1. **Changing Concepts in Surgical Management of Peptic Ulcers**
   Jose M. Ferrer, Jr., M.D., New York City, Assistant Attending Surgeon, Presbyterian Hospital; Assistant Clinical Professor of Surgery, College of Physicians and Surgeons of Columbia University
2. **The Tranquilizing Drugs**
   Paul H. Hoch, M.D., Albany, Commissioner of Mental Hygiene, New York State Department of Mental Hygiene; Associate Professor of Clinical Psychiatry, College of Physicians and Surgeons of Columbia University
3. **Poliomyelitis Vaccine: Status in May, 1956**
   Herman E. Hilleboe, M.D., Albany, Commissioner of Health, New York State Department of Health
4. **Use and Abuse of Laboratory Procedures**
   F. William Sunderman, M.D., Philadelphia, Pennsylvania (By invitation), Director, Division of Metabolic Research, Jefferson Medical College

SECTIONS

All papers read before the Society by members become the property of the Society. The original copy of each paper shall be left with the Secretary of the Section or Session.

Discussants should have their remarks typed and should hand them to the Secretary.

Time limits: Twenty minutes for each paper, five minutes for individual discussion.

Section and Session meetings shall begin promptly at the hour specified.

Executive Session—The first order of business, election of officers. "*To participate in the election of any Section, a member must be registered with such Section and must have recorded his name and address in the Section registry.*"—Bylaws, Chapter XII, Section 3.

Section on
Allergy

Chairman.................................... . . . William Bowen Sherman, M.D., New York
Vice-Chairman.......Victor L. Cohen, M.D., Erie
Secretary..........Harry Leibowitz, M.D., Kings

Wednesday, May 9—9 A.M.
East Room, Ballroom Floor

1. **Newer Drugs for the Relief of Allergic Disease**
   Carl E. Arbesman, M.D., Buffalo, Chief of Allergy, Buffalo General Hospital; Instructor in Medicine, University of Buffalo School of Medicine
   Discussion.—Emanuel Schwartz, M.D., Brooklyn, Attending Physician, Long Island College Hospital; Clinical Assistant Professor of Medicine, State University of New York College of Medicine at New York City

2. **The Immunologic and Physiologic Aspects of Bronchial Asthma**
   Bram Rose, M.D., Montreal, Canada (By invitation), Associate Physician, Royal Victoria Hospital; Associate Professor of Medicine, McGill University Faculty of Medicine
   Discussion.—Horace S. Baldwin, M.D., New York City, Associate Attending Physician, New York Hospital; Associate Professor of Clinical Medicine, Cornell University Medical College

PANEL DISCUSSION

Nasal Allergy

Robert A. Cooke, M.D., New York City, *Moderator*, Director, Institute of Allergy, Roosevelt Hospital

Walter R. Kessler, M.D., New York City, Assistant Attending Physician, Roosevelt Hospital; Assistant Pediatrician, Babies Hospital

Henry A. Rusch, Jr., M.D., New York City, Assistant Attending Otolaryngologist and Clinical Assistant in Allergy, Roosevelt Hospital, OPD

William G. Woodin, M.D., Syracuse, Associate Clinical Professor of Medicine, State University of New York College of Medicine at Syracuse

Section on
Anesthesiology

Chairman.Solomon G. Hershey, M.D., New York
Vice-Chairman................................ ....Vincent J. Coviello, M.D., Monroe
Secretary..........Irving M. Pallin, M.D., Kings

Friday, May 11—9 A.M.
Penn Top South, 18th Floor

1. **Cardiac Arrhythmias Under Anesthesia for Electroconvulsive Therapy: Etiology and Treatment**
   D. Jeanne Richardson, M.D., New York City, Associate Visiting Anesthetist, Bellevue Hospital; Assistant Clinical Professor of Anesthesiology, New York University Post-Graduate Medical School
   William Hall Lewis, Jr., M.D., New York City, Assistant Attending Physician, Memorial Center for Cancer and Allied Diseases
   Lawrence H. Gahagan, M.D., New York City
   Discussion.—Albert E. Chiron, M.D., Brooklyn, Attending Anesthesiologist, Jewish Hospital of Brooklyn; Instructor in Anesthesiology, State University of New York College of Medicine at New York City

2. **Clinical Experience with Hydroxydione Sodium (Viadril): A New Intravenous Anesthetic**
   HELENE D. MAYER, M.D., New York City, Chief, Department of Anesthesiology, Harlem Hospital
   CHARLES L. BURSTEIN, M.D., New York City, Chief, Department of Anesthesiology, Hospital for Special Surgery; Associate Clinical Professor of Anesthesiology, New York University Post-Graduate Medical School
   Discussion.—Rose M. Lenahan, M.D., Buffalo

3. **The Value of a Preanesthesia Clinic in the Evaluation of Surgical Patients.**
   WILLIAM S. HOWLAND, M.D., New York City, Attending Anesthesiologist, Memorial Center for Cancer and Allied Diseases; Associate Professor of Surgery (Anesthesiology), Cornell University Medical College
   KUO-CHEN WANG, M.D., New York City (By invitation), Special Fellow in Anesthesiology, Memorial Center for Cancer and Allied Diseases
   Discussion.—Richard Ament, M.D., Buffalo, Assistant Attending Anesthesiologist, Children's Medical Center; Associate in Anesthesiology, University of Buffalo School of Medicine

4. **Clinical Applications of Quantitative Studies with Thiopental**
   LESTER C. MARK, M.D., New York City, Assistant Professor of Anesthesiology, College of Physicians and Surgeons of Columbia University
   JOHN J. BURNS, PH.D., New York City (By invitation), Research Associate, Goldwater Memorial Hospital
   BERNARD B. BRODIE, PH.D., Bethesda, Maryland (By invitation), Chief, Laboratory of Chemical Pharmacology, National Institutes of Health
   EMANUEL M. PAPPER, M.D., New York City, Director of Anesthesia Service, Presbyterian Hospital; Professor of Anesthesiology, College of Physicians and Surgeons of Columbia University
   Discussion.—Merel H. Harmel, M.D., Brooklyn, Professor and Chairman, Department of Anesthesiology, State University of New York College of Medicine at New York City

5. **An Investigation into the Effects of Mild Analgesics in Postpartum Pain**
   LOUIS R. ORKIN, M.D., Bronx, Professor and Chairman, Department of Anesthesiology, Albert Einstein College of Medicine, Yeshiva University
   SAMUEL I. JOSEPH, M.D., Los Angeles, California (By invitation), Associate Professor of Anesthesiology, University of Southern California School of Medicine
   MARTIN HELRICH, M.D., Philadelphia, Pennsylvania (By invitation), Assistant Professor of Anesthesiology, University of Pennsylvania School of Medicine
   Discussion.—Virginia Apgar, M.D., New York City, Attending Anesthesiologist, Presbyterian Hospital; Professor of Anesthesiology, College of Physicians and Surgeons of Columbia University

6. **Arfonad in Hemorrhagic Shock**
   J. GERARD CONVERSE, M.D., Albany, Professor of Anesthesiology, Albany Medical College of Union University
   ANTONIO BOBA, M.D., Albany (By invitation), Research Fellow in Anesthesiology, Albany Medical College of Union University
   Discussion.—Robert G. Hicks, M.D., New York City, Assistant Attending Anesthesiologist, St. Vincent's Hospital

Section on Chest Diseases

Chairman. . . LEONARD C. EVANDER, M.D., Niagara
Secretary. . GEORGE F. HERBEN, M.D., Westchester

Friday, May 11—9 A.M.

Penn Top North, 18th Floor

1. **Pulmonary Complications of Common Diseases**
   PAUL A. BUNN, M.D., Syracuse, Associate Professor of Medicine, State University of New York College of Medicine at Syracuse
   Discussion.—Donald R. McKay, M.D., Buffalo, Associate Clinical Professor of Medicine, University of Buffalo School of Medicine
   Frank C. Maxon, Jr., M.D., Albany, Head of Subdepartment of Tuberculosis, Albany Hospital; Assistant Professor of Medicine, Albany Medical College of Union University

2. **Evaluation of Physiologic Functions After Mitral Commissurotomy**
   B. G. P. SHAFIROFF, M.D., Brooklyn, Attending Cardiovascular Surgery, Unity Hospital; Associate Professor of Clinical Surgery, New York University College of Medicine
   Discussion.—Samuel Waldman, M.D., Brooklyn, Attending Physician, Unity Hospital; Attending Cardiologist, Long Island College Hospital, OPD
   Arthur Fankhauser, M.D., Brooklyn, Director of Medicine, Kings County and Caledonian Hospitals

3. **Clinical Equivalents of Pulmonary Function Tests**
   HOWARD G. DAYMAN, M.D., Buffalo, Chief, Buffalo Respirator Center; Assistant Professor of Medicine, University of Buffalo School of Medicine
   Discussion.—Harold A. Lyons, M.D., Brooklyn,

Director, Cardiopulmonary Laboratory, State University of New York College of Medicine at New York City

Gustav J. Beck, M.D., New York City, Assistant Physician, Presbyterian Hospital; Instructor in Medicine, College of Physicians and Surgeons of Columbia University

4. **Radioisotopes in Thoracic Disease**
   Bernard Roswit, M.D., Bronx, Chief, Radiotherapy Service, Veterans Administration Hospital; Assistant Clinical Professor of Radiology (Radiation Therapy), New York University College of Medicine
   Discussion.—Sidney Rubenfeld, M.D., New York City, Consultant in Radiotherapy, Veterans Administration Hospital; Professor of Clinical Radiology (Radiation Therapy), New York University College of Medicine

Section on
Dermatology and Syphilology

Chairman...Orlando Canizares, M.D., New York
Vice-Chairman.Joseph J. Hallett, M.D., Monroe
Secretary......J. Lowry Miller, M.D., New York

Wednesday, May 9—9 A.M.

Hartford Room, Mezzanine

1. **Chairman's Address—Dermatology and Geriatric Medicine**
   Orlando Canizares, M.D., New York City, Visiting Dermatologist and Syphilologist, Bellevue Hospital; Associate Professor of Clinical Dermatology and Syphilology, New York University Post-Graduate Medical School

SYMPOSIUM

Cutaneous Malignancies

A. **Cytodiagnosis of Cutaneous Malignancy**
   Frederick Urbach, M.D., Buffalo (By invitation), Dermatologist, Roswell Park Memorial Institute
   Eugene M. Burke, B.S., Buffalo (By invitation), Cytologist, Roswell Park Memorial Institute
   Herbert L. Traenkle, M.D., Buffalo, Assistant Clinical Professor of Dermatology, University of Buffalo School of Medicine
   Discussion.—Perry M. Sachs, M.D., New York City, Adjunct Professor of Dermatology and Syphilology, New York Polyclinic Medical School and Hospital

B. **The Chemosurgical Method for the Microscopically Controlled Excision of Cancer of the Skin**
   Frederic E. Mohs, M.D., Madison, Wisconsin (By invitation), Director of Chemosurgery Clinic, University Hospitals; Associate Professor of Chemosurgery, University of Wisconsin Medical School
   Discussion.—Charles F. Post, M.D., Ridgewood, New Jersey (By invitation), Instructor in Dermatology, College of Physicians and Surgeons of Columbia University

C. **Panel Discussion—Treatment of Cutaneous Malignancies**
   George C. Andrews, M.D., New York City, *Moderator*, Clinical Professor of Dermatology, College of Physicians and Surgeons of Columbia University
   Anthony C. Cipollaro, M.D., New York City, Professor and Director, Department of Dermatology and Syphilology, New York Polyclinic Medical School and Hospital
   Frederic E. Mohs, M.D., Madison, Wisconsin (By invitation), Director of Chemosurgery Clinic, University Hospitals; Associate Professor of Chemosurgery, University of Wisconsin Medical School
   Earl D. Osborne, M.D., Buffalo, Professor of Dermatology and Syphilology, University of Buffalo School of Medicine
   Herbert L. Traenkle, M.D., Buffalo, Assistant Clinical Professor of Dermatology, University of Buffalo School of Medicine

Section on
Gastroenterology and Proctology

Chairman............William F. Lipp, M.D., Erie
Vice-Chairman...Sydney D. Weston, M.D., Kings
Secretary......M. Luther Musselman, M.D., Erie

Thursday, May 10—9:30 A.M.

East Room, Ballroom Floor

1. **The Postbulbar Duodenal Spasm Syndrome**
   Z. T. Bercovitz, M.D., New York City, Assistant Attending Physician, University Hospital; Assistant Clinical Professor of Medicine, New York University Post-Graduate Medical School
   Discussion.—M. Luther Musselman, M.D., Buffalo, Clinical Assistant in Medicine, Buffalo General Hospital; Assistant in Medicine, University of Buffalo School of Medicine

2. **Diagnosis of Schistosomas Mansoni Infection by Sigmoidoscopy and Rectal Mucous Membrane Biopsy**
   Benjamin W. Warner, M.D., New York City, Assistant Visiting Surgeon in Proctology, Lincoln Hospital
   Discussion.—Howard B. Shookhoff, M.D., New York City, Chief of Tropical Diseases, New York City Department of Health

3. **Pregnancy in Ulcerative Colitis**
   Burrill B. Crohn, M.D., New York City, Consultant in Gastroenterology, Mount Sinai Hospital
   Harry Yarnis, M.D., New York City
   Edward B. Crohn, M.D., Kent, Connecticut (By invitation)
   Robert I. Walter, M.D., New York City
   J. Lester Gabrilove, M.D., New York City
   Discussion.—A. H. Aaron, M.D., Buffalo, Physician (Emeritus), Buffalo General Hospital; Clinical Professor of Medicine (Emeritus), University of Buffalo School of Medicine

4. **Nutritional Problems After Total Gastrectomy**
   James A. Halsted, M.D., Syracuse, Director, Professional Services, Veterans Administration Hospital
   John D. Briggs, M.D., Syracuse (By invitation)
   Marvin Gasster, M.D., Syracuse (By invitation)
   Discussion.—Gordon P. McNeer, M.D., New York City, Associate Attending Surgeon, Memorial Hospital; Assistant Professor of Surgery, Cornell University Medical School

5. **The Significance of Parenchymatous Calcification of the Pancreas**
   Victor W. Logan, M.D., Rochester, Assistant Physician, Strong Memorial Hospital; Assistant Professor of Medicine, University of Rochester School of Medicine and Dentistry
   Maurice L. Kelley, Jr., M.D., Rochester (By invitation)
   Lyman C. Boynton, M.D., Rochester
   Lucy F. Squire, M.D., Rochester
   Discussion.—Henry Doubilet, M.D., New York City, Associate Surgeon, University Hospital; Associate Professor of Surgery, New York University College of Medicine

Section on
General Practice

Chairman............John J. Flynn, M.D., Kings
Vice-Chairman..Seymour Fiske, M.D., New York
Secretary.Mary H. Wyttenbach, M.D., Chemung

Wednesday, May 9—9 A.M.

Keystone Room, Ballroom Balcony

PANEL DISCUSSION

Psychosomatic Problems in General Practice

Francis J. Hamilton, M.D., New York City, *Moderator*, Associate Attending Psychiatrist, New York Hospital; Assistant Professor of Clinical Psychiatry, Cornell University Medical College

History and Interview Technic
Nolan D. Lewis, M.D., Princeton, New Jersey (By invitation), Director of Research, Neurology and Psychiatry, New Jersey Neuro-Psychiatric Institute

Emotional Problems of Child and Adolescent
C. Douglas Darling, M.D., Ithaca, Medical Staff, Department of Clinical and Preventive Medicine, Cornell University

Psychosomatic Medicine in Industry
Walter D. Woodward, M.D., New York City, Consultant in Psychiatry, American Cyanamid Company

Psychosomatic Problems in Cardiovascular Disease
Louis F. Bishop, M.D., New York City, Assistant Clinical Professor of Medicine, New York University Post-Graduate Medical School

Section on
Industrial Medicine and Surgery

Chairman.......Harry E. Tebrock, M.D., Queens
Vice-Chairman................................
..........James H. McDonough, M.D., Oneida
Secretary.....Norman Plummer, M.D., New York

Wednesday, May 9—9 A.M.

Pennsylvania Room, Ballroom Floor

1. **Environmental Cancer and Its Relationship to Industry, the Physician, and the Community**
   Robert E. Eckardt, M.D., Linden, New Jersey (By invitation), Director, Medical Research Division, Esso Research and Engineering Company

2. **Medical Problems in the Use of Atomic Energy in Industry**
   Roy E. Albert, M.D., Washington, D.C. (By invitation), Chief, Medical Branch, Division of Biology and Medicine, United States Atomic Energy Commission

3. **Panel Discussion—Criteria of Disability and Employability**
   Norman Plummer, M.D., New York City, *Moderator*, New York Telephone Company; Assistant Professor of Clinical Medicine, Cornell University Medical College
   S. Charles Franco, M.D., New York City, Consolidated Edison Company; Associate Clinical Professor of Industrial Medicine, New York University Post-Graduate Medical School
   Edward P. Flood, M.D., Bronx, Director of Medicine, St. Francis Hospital
   LeRoy Fugal, Ph.D., New York City (By invitation), Manager of Employment Practices, General Electric Company

A. B. Price, M.D., Baltimore, Maryland (By invitation), Chief Medical Consultant, Division of Disability Operations, Bureau of Old Age and Survivors Insurance, Social Security Administration, Department of Health, Education, and Welfare

4. **The Need for Bureau of Industrial Medicine in the State Society**
   Peter J. Di Natale, M.D., Batavia, Chairman, Council Industrial Health Committee

General Discussion

Section on Medicine

Chairman......Eusebius J. Murphy, M.D., Bronx
Vice-Chairman..................................
............Thomas F. Frawley, M.D., Albany
Secretary......Herbert Berger, M.D., Richmond

Friday, May 11—9 A.M.

West Room, Ballroom Floor

1. **Evaluation of Drug Therapy of Hypertension, II**
   Marvin Moser, M.D., Scarsdale, Adjunct Attending Cardiologist, Grasslands Hospital, Valhalla; Assistant Attending Physician, Montefiore Hospital, Bronx
   Alice McCauley, M.D., Valhalla (By invitation)
   Kenneth W. Trout, M.D., Valhalla
   Roderick Granzen, M.D., Valhalla (By invitation)
   Discussion.—Milton Mendlowitz, M.D., New York City
   George A. Perera, M.D., New York City

2. **Treatment of Parkinsonism with Curare**
   Herbert Berger, M.D., Staten Island, Director of Medicine, Richmond Memorial Hospital; Consultant in Medicine, U.S. Public Health Service Hospital
   Discussion.—Lewis J. Doshay, M.D., New York City, Associate Neurologist, Presbyterian Hospital
   Samuel Reback, M.D., Staten Island, Associate Attending Neurologist, Presbyterian Hospital; Attending Neuropsychiatrist, Staten Island Hospital

3. **Renal Manifestations of Cerebral Origin**
   Arthur M. Fishberg, M.D., New York City

4. **Two-Step Test in Definite Coronary Disease: 250 Consecutive Cases**
   Arthur M. Master, M.D., New York City, Consulting Cardiologist, Mount Sinai Hospital
   Leonard E. Field, M.D., New York City, Senior Physician, Mount Sinai Hospital, OPD
   Ephraim Donoso, M.D., New York City (By invitation), Research Assistant in Cardiology, Mount Sinai Hospital
   Discussion.—Henry I. Russek, M.D., Staten Island, Consultant Cardiologist, U.S. Public Health Service Hospital
   George P. Robb, M.D., New York City, Consultant in Cardiology to the Surgeon General of the U.S. Army; Assistant Medical Director, Metropolitan Life Insurance Company

Section on Neurology and Psychiatry

Chairman.......Harry Ernest Faver, M.D., Erie
Secretary........Meyer Rosenberg, M.D., Kings

Wednesday, May 9—9 A.M.

Cornell Room, Ballroom Floor

1. **Observations on Hospitalized Adolescent Drug Addicts**
   Percy Mason, M.D., New York City, Associate Visiting Psychiatrist, Riverside Hospital; Assistant in Psychiatry, University Hospital
   Discussion.—Howard W. Potter, M.D., Brooklyn, Dean and Professor, Department of Psychiatry, State University of New York College of Medicine at New York City

2. **Chronic Subdural Hematoma in the Guise of Cerebral Arteriosclerosis**
   A. M. Rabiner, M.D., Brooklyn, Director of Neurology, Kings County Hospital; Professor of Neurology, State University of New York College of Medicine at New York City
   I. B. Schacter, M.D., Brooklyn (By invitation), Resident, Neurological Surgery, Kings County Hospital
   Discussion.—H. Houston Merritt, M.D., New York City, Director of Neurology, Neurological Institute; Professor of Neurology, College of Physicians and Surgeons of Columbia University

3. **The Modern Treatment of Ruptured Nonfistulous Intracranial Aneurysm**
   Carl J. Graf, M.D., Buffalo, Assistant Professor of Neurological Surgery, University of Buffalo School of Medicine
   Discussion.—Lester A. Mount, M.D., New York City, Associate Attending Neurosurgeon, Neurological Institute; Associate Professor of Clinical Neurological Surgery, College of Physicians and Surgeons of Columbia University

4. **Central Inhibition in Expressive Aphasia**
   Herbert G. Birch, Ph.D., New York City (By invitation), Department of Physical

Medicine and Rehabilitation, Bird S. Coler Hospital; Associate Clinical Professor of Psychiatry, New York Medical College, Flower and Fifth Avenue Hospitals

Discussion.—Jon Eisenson, Ph.D., Flushing (By invitation), Professor of Speech; Director of Speech and Hearing Center, Queens College

Kurt Goldstein, M.D., New York City, Professor of Psychology, New School for Social Research

5. **Complications of the Misdiagnosis of Facial Pain Syndromes**

STANLEY LESSE, M.D., New York City, Assistant Attending Neurologist, Neurological Institute; Instructor in Neurology, College of Physicians and Surgeons of Columbia University

Discussion.—Irving J. Sands, M.D., Brooklyn, Attending Neurologist, Presbyterian Hospital; Attending Psychiatrist, Hillside Hospital, Queens

Section on

Obstetrics and Gynecology

Chairman.........CURTIS J. LUND, M.D., Monroe
Vice-Chairman...............................
.......ARTHUR V. GREELEY, M.D., New York
Secretary..ALBERT W. VAN NESS, M.D., Onondaga

Thursday, May 10—9 A.M.

Washington Room, Mezzanine

1. **Clinical Factors in Multiple Pregnancy**

MARTIN L. STONE, M.D., New York City, Assistant Professor of Obstetrics and Gynecology, New York Medical College, Flower and Fifth Avenue Hospitals

ALVIN M. DONNENFELD, M.D., New York City, Instructor in Obstetrics and Gynecology, New York Medical College, Flower and Fifth Avenue Hospitals

CLAIR E. FOLSOME, M.D., New York City (By invitation), Professor and Director, Department of Obstetrics and Gynecology, New York Medical College, Flower and Fifth Avenue Hospitals

Discussion.—Alan F. Guttmacher, M.D., New York City, Director, Department of Obstetrics and Gynecology, Mount Sinai Hospital; Clinical Professor of Obstetrics and Gynecology, College of Physicians and Surgeons of Columbia University

Eugene R. Duggan, M.D., Rochester, Instructor in Obstetrics and Gynecology, University of Rochester School of Medicine and Dentistry

2. **Toxic Effects of the Welch Bacillus in Postabortal Infections**

GORDON WATKINS DOUGLAS, M.D., New York City, Assistant Professor of Obstetrics and Gynecology, New York University College of Medicine

Discussion.—John G. Masterson, M.D., Brooklyn, Assistant Professor of Obstetrics and Gynecology, State University of New York College of Medicine at New York City

3. **Is Hospitalization Necessary to Rule Out Uterine Carcinoma?**

DONALD W. HALL, M.D., Buffalo, Clinical Assistant in Obstetrics and Gynecology, Buffalo General Hospital; Associate in Obstetrics and Gynecology, University of Buffalo School of Medicine

CLYDE L. RANDALL, M.D., Buffalo
RICHARD W. BAETZ, M.D., Buffalo
PAUL K. BIRTCH, M.D., Buffalo

Discussion.—Michael J. Jordan, M.D., New York City, Attending Gynecologist, University Hospital; Associate Professor of Clinical Obstetrics and Gynecology, New York University College of Medicine

James H. Flynn, Jr., M.D., Albany, Attending Gynecologist, Albany Hospital; Associate Professor of Gynecology, Albany Medical College of Union University

4. **An Evaluation of a Prepared Childbirth Program**

C. LEE BUXTON, M.D., New Haven, Connecticut (By invitation), Professor and Chairman, Department of Obstetrics and Gynecology, Yale University School of Medicine

Section on

Ophthalmology

Chairman....FRANK D. CARROLL, M.D., New York
Vice-Chairman....JAMES I. FARRELL, M.D., Oneida
Secretary...MILTON L. BERLINER, M.D., New York

Friday, May 11—9 A.M.

Keystone Room, Ballroom Balcony

1. **The Use of Radiotherapy in Ophthalmology**

GEORGE R. MERRIAM, JR., M.D., New York City, Assistant Attending Ophthalmologist, Presbyterian Hospital; Associate in Ophthalmology, College of Physicians and Surgeons of Columbia University

Discussion.—James L. McGraw, M.D., Syracuse, Attending Ophthalmologist, Syracuse Memorial Hospital; Assistant Professor of Ophthalmology, State University of New York Upstate Medical Center

2. **The Use of Miotics in Strabismus**

PHILIP KNAPP, M.D., New York City, Assistant Attending Ophthalmologist, Presbyterian Hospital; Instructor in Ophthalmology, College of Physicians and Surgeons of Columbia University

Discussion.—Maynard C. Wheeler, M.D., New York City, Attending Ophthalmologist, Presbyterian Hospital; Clinical Professor of Ophthalmology, College of Physicians and Surgeons of Columbia University

3. **Treatment of Retinal Detachment**
   GRAHAM CLARK, M.D., New York City, Assistant Attending Ophthalmologist, Presbyterian Hospital; Associate in Ophthalmology, College of Physicians and Surgeons of Columbia University
   Discussion.—Ivan J. Koenig, M.D., Buffalo, Chief, Department of Ophthalmology, Buffalo General and Children's Hospitals; Professor of Ophthalmology, University of Buffalo School of Medicine

4. **Surgery of the Vitreous**
   DONALD M. SHAFER, M.D., New York City, Attending Surgeon, Manhattan Eye, Ear and Throat Hospital; Consulting Ophthalmologist, U.S. Naval Hospital, St. Albans
   Discussion.—R. Townley Paton, M.D., New York City, Surgeon-Director, Manhattan Eye, Ear and Throat Hospital; Clinical Professor of Ophthalmology, New York University College of Medicine

5. **Recent Advances in Medical Therapy of Ocular Disorders**
   IRVING HENRY LEOPOLD, M.D., Philadelphia, Pennsylvania (By invitation), Director of Research, Wills Eye Hospital; Professor and Head of Department of Ophthalmology, Graduate School, University of Pennsylvania School of Medicine
   Discussion.—John F. Gipner, M.D., Rochester, Chief, Eye Department, Strong Memorial Hospital; Associate Professor of Ophthalmology, University of Rochester School of Medicine and Dentistry

Discussion of Legal Barriers to the Practice of Ophthalmology in New York State

Section on

Orthopedic Surgery

Chairman......EMANUEL B. KAPLAN, M.D., Bronx
Secretary..............JAMES P. COLE, M.D., Erie

Thursday, May 10—9 A.M.

West Room, Ballroom Floor

1. **Experiences with Transplantation Operations in Loss of Opposition of the Thumb**
   CONSTANTINE L. JEANNOPOULOS, M.D., New York City, Assistant Orthopedic Surgeon, Bellevue Hospital; Associate Orthopedic Surgeon, New York University College of Medicine
   Discussion.—Robert Ernst Carroll, M.D., New York City, Assistant Attending Orthopedic Surgeon, Presbyterian Hospital; Consulting Hand Surgeon, U.S. Naval Hospital, St. Albans

2. **Cineradiography of the Normal Cervical Spine**
   JOSEPH WILLIAM FIELDING, M.D., New York City, Assistant Attending Orthopedic Surgeon, St. Luke's Hospital; Lecturer, New York Polyclinic Medical School and Hospital
   Discussion.—David M. Bosworth, M.D., New York City, Director of Orthopedic Surgery, St. Luke's Hospital; Associate-in-Chief Orthopedic Surgeon, House of St. Giles the Cripple

3. **Surgical Fixation of Old Dislocations of the Cervical Vertebrae in Children**
   JESSE T. NICHOLSON, M.D., Philadelphia, Pennsylvania (By invitation), Chairman, Department of Orthopedic Surgery, Graduate School of Medicine, University of Pennsylvania

4. **Reconstruction of the Subtotally Amputated Hand**
   J. WILLIAM LITTLER, M.D., New York City, Chief Hand Surgeon, Roosevelt OPD; Associate Surgeon, Roosevelt Hospital
   Discussion.—Lee Ramsay Straub, M.D., New York City, Attending Orthopedic Surgeon, Hospital for Special Surgery; Assistant Orthopedic Surgeon, New York Hospital

5. **The Glueing of Certain Broken Bones by Interfragmentary Injections of Gelatin**
   MICHAEL SAMUEL BURMAN, M.D., New York City, Attending Orthopedic Surgeon, Hospital for Joint Diseases; Attending Orthopedic Surgeon, Home and Hospital of the Daughters of Israel
   Discussion.—Walter A. L. Thompson, M.D., New York City, Surgeon-in-Chief of Orthopedics, Bellevue Hospital; Director of Orthopedic Surgery, University Hospital

6. **Chairman's Address—Orthopedic Terminology in Relation to Diagnosis**
   EMANUEL B. KAPLAN, M.D., Bronx, Attending Orthopedic Surgeon, Hospital for Joint Diseases; Associate Clinical Professor of Anatomy, College of Physicians and Surgeons of Columbia University

Section on

Otolaryngology

Chairman......R. CLARK GROVE, M.D., New York
Vice-Chairman.................................
..........STANLEY L. EDMUNDS, M.D., Warren
Secretary.....SAMUEL F. KELLEY, M.D., New York

Thursday, May 10—9:30 A.M.

Headquarters Room, 18th Floor

1. **Practical Office Audiometry and Its Clinical Significance**
   Wesley H. Bradley, M.D., Syracuse, Assistant Attending Otolaryngologist, Memorial Hospital
   Discussion.—Abraham I. Goldner, M.D., Flushing, Clinical Assistant Attending Otolaryngologist, Flushing Hospital

2. **Roentgen Diagnosis of Nonopaque Bodies in the Bronchi**
   Frederick Elias, M.D., Monticello, Roentgenologist, Monticello Hospital
   Discussion.—George R. Brighton, M.D., New York City, Consulting Otolaryngologist, Roosevelt Hospital

3. **Voice Rehabilitation Through Surgery and Speech Therapy (Film)**
   De Graaf Woodman, M.D., New York City, Attending Otolaryngologist, Presbyterian Hospital
   Shulamith Kastein, New York City (By invitation), Speech Therapist, Vanderbilt Clinic

4. **The Present Status of Antibiotics and Hormones in Otolaryngology**
   Ralph R. Tompsett, M.D., New York City, Associate Attending Physician, New York Hospital
   Discussion.—Martin L. Gerstner, M.D., Buffalo, Attending Otolaryngologist, Buffalo General Hospital

5. **Straightening the Deviated Nose**
   Irving B. Goldman, M.D., New York City, Associate Attending Otolaryngologist and Rhinoplastic Surgeon, Mount Sinai Hospital
   Discussion.—Stanley L. Edmunds, M.D., Glens Falls, Chief Attending Otolaryngologist, Glens Falls Hospital

Section on

Pathology and Clinical Pathology

Chairman...Joseph I. Schleifstein, M.D., Albany
Vice-Chairman....James R. Lisa, M.D., New York

Thursday, May 10—9 A.M.

Hartford Room, Mezzanine

1. **Newer Laboratory Procedures in Active Rheumatic Disease**
   Samuel Losner, M.D., Brooklyn, Research Associate Physician, Jewish Chronic Disease Hospital
   Bruno W. Volk, M.D., Brooklyn, Director of Pathology Laboratory, Jewish Chronic Disease Hospital
   Discussion.—Alfred A. Angrist, M.D., Bronx, Professor and Chairman, Department of Pathology, Albert Einstein College of Medicine, Yeshiva University

2. **Changes in Pathology of Pulmonary Tuberculosis Under the Influence of Newer Antibiotics**
   Oscar Auerbach, M.D., Staten Island, Chief, Laboratory Service, Veterans Administration Hospital, East Orange, New Jersey
   Discussion.—Kornel L. Terplan, M.D., Buffalo (By invitation), Professor and Head of Department of Pathology, University of Buffalo School of Medicine

3. **Cytologic Examination of Sputum as a Routine Procedure in Hospital Patients with "Chest Findings": Analysis of One Year's Experience**
   Samuel Sanes, M.D., Buffalo, Director of Pathology, Edward J. Meyer Memorial Hospital
   Frank G. Thompson, M.D., Buffalo, Resident in Medicine, Edward J. Meyer Memorial Hospital
   Edward G. Eschner, M.D., Buffalo, Director of Roentgenology, Edward J. Meyer Memorial Hospital
   Discussion.—N. Chandler Foot, M.D., New York City, Emeritus Professor of Pathology, Cornell University Medical College

4. **In Vitro Studies of Human Cancer as Related to Cancer Therapy**
   Maurice M. Black, M.D., Brooklyn, Associate Professor of Pathology and Clinical Pathology, New York Medical College, Flower and Fifth Avenue Hospitals
   Francis D. Speer, M.D., New York City, Professor and Director, Department of Pathology and Clinical Pathology, New York Medical College, Flower and Fifth Avenue Hospitals
   Discussion.—David A. Karnofsky, M.D., New York City, Associate Attending Physician, Memorial Center for Cancer and Allied Diseases

Section on

Pediatrics

Chairman.....Alfred J. Vignec, M.D., New York
Vice-Chairman................................
...........William O. Kopel, M.D., Onondaga
Secretary.........John A. Monfort, M.D., Kings

Friday, May 11—9:30 A.M.

East Room, Ballroom Floor

1. **Fetal Hemorrhage During Pregnancy**
   Walter J. O'Connor, M.D., Brooklyn, Associate Attending Pediatrician, Kings County Hospital; Assistant Professor of

Pediatrics, State University of New York College of Medicine at New York City

Schuyler Kohl, M.D., Brooklyn, Associate Attending Obstetrician and Gynecologist, Kings County Hospital

Marvin Sussman, M.D., Brooklyn (By invitation), Intern, Kings County Hospital

George Shields, M.D., Brooklyn (By invitation), Fellow, Kings County Hospital

2. **Cerebral Subdural Hematoma Simulating Tumor of the Posterior Fossa in Children**

   E. Jefferson Browder, M.D., Brooklyn, Director of Neurosurgery, Kings County Hospital; Professor of Neurosurgery, State University of New York College of Medicine at New York City

   Samuel D. Critides, M.D., Hoboken, New Jersey (By invitation), Assistant Attending Neurosurgeon, Kings County Hospital

3. **Chemotherapy in Child Psychiatry**

   Lauretta Bender, M.D., New York City, Senior Psychiatrist, Children's Service, Bellevue Hospital; Professor of Clinical Psychiatry, New York University College of Medicine

   Sol Nichtern, M.D., New York City, Junior Psychiatrist, Children's Service, Bellevue Hospital

Section on
Physical Medicine

Chairman......Jerome S. Tobis, M.D., New York
Secretary................Leslie Blau, M.D., Erie

Wednesday, May 9—9 A.M.

Washington Room, Mezzanine

1. **Live Clinic—Rehabilitation of Children**

   George G. Deaver, M.D., New York City, Director, Children's Division, Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center and Staff

2. **Live Clinic—Rehabilitation of the Hemiplegic**

   Department of Physical Medicine and Rehabilitation, New York Medical College, Flower and Fifth Avenue Hospitals

Section on
Preventive Medicine and Public Health

Chairman........Joseph P. Garen, M.D., Monroe
Secretary......Robert H. Broad, M.D., Tompkins

Thursday, May 10—9 A.M.

Keystone Room, Ballroom Balcony

1. **Diabetes as a Health Problem in New York State**

   Frank W. Reynolds, M.D., Albany, Director, Bureau of Chronic Diseases and Geriatrics, New York State Department of Health; Associate in Medicine, Albany Medical College of Union University

   Discussion.—Leonard J. Schiff, M.D., Plattsburgh, Chairman, Subcommittee on Diabetes, Medical Society of the State of New York

2. **A Pilot Project for Control of Diabetes in the New York City Department of Health**

   Morris Greenberg, M.D., New York City, Director, Bureau of Preventable Diseases, New York City Department of Health; Assistant Professor of Epidemiology, School of Public Health, Columbia University

   Sidney S. Wasserstrom, M.D., New York City, Director, Brownsville Diabetes Control Center

   Discussion.—Henry E. Marks, M.D., New York City, Attending Physician, City Hospital; Associate in Medicine, College of Physicians and Surgeons of Columbia University

3. **A New Approach to the Control of Chemical Poisonings**

   Harold Jacobziner, M.D., New York City, Assistant Commissioner, New York City Department of Health; Associate Attending Pediatrician, University Hospital

   Harry Raybin, New York City (By invitation), Technical Director, Poison Control Center, New York City Department of Health

   Discussion.—Harry Bakwin, M.D., New York City, Professor of Clinical Pediatrics, New York University College of Medicine

   Alfred Yankauer, M.D., Albany, Director, Bureau of Maternal and Child Health, New York State Department of Health

4. **Operation of Bureau of Adult Hygiene (Geriatrics) in a County Health Department**

   William A. Holla, M.D., White Plains

   Discussion.—I. Jay Brightman, M.D., Albany, Assistant Commissioner for Welfare Medical Services, New York State Department of Social Welfare

Section on
Radiology

Chairman........John A. Evans, M.D., New York
Vice-Chairman.....Norman Heilbrun, M.D., Erie
Secretary..
.....Francis F. Ruzicka, Jr., M.D., New York

Thursday, May 10—9 A.M.

Pennsylvania Room, Ballroom Floor

1. **Primary Malignant Disease of Bone**
   Robert S. Sherman, M.D., New York City, Director, Department of Diagnostic Radiology, Memorial Center for Cancer and Allied Diseases; Associate Professor of Clinical Radiology, Cornell University Medical College

2. **Radiographic Appearance of Metastatic Bone Disease**
   Arnold L. Bachman, M.D., New York City, Roentgenologist, Francis Delafield Hospital; Associate Professor of Radiology, College of Physicians and Surgeons of Columbia University

3. **Irradiation of Bone Tumors**
   Milton Friedman, M.D., New York City, Associate Professor of Clinical Radiology, New York University College of Medicine

4. **Benign Lesions of Bone**
   Charles W. Breimer, M.D., New York City, Chief of Roentgenology, Hospital for Special Surgery

Section on Surgery

Chairman. . Jose M. Ferrer, Jr., M.D., New York
Secretary. . . . . Paul A. Kennedy, M.D., Erie

Wednesday, May 9—9 A.M.

Headquarters Room, 18th Floor

1. **Small Intestinal Resections for Mesenteric Thrombosis**
   Charles F. Stewart, M.D., New York City, Associate Attending Surgeon, Roosevelt Hospital

2. **Present Status of Arterial Replacement Surgery**
   Arthur B. Voorhees, Jr., M.D., New York City

3. **Interrelationship of Calculous Disease and Acute Cholecystitis with Pancreatitis**
   Rafael Sanchez-Ubeda, M.D., New York City, Clinical Assistant Attending Surgeon, St. Vincent's Hospital; Clinical Instructor in Surgery, New York University College of Medicine
   Louis M. Rousselot, M.D., New York City, Director of Surgery, St. Vincent's Hospital; Professor of Clinical Surgery, New York University College of Medicine

4. **Neoplasms of the Pancreas**
   Harold A. Zintel, M.D., New York City, Director of Surgery, St. Luke's Hospital; Clinical Professor of Surgery, College of Physicians and Surgeons of Columbia University

Section on Urology

Chairman. . . . . . Oscar J. Oberkircher, M.D., Erie
Vice-Chairman. . . . . Dean Makowski, M.D., New York
Secretary. . . . . William J. Staubitz, M.D., Erie

Friday, May 11—9 A.M.

Hartford Room, Mezzanine

1. **Primary Carcinoma of the Ureter**
   William J. Staubitz, M.D., Buffalo, Chief, Division of Urology, Roswell Park Memorial Institute; Assistant Clinical Professor of Urology, University of Buffalo School of Medicine
   Oscar J. Oberkircher, M.D, Buffalo, Chief of Urology, Buffalo General Hospital; Professor and Chairman, Department of Urology, University of Buffalo School of Medicine
   Imre Magoss, M.D., Buffalo (By invitation), Senior Cancer Research Urologist, Roswell Park Memorial Institute
   Melbourne H. Lent, M.D., Buffalo, Associate Chief Cancer Research Urologist, Roswell Park Memorial Institute
   Marvin Freidmann, M.D., Buffalo (By invitation), Chief Urologic Resident, Edward J. Meyer Memorial Hospital
   Discussion.—Archie L. Dean, M.D., New York City, Professor of Urology, New York Polyclinic Medical School and Hospital

2. **Management of Renal Cysts**
   J. Sydney Ritter, M.D., New York City, Professor of Urology, New York Polyclinic Medical School and Hospital
   Alfred A. Johnson, M.D., New York City, Adjunct Professor of Urology, New York Polyclinic Medical School and Hospital
   Discussion.—Frank C. Hamm, M.D., Brooklyn, Professor of Urology, State University of New York College of Medicine at New York City

3. **Pathologic Calcification: Fact and Fiction**
   Roger Baker, M.D., Washington, D.C. (By invitation), Professor and Chairman, Department of Urology, Georgetown University School of Medicine
   Discussion.—Robert S. Hotchkiss, M.D., New York City, Professor and Chairman, Department of Urology, New York University College of Medicine

4. **Reconstruction of Urinary Bladder in Children with Exstrophy**
   John K. Lattimer, M.D., New York City, Professor and Chairman, Department of Urology, College of Physicians and Surgeons of Columbia University
   Archie L. Dean, Jr., M.D., New York City

(By invitation), Resident in Urology, Presbyterian Hospital

Discussion.—Victor F. Marshall, M.D., New York City, Professor and Chairman, Department of Urology, Cornell University Medical College

SESSIONS

Session on
History of Medicine

Chairman.......McIver Woody, M.D., New York
Secretary............Irving Wolfson, M.D., Erie

Tuesday, May 8—8 P.M.

Washington Room, Mezzanine

Open to Public

SYMPOSIUM

Development of Medical Education in New York City

1. **College of Physicians and Surgeons of Columbia University**
   Samuel Waldron Lambert, Jr., M.D., New York City, Associate Attending Physician, Presbyterian Hospital; Associate Professor of Clinical Medicine, College of Physicians and Surgeons of Columbia University

2. **New York University College of Medicine**
   Claude Edwin Heaton, M.D., New York City, Attending Obstetrician and Gynecologist, Bellevue Hospital; Associate Professor of Obstetrics and Gynecology, New York University College of Medicine

3. **State University of New York College of Medicine at New York City**
   Jean Alonzo Curran, M.D., Brooklyn, Consulting Physician, Brooklyn Hospital; Professor of History of Medicine and Associate Executive Dean for Medical Education, State University of New York College of Medicine at New York City

4. **New York Medical College, Flower and Fifth Avenue Hospitals**
   Linn J. Boyd, M.D., New York City, Director of Medicine, Flower and Fifth Avenue Hospitals; Professor of Medicine and Pharmacology, New York Medical College, Flower and Fifth Avenue Hospitals

5. **Cornell University Medical College**
   Paul Reznikoff, M.D., New York City, Attending Physician, New York Hospital; Professor of Clinical Medicine, Cornell University Medical College

Session on
Legal Medicine

Chairman..Robert B. McGraw, M.D., New York
Secretary..............Samuel Sanes, M.D., Erie

Wednesday, May 9—9 A.M.

Dallas Room, Mezzanine

1. **Sexual Sterilization**
   Roy D. Craig, M.D., New York City, Assistant Attending Psychiatrist, St. Luke's Hospital; Associate in Psychiatry, College of Physicians and Surgeons of Columbia University
   Discussion.—Joseph B. Davis, M.D., Norwich

2. **Protection of Witnesses in Matters Dealing with Professional Qualifications and Misconduct**
   George H. Hyslop, M.D., New York City, Attending Neurologist, Presbyterian Hospital; Associate Clinical Professor of Neurology, College of Physicians and Surgeons of Columbia University
   Discussion.—Reed Dawson, Esq., New York City (By invitation), Counsel for Medical Society of the County of New York

3. **Medicolegal Role of a Psychiatrist in a Small Community**
   Hugh McHugh, M.D., Larchmont, Assistant Psychiatrist, Vanderbilt Clinic; Instructor in Psychiatry, College of Physicians and Surgeons of Columbia University
   Discussion.—John W. Roop, M.D., Jamestown, Attending Neuropsychiatrist, Jamestown General and Women's Christian Association Hospitals

4. **The Liability of the Hospital for the Acts of Professional Personnel**
   Maxwell M. Booxbaum, M.D., LL.B., New York City, Secretary, American Board of Legal Medicine
   Discussion.—Judge Samuel Joseph, Bronx (By invitation), Bronx Supreme Court

Session on
Public Relations

Chairman......HENRY I. FINEBERG, M.D., Queens
Secretary.....JOHN C. MCCLINTOCK, M.D., Albany

Thursday, May 10—9 A.M.

Dallas Room, Mezzanine

1. **The Doctor in Court**
   C. JOSEPH STETLER, ESQ., Chicago, Illinois (By invitation), Director, Law Department, American Medical Association
2. **Rx for Good PR via Radio**
   SAMUEL M. SHARKEY, JR., New York City (By invitation), Editor of News, National Broadcasting Company
3. **Public Relations Problems of County Medical Societies**
   HAROLD N. HOWELL, Utica (By invitation), Executive Secretary, Medical Societies of the Counties of Oneida, Herkimer, and Madison
4. **Medicine's Role in Community Activities**
   A. **From the Viewpoint of the Individual Physician and the County Medical Society**
      JOHN F. ROGERS, M.D., Poughkeepsie, Past-President, Local Chamber of Commerce

   B. **From the Viewpoint of the Businessman and the Chamber of Commerce**
      KENNERLY WOODY, New York City (By invitation), Vice-President in Charge of Public Relations, New York Telephone Company; Chairman, Public Relations Committee, Chamber of Commerce of the State of New York

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ROUND TABLE DISCUSSION

JOHN N. EDSON, M.D., Kings, *Associate Chairman*

Thursday, May 10—8 P.M.

Skytop, 18th Floor

Medical and Surgical Treatment of Valvular Heart Disease

WILLIAM DOCK, M.D., Brooklyn, *Moderator*, Professor of Medicine, State University of New York College of Medicine at New York City

FRANK GLENN, M.D., New York City, Professor and Chairman, Department of Surgery, Cornell University Medical College

M. IRENE FERRER, M.D., New York City, Assistant Professor of Clinical Medicine, College of Physicians and Surgeons of Columbia University

LAURENCE MISCALL, M.D., New York City, Assistant Professor of Clinical Surgery, Cornell University Medical College

POSTGRADUATE LECTURES

Bernard J. Pisani, M.D., New York, *Associate Chairman*

Tuesday, May 8—9 A.M.

West Room, Ballroom Floor

Psychiatry in Everyday Practice

9:00 **Introductory Remarks**
Peter G. Denker, M.D., New York City, Attending Neuropsychiatrist, Bellevue Hospital; Assistant Professor of Clinical Neurology, Cornell University Medical College

9:10 **General Principles Applied to Practice**
John M. Cotton, M.D., New York City, Director of Psychiatry, St. Luke's Hospital; Associate Professor of Clinical Psychiatry, College of Physicians and Surgeons of Columbia University

9:30 **Children and Behavior Problems**
William S. Langford, M.D., New York City, Director of Pediatric Psychiatric Clinic, Babies Hospital; Professor of Psychiatry (in Pediatrics), College of Physicians and Surgeons of Columbia University

9:50 **Acute Episodes**
Lewis I. Sharp, M.D., New York City, Director of Psychiatric Division, Bellevue Hospital; Associate Professor of Clinical Psychiatry, New York University College of Medicine

10:10 **Medicolegal Aspects and Inferences**
Morris Herman, M.D., New York City, Visiting Psychiatrist, Bellevue Hospital; Professor of Psychiatry, New York University College of Medicine

10:30 **Problems of the Aged**
Frederic D. Zeman, M.D., New York City, Chief of Medical Service, Home for Aged and Infirm Hebrews; Chairman, Subcommittee on Geriatrics of the Medical Society of the State of New York

10:50 **Modern Medications**
Benjamin H. Balser, M.D., New York City, Psychiatric Consultant, U.S. Military Academy, West Point; Assistant Clinical Professor of Psychiatry, College of Physicians and Surgeons of Columbia University

11:10 *Questions and Answers*

Wednesday, May 9—9 A.M.

West Room, Ballroom Floor

9:00 **Reconstructive Surgery for Compound Injuries of the Hand**
William P. Whalen, M.D., New York City, Chief of Plastic Surgery, St. Vincent's Hospital; Associate Attending Plastic Surgeon, Columbia University Division of Bellevue Hospital

9:20 **Diagnosis of Midfacial Fractures**
William F. Harrigan, M.D., New York City, Director of Oral Surgery, Bellevue Hospital; Professor of Oral Surgery, New York University College of Medicine

9:40 **Sterility Study of the Infertile Patient**
Leonard F. Ciner, M.D., New York City, Associate Attending in Obstetrics and Gynecology, Lenox Hill Hospital; Assistant Clinical Professor of Obstetrics and Gynecology, New York University College of Medicine

10:00 **The Prophylaxis of Rheumatic Fever**
Charles A. R. Connor, M.D., New York City, Assistant Professor of Medicine, New York University Post-Graduate Medical School; Secretary, New York Heart Association

10:20 **Selection of Patients for Cardiac Surgery**
Gerald H. Pratt, M.D., New York City, Attending Surgeon, St. Vincent's Hospital; Associate Clinical Professor of Surgery, New York University College of Medicine

10:40 **Rehabilitation of the Hemiplegic Patient at Home**
Donald A. Covalt, M.D., New York City, Visiting Physician in Physical Medicine and Rehabilitation, Bellevue and University Hospitals; Associate Director, New York University-Bellevue Medical Center Institute of Physical Medicine and Rehabilitation

11:00 *Questions and Answers*

BLOOD BANKS ASSOCIATION OF NEW YORK STATE

Scientific Session

Tuesday, May 8—9 A.M.

Keystone Room, Ballroom Balcony

Greetings
J. Stanley Kenney, M.D., New York City, President, Blood Banks Association of New York State

Announcements
Jacob Geiger, M.D., New York City, Chairman, Scientific Program Committee, Blood Banks Association of New York State

1. **Etiology, Diagnosis, and Management of Fibrinopenic States**
   Mario Stefanini, M.D., Boston, Massachusetts (By invitation), Director of Research Laboratories, St. Elizabeth's Hospital; Associate Professor of Medicine, Tufts College Medical School

2. **Detection of Unusual Blood Groups and Antibodies**
   Leon N. Sussman, M.D., New York City, Transfusionist and Associate Physician, Hematology, Beth Israel Hospital

3. **Cross-Matching Problems**
   Jane Haber, New York City, (By Invitation) Serologist, New York Hospital

PANEL DISCUSSION

Transfusion Hazards

1. **Hemolytic Reactions**
   Alexander S. Wiener, M.D., Brooklyn, Transfusionist, Jewish and Adelphi Hospitals; Serologist, Office of Chief Medical Examiner of New York City

2. **Technical and Clerical Errors**
   Lester J. Unger, M.D., New York City, Director of Blood Bank, New York University-Bellevue Medical Center and St. Luke's Hospital, Woman's Hospital Division

3. **Medicolegal Aspects**
   Jacob Geiger, M.D., New York City, Chief of Blood Bank, Lenox Hill Hospital; Executive Director, Blood Transfusion Association

4. **Uses and Abuses of Transfusion**
   Peter Vogel, M.D., New York City, Associate Physician and Director of Blood Bank, Mount Sinai Hospital; Associate Pediatrician, Hematology, Flower and Fifth Avenue Hospitals

SCIENTIFIC EXHIBITS

Hotel Statler, New York City, May 8 to 11, 1956

William L. Watson, M.D., New York, *Chairman*
Beverly C. Smith, M.D., New York, *Cochairman*
John J. Clemmer, M.D., Albany
Maurice J. Costello, M.D., New York
Harold B. Davidson, M.D., New York
Shirley C. Fisk, M.D., New York
J. G. Fred Hiss, M.D., Onondaga
Frederick Lee Liebolt, M.D., New York
Ernest Witebsky, M.D., Erie

Georgian Room

Booths 201 through 234

Chemotherapy of Acute Leukemia in Children

Joseph H. Burchenal, M.D.
M. Lois Murphy, M.D.
Charlotte T. C. Tan, M.D. (*By invitation*)
Memorial Center for Cancer and Allied Diseases
New York City

The purpose of this exhibit is to show the results of treatment of acute leukemia in children with various chemotherapeutic agents including A-methopterin, 6-mercaptopurine, combination therapy with 6-mercaptopurine plus Azaserine, and other purine analogs. Six representative cases are presented with graphs showing their clinical courses, transparencies of bone marrows, and other illustrations. Information concerning method of administration, dosage, toxicity, and mechanism of action of each agent is presented. Certain statistical information summarizing the over-all results of treatment with these agents is also included. (*Booth 201*)

Unusual Tumors in Childhood

Harold W. Dargeon, M.D.
Memorial Center for Cancer and Allied Diseases
New York City

Complicated problems do not always arise in the diagnosis and treatment of children with cancer. Certain cases, however, present the clinician, surgeon, radiologist, and pathologist with major difficulties. Illustrative cases are exhibited, among which are adrenal cancer and melanoma in a male, four and one-half years; duplication of lower ileum and entire colon in a female, age seven and one-half years; malignant reticuloendotheliosis in a male, age eleven and one-half years; and medulloblastoma and reticuloendotheliosis in a male, age three and one-half years. (*Booth 202*)

Cytodiagnosis of Cutaneous Malignancy

Frederick Urbach, M.D. (*By invitation*)
Eugene A. Burke, B.A. (*By invitation*)
Herbert L. Traenkle, M.D.
Roswell Park Memorial Institute
Buffalo

Smears obtained from the cut surface of curet or punch biopsies of various malignant and benign lesions have been stained by the Papanicolaou technic. A detailed study has been made of the cytology of exfoliated cells thus obtained, and the criteria for differentiation of malignant cells from various types of normal cells will be presented. The accuracy of specific diagnosis of malignancy made by smear preparations compares very favorably with routine histologic sections obtained from the same specimen. It appears that the smear preparation may give specific information in cases where definite histologic diagnosis is difficult. Experimental studies demonstrating the mechanics of exfoliation of cancer cells from tissue specimens will be presented. (*Booth 203*)

Every Doctor's Office a Cancer Detection Center

Theodore J. Curphey, M.D.
Jack W. McElwain, M.D.
Peter Hope-Ross, M.D. (*By invitation*)
Meadowbrook Hospital
Hempstead

The exhibit is designed to emphasize pictorially the current slogan, "Every doctor's office a cancer detection center." The main purpose will be to stress the need for a more general awareness on the part of the profession as to the importance of the early diagnosis of cancer. By means of suitable posters, photographs, drawings, and colored slides the theme will be developed of the importance of a detailed history and physical examination, coupled with biopsy studies of suspicious lesions. Emphasis will be placed on the diagnosis of cancer of the accessible body sites, such as the skin, oropharynx, cervix uteri, and rectosigmoid, embodying the technic of the biopsy, the Papanicolaou smear, etc. (*Booth 204*)

Mold Technology in Radiation Therapy of Deep-Seated Cancer

Bernard Roswit, M.D.
Sol M. Unger, M.D.
Stanley J. Malsky, M.A. (*By invitation*)
Cyprian B. Reid, B.S. (*By invitation*)
Veterans Administration Hospital
Bronx

In the treatment of patients with radiocurable cancer there can be no excuse for a quality of technic which falls in any way short of the highest achievement possible. Mold technology provides the means for greater skill and greater precision in radiation therapy. It is the purpose of this exhibit to illustrate from our own experience this contribution of mold technics. Their wider utilization will serve to enhance the probability for and minimize the risk of serious complication. Mold technics provide opportunities for optimal treatment planning, patient immobilization, radiation protection, radium therapy, research, and education. They are clinically practicable in a radiotherapy service, private or public, large or small. (*Booth 205*)

Office Detection of Uterine Carcinoma

Clyde L. Randall, M.D.
Richard W. Baetz, M.D.
Donald W. Hall, M.D.
Paul K. Birtch, M.D.
University of Buffalo School of Medicine
Buffalo

A total of 10,000 cervical smears and 600 endometrial biopsies are presented to show specific technic of obtaining accurate results. (*Booth 206*)

A Method for the Detection of Regional Node Metastasis in Carcinoma

Sarkis S. Sarkisian, M.D. (*By invitation*)
J. Thornton Boswell, M.D. (*By invitation*)
Manuel A. DeJesus, M.D. (*By invitation*)
Rene I. Jahiel, M.D. (*By invitation*)
Clifford H. Urban, M.D. (*By invitation*)
Roosevelt Jean-Baptiste, M.D. (*By invitation*)
U.S. Naval Hospital
St. Albans

A technic for the location of lymph nodes in radical dissection for malignancy of the thyroid is presented. This clearing method is also being used for all neck, axillary, para-aortic, and bowel dissections. This work is a continuation of the work started by J. W. Pickren. The clearing process is essentially the chemical treatment of the total specimen for the removal of blood and fat which renders the specimen translucent and within which the nodes are readily visualized by transmitted light. This provides a more accurate method of demonstrating the anatomic site and number of nodes. (*Booth 207*)

How to Improve your Basal Body Temperature Studies

Edward F. Keefe, M.D.
St. Vincent's Hospital
New York City

Basal body temperature studies are used as an index of the time and occurrence of ovulation in the treatment of sterility and control of fertility, as the earliest sign of pregnancy, and as a gauge of progesterone production. The exhibit illustrates these uses. A simple system of charting temperatures and the advantages of a special precision thermometer are demonstrated. Common misunderstandings and sources of error are discussed. (*Booth 208*)

Erythroblastosis Fetalis Due to O-A-B Isoimmunization: Its History and Pertinent Facts

Silik H. Polayes, M.D.
Saul Polayes, A.B. (*By invitation*)
Prospect Heights Hospital
Cumberland Hospital
Brooklyn

Exhibit consists of diagrams, photographs, graphs, and excerpts of the literature, all leading to the point that hemolytic disease of the newborn may result from O-A-B immunization as it does in Rh immunization. The illustrations cover these subjects: history, controversy on recognition of the theory, pathogenesis, pathology, immunology, and clinical observations, including treatment and prognosis of erythroblastosis due to O-A-B isoimmunization. A table of differentiation between Rh and O-A-B immunization is included in the exhibit. (*Booth 209*)

Acceleration and Induction of Labor: The Use of Intravenous Pitocin

Martin L. Stone, M.D.
New York Medical College
Flower and Fifth Avenue Hospitals
New York City

The exhibit depicts the present status of the use of posterior pituitary extract prior to delivery. The material covers indications, contraindications, advantages, and safety factors. A specific technic of administration is recommended and described. The pharmacology of the drug is illustrated. Its effect on length of labor and method of delivery is analyzed in over 2,000 cases. The material is presented in text and illustrations to portray graphically the salient points. (*Booth 210*)

Man's Assumption of the Erect Posture and Its Effect on the Position of the Pelvis: Gynecologic and Obstetric Applications

Joshua William Davies, M.D.

Elise Renning, M.D.
Woman's Hospital, Division of St. Luke's Hospital
New York City

The pelvis, abdomen, and thorax of a quadruped is carried horizontally on the fore and hind limbs. It is possible for animals having well-developed hip muscles to raise the torso by rotating the pelvis on the femora. It has been assumed that the erect posture of man was accomplished in a like manner; consequently the pelvis faces upward like a basin. Gynecologic and obstetric therapy is based on the belief that the pelvis rotated 90 degrees to hold the body erect, but recent study reveals that the torso is carried erect on the hindquarters of a quadruped. This requires at least a 45-degree alteration in our accepted forms of obstetric and gynecologic therapy if we wish to apply this finding to treatment. (*Booth 211*)

Traction Hysterography: An Improved Technic for the Diagnosis of Uterine Lesions

Edward Kahn, M.D.
W. Thomas Spain, M.D. (*By invitation*)
Sydenham Hospital
New York University-Bellevue Medical Center
New York City

By straightening the cervicouterine angle with a new cannula traction stand, traction hysterography converts hysterography into a simpler and more accurate office procedure. Transparencies show how traction hysterography eliminates problems in technic. Flexible tips avoid painful sounding; acorns and an inflatable balloon seal the problem cervix. The patient experiences minimal manipulation and discomfort with traction hysterography. Water-soluble contrast medium is injected simply with a syringe after withdrawal of speculum. Traction hysterograms show water-soluble contrast medium injected into the bleeding uterus as an aid in differential diagnosis, with results and follow-up. (*Booth 212*)

Problems in the Clinical and Pathologic Diagnosis of Vulval Lesions

Henry C. Falk, M.D.
Arthur B. Hyman, M.D.
Beth Israel Hospital
New York City

Kodachromes show the clinical features of various vulval problems to indicate the difficulties in clinical diagnosis. Photomicrographs of these lesions are also shown in an attempt at verification of the clinical diagnosis by histologic examination. How far can one correlate the clinical features and the histologic findings in these conditions, particularly in kraurosis? Can one determine, from the clinical and histologic points of view, a definite answer to the question, "What is kraurosis vulvae?" Difficulties in the histologic and clinical diagnosis of various vulvoses are stressed. (*Booth 213*)

Common Plantar Hyperkeratoses

Royal M. Montgomery, M.D.
Daniel Hyman, M.D.
Samuel Brezak, Pod.D. (*By invitation*)
Roosevelt Hospital
Hospital for Special Surgery
New York City

Charts and Kodachrome prints depict the diagnosis and treatment of various types of plantar hyperkeratoses. These include three types of plantar warts (single, multiple, and mosaic type), plantar corns and calluses, neurovascular corns, and plantar radiodermatitis. Also included are a model insole and a shoe showing various types of pads to relieve pressure on these lesions. (*Booth 214*)

Accidents in Childhood

D. McCullagh Mayer, M.D.
Wilson A. Swanker, M.D.
New York Medical College
Flower and Fifth Avenue Hospitals
New York City

The importance of accident prevention, especially in children, cannot be stressed too frequently. The part played by adults, particularly parents and physicians, is graphically portrayed. Each accident type is reviewed, with a suggested program for its prevention. (*Booth 215*)

The Investigative Approaches to the Lung Cancer Problem

Emerson Day, M.D.
E. L. Wynder, M.D. (*By invitation*)
W. E. O'Donnell, M.D.
W. G. Cahan, M.D.
H. W. Farr, M.D.
L. G. Koss, M.D.
G. N. Papanicolaou, M.D. (*By invitation*)
Memorial Center for Cancer and Allied Diseases
New York City

The investigative approaches to the lung cancer problem are considered from three standpoints:

1. *Epidemiologic and Environmental:* This includes a summary of all the environmental factors, especially cigaret smoking, which have been established as playing an important role in the pathogenesis of lung cancer and particularly in its recent sharp rise in incidence. Studies done both at this institution and elsewhere are summarized. The differences and relative advantages of the retrospective and prospective studies are considered.
2. *Laboratory:* The means by which tobacco tar is currently being subjected to biologic testing on laboratory animals are depicted. The various methods of establishing the carcinogenicity of the various fractions of tobacco tar with a view toward their eventual modification or removal from human exposure are depicted.
3. *Clinical:* A representative study of the clinical effects of the long-term smoking habit on human respiratory mucosa is illustrated. (*Booth 216*)

Choline Theophyllinate, A New Oral

Theophylline Compound: A Clinical Pharmacologic Study

Herbert S. Kupperman, M.D.
Sidney Dann, M.D.
Frederick R. Brown, M.D.
Arthur C. DeGraff, M.D.
New York University College of Medicine
New York City

A graphic presentation on the pharmacologic and clinical findings with choline theophyllinate is presented. Choline theophyllinate, a highly soluble and stable salt of choline, a relatively strong base, and theophylline, a weak acid, have been subjected to clinical and pharmacologic studies. After oral administration of choline theophyllinate, theophylline blood levels were some 60 to 70 per cent greater than those observed after comparable doses of aminophylline with or without aluminum hydroxide. Choline theophyllinate proved to be a superior medicament for the control of bronchial asthma as measured by spirometric and clinical studies. It also proved to be a very effective form of therapy for the treatment of premenstrual molimen. Oral administration of choline theophyllinate was associated with less gastrointestinal irritation than that noted after aminophylline with or without aluminum hydroxide. *(Booth 217)*

Pulmonary Cystic Disease: Physiologic Studies and Results of Resection

Donald C. Kent, M.D. *(By invitation)*
U.S. Naval Hospital
St. Albans

The physiologic data of six patients with cystic disease of the lung were selected. The effects of surgical management were studied in three of these patients, two of whom had bilateral resections. Measurements of ventilation-perfusion relationships, of the maximum diffusing capacity, and of the total capacity of each lung individually were used to supplement the customary bilateral and bronchospirometric determinations of ventilation, lung volume, and oxygen uptake. *(Booth 218)*

Apparatus for Determination of Residual Air by Means of the Helium Meter

Arthur Nathan, M.D.
Vincent A. Scialli, M.D. *(By invitation)*
Arthur A. Siebens, M.D. *(By invitation)*
Francis C. Brangwin *(By invitation)*
Veterans Administration Hospital
Castle Point

Utilizing a Cambridge meter indicating percentage of helium in air, we have built an apparatus to determine residual volume. This exhibit shows that an efficient unit may be constructed at moderate cost. Our unit is mounted on a hospital cart; meter power is supplied by an automobile battery connected to a trickle charger; gas circulator is a coal furnace blower; soda lime is homemade of plastic; etc. *(Booth 219)*

Diaphragmatic Hernias

Emil A. Naclerio, M.D.
Aubre de L. Maynard, M.D.
Harlem Hospital
New York City

The exhibitors have had the opportunity to treat a series of diaphragmatic hernias representative of the various types. The symptoms in these patients varied widely. Some patients were asymptomatic, while others had symptom complexes referable to other disease entities which were diagnosed and treated as such. In addition, the accepted methods of surgical treatment are discussed. The results of the cases surgically treated are presented by means of lantern slides. A simple diagram demonstrating clearly and simply the embryology of the diaphragm relative to hernia formation is also shown. *(Booth 220)*

Cleft Palate Program of New York Hospital-Cornell Medical Center

Herbert Conway, M.D.
B. Herold Griffith, M.D. *(By invitation)*
Harry Borg, D.D.S. *(By invitation)*
Robert M. Cole, D.D.S. *(By invitation)*
Mrs. Senta Jensen *(By invitation)*
New York Hospital-Cornell Medical Center
New York City

The details of complete care of the patient with hare lip and cleft palate are portrayed. Details of management in the uncomplicated cases with information on the timing of surgery, orthodontics, and speech therapy are presented. Management of the complicated cases also is portrayed, with description of the rehabilitative surgical procedure, the push-back and pharyngeal flap operation. Statistical data are listed. Cineradiography, with simultaneous sound-recording function of palate after pharyngeal flap operation, is included. *(Booth 221)*

Plastic Surgery and the Pediatrician

Michael L. Lewin, M.D.
Sydenham Hospital
Bronx Hospital
New York City

Plastic surgery cases of interest to the pediatrician will be presented. These include congenital and acquired deformities in children. Examples of facial clefts, varied tumors, and deformities of extremities and genitalia will be presented and the treatment outlined. Problems of treatment of trauma, burns, and lacerations as related to children will be discussed. The purpose of the exhibit is to familiarize the pediatrician with the surgical problems in some of the cases he may see in his practice. *(Booth 222)*

Cleft Palate Rehabilitation Center

Jewish Chronic Disease Hospital
Brooklyn

The value of an integrated team approach in rehabilitation of the child with a cleft palate is demonstrated. No individual member of the team assumes the responsibility for the mode or order of therapy. Instead the treatment plan arises from the collective decision of all the team personnel after complete diagnosis and evaluation. The specialized services in the group are surgery, pediatrics, pedodontics, orthodontics, prosthodontics, psychiatry, neurology, physiotherapy, and social service. All contacts with parents are made through a spokesman, the coordinator, who relates the decisions to the parents and child and advises the family on mode of procedure. (*Booth 223*)

The Use of Powdered Gelatin Foam in the Treatment of Vascular Ulcers

Samuel Feldman, M.D.
Joseph Goodgold, M.D.
Murray M. Mahl, M.D.
Beth-El Hospital
Brooklyn

A detailed classification of the ulcers due to arterial and venous insufficiency will be followed by a method for the treatment of these ulcerations using powdered gelatin foam. Kodachromes illustrate the course and end results of such treatment. Results obtained in about 200 cases are evaluated by statistics. (*Booth 224*)

Your Heart Association Serves the Physician

New York Heart Association
New York City

The New York Heart Association and the New York Heart Assembly jointly present this exhibit which contains a few of the ways in which heart associations throughout New York State are eager to serve the physician through research, scientific information, and educational aids. Presented here are publications and audiovisual material such as the Cardiac Clinic Kit, Cardio-Views, and a new functional heart model now available. (*Booth 225*)

Prevention of Rheumatic Fever

New York Heart Assembly
The New York Heart Association
Heart Disease Subcommittee of the Public Health and Education Committee of the Medical Society of the State of New York
New York City

This exhibit shows the three phases in the prevention of rheumatic fever, diagnosis of the original streptococcal infection, and treatment and prevention of further attacks in rheumatic individuals. A review of the signs and symptoms of streptococcal infection as well as mode of treatment and prevention are presented. This and other professional material are available to all physicians in New York State through their local heart association. (*Booth 226*)

Peripheral Arterial Disorders: Methods of Investigation and Diagnosis

Saul S. Samuels, M.D.
Brooklyn Hebrew Home and Hospital for the Aged
Brooklyn

The clinical and laboratory methods employed presently in the investigation and evaluation of patients with disorders of the arterial system in the extremities will be presented. These include tests available to any clinician as well as the tests which require more elaborate equipment, such as the plethysmograph, radioactive isotope facilities, etc. Some of these facilities are available in our laboratory, while other tests to be presented will be based upon the experiences of other investigators as reported in the literature or conveyed to us by personal communication.

The exhibit is meant to be primarily of didactic value to the practicing physician interested in significance and applicability of the newer technics. Indirectly, it should serve the field of preventive medicine by teaching the early recognition of arterial insufficiency, thus preventing its dangerous sequelae. (*Booth 227*)

Diagnosis of Schistosoma Mansoni Infection By Sigmoidoscopy and Rectal Mucous Membrane Biopsy

Benjamin W. Warner, M.D.
Lincoln Hospital
New York City

The exhibit will indicate geographic distribution of the parasite in relation to present Puerto Rican population on the mainland of United States. The life cycle of the parasite will be demonstrated by drawings. Localization in the portal venous system with resultant cirrhosis of the liver, splenomegaly, and portal hypertension will be illustrated by drawings and photographs. Lesions of rectal and sigmoidal mucosa noted on proctosigmoidoscopy will be recorded. The rapid and accurate diagnosis of Schistosoma mansoni by biopsy of rectal mucous membrane will be demonstrated by model, photographs, and microscope. (*Booth 228*)

Adenomas of the Colon and Rectum

Robert Turell, M.D.
Robert Paradny, M.D.
Aubre de L. Maynard, M.D.
New York City

This exhibit deals with the incidence, distribution, types, genesis, familial tendency, cancer potential, and treatment of discrete, single, or multiple scattered adenomas. Practically all of these items are illustrated by means of black and white and colored gross and/or microscopic transparencies. The text is precise, clear, and short. The major portion of the exhibit is devoted to treatment and illustrates the newest electrothermic methods and surgical technics. (*Booth 229*)

The Prevention of Massive Aspiration During General Anesthesia

Joseph G. Giuffrida, M.D.
Dante Bizzarri, M.D.
Columbus Hospital

City Hospital
New York City

Aspiration of stomach contents during general anesthesia occurs frequently in patients with a full stomach and is a leading cause of anesthetic death and postoperative morbidity. A technic of esophageal intubation which has proved effective in the prevention of aspiration will be demonstrated. (*Booth 230*)

Clinical Applications of Intraosseous Venography

Franz Lessman, M.D. (*By invitation*)
Elliot C. Lasser, M.D.
Robert Schobinger Von Schowingen, M.D. (*By invitation*)
Paul Zuckerman, B.S. (*By invitation*)
Roswell Park Memorial Institute
Buffalo

The manner in which venography, by this unique method, can be utilized as an aid in the differential diagnosis of thoracic tumors, expanding lesions within the vertebral canal, and isolated osteolytic bone tumors will be illustrated. (*Booth 231*)

Diagnosis by Gastroscopy: Hemorrhagic Lesions in the X-ray Negative Stomach

Emmanuel Deutsch, M.D. (*By invitation*)
Daniel L. Shaw, Jr., M.D. (*By invitation*)
Tufts College Medical School
Boston, Massachusetts

When a definite bleeding point during gastric hemorrhage is not discovered by x-ray, then gastroscopy can be of considerable help. This exhibit includes slides of drawings and photomicrographs showing acute mucosal ulceration and multiple erosions, sliding hiatus hernia, a small broad-based polyp, gastric purpura, anastomotic ulcer, ectasia of gastric mucosa, and a circumscribed carcinomatous ulcer. It also illustrates the value of gastric biopsies and aspiration taken during gastroscopy. The mechanism and clinical features of gastric hemorrhage in the stomach which is normal on x-ray are presented, together with illustrative cases. (*Booth 233*)

Diaphragmatic Hernia: A Cause of Anemia

Richard F. Platzer, M.D.
James M. Flanagan, M.D.
Clifton Springs Sanitarium and Clinic
Clifton Springs

The exhibit consists of illustrations of the x-ray appearance of types of diaphragmatic hernia which cause anemia. Charts demonstrate the incidence and severity of anemia, sex incidence, and incidence of other pathologic conditions. (*Booth 234*)

Ballroom

The Directory

Medical Society of the State of New York

Publishing the *Medical Directory of New York State* is one of the important functions of your State Society. The current edition carries the biographic data for approximately 30,000 physicians now practicing in New York State and valuable information relating to voluntary hospitals, as well as material relating to the State Society. Your suggestions for organization and presentation of *Directory* data are invited.

New York State Journal of Medicine

Official Publication
of the
Medical Society of the State of New York

Physicians are invited to visit the Journal booth where staff members will conduct brief interviews. We will be glad to get reactions to the many improvements that have been made and to discuss any material that may be of special interest. A readership survey will be conducted.

Building Better Medical Public Relations

Public and Professional Relations Bureau
Medical Society of the State of New York

This exhibit will show, through various visual demonstrations, examples of the many projects undertaken by the Bureau in its affirmative program of building better internal professional relations and developing closer external public relations between the people of the Empire State and the medical profession.

Voluntary Prepaid Blue Shield Medical Care plans

Bureau of Medical Care Insurance
Medical Society of the State of New York

Two graphic exhibits will illustrate the growth in membership and benefits paid to members for the period 1940–1955. Descriptive material of seven plans in New York State and the Tenth Annual Progress Report of the plans' activities regarding membership, earned premium income, utilization, claims, administrative costs, surplus, etc., will be presented.

Ballroom Balcony

Booths 301 through 332

The Problem of the Nonadherent Surgical Dressing

James F. Connell, Jr., M.D.
William E. Philip, M.D. (*By invitation*)
Francis Gilbertson, M.D. (*By invitation*)

Louis M. Rousselot, M.D.
St. Vincent's Hospital
New York University-Bellevue Medical Center
New York City

A critical evaluation of 128 new and old materials as contact dressing for the protection of the surgical wound is presented. It has been our interest to develop a scientific method for appraising the new materials in all categories of tissue injury, such as donor sites, burns, ulcers, skin grafts, and operative wounds. Dressings are tested for flexibility, nonadherence, porosity, and as hypersensitivity allergens. (*Booth 301*)

Serum Glutamic Oxalacetic Transaminase: Variations in Heart and Liver Disease

John S. LaDue, M.D.
Felix Wroblewski, M.D.
Memorial Center for Cancer and Allied Diseases
New York City

The variations in serum glutamic oxalacetic transaminase activity in experimental myocardial infarction, ischemia, and streptococcal toxic myocarditis will be compared with the serum enzyme changes observed in clinical myocardial infarction, coronary insufficiency, and rheumatic carditis. The dynamic changes in SGO-transaminase activity in experimental toxic and viral hepatitis will be compared with the changes observed in clinical carbon tetrachloride poisoning and infectious and homologous serum hepatitis. The variations in SGO-transaminase activity in cirrhosis and the significance of the increased activity in metastatic carcinoma to the liver will be demonstrated. (*Booth 302*)

A Simple Surgical Procedure for the Treatment of Chronic Coronary Heart Disease

Samuel A. Thompson, M.D.
Aaron Plachta, M.D.
Maurice S. Mazel, M.D. (*By invitation*)
New York Medical College,
Flower and Fifth Avenue Hospitals
New York City

The exhibit shows the pathology of coronary occlusion, as well as the technic of operation and how the procedure increases the blood supply of the myocardium, by formation of a granulomatous pericarditis, which acts as a source of collateral blood supply from the pericardial and epicardial regions. (*Booth 303*)

The Octogenarian Electrocardiogram

Maxwell L. Gelfand, M.D.
New York University Post-Graduate Medical School
New York City

The purpose of this study is to re-evaluate the electrocardiographic findings of 35 patients over eighty years of age, not confined to an old age home, but met with in private practice, either visiting the office for a general checkup or in a hospital for an ailment other than that referable to the heart itself. Many had associated diseases, some of which required extensive surgical procedures. About one third of this group had normal tracings, and the remainder presented a variety of abnormalities. Despite the latter findings many of these were able to withstand surgery well, and many reached the octogenarian age despite longstanding abnormal electrocardiograms. (*Booth 304*)

A New Surgical Approach in Fallopian Tuboplastic Surgery

Abner I. Weisman, M.D.
Mortimer S. Weinstein, M.D.
Alfred Tanz, M.D.
New York Medical College
Flower and Fifth Avenue Hospitals
Metropolitan Hospital
New York City

The exhibit consists of charts and illustrations together with animated personalized demonstrations and discussions of the authors' new technics in tuboplastic repair for tubal obstruction. The disadvantages of earlier technics will be pointed out and the advantages of the new steps in fallopian tube reconstruction presented for consideration. New instruments specially designed for the tuboplasty operations will be exhibited. (*Booth 305*)

The C-Reactive Protein Determination in Heart Disease

Irving G. Kroop, M.D.
Nathan H. Shackman, M.D.
Jewish Chronic Disease Hospital
Jewish Hospital of Brooklyn
Brooklyn

The presence of C-reactive protein in the blood is a sensitive but nonspecific indicator of tissue necrosis and inflammation. In the absence of other stimuli for its formation, serial C-reactive protein determinations have proved an excellent index of rheumatic activity and thereby a guide for adequate steroid therapy. The test has also been valuable in assessing the subsidence of inflammation in myocardial infarction, postcommissurotomy syndrome, and nonspecific myocarditis-pericarditis. Furthermore, in coronary insufficiency with only RS-T and T-wave changes in the electrocardiogram, a positive test is diagnostic of significant myocardial necrosis. The C-reactive protein determination will be compared with the sedimentation rate, plasma fibrinogen, and serum glutamic oxalacetic transaminase. (*Booth 306*)

Tuberculous Arthritis

Edward F. Hartung, M.D.
New York University Post-Graduate Medical School
New York City

The exhibit deals with statistics on the incidence of tuberculous arthritis, which is still a problem, and outlines the diagnosis and treatment of the disease. There are x-rays of the two types of tuberculous arthritis, the osteosclerotic and osteolytic type, and a transparency of a biopsy specimen taken from a tuberculous joint. *(Booth 307)*

New York State Emergency Medical Supplies

Civil Defense Committee
Medical Society of the State of New York

An exhibit prepared by the New York State Department of Health, Office of Medical Defense, for the Civil Defense Committee of the Medical Society of the State of New York, shows the distribution of State emergency medical supplies stockpiled for enemy attack or natural disaster. Charts show the lines of communication and supply between the various emergency installations and depots. A map of New York State indicates the locations of the stockpiled supplies and lists type and quantity. A photomural of civil defense forces in action during a natural disaster is shown. *(Booth 308)*

Abrasion Cytologic Instruments for Early Cancer Detection

Kenneth Sheldon MacLean, M.D.
New York City

New instruments or accessory instruments are presented, useful as aids in early cancer diagnosis. They resemble, whenever possible, instruments in common use and incorporate the use of disposable parts (abraders) which may be wire brushes or may be made of plastic material or rubber in which bristles have been imbedded.

Cytologic material from certain heretofore inaccessible parts of the body is actually abraded and transferred directly to microscopic slides for staining, eliminating many tedious and time-consuming steps of processing. Adequate specimens for interpretation are obtained, and the cells, whether normal or malignant, take good stains and are easily recognized. *(Booth 311)*

Medical Procedure in Workmen's Compensation

Willis M. Weeden, M.D.
New York State Workmen's Compensation Board
New York City

This exhibit is presented for the purpose of educating the medical profession in workmen's compensation procedures and, thus, bringing about better cooperation between those treating claimants and the Workmen's Compensation Board. This will result in benefits to both. Illuminated charts, pertinent points of the law, and photographs will be shown. *(Booth 312)*

Resuscitation of the Newborn Infant

Carl Goldmark, Jr., M.D.
Harold Abramson, M.D.
Special Committee on Infant Mortality of the Medical Society of the County of New York
New York City

Some of the main problems connected with resuscitation will be summarized in concise form for all those concerned with the care of the newborn infant. The exhibit is based on the results of two years of deliberation of the Special Committee on Infant Mortality of the Medical Society of the County of New York. The following topics will be critically reviewed in the form of diagrams, charts, and tables: (1) physiology of fetal and neonatal respiration and factors responsible for respiratory distress; (2) prophylaxis and treatment, with particular consideration of drugs and gases used in resuscitation; (3) evaluation of the mechanical aids employed for the initiation and maintenance of adequate ventilation in newborn infants; (4) responsibility, education, and training of those responsible for resuscitation of newborn infants; and (5) important avenues of future research. *(Booth 313)*

Muscular Dystrophy Associations of America, Inc.

New York City

Early postural changes and manifestations in advanced stages of muscular dystrophy are described. Photographs show therapeutic exercises for muscle toning and use of the hydraulic lift. Locations of research centers are shown. Available literature is described. *(Booth 314)*

Twenty-Five Years of Otolaryngology In a University Hospital

Edmund P. Fowler, Jr., M.D.
Franz Altmann, M.D.
Milos Basek, M.D.
Daniel C. Baker, Jr., M.D.
Herbert S. Friedman, M.D.
DeGraaf Woodman, M.D.
Bela Marquit, M.D.
Vladimir Epanchin, M.D. *(By invitation)*
Donald Markle *(By invitation)*
Columbia-Presbyterian Medical Center
New York City

Basic ear, nose, and throat principles in 1930 are compared with additions made in last twenty-five years. Emphasis is on advances made by individuals on staff of Columbia-Presbyterian Medical Center. Photographs, dissections, instruments, and models show fenestration surgery, stapes mobilization, facial nerve surgery, surgery of meatal atresia, and medical management of Ménière's disease. In addition, functional rhinoplasty, laryngeal stenosis, bilateral abductor paralysis, endoscopy, audiology, and speech are presented. *(Booths 315 and 316)*

Salk Vaccine

Herman E. Hilleboe, M.D.
James J. Quinlivan, M.D.
Frank Litto, B.S. *(By invitation)*
New York State Department of Health
Albany

An exhibit on Salk vaccine emphasizes its safety and effectiveness and encourages its use among children. This portrayal points up New York State's experience with this poliomyelitis vaccine. *(Booth 317)*

Hypertension: Pharmacodynamics of Therapy

John H. Moyer, M.D. (*By invitation*)
Ralph Ford, M.D. (*By invitation*)
Edward Dennis, M.D. (*By invitation*)
Robert McConn, M.D. (*By invitation*)
Baylor University College of Medicine
Houston, Texas

This exhibit centers around the pharmacodynamics of various drugs that are used for the treatment of hypertension. An attempt will be made (1) to show how drug responses of hypertensive patients give information relative to etiologic factors in the origin of hypertension, (2) to demonstrate renal responses to blood pressure reduction with various antihypertensive agents, especially pentolinium, (3) to present an animated illustration of the origin of hypertension and the sites of drug action when treating this disease, and (4) to present the clinical application of these principles for the practicing physician. (*Booth 318*)

Penicillin V: Phenoxymethyl Penicillin

Burtis B. Breese, M.D.
Mark H. Lepper, M.D. (*By invitation*)
Edward F. Roberts, M.D. (*By invitation*)
University of Rochester School of Medicine and Dentistry
Rochester

This exhibit presents the structural formula, stability and solubility, animal toxicity, bacterial spectrum, clinical pharmacology (blood absorption and urine excretion), and the therapeutic efficacy of this new type of penicillin, a crystalline free acid. Comparisons with buffered potassium penicillin G emphasize the advantages of penicillin V. (*Booth 319*)

A New Thyroid Hormone: Tri-iodothyronine

Grosvenor W. Bissell, M.D.
University of Buffalo School of Medicine
Veterans Administration Hospital
Buffalo

Recently a new thyroid hormone, tri-iodothyronine, has been isolated. Although qualitatively similar in action to thyroxine, it has marked quantitative differences. There is much to suggest that this is the active form of thyroid hormone. This exhibit delineates the biochemistry, physiology, and pharmacology of tri-iodothyronine and demonstrates its practical usefulness in the diagnosis and therapy of thyroid disorders. (*Booth 320*)

A Career: Medical Technologist

Empire State Association of Medical Technologists, Inc.
New York City

The purposes of the Association are to promote higher standards in clinical laboratory methods and research, to elevate the status of those specializing in medical laboratory technics, to create mutual understanding between the medical technologist and physicians and all others who are employed in the interest of individual or public health, and to promote the mutual aid and benefits of its members.

Brochures will be available to those wishing to know the requirements of becoming a Registered Medical Technologist (approved by the American Society of Clinical Pathologists) and the names of the approved hospitals where training may be received. (*Booth 321*)

Peripheral Arterial Insufficiency: An Evaluation of Vasodilating Measures

Irwin D. Stein, M.D.
Mount Vernon Hospital
Mount Vernon

Most ganglionic blocking agents are skin vasodilators and should be employed in the treatment of areas where skin circulation predominates or where a specific effect is desired, as in the prevention of trophic changes in the digits, the management of Raynaud's phenomena and sweating, or therapy of ulcerating lesions of the hands and feet. In comparison there are far fewer measures which have an influence on intermittent claudication, the major symptom of muscle ischemia.

The exhibit portrays differences in function between skin and muscle circulations, the regulation of blood flow to each, and the effectiveness of vasodilating measures in common use. (*Booth 322*)

Recent Advances in Biliary Tract Visualization: Cholangiography with Orally and Intravenously Administered Contrast Media

William H. Shehadi, M.D.
New York Polyclinic Medical School and Hospital
New York City

This is a presentation of the progress made and the technic used in the visualization of the biliary tract by oral cholangiography, using Telepaque and intravenous cholangiography by means of Cholografin methylglucamine.

The technic of administration of these contrast media and the method of examination of patients are presented in adequate detail. The indications and contraindications for the use of each are stressed. Cases illustrating the normal anatomy and physiology are presented. A variety of pathologic conditions is demonstrated by the use of both Telepaque and Cholografin methylglucamine. (*Booth 323*)

Heart Pain: Mechanisms and Relief

Joseph T. Roberts, M.D.
Veterans Administration Hospital
University of Buffalo School of Medicine
Buffalo

Our research on blood vessels in nerves shows that they respond to many stimuli and are of help in explaining symptoms or changes in many areas of the body. Cardiac referred pain is explained as due to ischemia of the somatic nerves of the arm, chest wall, or other areas. In animals we saw spasm of the vasa nervorum in left arm after ligating coronary artery with no change in right arm. Ischemia lowers threshold of irritability in nerves. Mixed nerves show variation in symptoms related to pain, temperature, position, pressure, motor or autonomic fibers being stimulated. The variation in clinical heart pain is explained by this theory, as is the "silent" infarct, painless hypertrophy of heart, the common shoulder-hand syndrome, Dupuytren's contracture, and other sequels.

In relief of heart pain, emphasis is given to (1) long-term, low-level use of anticoagulants guided chiefly by "watching for blood by the patient," (2) surgical revascularization of hearts, e.g., by Roberts' arteriolization of coronary sinus, older methods, and several newer approaches, (3) "group therapy of heart patients" where convalescent "cardiacs" freely discuss all aspects of heart disease. Experimental ways of causing coronary artery stenosis for study are compared with a newer simple method. (*Booth 323A*)

Peculiar Degenerative Arthritic-Like Changes of the Vertebral Column

Charles J. Sutro, M.D.
Morris Witten, M.D.
David E. Ehrlich, M.D.
Veterans Administration Regional Office
Brooklyn

A type of degenerative process of the vertebral column which simulates ankylosing and classic osteoarthritis will be illustrated. The differential diagnosis of these conditions will be stressed. (*Booth 324*)

The Effect of Large Doses of Insulin on the Blood Sugar of Normal and Diabetic Rabbits

Bruno W. Volk, M.D.
Sydney S. Lazarus, M.D. (*By invitation*)
Jewish Chronic Disease Hospital
Brooklyn

The intravenous or subcutaneous administration of regular insulin to cortisone-pretreated rabbits causes a marked initial hyperglycemia, the height of which depends on the amount of glucagon present in the insulin preparation. Similarly, the time of return to fasting and of maximum hyperglycemic response depends on the presence of glucagon. In untreated rabbits, however, only a slight initial hyperglycemia after insulin administration is observed. The experiments indicate that the insulin-antagonistic effect of cortisone is probably due to its potentiation of the action of glucagon. The significance of these findings as related to the therapeutic use of insulin will be discussed. (*Booth 325*)

Opportunities in the U.S. Public Health Service

H. C. Huntley, M.D. (*By invitation*)
U.S. Public Health Service
New York City

A recruiting exhibit for the U.S. Public Health Service appeals to the health worker to join the Commissioned Corps for service in the fields of clinical, medical, research, and preventive medicine or to sign up with the Inactive Reserve for duty in national emergencies. (*Booth 326*)

The Urogenital Sinus and Hermaphroditism

Nathaniel Finby, M.D.
Albert J. Paquin, M.D.
John A. Evans, M.D.
David H. Baker, M.D. (*By invitation*)
New York Hospital-Cornell Medical Center
New York City

Persistent urogenital sinuses are seen in female pseudohermaphrodites, male pseudohermaphrodites, and in true hermaphrodites. The presence of a urogenital sinus or its radiographic appearance is not diagnostic of the type of hermaphroditism.

Cystourethrography is a valuable diagnostic procedure for the demonstration of the urogenital sinuses in patients with congenital genital anomalies or the adrenogenital syndrome. Other important diagnostic aids include careful clinical study, blood electrolyte determination, and urinary 17-ketosteroid levels. The sex of the patient is never known with certainty without gonadal biopsy. (*Booth 327*)

Diet and Dental Caries

H. H. Neumann, M.D.
N. A. DiSalvo, D.D.S. (*By invitation*)
College of Physicians and Surgeons of Columbia University
New York City

The causes of tooth decay are described. The presented views are not entirely in agreement with many of the currently emphasized concepts, some of which seem overrated in their influence on caries tendencies. These include the role of heredity, climate, oral hygiene, dietary balance and calcium intake, and biochemistry of the food and of the drinking water. Based on world-wide observations among many more and less civilized tribes practically without caries, the presented views place the primary emphasis principally on a load deficiency of our modern diet, that is, on a biophysical rather than a biochemical factor. (*Booth 328*)

Clinical Application of Reserpine

Alfred M. Stanley, M.D.
Nathan S. Kline, M.D. (*By invitation*)
Joseph A. Barsa, M.D.
Ernest Gosline, M.D.
Rockland State Hospital
Orangeburg

The clinical results in the treatment of over 2,000 patients with reserpine are demonstrated. The use of the drug on the admission service, on the chronic disturbed wards, and with adolescent patients is itemized. Improvement in respect to duration of illness, age of the patients, diagnosis, and other factors is presented in suitable tables. The treatment routine and the expected course of patients' behavior during treatment are discussed. (*Booth 329*)

Penicillin Reactions: Less than 1 Per Cent in Over 19,000 Patients

Maurice Kamp, M.D. (*By invitation*)
Clarence A. Smith, M.D. (*By invitation*)
Department of Health, Education, and Welfare
Washington, D.C.

The low rate of incidence of penicillin reactions that occurred in a significant sample of the clinic population of approximately 350,000 persons requiring penicillin therapy each year for a venereal disease is illustrated. (*Booth 330*)

The Biology of Mental Disorder in the Aged

John R. Whittier, M.D.
Creedmoor Institute for Psychobiologic Studies
Queens Village

The multiple etiology of mental disorder in the aged is presented. Contributions to disorder are grouped as genetic, experiential, and circumstantial, and contingency of the contributions is defined. The present subjects for research and treatment orientation are listed, and quotations of authorities summarize the present state of knowledge and demonstrate the contributions. The presently accepted diagnostic syndromes of maladaptation in the aged and epidemiologic and economic manifestations of disorder are demonstrated by graphs and histograms. (*Booth 331*)

Prednisone and Prednisolone in the Treatment of Allergic Diseases

Earl B. Brown, M.D.
Thomas Seideman, M.D.
Laurence L. Palitz, M.D.
Montefiore Hospital
New York City

Prednisone and prednisolone having proved effective in the treatment of rheumatoid arthritis, a study was undertaken to determine the efficacy of these new corticosteroids in various types of allergic diseases. In the study 181 patients with various allergic conditions were given prednisone or prednisolone, and 78 hay fever patients were used as controls. Charts and graphs show the effectiveness of these drugs in seasonal and perennial allergic rhinitis, bronchial asthma, and various skin conditions. (*Booth 332*)

SCIENTIFIC MOTION PICTURES

Tuesday, May 8, through Friday, May 11

Dartmouth Room, Ballroom Floor

Colgate Phillips, M.D., Westchester, *Chairman*
John H. Talbott, M.D., Erie, *Cochairman*
E. Dean Babbage, M.D., Erie
Lester L. Coleman, M.D., New York
Samuel Zwerling, M.D., Kings
Martin J. Healy, Jr., M.D., Westchester

Your committee has tried again this year to enlarge and diversify the scope of the motion picture program. The films listed below have been tentatively chosen for showing. Detailed schedule of the program will be listed in the Convention booklets and is at present awaiting final confirmation of availability of the films.

1. **Breast, Self-Examination** (15 minutes)
   This film, sponsored by the American Cancer Society, the National Cancer Institute, and the United States Public Health Service, reviews the technic of self-examination which should be of interest to many.

2. **Uterine Cancer—The Problem of Early Diagnosis** (33 minutes)
   Another film by the same sponsors in the "Early Diagnosis" series. These films have all been well received. The present one includes the technic of vaginal smear.

3. **Principles of Respiratory Mechanics** (22 minutes)
   By the Department of Physiology, Harvard School of Public Health. This new film (1955) showing lung behavior in normal and pathologic states emphasizes the basic concepts of elasticity, resistivity, and pressure-volume relationships.

4. **Recording Oximeters and Their Applications** (15 minutes)
   Another film produced in 1953 by John F. Perkins, M.D., and William E. Adams, M.D., of the University of Chicago School of Medicine. It should have interest for many convention visitors for the recent developments in this field and their immense practical application.

5. **Streamline Flow in Veins** (10 minutes)
   Produced in 1954 by Dr. D. A. McDonald and Dr. E. P. W. Helps, Medical College, St. Bartholomew's Hospital, London, England. It has just been added to the American Medical Association Film Library because of its excellence and should be of interest to anyone concerned with the physiology of circulation.

6. **Surgical Technics of the Several Types of Skin Grafts** (33 minutes)
   By Herbert Conway, M.D., New York City. Chosen by the committee as an excellent presentation and review of surgical technic.

7. **Pheochromocytoma** (17 minutes)
   A brand-new 1955 film by Kenneth E. Sawyer, M.D., William M. M. Robinson, M.D., and Robert E. McCurdy, M.D., of Denver. Demonstrates the successful management of a case including the history, findings, laboratory procedures, and treatment.

8. **Surgical Treatment of Diverticulitis of the Sigmoid** (33 minutes)
   By R. Kennedy Gilchrist, M.D., Chicago. Using an obese, poor-risk patient for illustration, the various stages of pathology, the indications for surgery, and the type of procedures available are discussed. Should interest surgeons and internists alike.

9. **A Positive Approach to the Psychiatric Patient** (28 minutes)
   Produced in 1955 and obtained from the Veterans Administration, it presents a subject of particular interest to the profession.

10. **Radical Resection of the Maxilla with Prosthetic Restoration** (33 minutes)
    By Martin Healy, M.D., Yonkers. A

beautiful presentation for all surgeons interested in this subject. Just released.

11. **Early Management of the Severely Burned Patient** (22 minutes)
    Produced in 1955 by Edwin H. Ellison, M.D., and Roger D. Williams, M.D., Columbus. The committee feels that the excellence of this film, with its presentation, should make it of interest to all.

12. **Ruptured Lumbar Disks: Treatment by Vertebral Body Fusion** (20 minutes)
    Produced in 1954 by Ralph B. Cloward, M.D., Chicago. Another film of wide interest which shows diagnosis by clinical examination and x-ray studies.

13. **Patent Ductus Arteriosus** (20 minutes)
    This classic in its field presents the physiology and clinical considerations, together with surgical treatment. Produced by George H. Humphreys, II, M.D., New York City.

14. **The Management of Obesity** (24 minutes)
    Produced in 1954 by Norman Jolliffe, M.D., New York City. A good instructive film recommended by the A.M.A. for general practitioners.

15. **Bronchopulmonary Segments** (31 minutes)
    Produced in 1955 by Chevalier Jackson, M.D., John F. Huber, M.D., and Charles M. Norris, M.D., Philadelphia. Part I gives anatomy and bronchoscopy, and demonstration is made with models, drawings, and bronchoscopic views.

16. **Aortic Graft for Abdominal Aneurysm** (20 minutes)
    Released in 1955 by A. W. Humphries, M.D., and O. B. Better, M.D., Cleveland. An excellent presentation of a timely subject.

17. **Intravenous Anesthesia with Barbiturates** (34 minutes)
    Produced under the sponsorship of the American College of Surgeons and the American Society of Anesthesiologists. Highly recommended by the committee as an excellent presentation of the subject.

18. **Gait** (33 minutes)
    Produced at the National Hospital, London, England, by Dr. E. A. Carmichael, assisted by Miss R. M. Hern, F.C.S.P. An unusually interesting film correlating types of gait with various neurologic lesions.

19. **Routine Anorectal and Sigmoidoscopic Examination with Differential Diagnosis** (30 minutes)
    By Malcolm R. Hill, M.D., Los Angeles. Emphasizes simplicity and importance of examination with effective routine.

20. **Pitfalls in the Management of Refractory Heart Failure** (35 minutes)
    Produced at Georgetown University by Harold Jeghers, M.D., and W. Proctor Harvey, M.D., by the Medical Film Guild. Just released. Highly recommended for its concise presentation of the subject and excellent photography.

21. **Peripheral Vascular Disease—Physiology and Efficacy of a New Therapeutic Agent** (30 minutes)
    Filming done by Medical Film Guild at Syracuse University, New York Eye and Ear Infirmary, Boston University and College of Physicians and Surgeons of Columbia University. Just released.

22. **Progressive Muscular Dystrophy (Duchenne type)—Course and Progress of the Disease** (17 minutes)
    Prepared by Karl E. Mason, Ph.D., and Jane B. Shumway, M.D., of the University of Rochester Medical Center. It presents the subject in split-frame sequence. Because of late application, this film has not yet been reviewed but will be seen and included in the program if it can be arranged.

The committee hopes to obtain a feature program to be presented on Friday morning, May 11, a Videclinic:

Coronary Artery Disease (1 hour 47 minutes)—Originally produced for closed-circuit television, the program is opened by President Eisenhower. Medical participants are heard from New York City, Boston, Cleveland, Chicago, Minneapolis, and New Orleans. The New York panel consists of Drs. Herrman L. Blumgart, E. Cowles Andrus, Howard B. Burchell, Howard P. Lewis, and Francis C. Wood. Reports from other cities are made by Drs. Paul D. White, Frederick J. Stare, Irvine H. Page, Ancel Keys, David P. Barr, Howard P. Sprague, Louis N. Katz, and George E. Burch.

The committee is again most grateful for the cooperation of the Medical Film Guild, Ltd. and of its president, Mr. Joseph Hackel. The Guild will again handle all our films and present them at the Convention. We wish to call attention to films number 20 and 21 listed above, which the Medical Film Guild produced, as well as to their fine list of films which are available upon request at the Convention.

Woman's Auxiliary
to the MEDICAL SOCIETY OF THE STATE OF NEW YORK

20th Annual Convention

Hotel Statler, New York City, May 6 to 10, 1956

THE 20th Annual Convention of the Woman's Auxiliary to the Medical Society of the State of New York will be held May 6 to 10, 1956, at the Hotel Statler, New York City. All doctors' wives, whether members of a woman's auxiliary to a county medical society or not, are urged to register at the Registration Desk. They are cordially invited to attend all general sessions and social activities and to visit the Hospitality Room, *Sutton Room*, on the Mezzanine Floor.

Program

Sunday, May 6

5 P.M.—8 P.M.	Registration of Delegates, Alternates, Guests, and Social Functions—*Mezzanine*
8 P.M.—10 P.M.	Reception—*Washington Room, Mezzanine*

Monday, May 7

8:30 A.M.—4:30 P.M.	Registration of Delegates, Alternates, Guests, and Social Functions—*Skytop Foyer, 18th Floor*
9 A.M.—12 NOON	Round Table Discussions—*Skytop, 18th Floor*
9:30 A.M.—11:30 A.M.	Board of Directors Meeting—*Washington Room, Mezzanine*
1 P.M.—3:30 P.M.	House of Delegates—*Skytop, 18th Floor*
4 P.M.—6 P.M.	Tea in honor of Past Presidents—*Hotel Pierre*

Tuesday, May 8

8:30 A.M.—4:30 P.M.	Registration of Delegates, Alternates, Guests, and Social Functions—*Skytop Foyer, 18th Floor*
9 A.M.—12 NOON	House of Delegates—*Skytop, 18th Floor*
12:30 P.M.—3 P.M.	Luncheon honoring Mrs. Isadore Zadek, president, Woman's Auxiliary to the Medical Society of the State of New York—*Skytop, 18th Floor*
3:30 P.M.—5:30 P.M.	House of Delegates—*Skytop, 18th Floor*

Wednesday, May 9

8:30 A.M.—10:30 A.M.	Registration of Delegates, Alternates, Guests, and Social Functions—*Skytop Foyer, 18th Floor*
9 A.M.—12 NOON	House of Delegates—*Skytop, 18th Floor*
2 P.M.—4 P.M.	House of Delegates (if not adjourned before noon)—*Skytop, 18th Floor*
	Postconvention meeting of State Officers and Chairmen, County Presidents, and Presidents-Elect—*Skytop, 18th Floor*
7 P.M.	Dinner Dance—*Penn Top, 18th Floor*

Thursday, May 10

9:30 A.M.	Board of Directors Meeting—*President's suite*

Officers

President	MRS. ISADORE ZADEK, New Rochelle
President-Elect	MRS. ALBERT VANDER VEER, II, Albany
First Vice-President	MRS. LEIF G. JENSEN, Staten Island
Second Vice-President	MRS. MILTON W. KOGAN, Oswego
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Convention Committee

Chairman	Mrs. John L. Neubert, Roslyn Heights
Cochairman	Mrs. Samuel Reback, Staten Island

WOMEN'S MEDICAL SOCIETY OF NEW YORK STATE

Annual Meeting

Sunday, May 6

New York Infirmary
Stuyvesant Square East & 15th Street
Conference Room, 3rd Floor

10:00 A.M. Business Meeting, Myrtle M. Wilcox, M.D., *Presiding*
12:30 P.M. Luncheon
2:00 P.M. Scientific Program—**Panel Discussion: What Do We Mean by "Industrial Medicine"?**

- Adelaide Romaine, M.D., New York City, *Moderator*, Medical Director, Federal Reserve Bank of New York
- Emma Dowling Kyhos, M.D., Nutley, New Jersey, Medical Director, Hoffmann-La Roche Inc.
- Dorothea Lemcke, M.D., New York City, Medical Director, Long Lines Division, American Telephone and Telegraph Company
- Catherine Mangan Maguire, M.D., Pleasantville, Medical Director, Olin-Mathieson Chemical Corp.
- Mathilda R. Vaschak, M.D., New Brunswick, New Jersey, Medical Director, E. R. Squibb & Sons
- Angeline F. Simecek, M.D., New York City, Medical Director, Schrafft Stores

Officers

President	Myrtle M. Wilcox, M.D., Binghamton
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TECHNICAL EXHIBITS

Technical exhibits are an integral part of your meeting. More and more they are equipping themselves to coordinate with the scientific material of the convention. Here, well-trained representatives of the nation's foremost laboratories and suppliers to the profession are gathered to answer your questions and to show you the latest items in pharmaceuticals, surgical instruments, x-ray and office equipment, medical books, etc. Here, in one place, this week, you may see and discuss new developments that would otherwise take many hours of your office or hospital time to become familiar with. Following is a list of the exhibiting firms and a brief synopsis of what each one will be doing.

Abbott Laboratories, North Chicago, Illinois (Booths 98 and 99). A new nonbarbiturate hypnotic, Placidyl (Ethchlorvynol, Abbott), will be among the new products exhibited by Abbott Laboratories. Also shown will be Nembu-Serpin Filmtabs (Nembutal and reserpine, Abbott), a new sedative, tranquilizer, and antihypertensive; Desbutal, new mood-improvement drug; and Erythrocin Filmtabs (erythromycin, Abbott), an antibiotic providing specific action against coccic infections and minimal risk of side-effects. Abbott will also exhibit Iberol Filmtabs containing intrinsic factor concentrate, B_{12}, iron, and other vitamins; Optilets, high-potency therapeutic multivitamins; Vi-Daylin, a homogenized mixture of seven vitamins; Selsun, for control of seborrheic dermatitis; Pentothal Sodium, the intravenous anesthetic agent, and Abbott's complete line of intravenous solutions and equipment.

The Alkalol Company, Taunton, Massachusetts (Booth 77), will feature Alkalol, the balanced, alkaline, saline solution for the treatment of mucous membranes and irritated tissues. It is bland, nontoxic, and effective and has been a favorite since 1896. We are also showing Irrigol, a powder which in solution makes an aseptic, slightly astringent vaginal douche. It is widely used also for colonic irrigations and as an effective rectal enema.

American Cyanamid Company, New York City (Booths 104 and 105). Triple sulfas (sulfadiazine, sulfamerazine, and sulfamethazine) are highly effective and safe chemotherapy. Schematic representations of these advantages are presented. New data reaffirm the high blood levels attained with the trisulfa pyrimidines. High solubility assures freedom from kidney complications.

Folic acid is an essential nutrient and is required in the daily diet. Many case reports indicate the value of folic acid in the megaloblastic anemia of pregnancy and support the need of 2 mg. of folic acid daily during pregnancy. Since normal adult hematopoiesis requires production of 300 billion red blood cells, and since folic acid is essential for all cellular growth, folic acid deficiency will manifest itself first in blood. This exhibit is presented on behalf of the leading pharmaceutical houses who supply these products.

American Ferment Company, Inc., New York City (Booth 15). Our unique demonstration of the proteolytic activity of Caroid will explain why addition of Caroid to Caroid and Bile Salts Tablets and Alcaroid provides unusual advantages when laxation or antacid therapy is indicated. Other products featured will be the palatable Essence of Caroid, for improving digestion and utilization of dietary proteins, and Supligol, the whole bile-ketocholanic acid compound for management of early biliary dysfunction.

American Hospital Supply Corporation, Evanston, Illinois (Booth 80), will present a display of Baxter Traver-Electrolyte Solutions; the new therapeutic vitamin B solution, Trinidex; and other Baxter parenteral therapy equipment including the "Flashball" for simple needle insertion and the R48 blood pump and administration set.

Ames Company, Inc., Elkhart, Indiana (Booth 124). The Ames representatives, Messrs. Richard Lyon, Eugene Bertozzi, and Murray Lobel, will be on hand to discuss Aminet, a combination of aminophylline and pentobarbital, in a newly developed nonreactive base which melts readily at body temperatures and quickly releases the active ingredients for rapid absorption. It is highly effective in relieving the paroxysms of bronchial asthma and especially valuable with epinephrine-fast patients; also of value in cardiac asthma, congestive failure, and as a diuretic and myocardial stimulant. Decholin and Decholin Sodium, a dehydrocholeretic of choice, will also be on display.

The Armour Laboratories, Kankakee, Illinois (Booth 41), will feature HP Acthar Gel and Tryptar, as well as other specialties of Armour Research.

Our representative will be happy to answer questions about Armour products for anyone who cares to stop at our booth.

Association of American University Presses, New Haven, Connecticut (Booth 125). Each university press represented in our exhibit is a separate publishing company producing technical, medical, and scholarly works as well as other books of vital interest to all Americans. This joint exhibit enables you to see books from a number of the university presses and, if you so desire, to order them direct from the booth or from the publishing press.

Audio-Digest Foundation, Glendale, California (Booth 1), a subsidiary of the California Medical Association, gives the busy physician an effortless tour through the best of current medical literature each week. This tape-recorded medical "newscast," compiled and reviewed by a professional board of editors, may be heard in the physician's automobile, home, or office. The Foundation also offers medical lectures by nationally recognized authorities.

Aveeno Corporation, New York City (Booth 116). Aveeno Colloid baths (made with Aveeno Colloidal Oatmeal) are excellent for soothing irritated or itching skin conditions. Bur-Veen Wet Dressing (made with Bur-Veen Wet Dressing Powder) provides the therapeutic effectiveness of Burow's solution plus the soothing protection of Aveeno. Both products are safe, no fear of overtreatment.

Ayerst Laboratories, New York City (Booth 92). Physicians are cordially invited to visit this booth where the Ayerst representatives will be on hand to welcome them and to discuss Premarin, Mysoline, Prelafal, or any other products of Ayerst manufacture in which they may be interested.

Baby Development Clinic, Maternity Counselling Service, Chicago, Illinois (Booth 48), offers demonstration material; products and literature helpful in instructing prospective parents in the physical and emotional aspects of parent-child relationship arising out of daily care of their infants and children; also aids in providing emotional security for their children through school ages.

Barrows Chemical Company, Inc., New York City (Booth 12). This exhibit will demonstrate balanced therapy for cholesterol-phospholipid balance. Extensive clinical experience using Lipozyme and Betazyme has demonstrated the superior response of patients with degenerative diseases to the therapeutic approach by these two enzyme preparations. Administered concurrently, they act effectively to reverse the biochemical imbalance in which hypercholesterolemia is induced by disturbed cholesterol-phospholipid metabolism.

Bedford Surgical Company, Inc., Brooklyn, New York (Booths 69 and 70). At the Bedford exhibit you will be welcome to discuss all your medical equipment and office problems. Please stop at our booth for labor-saving, time-saving ideas, a good example of which is the Label-up Vial rack.

Bilhuber-Knoll Corporation, Orange, New Jersey (Booth 111). Oral Metrazol is indicated for the aged patient where senile confusion, convalescence, or fatigue are present. New information and literature on this therapy are available, and your discussion is invited. Information concerning the use of Tensodin in coronary disease as well as Dilaudid, Bromural, Quadrinal, Theocalcin, and the other Bilhuber chemicals is also available. You are invited to discuss these preparations with our representatives.

Borcherdt Malt Extract Company, Chicago, Illinois (Booth 112). Practical *Helpful Hints* literature will be available at the Borcherdt booth. Based on suggestions by practicing physicians, one of the pamphlets outlines a weight-gain plan for children. Other reprints to be offered tell of the use of Malt Soup Extract for constipation in infants, children, and adults, as well as in obstetric patients. Coffee will be served with samples of Malt Soup Extract for proof of palatability.

The Borden Company, New York City (Booth 88). There's no better place to talk over the latest information on infant feeding than the Borden Prescription Products booth. On display is the complete line of Borden's infant formula products for every feeding purpose or preference. You can feed almost any baby Bremil, Mull-Soy (liquid or powdered), Dryco, or Biolac.

Brewer & Company, Inc., Worcester, Massachusetts (Booth 21). This exhibit consists of specialties centering around Thesodate, the original enteric-coated tablet of theobromine sodium acetate, and Luasmin, a combination of theophylline sodium acetate, phenobarbital, and ephedrine for the treatment of asthma. Also featured will be Brewer capsules and ampuls, other specialties including Soduxin (sodium succinate, Brewer), and standard pharmaceuticals manufactured by Brewer & Company, Inc., including a complete line of vitamin preparations for internal use and injection. In addition, the company's representatives will feature Asteric, a special enteric-coated aspirin for massive dosages. Literature will be available on the new Brewer specialties: injectable quinidine hydrochloride and Sus-Phrine (aqueous suspension of epinephrine 1:200, Brewer).

Burdick Equipment Company, Inc., New York City (Booth 39). The latest in direct-writing electrocardiographic equipment will be on display as well as ultrasonic, microtherm, and other modern items of physical medicine and rehabilitation equipment.

Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, New York (Booth 57). The extensive research facilities of Burroughs Wellcome & Company, both here and in other countries, are directed toward the development of improved therapeutic agents and technics. Through such research B. W. & Co. has made notable advances related to leukemia, malaria, diabetes, and diseases of the autonomic nervous system and to antibiotic, muscle-relaxant, antihistaminic, and antinauseant drugs. An informed staff at our booth will welcome the opportunity to discuss our products and latest developments with you.

Buster Brown Shoes, New York City (Booth 36), is the largest selling children's shoe manufactured in America. Your inspection is invited of its complete selection of lasts and patterns sold in each New York State community only to reputable merchants who carry full inventory of sizes and widths to guarantee proper fit.

Cambridge Instrument Company, Inc., New York City (Booths 138 and 139). The new Cambridge Audio-Visual Heart Sound Recorder and the well-known Cambridge Simpli-Scribe Model Direct-Writing Portable Electrocardiograph and the Cambridge Standard String Galvanometer Electrocardiograph, both in the Simpli-Trol Portable and the Mobile Model Electrocardiograph-Stethograph with Pulse Recorder, will be displayed at this booth. Also, other important Cambridge instruments, including the operating room Cardioscope, Educational Cardioscope, Multi-Channel Direct-Writing Recorder, Catheterization Monitor-Recorder, Electrokymograph, Plethysmograph, and pH Meters. The Cambridge engineers in attendance will be glad to give you complete information on these instruments.

Cameron Surgical Specialty Company, New York City (Booth 96). The Cameron exhibit is a must this year. See the first headlite that may be used with perfect safety in the presence of explosive vapors. See the Cameron Transadjuster designed for use in the operating room where explosive vapors are present and the 1956 Cameron electrosurgical unit and the Camerondyne for both office and hospital use.

S. H. Camp & Company, Jackson, Michigan (Booth 86). Introduction of a specially engineered line of braces and appliances designed to achieve a better, less expensive performance are on display. You are welcome to examine them and have an expert explain their function. Stop to see these and other new items, together with the latest developments in the Camp line of supports and appliances adaptable in your practice.

Center Laboratories, Inc., Port Washington, New York (Booth 37), will present Allergenic Extracts: individually prepared treatment sets of therapeutic allergens, standardized on a weight/volume, protein nitrogen, or total nitrogen basis. Diagnostic Extracts, both for scratch testing and intradermal testing, will also be presented along with a complete line of office and laboratory accessories. Special equipment and procedures for preparation of extracts are demonstrated, and qualified personnel will be available for discussion. We welcome your inquiries.

Ciba Pharmaceutical Products, Inc., Summit, New Jersey (Booth 63), will feature Serpasil, the original, pure crystalline alkaloid of Rauwolfia. Serpasil has been found extremely useful as a tranquilizer in treating patients whose adjustment to life is complicated by anxiety, irritability, and various psychoses. Patients feel calm, yet in properly adjusted doses retain their drive and energy. It is highly effective in many conditions where barbiturates have been commonly prescribed.

The Coca-Cola Company, Atlanta, Georgia (Booth 129). Ice cold Coca-Cola will be served through the courtesy and cooperation of the Coca-Cola Bottling Company of New York, Inc., and the Coca-Cola Company.

Coles Electronic Corporation, Philadelphia, Pennsylvania (Booth 49), manufacture a full complement of precision surgical equipment of advanced design. These cutting instruments are portable or floor models which permit the use of varied electronic surgical methods to meet the exacting surgical needs in thoracic and other forms of surgery. The Coles electronic line of electrodes, handles, and cords are made for Coles and all other makes of machines. Our manufacturer's code chart E-55-3 is available to all on request.

Dallons Laboratories, Inc., Los Angeles, California (Booth 53). Capable representatives will be pleased to show you why Dallons Laboratories is "first in ultrasonics." See actual demonstration showing effects of the largest true quartz crystals used in medical ultrasonics generators, the Dallons' Medi-Sonar units and two new aids in saving lives in the operating rooms, and the Dallons' cardioscope and cardiophone.

Davies, Rose & Company, Limited, Boston, Massachusetts (Booth 76). We cordially invite the members of the Society to visit our booth. Although most physicians need no introduction to our outstanding cardiac therapies, Pil. Digitalis and Tablets Quinidine Sulfate, Natural, our representatives, Messrs. W. B. Poole, C. R. White, and W. E. Merkel, will be on hand to greet you and to explain the dependability of our laboratory production.

F. A. Davis Company, Philadelphia, Pennsylvania (Booth 16). Many New York authors are represented in the new series of monographs on obstetrics and gynecology edited by Claude E. Heaton, M. D. See the complete list and the volumes now available: Dennen, *Forceps Deliveries;* Berman, *Obstetrical Roentgenology;* Decker and Decker, *Office Gynecology.* From the famous *Cyclopedia of Medicine, Surgery Specialties,* a free monograph just published, will be presented to you when you stop at our booth.

Enjoy the large display of books on all phases of medicine. There will be many volumes of interest to you.

Desitin Chemical Company, Providence, Rhode Island (Booth 94). Desitin Ointment is the pioneer in external cod liver oil therapy. Indications are diaper rash, slow-healing wounds, burns of all degrees, lacerations, hemorrhoids, and fissures. Desitin Powder is a unique, dainty medicinal powder saturated with cod liver oil. Desitin Hemorrhoidal Suppositories with Cod Liver Oil coats anorectal area with soothing, lubricating cod liver oil, gives prompt relief of pain, allays itching. Desitin Lotion, the original cod liver oil lotion, soothing, protective, mildly astringent, and healing, is indicated in nonspecific dermatitis, pruritis, poison ivy, etc.

Dictaphone Corporation, New York City (Booth 67). Featuring the Dictaphone Time-Master dictating machine for personal communication, magnesium light for portability, the new Time-Master offers busy doctors dictation unlimited. Wherever, whenever you want to speed words into action or into the record, the electronic Time-Master is at your service. See and try the new Dictaphone Telecord System for network dictation by phone. Any number of Telecord dictation stations connected to one or more Time-Master central recorders provide perfect medical record-keeping facilities for the entire hospital. Dictation by phone centralizes transcription, cuts communication costs to the minimum.

The Dietene Company, Minneapolis, Minnesota (Booth 85). Have you tasted Meritene, the whole protein supplement that does taste good? Visit our booth; enjoy a Meritene milk shake with its multiple nutritive values. While you're there, review the Dietene diet based on Dietene reducing supplement. It provides the rare combination of low calories (1,000) with high intake of protein and all essential vitamins and minerals in an interesting, effective, safe, weight-reducing diet.

Doak Pharmacal Company, Inc., New York City (Booth 59). Register for samples of (1) Buro-Sol Antiseptic Powder, instant Burow's Solution U.S.P. plus an antiseptic, for soaks and compresses on inflamed or locally infected areas; (2) Lotio Alsulfa, the sulfur lotion that acne patients like, extremely effective, too; (3) Tersaseptic, the latest in antiseptic, soapless skin and scalp cleansers, with liberal suds and an acid pH close to that of normal skin.

Doho Chemical Corporation, New York City (Booths 118 and 119), is pleased to exhibit Auralgan, the ear medication for the relief of pain of otitis media and removal of cerumen; new Otosmosan, the effective, nontoxic ear medication which is fungicidal and bactericidal (gram-negative, gram-positive) in the suppurative and aural dermatomycotic ears; Rhinalgan, the nasal decongestant which is free from systemic or circulatory effect and equally safe to use on infants as well as the aged. Mallon Chemical Corporation, subsidiary of the Doho Chemical Corporation, is also featuring Rectalgan, the liquid topical anesthesia, also for relief of pain and discomfiture in hemorrhoids, pruritus, and perineal suturing; Dermoplast, in an aerosol freon propellent spray for fast relief of surface pain, itching, burns, and abrasions, also for obstetric and gynecologic use.

Dome Chemicals Inc., New York City (Booth 127), introduces Cort-Dome Creme and Lotion (pH 4.6), the most effective topical hydrocortisone preparations on the market today. Micronized hydrocortisone alcohol incorporated in our exclusive Acid Mantile vehicle, which brings the completed product over to the acid side, is the reason for the increased therapeutic efficacy of the hydrocortisone.

Eaton Laboratories, Norwich, New York (Booth 75). A new specific for Trichomonas vaginalis is now available for treating trichomonal vaginitis. This is Tricofuron (T.M.) Vaginal Suppositories and Powder, containing the trichomonacide Furoxone, brand of furazolidone. Tricofuron affords relief of symptoms within a few days and cures the majority of cases within one menstrual cycle. The latest clinical data on Furadantin in treating prostatitis will be available.

Paul B. Elder Company, Bryan, Ohio (Booth 93). Members and guests of the Medical Society are cordially invited to visit our booth where Elder representatives will be pleased to discuss Oxsoralen for treatment of vitiligo, Benoquin for treatment of melanin hyperpigmentation, and Rapax Inserts which introduce a completely new, timed method for producing laxation.

Endo Products Inc., Richmond Hill, New York City (Booth 134). Percodan, the new oral analgesic which provides faster, longer lasting, and more complete relief from pain than codeine plus A.P.C., will be featured. Literature and reprints of latest clinical reports on Hycodan, the antitussive of choice wherever cough therapy is indicated, will be available. Endotussin, a new cough preparation combining Hycodan with an antihistamine, and Vifort Drops, the completely water-soluble polyvitamin, will also be featured.

Falk Surgical Corporation, New York City (Booth 33). We will have a 100-milliampere Rocket model Profex tilt-table x-ray. We will also have the latest type Birtcher ultrasonic apparatus, an all-electric wheelchair, and an assortment of most modern physiotherapy equipment.

Fellows Medical Mfg. Company, Inc., New York City (Booth 133), will feature chloral hydrate in all dosage forms: Felsules, $3^3/_4$ and $7^1/_2$ grains, the original chloral hydrate capsules; Rectules (suppositories), 10 and 20 grains, particularly useful in pediatrics, geriatrics, and gastrointestinal disturbances; Fellows Chloral Hydrate Liquid (Lycoral), 10 grains per teaspoonful, permits flexible dosage and is nonalcoholic.

H. G. Fischer & Company, Franklin Park, Illinois (Booth 142). Important advances in x-ray, physical medicine, and rehabilitation equipment will be demonstrated by H. G. Fischer & Company, who have been in the business since 1910. One of the features will be a remarkable 200-milliampere full-wave rectified x-ray machine with which perfect diagnostic radiographs can be made in your own office and even spot-filming of the highest quality. Their new, highly efficient ultrasonic generator will also be on display together with shortwave diathermy units and low-voltage generators.

C. B. Fleet Company, Lynchburg, Virginia (Booth 28). During the past fifty years Phospho-Soda (Fleet) has been a symbol of elegance in sodium phosphate medication. Fleet Enema Disposable Unit, an enema solution of Phospho-Soda (Fleet), is a worthy companion product. The single-use unit simplifies and assures satisfying preparation for proctoscopy, and as a routine enema it is a boon to the hospitalized patient.

E. Fougera & Company, Inc., and Division, Varick Pharmacal Company, Inc., New York City (Booth 117), cordially invite physicians to discuss with professional service representatives new preparations of importance to their everyday practice. Descriptive literature and samples of all products will be available.

Geigy Pharmaceuticals, Division of Geigy Chemical Corporation, New York City (Booth 8). Medomin, a new kind of barbiturate, will highlight the Geigy exhibit. Indicated for safe, gentle hypnosis and reliable, sustained sedation, Medomin is unique in that a 7-member ring is attached to the barbiturate radical. Also featured will be Butazolidin, nonhormonal antiarthritic, Eurax, antipruritic and scabicide, and Sterosan, bacteriostat and fungistat.

Geriatric Pharmaceutical Corporation, Bellerose, New York (Booth 130), pioneers in geriatric research, will exhibit Menic, the newest contribution in the management of cerebral arteriosclerosis, mental confusion, and forgetfulness. Information on other contributions in the management of your geriatric patients will also be available.

Gray Pharmaceutical Company, Newton, Massachusetts (Booth 38), is pleased to present the following products: Lysidox contains the essential amino acid L-lysine, pyridoxine, and "Graylac," a defatted milk base. Lysidox transforms a low-quality protein diet into a high-quality protein diet. Lysidox is recommended for toast eating, geriatric patients suffering from lassitude, chronic fatigue, and low-grade anemia. L-Glutavite is a palatable mixture of therapeutic dosages of monosodium L-glutamate and niacin with specific vitamins and minerals concerned with the optimal nutritional and blood supply of the brain. It is indicated for elderly patients who suffer from cerebral symptomatology.

Grune & Stratton, Inc., New York City (Booth 83). Our Mr. Martin Cann welcomes you to this booth where he will show you such new books as Bohler's *The Treatment of Fractures,* volume I; Brooks's *Excitability of the Heart;* Talbott's *Collagen Diseases;* Tocantin's *Progress in Hematology,* volume I; Bessis' *Cytology of the Blood and Blood-Forming Organs;* Stone's *Premarital Consultation;* Lyon's *Virus Diseases and the Cardiovascular System;* Cantor and Foxe's *Psychosomatic Aspects of Surgery;* and many others of special interest.

Hanovia Chemical and Mfg. Company, Newark, New Jersey (Booth 109). Don't fail to see Hanovia's new complete spectrum ultraviolet lamp, Model 55. It has features never before incorporated in any ultraviolet lamp. General body and orificial ultraviolet lamps for doctors' use will be displayed and demonstrated as well as black light for diagnostic work, Sollux infrared lamps, and germicidal lamps for the destruction of airborne bacteria.

H. J. Heinz Company, Pittsburgh, Pennsylvania (Booth 89). What's new? These Heinz varieties: Strained Foods—Bananas, Creamed Spinach, Macaroni, Tomatoes, Beef and Bacon, Split Peas, Vegetables and Bacon, Egg Yolk; Junior Foods—Creamed Carrots, Teething Biscuits, Green Beans and Potatoes, Junior Dinner (Vegetables and Bacon), Junior Dinner (Vegetables and Liver). All Heinz Baby Foods are glass packed except Strained Orange Juice, Teething Biscuits, and four Pre-Cooked Cereals. Literature, booklet for mothers, "A Feeding Guide for A Healthy Happy Baby," and for you, "Nutritional Data."

Hoffmann-La Roche Inc., Nutley, New Jersey (Booth 115). Azo Gantrisin for antibacterial action and local analgesia in urinary tract infections is available in tablet form containing 500 mg. of Gantrisin and 50 mg. of phenylazo-diaminopyridine HCl. Noludar, a new nonbarbiturate hypnotic, provides effective relief of insomnia and tension states. Noludar is so well tolerated that side-effects such as nausea, vomiting, and dizziness are rarely if ever experienced with therapeutic doses. Noludar is available in scored tablets of two strengths, 50 mg. and 200 mg., and in a cordial-flavored elixir, 50 mg. per teaspoonful.

Holland-Rantos Company, Inc., New York City (Booth 14). Physicians interested in medical contraception are invited to discuss with H-R representatives latest information on laboratory and clinical data concerning efficacy of Koromex products. Featured also will be trichomonacidal, fungicidal, and bactericidal Nylmerate Jelly and

Solution Concentrate as well as Hollandex (medicated) Skin Ointment for better family skin care.

Horlicks Corporation, Pharmaceutical Division, Racine, Wisconsin (Booth 17), presents Nulacin, a unique milk-antacid tablet formulated to dissolve slowly in the mouth, thus providing continuous gastric anacidity in the treatment of peptic ulcer, gastritis, gastric hyperacidity, and pregnancy heartburn.

Hyland Laboratories, Los Angeles, California (Booth 9). Hyland's exhibit of human blood specialties features two new hyperimmune gamma globulin concentrates, used for treatment and prevention of mumps and pertussis, and antihemophilic plasma, specially processed to retain fresh blood's labile clotting factors. Other Hyland specialties include normal serum albumin, poliomyelitis immune globulin, and normal human plasma in both liquid and dried form.

Irwin, Neisler & Company, Decatur, Illinois (Booth 122). Dextro-amphetamine tannate (Synatan) is now available. This new complex molecule releases amphetamine evenly and uniformly through controlled ionic exchange; thus, the smooth, prolonged action is inherent in the compound itself. Your Neisler exhibit representative will be pleased to supply detailed information about this basic amphetamine improvement.

Jackson-Mitchell Pharmaceuticals, Inc., Culver City, California (Booth 50), are exhibiting Meyenberg Evaporated Goat Milk, Meyenberg Powdered Goat Milk, the natural substitute milk in cow milk allergies, and Hi-Pro, a high-protein, low-fat, powdered cow's milk. Chilled, refreshing goat milk is being served so you can taste its pleasant flavor. New literature on all products is available.

Keleket X-Ray Corporation, Boston, Massachusetts (Booth 56), will exhibit its well-known Multiscope Table with its accompanying controls and a representative sampling of x-ray equipment and supplies of interest to radiologists and technicians.

Kenwood Laboratories, Inc., Brooklyn, New York (Booth 82), will display a complete line of their pharmaceutical products including I.L.X. with vitamin B_{12}, elixir, tablets, and drops, the ideal treatment for hypochromic and nutritional anemias. Another product of major interest to the physician is Papavatral tablets, the dual action treatment for angina pectoris, combining a vasodilator and smooth muscle relaxant.

Kings County Research Laboratories, Brooklyn, New York (Booth 45). Because of the economic structure of laboratory medicine the Kings County Research Laboratories offers the physician a complete laboratory service. The Medico-Laboratory Plan is designed to give the clinician the freedom and flexibility of ordering desired laboratory examinations in his office as he would in a hospital.

Kirsch Beverages, Inc., Brooklyn, New York (Booth 103), will feature No-Cal, the original and leading nonfattening soft drink. It contains no sugar, no salt, no fats, carbohydrates, or proteins with no available calories to be derived therefrom. No-Cal comes in seven flavors plus a salt-free club soda and will be sampled at the booth. A give-away item will also be presented to doctors.

Lea & Febiger, Philadelphia, Pennsylvania (Booth 95). Be sure to see these 1955–1956 books: Wohl and Goodhart, *Modern Nutrition in Health and Disease;* Soffer, *Diseases of the Endocrine Glands;* Katz and Pick, *Clinical Electrocardiography;* Burch and Winsor, *Electrocardiography;* Epstein, *Skin Surgery;* Ritvo, *Chest X-ray Diagnosis;* Stimson, *Fractures;* Lewin, *The Back;* Pullen, *Pulmonary Diseases;* Thienes and Haley, *Clinical Toxicology;* Twiss and Oppenheim, *Disorders of the Liver, Pancreas and Biliary Tract;* and many other new books and new editions.

Lederle Laboratories Division, American Cyanamid Company, Pearl River, New York (Booth 108). You are cordially invited to visit the Lederle booth where our medical representatives will be in attendance to provide the latest information and literature available on our line. Featured will be Achromycin, Incremin, Diamox, vitamins, Pathilon, Varidase, and many other of our dependable quality products.

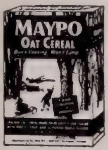
The Liebel-Flarsheim Company, Cincinnati, Ohio (Booth 66), cordially invite you to visit our booth in which the latest electromedical-electrosurgical equipment will be exhibited. We ask particularly that you stop and see the L-F BasalMeter, the first automatic, self-calculating metabolism unit ever offered. Capable representatives will be on hand at all times.

Eli Lilly and Company, Indianapolis, Indiana (Booths 64 and 65). You are cordially invited to visit the Lilly exhibit. The display will contain information on recent therapeutic developments. Lilly sales people will be in attendance. They welcome your questions about Lilly products.

M & R Laboratories, Columbus, Ohio (Booth 18). Current concepts in infant feeding stress the critical aspects of preventive care. Visit our booth at your convenience. Your Similac representative will be happy to discuss the physiologic role of Similac Powder and Similac Liquid in providing good growth, sound development, and optimum clinical benefits. Reprints of current pediatric investigations and the latest M & R Pediatric Research Conference Reports are available.

Maltbie Laboratories Division, Wallace & Tiernan, Inc., Belleville, New Jersey (Booth 7). All physicians are invited to visit the Maltbie exhibit. Featured items will be Desenex and Salundek, the well-known fungicides; Cholan HMB, for prompt relief in functional biliary disease; Malcotran, a potent anticholinergic for selective ulcer therapy; and

Calpurate, for diuresis and myocardial stimulation without annoying side-effects.



Maltex Company, Burlington, Vermont (Booth 137). You are invited to stop in at this booth to see the exhibit of Maltex and the new Maypo Oat Cereal and sample the cookies and date bread served here. Also, look over the daily diet records, reducing diets, etc., designed to help you in your work.

The S. E. Massengill Company, Bristol, Tennessee (Booth 52), will feature Salcort and Homagenets. Salcort, a safe, effective antiarthritic, is a judicious combination of salicylates and cortisone. It has all the advantages of both drugs plus the complementary action for greater therapeutic effect and fewer side-effects. With Homagenets, the homogenized vitamins, now for the first time the full advantages of a liquid vitamin dispersion can be obtained in a solid form. With better utilization, large excesses are unnecessary; no aftertaste, no burp, taste like candy, may be swallowed, chewed, or allowed to dissolve on the tongue.

Materna-Line, Inc., New York City (Booth 23), will have on display the latest in maternity foundation garments, including the well known Materna-Line feeding brassieres. See this new line of lightweight maternity garments to prescribe best for your patients.

Mayflower Surgical Supply Company, Brooklyn and Mineola, New York (Booth 34). Distributors of medical furniture, x-ray, electrocardiographs, ultrasonics, physiotherapy, hospital equipment, wheelchairs, and physicians' supplies.

Mead Johnson & Company, Evansville, Indiana (Booth 58). The new Deca vitamin family for the vital first decade of life will be exhibited by Mead Johnson & Company. Included in the new Deca family of vitamin specialties are Deca-Vi-Sol for dropper dosage, a fruit-flavored solution for infants and toddlers; Deca-Mulcin for teaspoon dosage, a pleasantly flavored liquid for preschool children of two to six years; and Deca-Vi-Caps, small, easily swallowed capsules, for school-agers of six to ten years. All three Deca vitamin specialties supply ten nutritionally significant vitamins including A, C, and D, plus seven important B vitamins.

Medcraft Electronic Corporation, Babylon, New York (Booth 47), will exhibit its well-known electroencephalograph and several types of shock therapy equipment, including the very popular combined shock-stimulator unit. Also on display will be Medcraft's new electromyograph. Technical personnel will be on hand at all times to demonstrate any of the instruments.

Medical Film Guild, Ltd., New York City (Booth 2). The newly created "Medical Film of the Month" plan, conceived as the twenty-fifth anniversary effort of Medical Film Guild, will be the highlight of our exhibit. The plan extends the horizons of postgraduate medical teaching and provides a year-round, information-packed educational program keyed to the needs of State-wide, regional, and local meetings of the Medical Society of the State of New York. Type of the high-caliber films available under the plan are *Pitfalls in the Management of Refractory Heart Failure,* which stresses electrolyte imbalance and the modern clinical technics employed in the treatment of congestive heart failure; *Radioisotopes—Their Application to Humans as Tracer Studies and for Therapeutic Use,* the only medical film selected by the U.S. government for presentation at the U.N. conference on peaceful uses of atomic energy; *Arterial Insufficiency of the Extremities,* which strikingly portrays the phenomena of impaired blood flow. Program chairmen desiring to improve the educational impact of their meetings will find our exhibit especially worth while. The "Medical Film of the Month" plan provides ten postgraduate 16-mm. sound and color motion picture films (one a month for ten months) at a rental of only $150 F.O.B. New York. Additional bonus films available through grants for postgraduate instruction may be obtained at no charge independent of or in addition to the "Film of the Month" plan.

Merck & Company, Inc., Rahway, New Jersey (Booths 26 and 27). Using the theme, "from forty to sixty. . . .the future health of the aging and aged is determined," Merck dramatically presents physical systems influenced by vitamins, together with conditions common to the "40-plus" patient which are alleviated by vitamins. Graphics suggest to the physician ways in which vitamins can help him make his patients' "40-plus" years "their most significant years."

Wm. S. Merrell Company, Cincinnati, Ohio (Booth 81), presents Bentyl, the safe, effective, yet comfortable antispasmodic that is superior to atropine and belladonna for relief of nervous indigestion. Bentyl has a musculotropic action like that of papaverine and a neurotropic action like that of atropine. Because of its unique specificity for the gastrointestinal tract, Bentyl is virtually free of the side-effects generally associated with antispasmodics and offers effective relief without "belladonna backfire." Literature, including reprints reporting more than 1,500 clinical cases treated with Bentyl, is available at the booth.

Miles Reproducer Company, Inc., New York City (Booth 42). Case histories, panel discussions, group therapy, lectures, and dictation may now be recorded at a 60-foot radius with Walkie-Recordall, an 8-pound, self-powered battery recorder-transcriber. It operates in or out of the closed briefcase, indoors or outdoors, while stationary, walking, riding, or flying. The Voice-Activated Self-Start-Stop feature automatically starts and stops the recording from microphone or telephone, thus eliminating supervision and the recording of silent periods. While facilities for transcribing are available, transcription may be eliminated due to ease of handling identifiable, compact, indexed recordings without the delay of rewinding. Up to eight hours of permanent recordings may be accumulated at intervals on an "endless" belt.

Milex of New York, Long Island City, New York (Booth 4), will feature the Milex Folding Pessaries, Pro-Ception Fertility Program, and the newest cancer detection technics. Milex of New York is glad to meet its old friends and welcome new ones. For those looking for improvements in these fields, Tricho-San for Trichomonas and Monilia and the Crescent Diaphragm offer new possibilities.

Mooradian High Frequency Laboratories, Bogota, New Jersey (Booth 19), will show the well-known model "R" self-stabilized shortwave diathermy apparatus; a new modulated current low-volt generator; the Castroviejo Electro Surgical Ophthalmic Unit for Retinal Detachment and Cyclodiathermy; an improved cardiac defibrillator of exceptionally rugged construction and simple operation, Columbia-Presbyterian model.

National Dairy Council, New York City (Booth 31). "Weight Reduction Through Diet" is the theme of the exhibit provided by National Dairy Council. It presents, by means of colored transparencies, a menu plan for one day totaling 1,400 calories and an adaption at 1,800 calories. These diets are the result of weight control studies conducted at Michigan State College. Also on display are various nutrition publications which will be available on request.

National Drug Company, Philadelphia, Pennsylvania (Booth 29), features Parenzyme Intramuscular Trypsin, a direct antiedema, anti-inflammatory agent for the treatment of traumatic wounds, skin ulcers, and ophthalmic inflammations, thrombophlebitis, and phlebothrombosis; Hesper-C, valuable in controlling abnormal capillary fragility and permeability; and AVC improved, effective therapy in trichomonal, bacterial, and monilial infections.

National Live Stock and Meat Board, Chicago, Illinois (Booth 132). This nutrition exhibit emphasizes the importance of a good breakfast. Colorful pictures show complete breakfasts and the interesting variety of meats around which good breakfasts are built. Meat for breakfast helps provide one fourth to one third of the day's food needs, especially high-quality protein.

Nepera Chemical Company, Inc., Yonkers, New York (Booth 13), will feature a new drug, Choledyl, which has been highly effective in the treatment of bronchial asthma, bronchospasm, and congestive heart failure. Choledyl assures high oral theophylline blood levels with minimal side-reactions; it rarely produces fastness. Also featured will be Biomydrin Nasal Spray for effective mucolytic-penetrating antibacterial activity, prolonged nasal decongestion, and antiallergic effect. Biomydrin F adds hydrocortisone alcohol to the Biomydrin Nasal Solution formula. Biomydrin F is anti-inflammatory, antiallergic, mucolytic-penetrating, antibacterial, and decongestant. Urosulfin, a new product, is a combination of a well-known soluble sulfonamide for antibacterial effect and a widely used azo dye for rapid symptomatic relief of pain, burning, frequency, etc., in the treatment of urinary infections, especially cystitis of pregnancy.

New York Medical Exchange Agency, New York City (Booth 46). Be sure to visit this booth and discuss personnel problems with Patricia Edgerly. You can be assured of superior service because of the reputation she has built up over the years. Whether you want to find a medical secretary, assistant, or technician or wish to explore opportunities for yourself, she will be glad to counsel you.

Organon, Inc., Orange, New Jersey (Booth 6). Physicians are invited to visit the Organon booth to learn about Cortrophin-Zinc and Wigraine. Cortrophin-Zinc is Organon's new, long-acting aqueous suspension of ACTH, supplying twenty-four to seventy-two-hour ACTH activity in each 1-cc. injection. Wigraine treats effectively the complete migraine syndrome with ergotamine tartrate, caffeine, belladonna, and acetophenetidin. Samples and literature will be available.

Ortho Pharmaceutical Corporation, Raritan, New Jersey (Booth 79), cordially invite you to their booth. Featured will be Delfen vaginal cream, Ortho's most spermicidal contraceptive. Delfen vaginal cream has the highest concentration of a new, most potent, nontoxic spermicide. Since the spermicide is in the water phase of an oil-in-water emulsion, it rapidly invades seminal fluids, killing sperm on contact. It is emollient and nonirritating to vaginal tissues.

Parke, Davis & Company, Detroit, Michigan (Booth 123). Medical service members of our staff will be in attendance at our exhibit for consultation and discussion of various products. Important specialties such as Penicillin S-R, Benadryl, Ambodryl, Dilantin Suspension, vitamins, Oxycel, Milontin, Amphedase, Chloromycetin, Thrombin Topical, etc., will be featured. You are cordially invited to visit our exhibit.

E. L. Patch Company, Stoneham, Massachusetts (Booth 114). At this booth Patch representatives will greet you and tell you about two new products: Elpafex, the antibiotic-analgesic tablet, and Glytheonate with phenobarbital and reserpine, indicated in the treatment of mild hypertension. You will also find good reliable products such as Kondremul, Alzinox, Slowten, and Gadoment.

Pepperidge Farm, Inc., Norwalk, Connecticut (Booth 110). This exhibit at the New York State Medical Society convention will emphasize Pepperidge Farm whole wheat bread as a high-protein product; also stressed will be the 1-pound, salt-free, fat-free, white, unsliced bread, available by mail order direct to customers. This bread is very palatable and enjoyed by many of our customers.

Pet Milk Company, St. Louis, Missouri (Booth 54).

We will be pleased to have you stop and discuss the variety of time-saving material available to busy physicians. Our representatives will be on hand to discuss the merits of "Pet" Evaporated Milk for infant feeding and Instant "Pet" Nonfat Dry Milk for special diets. A miniature "Pet" Evaporated Milk can will be given to all visitors.

Pfizer Laboratories, Division, Chas. Pfizer & Co., Inc., Brooklyn, New York (Booth 62). The Pfizer exhibit again will be in the spotlight with its new and original concept of antistress, anti-infective therapy—Tetracyn S.F. and Terramycin S.F. (Stress Fortified). Also featured will be the complete line of Pfizer antibiotics and Steraject, as well as the new specialties, Bonamine, Tyzine, Toclase, and the complete line of steroid hormones, including Cortril and the latest corticosteriod, Sterane (brand of prednisolone).

Pharmacia Laboratories, Inc., New York City (Booth 35), will exhibit its A.M.A.-accepted product, Azulfidine, a new sulfa compound for the treatment of ulcerative colitis, and also Pharmalax, the new laxative suppository with enema-like action. The quick action of Pharmalax causes defecation in about thirty minutes. Literature and reprints of outstanding papers will be available upon request.

Picker X-Ray Corporation, White Plains, New York (Booths 120 and 121). "Dial-the-part" automation distinguishes the new Picker Anatomatic Century II x-ray unit. Simple to use, it eliminates the need for technic charts or manual setting of separate technic factors. The operator merely dials the body part, makes a simple thickness of part setting, and pushes a button for the exposure. Coupled with this control is a new full-size, motor-driven table with a single x-ray tube quickly changed over from fluoroscopy to radiography.

Premo Pharmaceutical Company, South Hackensack, New Jersey (Booth 141).

J. A. Preston Corporation, New York City (Booth 24), offer a complete line of equipment for physical medicine and rehabilitation. Visit our booth for a demonstration of Hydrocollator Master Units and Steam Packs, effective moist heat easily applied. Also on display are various exercise apparatus, bicycles, wheelchairs, ambulation aids, self-help equipment, and diagnostic apparatus.

IVORY
Soap
IVORY
IVORY

Procter & Gamble Company, Cincinnati, Ohio (Booth 135). Ivory soap offers a series of time-saving leaflet pads for doctors, each pad containing 50 identical tear-out sheets. These sheets, which may be given to patients, contain routine instructions covering six different topics. There are also samples of other free, helpful material prepared especially for physicians. Mrs. Christyne Schwab will be in charge.

The Purdue Frederick Company, New York City (Booth 84), will feature Senokot, new nonbulk, nonirritating constipation corrective acting selectively on the parasympathetic (Auerbach's) plexus in the large bowel, physiologically stimulating the neuromuscular defecatory reflex; also, Pre-Mens, the multidimensional premenstrual tension therapy; Colpotab, a tested effective Tyrothricin trichomonacide; and Chlorogiene, a hygienic douche formulation.

Rand Pharmaceutical Company, Inc., Rensselaer, New York (Booth 131), will feature the following: Cobasal, a unique and potent antirheumatic tablet for oral use in conjunction with intramuscular injections of Cobaden (muscle AMP plus B_{12}), assures uninterrupted effectiveness of Cobaden therapy, enhances its pain-relieving action, and assists in further restoration of articular movement. By combining Cobaden with Cobasal, the well-established action becomes a continuous cycle to provide pain relief and help restore normal function. Also featured will be Verutal, a time-tested formula for the effective treatment of hypertension.

Reiner-Bennett, Inc., New York City (Booth 143). We are proud to exhibit the Jones Air-Basal, a metabolism machine that uses room air instead of oxygen. This unit will take a standard uniform testing on all regular and irregular breathers, regardless of weight or pathology.

Riker Laboratories, Inc., Los Angeles, California (Booth 90), invite you to visit their booth for the latest information on their products used in the treatment of hypertension and angina pectoris. Your visit will be appreciated.

Ritter Company, Inc., Rochester, New York (Booth 68). More and more physicians are finding routine examinations and treatments in gynecology, proctology, urology, eye, ear, nose, and throat, and all other phases of medicine easier through using Ritter Motor Operated "Multi-Level" tables. These are the tables that enable physicians to examine and treat more patients more thoroughly and in less time. Let us demonstrate and explain to you the many benefits derived from this investment in a lifetime of convenience and comfort for both doctor and patient.

A. H. Robins Company, Inc., Richmond, Virginia (Booth 74). The Robins exhibit features the Donnatal family of antispasmodics, including the original tablets, capsules, the versatile elixir, and the new Donnatal Extentabs, which provide all-day or all-night effects on single dosage, while the formula combined with B complex and indicated in the medical management of chronic fatigue states is available as Donnatal Plus. Also shown are Entozyme, Pabalate, Pabalate-Sodium Free, and the new Pabalate-HC (Pabalate with hydrocortisone).

Sanborn Company, Cambridge, Massachusetts (Booth 101). Featured at this booth will be a continuous demonstration of the new Sanborn Viso-

Scope, a 5-inch cathode ray oscilloscope, specially designed for use with the Sanborn direct-writing electrocardiographs, such as the famous Viso-Cardiette, as well as with more elaborate recording systems used in the research laboratory. The Viso-Cardiette itself will also be prominently displayed, as will the popular Sanborn Metabulator. In addition full data will be available on Sanborn 1, 2, and 4-channel direct-writing recording systems: the Twin-Beam photographic recorder for simultaneous phonocardiography, the Electromanometer for physiologic pressure measurements, and other Sanborn equipment for cardiovascular diagnosis and research.

Sandoz Pharmaceuticals, Division of Sandoz Chemical Works, Inc., Hanover, New Jersey (Booth 102), cordially invite you to visit our display at the meeting of the Medical Society of the State of New York. We plan to feature new information on certain established products and complete data on Sandosten, the newest member in our family of ethical specialties. Sandosten is a new and powerful antipermeability agent effective in the treatment of itching. Also featured will be Fiorinal, a new approach to therapy of tension headaches and other head pain due to sinusitis and myalgia; Cafergot, available in oral and rectal form for effective control of head pain in migraine and other vascular headaches; Hydergine, a vasorelaxant with central and peripheral action useful in hypertension and peripheral vascular disorders and geriatric conditions. Any of our representatives in attendance will gladly answer questions about these and other Sandoz products.

Saratoga Springs Authority, Saratoga Springs, New York (Booth 91). This exhibit depicts the various components of a Spa regime and stresses the value of Saratoga natural mineral water baths in arthritis and rheumatism, hypertension, and coronary diseases. It points out that a "health vacation" is good preventive medicine in this modern age of stress. Saratoga Spa literature will be dispensed by an attendant.

W. B. Saunders Company, Philadelphia, Pennsylvania (Booth 55). Our whole clinical line will be on display. Among those of special interest are *Current Therapy 1956;* Davis' revision of the Christopher, *Textbook of Surgery;* Laughlin, *The Neuroses;* Hinshaw and Garland, *Diseases of the Chest;* Sodeman, *Pathologic Physiology*, 2nd edition; and Wolff, *Electrocardiography*, 2nd edition.

Schering Corporation, Bloomfield, New Jersey (Booth 72). A cordial invitation is extended to the members of the Medical Society of the State of New York to visit the Schering exhibit. The entire exhibit will be devoted to Meticorten and Meticortelone, the new corticosteroids for the treatment of rheumatoid arthritis, intractable asthma, and other so-called collagen diseases. Extensive clinical and laboratory data demonstrating certain advantages of these new steroids over cortisone and hydrocortisone are shown.

Schieffelin & Company, New York City (Booth 40), and Almay Division will exhibit many of our ethical specialties including C.R.P.A., diagnostic aid in determining inflammatory conditions; Cyclogyl, cycloplegic mydriatic; and the Almay dermatologic specialties, including Resulin and the Alma-Tar products. Our representatives will be happy to answer any questions regarding Schieffelin and Almay products.

Julius Schmid, Inc., New York City (Booth 20). An interesting and informative exhibit featuring Ramses Flexible Cushioned Diaphragm; Ramses Vaginal Jelly; Vagisec Jelly and Liquid, two new products embodying Carlendacide, the recent development of Carl Henry Davis, M.D., and C. G. Grand for vaginal trichomoniasis therapy; and XXXX (Fourex) Skin Condoms, Ramses and Sheik Rubber Condoms for the control of trichomonal reinfection.

G. D. Searle & Company, Chicago, Illinois (Booth 78). You are cordially invited to visit the Searle booth where our representatives will be happy to answer any questions regarding Searle products of research. Featured will be Mictine, the new safe, nonmercurial, oral diuretic; Vallestril, the new, synthetic estrogen with extremely low incidence of side-reactions; Banthine and Pro-Banthine, the standards in anticholinergic therapy; and Dramamine, for the prevention and treatment of motion sickness and other nauseas.

Sharp & Dohme, Division of Merck & Company, Inc., Philadelphia, Pennsylvania (Booth 100). This exhibit presents highlights on steroid therapy featuring Deltra, Hydeltra, and related adrenal cortical steroid preparations in endocrine disorders, collagen diseases, respiratory allergies, eye diseases, and skin conditions. Expertly trained personnel will be pleased to discuss new dosage forms, new indications, and the latest summaries of advanced clinical reports in this field.

Martin H. Smith Company, New York City (Booth 32). Our exhibit features Ergoapiol (Smith) with Savin, a widely prescribed, highly effective uterine stimulant providing thorough pharmacologic action, welcome symptomatic relief in menstrual disorders, such as amenorrhea, hypomenorrhea, dysmenorrhea, menorrhagia, and metrorrhagia; also Expasmus, a unique combination of skeletal and visceral antispasmodics, with an analgesic, containing no belladonna, barbiturates, or amphetamine.

Smith, Kline & French Laboratories, Philadelphia, Pennsylvania (Booth 73), will feature the latest clinical information about Thorazine (chlorpromazine, S.K.F.) and its many varied uses in nausea, vomiting, and hiccups; anxiety and tension states; alcoholism; intractable pain; behavior disorders in children; surgery and obstetrics; senile agitation; and the emotional stress associated with certain somatic conditions.

Spirt & Company, Waterbury, Connecticut (Booth 30), will feature Lipan, new oral medication for the treatment of psoriasis. Lipan therapy is based on the well-accepted hypothesis that psoriasis is principally due to a disturbance of the fat metabolism. Lipan is a special preparation of whole pancreas which digests fats. Clinical data and literature will be available from trained representatives.

E. R. Squibb & Sons, Division of Olin Mathieson Chemical Corporation, New York City (Booths 10 and 11), has long been a leader in development of new agents used in prevention and treatment of disease. The results of diligent research is quickly made available to the medical profession as new products or improvement on products already marketed. At this booth up-to-date information on these advances will be presented for your consideration.

The Stuart Company, Chicago, Illinois (Booth 5). Your local Stuart representatives issue a cordial invitation to visit their booth. You will find them very willing to discuss the Stuart line and answer any questions pertaining to it.

Swift & Company, Chicago, Illinois (Booth 126). The new improved flavor and texture of Swift's Meats for Babies & Juniors, which are now available in glass jars, will be the keynote of the Swift & Company exhibit. You are cordially invited to discuss these new developments in the originator brand of all-meat product for infants with the Swift representative. Clinical research literature is available.

Tampax Incorporated, New York City (Booth 71). Your opinion of internal menstrual protection is important to your women patients. Tampax educational consultants at the exhibit will explain the correct use of the three absorbencies, Junior, Regular, and Super. As an aid to patient education, Tampax Incorporated will display at the exhibit medical studies on tampons, literature on menstruation, menopause, and adolescence, the Dickinson anatomic charts and teaching model.

United Medical Service, Inc., New York City (Booth 128). The Doctor's Plan exhibit shows how physicians control United Medical Service. A map, with photos attached, indicates the home counties of the physician majority of the board of directors. On the wings are the names and pictures of the physician committees which control U.M.S. policies, elect the board of directors, and arbitrate allowance questions.

Universal Products Corporation, Norristown, Pennsylvania (Booth 22). Have you ever wished you had a light at the tip of your finger? "Surgeon's Fingalyte" being demonstrated is just that, penetrates light into and under all crevices, gives perfect transillumination, useful in diagnosing and surgery; other features include headlight weighing 2 ounces contained in case, also "Surgeon's X-L-Lyte" with 75,000 in use, together with a Tone Controle Stethoscope.

The Upjohn Company, Kalamazoo, Michigan (Booth 61). Members of the medical profession are invited to visit the Upjohn booth where members of the Upjohn Company professional detail staff are prepared to discuss subjects of mutual interest.

U.S. Vitamin Corporation, New York City (Booth 87). Exhibit features Panthoderm Cream, the new and strikingly effective antipruritic healing ointment. Dermatoses, long-resistant skin lesions, topical ulcers, and slow-healing wounds show rapid clinical improvement; pain, itching, and irritation abate rapidly. Professional samples and literature will be distributed also on our complete line of nutritional and pharmaceutical specialties.

Walker Laboratories, Inc., Mount Vernon, New York (Booth 3). Precalcin, Precalcin Lactate, Bacimycin Ointment, Adcets, and Hedulin will be displayed at this exhibit. Precalcin Lactate is the phosphorus-free comprehensive multivitamin-mineral formula with "built-in" antianemia factors for use during pregnancy. Hedulin is the relatively safe, oral anticoagulant described in recent papers, and complete reprint portfolios will be available to all registered physicians.

Wallace Laboratories, Division of Carter Products, Inc., New Brunswick, New Jersey (Booths 43 and 44). Miltown, the original meprobamate, will be featured at the Wallace Laboratories' exhibit. It is an entirely new type of tranquilizer with muscle-relaxing action. It is of value in treating anxiety-tension states, muscle spasm, sleeplessness due to worry, and certain neurologic disorders. Miltown does not have autonomic side-effects, is well tolerated, and is not habit forming.

Warner-Chilcott Laboratories, New York City (Booth 136). A visit to the Warner-Chilcott booth will pay dividends, especially in the interests of your cardiovascular patients. The company is featuring two clinically tested and proved agents: one to help you prevent attacks of angina pectoris; the other, the most potent drug currently available for reduction of blood pressure in hypertensive patients.

Alan Wende Company, Inc., Mineola, New York (Booth 51), presents Glytrime for the effective prophylaxis of angina pectoris. Glytrime, a prolonged action tablet, provides steady, uniform release and absorption of glyceryl trinitrate with therapeutic activity lasting for ten to twelve hours. Also displayed will be Respilette, a new nonantihistaminic, oligodynamic, and synergistic tablet for hay fever and other forms of allergic and vasomotor rhinitis.

Westwood Pharmaceuticals, Division of Foster-Milburn Company, Buffalo, New York (Booth 97), will display Gentia-Jel, the only effective gentian violet jelly you can prescribe for self-treatment by the patient at home. Eliminates messy office treatments which often stain your furniture and clothing. Lowila Cake, the only completely soapless skin cleanser, in cake form, is available to your allergic or dermatitic patients whenever soap is contraindicated. Obtain a Lowila Cake from the Westwood booth for your own personal use.

White Laboratories, Inc., Kenilworth, New Jersey (Booth 113). Stimulate appetite, improve muscle tone, speed convalescence through a more efficient utilization of protein. Correct proportion of amino acids to each other in the diet is more important than total protein intake. White's L-lysine preparations, Lactofort, Cerofort tablets, and Cerofort elixir raise milk, cereal, and vegetable proteins to high values.

Winthrop Laboratories, Inc., New York City (Booths 106 and 107). Featured will be Alevaire, nontoxic inhalant which thins sticky pulmonary secretions in bronchitis, bronchiectasis, and neonatal asphyxia. Otamylon, ear drops, provide new effectiveness in ear canal therapy. Otamylon contains Sulfamylon HCl 5 per cent and benzocaine 5 per cent in propylene glycol and is bactericidal, fungicidal, analgesic, and hygroscopic.

Wyeth Laboratories, Philadelphia, Pennsylvania (Booth 60), will feature Pen. Vee. Oral (Penicillin V) Tablets and Pen. Vee. Suspension, the new acid-stable penicillin with minimal destruction in the stomach and maximal absorption from the duodenum. Blood levels are higher than those produced with parenteral procaine penicillin G. Also featured will be Ansolysen Tartrate (Pentolinium Tartrate), unique ganglionic-blocking agent for use in management of moderately severe, severe, and malignant cases of hypertension. Orally effective, Ansolysen reliably lowers blood pressure, relieves subjective symptoms of hypertension, and is remarkably free from uncontrollable by-effects.

F. E. Young & Company, Chicago, Illinois (Booth 140), will exhibit Young's Dilators, PSP Test Set, and Young's Albumin Test. Young's Dilators are used in the treatment and prevention of contracted anus, particularly following hemorrhoidectomy, constipation, congenital stricture, prolapse, dysmenorrhea, dyspareunia, perineal dissection, and repair following delivery.

Zenith Radio Corporation, New York City (Booth 25), will provide a display featuring the advances Zenith has made in the design and manufacture of hearing aids. The display will also include information and demonstration of Zenith's latest transistor instruments.

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James A. Moore, Albany
John F. Mosher, Coeymans
Arthur J. Sullivan, Albany

Allegany (1)
Irwin Felsen, Wellsville

Bronx (13)
Joseph P. Alvich, Bronx
Henry J. Barrow, Bronx
Edward P. Flood, Bronx
Charles W. Frank, Bronx
George A. Howley, Bronx
Moses H. Krakow, Bronx
Frank LaGattuta, Bronx
Samuel Leo, Bronx
Thomas F. McCarthy, Bronx
Charles Sandler, Bronx
Abraham B. Tamis, Bronx
Samuel Wagreich, Bronx
Frederick A. Wurzbach, Jr., Bronx

Broome (3)
Elton R. Dickson, Binghamton
Leonard J. Flanagan, Binghamton
John A. Kalb, Endicott

Cattaraugus (1)

Cayuga (1)
Bernard J. Hartnett, Auburn

Chautauqua (2)
Robert R. Northrup, Westfield
Edward L. Schwabe, Brocton

Chemung (2)
Ross E. Hobler, Elmira
R. Scott Howland, Elmira

Chenango (1)
Norman C. Lyster, Norwich

Clinton (1)
Leonard J. Schiff, Plattsburgh

Columbia (1)
John L. Edwards, Hudson

Cortland (1)
George F. Nevin, Cortland

Delaware (1)
Orin Q. Flint, Delhi

Dutchess (3)
Maxwell Gosse, Poughkeepsie
E. Gordon MacKenzie, Millbrook
John F. Rogers, Poughkeepsie

Erie (8)
E. Dean Babbage, Buffalo
Antonio F. Bellanca, Buffalo
Virgil H. F. Boeck, Buffalo
John C. Brady, Buffalo
Thomas S. Bumbalo, Buffalo
Stephen A. Graczyk, Buffalo
Samuel Sanes, Buffalo
Water Scott Walls, Buffalo

Essex (1)
James E. Glavin, Port Henry

Franklin (1)
Carl G. Merkel, Saranac Lake

Fulton (1)
Sylvester C. Clemans, Gloversville

Genesee (1)
Alfred L. George, Batavia

Greene (1)
Kenneth F. Bott, Greenville

Herkimer (1)
George A. Burgin, Little Falls

Jefferson (1)
Charles A. Prudhon, Watertown

Kings (24)
George E. Anderson, Brooklyn
Louis Berger, Brooklyn
Benjamin M. Bernstein, Brooklyn
Ben A. Borkow, Brooklyn
Leo S. Drexler, Brooklyn
John J. Flynn, Brooklyn
Edwin A. Griffin, Brooklyn
Alfred P. Ingegno, Brooklyn
Arthur P. Kane, Brooklyn
David Kershner, Brooklyn
Aaron Kottler, Brooklyn
Isaac Levine, Brooklyn
Charles H. Loughran, Brooklyn
Harry A. Mackler, Brooklyn
A. W. Martin Marino, Brooklyn
John G. Masterson, Brooklyn
Charles F. McCarty, Brooklyn
David B. Monheit, Brooklyn
Irving J. Sands, Brooklyn
Solomon Schussheim, Brooklyn
Abraham D. Segal, Brooklyn
Milton B. Spiegel, Brooklyn
Charles E. Spratt, Brooklyn
Robert F. Warren, Brooklyn

Lewis (1)

Livingston (1)
Ernest A. Sanders, Lima

Madison (1)
Felix Ottaviano, Oneida

Monroe (6)
Henry Baker Crawford, Rochester
Gordon M. Hemmett, Rochester
Donovan M. Jenkins, Webster
Lawrence A. Kohn, Rochester

Joseph A. Lane, Rochester
Roland E. Stevens, Rochester

MONTGOMERY (1)
Martin F. Geruso, Amsterdam

NASSAU (7)
Gerard V. Farinola, Roosevelt
John M. Galbraith, Glen Cove
Stephen F. Gerde, Freeport
E. Kenneth Horton, Rockville Centre
Percival A. Robin, Manhasset
Paul H. Sullivan, Great Neck
Joseph G. Zimring, Long Beach

NEW YORK (25)
Philip D. Allen, New York City
Norton S. Brown, New York City
Samuel B. Burk, New York City
Joseph E. Corr, New York City
Harold B. Davidson, New York City
A. Wilbur Duryee, New York City
Lawrence Essenson, New York City
James H. Ewing, New York City
George W. Fish, New York City
Frances A. Harmatuk, New York City
George Himler, New York City
John J. H. Keating, New York City
Ely Elliott Lazarus, New York City
Kenneth M. Lewis, New York City
William Hall Lewis, Jr., New York, City
John L. Madden, New York City
Gervais W. McAuliffe, New York City
Thomas H. McGavack, New York City
Peter M. Murray, New York City
Herbert S. Ogden, New York City
Henry T. Randall, New York City
William B. Rawls, New York City
Adelaide Romaine, New York City
William L. Wheeler, Jr., New York City
W. Laurence Whittemore, New York City

NIAGARA (2)
John C. Kinzly, North Tonawanda
Guy S. Philbrick, Niagara Falls

ONEIDA (3)
John S. Fitzgerald, Utica
Arthur F. Gaffney, Clinton
John F. Kelley, Utica

ONONDAGA (5)
Irving L. Ershler, Syracuse
William J. Michaels, Jr., Syracuse
Dwight V. Needham, Syracuse
William E. Pelow, Syracuse
W. Walter Street, Syracuse

ONTARIO (2)
Robert E. Doran, Geneva
Philip M. Standish, Canandaigua

ORANGE (3)
Robert J. Hewson, Monroe
Theodore R. Proper, Newburgh
Irving Weiner, Newburgh

ORLEANS (1)
Angelo F. Leone, Medina

OSWEGO (1)
Olin J. Mowry, Oswego

OTSEGO (1)
John W. Latcher, Oneonta

PUTNAM (1)
Robert S. Cleaver, Brewster

QUEENS (13)
Alfred A. Angrist, Jamaica
Sol Axelrad, Woodhaven
William Benenson, Flushing
Monroe M. Broad, Jamaica
Frank J. Cerniglia, Rego Park
Meyeron Coe, Queens Village
Thomas M. d'Angelo, Flushing
Albert H. Douglas, Jamaica
John L. Finnegan, Flushing
Ferdinand H. Herrman, Far Rockaway
George J. Lawrence, Jr., Flushing
John Edward Lowry, Flushing
Anthony A. Mira, Forest Hills

RENSSELAER (2)
Gilbert A. Clark, Troy
Richard P. Doody, Troy

RICHMOND (3)
Walter T. Heldmann, Staten Island
Leif G. Jensen, Staten Island
Frank Tellefsen, Staten Island

ROCKLAND (2)
Harold. W. Grosselfinger, Suffern
George Gordon Knight, Piermont

ST. LAWRENCE (1)
Thomas M. Watkins, Potsdam

SARATOGA (1)
Webster M. Moriarta, Saratoga Springs

SCHENECTADY (3)
James M. Blake, Schenectady
Raymond J. Byron, Schenectady
Donald C. Walker, Delanson

SCHOHARIE (1)

SCHUYLER (1)
Paul F. Willwerth, Montour Falls

SENECA (1)
Stanley B. Folts, Interlaken

STEUBEN (2)
Thomas S. Cotton, Hornell
Maynard W. Gurnsey, Corning

SUFFOLK (4)
Francis J. O'Neill, Central Islip
Sol Shlimbaum, Bay Shore
John L. Sengstack, Huntington
David J. Wexler, Islip Terrace

SULLIVAN (1)
S. Elizabeth Vuornos, Liberty

TIOGA (1)
Frederick K. Shaw, Waverly

TOMPKINS (1)
C. Stewart Wallace, Ithaca

ULSTER (2)
Eugene F. Galvin, Rosendale
Edward F. Shea, Kingston

WARREN (1)
Morris Maslon, Glens Falls

WASHINGTON (1)
Walter S. Bennett, Granville

WAYNE (1)
James H. Arseneau, Lyons

WESTCHESTER (7)
John N. Dill, Yonkers
Harold J. Dunlap, New Rochelle
Reid R. Heffner, New Rochelle
Henry E. McGarvey, Bronxville
W. Alex Newlands, Tarrytown
Waring Willis, Bronxville
Christopher Wood, White Plains

WYOMING (1)
Willard J. Chapin, Perry

YATES (1)
William G. Roberts, Penn Yan

1956 HOUSE OF DELEGATES—REFERENCE COMMITTEES

Credentials

Charles F. McCarty, *Chairman*, Kings
Everett A. Jacobs, Third District Branch, Columbia
Henry J. Barrow, Bronx
E. Gordon MacKenzie, Dutchess
Bernard J. Hartnett, Cayuga

President's Report

Philip D. Allen, *Chairman*, New York
Walter Scott Walls, Erie
Francis J. O'Neill, Suffolk
William Benenson, Queens
Olin J. Mowry, Oswego

Reports of Secretary, Judicial Council, and District Branches

Joseph G. Zimring, *Chairman*, Nassau
Maxwell Gosse, Dutchess
Charles W. Frank, Bronx
Webster M. Moriarta, Saratoga
C. Stewart Wallace, Tompkins

Reports of Treasurer, Trustees, Budget, War Memorial, Expense Curtailment

John F. Rogers, *Chairman*, Dutchess
Ben A. Borkow, Kings
John F. Mosher, Albany
Adelaide Romaine, New York
R. Scott Howland, Chemung

Planning Committee for Medical Policies

John F. Kelley, *Chairman*, Oneida
Christopher Wood, Westchester
E. Dean Babbage, Erie
Peter M. Murray, New York
Gilbert M. Palen, Sixth District Branch, Delaware

Malpractice Insurance and Defense Board, Legal Counsel

Frank LaGattuta, *Chairman*, Bronx
Alfred P. Ingegno, Kings
E. Kenneth Horton, Nassau
Samuel Sanes, Erie
Arthur J. Sullivan, Albany

Constitution and Bylaws Committee of Council, Questions of Ethics, Review of Dr. Ben E. Landess Case

William E. Pelow, *Chairman*, Onondaga
John G. Masterson, Kings
Herbert S. Ogden, New York
Frederick K. Shaw, Tioga
Antonio F. Bellanca, Erie

Council—Part I

POSTGRADUATE EDUCATION, CIVIL DEFENSE, INHALATION THERAPY

Thomas M. Watkins, *Chairman*, St. Lawrence
James H. Arseneau, Wayne
Samuel Wagreich, Bronx
Anthony A. Mira, Queens
Charles H. Loughran, Kings

Council—Part II

PUBLIC HEALTH ACTIVITIES A—MATERNAL AND CHILD WELFARE, SCHOOL HEALTH

Joseph E. Corr, *Chairman*, New York
Theodore R. Proper, Orange
Philip M. Standish, Ontario
Waring Willis, Westchester
Thomas S. Cotton, Steuben

Council—Part III

PUBLIC HEALTH ACTIVITIES B—INDUSTRIAL HEALTH, RURAL MEDICAL SERVICE, GENERAL PRACTICE

Norman C. Lyster, *Chairman,* Chenango
Kenneth F. Bott, Greene
Donald C. Walker, Schenectady
John J. Flynn, Kings
Ernest A. Sanders, Livingston

Council—Part IV

PUBLIC HEALTH ACTIVITIES C—CANCER, BLOOD BANKS, HEART DISEASE, MENTAL HYGIENE, FILM REVIEW

Frederick A. Wurzbach, Jr. *Chairman,* Bronx
Alfred A. Angrist, Queens
Morris Maslon, Warren
Edward F. Shea, Ulster
A. Wilbur Duryee, New York

Council—Part V

PUBLIC HEALTH ACTIVITIES D—PHYSICAL MEDICINE AND REHABILITATION, GERIATRICS, DIABETES, CEREBRAL PALSY, HARD OF HEARING AND THE DEAF

John L. Sengstack, *Chairman,* Suffolk
Elton R. Dickson, Broome
Thomas S. Bumbalo, Erie
George E. Anderson, Kings
Harry Golembe, Section Delegate, Sullivan

Council—Part VI

MEDICAL LICENSURE AND MEDICAL SERVICE, HOSPITAL AND PROFESSIONAL RELATIONS, DENTAL HEALTH

Sol Axelrad, *Chairman,* Queens
Charles A. Prudhon, Jefferson
Guy S. Philbrick, Niagara
Joseph P. Alvich, Bronx
Arthur F. Gaffney, Oneida

Council—Part VII

ECONOMICS, MEDICAL CARE INSURANCE, PUBLIC MEDICAL CARE

Leonard J. Schiff, *Chairman,* Clinton
Walter S. Bennett, Washington
Alfred L. George, Genesee
James M. Blake, Schenectady
Norton S. Brown, New York

Council—Part VIII

LIAISON WITH VETERANS ADMINISTRATION, AMERICAN MEDICAL EDUCATION FOUNDATION, WOMAN'S AUXILIARY

Solomon Schussheim, *Chairman,* Kings
Richard P. Doody, Rensselaer
Orin Q. Flint, Delaware
Frank J. Borrelli, Section Delegate, New York
Edward L. Schwabe, Chautauqua

Council—Part IX

LEGISLATION

Samuel B. Burk, *Chairman,* New York
Charles Sandler, Bronx
Sydney L. McLouth, Eighth District Branch, Genesee
Irving J. Sands, Kings
John L. Edwards, Columbia

Council—Part X

WORKMEN'S COMPENSATION

John C. Brady, *Chairman,* Erie
Kenneth M. Lewis, New York
Harold W. Grosselfinger, Rockland
Dwight V. Needham, Onondaga
Samuel Leo, Bronx

Council—Part XI

PUBLICATION, PUBLIC RELATIONS

Robert F. Warren, *Chairman,* Kings
John Edward Lowry, Queens
W. Walter Street, Onondaga
James E. Glavin, Essex
Felix Ottaviano, Madison

Council—Part XII

CONVENTION, SESQUICENTENNIAL, NURSING EDUCATION, OFFICE ADMINISTRATION AND POLICIES, BELATED BILLS

Walter T. Heldmann, *Chairman,* Richmond
Moses H. Krakow, Bronx
G. Gordon Knight, Rockland
George A. Burgin, Herkimer
John M. Galbraith, Nassau

Miscellaneous Business A

George J. Lawrence, Jr., *Chairman,* Queens
Edward P. Flood, Bronx
Alfred A. Hartmann, Fourth District Branch, Franklin
James H. Ewing, New York
John H. Wadsworth, Schoharie
Martin F. Geruso, Montgomery

Miscellaneous Business B

Reid R. Heffner, *Chairman,* Westchester
John W. Latcher, Otsego
Vincent J. Collins, Section Delegate, New York
Sylvester C. Clemans, Fulton
Louis Berger, Kings

Résumé of Instructions of the 1955 House of Delegates and Actions Thereon by the Council, Board of Trustees, and Officers

Malpractice Insurance and Defense Expense of Uninsured Members (Section 82).—The secretary notified legal counsel, William F. Martin, Esq., and the Malpractice Insurance and Defense Board, Mr. Harry F. Wanvig, secretary, of the decision of the House of Delegates that "out-of-pocket" expenses in connection with suits or claims against uninsured members of our Society for alleged malpractice should be borne by said members and that any such members, not insured under the Group Malpractice Defense Plan of the Society, having "multiple suits within a given period of time shall be reported to the Malpractice Insurance and Defense Board." The Council referred to the board a suggestion that the words "within a given period of time" be defined. The board reported, "It was not intended that there be any time limit within which the three suits were instituted." The policy is that any uninsured member who has had three suits against him referred to the Society for defense be investigated by the board, which will recommend to the Council regarding defense of further suits which might arise against the member.

Survey of Malpractice Experience and Cost at County Level (Section 117).—In regard to the request of the Medical Society of the County of Westchester to have its malpractice insurance rates classified as upstate rather than with the metropolitan area, the report of the Reference Committee on Reports of Malpractice Insurance and Defense Board and Legal Counsel contained the following: "The reference committee feels that the Medical Society of the County of Westchester has justification in its request. Further, the matter which the Westchester County Medical Society raises in its request may affect other counties. The committee recommends that the decision on the request from the Medical Society of Westchester County be postponed for the present. It further recommends that a State-wide survey be made of the malpractice experience and cost at a county level on a sound actuarial basis, with a view to the feasibility of formulating reclassifications for premium purposes other than the present geographic classification."

The Council voted that the question of conducting a survey be referred to the Budget Committee and the Board of Trustees for study and recommendations to the Council.

At the September meeting the Board of Trustees voted to authorize Mr. Joseph Linder of Wolfe, Corcoran, and Linder to proceed with the survey at a cost not to exceed $1,250. This "territorial study" will be included in Mr. Linder's regular survey and report to the House of Delegates.

Panel of Experts (Section 118).—The adopted report also contained the following paragraph: "The committee supports and approves the recommendation made by the Board in its report under the heading, *Panel of Experts*, that the House of Delegates withdraw the 1954 directive—authorizing the formation of a panel of outstanding physicians and surgeons throughout the State, whose members would be available to assist the Board and legal counsel in the preparation of effective defenses and appearing as witnesses—until such time as the Board and legal counsel can determine how a State-wide panel can be used to better advantage than appears possible at present."

The Malpractice Insurance and Defense Board was so notified.

District Branches (Section 85).—The report of the Reference Committee on Reports of Secretary, Judicial Council, and District Branches, as adopted by the House of Delegates, "recommends the functions of the district branches, as provided for in our Constitution and Bylaws, be referred to and reassessed by the Council." In regard to the same subject the speaker referred, to the House Committee on Constitution and Bylaws, resolution number 55-29 (Section 64), which states: "Resolved, that the Bylaws of the Medical Society of the State of New York be changed so as to eliminate the district branches."

The Council voted to refer this to the Constitution and Bylaws Committee of the House of Delegates. (*See Annual Reports in this issue, Report of House of Delegates Special Committee on Constitution and Bylaws, page 1147.*)

Ninth District Branch Annual Meeting (Section 85).—The officers of the Ninth District Branch and its component county medical societies were notified by the secretary that the House of Delegates voted that their annual meeting will consist of a meeting of their delegates at the House of Delegates and that its activities will be limited to the election of officers. However, Mr. William F. Martin, legal counsel, was of opinion that such change in type of meeting was contrary to the branch constitution and bylaws and contrary to the Bylaws of the State Society. Therefore, an annual meeting was held as usual. The executive committee of the Ninth District Branch have under advisement the question of constitutional changes. (*See Annual Reports in this issue, Report of the Ninth District Branch, page 1163.*)

Sections referred to are from the Minutes of the House of Delegates of the 1955 Annual Meeting, as published in the NEW YORK STATE JOURNAL OF MEDICINE, September 1, 1955, Part II.

Curtailment of Expenses (Section 82).—The following recommendations were adopted by the House of Delegates as part of the report of the Reference Committee on Report of Trustees:

> 1. That the Council and Board of Trustees be authorized to defer action on any new item of major current expense for the coming year pending further study of Society expenditures.
> 2. That any future resolution voted upon by the House of Delegates, requiring the expenditures of money, include a statement of the amount of money that may be expended for the purpose and source of appropriation.
> 3. That a committee of the Trustees and Council review present expenditures and advise this House at its 1956 meeting regarding the possible sharp curtailment of such expenditures. It is suggested that such a committee give particular thought to:
> (*a*) The possibility of reducing administrative expense by the use of more efficient methods and equipment;
> (*b*) Reducing to a necessary minimum public and professional relations activities;
> (*c*) Eliminating the Legislation Bureau and pinpointing activities of this sort to the actual legislative session and to the obtaining of special counsel for specific projects as required;
> (*d*) Reduction of expenses of the Workmen's Compensation Bureau and of the Bureau of Medical Care Insurance, and with respect to the latter, consideration as to whether or not expenses of the Bureau of Medical Care Insurance may not properly be contributed to by the various Blue Shield Plans;
> (*e*) Reduction of travel expenses and consideration of the possibility of arranging for some committee meetings and conferences by telephone hookup with the various county medical societies;
> (*f*) Careful scrutiny of commitments to the Blood Banks Association of New York, Inc. (Indeed at this very session, the House of Delegates should instruct the Board of Trustees specifically as to the extent it should commit funds of the Society to this project);
> (*g*) Issuance of the *Medical Directory* at longer intervals than every two years, but with brief interval supplements.
> 4. In view of the foregoing, your reference committee advises that the request for additional dues be disapproved.

The Council referred this to the Budget Committee. (*See Additional Annual Reports in April 15 issue, Expense Curtailment Committee and Budget Committee.*)

Integration of Workmen's Compensation and Industrial Health Bureaus (Section 89).—The report of the Reference Committee on Report of the Planning Committee for Medical Policies, which was adopted, contained the following matter: "Regarding the integration of the Bureau of Medical Care Insurance, the Bureau of Workmen's Compensation, and the Industrial Health Bureau, the Planning Committee recommended that the Bureau of Workmen's Compensation and the Industrial Health Bureau be integrated into one department, since these bureaus have much in common, and that a physician direct the combined bureaus—if possible, a physician competent in industrial medical practice who can properly represent us in medical compensation practice and in educational activities for industry, labor, and the medical profession. The Planning Committee felt that the Bureau of Medical Care Insurance has nothing in common with the Bureaus of Workmen's Compensation and Industrial Health and should not be combined with them."

This was referred by the Council to the Workmen's Compensation and Industrial Health Committees for information.

Membership Study (Section 89).—The report continued: "Your reference committee believes that an increase in membership can best be obtained through county society effort and planning but that the State Society should continue to assist in every manner possible and should, through a continual periodic survey, stimulate to a greater degree those counties having a larger percentage of nonmembers. As stated previously, your reference committee feels that membership in the A.M.A. should be required of all members of this House of Delegates. However, although 100 per cent membership in the A.M.A. would be ideal, it is extremely doubtful that compulsion should be employed. Persuasion is a much more desirable method, and the A.M.A. itself could and should make a more active and concerted effort to increase its membership. Your reference committee recommends that this study be continued, with a possibility that all-inclusive dues be established for county, State, and A.M.A. membership of a total sum less than the present separate dues."

The foregoing was read for the information of the Council at its June meeting. (*See Additional Annual Reports in April 15 issue, Report of the Planning Committee for Medical Policies.*)

Committee Study (Section 89).—The reference committee also recommended that the study of State Society committees be continued, with words of caution "against overemphasizing expense." (*See Additional Annual Reports in April 15 issue, Report of the Planning Committee for Medical Policies.*)

Method of Electing American Medical Association Delegates (Section 89).—This reference committee also recommended a continuation of the study by the Planning Committee for Medical Policies in regard to the method of electing delegates from our Society to the American Medical Association. (*See Additional Annual Reports in April 15 issue, Report of the Planning Committee for Medical Policies.*)

Medical Defense (Section 70).—The report of the Reference Committee on Report of Council—Part I recommended that the Medical Defense Committee "continue to function and that its deliberations be disseminated in the NEW YORK STATE JOURNAL OF MEDICINE and in the *Newsletter*."

Inhalation Therapy (Section 71.)—This report also recommended continuation of the Special Joint Committee on Inhalation Therapy, which President Azzari and Council reappointed May 11, 1955.

Hospital and Professional Relations (Section 128).—The House of Delegates commended your

Special Committee to Study Hospital and Professional Relations and adopted its report, changing only the wording of two phrases. The words "under terms or conditions which permit the sale of the services of that physician by such agency for a fee" were substituted for the words "under terms or conditions which permit exploitation of the patient, the hospital, or the physician," in the proposed principles to be agreed upon by the Medical Society of the State of New York and the Hospital Association of New York State. Headed Fiscal Relations of Physicians with Hospitals (B), it now would read: "The financial arrangements, if any, between a hospital and a physician properly may be placed on any mutually satisfactory basis, but a physician shall not dispose of his professional services to any hospital, lay body, organization, group, or individual, by whatever name called or however organized, under terms or conditions which permit the sale of the services of that physician by such agency for a fee."

And in the committee's report, Appendix A-4, the same change of words was adopted so that the paragraph would now read: "The right of an individual to develop the terms of his services on the basis of local conditions and needs is recognized, but such contractual arrangements should in all cases ensure (*a*) the policy of professional incentive for the physician and (*b*) progressive development of the hospital departments involved, in order that increasingly improved services to patients may be rendered. Moreover, a physician shall not dispose of his professional attainments or services to any hospital, lay body, organization group, or individual, by whatever name called or however organized, under terms or conditions which permit the sale of services of that physician by such agency for a fee."

This was referred by the Council to the Committee on Hospital and Professional Relations. (*See Annual Reports in this issue, Council—Part VI, page 1110.*)

Extension of Time Limitation on Reports to Department of Social Welfare (Section 129).—Resolution number 55-9 as amended was adopted by the House of Delegates. They recommended its referral to the Subcommittee on Public Medical Care of the Economics Committee for further negotiations with the State Department of Welfare. This resolution deplored the "forty-eight-hour limitation" for initial reporting of social welfare cases and recommended that "five-day limitation or until liability of Welfare Department has been assumed" be the time recommended to the Welfare Department for reporting.

The Council referred this to the Subcommittee on Public Medical Care of the Economics Committee. This was accomplished. (*See Annual Reports in this issue, Council—Part VII, page 1118.*)

Denial of Free Choice of Physician to County Welfare Patients (Section 130).—The House approved and recommended referring to the same subcommittee resolution number 55-10, which deplored refusal of the Madison County Welfare Department to reimburse private physicians if a State facility was available, thereby abrogating free choice of physician, and directed that the State Society voted "to take definite action aimed to secure the elimination of this deplorable situation."

The Council referred this also to the Subcommittee on Public Medical Care of the Economics Committee. (*See Annual Reports in this issue, Council—Part VII, page 1118.*)

Forced Donations by Physicians to Hospital Drives (Section 131).—The House resolved that there be an investigation regarding the alleged requirement of physicians to contribute money to hospitals and, if "this situation be a State-wide condition, that measures be taken to alleviate the situation."

The Council voted to refer this to the Committee on Hospital and Professional Relations. (*See Annual Reports in this issue, Council—Part VI, page 1110.*)

Blood Banks Association of New York State (Section 145).—The House of Delegates voted the following recommendations regarding Blood Banks Association of New York State, Inc.:

1. That the original Blood Banks Association be continued in its original intent under the supervision of the Blood Banks Commission.
2. That the regional blood clearinghouse program be under the control of the Blood Banks Association. Many state medical societies are already part of this program.
3. Study and report to the Blood Banks Commission by the blood assurance program of the advisability of raising the $3.00 per pint fee to a proper cost-estimate fee.
4. That the blood assurance program be continued with the following controls:
   (*a*) Report must show the number of certificates suitable to the Council by January 1, 1956.
   (*b*) Economies must be shown to the Blood Banks Commission to have been effected by July 1, 1955.
   (*c*) Evidence of reorganization must be shown to the Blood Banks Commission by July 1, 1955.
   (*d*) The limit of deficit by January 1, 1956, must not exceed the estimate of $18,000 deficit as described in this report.

The House also voted that if recommendation Number 4, a, b, c, and d, is not met, the Council act with the following recommendations of the reference committee in mind:

(*a*) That the blood assurance program be discontinued.
(*b*) That no further certificates of assurance be issued.
(*c*) That certificates of assurance then in effect be continued to their expiration date and then not renewed.
(*d*) Claims of blood be arranged to be paid by blood banks at the local level at a fee to be arranged between these blood banks and the Blood Banks Association, Inc.
(*e*) That no additional loans be made to the Blood Assurance Program after this date.
(*f*) That sufficient funds be allocated to close out these Blood Assurance Program debts.
(*g*) That the Council and Trustees be authorized to carry out these recommendations.

The Council referred this to the Blood Banks Commission. (*See Annual Reports in this issue, Report of the Blood Banks Commission, page 1153.*)

Maternal and Child Welfare (Section 87).—The reference committee report regarding maternal and child welfare and school health was adopted by the House of Delegates. It contained the suggestion "that it might be instructive to publish yearly in the JOURNAL the incidence of maternal deaths and perinatal deaths by county or by region," inasmuch as these statistics "are not usually seen by the average members of this Society."

The Council referred this to the Maternal and Child Welfare Subcommittee through the Public Health and Education Committee. (*See Annual Reports in this issue, Council—Part II, page 1099.*)

School Health (Section 88).—This reference committee noted that school health is a problem of the Department of Health in New York City, Buffalo, and Rochester, and in the rest of the State school health is under the Division of Health of the Education Department.

The Council voted that this statement be similarly referred. (*See Annual Reports in this issue, Council—Part II, page 1099.*)

Autopsy Law (Section 106).—The House of Delegates endorsed the proposed revision of the autopsy law and voted that its passage be actively promoted and that every effort be made to obtain the support of the executive branch, including, if indicated, a petition to Governor Harriman.

This was referred to the Committee on Legislation. (*See Annual Reports in this issue, Council—Part IX, page 1120.*)

Workmen's Compensation (Section 108).—The House approved the following recommendations of the Workmen's Compensation Committee regarding amendments to the law:

"1. To arbitrate disputed medical bills in the county in which the medical service was rendered rather than in the county in which the claimant resides.

"2. To create panels of specialists rather than single experts now appointed by the chairman.

"3. To amend Section 13-c 2, which restricts x-ray examinations to specialists in x-ray only, disregarding general practitioners and other specialists who properly use x-rays within the limits of their qualifications and specialty.

"4. To amend Section 10-a of the Labor Law and the Workmen's Compensation Law to give the Medical Appeals Unit full power in appeals rather than advisory power only."

These recommendations were referred by the Council to the Committee on Legislation. (*See Annual Reports in this issue, Council—Part IX, page 1120.*)

Workmen's Compensation: Elimination of Medical Practice Committee (Section 111).—Also, the House adopted a resolution calling for introduction of a bill and its vigorous pursuit to abolish the Medical Practice Committee of the Workmen's Compensation Board and restore to counties with population over one million the same functions that other county workmen's compensation committees have.

The Council voted to refer this to the Committee on Legislation. (*See Annual Reports in this issue, Council—Part IX, page 1120.*)

Workmen's Compensation Committee Members Appearing at District Branch Meetings (Section 108).—The House of Delegates voted: "that a representative of the Council Committee on Workmen's Compensation and members of workmen's compensation committees be invited to appear not only at local society meetings but also at district branch meetings, to discuss all phases of workmen's compensation as it affects the profession and those other interested parties with whom we must share responsibility in the treatment of compensation claimants and the prompt adjudication of their claims."

As instructed by the Council, the secretary so notified the district branch presidents. Matters pertaining to the Workmen's Compensation Law and medical care of injured workmen were discussed at several meetings in different parts of the State during the past Society year.

Workmen's Compensation Medical Practice in Veterans Administration Hospitals (Section 109).—Also, the House in adopting resolution number 55-12 recommended "that the Council, through the Bureau of Workmen's Compensation, determine the extent to which veterans hospitals are treating compensation cases and that the Society make every effort to abate any abuse of the Workmen's Compensation Law that may exist."

The Council voted to refer this to the Workmen's Compensation Committee. (*See Annual Reports in this issue, Council—Part X, page 1125.*)

Guide for Cooperation (Section 123).—On a supplementary report of the Public Relations Committee, the House of Delegates voted that a Guide for Cooperation with media of information be reviewed annually in conference with representatives of these media.

This was read to the Council for information. (*See Annual Reports in this issue, Council—Part XI, page 1141.*)

New York State Journal of Medicine: Copies for Medical Students (Section 122).—Further action by your House of Delegages was to recommend that the Publication Committee continue "during the next succeeding academic year" to supply the NEW YORK STATE JOURNAL OF MEDICINE free of charge to all fourth-year medical students in New York State."

Identification of State Society Officers (Section 120).—Another resolution passed by the House was that "all elected officers of the Medical Society of the State of New York be identified according to their respective county medical societies on the officers pages of the NEW YORK STATE JOURNAL OF MEDICINE."

This item and the preceding item were referred to the Publication Committee; the committee has carried out the instructions.

Principles of Professional Conduct (Section 135).—The Reference Committee on Report of Council—Part XII considered matters of ethics. It noted that the Council had advocated that the county societies not enforce the following three changes in the *Principles of Professional Conduct,* which had been adopted by the 1954 House of Delegates:

1. Clarification of Chapter I, Section 4, under the heading of Advertising;
2. Addition of a sentence to Chapter III, Article 6, Section 3, under the heading of Contract Practice; also adding "duly licensed" before the words "physician" and "physicians";
3. Clarification of Chapter III, Article 6, Section 4, under the heading of Free Choice of Physician.

The House approved the reference committee's recommendations:

A. The Council again request county medical societies not to activate aforesaid changes until after meeting of the 1956 House of Delegates;

B. The Council temporarily interpret the portion on contract practice that it not apply to local health officers;

C. The Council prepare changes covering these features in language not ambiguous, to be presented at the next meeting of the House of Delegates.

It was noted that the addition of Section 7 to Chapter III, Article 6, of the *Principles of Professional Conduct,* entitled Proration of Fees, was made mandatory by law in 1954.

The Council referred these instructions to the Committee on Questions of Ethics. The secretary sent a memorandum to the presidents of the county medical societies transmitting the request recommended in paragraph A. (*See Annual Reports in this issue, Report of Committee on Questions of Ethics, page 1093.*)

Advertising of Medical Books Written for the Laity (Section 137).—The House also voted approval of the report of the same reference committee regarding Dr. Leonard J. Schiff's resolution concerning "questionable advertising of medical books written for the laity." This requests the Council to investigate, study, and take any necessary appropriate action regarding medical books which are advertised to the general public "in such a manner as to appeal to lewd and lecherous curiosity."

This was considered by the Committee on Legislation and, on recommendation of that committee, was referred to the Committee on Questions of Ethics at the January, 1956, Council meeting.

Industrial Health Bureau (Section 95).—In dealing with the report regarding industrial health, the House of Delegates approved of the reference committee's report, which stated in part:

> In the meantime the problem has become more crucial as management and labor unions, either separately or together, are setting up health centers to furnish some type of medical care to their employes. In the majority of the cases no help is sought from organized medicine in setting up these health facilities.
>
> The problem, in the opinion of your reference committee, rests with the Council and the Board of Trustees to obtain a properly qualified expert to run the Bureau of Industrial Medicine with the funds that are available.

This was referred to the Special Committee to Establish an Industrial Health Bureau. (*See Annual Reports in this issue, Council—Part III, page 1100.*)

Geriatrics (Section 74).—The House of Delegates voted that the work of the Subcommittee on Geriatrics should be coordinated with that of the Subcommittees on General Practice, Mental Hygiene, Heart Disease, Physical Medicine and Rehabilitation, and "such Council committees as Economics and Medical Care Insurance."

This was referred to the Public Health and Education Committee. (*See Annual Reports in this issue, Council—Part V, page 1108.*)

Hard of Hearing and the Deaf (Section 75).—Furthermore, the House voted approval of the recommendation that "the position of Commissioner of the Deaf should be created by the State."

This was referred to the Committee on Public Health and Education.

Cerebral Palsy (Section 76).—Also, the House voted "that the State Society should take more interest in" the subject of cerebral palsy and "that the subcommittee's efforts should be coordinated with those of the Legislation Committee and the Committee on Public Relations."

This action was reported to the Council and noted by the appropriate committee chairmen.

Bricker Amendment (Section 98).—The House of Delegates voted "unqualified approval" of the proposed Bricker amendment to the United State Constitution.

This action was reported to the Council.

Questions on Procedure in Appeals to the American Medical Association Judicial Council (Section 138).—Regarding resolution number 55-13, which called for a request for rehearing of the case of Dr. Ben E. Landess by the American Medical Association Judicial Council, the House of Delegates voted that this resolution be referred to the Council and that the Council make a careful study of the decision of the American Medical Association Judicial Council in order to answer the following questions and take appropriate action:

1. Should lawyers be allowed to attend hearings before the Judicial Council of the State Society and the American Medical Association?
2. Should the Judicial Council of the American Medical Association act in appeals when the question is one to be decided by the courts?
3. Should the Judicial Council limit the appeal to questions of procedure, leaving out consideration of the facts?
4. The Council should also study whether the threat of action by the Justice Department of the Federal Government concerning possible antitrust law violations is threatening the free and honest

opinion of the Judicial Council of the American Medical Association in questions of Ethics.

A special committee, consisting of Dr. Frederic W. Holcomb and Dr. Thurman B. Givan, chairman, appointed for the purpose, reviewed the case with the assistance of Dr. Renato J. Azzari, Dr. W. P. Anderton, Dr. Edward R. Cunniffe, Dr. Ezra A. Wolff, Dr. Aaron Kottler, Mr. William F. Martin, Mr. John R. Burns, and Mr. Charles Margett. The committee found that the new evidence referred to in resolution 55-13 consists of publications which appeared in print subsequent to the determination of the Judicial Council of the American Medical Association and does not constitute a proper basis for a request to that body to reconsider the case.

The committee submitted the following answers to the questions referred to it:

1. It is the opinion of your committee that a physician brought up on a disciplinary procedure should have the right to be accompanied by counsel. Counsel may not, however, participate in questioning of witnesses.
2. The committee feels this question should be decided in each case. It is impossible to generalize.
3. If this relates to the Judicial Council of the State Society, it is covered in Chapter VI, Sections 5 and 6, of the Bylaws of the Medical Society of the State of New York. If it relates to the Judicial Council of the American Medical Association, it is covered by Article XI, Section 10 (a) (3), of the bylaws of the American Medical Association.
4. Although your committee acknowledges its importance, we regretfully report insufficient clairvoyance to be able to answer this item.

The committee's report was adopted by the Council.

A.M.A. Resolutions.—In accordance with instructions of the House of Delegates, members of the New York State delegation introduced three resolutions in the House of Delegates of the American Medical Association at its meeting in June, 1955.

1. A resolution to establish a scientific section on the history of medicine was introduced by Dr. J. Stanley Kenney; favorably reported by the reference committee and adopted.
2. A resolution requesting the board of trustees to study the possible establishment of a U.S. Medical Hall of Fame was introduced by Dr. Charles H. Loughran; adopted after favorable report by the reference committee.
3. A resolution directing the treasurer of the American Medical Association to reimburse county and state societies for their expenses in collecting and transmitting American Medical Association dues was introduced by Dr. Gerald D. Dorman and referred to the board of trustees. The recommendation of the board of trustees was that no change in policy be made at the present time. This was adopted by the House. The policy is to reimburse state societies and associations in the amount of 1 per cent of the A.M.A. dues collected by them.

Nursing Education in the New York City Area (Section 132).—The secretary advised Dr. John P. Myers, chancellor of the University of the State of New York, of the request of the House of Delegates that the Regents give grave consideration to suggestions regarding the revision of the nursing curriculum in the New York City area made by Regent Dominick F. Maurillo.

Commendation of Members of Education Department Staff (Section 44).—The secretary transmitted to Commissioner Lewis A. Wilson of the New York State Education Department the resolution of the House of Delegates commending the work of Messrs. Newcombe, Killough, Bardo, Tartikoff, Calanese, and others in his department in connection with control of the illegal practice of medicine. A copy of the resolution was also sent to Attorney General Jacob K. Javits.

Associated Hospital Service of New York, Twentieth Anniversary (Section 62).—The secretary transmitted to Associated Hospital Service of New York the congratulatory resolution of the House of Delegates.

Amendments to Constitution and Bylaws (Sections 64, 82, and 113).—The secretary transmitted to the chairman of the Special Committee on Constitution and Bylaws the proposed amendments which had been referred to that committee by the Speaker of the House of Delegates. (*See Annual Reports in this issue, Report of House of Delegates Special Committee on Constitution and Bylaws, page 1147.*)

Section on Physical Medicine (Section 99).—As voted by the House of Delegates, a *Section* on Physical Medicine has been established in place of the former *Session* on Physical Medicine to function in the scientific assembly of the annual Society convention.

Do You Have Your Hotel Reservation for the Annual Meeting?

If you do not now have a confirmed hotel reservation in New York City for the Annual Meeting of the Medical Society of the State of New York, May 7 to May 11, 1956, at the Hotel Statler, please fill out and mail the form at the bottom of this page, and send it directly to the Hotel Statler.

Should your request be received after the five hundred rooms set aside for the Society at the Hotel Statler have been assigned, your reservation will be turned over to one of the hotels in the neighborhood. Confirmation will come to you direct from the hotel making the accommodation.

If you do not use the form below, please be sure to identify yourself as a physician when writing regarding reservations. This will insure proper attention to your request.

W. P. Anderton, M.D., *Secretary*

All Reservations Must Be Received by April 20

150th Annual Meeting of the Medical Society of the State of New York,
May 7 to May 11, 1956

Front Office Manager
Hotel Statler, New York 1, New York
Please reserve accommodations as Checked (√) below:

Name (*Please Print*)..

Address..

City................................. Zone........ State..................

(Unless requested otherwise, we will hold your reservation until 6 p.m. of the day of your arrival.)

Date arriving.....................Hour.............A.M.........P.M.........

Room and Bath for one—			$ 7.00☐	$ 9.00☐	$11.00☐
per day			8.00☐	10.00☐	12.00☐
Double-Bed Room with Bath for two—				11.00☐	14.00☐
per day			10.00☐	12.50☐	15.00☐
Twin-Bed Room with Bath for two—		$11.50☐	13.50☐	15.00☐	17.00☐
per day	$10.50☐	12.50☐	14.00☐	16.00☐	18.00☐
Suite—Living Room, Bed and Bath				29.00☐	32.00☐

More Than Two Persons in One Room: For each additional person in Double- or Twin-Bed Room, the extra charge is $3.00 per day.

If a room at the rate requested is unavailable, reservation will be made at the next available rate.

1955–1956

Annual Reports

of the

Officers, Council, Trustees, and Committees

of the

Medical Society of the State of New York

to the

HOUSE OF DELEGATES

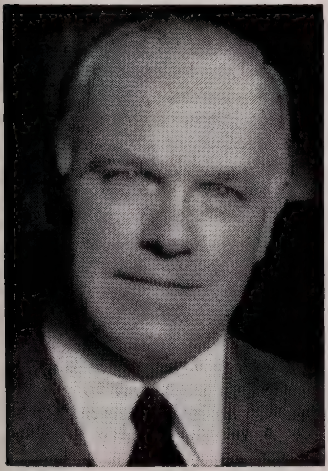
150th Annual Meeting

May 7 to 11, 1955

Hotel Statler, New York City

Report of the President

To the House of Delegates, Gentlemen:



My tenure of office as president of the third largest medical society in the world has been a most pleasurable and rewarding experience. When I addressed this House of Delegates as incoming president, I had a mixed feeling of anxiety and determination because I realized that I would have to face many difficult problems during the year ahead. At that time I stated that I considered the mandate that you had given me to serve as your president an outstanding opportunity to show my appreciation for what the medical profession has meant to me. I also promised that whatever burdens the office might entail, I would do all in my power to deserve the trust you had placed in me. Today, as I submit my report as president, I hope that I have lived up to this promise. Personally, as I conclude my term of office, I feel bound to acknowledge that the privilege granted me has further placed me in debt to medicine. While at times there were certain burdens which the office necessarily entailed, my year's experience provided me with the unique opportunity of working with the great host of men and women who are really dedicated to medicine and the people it serves. I am most grateful, therefore, to each member of the House of Delegates and to all other individuals with whom I have been associated for the pleasure that has been mine during the past year.

As members of this House of Delegates, all of us are familiar with the fact that the Medical Society of the State of New York was organized for four specific purposes. These are to federate into one organization the medical profession of the State of New York, to extend medical knowledge and advance the science and art of medicine, to promote the betterment of public health, and to enlighten and direct public opinion in regard to the problems of medicine and health for the best interests of the people of the State.

My experiences during the past year as your president have served to strengthen my conviction that as long as the State Society continues to function in a democratic manner and as long as the membership continues to secure the services of men of the caliber of my fellow officers, councillors, committee members, and others, medicine in New York State will move ever forward toward the accomplishment of these noble objectives.

There is, however, another important factor necessary to the fulfillment of these objectives. As I pointed out during my appearances at various district branch meetings, the best way for increasing the strength of our county, our State, and our national medical societies is by improving attendance at all meetings. In the first place, better attendance will mean that whatever decisions are arrived at will represent the views of more doctors. A county medical society is a democratic organization, which reflects the views of its members. The members decide on issues that are brought before them, and they elect delegates to state societies and to the American Medical Association. The greater the attendance, therefore, at county society meetings and state society meetings, the greater will be the true representation of the medical profession at all levels. If the minority is not to rule, and it should not, we must renew our efforts to improve attendance at meetings. I cannot stress too strongly the need for county societies to do everything possible to solve this vital problem.

While I should like very much to take the time to report on what has happened in all the fields of activity in which our Society engaged during the past year, I think you will obtain a better bird's-eye view of the scope and progress of our Society if I restrict my limited remarks to a few of the many problems to which our committees have applied themselves with diligence and ability. I strongly urge, however, that every member of this House study very carefully the report of every committee, for these reports reveal how your Society has functioned since the last session of this House. If this House, therefore, is to plan efficiently and effectively for the future, every delegate should be thoroughly acquainted with past activities.

LEGISLATION.—At the time this report is being drawn up, the State Legislature is in the midst of its activities. It is, therefore, impossible to give a full report concerning our achievements on the legislative front. Allow me, however, to compliment the Council Committee on Legislation, headed by Dr. Henry I. Fineberg, and the members of that committee, as well as Dr. Harold B. Smith, executive officer, for a most active year.

Carrying out the wishes of this House of Delegates expressed last year, the committee launched an intensive campaign to secure enactment of a nine-point positive legislative program at the 1956 legislative session. This program included the following: (1) amendment to the autopsy law; (2) municipal indemnity bill; (3) amendment to the Medical Practice Act; (4) injunction bill; (5) change place of arbitration of medical fees; (6) abolition of Medical Practice Committee; (7) appellate rather than advisory role for medical appeals unit; (8) panels of specialists for evaluation of workmen's compensation cases, and (9) free choice of physician or dentist and of plan.

On the defensive front, the Society continued to oppose the current versions of the usual problems which arise each year. In this connection the Council approved an all-out drive to prevent the passage of the Peterson-Noonan chiropractic licensure bill.

At the January meeting of the Council, two special committees were named to meet the threat presented by the chiropractors and other cultists. These were a steering committee, later named the Committee to Combat Cults, the object of which was to direct public and legislative sentiment against the licensing of chiropractors, and an Ad Hoc Committee to meet with the Board of Regents and explain why the medical profession opposes chiropractic. Both of these committees went to work as soon as possible after they were appointed. The Ad Hoc Committee met with a committee of the Board of Regents. The Committee to Combat Cults drew up a six-point program under which all the facilities of the Society and especially those of the secretary, the executive officer, the Public and Professional Relations Bureau, as well as the Woman's Auxiliary, were marshaled in an effort to help the public escape the dire consequences that would follow the legal recognition of chiropractic. I am most pleased with the enthusiastic start made by both these committees and feel certain that they will carry on with great success the work so ardently begun.

I should like to point out that during the summer months Dr. Fineberg and Dr. Smith toured this State for the purpose of promoting our legislative program. They visited nine cities, one in each senatorial district, where they met with members of the Council Committee on Legislation and county medical society legislation chairmen, with whom they discussed the State Society's program. They attempted to develop a feeling among the local representatives that they should play an important part in our planning and that there should be a close liaison between them and the State committee.

As a means of supplementing the work so well performed by Dr. Smith and Dr. Fineberg, I recommend that county society officials develop a better working arrangement than now exists with local legislators. It is my feeling that meetings at the local level between doctors and members of the Assembly and the Senate can do much to create mutual understanding. A practical means of carrying out this idea would be for county society officials to invite legislators to sit down with them, for example, at dinner, and to have frank discussions. I will go so far as to say that this procedure should not be merely an annual one as is the case in many counties but should be done many times during the year.

In this connection, too, I should like to make another observation. Each year our State Medical Society voices, on behalf of its some 24,000 members, the views of the medical profession in regard to numerous bills. If individual physicians, or groups of physicians, publicly disagree with our stand, the cry can be raised that the State Medical Society does not represent the rank and file of the medical profession. Attendance at medical society meetings can do much to rectify this situation. Physicians who know the facts, but who nevertheless disagree with the Society's position, by their presence at society meetings will better understand the reasons for the Society's attitude. Out of fairness they may decide that even though they disagree, they should not oppose the will of the majority of their colleagues.

If a doctor disagrees with the Society's position because of lack of knowledge, his attendance at society meetings should afford him the opportunity to learn the true facts. Having obtained the true facts, it is quite possible that he will either actively endorse our position or remain silent. If such a doctor has to "get his gripe off his chest," so to speak, the most effective place for him to voice his opinion is at a county medical society meeting and not to his patients, to the press, or to members of the local clubs.

Malpractice Insurance.—One special activity with which I have concerned myself and which I feel is of the greatest importance to every member of our organization is malpractice insurance. Like every physician who has ever held an important office in medicine, it is my fervent prayer that the day will come when the need for malpractice insurance will no longer exist. Since I cannot foresee that day, however, I urge every physician to interest himself personally in this most important problem.

Much has been said for and against the State Medical Society's malpractice plan. A great deal of the criticism leveled at the plan has been well intentioned. One observation I should like to make, nevertheless, is that all of us should give at least as much thought to the purposes for which our elders set up the present plan as we do to its cost.

Physicians acquainted with the basic principles of insurance realize that every carrier is anxious to select the risks it will cover. The founders of the State Society's method of group protection were very much aware of this when they established the present plan. It is not my purpose to extol our plan as the best of plans. I will not even deny that certain carriers are, or appear to be, willing to provide some physicians with protection at a lower rate than ours. I do wish, however, to point out that the State Society has a duty to protect all physicians, not only those of its members whom certain carriers consider good risks. The fact that our present plan protects all physicians is an invaluable asset to our Society as a whole and must not be lost sight of in a battle about costs. It is for this reason that the State plan must be protected against the inroads of other companies.

I wish it clearly understood that I have no objection to lower rates, but if the present trend of cancellations of our State policy continues, I believe two unfortunate situations will result. The first will be the necessity for increasing our rates to make up for the cancelled policies. The second will be the ultimate reaching of a point at which the State Society will be forced to discontinue our plan. If such an unfortunate situation should arise, insurance companies will be in a position to take only preferred risks. As a result, many physicians, even though they may have very good records, will be unable to secure malpractice coverage of any kind.

Because of these reasons, therefore, I particularly ask every member of this House to read the report of the Malpractice Insurance and Defense Board, headed by Dr. Joseph A. Lane, whose recommendations I wholeheartedly endorse. To the members of the Board, I express my appreciation for their efforts in handling a most difficult problem.

State Journal.—Any member of the Society who has had the opportunity to study the New York State Journal of Medicine of late cannot but be impressed by both the quality and quantity of the scientific material it carries. New features include a series of scientific articles on cancer, anesthesiology, and allergy, review articles on medicine and surgery, and FM radio talks originating in the New York Academy of Medicine.

You also will be pleased to know that many tangible evidences of the fourth-year medical students' appreciation of the copies of the Journal provided them have been received. Our editor also should take pride in the fact that ever since January, 1955, to the day this report is being written, our Journal has appeared on time each month.

For those interested in statistics or the business side of the Journal, I note that through the cooperation of the Associate Editorial Board more than 500 manuscripts were reviewed for possible publication and that applications for advertising space, much of it in color, have held up well.

Words are poor vehicles with which to express my appreciation to Dr. Laurance D. Redway, editor. I am certain every member of the Society joins me as I express thanks to him, his editorial board, and his staff, particularly Miss Alvina Rich Lewis, for the job they are doing to make an interesting, informative publication more appealing and educational.

War Memorial Fund.—Time passes rapidly and already the fund is in its eighth year of successful operation. I agree with Dr. Walter W. Mott, chairman, when he describes this project as one of the most worth-while and rewarding activities of the State Medical Society.

To date the fund has been privileged to aid in the college and professional education of 27 of the children of our colleagues who lost their lives as result of World War II, three of whom are now doctors of medicine. At present there are two students who are attending medical school and one a nursing college.

The committee also has learned of one member who lost his life in the Korean conflict, leaving three surviving children.

Because of the rising cost of tuition, the House may at some future time decide to raise the amount of benefit, now fixed at $600 per annum. I endorse the recommendation of the committee that a voluntary contribution of $12 be suggested to those new members of the Society who have joined since 1948, when the original assessment was made, as insurance against any unforeseen contingency.

I am deeply indebted to Dr. Mott and the members of his committee for the interest and ingenuity they have shown. I regret that sickness forced Dr. Edward R. Cunniffe, former chairman, to resign after years of devoted service to this great project.

Public Health and Education.—One of the principal functions of the Council Committee on Public Health and Education is to serve as the liaison group between our Medical Society and the State Health Department. During the past year it has endeavored to increase its usefulness to the practicing physicians of the State by acting as a clearing house in matters of medical policy and practice that are presented to the Council for study and action.

The chairman of this important committee, Dr. Theodore J. Curphey, assures me that in his opinion a greater degree of coordination of effort and a better understanding of the mutual problems of our Society and the State Health Department now exist than at any preceding time during his tenure of office. He also advises me that from his experience in his contacts with the top-ranking members of the department he is convinced that their basic philosophy concerning the practice of medicine is no different from ours, especially in the fundamental matter of preserving the traditional physician-patient relationship. It also appears to be the desire of the Health Department to supplement rather than to supplant the efforts of the practicing physician in supplying better medical care to the public.

At the present time the representatives of our Society are invited to participate at the initial level of planning in policy matters. The result is that the Health Department receives and apparently welcomes the views of the practicing physician on debatable or controversial matters, before final policy is established and not after.

In participating in these discussions, the committee is able to provide assistance in planning because the various subcommittees consist of men of experience in many of the special fields of medical interest with which the State Health Department is concerned. An outstanding example of this was the close liaison that existed between the two groups in the recent matter of the Salk polio vaccine program.

In connection with the Salk vaccine distribution problem of last year, allow me to reiterate a point I emphasized at the State Health Department's Lake Placid conference last summer. Too often news is released about scientific data before an investigation has been completed or without ful knowledge concerning the earliest available date for the public distribution of a particular product. As a result of premature releases, private physicians and public health officials are beseiged by misinformed, worried individuals for new products which have not been effective or are unavailable. We must remember that in these troublesome times emotion rather than reason governs the actions of many of our citizens. Consequently, the ultimate outcome of premature releases is the undermining of people's faith in medicine and the creation of bad public relations for the medical and allied professions. It is my earnest hope that in the future no group, whether governmental or private, will release information about vital scientific discoveries until research has been completed.

In spite of the excellent relations that exist between our Society and the Health Department, Dr. Curphey reminds me that there still exist certain "gray" areas, as he terms them, in the field of contact in which the views of the two organizations are divergent, notably in the matter of detection and screening clinics and in the field of laboratory practice. It is his great hope, however, that these differences can and will be resolved, based in large measure on the existing environment of friendliness and mutual understanding that has marked the relations of the two groups in the past.

I wish to call special attention to the reports of the Subcommittees on Maternal and Child Welfare, Physical Medicine and Rehabilitation, and Hard of Hearing and the Deaf, and the Ad Hoc Committee on Epilepsy and Accident Prevention, the latter constituted at the request of the State Commissioner of Motor Vehicles.

To Dr. Curphey, the members of his committee and numerous subcommittees, as well as his secretarial staff, I extend my heartfelt thanks.

Woman's Auxiliary.—Our steadfast ally, the Woman's Auxiliary, began its activities for the year 1955 by planning a most attractive and interesting exhibit which was displayed at the State Fair in Syracuse in the Fall.

Held in Poughkeepsie in October, the Fall Conference highlighted "Auxiliary Programs with Three Age Groups." In keeping with this plan the conference included a discussion on GEMS, which is the title of a new baby-sitters' training program for supplying "Good Emergency Mother Substitutes." Future nurse clubs for the teen-age groups, child safety for the homemaker, and problems of the aging also were discussed at this conference. A panel discussion by four members of the Vassar College faculty on "leadership" also was a special feature of the meeting. The interest and enthusiasm demonstrated by the doctors' wives who attended from every section of the State bids well for the future of medicine in this State.

The members of the Auxiliary, during the legislative season, stood ready to help in focusing public attention on the grave threat that the chiropractic licensure bill and other bills pending in the State Legislature presented to the advancement of medical progress.

With the opening of schools in the fall, the Fourth Annual Health Poster Contest was launched by the Auxiliary. Two projects on which the Auxiliary spent much time and effort were mental health and problems of the aging. Another and most timely project on which the editorial staff of the *Distaff* has been active is the twentieth anniversary issue which will mark the Auxiliary's anniversary in 1956.

In summary, I should like to take this opportunity to thank Mrs. Isadore Zadek, of Westchester, and through her every officer and member of the Auxiliary, for the great work they have done for medicine throughout the year. I also wish to express my gratitude to Dr. Dan Mellen, Dr. Thomas M. d'Angelo, and Dr. Harry I. Norton, members of our Auxiliary Committee, for the guidance and cooperation they have given the Auxiliary.

WORKMEN'S COMPENSATION.—Of the many prerogatives the physicians of New York State have been able to win for their patients, few are more valuable than the right of an injured employe to the free choice of physician. It was only proper, therefore, that every action of our Workmen's Compensation Committee and Bureau was guided last year by a firm desire to see to it that this right is maintained.

As in the past, the Bureau worked diligently to make certain that the physicians received the fees they had earned and that good relations with insurance carriers and the Workmen's Compensation Board were maintained. I should like to call attention to the fact that the work of assisting physicians in the collection of bills from employers and insurance carriers was continued as in the past. The arbitration of disputed medical bills throughout the State during the past year involved 96 medical bills, of which $12,066.37 was in dispute. Total amounts awarded were $6,008.47. It is also worthy of note that the investigation and settlement of disputes between physicians, employers, insurance carriers and referees, and others in the Workmen's Compensation Board were carried on as before and took up a considerable part of the time of the director, Dr. David J. Kaliski.

Some of the major problems the committee and the Bureau director worked on included payment of assistant surgeon's fees, the treatment of compensation cases in Veteran's Administration facilities, third party actions, abolition of the Medical Practice Committee in four metropolitan counties, and a new fee schedule.

Among the many helpful projects the Bureau undertook was participation in cases heard by the Medical Appeals Unit and the preparation of timely and informative articles on special problems in workmen's compensation for publication in our State JOURNAL.

It is with a great sense of satisfaction that I report that both the members of the committee and the Bureau director have found the new chairman of the Workmen's Compensation Board, Miss Angela R. Parisi, and her administrators most cooperative with the result that relations between our Society and the Board reached a new high level in 1955. Before closing this section, I should like to suggest that our members and county society officials consult the Bureau on all matters relating to compensation problems. The Bureau is a service organization, serving the county medical societies and the physicians of the State who are authorized, either as general practitioners or specialists, to treat compensation cases. In brief, it is the point of contact of the medical profession in this State with any individual or group in medical or other related workmen's compensation matters.

To Dr. Gerald Dorman, his fellow members, and to Dr. Kaliski, director of the Bureau, for their continued interest I say thank you.

PHYSICIANS' HOME.—All of us who are acquainted with the work of the Physicians' Home know how quietly and efficiently Dr. Beverly Chew Smith, president, and his board of directors carried on its activities to the end that no deserving physician-colleague should suffer financial distress. The only comment I have to make in regard to this enterprise is to express the wish that it will continue to receive many voluntary contributions from our members and to thank Dr. Smith and his associates for a job well done.

HOSPITAL AND PROFESSIONAL RELATIONS.—During the past year this committee has investigated the resolution referred to the Council by the last House of Delegates in regard to solicitations of funds from doctors for hospital building projects.

From information received, details of which are included in the annual report, this practice of coercion is not "a State-wide condition" and only limited to isolated instances; there is no need of taking "measures to alleviate the situation," but each local group of doctors, when faced with such a problem, should solve it to the mutual satisfaction of themselves in their own communities.

However, if even a single physician feels he is being imposed on, he should have the backing of his fellows in the community and in the county and State.

The committee was represented at an Accreditation Clinic in Syracuse on October 21 and 22, 1955, by the Central New York Regional Council. At this meeting it was pointed out that full accreditation of hospitals has been impeded by certain items which are the personal responsibility of either the individual doctor or certain staff committees. The committee is working upon ways and means of alleviating this condition through advisement to those concerned.

In regard to the "Proposed Agreement and Statement of Policy" between the Medical Society and the Hospital Association of New York State, this was forwarded to the Hospital Association for its consideration. At the time of the writing of this report, no answer has been received. A meeting is being arranged between the Hospital and Professional Relations Committee and the Hospital Association's Committee on Medical Relations to help clarify further the issues involved. My compliments are extended to this committee, headed by Dr. Raymond S. McKeeby.

Nursing.—The Nursing Education Committee has been actively interested in studying the needs and problems of that profession throughout the State. Correspondence has been carried on with various professional nursing groups in an effort to correlate this most important phase of medical care.

The 14 principles for the promotion of better nursing care which were revised by the Nursing Committee of the New York State Hospital Association were approved by our Council. The Nursing Education Committee felt that these principles were a practical approach to the nursing problem which exists today.

Attempts have been made by the Nursing Education Committee to keep the Council advised of Federal legislation regarding the establishment of a commission to study the needs of nursing services in the United States. This bill has been opposed by the American Medical Association and the National League for Nursing, because it was felt that such a law would duplicate work that has been done, that the needs are known, and the important accomplishment is a solution to these needs.

The work of this committee, Dr. Raymond S. McKeeby, chairman, also deserves commendation.

Planning Committee.—If any organization as large and complicated as our State Society is to operate effectively and efficiently, it must have a system of integrated planning. To my mind, therefore, the successful functioning of the Planning Committee for Medical Policies, which has as its primary objective such a system, is absolutely necessary for the future welfare of our organization.

I am proud to report that during 1955 our committee really has been at work and has accomplished a great deal. Consideration was given to the integration of county, State, and A.M.A. dues as well as to the House's suggested study regarding a possibility that all-inclusive dues be established for county, State, and A.M.A. membership of a total sum less than the present separate dues. Another problem taken up was the matter of increasing the percentage of A.M.A. members among our membership.

One of the most important activities was the study of our committee arrangement in regard to size, functions, expense, and other matters. Two other items which received attention were the method of selecting delegates from the Society to the A.M.A. and the advisability of changing the age of eligibility for retirement membership in the State and county societies from seventy to sixty-five years.

Needless to say, these studies deserve our commendation, which I wish to convey to Dr. Peter J. Di Natale, chairman, and his committee.

Civil Defense.—The need for meetings of the Committee on Civil Defense has decreased during the last two years, although the matter of defense is still of grave concern to all of us, because most basic policies had been decided early in the program. Therefore, the present job of the defense setup is to carry out these policies. The outstanding new policy was to include planning for emergency medical care in connection with natural or large catastrophes. The new policy makes this one of the definite objectives of the civil defense organization in this State.

In order that matters of importance to key defense personnel throughout the State might be brought to them, a special defense newsletter was mailed on Medical Society stationery over the signature of the chairman of the Defense Committee. In addition there have been several articles on medical civilian defense in the State Journal. Both of these projects were under the joint sponsorship of our Society and the Office of Medical Defense of the Department of Health of the State of New York. Dr. J. G. Fred Hiss, chairman, and his associates are to be complimented for continuing their work on behalf of civil defense.

Industrial Medicine.—Each year the subject of industrial medicine becomes of greater importance both to the medical profession and to the people of this State. The rapid extension of industry into the surburban areas of our State underscores the necessity for action in this ever-expanding field.

It is of paramount importance, therefore, that the plans already formulated by our Society be brought to completion so that we may be able to take an active part in this modern branch of medicine.

Blood Banks.—Many varied problems beset the Blood Banks Association of New York State in 1955 to which the Blood Banks Commission gave long hours of serious consideration. The most important of these revolved about the Blood Assurance Program. Although the charter of the association does not permit it to participate in insurance under article IX-c of the Insurance Law of New York State, the Insurance Department has raised the question: "Is the Blood Assurance Program insurance?" At the time this report is being written, no final official determination has been made. As a result of negotiations with the Insurance Department, however, permission has been granted to continue contracts already negotiated, provided that no new contracts are made. At its January meeting the Council agreed to make the cessation of the Blood Assurance Program temporary until a final decision had been made by the Insurance Department.

Another problem that arose was that of extending the Blood Assurance Program to Greater New York City. This had occurred before the question of insurance was raised. The Blood Banks Commission advised the Blood Banks Association to cease promotion efforts in New York City for the present and the association accepted this advice. Several conferences were held, however, between the officials of the Blood Banks Association and other groups interested in the program for the greater New York area. After these conferences it was the consensus that some action was needed but that a study of facts should precede any action. Another meeting to consider the matter further is scheduled in the near future.

The matter of the clearinghouse also presented difficulties. Except in New York City where blood banks are inspected and licensed by the City Health Department, there is no mechanism for inspection and licensing of local banks in our State. Since the Blood Banks Association has neither the organization nor the funds to perform this service, a request was made to Dr. Herman E. Hilleboe, State Health Commissioner, to see if inspection and licensing could be done outside of New York City by the State Health Department. An indication of the importance of this clearinghouse function is the fact that the National Blood Foundation has urged the clearinghouse to expand and become the Northeastern Regional Blood Exchange Center. Since blood programs are expanding throughout the country and many individuals often require blood while away from their home state, it is important that machinery be set up for the exchange of credits and blood, if necessary. To meet this situation, the Blood Banks Association is now at work organizing a clearinghouse to cover 11 northeastern states.

At the last meeting of this House certain mandates were issued concerning the Blood Banks Association, which were referred to the Council. The Blood Banks Commission was ultimately assigned to see that these mandates were carried out. I am happy to note that in its report to this House, the Commission states that it has been satisfied that the Blood Banks Association has followed the mandates of the House of Delegates up to the meeting of December 6, 1955.

In spite of these problems which I have just mentioned and others, the Blood Banks Association has come a long way since May, 1955. Deficits have been greatly decreased, although the Association is not out of the red. The Blood Assurance Program, which is needed in some areas of the State, has done much good where it has functioned. Obtaining blood before it is needed, rather than replacing it after it has been used, seems to offer a way of getting more blood and steadily enlarging the number of donors throughout the State. If this program succeeds, gradually all potential donors will be enrolled and typed. If the program, however, fails and is abandoned by our State Society, the integrity and public-spiritedness of its members may be seriously questioned.

I call to your attention the request made by the Commission that this House reconsider the personnel of the group, which consists of 13 members. The suggestion that the Commission be reduced to six individuals deserves your serious consideration.

Allow me to point out that during September and November of 1955 the Association issued 400 to 500 certificates each month. This was a notable improvement over the previous months during the year. Such fine progress could not have been made were it not for the devoted efforts of the officials of the Association, particularly Dr. J. Stanley Kenney, president, and Mr. A. Carl Messinger, executive director, whose services unfortunately had to be terminated since the work of the association was drastically reduced, due to the fact that no new contracts could be negotiated.

To all in the Association who have worked so hard on a most difficult task I offer my sincere thanks and appreciation.

Last, but not least by any means, our thanks must go to the Ad Hoc Committee and the Blood Banks Commission, of which Dr. James Greenough, our president-elect, was the chairman. They have handled a most delicate situation with masterly skill and diplomacy, which should be an example to future committees designated to carry out mandates of this House.

Headquarters.—At the present time there are some 60 persons employed by our State Medical Society to aid us as physicians in carrying out the purposes of our organization. Committee chairmen and others who have visited our headquarters staff can testify to the quantity and quality of work turned out each year by our clerical, secretarial, and executive personnel, many of whom have been with us for a great number of years.

One of the inducements offered by industry today for the purpose of keeping capable personnel is a pension plan. It is my firm conviction that the time has arrived for our State Society to institute a pension plan for its employes. The establishment of such a plan would be a way through which we could have assurance that our capable employes will remain with us for many years to come. In today's competitive market it would be a wise move for our Society to inaugurate such a program.

Whenever the opportunity arises, we should investigate the possibility of finding a new headquarters for our Society. A new adequate location in keeping with the dignity of our organization would be a great inducement for members to visit their Society's headquarters and would do much toward improving employe morale.

Medical Economics.—During the past year the Economics Committee has studied several Federal bills including H.R. 7225 on proposed cash disability benefits under social security and H.R. 7792 on medical care for dependents of members of the armed services and others.

Under direction of the Subcommittee on Medical Expense Insurance, the Bureau of Medical Care Insurance has kept us informed about the progress of the seven Blue Shield plans in this State by quarterly and annual reports and also has advised us of the activities of members of other professions who claim that the services they provide should be included as part of Blue Shield services.

Because of the trend in medicine to adopt fee schedules, the membership and county medical society officials should take advantage of the excellent facilities the Bureau can provide to any physician or society interested in this problem. The Bureau is equipped to serve as a clearinghouse, or information center, about various fee schedules in use throughout the State and nation. The Bureau, for example, during the past year developed a standard nomenclature showing comparative schedules of fees between the different departments within the New York State government and is hopeful that by the use of this standard nomenclature a more uniform schedule will be developed for services rendered by doctors.

Technical assistance concerning fees was provided by the Bureau at the time a subcommittee was studying a progress report on the survey of health insurance being conducted by a committee of the State Legislature and again when a subcommittee considered Dr. Louis H. Bauer's request for a change in the manner of making Blue Shield claim payments.

As busy practicing physicians we are indebted to Dr. John C. McClintock, the members of his committee and subcommittees, as well as to Mr. George P. Farrell, Bureau director, for the important work they are doing in keeping us informed of national, State, and industrial trends in the vital field of medical economics.

DIRECTORY.—In keeping with the policy of trying to curtail expenses wherever feasible, a thorough study has been made by the Publication Committee concerning the cost of the *Directory*. Every means of reducing expenses has been canvassed. It is possible to cut costs here and there, but the result would be an inferior publication. The conclusion, therefore, has been reached that it would be false economy at this time to curtail expenses involved in producing the *Directory*. Very few realize the hours and hours of meticulous and painstaking endeavors connected with production of our *Directory*. To Miss Janet Loy and her loyal assistants are due the thanks of everyone who uses our volume. And to the Publication Committee and its able chairman, Dr. John J. Masterson, is awarded high praise for their thoughtful guidance in maintaining the high standards of both the *Directory* and the NEW YORK STATE JOURNAL OF MEDICINE.

SESQUICENTENNIAL.—Since 1957 will mark the 150th anniversary of our State Society, plans are well under way for celebrating the occasion in a manner in keeping with the dignity of our organization. Under the capable leadership of Dr. A. H. Aaron, the Sesquicentennial Committee, working closely with the Convention Committee, headed by Dr. Samuel Z. Freedman, has announced that the zenith of the celebration will take place at the Hotel Statler, New York City, during the week of February 17 to 22, 1957. This main celebration will consist of scientific meetings covering the entire field of medicine. The sesquicentennial banquet will honor outstanding figures in medicine and will emphasize the relation of the profession and the public. In addition, there will be celebrations at the county level during the year.

I extend our thanks to Dr. Aaron, Dr. Freedman, and their associates for the work they have done and express the hope that their labors will result in a memorable celebration.

PUBLIC RELATIONS.—In 1955 the main objective of our Public Relations Committee was an over-all constructive, positive public relations program. The committee, through its Public and Professional Relations Bureau, created new projects and stimulated the use of existing activities, at the same time keeping a close watch on Congress lest socialized medicine come upon us through the back door.

Dividing its program into internal professional relations concerning physicians and county medical societies and external public relations dealing with representatives of the various media of public information and the people, the Bureau's staff engaged in 20 areas of activities. If you read the committee's report, as I have suggested, you will find that the Bureau carried on with success its continuous efforts towards building good will within the profession and between doctors and their patients.

Among the projects undertaken were the promoting of renewed activity in public service programs, such as emergency medical call plans, mediation committees, and medical economics bureaus; the maintaining of a central publicity and information service; the publishing of pamphlets and brochures; the developing of closer working relations with State Society committees, the A.M.A., and groups of laymen; the continuing visits of field men; assisting the Woman's Auxiliary, and publishing the *Newsletter*.

Although time will not permit detailed comment, I should like to call attention to three important activities. The first is the Conference of County Medical Society Public Relations Chairmen held in October in New York City. There were about 55 persons present, including county medical society public relations chairmen, executive secretaries, and guests, including several from out of the State, among whom was the public relations director of the Connecticut State Medical Society. A highlight of the conference was a discussion of "The Issue of Social Security" (H.R. 7225) by Dr. Ernest B. Howard, assistant secretary, American Medical Association, and Mr. Leo Brown, public relations director of the same organization.

Since this conference serves as a most effective means of communication between our Society and the county groups, each delegate should alert his society to the advantage of having a representative at future conferences.

The second is the Guide for Cooperation between the medical profession and the media of information. Almost 1,500 copies of this publication, mandated by this House in May, 1954, were distributed last year, and many laudatory comments were made by representatives of the information media as well as a hospital association. Numerous requests for assistance from writers and magazine personnel were filled by the Bureau. In brief, the Guide has become an accepted document for improving relations between physicians and the press. Much work, however, needs to be done in making this Guide known to our own profession. Your cooperation in bringing it to the attention of your county society colleagues will be appreciated.

The third activity is the medical assistants' project. A campaign to have as many county medical societies as possible conduct training courses for assistants working in physicians' offices was a major project of the Bureau. Designed to present practical information which can be used by a medical assistant in her everyday work, the courses consist of discussions on medical economics, public relations, and allied subjects. At this writing some 12 county medical societies already have conducted the courses and an additional 25 have indicated interest in sponsoring such programs. This project deserves the universal support of our county societies.

In addition to its normal functions, the Bureau assisted our special Committee to Combat Cults in its campaign to prevent the enactment of the Peterson-Noonan chiropractic licensure bill. Through the utilization of the field staff, the mailing of special letters, the preparation of pamphlets, and other activities, the Bureau rendered valuable aid in our fight against cultism.

Permit me to express my thanks to Dr. Floyd S. Winslow, committee chairman, the members of his committee and the subcommittee on the Guide, headed by Dr. John C. McClintock, as well as to Mr. Frederick W. Miebach, Bureau director, and his staff. Their efforts on behalf of the Society as a whole and in aiding me personally are very much appreciated.

Conclusion.—In concluding this report, it is my privilege to pay tribute to all the officers, the Board of Trustees, the Council, and the committee members for their splendid cooperation during my term of office. I particularly wish to thank Dr. W. P. Anderton, our secretary and general manager, for his guidance and assistance. To Dr. James Greenough, my successor in office, I extend my best wishes for a profitable and enjoyable year.

Before, however, I turn over my stewardship to him, I should like to say a few words about the future. The physician of today cannot stand alone. He must, willingly or unwillingly, realize that he is a public figure. As such, all his activities are evaluated. The nature of our work requires us to join together in order to make the most of our time and efforts. During the next year, as I pointed out, our State Society will celebrate its 150th year of service to the physicians and people of New York. I appeal to every member of our Society and our component county medical societies to take an active part in this celebration. In this way we will prove that we are appreciative of the 150 years of good work that those who went before us did to make the present amphitheater in which we work the wonderful place it is. Let each of us, therefore, resolve to participate in one way or another in the coming celebration and offer it as a memorial to those who gave us the splendid opportunities which we now possess to serve our patients.

To each of you, I say thank you, and may God give you the power to continue to do your best for your patients and your profession.

Respectfully submitted,

Renato J Azzari

Renato J. Azzari, M.D., *President*

Secretary's Report

To the House of Delegates, Gentlemen:

General Statement.—During the past year the Medical Society of the State of New York has continued to strive for the purposes for which it was originated, "to extend medical knowledge and advance the science and art of medicine; to promote the betterment of public opinion in regard to the problems of medicine and health for the best interest of the people of the State."

Your directives of a year ago have been effectuated as far as possible by the Council, committees, commission, and board.

Most reports appear elsewhere in this issue of the New York State Journal of Medicine; a few tardy ones will be published in the April 15 issue, and supplementary reports will be distributed to you when the House of Delegates convenes.

As you voted, the Physical Medicine Session has been elevated to be a section at this 1956 annual convention.

Council.—Regular meetings of the Council have been held monthly, except in July and August, at the Manhattan Club, Madison Square, New York City, excluding the May organization meeting in Buffalo.

Dr. Denver M. Vickers' resignation was regretfully accepted in September. He has moved from Cambridge to Chicago, Illinois, for an important post with the Joint Commission on Accreditation of Hospitals. As directed in the Bylaws, Dr. John C. McClintock, of Albany, was selected to succeed Dr. Vickers until you elect a councillor for the duration of the unexpired term of this post, two years.

Trustees.—It is with deep regret that I report to you Dr. Edward R. Cunniffe's absence since November, 1955, due to severe illness. As chairman and as a trustee for many years, he has been much missed. Dr. John J. Masterson was chosen chairman pro tem.

The trustees have exercised diligence, caution, and keen ability in caring for the Society's funds and disbursements during the past year. The War Memorial Fund, since it started, has helped educate 27 children of veterans who died as result of World War II service-connected disabilities; three of these beneficiaries graduated from medical colleges in 1955.

A.M.A.—Contact with the American Medical Association has varied: representatives in its House of Delegates; a member of its Board of Trustees, Dr. James R. Reuling; membership in some of its councils and committees; correspondence, questionnaires, and collection of dues from New York State members.

Dr. Andrew A. Eggston and Dr. Herbert Berger represented our State Society in Chicago, Illinois, September 10, 1955, at a meeting of the Council on Mental Health and again at a hearing of the U.S. Judiciary Committee in New York City, nine days later. Both these meetings were in regard to narcotic addiction.

Our Society is prepared to cooperate with the American Medical Association during American Medical Education Week. Dr. Edward P. Flood, of the Bronx, is chairman of a committee for this purpose, and the Woman's Auxiliary is also active.

District Branches.—Last May, in adopting resolution 55–16, the House of Delegates of the Medical Society of the State of New York purported to change the annual meeting of the Ninth District Branch so that it should consist of the members of the House of Delegates from its component county medical societies and limit its function to annual election of officers. This was found to be contrary to the constitution and bylaws of the branch and of the State Society. Messrs. Martin, Clearwater and Bell, counsel, stated in part:

> In our opinion, the proper procedure to be followed in changing the bylaws of the Ninth District Branch is that outlined in Section 2 of Article XI of the Constitution of the State Society and in Section 1 of Chapter VII of the bylaws of the Ninth District Branch, rather than by resolution of the House of Delegates of the State Society. We also believe that the aforesaid resolution is in conflict with Section 1 of Chapter XIII of the Bylaws of the State Society which provides that each district branch shall elect a president for two years.
>
> We believe that the Ninth District Branch might more properly achieve its objective by following the procedure outlined in Section 1 of Chapter VII of the Bylaws of the Ninth District Branch and thereafter submitting the proposed amendment to the Council of the State Society for approval.

It is hoped that you will read the annual report of your Constitution and Bylaws Committee regarding the question whether or not to dissolve the district branches. The committee feels that such an important question should receive separate attention by each member of our Society.

Attendance at district branch meetings last fall was similar to that of other years, usually poor in numbers.

The Fourth District Branch skipped its annual meeting because of program difficulties and because of the annual meeting of the New York State Academy of General Practice.

Secretaries Conference.—On November 17, 1955, 26 secretaries and executive secretaries, five State Society executives, one councillor, and five members of the program attended the annual meeting of county society secretaries at the Syracuse Corinthian Club through the courtesy of Dr. and Mrs. Leo E. Gibson. A well-rounded program was greeted with approval, as was the change from Albany to Syracuse.

Representatives.—During the past year Dr. Renato J. Azzari, president, represented our Society at the annual joint meeting of the Vermont and New Hampshire State Medical Societies, at Bretton Woods, New Hampshire; President Azzari and Secretary Anderton attended the Pennsylvania State Medical Society in Pittsburgh; Trustee J. Stanley Kenney represented you at Atlantic City when the New Jersey State Medical Society met, and Trustee Mott and Secretary Anderton went to Hartford for the Connecticut State Medical Society meeting.

Publications.—The 1955 *Medical Directory of New York State* was distributed soon after you adjourned last May.

The Publication Committee is studying means of curtailing expenses of production of the 1957 edition, which is already in preparation.

Several improvements have been initiated in the New York State Journal of Medicine, as described in the annual report of the Publication Committee. The *Newsletter* has maintained its interesting format and standards.

Death.—Last winter, Dr. Leo F. Simpson died in Rochester. As former president he was staunchly interested in our Society till his last day. His loss is keenly felt.

Office.—An increase in efficiency was accomplished when the office of the Public Health and Education Committee was moved from Forest Hills, Queens, to 386 Fourth Avenue, Manhattan.

Throughout the past year the New York and Albany offices have functioned satisfactorily and smoothly, thanks to a conscientious and loyal staff headed by Mr. Thomas E. Alexander.

Dr. John H. Iselin, Jr., has continued the placement bureau with considerable success.

Sesquicentennial Committee.—Under the chairmanship of Dr. A. H. Aaron, Buffalo, plans are progressing in regard to the celebration of our sesquicentennial during 1957. The convention will be held at the Hotel Statler, New York City, February 18 to 22, with an outstanding program and annual dinner meeting. However, the House of Delegates will meet in Buffalo, May 19 to 21. It is hoped that the district branches and county societies will accentuate the sesquicentennial in their meetings.

Official Contacts.—In February, Dr. Gerald D. Dorman, councillor, represented the American Medical Association and our Society at a Congressional hearing in regard to social security for physicians.

In New York State the Board of Regents of the Education Department reappointed Dr. Henry E. McGarvey, Bronxville, to its Medical Grievance Committee, and Dr. Linn J. Boyd, New York City, and Dr. John J. Clemmer, Albany, to the Board of Medical Examiners. Dr. Harry M. Rose, New York City, was also appointed a member of the Board of Medical Examiners, and Dr. Albert Vander Veer, II, Albany, was made a member of the New York State Health Department Advisory Board for Narcotic Control, upon nomination by President Azzari.

Through the Public Health and Education Committee and its Epilepsy Subcommittee, prompt help was afforded Commissioner of Motor Vehicles Joseph P. Kelly, regarding issuance of automobile drivers licenses to certain persons with physical handicaps.

After consultations with representatives of your Society the Commissioner of Education promulgated certain definitions of "unprofessional conduct" as reasons for discipline of erring physicians. These were published on page 277 of the January 15, 1956, NEW YORK STATE JOURNAL OF MEDICINE, volume 56, number 2.

INTERNATIONAL MEETINGS.—Our Society was ably represented at the meeting of the World Medical Association in Vienna, Austria, last September, by Past-President Dan Mellen, and at the Third Congress on Criminology, London, England, by Vice-President Herbert Berger.

COOPERATION.—There has been good liaison with the New York State Dental Society and the New York State Pharmaceutical Association during the past year, particularly regarding legislation.

COMMENTS.—Your secretary and general manager has reported at each Council meeting in regard to matters of importance and the details of his own duties. The thoughtful help and patient cooperation he has received throughout the year from the officers, councillors, trustees, members, and fellow workers has been much appreciated. President Azzari has been a wise and helpful friend. Working with Treasurer Dattelbaum increases one's admiration for him every year. Drs. Edward R. Cunniffe and John J. Masterson, as presiding officers of the Board of Trustees, have been generous with their advice and guidance.

William F. Martin, Esq., Robert J. Bell, Esq., and members of their staff have worked closely, diligently, and courteously with the secretary's office. Much appreciation is expressed to them and also to Dr. John H. Iselin, Jr., assistant to the secretary, Miss Doris K. Dougherty, executive assistant to the secretary, Miss Eileen T. Buckley, Miss Beatrice Macaura, Miss Mollie Pesikoff, Miss Mary McMahon, and Miss Janet Loy; especially to Mr. Thomas E. Alexander are due my thanks. Mr. Alexander's meticulous work as business manager for the NEW YORK STATE JOURNAL OF MEDICINE and *Medical Directory of New York State*, as office manager and accountant, deserves admiration and praise. And most county medical society secretaries, executive secretaries, and directors have been generously cooperative. I feel my endeavors for the Society during the past year have been made worth while by the help of my friends and coworkers.

MEMBERSHIP.—Membership records show the following:

1954—Membership	23,545	
1955—Members reinstated	350	
1955—New members	938	
		24,833
1955—Deaths	298	
1955—Resignations	294	
1955—License revoked	1	
1955—Dropped from membership in accordance with the State Society Bylaws, Chapter I, Section 5	2	
1955—Suspended from membership by county medical society	1	
		596
		24,237
1955—Delinquent members		399
1955—TOTAL MEMBERSHIP		23,838

Honor counties (all of whose members' 1955 dues were received by the State Society in 1955) include Allegany, Broome, Chenango, Columbia, Cortland, Delaware, Essex, Genesee, Greene, Herkimer, Jefferson, Madison, Montgomery, Niagara, Ontario, Orange, Orleans, Otsego, Putnam, St. Lawrence, Schenectady, Seneca, Steuben, Tompkins, Warren, Washington, Wyoming, and Yates.

Comparative totals of membership since 1944 follow:

1944	18,941	1950	21,861
1945	19,234	1951	22,124
1946	20,524	1952	22,637
1947	21,303	1953	23,145
1948	21,171	1954	23,545
1949	21,489	1955	23,838

Remissions of 1955 dues were voted for illness, temporary service in the armed forces, or financial hardship as follows:

County	*Illness*	*Service*	*Financial Hardship*	*Total*
Albany	2	5	...	7
Bronx	9	17	1	27
Broome	2	6	...	8
Chemung	2	...	...	2
Chenango	1	...	...	1
Clinton	...	...	1	1
Columbia	...	2	1	3
Delaware	...	1	...	1
Erie	2	29 (2 rescinded)	1	32
Essex	...	1	..	1

County	*Illness*	*Service*	*Financial Hordship*	*Total*
Franklin	1	1	...	2
Fulton	...	1	...	1
Genesee	1	1	...	2
Herkimer	...	2	...	2
Jefferson	...	1	...	1
Kings	24	33	1	58
Madison	...	1	...	1
Monroe	1 (1 rescinded)	12	1	14
Nassau	4	23	...	27
New York	43	63 (1 rescinded)	...	106
Niagara	1	3	...	4
Oneida	3 (1 rescinded)	1	...	4
Onondaga	3	11	...	14
Ontario	...	2	...	2
Orange	1	2	...	3
Orleans	1	...	...	1
Queens	11	21	...	32
Richmond	5	...	...	5
St. Lawrence	...	3	...	3
Schenectady	...	6	...	6
Schoharie	...	1	...	1
Steuben	...	1	...	1
Suffolk	3	10	...	13
Sullivan	...	1	...	1
Tompkins	...	1	...	1
Ulster	2	1	...	3
Warren	...	1	...	1
Washington	1	...	...	1
Westchester	4	13	...	17
Wyoming	...	1	...	1
Yates	1	...	...	1
TOTAL	128	278	6	412
Rescinded	2	3	...	5
	126	275	6	407

Respectfully submitted,

W. P. ANDERTON, M.D., *Secretary*

Report of the Judicial Council

To the House of Delegates, Gentlemen:

The Judicial Council of the Medical Society of the State of New York met in Buffalo, May 11, 1955, at the time of the annual meeting of the State Society. The following were present:

Edward T. Wentworth, M.D., *Chairman*	Monroe
Norton S. Brown, M.D.	New York
John F. Kelley, M.D.	Oneida
Charles F. Loughran, M.D.	Kings
Christopher Wood, M.D.	Westchester
W. P. Anderton, M.D., *Secretary*	New York
William F. Martin, Esq., *Counsel*	New York
Robert J. Bell, Esq., *Counsel*	New York

The Judicial Council received and considered two letters of complaint which had been addressed to Dr. W. P. Anderton, secretary of the State Society. The first complaint was registered by a member of the Medical Society of the County of Queens against another member of the Medical Society of the County of Queens, because of alleged "persecution." Although the mediation committee of the Medical Society of the County of Queens had given hearing on this subject matter, the complainant had not been satisfied with the manner of conduction of such hearing. It seemed obvious that in appealing directly to the State Medical Society, the complainant was attempting to sidestep the usual procedure of complaint through the county medical society mediation committee, hearing, decision, and appeal from that decision. The Judicial Council, after consideration of this matter, requested Dr. Anderton, its secretary, to write to the complainant suggesting that he start all over again, by making a formal complaint to the mediation committee of the Medical Society of the County of Queens, with request for a formal hearing with stenographic minutes of the whole procedure, after which, if he were still dissatisfied, he would be in a position to appeal to the State Society.

(Subsequent to completion of this suggestion by Dr. Anderton, the complainant withdrew all requests for further consideration of his former dissatisfaction.)

The second matter considered by the Judicial Council was a request from a layman for State Society discipline against a member of the Bronx County Medical Society whom he had sued for malpractice. This layman had been given a hearing by the officers and the mediation committee of the Bronx County Medical Society. After consideration of the matter, the Judicial Council decided that it had no authority to render judgment in matters of professional procedure on the complaint of a layman. Secretary Anderton was instructed to so inform the complainant.

Following nomination and formal vote, Dr. Wentworth was unanimously elected to function as chairman of the Judicial Council for another year.

No further meetings have been held by the Judicial Council up to this date.

Respectfully submitted,

EDWARD T. WENTWORTH, M.D., *Chairman*

Report of the Counsel

To the House of Delegates, Gentlemen:

This is the thirteenth annual report of your present counsel on the activities of the Legal Department of the Medical Society of the State of New York.

Prior to my own period of service as counsel to the Society, I was with the office of counsel for fifteen years, so that this Spring marks the twenty-eighth year of my association with the Society.

I note with great sorrow that on the 21st day of June, 1955, Lloyd Paul Stryker, the first counsel for the Society whom I had the pleasure of working with, died. He was a great trial lawyer and the author of many fine books, including a classic on the general subject of malpractice entitled *Courts and Doctors*. That book is still widely used in the courts and is of inestimable help to a doctor faced with the problems which it discusses. He was a very dear friend of mine; I consulted with him many times and found him ever generous with his time.

Mr. Robert J. Bell, the attorney for the Society, has been with the office since 1931. The rest of our staff consists of Mr. John J. De Luca, who has been with the office eleven years; Mr. Harold Shapero, who was with the office when Mr. Lloyd Paul Stryker was counsel and then, after spending a period of more than twenty years with Mr. Stryker, came back to work with us; Mr. William C. Richardson has been with us six years; Mr. J. Richard Burns four years; Mr. Robert C. Heidell, three years. The newest addition to our staff is Mr. Donald J. Fager, who was recently admitted to practice law. He is a graduate of Notre Dame University and New York University School of Law. At the latter institution he was a member of the "Law Review." I am very grateful to these loyal associates for the excellent work they have done this year.

Many doctors have written us during the past year thanking us for the efficient and courteous services rendered in and out of court in the preparation and trial of their cases by my staff.

Last year in my report, I gave a rather detailed statement of the nature of our work and stressed the new activities of county societies and their malpractice insurance and defense committees. At that time most of these committees were in an organizational state. Since that time several of the committees have acquired a great volume of experience. I am sure that the report of the work of the Queens County committee will be available to any doctor who is interested. These committee members have drawn some very sage conclusions regarding the matters which have been presented to them. The New York County committee has met five or six times in the past year and, as with Queens, at a great sacrifice on the part of the members who do this work, since it takes about four hours in any evening meeting and the members do a good deal of homework which they report on at the next meeting. Several meetings have been held in the Counties of Erie, Kings, Richmond, Nassau, and Westchester. With the exception of Nassau County, which meets in the afternoon, all of these other counties meet at night, and their meetings are attended not only by several representatives of this office but by representatives of the insurance carrier. These meetings bring home to the members of the county committees the extent of malpractice litigation existing in their county, and many lessons are derived from a detailed examination of the cases. It is hoped that much good will come of these meetings and that the patient-physician relationship will be improved. Firsthand knowledge is always very sobering; many rumors and false ideas as to the manner and respect in which the cases and claims are handled have been corrected by the detailed questioning and observation of not only the lawyers and investigators but very often of the defendants involved.

Recently, in the courts of Manhattan and Bronx, a system has been inaugurated whereby the reports of medical experts for the plaintiff and defendant in a negligence case are checked by an impartial expert appointed from a panel drawn up by the county medical society. It is a very sobering thought for any doctor who has a tendency to exaggerate in a case to know that his report will be checked, not by doctors hired by the other side, but by doctors appointed by the court. An analogy may be drawn between that situation and the knowledge that any doctor possesses that when he is involved in a malpractice case, his method of treatment, his personal relations with his patient, including the financial side of such relations, will be checked by his county committee. A county committee is in a position to see which doctors are repeated offenders and to find out why they are involved in so many suits. When, for instance, a doctor sues a patient for an $80 uncollected bill, only to be faced with three unrepaired tendons in the hand that he treated, it is brought home to the members of the local committee what one of the causative factors in the production of malpractice cases is, to wit, overeagerness in pressing for payment.

In addition to the formal meetings of county malpractice insurance and defense committees which we attended, we have attended at least ten informal meetings of other counties which are considering activating such a committee. I pointed out to several of the county committees that a crusade could be instituted at the local level to see that in every hospital, every foreign body which is used in the course of a surgical operation is checked. We have had a great number of cases involving foreign bodies left in various parts of the body where we meet with the statement that only when the abdomen is opened is a count made. Recently, we learned that in the Supreme Court of Bronx County, there was a verdict of $90,000 rendered against a hospital because a gauze and ring was left in a patient. Of course, the foreign body case is the classic malpractice case, and anything that can be done to cut down on the total of these cases is a great accomplishment both for the sake of the public and the pocketbook of the doctor. When litigation has been brought involving gauze left in at the site of open reductions, neurologic operations on the spine, neck dissection, and operations at other places of the body, we have repeatedly run into the statement that in such cases no gauze count is kept. The feeling seems to be that no great risk is involved; we find the contrary to be so. A considerable proportion of these cases would be eliminated if an effective method of checking were adopted. Any surgeon who operates without such a method at his disposal is courting disaster. Hospital administrators, as well as doctors, should take this lesson to heart.

We have also called to the attention of members of the county committees the need for keeping accurate, careful records, with a minimum of humor and side comment that is not relevant. In a recent case there was a note on the chart—"Now surgery ceases and science takes over." The remark was made by an internist who was a very dear friend of the surgeon; they were both excellent men. I think the remark was intended to be humorous, but it rebounded with telling effect. Doctors are urged to refrain from any comment addressed to the personality of the patient. We have been embarrassed in a number of cases by the doctor's putting an ill-tempered remark on the record. Do not use ink eradicator or erasers on records; the record should contain entries made at the time the recorded event takes place. Remember that when an investigator comes to see you, he takes a copy of your record; if there are any additions subsequently made in the record, we and, in all probability, your opponent will know it. We would rather have a poor record than a changed one. A poor record can be explained—a changed record cannot possibly be explained. Some doctors have a habit of putting down as the concluding note in the hospital record at the time of discharge—"Condition good." Very often the facts completely dispute this, and such a note is very embarrassing. If you have a postoperative complication and it cannot be cleaned up by the time of discharge, by all means call in competent consultation before the patient is discharged and make an adequate note on the record and keep the patient and/or the family well-informed. It is only human nature that when another doctor first makes an accurate record of what the patient's true condition is that a malpractice case is in the offing.

County committees have learned that, contrary to a falsely assumed and allegedly comfortable belief on the part of some doctors that only charlatans bring malpractice suits, many of these cases are brought by prominent members of the community and by leading reputable law firms. That is not true of all the cases, but it is true of a considerable number. Among litigants who brought malpractice cases in the last year were at least six doctors, a Supreme Court judge, several dentists, and a number of prominent businessmen. Lawyers have today at their disposal a great number of discovery technics by which they can quickly and efficiently learn the facts of a matter, and when they are in doubt as to whether or not a malpractice case can properly be brought, they are inclined to sue out and examine at length before deciding whether to go forward or abandon the matter. A doctor must remember that when he is examined before trial, his testimony is just as important as the testimony he will give when he goes to court. With the doctor's examination in hand, the plaintiff is then in a position to prepare his case better. A consoling factor today is that the defendants may examine the plaintiffs at length and pin them down to exactly what their testimony will be. The county malpractice insurance and defense committees are learning of the amount of work that goes into the preparation and trial of one of these cases. They know of depositions; they read the hospital records; they read the doctor's statements; they read the various reports of the investigators.

LITIGATION.—A total of 229 lawsuits were commenced in the calendar year 1955 which are being defended by your counsel. Some of these are uninsured, but the great majority of them are insured. This number is arrived at by counting only the number of events involved. Actually suits were commenced against a considerably larger number of doctors, but wherever two or more doctors have been sued in the one case, for the purpose of this report it is considered one case.

In addition, over 300 claims were made against insured and uninsured doctors. It is well to point out that some of these matters were disposed of in the claim stage and in several instances for a very considerable amount. It is also well to call attention to the fact that in at least one of the new cases commenced this year, the incident involved goes back some twelve years to a time when a doctor treated a leg injury in a young boy. Only when he was well into his adolescence was suit commenced by the family. The statute of limitations in a malpractice action allows an infant to bring a case at any time until two years after the adult age of twenty-one years has been reached. In other words, up to and including the child's twenty-third birthday. This long period of limitations in an infant case was brought home to us the other day when, as a result of a long trial of a serious malpractice case against a doctor, another incident was opened up by an attorney's letter which involved the doctor's treatment of an infant's elbow some fifteen years ago.

In addition to the cases and claims which are presented to us during the year, there are literally scores of telephone calls and communications which we have with doctors every month which are in the way of being a prevention program. They will call us and discuss problems with us, and very often we are able to arrive at a course of conduct which obviates any claim arising. A great number of these matters never go any further.

We receive a great many calls from lawyers and laymen regarding malpractice problems, and these occupy a great deal of time.

Again, I must report that because of the accumulation of past work, there is presently a backlog of over 1,000 lawsuits in this office. These lawsuits involve upwards of 1,500 doctors.

At the risk of some oversimplification, let me state that the malpractice statute of limitations at the present time mentions two years as the time within which an action must be brought. There is considerable effort to increase this period to three years, and a bill is presently being introduced in the New York State Legislature to that effect. I have stated to members of bar association committees on State legislation who have spoken to me that I am unalterably opposed to such bill and feel it would be an unjust burden on the doctor. There is no ideal statute of limitations, but at a time when so many cases are being brought against physicians, there does not seem to be any reasonable need to increase the present statutory period.

However, doctors should be warned that there is a limited type of contract cause of action which may be brought at any time within six years. This was recently stated again by the Court of Appeals in the case of *Robins* v. *Finestone*, 308 N.Y. 543, where a physician allegedly contracted to remove a growth and agreed to perform the operation and cure the plaintiff by the method indicated in one or two days. It is alleged "that he attempted in an unworkmanlike, unprofessional and unskillful manner to perform the operation by fulguration but instead twice punctured one of the plaintiff's organs necessitating a major operation, including the opening of the abdominal wall by incision, as a result of which breach of contract plaintiff was caused specified damage. A cause of action for breach of contract is stated, and is not barred by the two-year Statute of Limitations applicable to malpractice." Of course, in the contract cause of action, there can be no recovery for pain and suffering, which is one of the most important elements, but there can be a recovery for the out-of-pocket expenses which are incurred in an effort to remedy any claimed malpractice.

Again, I call attention to the calendar situation in our courts where there is a considerable backlog of cases awaiting trial. In New York County some of this congestion has been corrected by putting malpractice and several other types of cases on a so-called general calendar which allows for a speedier trial. Very often a doctor may not be sued for a claimed act of malpractice until close to two years after the last date of treatment; then the case is sued out, and there is a further lag of about three years in its trial, so that it is quite customary that we are trying cases involving incidents which occurred five or more years before the date of trial. May I ask the members of the medical profession to cooperate with the investigators and lawyers for the insurance carrier, as well as the representatives of this office who are seeking out factual information in order to enable us properly to prepare our cases. Doctors react in a variety of ways when we seek to talk our cases over with them. One of the most objectionable reactions that we run into is a demand, before anything is told to us, that their time be paid for. This, of course, is inevitably reflected in the rate for insurance.

The depositions procedure, which is now quite generally used in the court, is at once a solace and a great expense. The testimony is usually taken by a court reporter, and sometimes there are hundreds of pages of testimony that must be ordered. You can win a case all the way through and still spend a lot of money in the winning of it. Doctors who are defendants and who are asked to come away from their usual duties and spend time in testifying in the depositions must remember that no alternative is allowed. They must testify and allow time beforehand to talk the matter over before their testimony, and they may not, as one or two naively seemed to think, be paid for the testimony which they give as a defendant. We have on one or two occasions had them ask us, or our opponent, who is going to pay them for their time—the answer is no one.

Within the limits of time and space allotted to me, some comments must be made about the current malpractice situation throughout the country. In the State of California there were two verdicts returned during the summer of 1955, both of which were among the largest ever recorded anywhere in the country. There was a $250,000 verdict returned in the Supreme Court on July 15, 1955, in a case where a fifty-seven-year-old former shipping clerk earning about $250 a month became totally and permanently paralyzed from the waist down as a result of claimed negligence committed in taking an aortogram. In the United States District Court for the Southern District of California, before Judge Ernest A. Tolin on June 14, 1955, there was a verdict of $190,000 awarded a wife and $20,000 awarded her husband as a result of the claimed malpractice in the giving of an improper spinal anesthetic when admitted to a Naval Hospital for childbirth. The consequence was arachnoiditis and paralysis from the chest down. The last verdict was believed to be the largest single personal injury award yet made under the Federal Torts Claim Act by any Federal Judge sitting without a jury. In relation to this last result, may I point out a fallacy urged by many people, namely, that the trouble with these large negligence verdicts is that the jury system should be done away with. Statistical study shows that in New York State, for instance, nonjury verdicts have a tendency to run higher than jury verdicts. and the results in the Federal Court in California bear this out. We derived considerable satisfaction from the reversal of a nonjury verdict returned against us in a malpractice case this year in the Appellate Division which unanimously reversed and dismissed the complaint. This case was decided on February 1, 1956, *Rose* v. *Dapolonia*, Appellate Division, First Department.

There is a growing tendency in the State of California to apply the doctrine of *res ipsa loquitur* in many malpractice cases. Where there is any untoward happening in these cases, the defendant is called upon to explain how the happening occurred. The United States District Court in the District of Columbia has decided that since malpractice cases are hard to prove, only a slight degree of proof should be required to put the defendant to his defense. In the State of Massachusetts all textbooks may be offered by plaintiffs in support of malpractice cases, and the defendants must then explain away any harmful matter or comments contained in the textbook. In the highest court of the State of New Jersey there has been comment on the shocking inability of plaintiffs to try a malpractice case properly because they cannot get witnesses.

We feel that in the State of New York, as counsel for the State Medical Society, we must encourage the good will and the cooperation of the judges and instill a feeling in them that we are dealing fairly with the cases which are brought before their tribunal. We have noted of late an increasing tendency on the part of plaintiffs' lawyers to produce numbers of outstanding members of the medical profession to testify against fellow-doctors in malpractice cases. It is strictly the decision of the doctor himself as to what he will do. We feel that the only way to make medical testimony that is produced against us of little or no value is by adequate preparation and effective cross-examination to reduce the force of any exaggerated or false claims that are made on the plaintiff's behalf.

Other than the California cases mentioned above and the New York verdict of $90,000, there have been a number of cases throughout the country this year where verdicts in excess of $50,000 have been obtained against members of the medical profession. It is a caution to doctors to carry adequate malpractice insurance (in fact, uninsured doctors now have to bear the out-of-pocket expenses connected with their defense). May I state it is also a caution to see that all doctors in the same office are covered by the same carrier. Recently, we had a case where a partnership of doctors was involved in a case and to our surprise found out that one doctor took on the treatment of the patient, went away on vacation, and left the patient in the care of his partner, and that they were insured by different companies. This creates an unnecessary further matter of dispute.

Another illustration of the expense involved in the trial of a malpractice case was called to our attention within the last month. We tried a case for two and one-half weeks before a judge and jury; thousands of pages of testimony were recorded; the case wound up in a mistrial and will have to be tried over again. We recently had another trial that went on for ten days. It was affirmed in part by the Appellate Division, but a new trial was ordered. We have several cases in the office where six or more doctors are named defendants, and the testimony of all of them either has been or will be taken.

Several cases of great interest to the medical profession have been decided by the Appellate Courts within the last year, and I make brief mention of them. One is the case discussed in the March 1, 1956, issue of the NEW YORK STATE JOURNAL OF MEDICINE, page 644—*Alpert* v. *The Board of Governors of the City Hospital of Fulton,* 286 App. Div. P. 542 (Fourth Department), and I quote only the head note of the case in the official report.

> *Hospitals and asylums—exclusion of physician from use of facilities of publicly-owned hospital—denial of reappointment to staff—requirement of notice and hearing*—(1) proceeding (Civ. Prac. Act, art. 78) to annul determination of respondent board of governors of publicly-owned hospital, made without notice of charges or hearing, excluding petitioner physician from use of hospital facilities and denying him reappointment to medical staff; answer of board of governors interposing mere denials and withholding evidentiary facts, not in compliance with Civil Practice Act (§ 1291); no issue of fact raised; Appellate Division thereupon empowered to dispose of matter in same manner as upon motion for summary judgment (Civ. Prac. Act. § 1295); upon state of record, exclusion from hospital deemed arbitrary and capricious; petition granted to extent that petitioner allowed to use facilities of hospital in treatment of own patients—(2) implied limitation imposed upon authority of board of governors to restrict arbitrarily use of hospital by either physician or patient—(3) qualified physician admitted to practice in public hospital acquires species of tenure from which he cannot be excluded without notice and opportunity to be heard—(4) respondent board of governors had complete freedom of choice with respect to composition of medical staff, and petitioner not entitled to reinstatement to medical staff.

There was an important Court of Appeals decision involving statements in hospital records made by the admitting doctor in the case of *Williams* v. *Alexander,* cited October 13, 1955. I quote only the headnote of that case.

> *Evidence—Hospital Records—Entries not germane to diagnosis or treatment.*—An entry in a patient's hospital record, if not germane to diagnosis or treatment, is not admissible in evidence under section 374-a as a memorandum or record made in the regular course of business. In an action to recover for injuries suffered by the plaintiff when he was struck by the defendant's automobile, in which the parties gave discrepant versions of how the accident had occurred, the plaintiff testifying that the defendant approached without diminishing speed the intersection at which he was crossing and ran into him, and the defendant testifying that he had brought his car to a stop and that another vehicle struck it from the rear and propelled it forward and on the plaintiff, it was error to admit in evidence, over the plaintiff's objection, an entry in his hospital record to the effect that he had stated to a physician that he was crossing the street and an automobile ran into another automobile which was at a standstill and which was thus caused to run into him.

It is interesting to note that everything the admitting doctor put down about the physical condition of the patient as he obtained it was held to be relevant except the reported version of the happening of the accident as narrated by the patient to the doctor. In November, 1955, the Appellate Division of the First Department rendered an important decision in the case of *Berg* v. *The New York Society for the Relief of the Ruptured and Crippled.* There had been a $17,702.25 verdict in favor of a plaintiff because of the negligence of an admittedly qualified laboratory technician employed by the hospital who made an erroneous serologic test to determine the plaintiff's blood factor. The Trial Court had held that the negligence of the technician was "an administrative" rather than a "medical" act, within the meaning that those terms have acquired in the context of fixing liability for injuries to hospital patients, but Judge Botein of the Appellate Court which reversed the judgment, writing for the majority, stated: "However as we read the prevailing authorities in this state, the negligent act in this case bears a sufficiently direct and immediate relation to the care and treatment specified for the plaintiff by her own physician to require that the judgment below be reversed and the complaint dismissed." There was a dissenting opinion by Judge Breitel. I am told that this matter will be appealed to the Court of Appeals.

COUNCIL WORK.—Each meeting of the Council and Board of Trustees of the Medical Society of the State of New York is attended by at least one representative of this office. Each meeting of the Malpractice Insurance and Defense Board and practically every meeting of its subcommittees are attended by at least one of us. Scores of committee meetings are attended. We are in communication with the legislation representative, Dr. Harold B. Smith. We are frequently called on for advice by officials of various county societies. A very considerable volume of correspondence is referred to this office by the State Society and its various offices. I wish to express to Dr. Renato Joseph Azzari, president; Dr. W. P. Anderton, secretary, and Dr. Maurice J. Dattelbaum, treasurer, my sincere thanks for the help that they have rendered to us during the past year.

During the past year I spoke before the following groups: The Insurance Section of the American Bar Association, held at Philadelphia, Pennsylvania, representing the defendant's point of view in a forum on the subject of the relationship of trauma and cancer; the Mid-Winter Symposium of the American Medical Association on medical-legal matters held at the Hotel Statler in New York City; on the trial of a malpractice case before the Federation of Insurance Counsel at their meeting at the Sheraton Hotel in Washington, D.C. This speech was printed by Prentice-Hall in its publication, the *Insurance Journal.* I spoke at the annual dinner of the medical and surgical staff of St. Vincent's Hospital, to the Caduceus Post of the American Legion of the Seventh Regiment, to the Ear, Nose and Throat Section of the Academy of Medicine, to the Association of Hospital Administrators of Northeastern New York, to the annual joint meeting of the Bar Association and Medical Society of Onondaga County. I had a number of meetings with some of the representatives of the California county medical societies. I am particularly indebted for his advice to Dr. Sadisk of Oakland who has done a good deal of fine work in his region in connection with the Alameda Plan. I spoke at the Practicing Law Institute course on Medical-Legal Testimony held at the Statler Hotel in New York City. My associate, Mr. Bell, spoke to the Fellows of the American College of Surgeons at their Westchester meeting and to the same organization at its Bronx meeting. I participated in a number of meetings of the Impartial Testimony Project of the Academy of Medicine and the Association of the Bar of the City of New York. There recently has been published by Macmillan & Company a treatise on the work of that project. It makes very interesting reading to any doctor interested in medical-legal questions. Other members of my staff spoke to a number of local medical societies. I wrote an article on the malpractice problem in New York State for the International Association of Insurance Counsel which was published in their October, 1955, *Journal.* I wrote an article on medical records which appeared in *Medical Economics.* I rendered a considerable number of opinions to various State and county medical society officers and talked with their officials and employes about various problems. I rendered a great number of written opinions to various members of the State Society. I participated in the deliberations of the Blood Banks Association of New York State.

I must express the great appreciation I have for the efficient help rendered to us by the various members of the Malpractice Insurance and Defense Board of the State Medical Society, headed by Dr. Joseph Arthur Lane of Rochester, chairman. I am very grateful to Colonel H. F. Wanvig, the indemnity representative of the State Society, for his patient discussion of our many problems. He has very efficiently, in his capacity as secretary of the Malpractice Insurance and Defense Board, arranged the programs for its meetings and for many of the meetings of the county societies. Much tedious and detailed work must be done in connection therewith. I am most appreciative of the effective help rendered us by Mr. B. E. Kuechle, vice-president of the Employers Mutual Liability Insurance Company of Wausau, Wisconsin, by Mr. John Linster, its general counsel, by Mr. Dale Snure, in charge of their New York office, and their excellent claim staff headed by Mr. Frank W. Appleton and Mr. Gerald Wilson of New York City, as well as their various upstate office managers. I bespeak the appreciation of all members of the State Society to them for their efforts in seeking out the facts in our various cases and claims.

We have a number of matters still in this office for the Yorkshire Insurance Company, the previous carrier, and receive splendid cooperation from Mr. Horace Crowell, vice-president in charge of claims, Mr. Thomas Finnegan, their attorney, and Mr. Anthony Falke, their claims manager.

Respectfully submitted,
WILLIAM F. MARTIN, *Counsel*

Report of the Board of Trustees

To the House of Delegates, Gentlemen:

Herewith, as chairman pro tem of the Board of Trustees, we respectfully submit this report for the period 1955–1956. Ordinarily this would have been prepared by Dr. Edward R. Cunniffe, chairman of the Board. Because of his very serious illness, the material presented was prepared by the chairman pro tem.

It is with a deep sense of regret that the House is informed of Dr. Cunniffe's illness. His wise counsel is sorely missed.

The Bylaws, Chapter V, Section 2, provide in part that "the Board of Trustees shall have charge of all property including trust funds and shall supervise financial affairs of the Society and shall invest the surplus from time to time. The budget prepared by the Council shall be submitted to the Board for its approval, and all resolutions or recommendations of the House of Delegates or Council pertaining to expenditures of money must be approved by the Board of Trustees before the same shall become effective. The Board of Trustees shall make and execute all contracts for the Society."

In Section 3, "The chairman of the Board of Trustees shall make a report to the House of Delegates of its transactions for the year and of the amount of money belonging to the Society under its control."

Article IX, of the Constitution, states in part, "The approval of the Council and of the Board of Trustees shall be necessary for the expenditure of any funds of the Society."

The Board has held regular monthly meetings except during July and August. At each meeting we receive reports of the treasurer, legal counsel, chairman of the Office Administration and Policies Committees, War Memorial, and Investment Committee.

The Board urges each member not to omit reading the financial and statistical reports, not only those submitted by the Board of Trustees, but that of the treasurer and Budget Committee of the Council as well. They will yield much information regarding income, expenditures, and resources of the Society. During the time the reference committee meets to study and discuss the reports of the Board of Trustees, those who wish to obtain further information may have it. We believe that with a better knowledge of the financial and business management of the Society, your questions and discussions will prove valuable in considering resolutions in the House having to do with the expenditure of money.

For the year ended June 30, 1955, we were fortunate in having an excess of income over expenditures amounting to approximately $25,200 for the General Fund. Our total expenditures for this period were approximately $498,800. The following are some of the major items of expense: Administration $127,600; Public and Professional Relations Bureau, $73,200; Legislation Bureau, $25,900; Workmen's Compensation Bureau, $24,800; Bureau of Medical Care Insurance, $18,900; Scientific Activities, $21,900; Blood Banks Association of New York State, $46,900; Legal Counsel retainer and expense, $30,000; Annual Meeting (Buffalo, 1955) $16,500; and the 1955 *Medical Directory*, $66,400. In some categories of our expenditures we have had increases and, in others, decreases. In general, as far as increases are concerned, there is nothing unusual. It is primarily due to our continued "increased cost of living" and the inflationary trend since the beginning of the Korean War in 1950. Until there is a halt to this trend, we can continue to expect an increase in our over-all expenses. All organizations are faced with this same problem.

Because we are now operating with a fiscal year ending on June 30, the report of our auditors Messrs. Patterson and Ridgway printed herewith, covers the year ended June 30, 1955. When this report appears in print, it will be more than nine months old. For that reason we are also printing a financial report as of December 31, 1955. While the latter figures have not been audited by independent accountants, they have been prepared by our Accounting Department, and we believe they fairly represent the financial status of the Society as of December 31, 1955. The statement of Operating Income and Expenditures covers the year ended December 31, 1955. It will be noted that on a calendar year basis our net income was $23,964.

The House of Delegates, at the May, 1955, meeting, approved a plan to advance the Blood Banks Association an additional $18,000 to December 31, 1955, with provision for certain controls. At that time a total of $63,000 had been advanced to the Association. Approved loans totaled $67,000. The difference of $4,000 was held in a kind of escrow account by the Society to meet the obligation which we had in connection with our having guaranteed the lease of the space rented by the Blood Banks Association. This $4,000, plus the $18,000 which the House of Delegates approved, could be advanced to the Association at any time it needed these funds. With the $63,000 which had been already advanced, plus the $22,000 which was approved, a grand total loan to the Association of $85,000 could be made. Up through December 31, 1955, $79,000 had been loaned.

Because of the close contact that the Blood Banks Commission maintained with the management of the Blood Banks Association, the Board believed that every effort ought to be made to facilitate the transfer of necessary funds. It was decided, therefore, to approve an additional loan of $22,000, as above with the proviso that the actual transfer of monies be placed under the control of the Blood Banks Commission.

The *Medical Directory* is our perennial problem. Many ideas and plans have been presented. Presumably this matter will be covered more fully in the report presented by the Expense Curtailment Committee. We trust it will suffice to say that the Board will make every effort to reduce the expenses of the 1957 edition. Much time, thought, and discussion has been given to this matter. If, however, the cost of the *Directory* is to be reduced, savings can be made only by greatly lessening the quality of the book. This means a less expensive cover and paper and perhaps some reduction in the information which the *Directory* now contains. In proportion to the over-all cost of the *Directory*, this would result in saving only about 5 per cent of its present cost.

With regard to our investments, the following transactions took place during the year ended June 30, 1955:

Added

36 shares	Consolidated Edison Co., New York $5.00 cumulative Preferred
25 shares	Consolidated Natural Gas Co. Capital
7 shares	Peoples Gas Light & Coke Co. Capital
10 shares	General Motors Corp. Common
22 shares	Consumer's Power Company Common
$35,000	U.S.A. Treasury Bills due January, 1956

Redeemed

$4,000	U.S. Savings Bonds Series "G" $2^{1}/_{2}$, February, 1955
100 shares	Chicago, Rock Island & Pacific Railroad Preferred "A"

Converted

$10,000	Sinclair Oil Corp., Convertible Debentures
	into
227 shares	Sinclair Oil Corp. Common

It is interesting to note the following comparison between the cost of our investments and market value as of December 31, 1955:

	Cost	Portfolio	Market Value Dec. 31, 1955	Portfolio
Bonds*	$339,773	60%	$331,072	38%
Preferred stock	29,501	5%	31,090	4%
Common stock	199,081	35%	499,327	58%
	$568,355		$861,489	

* Excludes War Memorial Fund.

Our treasurer, Dr. Maurice J. Dattelbaum, keeps the Board well informed as to the income and expenditures of the Society each month. It is interesting to note that for several years it has been necessary for us to borrow money for three or four months prior to the year's end until dues for the new year are received. However, it was unnecessary for us to do so this year.

As of June 30, 1955, we had special funds as follows:

Investment Fund	$377,461
Building Fund	$104,806
Repair and Replacement Fund	$ 52,283
Employes Beneficiary Fund	$ 78,383

These reserves are supplying a useful purpose. By maintaining them we are looking forward to the future and will be able to provide for contingencies which we believe or know will come to pass. Should the time arrive that the Society feels that it ought to own its headquarters office, at least a portion of the monies needed is provided for. As to our Repair and Replacement Fund we have established a basis for replacing our outmoded and worn-out equipment. With regard to the Employes Beneficiary Fund, this amount has been set aside as a provision for the establishment of some kind of pension plan for our employes. Over the past few years there has been much discussion of this subject by the House, committees of the Council, and the Board of Trustees. At the present time this discussion has reached the point where the Board of Trustees is in process of studying pension plans. This will probably be in the form of a supplementary report to the House for possible action at the 1956 meeting.

The War Memorial Committee is preparing a special report for the House of Delegates. This will include certain statistics having to do with the general operation of the fund as well as the financial results during the year ended December 31, 1955. Undoubtedly the War Memorial project is among the finer activities of the State Society. We know that in assisting the educational programs of children of our members who lost their lives in World War II, we are meeting a definite need. As the years pass, we realize more and more the good which comes from this project.

With regard to the Malpractice Premium Reclassification Survey relating to a request made by the Medical Society of the County of Westchester that its premiums for malpractice defense insurance be made in the group for upstate charges rather than the group for the metropolitan New York charges, the Board approved the expenditure of fund of $1,500 for the purpose of carrying out this request.

We wish to express our commendation to our treasurer, Dr. Maurice J. Dattelbaum, not only for his fine work as treasurer but as chairman of the Budget Committee. The Board believes that this committee with Dr. Frederic W. Holcomb and Dr. Samuel Z. Freedman has performed an excellent service in providing a budget for the year ended June 30, 1956, which shows that our income will exceed our expenses unless some unforeseen emergency arises requiring the expenditure of our anticipated surplus.

Miss Doris K. Dougherty is always present at the meetings of the Board. We find her assistance invaluable.

There are many who aid and assist the Board in its work in other departments, county societies, and other organizations with which we come in contact. However, our secretary, Dr. W. P. Anderton, through his most competent services, both as secretary of the Board and general manager of the Society, deserves our very special thanks. Without him much of the work which we accomplish would be completed only with difficulty.

The Board would also take this opportunity to express its deep thanks and appreciation to our very able accountant, Mr. Thos. E. Alexander, for his loyalty to our Society and his helpful cooperation

[Continued on page 1087]

MEDICAL SOCIETY OF THE STATE OF NEW YORK

Balance Sheet—June 30, 1955

ASSETS

GENERAL FUND			
Current Assets			
Cash in Banks and on Hand	$229,078.52		
Less: Due American Medical Association	36,300.00	$192,778.52	
Accounts and Notes Receivable (After Reserves)		18,921.20	
Dues Receivable—Net, Estimated		49,075.00	
Due from Endowment Funds—Per Contra		700.00	
Inventories		19,795.70	
Total Current Assets			$ 281,270.42
Prepaid Expenses			
Sundry Expenses and Deposits			4,484.29
Furniture and Fixtures—At Nominal Value			2.00
Advances (After Reserves)			
Veterans Medical Service Plan of New York		15,760.53	
Blood Banks Association of New York State, Inc.		2,533.04	18,293.57
TOTAL GENERAL FUND			304,050.28
INVESTMENT FUND			
Cash in Banks		117,965.26	
Investments at Cost (Market or Redemption Value $567,248.12)		316,843.08	
Accrued Interest Receivable		941.45	
		435,749.79	
Less: Due to Other Funds		8,288.45	
TOTAL INVESTMENT FUND			427,461.34
SPECIAL FUNDS UNDER CONTROL OF THE BOARD OF TRUSTEES			
Building Fund			
Investments—U.S. Treasury Obligations at Cost (Market Value $96,476.00)	100,000.00		
Accrued interest receivable	683.28		
Due from Investment Fund	4,123.10	104,806.38	
Employes Beneficiary Fund			
Investments—U.S. and Other Obligations, at Cost (Market Value $73,495.00)	75,965.90		
Accrued Interest Receivable	331.71		
Due from Investment Fund	2,086.08	78,383.69	
Repair and Replacement Fund			
Investments, at Cost (Market Value $42,578.00)	39,935.34		
Accrued Interest Receivable	102.35		
Due from Other Funds	12,245.94	52,283.63	
TOTAL SPECIAL FUNDS			235,473 70
ENDOWMENT FUNDS			
Cash in Bank		14,299.01	
Less: Due to General Fund		700.00	
TOTAL ENDOWMENT FUNDS			13,599.01
WAR MEMORIAL FUND			
Cash in Bank		10,015.23	
Investments—U.S. Treasury Bonds (Market Value $206,364.00)		215,635.87	
Accounts and Interest Receivable		2,845.06	
TOTAL WAR MEMORIAL FUND			228,496.16
TOTAL ASSETS			$1,209,080.49

MEDICAL SOCIETY OF THE STATE OF NEW YORK

Balance Sheet—June 30, 1955

LIABILITIES AND CAPITAL

GENERAL FUND		
CURRENT LIABILITIES		
Accounts Payable		$ 30,284.01
Taxes Payable (Including Withholding)		5,967.27
Due to Repair and Replacement Fund		10,166.67
TOTAL CURRENT LIABILITIES		46,417.95
DEFERRED CREDITS		
Membership Dues—Second Half of 1955	$277,924.00	
Sundry	2,079.04	
TOTAL DEFERRED CREDITS		280,003.04
GENERAL FUND		*22,370.71**
TOTAL GENERAL FUND		304,050.28
INVESTMENT FUND		
Reserve for Depreciation of Investments	50,000.00	
Balance	377,461.34	
TOTAL INVESTMENT FUND		427,461.34
SPECIAL FUNDS UNDER CONTROL OF THE BOARD OF TRUSTEES		
BUILDING FUND	104,806.38	
EMPLOYES BENEFICIARY FUND	78,383.69	
REPAIR AND REPLACEMENT FUND	52,283.63	
TOTAL SPECIAL FUNDS		235,473.70
ENDOWMENT FUNDS		
Lucien Howe Prize Fund	5,579.75	
Merit H. Cash Prize Fund	2,100.91	
A. Walter Suiter Lectureship Fund	5,918.35	
TOTAL ENDOWMENT FUNDS		13,599.01
WAR MEMORIAL FUND		228,496.16
TOTAL LIABILITIES AND CAPITAL		$1,209,080.49

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* Italics denote figures in red.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

Statement of Operating Income and Expenses

For the Year Ended June 30, 1955

OPERATING INCOME		
One-half of Members Dues for the Years 1954 and 1955—After Reserve		$556,433.06
Less: Allocation to JOURNAL Circulation Income, as Authorized by the Board of Trustees		59,612.00
		496,821.06
Net Operating Income from JOURNAL		23,855.27
Sales of 1953 *Directories* (Net)		2,586.20
Interest on Savings Accounts		763.95
		524,026.48
OPERATING EXPENSES		
Administrative	$127,620.90	
Public and Professional Relations Bureau	73,239.32	
Legislation Bureau—Albany Office	25,927.46	
Workmen's Compensation Bureau	24,772.59	
Bureau of Medical Care Insurance	18,911.68	
Scientific Activities	21,888.40	
Woman's Auxiliary	7,688.17	
District Branches	2,378.53	
Planning Committee for Medical Policies	1,258.91	
Malpractice Insurance and Defense Board	2,767.51	
Malpractice Defense Audit	1,250.00	
Counsel—Retainer and Expenses	30,000.00	
Traveling Expenses	23,984.80	
A.M.A. Conference Room Expenses	1,312.82	
Pensions	5,499.98	
Sundries	535.35	
Expenses of Blood Banks Association of the State of New York, Inc.	46,805.04	
Annual Meeting, 1955	16,533.17	
Medical Directory 1955—Balance of Loss	66,449.48	498,824.11
NET OF OPERATING INCOME OVER EXPENSES		$ 25,202.37

MEDICAL SOCIETY OF THE STATE OF NEW YORK

Statement of General and Other Funds

For the Year Ended June 30, 1955

	General Fund	Investment Fund	Building Fund	Employes Beneficiary Fund	Repair and Replacement Fund	War Memorial Fund	Lucien Howe Prize Fund	Merit H. Cash Prize Fund	A. W. Suiter Lectureship Fund
BALANCE AT JULY 1, 1954	_$47,573.08_*	$355,512.13	$102,061.60	$76,448.21	$50,834.36	$232,336.23	$5,530.53	$2,041.52	$5,807.80
ADDITIONS									
Interest on Bank Balances	....	1,871.55	.....	....	....	....	....	....	....
Income from Securities	....	21,177.05	2,744.78	1,935.48	1,449.27	5,359.93	149.22	59.39	160.55
Profit from Sale of Securities	....	964.66	.....	....	....	....	....	....	....
Excess of Operating Income over Expenses, Not Including Income from Securities	25,202.37	....	.....	....	....	....	....	....	....
Total Additions	25,202.37	24,013.26	2,744.78	1,935.48	1,449.27	5,359.93	149.22	59.39	160.55
DEDUCTIONS									
Custodian and Investment Service Fees	....	2,064.05	....	....	....	....	....	....	....
Prizes	....	....	....	....	....	....	100.00	....	50.00
Benefits Disbursed	....	....	....	....	....	9,200.00	....	....	....
Total Deductions	....	2,064.05	.....	....	....	9,200.00	100.00	....	50.00
Net Increase or Decrease	25,202.37	21,949.21	2,744.78	1,935.48	1,449.27	_3,840.07_*	49.22	59.39	110.55
BALANCE, JUNE 30, 1955	_$22,370.71_*	$377,461.34	$104,806.38	$78,383.69	$52,283.63	$228,496.16	$5,579.75	$2,100.91	$5,918.35

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* Italics denote figures in red.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

Cash in Banks and on Hand

June 30, 1955

GENERAL FUND	$229,078.52†
INVESTMENT FUND	117,965.26
TOTAL	$347,043.78
ENDOWMENT FUNDS	
Lucien Howe Prize Fund	$ 5,779.75
Merit H. Cash Prize Fund	2,300.91
A. Walter Suiter Lectureship Fund	6,218.35
TOTAL (UNION DIME SAVINGS BANK)	$ 14,299.01
WAR MEMORIAL FUND	
On deposit	$ 10,015.23

† Includes $36,300.00 due American Medical Association.

INVESTMENTS

The investments of the Society are summarized as follows:

	COST	MARKET
INVESTMENT FUND		
U.S. Government Bonds	$ 65,300.00	$ 62,865.00
Railroad Bonds	5,551.25	5,940.00
Industrial Bonds	25,000.00	25,500.00
Mortgage	3,350.32	3,350.32
Preferred Stocks	29,501.47	31,296.00
Common Stocks	188,140.04	438,296.80
TOTAL	$316,843.08	$567,248.12
BUILDING FUND		
U.S. Government Obligations	$100,000.00	$ 96,476.00
EMPLOYES BENEFICIARY FUND		
U.S. Government Bonds	$ 55,090.14	$ 52,920.00
Public Utility Bonds	10,495.13	10,375.00
Industrial Bonds	10,380.63	10,200.00
TOTAL	$ 75,965.90	$ 73,495.00
REPAIR AND REPLACEMENT FUND		
U.S. Government Obligations	$ 29,987.50	$ 29,469.00
Common Stocks	9,947.84	13,109.00
TOTAL	$ 39,935.34	$ 42,578.00
WAR MEMORIAL FUND		
U.S. Government Obligations	$215,635.87	$206,364.00

[Continued from page 1081]

with the Board of Trustees. In addition he is also the office manager of our large staff as well as business manager of our JOURNAL and *Directory*. At present he also is acting as office manager of the Blood Banks Association. Ever watchful of our expenditures, it would be difficult for the Society to find a more efficient accountant.

This report would not be complete without our having paid due regard to Dr. William H. Ross, a former president of the Society and a trustee for many years, who passed away on May 9, 1955. Those who knew him well realize that we have lost a keen mind. His services to the Society as chairman of the Finance Committee of the Board of Trustees, particularly with regard to our investments, are reflected in the value of our investments today. It is with no small feelings that we mourn his passing.

This report is submitted as of February 15, 1956. A supplementary report will be presented at the Annual Meeting of the House of Delegates.

Respectfully submitted,

JOHN J. MASTERSON, M.D., *Chairman, pro tem*
EDWARD R. CUNNIFFE, M.D., *Chairman*
HERBERT H. BAUCKUS, M.D.
J. STANLEY KENNEY, M.D.
LEO F. SCHIFF, M.D.
JAMES R. REULING, M.D.
WALTER W. MOTT, M.D.

Auditor's Certificate

To the Board of Trustees, Medical Society of the State of New York:

We have examined the balance sheet of the Medical Society of the State of New York as of June 30, 1955, and the related statements of operating income and general and other funds for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

We did not confirm the unpaid members' dues by correspondence with the members.

In our opinion, the accompanying balance sheet and the statement of operating income and general and other funds present fairly the financial position of the Medical Society of the State of New York as of June 30, 1955, and the results of its operations for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding period.

PATTERSON AND RIDGWAY
Certified Public Accountants

October 28, 1955

Balance Sheet—December 31, 1955

ASSETS

GENERAL FUND			
CURRENT ASSETS			
Cash in Banks and on Hand	$ 26,157.22		
Less: Due American Medical Association	437.50	$ 25,719.72	
Accounts and Notes Receivable	16,039.78		
Less: Reserve for Doubtful Accounts and Agency Commissions	2,525.10	13,514.68	
Dues Receivable—Net Estimate		5,985.00	
Due from Endowment Funds—Per Contra		700.00	
Inventory of Paper Stock		10,043.25	
Inventory *Medical Directories 1955*		3,039.88	
Advances to Employes		177.07	
TOTAL CURRENT ASSETS			$ 59,179.60
PREPAID EXPENSES			
Advance Costs, Annual Meeting 1956		4,253.74	
Sundries		3,512.09	
TOTAL PREPAID EXPENSES			7,765.83
FURNITURE AND FIXTURES—At Nominal Value			2.00
ADVANCES TO VETERANS MEDICAL SERVICE PLAN OF NEW YORK		16,972.53	
Less: Reserve		1,212.00	15,760.53
ADVANCES TO BLOOD BANKS ASSOCIATION OF NEW YORK STATE		79,000.00	
Less: Reserve		79,000.00	0
TOTAL GENERAL FUND			82,707.96
INVESTMENT FUND			
Cash in Bank—Checking Account		24,131.14	
Cash in Bank—Savings Accounts		62,677.02	
Investments at Cost		352,486.37	
Accrued Interest Receivable		1,095.43	
		440,389.96	
Less: Due to Other Funds		1,105.83	
TOTAL INVESTMENT FUND			439,284.13
SPECIAL FUNDS UNDER CONTROL OF BOARD OF TRUSTEES			
BUILDING FUND			
Cash in Bank—Savings Banks	5,556.20		
Investments—U.S. Treasury Obligations at Cost	100,000.00		
Accrued Interest Receivable	683.28		
Due from Investment Fund	10.63		
TOTAL BUILDING FUND		106,250.11	
EMPLOYES BENEFICIARY FUND			
Cash in Banks—Savings Banks	2,507.65		
Investments—At Cost	75,933.63		
Accrued Interest Receivable	331.76		
Due from Investment Fund	612.45		
TOTAL EMPLOYES BENEFICIARY FUND		79,385.49	
REPAIR AND REPLACEMENT FUND			
Cash in Banks—Savings Banks	12,630.73		
Investments—at Cost	39,935.34		
Accrued Interest Receivable	102.35		
Due from Investment Fund	482.75		
TOTAL REPAIR AND REPLACEMENT FUND		53,151.17	
TOTAL SPECIAL FUNDS			238,786.77
ENDOWMENT FUNDS			
Cash in Banks		14,505.25	
Less: Due to General Fund		700.00	
TOTAL ENDOWMENT FUNDS			13,805.25
WAR MEMORIAL FUND			
Cash in Banks		10,010.53	
Investments—U.S. Treasury Bonds—at Cost		215,592.56	
Accounts Receivable		1,465.63	
Accrued Interest Receivable		1,299.76	
TOTAL WAR MEMORIAL FUND			228,368.48
TOTAL ASSETS			$1,002,952.59

MEDICAL SOCIETY OF THE STATE OF NEW YORK

Balance Sheet—December 31, 1955

LIABILITIES, RESERVES, AND CAPITAL

GENERAL FUND		
CURRENT LIABILITIES		
Accounts Payable		$ 8,054.04
Commissions Payable—*Directory* and JOURNAL Advertising Sales		679.67
Taxes Payable (Including Witholdings)		6,426.33
Sundry Accruals		1,000.00
TOTAL CURRENT LIABILITIES		16,160.04
DEFERRED CREDITS		
JOURNAL Advertising, Circulation, Reprints, etc.	$ 3,507.53	
Annual Meeting, 1956	17,055.00	
Membership Dues, 1956	8,308.19	
TOTAL DEFERRED CREDITS		28,870.72
RESERVES		
Reserve for *Medical Directory 1957*	26,751.00	
Less: Prepaid Expenses	18,151.69	
TOTAL RESERVES		8,599.31
GENERAL FUND		29,077.89
TOTAL GENERAL FUND		82,707.96
INVESTMENT FUND		
Reserve for Depreciation of Investments	50,000.00	
Balance	389,284.13	
TOTAL INVESTMENT FUND		439,284.13
SPECIAL FUNDS UNDER CONTROL OF BOARD OF TRUSTEES		
Building Fund	106,250.11	
Employes Beneficiary Fund	79,385.49	
Repair and Replacement Fund	53,151.17	
TOTAL SPECIAL FUNDS		238,786.77
ENDOWMENT FUNDS		
Lucien Howe Prize Fund	5,663.12	
Merit H. Cash Prize Fund	2,134.09	
A. Walter Suiter Lectureship Fund	6,008.04	
TOTAL ENDOWMENT FUNDS		13,805.25
WAR MEMORIAL FUND		228,368.48
TOTAL LIABILITIES, RESERVES, AND CAPITAL		$1,002,952.59

MEDICAL SOCIETY OF THE STATE OF NEW YORK

Statement of Operating Income and Expenses

For the Year Ended December 31, 1955

OPERATING INCOME		
Members' Dues for the Current Year		$558,549.67
Less: Allocation to JOURNAL Circulation as Authorized by the Board of Trustees		59,923.75
		498,625.92
Arrears (Dues)		965.00
Interest on Savings Accounts		590.52
Operating Income from JOURNAL (Deficit)	$ *32,210.23**	
Plus: Allocation of Dues	59,923.75	
		27,713.52
Sales of 1953 *Directories* (Net)		60.68
		527,955.64
OPERATING EXPENSES		
Administrative	129,698.05	
Public and Professional Relations Bureau	71,657.56	
Legislation Bureau—Albany Office	25,614.06	
Workmen's Compensation Bureau	23,355.53	
Bureau of Medical Care Insurance	18,919.04	
Scientific Activities	22,251.22	
District Branches	3,009.28	
Planning Committee for Medical Policies	571.77	
Woman's Auxiliary	9,048.61	
Expenses of Blood Banks Association of New York State, Inc.	47,000.00	
Malpractice Insurance and Defense Board	2,949.47	
Malpractice Audit	1,250.00	
Counsel—Retainer and Expenses	32,500.01	
Annual Meeting	16,533.17	
Traveling Expenses	21,135.84	
World Medical Association	......	
A.M.A. Conference Room Expense	1,359.82	
National Society for Medical Research	......	
New York State Society for Medical Research	......	
New York State Citizens' Health Council	100.00	
Conference of Presidents	0	
Blood Banks Commission	667.12	
Pensions	3,600.00	
Veterans Medical Service Plan of New York	115.70	
Medical Directory 1957 (Portion of Estimated Loss)	26,751.00	
Medical Directory 1955	45,844.57	
Alterations	60.00	
TOTAL		503,991.82
EXCESS OF INCOME OVER EXPENSES		$ 23,963.82

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* Italics denote figures in red.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

Statement of General and Other Funds

For the Year Ended December 31, 1955

	General Fund	Investment Fund	Building Fund	Employes Beneficiary Fund	Repair and Replacement Fund	War Memorial Fund	Lucien Howe Prize Fund	Merit H. Cash Prize Fund	A. W. Suiter Lectureship Fund
BALANCE AT JANUARY 1, 1955	$ 5,114.07	$366,257.92	$103,434.50	$77,415.84	$51,436.34	$232,424.12	$5,608.19	$2,072.43	$5,891.36
ADDITIONS									
Excess of Income over Operating Expenses, not Including Income from Securities	23,373.30	....	....	....	....	....	....	....	....
Interest on Bank Balances	590.52	1,918.58	71.85	34.07	177.87	....	154.93	61.66	166.68
Income from Securities	....	22,195.09	2,743.76	1,935.58	1,536.96	5,344.36	....	....	....
Profit from Sale of Securities	....	970.47	....	....	....	....	....	....	....
Total Additions	23,963.82	25,084.14	2,815.61	1,969.65	1,714.83	5,344.36	154.93	61.66	166.68
DEDUCTIONS									
Custodian and Investment Service Fees	....	2,057.93	....	....	....	....	....	....	....
Prizes	....	....	....	....	....	....	100.00	....	50.00
Benefits Disbursed	....	....	....	....	....	9,400.00	....	....	....
Total Deductions	....	2,057.93	....	....	....	9,400.00	100.00	....	50.00
Net Increase or Decrease	23,963.82	23,026.21	2,815.61	1,969.65	1,714.83	*4,055.64**	54.93	61.66	116.68
BALANCE AT DECEMBER 31, 1955	$29,077.89	$389,284.13	$106,250.11	$79,385.49	$53,151.17	$228,368.48	$5,663.12	$2,134.09	$6,008.04

* Italics denote figures in red.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

Cash in Bank and on Hand

December 31, 1955

GENERAL FUND	$ 26,157.22†
INVESTMENT FUND	86,808.16
BUILDING FUND	5,556.20
EMPLOYES BENEFICIARY FUND	2,507.65
REPAIR AND REPLACEMENT FUND	12,630.73
TOTAL	$133,659.96
ENDOWMENT FUNDS	
Lucien Howe Prize Fund	$ 5,863.12
Merit H. Cash Prize Fund	2,334.09
A. Walter Suiter Lectureship Fund	6,308.04
TOTAL	$ 14,505.25
WAR MEMORIAL FUND	
On Deposit	$ 10,010.53

† Includes $437.50 due American Medical Association.

Report of the Council

To the House of Delegates, Gentlemen:

Your Council has the honor to report on the executive and administrative affairs of the Society in the period following your last meeting, May 9 to 13, 1955. The various matters that came before it, actions thereon, and recommendations are here presented.

Committee on Constitution and Bylaws

The Council Committee on Constitution and Bylaws has the following membership:

Frederick W. Williams, M.D., *Chairman*	Bronx
Norman C. Lyster, M.D.	Chenango
Homer L. Nelms, M.D.	Albany
James R. Reuling, M.D., *Adviser*	Queens

Your committee has reviewed and approved revisions or amendments of the constitutions or bylaws, or both, of the Medical Societies of the Counties of Broome, Chautauqua, Cortland, Nassau, Rockland, Saratoga, Schenectady, and Steuben.

These amendments and revisions were reviewed by the secretary and by legal counsel as well as by each member of the committee before being presented to the Council. All of the changes received the approval of the Council, and in each case the affected county medical society was notified.

Amendment to its constitution and bylaws has also been submitted by the Medical Society of the County of Wayne. Legal counsel has not yet commented on these proposed changes.

The chairman wishes to express his gratitude for the painstaking work of the committee members, the Society secretary, and Mr. John R. Burns, of counsel.

Questions of Ethics

The Council Committee on Questions of Ethics has the following membership:

Thurman B. Givan, M.D., *Chairman*	Kings
Frank La Gattuta, M.D.	Bronx
Ezra A. Wolff, M.D.	Queens

During the year several matters were referred to our committee. Dr. James A. Stringham, Canandaigua, asked if it is ethical for a doctor to accept a discount on things he buys at a drugstore. Your committee felt that there was nothing unethical about such practice, any more than any other discount that other people get, provided there is no kickback. Approval was voted by the Council.

A letter was received from a physician inquiring if it was ethical for a member of the Society to address a gathering of osteopaths. The member was advised it would be unethical to deliver such an address. In support of this ruling, reference was made to Chapter II, Section 1, of the *Principles of Professional Conduct* of this Society and to Chapter II, Section 1, of the Principles of Medical Ethics of the American Medical Association, both of which read: "A sectarian or cultist as applied to medicine is one who alleges to follow or in his practice follows a dogma, tenet or principle based on the authority of its promulgator to the exclusion of demonstration and scientific experience. All voluntarily associated activities with cultists are unethical." Reference was also made to the "Minority Report of Reference Committee on Medical Education and Hospitals" (found on pages 741 and 742 of the July 2, 1955, *Journal of the American Medical Association*) which was adopted by the 1955 House of Delegates of the American Medical Association as policy. The Council upheld our statement.

Also a member of the Society wrote for an opinion regarding the following:

> Recently in Olean several doctors have subscribed to the doctor's telephone exchange, which covers the doctor's calls when no one answers his phone. This exchange has not received any publicity, and I am interested in knowing whether ethically we have the right to advertise this fact in local newspapers.
>
> Present rules allow a doctor to advertise three times in newspapers—when he first opens an office, changes his office location, or changes his telephone number.
>
> However, the present situation has never occurred, and I would like to know whether we who belong to this medical exchange may also advertise three times in a paper, without infracting any rules of medical ethics.

We formulated this answer, "In regard to questions asked about advertising in newspapers by those belonging to a telephone service, the Committee on Questions of Ethics believe it should be taken care of by the county medical society to which the physicians belong. Local rules throughout the State have governed such principles in the past. In many counties any type of advertising in telephone Red Books or in newspapers is frowned upon." It was voted by the Council that the reply be approved and that a copy be sent to the president of the Medical Society of the County of Cattaraugus.

Another, from the United Medical Service: "The Medical Policy Committee has been asked again to consider policy on proration." An opinion was asked concerning this; also whether the principles of proration of fees be publicized to all subscribers of voluntary health insurance plans concerned.

The committee recommended the following: "In the minutes of the June meeting, the Council approved the committee's report of the first part. It is two small paragraphs which I will read: 'The Committee on Questions of Ethics has studied the Medical Policy Committee's request. We agree in many instances there are inequities in fees between physicians who make diagnoses and carry out treatments in after-care of postoperative patients and surgeons who perform operative procedures; yet to spell out percentages in our opinion would not be ethical. If there is a question of inequities of fees between physicians, mutual agreement, with full knowledge of the patient and all concerned, should be arrived at, fully taking into account the New York State law and the *Principles of Professional Conduct.*'

"It was voted that the recommendations of the committee be approved. Dr. Leonard J. Raider wants to know about the second part, which read: '*Resolved* that the principle of proration of fees be publicized to all subscribers of voluntary health insurance plans concerned.'" After discussion it was voted that the Council has no objection to United Medical Service publicizing the principle of proration of fees to all subscribers of voluntary health plans concerned.

A letter from Matthew J. Callanan, M.D., vice-president, Medical Society of the County of Erie, which stated:

> The Attorney for the Medical Society of the County of Erie, Mr. Joseph Guariglia, has stated that there is no reference to the subject of excessive or exorbitant fees in the Constitution and Bylaws of the New York State Medical Society or the American Medical Association.
>
> There is no reference to this matter in the constitution and bylaws of our county society.
>
> The situation in brief is that when our mediation committee, after due consideration, decides a physician's fee is excessive and requests that it be reduced and the physician refuses, the mediation committee and the county society is helpless to pursue the matter further.
>
> Can you advise me whether the Constitution and Bylaws of the New York State Medical Society refers to this question, and if so, will you direct me to the proper section.

This letter came during the summer and was answered by Dr. W. P. Anderton, secretary, as follows: "Although I agree with Mr. Joseph Guariglia that there is nothing in the Constitution and Bylaws of the Medical Society of the State of New York, the American Medical Association, or the Medical Society of the County of Erie regarding excessive or exorbitant fees, nevertheless, I believe that Appendix III, II, Purpose of Grievance Committees, A, and VI, A, of the *Principles of Professional Conduct* of the Medical Society of the State of New York give grievance or mediation committees power to investigate and report to the censors 'to protect the public from the minority of physicians who overcharge.'" Your committee and the Council voted to approve Dr. Anderton's reply to Dr. Callanan.

The Committee on Questions of Ethics feels that the matter of fees for services by doctors of medicine should be studied in its various components throughout the State and that by such a study an equitable formula may be presented in the near future.

A letter from Dr. James A. Stringham, secretary-treasurer of the Ontario County Medical Society, Inc., was received as follows: "For some time hospitals in our area have taken x-rays at the request of local, licensed, registered osteopaths and given the doctors an interpretation of the same. The question has been raised as to whether this is or is not in accordance with the *Principles of Professional Conduct?*" The committee feels that until the Medical Society of the State of New York changes Chapter II, Section 1, of its *Principles of Professional Conduct*, which coincides with Chapter II, Section 1, of the Principles of Medical Ethics of the American Medical Association, osteopaths are cultists; hence, members of component medical societies of the State of New York should comply with these principles in their dealings with osteopaths.

Another letter from Mr. Nicholas Gesoalde, secretary of the New York State Pharmaceutical Association, was received. Said association requested the Medical Society of the State of New York and all component county societies to go on record as opposing physician-owned pharmacies and favoring the continuation of the separation of functions between medicine and pharmacy. Inasmuch as several county medical societies of the State of New York have taken action opposing physicians owning pharmacies, the Council approved such action. The answer in more or less detail, as approved by the Council, was embodied in a letter by Mr. Harold P. Jarvis, executive officer of the Medical Society of the County of Erie, which letter was published in the minutes of the Council in the January 15, 1956, issue of the NEW YORK STATE JOURNAL OF MEDICINE.

A letter from Gold Star Drugs, Inc., written by George Ettenberg, Ph.G., president, asked if it is unethical for a doctor of medicine to steer or direct his patient to bring his prescription to certain drugstores without giving the patient a chance to choose his own drugstore. The committee believes such practice is not ethical. The Council voted approval.

Committee on Review of the Case of Dr. Ben E. Landess of Queens County

This committee consists of the following members:

Thurman B. Givan, M.D., *Chairman*	Kings
Frederic W. Holcomb, M.D.	Ulster

The committee reviewed the resolution and amended report as passed by the House of Delegates, Section 138 of the minutes of the 1955 House of Delegates, appearing on pages 105 and 106 of Part II of the September 1, 1955, NEW YORK STATE JOURNAL OF MEDICINE, Volume 55, Number 17. The committee considered the case with the assistance of Dr. Renato J. Azzari, Dr. W. P. Anderton, Dr. Edward R. Cunniffe, Dr. Ezra A. Wolff, Dr. Aaron Kottler, Mr. William F. Martin, Mr. John R. Burns, and Mr. Charles Margett. The committee found that the new evidence referred to in resolution 55–13 consists of publications which appeared in print subsequent to the determination of the Judicial Council of the American Medical Association and does not constitute a proper basis for a request to that body to reconsider the case.

The committee submitted the following answers to the questions referred to it:

1. Should lawyers be allowed to attend hearings

before the Judicial Council of the State Society and the American Medical Association?

It is the opinion of your committee that a physician brought up on a disciplinary procedure should have the right to be accompanied by counsel. Counsel may not, however, participate in questioning of witnesses.

2. Should the Judicial Council of the American Medical Association act in appeals when the question is one to be decided by the courts?

The committee feels this question should be decided in each case. It is impossible to generalize.

3. Should the Judicial Council limit the appeal to questions of procedure leaving out consideration of the facts?

If this relates to the Judicial Council of the State Society, it is covered in Chapter VI, Sections 5 and 6, of the Bylaws of the Medical Society of the State of New York. If it relates to the Judicial Council of the American Medical Association, it is covered by Article XI, Section 10 (a) (3), of the bylaws of the American Medical Association. The former states:

> *Section 5.* Upon filing a notice of appeal, the appellant and the component county medical society shall submit to the secretary of the Judicial Council all records, minutes, letters, papers, and all written evidence, including a digest of all testimony not stenographically reported relating to the matter. All data so submitted shall be available only to the judicial councillors.
>
> *Section 6.* The Judicial Council shall consider the appeal on the data so submitted to it and may affirm, modify, or reverse the decisions so appealed from, by a majority vote of the members present and voting. If, in its opinion, the taking of further evidence is advisable, the Judicial Council may summon witnesses and proceed to take such evidence in such manner as it may deem proper and render its decision by a majority vote of those present and voting, which decision shall be final and binding, except that a member of the American Medical Association shall have the right of appeal to the Judicial Council of the American Medical Association.

The bylaws of the American Medical Association, Chapter XI, Section 10 (a) (3), states:

> The Council shall have appellate jurisdiction in questions of law and procedure but not of fact in all cases which arise between a constituent association and one or more of its component societies, between component societies of the same constituent association, between a member or members and the component society to which said member or members belong or between members of different component societies of the same constituent association. The period of time within which appeal to the Council may be taken shall be limited to the six months immediately following the date of decision by the constituted authority of a constituent association.

4. The Council should also study whether the threat of action by the Justice Department of the Federal government concerning possible antitrust law violations is threatening the free and honest opinion of the Judicial Council of the American Medical Association in questions of ethics.

Although your committee acknowledges its importance, we regretfully report insufficient clairvoyance to be able to answer this item.

PART I

Postgraduate Medical Education

The Council Committee on Public Health and Education has as its members:

Theodore J. Curphey, M.D., *Chairman* . . . . Nassau
A. H. Aaron, M.D. . . . . Erie
Charles D. Post, M.D. . . . . Onondaga

Advisers

Herman E. Hilleboe, M.D., Commissioner, New York State Department of Health, Albany
Leona Baumgartner, M.D., Commissioner of Health, City of New York

The functions of the committee are as follows:

1. To arrange postgraduate medical instruction for the members of the Society.

2. To act as a liaison between the Society and the State Department of Health:

(*a*) For the purpose of exchange of information on matters of common concern or interest.

(*b*) For the discussion of current problems in which the two groups have a common responsibility for the establishment of policy, aiming at the establishment of a mutually satisfying application to their problems, with due regard to basic differences that exist in the organizational patterns and service functions that each group represents in the field of general medical care.

(*c*) For transmission to the Council of the Medical Society of the State of New York the results of these deliberations, both as to matters of information for the Council and also for requesting action in matters of policy by that body when such need arises and is based on prior discussion with the State Health Department.

(*d*) To present to the State Health Department the viewpoint of the members of the Medical Society of the State of New York, as expressed by the House of Delegates, the Council, and its various committees, on matters of a controversial nature, with the hope of resolving these differences of opinion and thus leading toward the establishment of policy and action that is endorsed and motivated by both groups.

3. To coordinate the work of its various subcommittees with that of the Society as a whole and to present to the Council and the House of Delegates the recommendations of these committees regarding matters of policy and contemplated action in their respective fields of interest. Following upon this, future action and policy are determined solely by action of the Council or the House of Delegates.

4. To stimulate greater participation in com-

mittee work by the members of the Society and to assist the president in his choice of men who are interested and have had experience in certain phases of the work of the Society at the county level, a letter was sent to the secretaries of the county medical societies.

5. To develop further the presently existing lines of communication between the component county medical societies and the parent organization for the purpose of a wider exchange of information on matters of policy and on action taken at the local and the State level. This two-way communication is especially necessary in view of the need for presenting a uniform approach and a united front on the part of the profession to the various medicoeconomic and medicosocial problems, especially those that have confronted us in increasing complexity and number over the past several years.

By virtue of the increasing assignments and range of activities during the past year with which the committee has been charged, we are more indebted than ever to the sage advice and ready willingness of Dr. Walter P. Anderton in his response to our numerous demands on his time and effort. We should also like to thank his executive assistant, Miss Doris K. Dougherty, for her continued help. We owe a debt of thanks, too, to Mr. Frederick W. Miebach of the Public and Professional Relations Bureau and his staff for the close integration of his department's efforts with those activities of our committee that have to do with public relations. We also desire to express to Mr. George Farrell of the Bureau of Medical Care Insurance our sincere appreciation of his efforts in undertaking the very laborious task of codifying the fee schedules of the State Health Department (Division of Medical Services for the Rehabilitation Program), State Education Department (Division of Vocational Rehabilitation), State Department of Social Welfare (Division of Medical Services), the State Workmen's Compensation Board, and the Blue Shield Plans.

In the course of this work he had occasion to meet personally with representatives of these departments in Albany and as a result created a very favorable impression for the Society by virtue of his skill and the diligent help that he provided in the course of the study. Such working contacts between the Medical Society of the State of New York and State departments of government probably are unique and are a good measure of the need and the value of cooperation between medical groups working in and out of government below the policy-making level.

Once more we express our indebtedness to Mr. "Bill" Bonzer for his continued help and cooperation in our mimeographing. To Miss Sue Baker, our loyal, energetic, and efficient assistant executive, the committee again expresses its sincere appreciation for her untiring efforts on behalf of our multifarious activities, which incidentally are better coordinated with the Society as a whole, by virtue of the new location of our office in the main office of the State Society. It is the feeling of the committee that in the light of its increasing activities, her accumulated experience with its affairs could perhaps be used to greater advantage by the Society if she was relieved of some of the routine office work by the employment of a full- or part-time typist, so as to permit her to invest more time in promoting a better liaison between the county and the State societies in the activities of the various subcommittees, as well as in assisting in the preparation of a greatly improved *Course Outline Book* for our postgraduate educational activities.

Since submitting its annual report for 1954–1955, the committee has arranged, as of February, 1956, postgraduate instruction for 42 groups, presented as lecture series, symposia, single lectures, or teaching days. A total of 182 speakers participated or will participate in these meetings. We express our thanks to the New York State Department of Health for the continued assistance they give us by providing a $25 honorarium for these speakers.

Of the following list of postgraduate sessions, 16 were arranged by the Postgraduate Education Department of the State University of New York College of Medicine at Syracuse and six by the Albany Medical College, in cooperation with our committee.

COUNTY	ORGANIZATION	NUMBER OF LECTURES	EXPENSE TO COMMITTEE
Albany	Medical Society	2	$ 63.35
Broome	Medical Society	2	31.26*
	Binghamton Academy of Medicine	7	203.55*
Cayuga	Medical Society	1	50.00
Chemung	Medical Society	1	18.40
	Medical Society and Chemung County Academy of General Practice	1	14.04
Chenango	Medical Society (Chenango Memorial Hospital, Norwich)—arranged by Syracuse	9	28.72*
Columbia	Medical Society	2	56.40
Cortland	Medical Society	8	69.27
Dutchess	Medical Society	5	22 67*
Fulton	Medical Society	2	73.91
Greene	Medical Society and Greene County Academy of General Practice	3	... *
Herkimer	Medical Society	2	10.96
Jefferson	Medical Society	8	246.34*
Livingston	Medical Society	1	6.02
Montgomery	Medical Society	4	120.28
Nassau	Medical Society	4	6.36*
Oneida	Utica Academy of Medicine	7	139.73
Onondaga	Medical Society	5	153.56*
Ontario	Medical Society	4	86.95
	Geneva Academy of Medicine	9	350.91*
Otsego	Medical Society	1	14.70
Rensselaer	Medical Society	5	80.19*
Rockland	Medical Society	3	38.88
St. Lawrence	Medical Society—arranged by Syracuse	7	91.43
Schenectady	Medical Society	5	36.83*
	Ellis Hospital—arranged by Albany	6	...
Steuben	Medical Society	3	123.54
Suffolk	Medical Society		
	Regular meetings	4	78.95
	Saturday morning series	9	63.23*
Sullivan	Medical Society		
	Regular meetings	2	64.00
	Spring series	8	... *

Tompkins	Medical Society	4	45.17*
Ulster	Medical Society	4	29.00
Wayne	Medical Society (E. J. Barber Hospital)		
	1955 series	6	89.14
	1956 series	6	... *
	18th Anniversary	1	7.70

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* Incomplete.

This year again several medical groups not identified with a particular county or city made use of the committee's services. These organizations were the Mohawk Gynecological and Obstetrical Society (two), a Regional Trauma Committee of the American College of Surgeons (one), the South Side Clinical Society (one), and the Queensboro Tuberculosis and Health Association (two).

Regional Meetings and Teaching Days.—For regional meetings (consisting of only one session of postgraduate instruction) and for regional teaching days, invitations are sent to the members of the medical societies in counties adjacent to that in which the instruction is given. The committee arranges for the speakers and for printing and distribution of programs to county medical societies, medical schools, and the New York State Journal of Medicine; the Bureau of Public and Professional Relations of the State Society sends releases to local newspapers.

Following is a list of counties where regional meetings or teaching days have been held this year or will be held in the near future:

County	Region	Subject	Number of Lectures	Expense to Committee
Clinton*	Essex, Franklin, Fulton, Montgomery, Saratoga, Schenectady, Warren	Cancer	5	$ 80.89
Jefferson (with Jefferson County Academy of General Practice)	Lewis, Onondaga, St. Lawrence	Respiratory Diseases	3	42.69
Oneida County (Academy of General Practice)	Herkimer, Madison	Cancer	3	97.83
Oneida County Medical Society Tumor Clinic (with Utica Academy of Medicine)	Herkimer, Jefferson, Lewis, Madison, Onondaga, Oswego, St. Lawrence, Chenango, Otsego, Schoharie	Cancer	4	187.03

* The New York State Department of Health printed the programs.

Program for Annual Meeting, 1956.—The Subcommittee on Heart Disease will participate in the program of Postgraduate Lectures. Dr. Charles A. R. Connor will speak on "Prophylaxis of Rheumatic Fever." An exhibit on the same subject will be shown by the American Heart Association for the duration of the meeting.

Joint Meetings with State Department of Health.—During 1955 the Council Committee on Public Health and Education has met with Dr. Herman Hilleboe, Commissioner of Health of New York State, and various members of his staff in keeping with its function as a liaison group as outlined above. The spirit of cooperation as exemplified by the Health Department in its philosophy of assisting the physicians of the State to provide good medical care for the public and to supplement rather than supplant these efforts has once more been evident in these meetings. While it must be admitted that there are still conflicting views between the two groups as to the actual methods by which medical care can be given in certain areas, nevertheless, there appears to be a pretty general agreement as to the basic needs of the public. This and the fact that a healthy climate of understanding and tolerance has continued over the years as the background for these discussions leads your chairman to believe that these divergent views can be ultimately resolved and that the State Health Department will ultimately find that area of effort in which it can serve the public best without encroaching on the traditional principles of medical practice and, above all, without violating the treasured physician-patient relationship by the injection of a third party, which is one of the greatest dangers medical practice now faces. In surveying the current medical scene, he has reason to believe that the threat of this third party relationship is much greater from other existing groups in the State than from the State Department of Health and that the past actions of the department have documented their desire to foster the principle of free choice of physician and of preserving the professional relationship between the patient and the physician of his choice. From this evidence the Medical Society of the State of New York would hope that in the future the State Department of Health will energetically join forces with it in combating the threat that it now faces through the development of health insurance programs that violate the fundamental concepts of sound medical practice. In this connection it would seem that the greatest service the State Health Department could render would be in the field of public health education relative to prepayment medical plans, as was pointed out in a recent symposium, "Where are We Going in Public Health?" at the Annual Meeting of the American Public Health Association.* An ideal division of labor would be for the public health worker to focus his efforts in the field of education in health matters for the public, while the practicing physician takes care of the actual problems of disease in the sick citizen. By so doing the one will practice preventive medicine, the other curative medicine, and through such collective effort there will eventually result less disabling disease and earlier cures in medical practice. The need for this approach was well expressed by the social psychologist at the same symposium in discussing public health in a changing world when he pointed out that "The professional public health worker must change—he will 'play God' less and a cooperative role more. He will be concerned with behavioral health, with vitality, even 'chronic' vitality. These will make both education and recreation a concern of the public health professions."*

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* "This is the News," Newsletter of American Public Health Association, December, 1955.

Agenda for Joint Meetings.—Since the 1955 Annual Meeting of the State Society there have been three joint meetings prior to the time of submission of this report. The following items have been discussed:

1. *Postgraduate instruction in cancer* by the staff of the Roswell Park Memorial Hospital through the courtesy of its director, Dr. George Moore. As a result a list of topics and speakers has been sent to each of the county medical societies. To date Sullivan County has scheduled an eight-week series starting March 14, and other counties have already used a single lecturer here and there.

2. *Public Health Service Recruitment Program:* The support of the State Medical Society was sought in obtaining recruits for the Inactive Reserve Corps from among general practitioners, internists, surgeons, and other clinical specialists. As a result Dr. W. P. Anderton, secretary, sent a letter to each county medical society enclosing "Program for Professional Personnel in National Emergencies."

3. *Polio Prevention Program—Report on Salk Vaccine:* As a result of this and other meetings with the State Health Department, through the medium of the State Advisory Committee on Polio Vaccine, on which your chairman represented the Medical Society of the State of New York, the profession was kept informed about various developments in the program through communications sent to the president of each county medical society. This information was supplemented by notices prepared for the *Newsletter* by our committee.

In addition, Commissioner Hilleboe personally appeared at the April, 1955, Council meeting to brief the Society on the initial developments following upon the public release of the news about the results of the 1954 vaccination field trials a few days previously.

4. *Problem of Motor Vehicle Bureau:* Because of a problem faced by Commissioner Joseph C. Kelly of the Motor Vehicle Bureau involving the issuance of drivers' licenses to a number of known epileptics in the State, the Commissioner sought the advice of the Medical Society of the State of New York for assistance. With the approval of the Council an Ad Hoc Advisory Committee on Epilepsy was immediately appointed. Twenty-two applications were reviewed by the committee, and all but two applicants were approved for issuance of an operator's license (with review in six months). In the two exceptions it was recommended that an encephalogram be taken again by the original physician and that his report be studied before rendering a final decision.

In the desire to assist the Commissioner of Motor Vehicles in the broader phases of accident prevention, a Subcommittee on Accident Prevention of our Public Health and Education Committee was organized to study the whole subject but first to consider the over-all problem of automobile accidents as related to physical disability from whatever cause. The subcommittee has not yet met at the time of this report. It is composed of leaders in several specialties and well might produce a valuable book after a few years of study.

5. *Extension of New York State Health Department's Medical Rehabilitation Program:* To include needy patients referred by Clinton County physicians to Montreal, Canada, and Burlington, Vermont.

6. *Changes in the Sanitary Code:* (*a*) Chiropractors are not to be included in exemption for licensed practitioners of "competent persons" with respect to the amount of radiation they are permitted to give in x-ray treatment.

(*b*) After July 1, 1959, "Milk or milk products, sold, offered for sale, or delivered to consumers after pasteurization" shall originate in brucellosis-free herds.

7. *Diabetes Program:* See report of Subcommittee on Diabetes; also report to Council in minutes of January 12, 1956.

8. *Narcotics:* Prescribing by telephone. See Council report of January 12, 1956.

9. *Tuberculosis Hospitals:* See Council report of January 12, 1956.

10. *Northern New York Rehabilitation Survey:* See Council reports of January 12 and February 9, 1956.

11. *Health Education for Genesee and Wyoming Counties:* See Council report of January 12, 1956.

Ad Hoc Committee on the Practice of Laboratory Medicine.—This committee continued its activities by meeting with the executive committee of the Conference of City, County, and District Health Officers of the State of New York in Albany on July 6, 1955. It proposes to hold another meeting before the Annual Meeting of the State Society. A supplementary report will be submitted.

New York State Citizens' Health Council.—Dr. Denver Vickers substituted for your chairman at the meeting of the Citizens' Health Council in Geneva on June 17 and 18, 1955. The principal item of discussion by the health group of this 11th Annual Institute of the New York State Citizens' Council concerned the creation of many problems by an increasing urban and rural nonfarm population and a decreasing rural population. The need for community-wide action was brought out repeatedly.

Dr. Vickers pointed out in his report that the president for the ensuing year was to be Senator George Metcalf of Auburn, chairman of the State Senate Committee on Public Health. To his committee go legislative measures relating to health insurance, disability and the like. It is important that he be made familiar with the point of view of our Society in the light of his sympathetic interest in the physician's problems.

Academy of General Practice.—Again this

year we rendered financial assistance to this organization at its 7th Annual Scientific Assembly in New York City, October 17 to 20, 1955. Three of the speakers, from Louisiana, Tennessee, and Georgia, we reimbursed for a sizable portion of their travel expenses, and we procured for them an honorarium from the New York State Department of Health.

FARM AND HOME WEEK, CORNELL UNIVERSITY.—At the request of the Rural Health Committee of the Academy of General Practice, this committee provided a speaker, Dr. Jack R. Harnes, of New York University College of Medicine, to present to a large lay audience at Ithaca a talk on "Living with High Blood Pressure and Heart Trouble." This was part of the Farm and Home Week program, a joint venture of the New York State Citizens' Health Council, the Academy of General Practice, and the Department of Rural Sociology of the State College of Agriculture at Cornell University. Dr. Olaf F. Larson, professor of the department, reported a very successful session.

AUDIOVISUAL METHODS IN POSTGRADUATE EDUCATION.—There has been exploratory discussion with Dr. Miller McClintock of the Audio-Video Corporation relative to the possibility of tape-recording certain lectures now given in the larger county medical societies under the postgraduate educational program of this committee. It is hoped the recordings might be used by physicians in isolated sections of the State, as individuals, and perhaps in groups as members of the small county societies. Tentative plans have been laid for an experimental recording.

PART II

Public Health Activities A

Maternal and Child Welfare.—The Subcommittee on Maternal and Child Welfare has the following membership:

Charles A. Gordon, M.D., *Chairman*	Kings
Ralph L. Barrett, M.D.	New York
Eugene R. Duggan, M.D.	Monroe
Thurman B. Givan, M.D.	Kings
Edward C. Hughes, M.D.	Onondaga
Joseph Loder, M.D.	Monroe
Michael F. Mogavero, M.D.	Erie
William J. Orr, M.D.	Erie
James K. Quigley, M.D.	Monroe
Frederick H. Wilke, M.D.	New York

There has been but one meeting since the last annual report, on April 22, 1955. The attendance was excellent, including ten of the 24 regional chairmen in obstetrics and pediatrics.

It is now possible to procure from the New York State Department of Health, within a week to a month, certificates of maternal, neonatal, and fetal deaths. It was the feeling of the committee that even though there are now only about 60 maternal deaths a year in the State, there is obviously great value in studying and discussing details of actual case reports. A better educational method has yet to be devised.

It was proposed that transcripts of all certificates of maternal and perinatal deaths for their respective areas be sent to each member of the committee and to every regional consultant. These chairmen will then procure a case report on each person, the data to be set down on a special form. The resultant information subsequently can be exchanged with all the other districts. Anonymity of the patients will be preserved, and controllable factors in death will be stated only in general terms.

A second phase of this study will be instituted in three pilot areas, Regions 4, 8, and 10, which comprise 18 counties. The survey will deal with perinatal deaths related to cesarean section.

During the intervening months since these studies were agreed upon, there have been countless communications between the chairman and committee personnel, and particularly between the chairman and Dr. Alfred Yankauer, director of the Bureau of Maternal and Child Health of the State Department of Health. A suitable form for the recording of the data to be collected by the regional chairmen had to be devised and approved; innumerable details of procedure had to be ironed out. Letters have been sent to all county medical societies describing the surveys and inviting full cooperation with the committee and the regional chairmen. Instructions to full-time health officers have gone out from Dr. Yankauer's office. At the time of writing of this report the actual studies are about to be launched.

Appreciation must be expressed to Dr. Yankauer for the excellent cooperation of the Department of Health. Without it the progress during the past few months would have been impossible.

Recently the attention of the chairman has been called to problems posed by the increasing use of maternity beds in general hospitals for other than obstetric cases. An investigation by the committee is contemplated.

School Health.—The Subcommittee on School Health has the following membership:

William E. Ayling, M.D., *Chairman*	Onondaga
Paul Beaven, M.D.	Monroe
Edward L. Schwabe, M.D.	Chautauqua
C. Adele Brown, M.D.	Oswego
Thomas S. Bumbalo, M.D.	Erie
Joseph A. Geis, M.D.	Albany
Rocco J. Martoccio, M.D.	Oneida
Alfred Yankauer, Jr., M.D.	Albany

There has been one meeting of the subcommittee this year, on June 7, 1955, at Lake Placid during the 51st Annual Health Conference. Most of the session was devoted to consideration of the revision of the Manual on Administration and Supervision of School Health Service, submitted by the New York State Department of Education. The revision was completed by mail and has been submitted to the Bureau of Health Service in Albany. It is expected that the Education Department will rewrite the manual and again submit it to the committee for final approval before publication.

The following resolution was passed as the result of information that the State Charities Aid Association felt the quality of school childrens' examinations should be investigated:

> WHEREAS, it has been brought before this committee that the State Charities Aid Association has expressed an interest in improving the quality of school medical examinations; and
>
> WHEREAS this committee is at present attempting to bring about changes and additions to the laws which would result in considerable improvement in school health services; therefore, be it
>
> *Resolved*, that the State Charities Aid Association be informed that we would welcome their assistance and we would appreciate knowing more of their views concerning this matter; copies of our previous resolutions concerning the above-mentioned laws to accompany this resolution.

This resolution was transmitted to Mr. Bernard Hughes of the association.

An inquiry from a county medical society relative to a survey of school children proposed by a podiatrist group was considered by the committee. It was the consensus that such special surveys by groups not officially connected with the schools should be discouraged.

At the 5th Annual Conference on Physicians and Schools held October 12 to 14, 1955, at Highland Park, Illinois, under the auspices of the American Medical Association, Dr. Ayling represented the State Medical Society. More than 200 physicians, public health officials, educators, and representatives of related organizations participated in round table discussions; 34 states and the District of Columbia were represented. The major theme of the conference was the emergence of the medical profession, education, and public health as a functioning team in this field.

Dr. Ayling served as consultant to the group discussing preparation of school personnel in health, directed by Clifford L. Brownell, Ph.D., of Teachers College, Columbia University, and subsequently received from Mr. Brownell a letter of commendation. This group, in supporting recommendations of previous conferences, suggested that elementary teachers should be informed on what to seek in the daily observance of the health status of children; they should have screening tests in cooperation with local specialists; they should realize the importance of two-way cooperation between education and medicine and of health education courses developed with representatives of local physicians on curriculum committees. Essentials in cooperation, it was stressed, are for the school to work through the local or state medical and dental societies and to adopt the accepted local medical practices. Development of committees providing for the mutual orientation of the physician, the school, and other personnel was urged.

Dr. George Lull, secretary and general manager of the A.M.A., outlined a five-point program for improving school health, including (*a*) an accident prevention program and procedures to meet emergencies at school; (*b*) preventive work in mental health; (*c*) discovery and follow-up of children with health problems; (*d*) full use of the school's special opportunities for health education; (*e*) interpretation of health needs and services to parents and other adults.

PART III

Public Health Activities B

Industrial Health.—The Council Committee on Industrial Health has the following members:

Peter J. Di Natale, M.D., *Chairman*	Genesee
Melvin Newquist, M.D.	New York
Harry Tebrock, M.D.	New York

The committee has had two meetings this current Society year.

The report of the Committee on Public Health and Education presented to the Council at its meeting on April 10, 1952, contained a recommendation "that a Council Committee on Industrial Health be established with the full prerogative of such a Council Committee set up according to the Bylaws of the Medical Society of the State of New York; also, that a sufficiently large appropriation of funds be authorized to permit the employing of a full-time executive to carry out the work of this committee."

The Council approved this recommendation in principle and referred it to the Planning Committee for study. This committee, realizing that this could mean the establishment of another bureau, proceeded slowly and with caution in its study.

The Planning Committee consulted many persons that were thought to know a great deal about industrial medicine both in and out of industry and finally recommended to the Council and House of Delegates that the original recommendation of the Committee on Public Health and Education be adopted and positive action taken.

There have been many meetings. There have been far too many referrals and rereferrals to committees of various makeups.

It has been finally decided that this new Industrial Bureau be combined with the Bureau of Workmen's Compensation under one director with the possibility of obtaining an individual for industrial health activities.

A special committee, composed of Dr. Edward R. Cunniffe, chairman, Dr. John J. Masterson, and Dr. Peter J. Di Natale, has been named to obtain a director of industrial health activities. The Industrial Health Committee is very hopeful that this committee can finally take positive action that has been delayed for too long.

The Industrial Health Committee desires to make some general comments about industrial health. We believe that our State Society should assume its proper place in this ever-increasing, important phase of the practice of medicine. Our Society should take the initiative and not sit idly, while management and labor, either alone or together, establish health centers, usually without consulting those who should be most vitally interested, the medical profession. We desire for the American worker the best medical care possible.

The principles and practices of industrial medicine have been greatly developed over the past few years.

A number of problems confront the industrial physician such as toxicology and the problem of human behavior arising out of stress in industry. An important problem has to do with selection and placement of the worker in relation to the job so as to obtain the highest degree of adjustment and insure the least physiologic and psychologic stress and maximum satisfaction and productivity to the worker. The placement of the handicapped worker is an important phase of the industrial problem. The prevention and control of occupational disease constitute still another phase. The problem of the aging worker is becoming very important, and in times of emergency, when labor is scarce, the aging worker can and must play an important role.

Another matter of interest in industry is absenteeism. It is believed in many quarters that with a health program properly supervised and managed and with the cooperation of physicians, nurses, management, and labor, absenteeism can be reduced to the minimum. At the 16th Annual Congress on Industrial Health, Detroit, Michigan, January 24, 1956, the whole program for the day was devoted to "absence from work due to nonoccupational illness and injury." Medicine, labor, nursing, and management took part in the discussion, testifying to the importance of the problem of absenteeism.

Dr. David J. Kaliski, director of the Bureau of Workmen's Compensation, stated at a meeting of the Planning Committee on February 9, 1955, "we are assisting the doctors in this State in collecting 40 million dollars a year under the Workmen's Compensation Law." Industrial medical practice plays an important role under the Workmen's Compensation Law, and because of the free choice principle which permits all physicians, duly qualified, to participate in industrial medical practice, it is very important that our State Society maintain and assume a more important part in carrying out its provisions.

Sincere thanks to members of the committee for their attendance at meetings and for their valuable advice.

Rural Medical Service.—The Subcommittee on Rural Medical Service of the Council Committee on Medical Licensure and Medical Service is composed of the following:

Thurston L. Keese, M.D., *Chairman*	Onondaga
Richard P. Bellaire, M.D.	Franklin
Glenn C. Hatch, M.D.	Yates
Leonard J. Schiff, M.D.	Clinton
Thomas M. Watkins, M.D.	St. Lawrence
Granville W. Larimore, M.D., *Adviser*	Albany

There has been no meeting of the subcommittee during the past year. This was due in part to the fact that Dr. Denver M. Vickers, the former chairman, has left New York State to assume other duties, and the appointment of the present chairman took place at such time as to permit no activity. There have been no matters referred to this subcommittee.

This subcommittee is cognizant of the problems pertaining to the providing of adequate medical care for rural communities.

It is the opinion of this committee that the onus of responsibility for correcting a situation, which at the present time shows no signs of being alleviated, rests essentially with the medical schools of New York State. Although we consistently hear that the pendulum along educational lines is again swinging toward the production of more general practitioners, it is not apparent at the present time that this is so.

Following is a listing of areas requesting general practitioners in New York State, which is adequate evidence that there is an inadequacy between the positions available and the number of general practitioners to fill them. It is the recommendation of this committee that such pressures as are feasible should be brought to bear upon the medical educators of New York State that the situation be remedied; also that hospitals be made available to general practitioners in the formation of general practice sections and such privileges as are commensurate with the abilities of the individual. Furthermore, it is suggested and recommended that the so-called preceptorship system be adopted generally throughout the State in an effort to show senior medical students the importance, the type of work, opportunities for service, and the interesting medical life led by the general practitioner. This system has long been used in the middle west, and it is the feeling of this committee that New York State medical education is recalcitrant in this particular line of endeavor.

ALBANY COUNTY

Altamont.—Population approximately 2,300 in 15 to 20-mile radius. Hospitals 9 and 15 miles distant. Privileges immediately available. Positions as village health officer and school physician may be available. Contact Dr. D. W. Sweeney (phone Altamont 4741); Mr. Raymond Brunk (phone Altamont 2371); Reverend C. Meyer (phone Altamont 4981); Miss Marion Keenholts (phone Altamont 4301); Mrs. Van Loon (phone Altamont 3321).

BROOME

Harpursville.—Population 4,000 in 10-mile radius. Hospitals 17 miles away with immediate privileges. Openings for town health officer and school physician available as well as for physician and surgeon for Delaware and Hudson Railroad. Contact Mr. Douglas J. Osterhoudt (phone Harpursville 5-1151); Mr. Ray King (phone Harpursville 5-1353); Mrs. A. M. Torrance (phone Harpursville 5-1051).

CAYUGA COUNTY

Cayuga.—Population 500; service area with population 2,000 plus. Two hospitals at Auburn 9 miles distant. Contact Dr. Henry J. Romano, Secretary, Medical Society of the County of Cayuga, Auburn Memorial Hospital, Auburn.

King Ferry.—Population 250; eight villages and hamlets within 8 miles with population 1,200. Additional 1,500 in surrounding farm area; summer population adds another 1,500 to 2,000. Radius of 2 to 12 miles. Appointment as school physician available. Town health officer and insurance examiner position may be available. House with office space for sale or rent. Three hospitals within thirty minutes at Auburn and Ithaca. Contact Mr. G. J. Cummings, Box 145, King Ferry.

CHAUTAUQUA

Cherry Creek.—Population 1,000 in 10-mile plus area. Immediate privileges in hospitals 20 miles distant. Opening for town health officer available. Contact Mayor Irwin Millspay, Cherry Creek.

Findley Lake.—Population 1,000 in 10-mile plus area. Immediate privileges in hospitals 25 miles distant. Opening for town health officer available. Contact Mr. Ray O. Jones, Supervisor, R. D.#1, Sherman.

CHENANGO COUNTY

McDonough.—Population 200; population 1,000 within a radius of 10 miles. Hospital at Norwich 18 miles; Greene 13 miles; Binghamton 32 miles. Contact Mr. J. J. Duell, Town Supervisor, McDonough.

CLINTON COUNTY

Altona.—Population 2,000. Radius about 15 miles including villages of Ellenberg, Mooers Forks, Sciota, and West Chazy. Two hospitals in Plattsburgh, about 20 miles. Excelsior mill and milk plant. Private residence, rent free for one year. Appointments as school health officer and medical officer for industries available. Contact Mr. Halsey J. Stark, County Clerk, Altona.

Mooers.—Population 500; population 3,000 to 5,000 in 12-mile radius served. Hospitals in Plattsburgh 25 miles. Position of school physician available, possibly town health officer. Contact Mr. M. B. Stewart, Mooers, and Dr. Aaron Davis, 9 Rugar Street, Plattbsurgh.

DELAWARE COUNTY

Andes.—Population 2,000 within 12-mile radius. School physican and health officer positions available. Hospitals 13 miles distant at Delhi and Margaretville. Contact Miss Eleanor W. Palmer, Box 105, Andes.

Franklin.—Population 1,200 in 8 to 12-mile area. Immediate privileges in hospitals 12 miles away at Oneonta and 14 miles away at Sidney. Positions available as district health officer, town health officer, and school physician and in Scintilla Division of Bendix Aviation Corporation in Sidney. Contact Mr. Harold Hyzer (phone 103R3); Mr. Hector Howard (phone 102J3); Mr. Cecil Fowlston (phone 27R3); Mr. Charles D. Stinard (phone 104).

ESSEX COUNTY

Au Sable Forks.—Population 5,000 in 10-mile area. Hospitals 20 and 27 miles away. Compensation work for large mill. Contact Mr. James Rogers, Mr. Andrew Huntington, Mr. Daniel Manning, or Dr. Joseph Schoot, Au Sable Forks.

Essex.—Population 1,000 plus; about 2,000 in summer in 8 to 10-mile radius. Hospitals at Elizabethtown and Mineville 16 miles and at Plattsburgh 30 miles. Position of town health officer available at $350; also post as school physician. Contact Mr. Leonard E. Dempster, Essex (phone Essex 2–573).

JEFFERSON

Cape Vincent.—Population 1,900 in 15-mile radius. Hospitals 27 miles distant at Watertown or 26 miles at Alexandria Bay, with privileges after a few months. Appointments as town health officer and school physician available. Contact Dr. Charles A. Prudhon, Watertown; Mr. Arthur Parker, Cape Vincent.

LEWIS COUNTY

Port Leyden.—Population 900; population 5,000 in working area. Temporary replacement desired. Lowville Hospital 18 miles. Positions available as school physician, health officer, examiner for two insurance companies, and compensation doctor for three mills. Well-equipped office and good living quarters available. Contact Mr. Donald Hubbard, Port Leyden.

MADISON COUNTY

Georgetown.—Population 800 in 10-mile area. Hospital at Hamilton 12 miles distant with privileges at once. Openings for town health officer and school physician. Contact Mr. Edgar Angelo, Georgetown (phone Georgetown 5).

Madison.—Population 2,500; area 100 square miles; five villages. Hospitals at Hamilton 7 miles, Oneida 20 miles, Utica 25 miles, Syracuse 40 miles. Positions as school physician and town health officer available. Contact Dr. B. L. Rockwell, Oriskany Falls.

NIAGARA COUNTY

Rapids.—Population 150 families in 8-mile radius. Hospitals in Buffalo 25 miles and Lockport 7 miles. Opening as examining physician for school at $1.00 per pupil. Contact Mrs. George W. Dietz, Sr., Route 5, Lockport.

ONEIDA COUNTY

Clayville.—Population 719; 3,800 more population within 6-mile radius in prosperous farming territory. Three industries in Clayville with 525 employes. Hospitals and laboratory facilities in Utica 8 miles distant. Town health officer position probably available. Home and office of former doctor for sale, possibly equipment. Contact Mr. M. Donohue, Real Estate Broker, Sauquoit (phone Utica 7–7383).

ONONDAGA COUNTY

Lafayette.—Population about 2,080 comprising also villages of Pompey, Cardiff, Apulia, and Apulia Station in 10 square mile area rapidly growing. Hospitals at Syracuse 7 miles. When privileges may be obtained is undetermined. Opening September, 1955, for town health officer. Opening available for school physician. Contact Mrs. Marion Leckonby, c/o Dr. Leo E. Gibson, 831 James Street, Syracuse (phone Syracuse 9–2849); Mr. Charles Adsitt, Town Supervisor (phone OR 7–3107); Miss Bernice Amidon (phone OR 7–7562).

South Onondaga.—Population 10,000. Hospitals twenty to thirty minutes distant. Positions of town health officer, $1,500; school physician, $1,100; and physician to Indian reservation may be available at $3,000. Contact Mr. Walter Wheeler, R.D. #1, Nedrow (phone Syracuse 9–2680).

ONTARIO COUNTY

Hall.—Population 300; population 2,000 within surrounding prosperous farming area. Midway between Penn Yan and Geneva, each about 8 miles distant. Fifty-bed hospital at Penn Yan; 80-bed hospital at Geneva. Rochester 45 miles; Syracuse 50 miles. Contact Dr. Ray E. Deuel, Jr., 508 Castle Avenue, Geneva, or Mr. Joseph Robson, Hall.

Honeoye.—Population 1,300; population 4,000 in area. Present doctor leaving to specialize. Hospital at Canandaigua. Positions of local health officer and school physician available. Contact Dr. William J. Meyer, New York State Department of Health, Glens Falls.

Orange County

Unionville.—Population 500; additional 400 population within 8 or 10-mile radius. Hospital at Sussex, New Jersey, 8 miles; two at Middletown, New York, $13^1/_2$ miles. Contact Mr. A. R. Blanchard, Orchard Street, Unionville, or Mrs. Julia Roche, Postmistress, Unionville.

Oswego County

Altmar.—Population 2,300 to 3,000 in 8-mile radius. Hospitals 38 miles away. Opening for town health officer in Albion and for school physician in Altmar and Williamstown. Contact Mr. Norman B. Spear, Supervisor, Town of Albion, Altmar; Mr. Andrew Ferguson, Altmar; or Mr. Eric Kruepke, Pulaski, and confirm with postal card to Mr. Andrew Ferguson, Secretary, Altmar Chamber of Commerce, Altmar.

Otsego County

Cherry Valley.—Population 4,000 to 5,000 in 10-mile area. Hospitals 14 miles away. Opening for district health officer (New York State Department of Health), town health officer, and school physician. One small woodworking plant for industrial physician. Contact Mr. O. H. Collett, Secretary, Chamber of Commerce (phone Cherry Valley 5211); Mr. J. M. Shipway, President, Chamber of Commerce (phone Cherry Valley 5761 or 5581).

Otego.—Population 3,000 in 6-mile radius. Fox Memorial Hospital (95 beds) at Oneonta 8 miles; Mary Imogene Bassett Hospital at Cooperstown 39 miles; a 58-bed hospital in Sidney 16 miles. Positions as local health officer and school physician available. Contact Mr. Albert L. Booner, Committeeman, Otego Rotary Club, Otego.

Putnam County

Mahopac.—Population approximately 3,000 in 5 to 7-mile area. Physician may obtain privileges in Mahopac Hospital after one year. Contact Dr. Matthew Jacobs, Mahopac 8–3535, or Dr. George Steacy, Mahopac 8–2041.

St. Lawrence County

North Lawrence.—Township of Lawrence, population about 1,625 in three villages. Radius of approximately 7 miles east to west and 16 miles north to south. Hospitals at Massena 18 miles and at Malone and Potsdam 22 miles. Contact Mr. Robert E. Driscoll, Town Supervisor, Lawrence.

Saratoga County

Mechanicville.—Population 8,000 plus. Hospitals 10 and 15 miles distant. Industrial positions may be available. Contact Dr. Claire K. Amyot, Secretary, Medical Society of the County of Saratoga, 54 Greenfield Avenue, Saratoga Springs.

Waterford.—Population 3,000 plus. Hospitals 10 and 15 miles distant. Contact Dr. Claire K. Amyot, Secretary, Medical Society of the County of Saratoga, 54 Greenfield Avenue, Saratoga Springs.

Schenectady County

Pattersonville.—Population about 1,300. Two hospitals at Schenectady and two hospitals at Amsterdam, each about 7 miles distant. Contact Mr. W. Eriksen, R.D. #1, Pattersonville (phone Tulip 7–8776).

Sullivan County

Grahamsville.—Population about 2,500 in radius of 10 or 12 miles, including Neversink, Claryville, Sundown, and Grahamsville. Hospitals at Ellenville 16 miles; two hospitals at Monticello 18 miles; two hospitals at Liberty 14 miles. Contact Mr. Robert Many, Grahamsville (phone Grahamsville 2941).

Narrowsburg.—Population 2,500 in 12 miles. Hospitals at Callicoon 15 miles and Honesdale, Pennsylvania, 15 miles. Contact Mr. Roy V. Sullivan, Narrowsburg (phone Narrowsburg 56 or 28) or Mr. Carl Behling, Narrowsburg (phone Narrowsburg 107R120).

Washington County

Hartford.—Population 1,308. Surrounding territory includes town of Argyle and Hebron. Posts as school physician and town health officer (New York State Department of Health) will be available. Possibility of bonus from town of Hartford. Contact Mr. Howard Hanna, Town Clerk, Hartford.

Salem.—Population 4,000 in 10-mile radius. Hospitals at Cambridge 12 miles and Granville 18 miles. Opening for town health officer covering Salem, Hebron, and Jackson; for school physician in Salem; also for physician to Washington County jail. Contact Dr. Gerald Fincke, Salem; Mr. Donald D. Hanks, Salem; Mr. Julian Orton, Salem; Mrs. Catherine Coutter, Town Clerk, Salem, or Dr. Newton Krumdieck, Cambridge.

Wayne County

Palmyra.—Population 3,800 in 10 to 15-mile radius. Hospitals at Newark 6 miles and Canandaigua 14 miles. Privileges available any time. Contact Mrs. J. R. Hagaman, 145 West Main Street, Palmyra (phone Palmyra 235).

Savannah.—Population 1,500 to 2,000 in radius of 12 to 15 miles. Hospitals at Lyons 12 miles and Auburn 17 miles. Privileges may be obtained at once. Positions of town health officer and school physician available in Savannah. Contact Mrs. R. O. Jackson, Savannah, and Mr. Phil N. Rosekrans, Administrator, Lyons Hospital, 122 Broad Street, Lyons.

General Practice.—The Subcommittee on General Practice has the following membership:

Floyd C. Bratt, M.D., *Chairman*	Monroe
Ben Albert Borkow, M.D.	Kings
Seymour Fiske, M.D.	New York
Gregory A. Galvin, M.D.	Tompkins
Garra L. Lester, M.D.	Chautauqua
Sydney McLouth, M.D.	Genesee
Raymond S. McKeeby, M.D.	Broome
C. J. F. Parsons, M.D.	Westchester
Robert V. Persson, M.D.	St. Lawrence

For the current year this subcommittee has worked on the following problems which directly concern the general physician as a member of the medical team:

1. Increased use of the Health Examination Form as devised by the subcommittee with the cooperation of the Subcommittee on Cancer.

2. Hospital relations.
3. Postgraduate education.
4. Active cooperation and participation in programs of organized medicine.
5. Socioeconomic problems of the general practitioner.
6. Cooperation with the Planning Committee for Medical Policies of the Medical Society of the State of New York.

There have been two meetings of the subcommittee, on September 21 and December 7, 1955.

The regular use of the Health Examination Form by general physicians in daily practice has increased during the past year. In a letter to all county medical societies the following advantages were emphasized: (*a*) Time-consuming features of routing office examinations are simplified and shortened. (*b*) Cancer detection in the doctor's office, including the obtaining of cytologic smears and other simple office procedures, is emphasized. (*c*) A comprehensive record is readily available if a doctor must appear in court. (*d*) This record of an orderly and systematic examination makes a physician's services more valuable to his patient. (*e*) Complete and thorough physical examinations by family doctors will counteract arguments for the mass screening approach to detection put forth by certain agencies. (*f*) The cost is only one cent for each form. Orders for the forms may be placed through the county medical societies.

The resolution concerning the establishment of general practice departments in voluntary hospitals, passed by the House of Delegates on May 12, 1954, has been extensively considered by the Subcommittee on General Practice. This resolution reaffirmed its approval of the establishment of general practice departments in voluntary hospitals in New York State, urged prompt action toward establishing such a department in every voluntary hospital, and requested that a report be presented at the 150th (1956) Annual Meeting of the House of Delegates, with the data obtained from a hospital survey concerning the integration of the general practitioner into the hospitals. Results of this survey have been reported in a previous supplementary annual report to the House of Delegates.

The subcommittee recommended that the Council Committee on Public Health and Education apprise hospital administrators of the favorable attitude of the Hospital Accreditation Board relative to the inclusion of general practitioners on their staffs. It was further recommended that the endorsement of such policy at the Interim Session of the American Medical Association in Boston in November, 1955, should be called to the attention of the hospital administrators. This information, together with a brief questionnaire as a follow-up to the detailed questionnaire sent two years ago to the hospital administrators, is in the mail, to determine how many of the hospitals in the State have established general practice departments or general practice residencies since that time.

It is the opinion of the subcommittee that in the interest of good medical practice each county medical society should be encouraged to set up a hospital and professional relations committee, with both specialist and general practitioner representation, to meet with hospital administrators and to coordinate their aims and activities with those of the county society. A letter is being sent to the county societies to this effect.

Postgraduate education continues to be recognized as a most important need on the part of the general physician. The excellent services of the Council Committee on Public Health and Education in recommending postgraduate speakers and the extensive use of the *Course Outline Book,* as prepared by this Council Committee, should continue to be a matter of widespread information.

It should be emphasized that general physicians can contribute much to organized medicine by volunteering to serve on county medical society committees. Active participation in the programs of organized medicine not only benefits various groups within the profession but leads to better community medical care. This subcommittee continues to cooperate actively with various other subcommittees and Council committees of the State Society.

Various socioeconomic problems of the general physician have been studied during the past year. Particular interest in workmen's compensation fees has been manifest. Cooperation with those members of the medical profession who are officially concerned with establishment of fair and equitable compensation fees is urged.

This subcommittee gave further information concerning its activities to assist the Planning Committee for Medical Policies in their deliberations. Continuity of program and the excellent support of committee members were emphasized.

The valuable assistance to the work of the Subcommittee on General Practice by the secretary of the State Society, Dr. W. P. Anderton; Dr. Theodore J. Curphey, chairman of the parent Council Committee; Council Committee members Drs. A. H. Aaron and Charles D. Post; as well as Miss Susan Baker, executive assistant, is gratefully appreciated.

PART IV

Public Health Activities C

Cancer.—The Subcommittee on Cancer has the following membership:

Irwin E. Siris, M.D., *Chairman*	New York
Edward W. Briggs, Jr., M.D.	Allegany
John S. Fitzgerald, M.D.	Oneida
Reid Heffner, M.D.	Westchester
Jacques Lasner, M.D.	Ontario
John G. Masterson, M.D.	Kings
Samuel Sanes, M.D.	Erie
Charles S. Cameron, M.D., American Cancer Society	New York
Paul R. Gerhardt, M.D., Bureau of Cancer Control, New York State Department of Health	Albany
Theodore Rosenthal, M.D., Assistant	

Commissioner, Department of Health,
City of New York . . . . New York

The subcommittee's activities have been enhanced by the enthusiastic, cooperative efforts of Dr. Paul R. Gerhardt, director of the Bureau of Cancer Control of the New York State Department of Health; Dr. Theodore Rosenthal, Assistant Commissioner, the Health Department of the City of New York; Dr. Abraham Oppenheim, director of Cancer Control for that Department; and Dr. Charles Cameron, scientific director of the American Cancer Society. We take this opportunity to express our appreciation.

A meeting of the subcommittee was held on September 29, 1955. The chairman had proposed that a questionnaire for cancer detection and prevention centers be adopted that would be uniform for both upstate and the metropolitan area. Dr. Gerhardt had devised such a questionnaire. Dr. Oppenheim proposed to amplify it to be more inclusive. The form which was finally adopted is all-inclusive, easy to comply with, and adaptable for ready tabulation. On October 13, 1955, when the Council approved conducting these surveys upstate and in Greater New York, it was stressed that the clinics are intended to be demonstration centers to serve as a source of education for the physician.

Dr. Rosenthal has asked for the endorsement of the committee for several "open house" programs in the metropolitan area, similar to the one held on March 2, 1955, at the Roswell Park Memorial Institute in Buffalo, which was attended by the committee. This was approved by the Council.

Dr. Gerhardt suggested that the small booklet entitled "Cancer Detection in a Physician's Office," prepared by the Massachusetts Division of the American Cancer Society, be distributed to physicians throughout the State. This is a joint project, with the State Health Department purchasing the pamphlet. In the case of 54 upstate counties the New York State Division of the American Cancer Society is providing envelopes and postage, while the Medical Society is addressing the envelopes. In Nassau, Suffolk, and Westchester the county medical societies are distributing the booklets, while in the five metropolitan counties the Health Department of the City of New York is handling the task.

The distribution of the Health Examination Form to facilitate comprehensive examinations in doctors' offices was the cooperative effort of the Subcommittees on Cancer and General Practice. The mailing of samples to all members of the State Society was completed last summer, again with the cooperation of the State Health Department and the New York State Division of the American Cancer Society. The distribution of the samples in the metropolitan area was effected through the good offices of R. J. Strasenburgh, Inc., an upstate pharmaceutical company.

Due to a misunderstanding the proper credit was not given to Dr. H. I. Teperson, of Brooklyn, who devised a similar form in 1947 when he helped to organize a cancer detection program in Brooklyn, under the auspices of the Brooklyn Cancer Committee and the Department of Hospitals. The form suggested by Dr. Teperson was published by the Bureau of Cancer Control of the New York State Department of Health, "Organized Plan for Cancer Detection Centers Operations." That form was approved by the Council of the Medical Society of the State of New York on September 8, 1949. The Subcommittee on Cancer wishes to acknowledge publicly to Dr. Teperson its error in failing to credit him for devising the form and to thank him for his excellent contribution.

Dr. Gerhardt suggested that a series of articles be published in the NEW YORK STATE JOURNAL OF MEDICINE to clarify the all-too-frequent instances of confusion in the therapeutic control of cancer. The favorable acceptance of the articles has been gratifying and has justified the efforts of the contributors. The committee is extremely grateful to the authors for the painstaking preparation of their contributions and for their wholehearted cooperation.

Heart Disease.—The Subcommittee on Heart Disease has the following membership:

Norman Plummer, M.D., *Chairman*	New York
John J. Finigan, M.D.	Monroe
David G. Greene, M.D.	Erie
J. G. Fred Hiss, M.D.	Onondaga
Lee S. Preston, M.D.	Oneida
H. A. Ranges, M.D.	Westchester

One meeting of the subcommittee has been held since the last annual report, on December 15, 1955. There has been discussion as to the duties of the committee, with the conclusion that its most advantageous and feasible functions are to cooperate with the American Heart Association and its local affiliates in projects of mutual interest and in the exchange of information and publicity. In New York State the American Heart Association has three components: (*a*) the New York Heart Association, which has a Committee on Cardiovascular Disease in Industry, a School Committee, a Public Health Committee, etc., (*b*) the New York Heart Assembly, which arranges an annual scientific meeting, and (*c*) the Westchester County Heart Association.

It was agreed that information on rheumatic fever prevention and therapy and related matters should be published in the NEW YORK STATE JOURNAL OF MEDICINE from time to time. Complete coordination and exchange of information between the Heart Association and the physicians of the State through their county society bulletins as well as the JOURNAL was designated as a goal of the committee, with the Public Relations Committee playing an important role. It was pointed out that greater interest on the part of the physicians in the planning and execution of the Heart Association's programs is needed for more efficient use of its funds.

Efforts in the prevention of rheumatic fever and rheumatic heart disease could be made vastly more effective by the wider dissemination of the American Heart Association's recently revised criteria for diagnosis, through the State and county medical societies.

The complexity of the problem of the cardiac in industry was discussed, with emphasis on the need for education of the patient and the employer as to the desirability for the cardiac to work when possible. A report on the several work classification units in the State is being prepared by a member of the committee. The work of Dr. Paul D. White's Committee on the Effect of Trauma and Strain on the Heart, of the American Heart Association, together with the work of a subcommittee headed by Dr. Milton Helpern, Chief Medical Examiner for York City, was presented as another source of information which it is hoped can be made available to the physicians of the State.

The symposium on "Can the Cardiac Work?" presented under the auspices of the subcommittee at the Annual Meeting in May, 1955, included participants representing the viewpoints of the medical school, industry, the labor union, and the insurance company and was excellently received. At the 1956 Annual Meeting there will be a presentation on "The Prophylaxis of Rheumatic Fever" by Dr. Charles A. R. Connor, chairman on Prophylaxis, of the New York Heart Association.

There will be a meeting of the subcommittee on March 15, 1956, during the Heart Assembly sessions in Albany.

Mental Hygiene.—The Subcommittee on Mental Hygiene has the following membership:

Curtis T. Prout, M.D., *Chairman*	Westchester
Hugh S. Gregory, M.D.	Broome
George R. Lavine, M.D.	Monroe
Edward F. Shea, M.D.	Ulster
Harry A. Steckel, M.D.	Onondaga
Margaret T. Ross, M.D.*	New York

The subcommittee has not met this year. However, various members of the committee have taken active part in community mental health projects, and both Dr. Prout and Dr. Steckel have represented the Medical Society of the State of New York at important conferences.

On November 18 and 19, 1955, Dr. Prout attended the Conference of Mental Health Representatives of State Medical Associations, in Chicago. Discussions were held on:

1. The problem of narcotics, in which the history of the use of narcotics, present methods of treatment, and present research were considered. No recommendations were made.

2. Integration of mental illness and public mental hospitals with the total medical community. It was suggested that the public mental hospitals invite participation of the medical men of the community in the actual therapeutic program of the hospital.

3. Future relationships with clinical psychologists.

4. Development of committees on mental health at the county society level.

The conference submitted to the Council on Mental Health of the American Medical Association the following recommendation, which was approved by the Council on December 8, 1955: "That the members of state medical associations' committees on mental health should be appointed for a term of three to five years as a standing committee, with at least one member to be replaced each year; and that the committee should include representation from the fields of surgery, internal medicine, pediatrics, public health, general practice, psychiatry, and such other specialties as seem appropriate within the organization of the state medical association."

Dr. Steckel represented the State Medical Society at the New York State Conference on Community Mental Health Services in Syracuse on January 30 and 31, 1956. This was attended by approximately 150 persons, including representatives of the Mental Health Boards of Broome, Cayuga, Rockland, Warren, Onondaga, Niagara, Saratoga, Ontario, Schenectady, Westchester, Erie, Washington, and Jefferson Counties and of the City of New York; also representatives of the New York office of the United States Department of Health, Education, and Welfare.

Dr. Robert C. Hunt, Assistant Commissioner of Mental Hygiene, spoke on "The Functions of Mental Health Boards" and expressed gratification that since passage of the law sixteen months prior to the meeting, permitting the establishment of such boards, 17 counties representing 72 per cent of the State population had established them. He emphasized that the State will match funds only for increases in new service and not for pre-existing service. Dr. Hunt also stressed the fact that the law is a permissive one and recognizes that each local board is autonomous and will have to meet its own peculiar problems based on geographic location, the political situation, economic problems, etc.

One of the principal problems to be met is the integration of the Mental Health Board clinics with already established clinics under public, private, or semiprivate auspices, to avoid duplication of effort.

Also discussed at the conference were standards for clinics and mental hospitals, with emphasis on the need for the local boards to set up a recruitment program to enlist personnel from the community.

Mr. Michael Gorman, executive director of the National Mental Health Committee, made a plea for the tearing down of barriers that exist between the mental hospitals and the community and between the State mental hospital system and private psychiatry. The responsibility of the mental health movement should be turned back to the community, where it belongs.

The final suggestion was that the Mental Health Boards organize as a State-wide group and that annual meetings be held.

Medical Film Review.—The Subcommittee on Medical Film Review has the following membership:

Kenneth B. Olson, M.D., *Chairman*	Albany
Alfred A. Angrist, M.D.	Queens
John L. Norris, M.D.	Monroe
Felix Ottaviano, M.D.	Oneida
James J. Quinlivan, M.D., Director, Office of Public Health Education, New York State Department of Health	Albany
Jean DeGarmo Watkeys, M.D.	Monroe

The Subcommittee on Medical Film Review met on August 3, 1955, at the University Club in Albany and also visited the Film Library of the State Department of Health. Four films were reviewed. There was discussion of the type of film which should be purchased (commercial and advertising films versus medical), the criteria for good films, and the procedure to be followed in reviewing films. It was suggested that scheduled programs be offered at monthly or weekly intervals to the county medical societies.

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* Dr. Ross has resigned because of moving to West Virginia.

A new catalog of films in the Film Library is being compiled and will be sent to the county organizations as soon as available. Since July 1, a total of nine films has been reviewed, of which five have been recommended for purchase by the State Department of Health.

Statistics provided by Dr. Quinlivan show that during 1955 private physicians, medical staffs, and medical schools used 436 films, while pharmaceutical colleges and nursing schools used 507.

The subcommittee chairman would like to express his appreciation to Dr. Quinlivan for his complete cooperation with the State Medical Society in the operation of the Film Library for maximum medical education. Without this cooperation there would be little purpose in the functioning of our subcommittee. Sincere appreciation is also expressed to Dr. Norris for his past and present work on the committee. It would be difficult to continue without his advice and interest.

PART V

Public Health Activities D

Physical Medicine and Rehabilitation.—The Subcommittee on Physical Medicine and Rehabilitation has the following membership:

Arthur S. Abramson, M.D., *Chairman*	New York
Henry L. Bibby, M.D.	Ulster
Alvin R. Carpenter, M.D.	Broome
John A. Holmes, M.D.	Steuben
Alfred L. Lane, M.D.	Monroe
Leonard D. Policoff, M.D.	Albany
George M. Raus, M.D.	Onondaga
William B. Snow, M.D.	New York
Jerome S. Tobis, M.D.	New York

There have been two meetings of the subcommittee during this Society year, on September 15 and December 5, 1955.

An important obstacle in the way of reducing the personnel shortage in all areas of rehabilitative work was removed when the Education Department agreed recently to accept for licensing examination students who have acceptable posthigh-school education preliminary to concentrated physiotherapy training in a different school. This means that a school of physical therapy need not establish a four-year curriculum in order to operate but instead can accept students on a transfer basis. The change in interpretation of the State Education Law had been recommended consistently by the subcommittee, and with its realization the committee immediately sought to encourage the medical schools of the State to establish courses in physiotherapy. With the approval of the Council a letter was sent on November 10, 1955, to the deans of the medical colleges embodying the following resolution:

> Whereas, there is an extreme and growing shortage of therapists in the field of physical medicine and rehabilitation; and
>
> Whereas, the presently existing educational facilities are being fully used; and
>
> Whereas, the needs for such personnel in the expanding physical medicine and rehabilitation programs in the State are increasing more rapidly than the recruitment of new personnel; therefore, be it
>
> *Resolved*, that the Medical Society of the State of New York use its good offices to stimulate medical schools of the State of New York to set up curricula in physical therapy and occupational therapy; and be it further
>
> *Resolved*, that the Medical Society of the State of New York undertake, with the cooperation of the State Education Department, a program of education and publicity relative to the opportunities that exist in the ancillary medical professions related to physical medicine and rehabilitation, such as physical therapy, occupational therapy, speech and hearing, and vocational counseling.

A second letter to the deans followed on January 18, 1956, giving statistics on the acute shortage of trained physical and occupational therapists in New York State. This letter also (1) sought their opinion as to whether they would establish the suggested curricula of physical and occupational therapy; (2) sought their reasons if they indicated they did not intend to do so; (3) informed them of the availability of financial assistance from Federal funds designated for the particular purpose of training personnel in this field; (4) pointed out that the cost of establishing such a department, using existing facilities of other departments whose courses would be required by such students, would eventually be met by the tuition fee.

A small subcommittee on recruitment of students has been appointed, and plans have been laid for setting in motion a specific program. A conference of representatives of the State and national physical therapy and occupational associations has been called for February 16 to formulate publicity projects. A second conference, with representatives of the State Departments of Health and Education, will be held to obtain their suggestions, while a third meeting is contemplated, to include other organizations, like the N.F.I.P., which are interested in alleviating the personnel shortage.

A complaint was received from Clinton County physicians deploring the inconvenience of having to send their referral patients to Albany or New York City for rehabilitation therapy in order to qualify for State assistance. Upon recommendation of the committee, the Council approved the honoring by the State Health Department of applications for financial aid to persons referred to Montreal, Canada, or Burlington, Vermont, for treatment.

It seemed in order to the committee to define a "rehabilitation center" in view of the provision in the Hill-Burton Act for financial assistance in the establishment of such plants. The committee states: "Since rehabilitation is an inherent function of the practice of medicine, it is appropriate that rehabilitation centers be defined so that the responsibility and leadership of medicine in such centers is established.

> A Rehabilitation Center is a medical agency which meets the total rehabilitation needs of the patient. It should be under the direction of a physician adequately trained in physical medicine and rehabilitation, who devotes sufficient time to insure good supervision. The center should have available all medical specialties for consultation and should include the following ancillary services: physical therapy, occupational therapy, speech and hearing therapy, vocational counseling, psychologic services, and social service."

The question of trying to establish a workmen's compensation fee schedule for specialists in rehabilitation was discussed, but the suggestion was made that the matter be held in abeyance until the study of fees for medical services rendered by various State departments, which has just been completed by Mr. George Farrell, was discussed with the department heads by the chairmen of the State Medical Society committees involved.

Dr. Tobis, who is currently chairman of the Section on Physical Medicine, plans to present live clinics at the Annual Meeting in May, 1956. There will be a panel discussion on disabilities in children, directed by Dr. Deaver, and a presentation on hemiplegia, using cases from the Coler Division of New York Medical College.

Geriatrics.—The Subcommittee on Geriatrics has the following membership:

Frederic D. Zeman, M.D., *Chairman*	New York
C. Ward Crampton, M.D.	New York
Elton R. Dickson, M.D.	Broome
Stephen A. Graczyk, M.D.	Erie
Frank W. Reynolds, M.D.	Albany
Charles Steyaart, M.D.	Wayne
Joseph J. Witt, M.D.	Oneida

The work of the subcommittee up to this point has been largely concerned with interesting doctors across the State in the problems of the aging population, through talks at county society meetings and at the annual meetings of the State Society, and in serving in an advisory capacity to the Joint Legislative Committee on the Aging, chaired by Senator Thomas C. Desmond. Several members also attended the Governor's Conference on Problems of the Aging in October, 1955. The chairman of the subcommittee has been active in affairs nationally; Dr. Crampton is chairman of the Committee on Geriatrics of the Medical Society of the County of New York and has been influential in promoting activities in that area.

A meeting of the subcommittee was held on January 31, 1956. Four major objectives were outlined:

1. Utilization by county societies of postgraduate educational facilities of the parent Committee on Public Health and Education. A revision of the topics and speakers in the *Course Outline Book* was recommended.

2. Close examination of legislation: The chairman pointed out that the time had come for the committee to have a more active influence in legislative problems affecting the aged, particularly in view of the fact that it is an election year, and the committee should keep the legislation committees of the State and county societies fully informed on the merits or defects of proposed bills in order to protect the interests of the physicians and their patients. There is a tendency to allocate the doctor's time in "giveaway" programs of a socioeconomic nature without consulting him.

3. Preparation of a program of cooperation with lay organizations: The role of the county medical society was stressed in impressing on the profession that geriatrics is not a specialty; that the care of the aged is the function of all practitioners. Equally important is the impossibility of separating medical care from the social and economic aspects of the aging person's situation. There is much to be done in the way of community planning for this segment of the population, which must reflect an increasingly adequate and sympathetic interest on the part of the physician. The county medical society should play a leading role in this regard and should encourage the doctors to see to it that the hospitals as well as nursing homes, provide more adequate, personalized care for the individual. It was pointed out, too, that an essential factor in maintaining the morale of the older patient is the privilege of having his own choice of physician, whether at home or in the hospital.

4. Cooperation with the Bureau on Chronic Disease and Geriatrics: This is a new division of the State Health Department, headed by Dr. Reynolds, a new member of the committee, which can be of tremendous assistance in meeting the needs of the elderly patient. It is proposed to develop a joint State-wide program for a yearly educational project aimed at physicians, nurses, and social service workers, to be carried out on a county level through the medical society. A specific subject each year will be delineated. Synchronized with its presentation there will be articles in the NEW YORK STATE JOURNAL OF MEDICINE and Health Department pamphlets for public health nurses. Details will be developed in the near future.

Diabetes.—The Subcommittee on Diabetes has the following membership:

Leonard J. Schiff, M.D., *Chairman*	Clinton
Edwin W. Gates, M.D.	Niagara
Charles B. F. Gibbs, M.D.	Monroe
Maynard E. Holmes, M.D.	Onondaga
Bernard Watson, M.D.	Ontario
Frederick W. Williams, M.D.	Bronx

The subcommittee held one meeting, at the State Society offices, on October 5, 1955. This was also attended by Dr. Frank E. Reynolds, director of the Bureau of Chronic Diseases and Geriatrics of the New York State Department of Health; Mr. J. Richard Connelly, executive director of the American Diabetes Association, and by Dr. Edmund L. Shlevin, Governor of the A.D.A. for New York State.

The chief purpose of the meeting was to discuss a document on "Diabetes Activities in New York State" by Dr. Reynolds. There was considerable discussion by members of the committee of the role which the various interested organizations should play in diabetes detection and education activities. It was finally agreed that the State Department of Health, on a State and local level, can cooperate with the American Diabetes Association and its affiliates and with the State and county medical societies in diabetes detection and education programs. This principle was referred to the Council Committee on Public Health and Education and was discussed at a meeting on December 15, 1955, with the State Health Department. It was finally suggested that Mr. Connelly, Dr. Gates, Dr. Reynolds, and Dr. Leonard J. Schiff work out possible ways of collaborating to achieve the highest possible degree of detection. It is hoped this meeting will take place in early March.

The subcommittee this year carried on essentially the same activities as last year. Attempts were again made, both by letter and by personal contact, to encourage more county medical societies to participate in the annual Diabetes Detection Drive. This is a never-ending process and must be continued year after year. Statistical results are not available, but from letters received it is safe to assume that approximately the same number of counties conducted drives this year as last. There is a small residue of counties which do not conduct drives. These are either the large counties where the drive is conducted chiefly by an affiliate of the American Diabetes Association or the small rural counties where any type of organized effort is difficult. A special effort will be made next year to stimulate action in the rural counties.

As an outgrowth of the work of the 1954 committee, the Woman's Auxiliary presented a movie on diabetes at their exhibit at the State Fair in Syracuse last September.

Hard of Hearing and the Deaf.—The Subcommittee on the Hard of Hearing and the Deaf has the following membership:

Edmund P. Fowler, Sr., M.D., *Chairman*	New York
Greydon G. Boyd, M.D.	New York
Karl W. Gruppe, M.D.	Oneida
Gordon D. Hoople, M.D.	Onondaga
C. Stewart Nash, M.D.	Monroe
Advisers	
Clarence D. O'Connor, Ph.D., Lexington School for the Deaf	New York
Mrs. Eleanor C. Ronnei, New York League for Hard of Hearing	New York

During the past year the subcommittee met February 2, 1956. A review of events since the previous meeting cited the cooperation by the Departments of Health of the City and the State of New York in publishing articles and "alerts" submitted by Dr. Fowler for the committee. In May, 1955, a notice appeared in the *Newsletter* publicizing Hard of Hearing Week; in November a letter and a news release went to all our county medical societies in the hope they would obtain space in their own publications as well as those of school and health authorities.

A report was made by the chairman of the meeting he attended on October 19, 1955, with Commissioner of Motor Vehicles Joseph P. Kelly, Commissioner of Health Herman E. Hilleboe, Assistant Commissioner of Mental Hygiene Henry Brill, and the Council Committee on Public Health and Education. Mr. Kelly appealed for assistance in determining the criteria of physical and mental disability in applicants for operators' licenses. Dr. Fowler defended the deaf driver as far less likely to cause accidents than "normal" drivers. He has been appointed to the over-all Subcommittee on Accident Prevention which will confer with Commissioner Kelly.

A letter was received from Commissioner Hilleboe in reply to the complaint of the committee relative to the inequities in the administration of the State law on hearing aids, which provides for financial assistance to the community on a matching basis for children whose parents are unable to pay. It was pointed out by Dr. Hilleboe that the matter of funds had never been a problem outside New York City and that the latter was hampered by the necessity of securing approval of various city authorities for the added cost to the city. He gave statistics on the number of children in the city and upstate who had received hearing aids under the new program and stated that the rate of approvals would accelerate. Despite the belief that the program was running more smoothly than previously, the committee decided to frame a letter to the Commissioner setting forth specific examples of difficulties which persist.

Particular dissatisfaction was registered relative to the lack of standard procedure in testing the applicants for State aid and with the fact that these children are required to go to designated hospital audiology centers when there is competent service in the referring agencies. In strange surroundings the child does not respond as well as he should, and there is a distorted analysis of his hearing defect. The committee agreed to take steps to correct the situation with the authorities.

Dr. O'Connor has had repeated opportunities to present the story of deafness over nation-wide radio and television programs during the year. There seems to be evidence of a great increase in awareness of the public with respect to the problems of the deaf. An insurance company in Utica is conducting a pre-employment-testing pilot project; three department stores in New York now attempt to place deaf employes in positions where this will not be a handicap. In the Syracuse area ten hearing surveys were made for rural school communities, and as a result in several towns a person with some training in audiology was added to the school staff.

Much remains to be done, however, and the committee will continue to alert physicians, ministers, teachers, and organizations of parents. The committee will also cooperate with the Subcommittee on

Geriatrics in an effort to reduce the incidence of deafness in older persons by keeping their general physical condition at the highest possible level.

PART VI

Medical Licensure and Medical Service

The Council Committee on Medical Licensure and Medical Service consists of the following members:

Leo E. Gibson, M.D., *Chairman*	Onondaga
Joseph Diasio, M.D.	Genesee
John N. Dill, M.D.	Westchester
Stiles D. Ezell, M.D., *Adviser*	Albany

This committee considered a request from Mr. Robert C. Killough, Jr., Assistant Commissioner of Education, that graduates of registered Canadian medical schools be permitted to serve residencies without the need for a temporary certificate, which is required in Chapter 802 of the Education Laws of 1953. The request was for the approval of an amendment to this law in regard to the graduates of Canadian medical schools. This request was approved and submitted to the Council. The approved proposed amendment was as follows: "Notwithstanding any provision heretofore to the contrary a temporary certificate may be issued to a graduate of a registered medical school of Canada who has been granted the degree of Bachelor or Doctor of Medicine from said school, providing said school has been approved by the Council on Medical Education and Hospitals of the American Medical Association."

The question of a choice of a candidate for the President's Award on Employment of the Physically Handicapped was submitted to this committee. The name of Dr. Rufus B. Crain of Rochester was submitted for the consideration of the Council. A rather long curriculum vitae accompanied this. Approval was voted.

Another problem submitted to our committee involved the difficulty of the New York State Society of Anesthesiologists in obtaining permission from the Licensing Committee of the Board of Regents to have the specialty of anesthesiology considered in the same light as other specialties in obtaining permission to take the examination for medical licensure in the State of New York. It says in their report: "Our best information is that among other requirements, these applicants are expected to complete two years of a rotating internship. One year of American Medical Association approved residency training in most specialties may be substituted for the second year of this internship. However, applicants have been informed, officially, that approved American Medical Association residency training in anesthesia may not be used for such substitution. This has had the obvious effect of diverting medical people from our specialty at a time when an acute, critical shortage exists."

The secretary of the State Society of Anesthesiologists has had conferences with the Licensing Committee of the Board of Regents, and they were told that if they did not hear anything more about their decision, they could consider that their request was granted, that is, the request that the residency in anesthesiology was to be considered in the same light as an internship or residency in any other of the specialties in the hospital training program. To date they have had no reply from the Licensing Committee of the Board of Regents.

Complying with the advice of Dr. Ezell, who has known something about this problem, your committee after considerable discussion has submitted the following recommendation: Owing to the facts that the educational discipline of present-day anesthesiology encompasses a formidable clinical and didactic body of information in no way comparable to the limited background associated with the specialty in the past; that anesthesiology is accorded full medical specialty status by the Council on Hospitals and Medical Education of the American Medical Association; that the information received from the Department of Education has been somewhat confusing and contradictory, your committee recommended (1) that the Council inform the Society of Anesthesiologists that it is in sympathy with the fact that anesthesiology be recognized to the same extent as the other specialty services recognized by the Hospital Training Program and (2) that the Board of Regents reconsider the problem of anesthesiology and extend the same recognition as it has to the other specialty services in the hospital training program. Approval was voted.

The question of a choice for the Annual Practitioner's Award of the Medical Society of the State of New York was also submitted to this committee. The names of four doctors came from various county societies, one of whom was deceased at the time of our receiving his biography. Another had been a candidate before, and a candidate for this award had been selected from the same county in a previous year. From the two remaining candidates the committee was unanimous in the choice of Dr. James Bennett of Onondaga County. Approval of Dr. Bennett was voted.

Hospital and Professional Relations

The Committee on Hospital and Professional Relations for the current year is composed of the following:

Raymond S. McKeeby, M.D., *Chairman*	Broome
Andrew A. Eggston, M.D.	Westchester
John C. McClintock, M.D.	Albany

During the past year this committee has investigated the resolution referred to the Council by the last House of Delegates in regard to solicitation of funds from doctors for hospital building projects. Questionnaires were sent to the various representative areas throughout the State. In studying the answers, the following conclusions were made: In one building drive "terrific pressure was put on the doctors on the staff for substantial contributions to the fund needed for new construction." In a few cases some drives have "suggested" the amount they feel a staff member should contribute, based on the extent of his utilization of the hospital facilities and on his economic status in the community. In other cases an over-all quota is set for the medical staff as a fund-raising goal, and in some instances the medical staff have agreed to meet this quota and have assumed the responsibility for obtaining contributions from their own membership. Incidentally, this seems to have been the best and most rewarding approach in the fund-raising drives studied. There were many answers where solicitation was on a hopeful voluntary basis but with no thought of any discriminatory action by a hospital against a member of a medical staff who failed to meet what they felt was his appropriate contribution or who failed to make any contribution whatsoever. Therefore, the committee feels that since this practice of coercion is not "a State-wide condition" and only limited to isolated instances, there is no need for taking "measures to alleviate the situation" but that each local group of doctors, when faced with such a problem, should solve it to the mutual satisfaction of themselves in their own community.

Along with Dr. Leo Gibson, the chairman of this committee represented the State Medical Society at an Accreditation Clinic held in Syracuse, October 21 and 22, 1955, by the Central New York Regional Hospital Council. It was pointed out at this meeting that full accreditation of hospitals has been impeded oftentimes by some of the following factors: inactivity of required committees, failure of medical staff members to meet the 75 per cent attendance stipulation at medical staff meetings, laxity of some physicians in completing charts in the required time, failure to record consultations on the chart, a need for more active supervision within the hospital of interns, residents, and nursing service. At the time of the writing of this report, the committee is in the process of studying ways and means of publicizing the importance of correcting these deficiencies, not only for the full accreditation of the particular hospital but also for continuing improvement of medical care in New York State.

In regard to the "Proposed Agreement and Statement of Policy" between the Medical Society and the Hospital Association of New York State, this was forwarded to the Hospital Association for their consideration. At the time of the writing of this report, no answer has been received. A meeting is being arranged between the Hospital and Professional Relations Committee and the Hospital Association's Committee on Medical Relations to help clarify further the issues involved.

Joint Committee of the Medical Society of the State of New York and the Dental Society of the State of New York

The Joint Committee of the Medical Society of the State of New York and the Dental Society of the State of New York consists of:

Medical Society of the State of New York

Fred S. Dunn, M.D., D.D.S., *Chairman*	New York
Robert M. McCormack, M.D.	Monroe

Dental Society of the State of New York

Charles W. Pankow, D.D.S.	Erie
Earle M. Crylser, D.D.S.	Jefferson
William F. Harrigan, M.D., D.D.S.	Nassau

Since no matters were referred to the committee and there were no items which required discussion, our committee did not meet during the Society year 1955–1956.

PART VII

Economics

The Council Committee on Economics has the following membership:

John C. McClintock, M.D., *Chairman*	Albany
Gerald B. Manley, M.D.	Livingston
Ralph E. Isabella, M.D.	Schenectady

The committee met on January 28, 1956, at the Fort Orange Club, Albany. All members of the committee were present with the exception of Dr. Gerald B. Manley.

In accordance with instructions of the Council, the committee considered the proposal to provide medical care for dependents of members of the armed forces, as embodied in the bill H.R. 7994, and approved the following telegram of January 23, 1956, to Dr. George F. Lull, secretary, American Medical Association.

> Informal discussions with representatives from a few county societies in New York State indicate willingness to cooperate with Defense Department's plan for medical care of dependents of service personnel in armed forces, providing: (1) maximum utilization wherever possible is made of existing civilian medical personnel and hospital facilities for dependent care with free choice of these by patient; (2) insurance type program be instituted whereby serviceman pays percentage of premium cost and nonprofit plans are used as Blue Cross and Blue Shield; (3) home-town care programs, while approved by the State Society for veteran's care, are objected to because of complete subsidization by government; (4) whatever program is adopted must not require increase in existing armed forces medical installation nor augment medical personnel in the services.
>
> Walter Anderton, M.D., Secretary

After considering resolutions from county medical societies, the committee recommended Council approval of the following resolution:

> Whereas, the Department of Defense has asked the Congress of the United States to clarify and coordinate provision for the medical care of dependents in all the armed forces, the Coast Guard, Coast and Geodetic Survey, and the Public Health Service; and
>
> Whereas, dependents have been clarified in the bill (H.R. 7994) to provide this legislation; and

WHEREAS, Blue Cross and Blue Shield are willing to act as agents to implement this plan on a cost-plus basis; and

WHEREAS, several of the component county medical societies have agreed in principle to the provision of medical care for dependents of service personnel; now therefore be it

Resolved, that the Council of the Medical Society of the State of New York approve the principle of providing medical care for dependents of service personnel using civilian medical and hospital facilities wherever possible; and be it further

Resolved, that this care be provided through non-profit insurance for which the service personnel pays a per cent of the premium cost; and be it further

Resolved, that Blue Cross and Blue Shield act as agents in providing this coverage; and be it further

Resolved, that a copy of this resolution be sent to the presidents of all component county medical societies in the State of New York and to the general manager of the American Medical Association.

Your committee also recommended Council approval of the following resolution adopted by the New York State Blue Shield Plans, December 9, 1955. It was reviewed by the Subcommittee on Medical Expense Insurance on January 12, 1956, and approved.

WHEREAS, the public desires complete financial coverage for the services against which they are insured; and

WHEREAS, the medical profession must decide what it wants to do to meet the needs and demands of the public if it wants the free practice of medicine to continue; and

WHEREAS, the medical profession can best meet these demands through its own organization of Blue Shield, which must be the Doctors' Plan in fact as well as in name; and

WHEREAS, controversy has arisen as to relative value of indemnity versus service benefit plans; and

WHEREAS, Blue Shield does not nor does it desire to force any plan or schedule of fees on the practicing profession; and

WHEREAS, the establishment of scheduled allowances is controlled by professional policies and the physicians who render the service; and

WHEREAS, the people living in the area served by United Medical Service, Inc., Northeastern New York Medical Service, Chautauqua Region Medical Service, Inc., Genesee Valley Medical Care, Inc., and Central New York Medical Plan, Inc., are enthusiastically supporting the service benefit feature of Blue Shield; and

WHEREAS, these Plans serve 85 per cent of the population of New York State; and

WHEREAS, the medical societies of the counties of these areas have endorsed the service benefit principle; and

WHEREAS, unless Blue Shield is enabled to write service benefits in all areas of New York State, both Blue Shield and the medical profession will suffer untold loss of prestige; and

WHEREAS, service benefits to be satisfactory to the public must be at a realistic level, and the scheduled allowances must be satisfactory to the physicians rendering service; and

WHEREAS, commercial companies and panel plans cannot deliver the services of the vast majority of physicians, such a solution of the problem will inevitably lead to the eventual government control of medicine; therefore be it

Resolved, that all Blue Shield Plans be strongly urged to take the necessary steps to institute a $6,000 service ceiling program; and be it further

Resolved, that all members of the New York State Medical Society be asked to participate in making the $6,000 service ceiling program successful; and be it further

Resolved, that the New York State Medical Society recommend to each county society the activation of this resolution through its representative Blue Shield Plan without undue delay.

Both these resolutions were approved by the Council at its February 9, 1956, meeting.

The committee approved the annual reports of its Subcommittee on Public Medical Care, Subcommittee on Medical Expense Insurance, and the Bureau of Medical Care Insurance.

Your committee has considered the need for a uniform State-wide contract and heartily agrees with the 1955 reference committee's report, approved by the House of Delegates, favoring a uniform State-wide contract, combining indemnity and service, service benefits being limited to income ceiling levels and benefits above those ceilings to be on an indemnity basis.

Your committee recommended that the Council strongly urge all members of the Medical Society of the State of New York to participate in making the $6,000 service ceiling program available in all areas of New York State. Unless uniform benefits are made available on a service basis for State-wide groups in the near future, Blue Shield and the medical profession are in danger of losing medical care insurance for the civil service employes group of the State of New York. Legislation has been introduced to make service benefits available to them. Large State-wide industrial groups have been lost to Blue Shield and the medical profession because of the lack of uniform benefits throughout the State on a service basis. Council voted approval February 9, 1956.

The committee took note that Medical Indemnity of America, Inc., the national Blue Shield Plan, became licensed in the State of New York as of January 1, 1956.

During the past year several bills were considered by the Federal government which will have a direct effect on the economics of medicine, and in this report we wish to refer to those which we consider the most important.

Perhaps the bill which will have the greatest effect on the practice of medicine is H.R. 7225, proposing an amendment to Title II of the Social Security Law, which would permit cash benefits to persons at age fifty who were totally and permanently disabled, provided they agree to rehabilitation care. This is the first time in the history of the Social Security system a service would be presented to the American people as well as cash. Heretofore, cash benefits were payable under certain conditions at age sixty-five, to retired persons, their widows, or their dependent children under age eighteen, all readily definable conditions.

The physician is naturally concerned because he will have to determine whether the disability is total and permanent, a condition extremely difficult to establish, especially its permanence. If the physician does not declare the patient totally and permanently disabled, the individual will be deprived of a monthly benefit for the rest of his life, whereas if he declares the patient totally and permanently disabled, he would receive a benefit beginning at age fifty for the rest of his life. In the event the patient is declared totally and permanently disabled, the doctor may have to provide medical care and be paid by Federal funds through the state office of vocational rehabilitation.

Organized medicine has never taken a position against the Social Security system per se, but we are concerned about any amendments to or extension of the system which has an impact upon medicine. If this amendment should become effective, might we not expect the age limit to be lowered to forty, perhaps to cover temporary disability and then eventually a national program of medical care? Before any changes are made in the present Social Security Act, we are sure that organized medicine as well as many other groups would like to see an impartial study made of our whole Social Security system in relation to the broad economic and social policies of the United States.

H.R. 7994 has been introduced in the 84th Congress, which provides medical care for dependents of members of the armed forces, Public Health Service, Coast Guard, and the Coast and Geodetic Survey and supersedes H.R. 7792 and S. 2720, would uniformly provide care in government facilities and through subsidized private health insurance. The Secretary of Defense could contract for the medical care under a private insurance plan or plans. A "basic plan," for which the serviceman would pay 30 per cent of the premium, would cover the spouse and children of military personnel and provide not less than four months' hospital coverage and include the following scope of medical care: (1) diagnosis, (2) treatment of acute medical and surgical conditions, (3) treatment of contagious diseases, (4) immunization, and (5) maternity and infant care. Excluded would be (*a*) home calls except where cognizant physician considers it necessary, (*b*) ambulance service except in emergencies, (*c*) prosthetic devices and spectacles, (*d*) dental treatment, and (*e*) elective medical and surgical treatment as determined by a cognizant physician.

An optional health insurance plan could be offered by the Secretary of Defense, with coverage identical to that offered in the basic plan, for dependent parents and dependent parents-in-law (who are more than 50 per cent supported by the serviceman). Under this option the serviceman would pay 100 per cent of the insurance premium.

A second optional plan for medical care, in addition to that offered in the basic plan, for all the serviceman's dependents could be offered; here also, however, hospitalization benefits must exceed four months. Under this plan the entire insurance premium would be borne by the serviceman. Dependents would not be denied care in military facilities merely because they were covered by an insurance plan. In cases where they receive care in military facilities for ailments covered by the plan the insurance carrier would reimburse the military at Bureau-of-the-Budget-approved rates. A spouse or dependent child requiring hospitalization after reaching the limit of insurance coverage could be provided care in a military facility, or if not feasible, the cost of additional hospitalization in private facilities would be paid by the government.

Your committee wishes to express its appreciation for the work done by Dr. Denver M. Vickers, chairman of the committee until his resignation in September, 1955, when Dr. John C. McClintock was appointed by the Council in his stead. Dr. Ralph E. Isabella was appointed a member of the committee to fill the vacancy caused by the sudden and untimely death of the late Dr. Joseph H. Cornell of Schenectady, whose able counsel will be greatly missed.

The committee wishes to express appreciation to Mr. George P. Farrell and his staff for their cooperation and assistance.

Medical Care Insurance

The Subcommittee on Medical Expense Insurance is composed of the following members:

Carlton E. Wertz, M.D., *Chairman*	Erie
Carl R. Ackerman, M.D.	Bronx
Matthew E. Fairbank, M.D.	Monroe
Arthur F. Gaffney, M.D.	Oneida
Leo E. Gibson, M.D.	Onondaga
C. Otto Lindbeck, M.D.	Chautauqua
Lyle A. Sutton, M.D.	Albany
Mrs. William J. Godfrey, Liason with Woman's Auxiliary	Queens
George P. Farrell, *Adviser*	New York

The subcommittee met on January 12, 1956.

The subcommittee considered a letter addressed to Dr. Renato J. Azzari from Mr. Murray Halpern, 75 Beaver Street, New York 5, referred to it by Dr. Walter P. Anderton. The letter requested approval by the State Society of an accident and health insurance plan for all members of the Medical Society of the State of New York. After due consideration the subcommittee pointed out that a resolution was adopted in the 1954 House of Delegates that, "whatever units of medical organizations in the State of New York above the county level consider group insurance plans, the same must be approved by each individual county society. Societies already having existing plans shall in no way be interfered with, and that when group plans of this type involve any phase of insurance, they should consult with the Bureau of Medical Care Insurance of the Medical Society of the State of New York for information in regard to the advisability of the plan, both as to cost and coverage, and the suitability of the company to provide such coverage."

Motion to reaffirm the action of the House of Delegates at the 1954 Annual Meeting was carried.

Another matter referred to the subcommittee by Dr. Anderton was a brochure of the Professional Mens Association, Inc., of New York which operates a collection and credit loan agency. The subcommittee reviewed a request made by the association of the possible appointment of an Ethics Advisory Board which would pass on their advertising. After reviewing the descriptive brochure on how the plan operates, the subcommittee recommended to refer this back to the Council, that no action be taken.

A third matter referred to the subcommittee was a descriptive brochure issued by the Hebrew Butcher Workers Union, Local 234, which lists a panel of doctors in different locations to whom a member of the union is referred. The members of this union were insured by the United Medical Service of New York. When this matter was called to the attention of United Medical Service, they contended that this brochure was developed without their knowledge, and your subcommittee was informed that United Medical Service would not renew their contract with the union if they would not permit free choice of physician for United Medical Service policyholders. The subcommittee went on record that Blue Shield Plans should be warned to protect themselves adequately against procedures on the part of groups where free choice of physician is not permitted.

The subcommittee reviewed a fee-for-service medical benefit schedule promulgated by District 65, RWSU-CIO, 13 Astor Place, New York 3. The subcommittee recommended that the Council receive a report on this program through the chairman of the Council Committee on Economics.

Dr. Ray Trussell, executive officer of the School of Public Health and Administrative Medicine of Columbia University, presented a progress report on the survey of health insurance for the people of New York State. This survey is being conducted at the request of Senator George R. Metcalf, as approved in a Senate resolution February 9, 1955. The resolution called for a study and report to the Legislature on ways of extending voluntary prepaid insurance to a maximum number of people in New York State. The Legislature committee was authorized to determine gaps in coverage, the impact in relation to government and welfare plans in the State, and a study of special disease problems.

Dr. Trussell referred to a pilot study which has been recently completed in Batavia through the cooperation of its hospitals and the doctors in that area. This study is now being analyzed and a report will be made to the Legislature committee.

Dr. Trussell provided Senator Metcalf with some preliminary information regarding a medical and hospital program for State civil service employes. In their report they emphasized medical care should be on a free choice of physician principle with particular emphasis on service benefits for civil service employes and also the privilege of civil service employes to be able to purchase these benefits after the age of retirement. There have been bills introduced, both in the Senate and Assembly, requesting these benefits through voluntary nonprofit organizations.

It was the feeling of the subcommittee that full cooperation should be extended to Senator George R. Metcalf and his committee.

After hearing Dr. Trussell's report, the subcommittee again reviewed the necessity of a uniform State-wide contract to provide coverage for State and national accounts and was entirely in agreement with the reference committee's report on medical care insurance of last year, wherein they favored a State-wide contract providing a combination of service and indemnity benefits, indemnity being provided above a certain income level.

The subcommittee reviewed the following resolution which was adopted by the New York State Blue Shield Plans at a meeting held December 9, 1955, and is in accord with it.

> Whereas, the public desires complete financial coverage for the services against which they are insured; and
>
> Whereas, the medical profession must decide what it wants to do to meet the needs and demands of the public if it wants the free practice of medicine to continue; and
>
> Whereas, the medical profession can best meet these demands through its own organization of Blue Shield, which must be the Doctors' Plan in fact as well as in name; and
>
> Whereas, controversy has arisen as to relative value of indemnity versus service benefit plans; and
>
> Whereas, Blue Shield does not nor does it desire to force any plan or schedule of fees on the practicing profession; and
>
> Whereas, the establishment of scheduled allowances is controlled by professional policies and the physicians who render the service; and
>
> Whereas, the people living in the area served by United Medical Service, Inc., Northeastern New York Medical Service, Chautauqua Region Medical Service, Inc., Genesee Valley Medical Care, Inc., and Central New York Medical Plan, Inc., are enthusiastically supporting the service benefit feature of Blue Shield; and
>
> Whereas, these Plans serve 85 per cent of the population of New York State; and
>
> Whereas, the medical societies of the counties of these areas have endorsed the service benefit principle; and
>
> Whereas, unless Blue Shield is enabled to write service benefits in all areas of New York State, both Blue Shield and the medical profession will suffer untold loss of prestige; and
>
> Whereas, service benefits to be satisfactory to the public must be at a realistic level, and the scheduled allowances must be satisfactory to the physicians rendering service; and
>
> Whereas, commercial companies and panel plans cannot deliver the services of the vast majority of physicians, such a solution of the problem will inevitably lead to the eventual government control of medicine; therefore be it
>
> *Resolved*, that all Blue Shield Plans be strongly urged to take the necessary steps to institute a $6,000 service ceiling program; and be it further
>
> *Resolved*, that all members of the New York State Medical Society be asked to participate in making the $6,000 service ceiling program successful; and be it further
>
> *Resolved*, that the New York State Medical Society recommend to each county society the activation of this resolution through its representative Blue Shield Plan without undue delay.

Dr. Milton Wolfson, president of the Podiatry Society of the State of New York, requested to appear before the Council of the State Society and was referred to the subcommittee by Dr. W. P. Anderton. Representatives of the Podiatry Society of the State of New York appeared before the subcommittee to request that the Medical Society approve that the services of podiatrists to Blue Shield subscribers be paid for in the same manner as though the services were rendered by duly licensed physicians. Under Article IX-c of the Insurance Law it does permit Blue Shield Plans to pay for this service. However, the Blue Shield Plans have not elected to do so. It is the understanding of the subcommittee that Blue Shield Plans have been approached on this matter by the Podiatry Society, and several county medical societies, through their local Blue Shield Plans, have indicated they are not desirous of having the plans pay podiatrists for benefits provided in Blue Shield contracts.

After hearing the appeal of the representatives of the Podiatry Society, Dr. Wertz pointed out that the State Medical Society cannot dictate policies to Blue Shield Plans. The subcommittee was not in favor of approving any additional benefits in Blue Shield contracts until some statistical information was made available by the podiatrists to the Blue Shield Plans on what the additional cost would be. It was agreed that this information would be made available to the subcommittee before any additional consideration could be given to their request.

Dr. Louis H. Bauer, chairman of the board of United Medical Service, appeared before the subcommittee and asked that they consider a change in the Standards for Approval of New York State Medical Care Plans, under the provision "Claim Payments," paragraph 2, which now reads that "when care has been rendered by a nonparticipating physician and claim filed for such care, payment shall be made direct to the nonparticipating physician or to the subscriber upon presentation of a receipted bill," to read that "when care has been rendered by a nonparticipating physician and claim filed for such care, payment shall be made, at the option of the plan, either to the subscriber or to the nonparticipating physician upon request of the subscriber."

Dr. Bauer feels this change is desirable because Blue Shield Plans owe something to the participating physician who agrees to accept the fee schedule in full payment on the service benefit level and also agrees, in the event a plan is unable to pay claim in full, to accept a proration of fees. Under the present provision in the Standards there is no inducement for a doctor to become a participating physician when the nonparticipating physician has the same privileges.

After discussion motion was carried that Dr. Bauer's suggested change be presented to the Council for approval and recommendation to the House of Delegates at its 1956 meeting.

Your subcommittee, through the Council Committee on Economics, recommends that the Medical Society of the State of New York extend its approval for the ensuing Society year to the following Blue Shield Plans: United Medical Service, Inc., New York City; Western New York Medical Plan, Inc., Buffalo; Genesee Valley Medical Care, Inc., Rochester; Central New York Medical Plan, Inc., Syracuse; Medical and Surgical Care, Inc., Utica; Northeastern New York Medical Service, Inc., Albany; and Chautauqua Region Medical Service, Inc., Jamestown.

Your subcommittee is most appreciative of the cooperation of the State of New York Insurance Department in sending a representative to its meetings.

Your subcommittee wishes to express its thanks to the officers of the State Society and to Dr. Denver M. Vickers, chairman of the Council Committee on Economics, who resigned in September, 1955, to take over an assignment in another state, and to Dr. John C. McClintock, appointed to succeed Dr. Vickers as chairman, for their interest and attendance at meetings.

Mr. George P. Farrell, director of the Bureau of Medical Care Insurance and adviser to your subcommittee, has been of great assistance to the subcommittee.

Bureau of Medical Care Insurance.—The Bureau of Medical Care Insurance, Mr. George P. Farrell, director, reports as follows:

The Bureau operates under the direction of the Council Committee on Economics and its Subcommittee on Medical Expense Insurance. The director has participated in the following activities:

February 15, 1955: Spoke at a special meeting of the Medical Society of the County of Schenectady on problems in relation to the operation of the local Blue Shield Plan and presented a paper on "The Effect Insured Patients Have on the Income of the Doctor" before the junior class of the Albany College of Medicine.

March 1, 1955: Joint meeting of Blue Cross and Blue Shield Plans in New York State (Districts II and III) at the office of Associated Hospital Service, New York, to discuss experience-rated contracts, their philosophy, and effect on local Blue Cross and Blue Shield Plans. It was pointed out that Associated Hospital Service has been writing this type of contract for the past several years in order to meet the demands of unions and other groups where there was commercial competition. Blue Cross has enrolled approximately 400,000 people in this type of contract and Blue Shield approximately 300,000. It was also pointed out that several State-wide groups were requesting experience-rated contracts, and practically all plans agreed to present this problem to their respective boards for consideration.

March 18 and 19, 1955: Blue Shield Commission meeting in Chicago and the Annual Conference of Blue Shield Plans, March 20 to 24, 1955.

One of the highlights of the conference was the approval of an advertising program in practically all prominent magazines. It was recommended that each plan be assessed $^{15}/_{100}$ of 1 per cent from its 1954 earned premium income to finance the national advertising program.

The extended health benefits program was discussed, and it was recommended that the committee continue studying this program and assist individual plans in the development of an extended health benefits program if they so desired.

The following resolutions were adopted by the Conference of Plans to acquaint the medical profession with the fundamental purposes of Blue Shield Plans:

> WHEREAS, Blue Shield was organized as an effort of the medical profession to render medical care to the public in the low and middle income groups at a price it could afford to pay; and
>
> WHEREAS, the public desires more complete financial coverage for the services against which they are insured; and
>
> WHEREAS, much controversy has arisen as to the relative value of indemnity versus service benefit plans; and
>
> WHEREAS, the medical profession is not fully aware of the functioning of Blue Shield and of the merits and demerits of indemnity and service plans; and
>
> WHEREAS, service benefits to be satisfactory to the public must be at a realistic level and the fee schedules of such plans must be satisfactory to the physicians rendering the service; and
>
> WHEREAS, Blue Shield has no desire or intention to enforce any plan or schedule of fees on the practicing profession since the practicing physicians must and should control Blue Shield and the arrangement of the fee schedules and control the professional policies under which physicians will render their services; and
>
> WHEREAS, the medical profession must decide what it wants to do to meet the needs and demands of the public if it wants the free practice of medicine to continue; and
>
> WHEREAS, the profession can best meet these needs and demands through their own organization of Blue Shield, which must be the Doctors' Plan in fact as well as in name; and
>
> WHEREAS, to keep the practice of medicine based on the principle of free choice of doctor and on a high level of personal doctor-patient relationship requires some sacrifices by the medical profession in order to meet competition from closed panel plans, commercial insurance plans, and to fulfill the demands of the public; and
>
> WHEREAS, wherever the medical profession has kept faith with the public and observed the principles on which Blue Shield was founded, other types of plans are less likely to succeed; and
>
> WHEREAS, Medical Indemnity of America and Health Service were established to make possible the writing of national contracts; and
>
> WHEREAS, these organizations have not been successful in writing such contracts because it is impossible to write national enrollments until a uniform benefit of some nature is agreed upon and because some plans are unable to take part in such national plans until this is accomplished; and
>
> WHEREAS, unless Blue Shield is enabled to write national contracts in the very near future, both Blue Shield and the medical profession will suffer tremendous loss of prestige; and
>
> WHEREAS, if Blue Shield fails to write these contracts, commercial insurance companies and panel plans, over which the medical profession has no control, will write such coverage; and
>
> WHEREAS, since commercial companies and panel plans cannot deliver the services of the vast majority of physicians, such a solution of the problem will inevitably lead to eventual government control of medicine; therefore be it
>
> *Resolved*, that these opinions be reported to all Blue Shield Plans and that they be urged to enter into an intensive campaign of professional relations among the local members of the medical profession, in cooperation with the sponsoring medical societies, to acquaint physicians with the problems of the medical profession in continuing the free practice of medicine.

> WHEREAS, in the underwriting of interstate accounts, difficulty is constantly encountered due to the variations in the benefits offered by local Plans; therefore be it
>
> *Resolved*, that all Plans be urged to unite in developing a uniform type of contract so far as the nature of the benefits is concerned.

May 9 to 12, 1955: Annual Meeting of the Medical Society of the State of New York at the Statler Hotel, Buffalo. The Bureau displayed graphs on the progress of New York State Blue Shield plans, showing growth in membership and benefits paid to doctors from 1940 through 1954. Descriptive literature on all plans was distributed as well as the annual financial progress report. Your director appeared before the Reference Committee, Council Part VII, Medical Care Insurance, and attended the Public Relations Session, May 12, 1955.

May 17, 1955: Spoke before a stated meeting of the Medical Society of the County of Rockland at Pomona, New York, on "The Semi-Private and New Family-Doctor Plan" offered by Group Health Insurance, Inc.

June 4, 1955: Ninth annual meeting of the Medical Society Executives Conference and the third Annual Medical Civil Defense Conference in Atlantic City.

June 5, 1955: Annual Meeting of the Conference of Presidents and Other Officers of State Medical Associations in Atlantic City and the annual meeting of the American Medical Association, June 6 to 9, 1955, at the Traymore Hotel, Atlantic City.

July 7, 1955: Meeting with Dr. Peter F. Birkel of the New York State Department of Social Welfare in regard to the completion of a standard schedule of allowances being prepared for the different State departments and Dr. Theodore J. Curphey.

Conference with Mr. Ralph Hammersley, executive director of Northeastern New York Medical Service, Albany, in regard to a communication from the Dental Society of the State of New York to Mr. Raymond Harris, Deputy Superintendent of Insurance, for an interpretation of Section 250 of the Insurance Law on the extent dental care can be provided through duly licensed dentists for medical expense indemnity; also consulted with the late Mr. Charles A. Voss, legal counsel of United Medical Service, and Dr. Harold B. Smith, executive officer of the Medical Society of the State of New York, on this matter.

August 5, 1955: Meeting with Blue Shield Plan presidents and executive directors at the office of United Medical Service at which time a preliminary outline was suggested to provide Blue Cross and Blue Shield benefits for New York State civil service employes.

August 14, 1955: Meeting with the late Judge

Voss, Dr. Dwight Needham, and Dr. Harold Smith, with the executive committee of the Dental Society of the State of New York, to discuss inclusion of dental care provided through duly licensed dentists in Blue Shield contracts (Section 250 of the Insurance Law). It was pointed out by Blue Shield representatives that an actuarial study would be necessary to determine the impact regarding utilization in Blue Shield plans. Representatives of the dental group were hopeful the matter could be settled in the near future.

August 16, 1955: Meeting with Dr. Merle Evans, chairman of District III of Blue Shield Plans, to discuss action which might be taken regarding the Dental Society's request.

District Branch Meetings: Second, Third, Eighth, and Seventh during the month of September. October 26, 1955, in Elmira, acted as moderator of a panel discussion on medical care insurance at the Sixth District Branch meeting. Discussants were Drs. Henry B. Marshall, C. Franklin Sornberger, William F. Tague, and Mr. John Clancy who substituted for Dr. Leo P. Larkin. Approximately 20 people attended, and a great deal of interest was shown in the program. The district branches extended your director the privilege of displaying graphs showing the progress of the Blue Shield Plans and of distributing literature on the plans. An opportunity to speak briefly at all meetings on the progress of the plans serving each district was extended to your director.

October 4, 1955: Presented a paper on "Voluntary Health Insurance in Action" at the Ninth Annual Conference of the Woman's Auxiliary to the Medical Society of the State of New York, in Poughkeepsie.

October 5, 1955: Conference of New York State Blue Shield Plans in New York, at which time a uniform State-wide contract for New York State civil service employes was discussed. The following day at a joint Blue Cross-Blue Shield Conference the same matter was discussed and consideration given to the offering of a program providing catastrophic medical care coverage.

October 8, 1955: Public Relations Conference of the State Society at the Biltmore Hotel, New York.

October 10, 1955: Conference with Dr. Ray Trussell, executive officer of the School of Public Health and Administrative Medicine of Columbia University, on the invitation of Dr. W. P. Anderton.

Dr. Trussell and his staff are conducting a survey for Senator George R. Metcalf to determine to what extent people in New York State have purchased voluntary health insurance and how it can be extended to the maximum number of people. Since this meeting the Bureau has had several opportunities to assist Dr. Trussell and his staff by furnishing information pertinent to the survey.

October 27, 1955: Meeting of the Blue Shield Commission and the Medical Society Executives Conference in Boston; a Public Relations Conference of the A.M.A. at the Statler Hotel, Boston, November 28, 1955; also the interim session of the American Medical Association House of Delegates, November 29 to December 1, 1955, in Boston.

October 29, 1955: Regional Legislative Conference of the American Medical Association, and October 30, 1955, the Medico-Legal Symposium of the American Medical Association at the Statler Hotel, New York City.

December 9, 1955: Meeting called by Dr. Merle D. Evans, chairman of District III of Blue Shield Plans, in Rochester, to discuss enrollment of the State civil service employes in a uniform State-wide contract and the progress of plans to date in offering this program on a service basis. Also discussed was coverage provided by Blue Shield plans for dental care. A determination of the extent this service will be provided is being requested by the Dental Society of the State of New York. Type and extent of coverage requested by the Dental Society was not clearly defined as to whether coverage would be provided for hospitalized cases only or in the office or would involve coverage for anesthesia and x-ray. Because of the many doubtful phases concerning this question, it was the consensus that any attempt to arrive at a conclusion at this time would be premature and without proper foundation.

It was recommended, therefore, that the problem of providing dental care in Blue Shield contracts be referred back to the dental committee for further deliberation and recommendation.

December 19, 1955: Met with Dr. Theodore J. Curphey to review a completed comparison of fees now paid by the Departments of Health, Social Welfare, Workmen's Compensation, and Rehabilitation, as outlined under a standard nomenclature of procedures with unified codification. Completion of this comparison will enable representatives of the State Society to review quickly the variations in fees now being paid by the State departments for the same medical procedure, and a great deal of time will be saved by using this standard approach in future deliberations.

January 12, 1956: Meeting of the Subcommittee on Medical Expense Insurance, as adviser, held at United Medical Service, 2 Park Avenue, New York City.

January 28, 1956: Meeting of the Council Committee on Economics, Albany, on the invitation of Dr. John C. McClintock, chairman.

PROGRESS REPORTS.—Quarterly progress reports on the Blue Shield Plans approved by the Medical Society of the State of New York have been presented to the Council, mailed to plan presidents, executive directors, secretaries of component county medical societies, and others interested in medical care insurance. Reports in part have been published in the NEW YORK STATE JOURNAL OF MEDICINE.

The Bureau compiled the Ninth Annual Progress Report for 1954, showing detailed analysis of each plan in regard to membership, incurred and paid claims, claim incidence, operating expenses, premium rates, reserves, cancellation studies, distribution of earned premium income, etc., for the information of the House of Delegates and members of the State Society. These reports were included in the material distributed at the Bureau's exhibit at the 1955 Annual Meeting.

Progress of the Blue Shield Plans in New York State shows that at December 31, 1955, total membership (subscribers and dependents) was 5,492,871, an increase of 625,578.

The following is a statement of membership in Blue Shield medical care plans and Blue Cross hospital plans, showing comparative increases for 1955:

Location	*Membership*		*Increase*	
	Medical	Hospital	Medical	Hospital
New York	3,949,178	6,168,968	469,695	410,211
Buffalo	564,828	700,490	77,043	10,694
Rochester	371,166	467,886	29,840	12,443
Syracuse	169,064	370,841	25,792	−47
Utica	189,905	200,836	7,096	−317
Albany	229,049	323,082	13,754	669
Jamestown	19,681	51,359	2,358	2,779
Watertown	....	24,688	....	944
TOTAL	5,492,871	8,308,150	625,578	437,376

Note: Utica Plan serves Watertown area for Blue Shield members.

The Blue Shield Medical Care Plans had an earned premium income during 1955 of $56,364,382, as compared to $49,214,497 in 1954, an increase of $7,149,885.

Incurred claims during 1955 amounted to $42,274,367 as compared to $35,093,877 during 1954, an increase of $7,180,490. Incurred claims were 75 per cent of earned premium income in 1955, as compared to 71.31 per cent in 1954.

Both the annual and quarterly progress reports are of great value to each plan because they analyze each plan's experience and indicate trends in utilization. It is recommended that they be reviewed carefully by those who are responsible for a plan's operation. The basic information in these reports is published for the information of members in the NEW YORK STATE JOURNAL OF MEDICINE.

The Tenth Annual Progress Report for 1955 will be available for the House of Delegates and members of the Society at the 1956 Annual Meeting.

An article on "The Development of Voluntary Nonprofit Medical Care Insurance Plans in New York State" was written by your director and published in the May 1, 1955, issue of the NEW YORK STATE JOURNAL OF MEDICINE.

Your director extends thanks to Dr. Denver M. Vickers and Dr. John C. McClintock, chairmen of the Council Committee on Economics, and to Dr. Carlton E. Wertz, chairman, and members of the Subcommittee on Medical Expense Insurance for their thoughtful support and cooperation.

Your director wishes to express appreciation to Mrs. Alice Arana for her loyal and efficient services to the Bureau.

Public Medical Care

The Subcommittee on Public Medical Care of the Council Committee on Economics is composed of the following:

Scott Lord Smith, M.D., *Chairman*	Dutchess
William G. Childress, M.D.	Westchester
William E. Gazeley, M.D.	Schenectady
Charles D. Post, M.D.	Onondaga
Roswell L. Schmitt, M.D.	Orange

During the year your subcommittee has maintained close contact with the Department of Social Welfare of New York State. This satisfactory result has been obtained by contacts with the committee members personally, the State Department of Social Welfare, and the New York Public Welfare Association.

We can report to the House that in response to its mandate the interval for reporting requests for physicians to care for welfare cases has been lengthened from forty-eight hours to five days.

We can report similar result in the granting of the requested increase of remuneration to physicians treating welfare clients to a definite proportion to the workmen's compensation and the implementation for obtaining the money.

The subcommittee also reports the addition of night calls and a few other fringe benefits.

The subcommittee convened for its regular winter meeting in Albany on December 14, 1955, at the office of the New York State Department of Social Welfare. Present were the chairman, members of the subcommittee, Dr. John C. McClintock, chairman of the Economics Committee; Dr. W. P. Anderton, secretary; Dr. I. Jay Brightman and various members of his staff; also Mr. Roger Butts of the New York Public Welfare Association.

The meeting began with a discussion of medical records of welfare cases which brought out the fact that all present felt that adequate medical histories will provide more usable information and will make for better use of medical services and probably lessen the cost of medical care. Among many other subjects discussed were the following:

1. The Medical Care Manual: Its nearness to completion and the form it should take.
2. Free choice of physician-anesthetist in Broome County: Dr. Brightman pointed out that without further inquiry, it was difficult to appraise this situation clearly since it is probably tied in with the all-inclusive per diem hospital rates established by this department. The motion was made and carried to turn the material over to Dr. Brightman in order that he might look into the merits of the situation and report back to the committee at a subsequent meeting.
3. Anesthetists in the City of Elmira: Problem of paying anesthetists' fees even though surgeons are not paid for their treatment of service cases. The group felt that they could not provide preferential treatment for anesthetists.
4. Resolution of the Madison County Medical Society: Refusal of county welfare department to honor payment for immunization of county patients by private physicians and refusal to honor payment for work done for county patients by private physicians wherever State facilities are available in the vicinity. It was pointed out that clinics are a resource supported by tax funds and should be used where available. Dr. Brightman agreed to investigate the situation and report the facts at a subsequent meeting.
5. Podiatry Services: It was the sense of the

meeting that the podiatrists' schedule be left as is it at present.

6. Problems referable to the provision of orthoptic training to welfare recipients: It was the sense of the meeting that the regulations governing orthoptic technicians should be held in abeyance.

7. Discussion of role of county medical society in regard to physicians abusing the welfare medical program, with particular reference to the recent situation in Westchester County: Solution of the above was not pursued further because the Medical Society of Westchester County had not taken specific action in view of their inability to investigate the charges fully. It was made clear, however, that this committee does not sanction or condone such alleged abuses and requests that in the future such charges be referred to the subcommittee before final action is taken.

8. Increase in medical costs was noted: Dr. Brightman indicated that there has been a six or sevenfold increase in costs of providing medical care among welfare patients. There are various explanations to account for this—such as hospital costs have increased, physicians' costs have not increased, drugs have increased—but in themselves cannot account for this rise. Nursing home costs are not included in these figures. There was some feeling in the subcommittee that perhaps welfare is being confronted with a different type of recipient than has been provided for heretofore. Perhaps, for example, in Old Age Assistance the applicant is a more elderly type of patient than has been encountered heretofore, and conceivably more intensive medical care is needed to provide for him adequately.

9. Old Age and Survivors Insurance Disability Freeze Program: Dr. Brightman indicated that the personnel to handle the OASI Disability Freeze Program has been placed in the New York City area office. The current estimates were that there will be approximately 30,000 cases per year becoming eligible for the benefits of this program. Dr. William Childress, a member of the subcommittee, has begun work on the details of this program.

10. New York State Rehabilitation Hospital Project: It was indicated that this had gotten off to a rather slow start but was now progressing more in line with what had been expected.

11. Immunization with poliomyelitis vaccine among children on public assistance: It was indicated that this is a field in which the medical societies should get together and offer some concrete suggestions at the next meeting. It was felt that the question of fees for the inoculations would have an important bearing on the relationships between the physicians and the local public welfare districts, for if doctors' fees are considered too high, the districts would possibly consider the possibility of establishing clinics for the inoculation procedures.

12. Fee schedules for eyeglasses and eye examinations: Dr. Brightman referred to the attention of the subcommittee a communication received from an ophthalmologist requesting higher fees for refractions. The present fee is $5.00. The ophthalmologist requested an increase to $7.50 for adults and $10 for children. It is the opinion of the subcommittee that the current fee of $5.00 is a reasonable fee for welfare patients in relation to the total welfare fee schedule.

PART VIII

Woman's Auxiliary

The Council Advisory Committee to the Woman's Auxiliary consists of the following:

Dan Mellen, M.D., Chairman............Oneida
Thomas M. d'Angelo, M.D..............Queens
Harry I. Norton, M.D..................Monroe

Determined as it is to increase its usefulness to the Medical Society of the State of New York, the Woman's Auxiliary began its year by planning and staging a most attractive and interesting exhibit at the State Fair. Fair authorities found the booth so crowded by visitors that they had several photographs taken of the crowds constantly seeking admission. The secret of the booth's success was not only its offering to visitors a chance to view some of the latest health films, but the fact that the films were those in which public interest was at its peak.

The Fall Conference held in Poughkeepsie in October highlighted "Auxiliary programs with three age groups." In line with this plan the conference included discussions on "GEMS" (Good Emergency Mother Substitutes or Babysitters Training Programs), Future Nurse Clubs for the teen-age groups; Home and Child Safety for the Homemaker; and Problems of the Aging for our senior citizens. A special feature of the conference was a panel discussion by four members of the Vassar College faculty on "Leadership." The interest and enthusiasm demonstrated by the doctors' wives who attended from almost every section of the State bids well for the future of medicine.

This year the Auxiliary organized a special committee within its legislation committee to study and to prepare in every way possible to assist the county and State legislation committees. The chairman sent several communications to county presidents and to district and county legislation chairmen containing recommended legislative programs of interest and concern to the medical profession. During the legislative session the Auxiliary stood ready to assist in helping to focus public attention on the grave threat that the chiropractic and several other bills then pending in our State and National Legislatures presented to the advancement of medical progress.

The Fourth Annual Health Poster Contest began with the opening of schools in the fall. Approximately the same number of counties took part as did last year. The contest continues to attract much favorable publicity, both in the local and State press, and the enthusiasm of the children is something in which every physician can take pride.

Two projects on which the Auxiliary spent much time and effort are mental health and problems of the aging. Like all pioneers the Auxiliary members worked hard but have little to show, not because of any lack of ingenuity or energy, but primarily because of their great desire to be able to suggest a program that will not only meet a public need and supplement the physicians' efforts in these fields, but also capture the imagination and earn the cooperation of all other persons interested.

Another and most timely project on which the editorial staff of the *Distaff* has been active for some time is the Twentieth Anniversary Issue to mark the Auxiliary's anniversary. Since this will have been published by the time you read this report, we feel certain that what you read will have pleased you.

Like most other members of the Advisory Committee, your chairman was not too intimately acquainted with the work of our Auxiliary. As president of the State Society, he had often heard many nice things about it. After having sat in its counsels for a year and listened to the intensity and scope of the energies its members employ and are prepared to employ whenever they are called upon to assist our profession, I wonder not so much how it grew to be such a strong auxiliary to medicine, particularly in the fields of economics, legislation, and public relations, but rather how our Society made any progress in these fields during the one hundred and thirty years before the Auxiliary joined our ranks.

To help you to understand better how active the ladies are, we shall list just a few of the activities our Auxiliary president participated in before the end of January. Included in Mrs. Zadek's busy schedule were attendance at eight district meetings of the Auxiliary, seven district meetings of our State Society, 33 Auxiliary meetings and conferences, the three-day Fall Conference at Poughkeepsie, the three-day National Conference at Chicago, and three days at the State Fair in Syracuse.

There are many other activities, programs, projects, and plans of the Auxiliary, such as the publication of the *Ladder*, its efforts to curtail the cost of its operations, and the splendid programs of the individual county auxiliaries, of which the Advisory Committee is aware, but the limitations of space keep us from describing these in detail.

In summary, we should like to take this opportunity to thank Mrs. Isadore Zadek, of Westchester, and, through her, every officer and member of the Auxiliary for the great work they have done for medicine throughout the year. We should also like to say "thank you" to Mrs. John N. Dill, editor of the *Distaff*, and to Mrs. Arthur F. Holding, treasurer, and, through Mrs. Dill and Mrs. Holding, to every other Auxiliary chairman for the countless hours they devote, in the quiet of their homes, to helping promote a better understanding of medicine's objectives by the public and the understanding by the profession of the public's needs.

PART IX

Legislation

The Council Committee on Legislation has the following membership:

Henry I. Fineberg, M.D., *Chairman*	Queens
James A. Lynch, M.D., *Vice-Chairman*	Bronx
Jurgens H. Bauer, M.D.	Onondaga
John C. Brady, M.D.	Erie
E. Yale Clarke, M.D.	Warren
Elton R. Dickson, M.D.	Broome
Frederic W. Holcomb, M.D.	Ulster
George A. Howley, M.D.	Bronx
Henry W. Kaessler, M.D.	Westchester
Aaron Kottler, M.D.	Kings
George J. Lawrence, Jr., M.D.	Queens
Jacob L. Lochner, Jr., M.D.	Albany
Herbert Pollack, M.D.	New York
Herman B. Snow, M.D.	St. Lawrence
Edwin MacD. Stanton, M.D.	Schenectady
Theodore B. Steinhausen, M.D.	Monroe
Joseph G. Zimring, M.D.	Nassau

This, of necessity, can only be a progress report. Thus far (up until January 28), the legislative activity in Albany has not been dramatic. Various bills concerned with medicine and health have been introduced, but no definite trend in any one direction is as yet noticeable. We expect additional bills related to our profession to appear as the session continues, and the usual hustle and bustle of our legislators will become more intense as the Legislature approaches adjournment. The important proceedings of the Senate and Assembly and the final results of their deliberations will be made known to the House of Delegates in a supplementary report.

Last June the Council Committee on Legislation received instructions from the House of Delegates, through the Council, to study and sponsor the following legislation:

1. Revision of present autopsy law.
2. Changes in the Workmen's Compensation Law:

(*a*) To arbitrate disputed medical bills in the county in which the medical service was rendered rather than in the county in which the claimant resides.

(*b*) To create panels of specialists for evaluation of workmen's compensation cases.

(*c*) To amend Section 13-c 2, which restricts x-ray examinations to specialists in x-ray only, disregarding general practitioners and other specialists who properly use x-rays within the limits of their qualifications and specialty.

(*d*) To amend Section 10-a of the Labor Law and the Workmen's Compensation Law to give the Medical Appeals Unit full power in appeals rather than advisory power only.

(*e*) To introduce a bill which would abolish Medical Practice Committees in counties with a population over a million and restore the functions of these committees to the county medical society compensation committees.

3. Amendment to the Medical Practice Act which would add to the forbidden list of advertising: television, newspapers, and other media.

We were also instructed to evaluate the problem created by "books written by physicians and purporting to have been published in the interest of medical science" which "are being freely advertised to the general public throughout this State, by the publishers, in such manner as to appeal to lewd and lecherous curiosity rather than scientific study."

The new chairman of the Council Committee on Legislation was very fortunate in being thoroughly briefed by the previous chairman on what had taken place in the legislative field during the past few years, with the idea that there should be a continuity of procedures and action between the old and new committees.

In accordance with a precedent established a year ago, the State was divided into nine areas, which take into consideration the distribution of senatorial districts and do not coincide with our district branches.

During the months of August and September the executive officer and the chairman of the committee toured the State. Nine cities were visited: Glens Falls, Long Beach, New York City, Ogdensburg, Canandaigua, Syracuse, Buffalo, Kingston, and White Plains. In each of these we met with one or more members of the Council Committee on Legislation and county medical society legislation chairmen and discussed our proposed program in detail. The conferences were conducted on an informal basis, and the participants were encouraged to transmit to us any opinions, recommendations, and comments they might have. We attempted to create a feeling among the local representatives that they should play an important part in our planning and that there should be a close liaison between them and the State Society committee.

Fifty-six persons attended these meetings, 34 of whom were county legislation chairmen. We were also honored by the presence of two county society presidents, the chairman of the Council Committee on Public Relations, and a number of executive secretaries. In White Plains three members of the Assembly appeared and added zest to our discussion.

In October the Council authorized the establishment of subcommittees (1) to study the laws relating to the dead body and the revision of the autopsy law, (2) to reconsider the bill that would license psychologists, and (3) to investigate and study the problem of obscene medical literature.

The Committee on Legislation met in New York City on the evening of October 28. Fourteen members of the committee, the president of our Society, the secretary, our executive officer, the legal counsels of the Society and the Legislation Bureau, the chairman of the Council Committee on Workmen's Compensation, the director of the Workmen's Compensation Bureau, and the director of the Public and Professional Relations Bureau attended. Taking into consideration our deliberations throughout the State, the committee agreed that the following bills should be introduced in the Legislature and that we should work vigorously for their passage:

1. **Workmen's Compensation**—(*a*) Abolition of medical practice committee: Section 13 b-c-d-e-f of Workmen's Compensation Law, in part, establish a system whereunder in New York, Kings, Bronx, and Queens Counties recommendations for specialty ratings for physicians under the Workmen's Compensation Law are made and arbitration of claims for medical fees are conducted by a medical practice committee consisting of three physicians appointed by the chairman of the Workmen's Compensation Board. In other counties recommendations for ratings are made by the respective county medical societies or a board thereof, and fee arbitrations are conducted by "an arbitration committee consisting of two physicians designated by the president of the medical society of the county in which the claimant resides, two physicians who are members of the Medical Society of the State of New York, appointed by the employer or carrier, and one physician, also a member of the Medical Society of the State of New York, appointed by the chairman (of the Workmen's Compensation Board)." The Medical Society proposes the abolition of the special system established for the counties of the State having a population of one million or more.

It was pointed out that Erie and Nassau Counties are rapidly approaching populations of one million.

(*b*) Change of place of arbitration of medical fees: Subdivision 2 of section 13-g of the Workmen's Compensation Law provides that controverted medical fee claims shall be arbitrated by the medical practice committee or arbitration committee of the county in which the claimant resides. The Medical Society bill would have the hearing before the committee of the county in which the medical services were rendered.

(*c*) Establishment of panels of specialists for evaluation of workmen's compensation cases: Paragraph (d) of Section 13 of the Workmen's Compensation Law in part provides, "The chairman (of the Workmen's Compensation Board) may in his discretion designate physicians of outstanding qualifications in such fields of medicine as he deems essential in order to ascertain the diagnosis, the causal relationship between the alleged injury and the subsequent disability, the type of medical care and operative procedure requisite in particular cases where such matters are not readily determinable by the regularly employed medical examiners of the Board." The House of Delegates adopted a report which recommended that consideration be given to amending the law to *require*, instead of permit, the chairman to establish such a panel. The report further recommended that the members of such panels be selected with the advice and cooperation of the president of the Medical Society of the State of New York.

(*d*) Appellate rather than advisory role for Medical Appeals Unit: Section 13-aa of the Workmen's Compensation Law provides for the appointment by the Governor of a Medical Appeals Unit consisting of three physicians and further provides that its decisions and recommendations shall be advisory to the chairman (of the Workmen's Compensation Board) and shall not be binding or conclusive upon the chairman. The Medical Society proposes that the Medical Appeals Unit have real appellate jurisdiction and power and that its decisions be binding upon the chairman.

2. Amendment to Autopsy Law—Subdivision 3 of Section 4210 of the Public Health Law requires that a husband or wife give consent for an autopsy, and if there is neither husband nor wife, consent must be given by the "next of kin of the deceased being charged by law with the duty of burial." The quoted phrase is interpreted by most lawyers to mean that where there is more than one next of kin, all must give their consent for autopsy. The amendment which the Medical Society proposes adds the language *"or if there be more than one next of kin, then whenever any one of them, acting on behalf of all the next of kin* may authorize dissection..." (new material in italics).

This matter was also referred to the special subcommittee for additional study.

3. Amendment to Medical Practice Act—Paragraph (d) of Subdivision 2 of Section 6514 of the Education Law makes it grounds for the revocation, suspension, or annulment of a physician's license or registration "that he had advertised for patronage by means of handbills, posters, circulars, letters, stereopticon slides, motion pictures, radio or magazines." The amendment proposed by the Medical Society would add to the list advertising by means of television, newspapers, or other media.

4. Municipal intern indemnity bill—Section 50-d of the General Municipal Law provides for the indemnification against damages for malpractice of physicians rendering services gratuitously in municipal hospitals. Where a physician receives a salary or other compensation, no matter how small, the section affords him no protection. This particularly works a hardship on and discriminates against interns and resident physicians who receive only nominal salaries and need the protection more than other physicians do, because they generally can neither afford to purchase such protection nor obtain it in the insurance market. The Medical Society of the State of New York has proposed that the protection of Section 50-d be extended to any resident physician, intern, or any other physician or dentist rendering medical services or dental services of any kind to a person without receiving compensation from such person.

5. Injunction bill: The Medical Practice Act provides criminal punishment for violation of its provisions by unlicensed persons, but such provisions have not proved to be an adequate deterrent to repeated violations of the Act. The Medical Society has proposed during several years past that the Medical Practice Act also provide for the issuance of injunctions to restrain violations of the Act's provisions. Injunctive relief would be a valuable adjunct to the present enforcement machinery in that it would provide for the continued supervision of the violators by the courts.

6. Medical care insurance—(*a*) Free choice of physician: an amendment to the insurance law, so that prepayment medical care plans must allow free choice of physician or dentist.

(*b*) Free choice of plan: an amendment to the insurance law to allow choice of plan to subscribers, part or all of whose premiums for medical expense or hospital service are paid by a municipality.

It was decided that although these bills will be supported in Albany, the major battle will be fought in New York City where they are more pertinent.

The committee approved a bill, which will be presented by the New York State Health Officers' Association, to increase the compensation of local health officers.

The committee approved, in principle, any bill which will be introduced to prevent the practice of medicine by hospitals, similar to the Friedman bill of previous years.

An amendment to the Workmen's Compensation Law, which would make it possible for practitioners other than roentgenologists to be compensated for x-ray work within their competence, was thoroughly discussed. This had been referred to the Committee on Legislation by the House of Delegates. However, because of the opinions registered throughout the State at the regional meetings with county legislation chairmen and after careful consideration, the committee voted that we recommend no action this year and that a status quo be maintained. This decision had also been approved by the chairman of the Council Committee on Workmen's Compensation and the director of the Bureau of Workmen's Compensation.

According to a letter received from the State Charities Aid Association, a bill calling for a Commission to Study Licensure in the Healing Arts will probably be introduced. After some deliberation it was voted that we take no part in this activity, especially in view of the experience we have had with this proposed legislation in the past.

A suggested law that would license psychologists was not endorsed, mainly because it contained no definition of the practice of psychology. The counsel of our Society was of the opinion that the proposed legislation, as constituted, "will lead to definite confusion as to the scope of work a licensed psychologist can undertake and in all probability will lead to encroachment on the practice of medicine." This matter was referred to the special subcommittee appointed to meet with the psychologists.

The committee voted to oppose strongly the following bills, should they be introduced:

1. An amendment to the Workmen's Compensation Law which would establish rehabilitation clinics. This bill is unnecessary. It has been pointed out that employers and insurance carriers are not taking advantage of present opportunities for rehabilitation under the law.

2. The licensing of chiropractors, naturopaths, bioanalysts, x-ray technicians, etc.

3. An amendment to the Education Law which would establish a State Board of Physiotherapy Examiners. The "basic concept of the original licensing law was that physiotherapists should function as auxiliaries to, and under the supervision of, the medical profession." The examination, licensing, and discipline should remain with the medical examining board and grievance committee.

4. Proprietary Medicine Bill; an amendment which would liberalize the sale of certain potentially dangerous medications without proper supervision.
5. An amendment to the Education Law permitting the sale of magnifying spectacles in any store without prescription.
6. An amendment to the Education Law to allow unlicensed interns and residents, holding certificates of eligibility to take the licensing examination, to practice in proprietary hospitals.

This entire program was approved by the Council at its meeting on November 10.

Suggested Law to License Psychologists.—A meeting of the executive committee of the Council Committee on Legislation was held in New York City on November 22, 1955, in order to review the suggested law to license psychologists. Also present were Dr. W. P. Anderton, secretary of the Medical Society of the State of New York; Mr. Richard Burns, counsel; Drs. Curtis T. Prout, Irving J. Sands, Samuel Parker, Harold Merwarth, and Matthew Brody, representing the New York Society for Clinical Psychiatry; and Drs. Stuart W. Cook, Raymond A. Katzell, and Harry Bone of the New York State Psychological Association.

It was pointed out that a proposed law to license psychologists had been opposed by the legal counsel of the State Society because it contained no satisfactory definition of the practice of psychology and would lead to encroachments on the practice of medicine.

After considerable discussion no definite conclusions were reached, and the entire matter was referred to Dr. James A. Lynch, vice-chairman of our committee, who was instructed to conduct further meetings in an effort to arrive at a definition of the practice of psychology and to propose changes in the bill for licensure or perhaps certification.

Several such conferences have been held, but as of this date the problem is still unsolved. Although the psychologists have agreed among themselves on a certification bill with definite limitations that would prevent psychologists from practicing medicine, the State Education Department is insisting that the bill should be one of licensure.

Amendment to Autopsy Law.—A subcommittee to study and report on an amendment to the autopsy law and the laws governing dead bodies in general met in New York City on December 6. Besides the members of the subcommittee, the following persons attended: Dr. W. P. Anderton, secretary (ex officio); Dr. Harold B. Smith, executive officer; Dr. Alfred Angrist, pathologist, Albert Einstein School of Medicine; Dr. Victoria A. Bradess, pathologist, Grasslands Hospital, Valhalla; Dr. John J. Clemmer, pathologist and member of the State Board of Medical Examiners, Albany; Dr. Theodore J. Curphey, pathologist and member of the Council, Garden City; Dr. John W. Pickren, pathologist, Roswell Park Memorial Institute, Buffalo; Dr. I. Jay Brightman, Assistant Commissioner (Health), State Department of Social Welfare; Dr. John V. Connorton, executive director, Greater New York Hospital Association; Dr. H. O. Elftman, associate professor of anatomy, Columbia University; Dr. Milton Helpern, Chief Medical Examiner, New York City, and Mr. Emanuel Hayt, counsel to the New York State Hospital Association.

The present autopsy law of New York and the laws in other states were reviewed. After much discussion it was agreed that we should approve for introduction in the Legislature the same bill that was presented at the session in 1955 (the provisions of this proposed legislation are noted above).

The opinion was expressed that in order to overcome the opposition of the religious belief which was responsible for the failure of the bill to pass a year ago, an educational program be conducted for the clergymen and legislators. Evidence is available to substantiate the fact that the performance of autopsies is not contrary to the concepts of the major religious persuasions.

It was also decided that the question of autopsies and laws governing the dead body in general be further reviewed by a special subcommittee which should meet with a similar group designated by the Greater New York Hospital Association. This committee will consist of Dr. Aaron Kottler, a member of the Council Committee on Legislation; Dr. Harold B. Smith, executive officer; Drs. Alfred A. Angrist and John J. Clemmer; and Mr. Hayt and Mr. George Goodstein, counsel to the Metropolitan Funeral Directors Association, New York City.

It was felt that the problem of cadavers for medical schools and other related matters should be studied by Drs. Harold B. Smith and I. Jay Brightman, who will consult the two chairmen of the New York State Anatomical Committee, Dr. J. M. Wolfe of the Albany Medical College and Dr. Jerome Parnell of the State University of New York College of Medicine at New York City, who represent the upstate and downstate areas, respectively.

Abolition of Medical Practice Committee.—At a meeting of the Council on January 12 a letter from Dr. Walter S. Walls, president of the Medical Society of the County of Erie, was reported. It appears that the population of Erie County will soon reach the million mark, and the physicians in this area are vitally interest in "our bill" which provides for the abolition of the Medical Practice Committee in counties with over a million people.

Dr. Walls recommended that should this bill fail to pass, it would be wise to support an amendment which would make it *permissive* rather than mandatory for the chairman of the Workmen's Compensation Board to appoint a Medical Practice Committee in counties where there are more than a million people. This amendment would simply involve changing the word "shall" to "may" in the opening sentence of Section 13-b, paragraph 1, of the Workmen's Compensation Law. In this way the counties of Erie and Nassau might benefit. The recommendation was approved.

Amendment of Section 6512 of Education Law.—In October, 1955, the Council approved a recommendation of the Committee on Medical

Licensure and Medical Service that paragraph b of subdivision 1 of Section 6512 of the Education Law (in relation to the practice of medicine by resident physicians in hospital) be amended by adding the following final sentence: "Notwithstanding any other provision of this chapter, a temporary certificate in accordance with this paragraph may be issued to a graduate of a recognized medical school of Canada who has been granted the degree of bachelor or doctor of medicine from said school who meets all the requirements of section sixty-five hundred nine of this article except United States citizenship." The State Education Department agreed to sponsor this amendment.

However, without asking the opinion of our Society, the State Education Department inserted the following phrase in the next to the last sentence of paragraph b, subdivision 1 of Section 6512: "in the performance of duties outside of hospitals or other institutions." The next to the last sentence will now read: "Nothing herein contained shall be construed to prevent the practice of medicine by a physician who is a full time employee of the state or a municipality *in the performance of duties outside of hospitals or other institutions*, provided such physician shall have a temporary certificate issued by the department in accordance with this subparagraph." The Council has expressed its disapproval of this phrase. It is confusing to say the least and does not conform to our recommendation.

QUESTIONABLE ADVERTISING OF MEDICAL BOOKS.—The resolution introduced at the last House of Delegates meeting by Dr. Leonard J. Schiff, concerned with questionable advertising of medical books written for the laity which may lead to "lewd and lecherous curiosity rather than scientific study," was studied by a subcommittee of our Committee on Legislation. After considerable thought it was decided that this is not a problem for our committee to decide. Where an individual physician is concerned, the matter should be referred to the board of censors of his own county medical society. However, it was recommended that the entire subject be referred to the Committee on Ethics for an opinion, and the Council so voted.

ANTICHIROPRACTIC PROGRAM.—During the last month much of our attention has been directed toward blueprinting an "antichiropractic program." Word has come to us from apparently reliable sources that the chiropractors will strive harder than usual this year to have a licensing law passed. A bill for this purpose was introduced on January 9 by Senator Peterson and Assemblyman Noonan.

For many years the chiropractors have made attempts to have a licensure law enacted. Their efforts have varied in degree. Last year they fought among themselves and were doomed from the beginning. What is particularly ominous is that it is reported that a number of influential people in Albany are now in favor of some kind of licensing law.

At a meeting of the Council on January 12 it was agreed that we must do everything in our power to beat back the attack of the chiropractors. Our president appointed a Steering Committee to draw up plans for our fight against the chiropractors: Dr. Floyd S. Winslow, Dr. Theodore J. Curphey, Dr. W. P. Anderton, Dr. Harold B. Smith, Mr. Frederick W. Miebach, director of the Public and Professional Relations Bureau, and your chairman. Dr. Azzari also designated an Ad Hoc Committee to meet with the Board of Regents in Albany so that we could present our case against chiropractic, this committee to include Dr. Edward T. Wentworth, Dr. Renato J. Azzari, Dr. W. P. Anderton, Dr. Harold B. Smith, and your chairman.

On January 14, Dr. Azzari, Dr. Anderton, and your chairman attended a luncheon meeting of the Council on Legislation of the Dental Society of the State of New York at the Hotel Statler in New York City. Here we received the assurance that dentistry will support us in our fight to defeat any proposals for chiropractic licensure. A letter to this effect from that organization is already in our files.

Dr. Anderton and your chairman met with the executive committee of the New York State Pharmaceutical Association Legislation Committee in New York City on the afternoon of January 17. We were told that the pharmacists will also join us in our stand against the licensing of chiropractors.

A meeting of the Steering Committee appointed by our president to blueprint the campaign against the chiropractors, henceforth to be known as the Committee to Combat Cults, was held in the office of the Medical Society on January 23 at 3:30 P.M. After considerable discussion it was decided that we carry out the following plan of action:

1. (*a*) A letter will be sent to the county medical society presidents, signed by Dr. Azzari, alerting all county societies and recommending certain steps to be taken.

(*b*) A letter will be mailed to all county public relations and legislation chairmen, signed by members of the committee, enclosing literature to be used in the campaign and suggested resolution that should be sent to the Governor and the members of the Legislature.

(*c*) A letter will be transmitted to all the legislators, signed by members of the committee, enclosing two booklets: "Science vs. Chiropractic" by Kathleen Doyle and another brochure prepared by the Public and Professional Relations Bureau. This letter will be mailed so that it will reach the legislators by February 14.

2. The Woman's Auxiliary will be asked to play an important role in our battle against cultism. The women can be of great help in distributing literature, writing letters, and talking to public leaders.

3. The field representatives of the Public and Professional Relations Bureau have been instructed to do everything they can to bring our ideas and plans to the attention of our members throughout the State through the media of field visits, telephone calls, and personal letters to key people.

4. The problem of releases to newspapers will be left to each individual county, but the Public and Professional Relations Bureau will assist in setting up "background material" and model letters which can be submitted to the editors.

5. Copies of endorsements of our campaign by other professional groups will be submitted to the legislators.

6. The question of funds to carry out the entire project was thoroughly discussed.

The Ad Hoc Committee appointed by Dr. Azzari met with the Committee on Charters, Law and Legislation of the Board of Regents at the State Education Building during the late afternoon of January 26. A group of chiropractors had had an audience with the same group earlier that day, and our committee was granted the opportunity to present *our case* against the licensing of chiropractors. Dr. Wentworth, in his usual, inimitable manner, fully discussed chiropractic from a scientific standpoint and showed why it should receive no recognition whatsoever as one of the healing arts. We were informed that a minority group of "special" chiropractors have requested that approval be given to a bill, with restrictions, which would, however, permit them to treat renal and cardiovascular diseases.

The members of the Board of Regents present at the meeting practically admitted that scientifically chiropractic is not worthy of much consideration. However, it was their contention that chiropractors are coming into our State and practicing without licenses, and, therefore, the only feasible approach is to license them and thus limit their activities. The Regents asked the assistance of our Society in drawing up a bill that will contain restrictions but will permit chiropractors to practice the healing art. This is necessary, we are told, not from a scientific standpoint but from the point of view of the social well-being of the public. The majority of the members of the Board of Regents is of the opinion that the public will visit chiropractors regardless of whether we approve them or not.

Our committee reiterated its stand that chiropractic is quackery, that we cannot be a party to any scheme that would license chiropractors and give them the stature that they do not deserve, that we will not compromise with charlatanism, and that we will not sponsor or support any licensing bill, no matter how many restrictions are included. Dr. Azzari expressed our sentiments when he said that our profession must in all conscience refuse to recognize that chiropractic is anything but cultism.

It was the opinion of several members of the Board of Regents that we should consider fighting for a strong injunction bill which would restrain chiropractors from practicing medicine in the same manner in which the Bar Association has kept certified public accountants from practicing law.

The impasse that developed was not resolved. No definite decision was reached by the Board of Regents Committee. What the exact results of our deliberations will be is difficult to determine at this time. We left the conference room, however, with the feeling that the Board is committed to some type of licensing law.

Conclusion.—As this report is being compiled, we have received word from the legal counsel of the Legislation Bureau that the ten bills sponsored by our Society have been introduced in the Legislature.

The Council Committee on Legislation and its chairman are grateful to the members of the Council, the Board of Trustees, and the others who have helped to make our program possible: Dr. Harold B. Smith, executive officer; Mr. James J. Beasley, legal counsel to the Legislation Bureau; Mr. William F. Martin, legal counsel to the Medical Society; Mr. Frederick W. Miebach, director of the Public and Professional Relations Bureau, and his assistants; the congenial staff in the office of Medical Society, and Mrs. Solden in the Legislation Bureau. Special mention should be made of the grand support and the wonderful cooperation and guidance that we have always had from our secretary, Dr. W. P. Anderton. We greatly appreciate the help that we received from Drs. Dorman and Kaliski in drawing up the bills relating to changes in the Workmen's Compensation Law.

PART X

Workmen's Compensation

The following is the report of the Committee on Workmen's Compensation and of the Bureau on Workmen's Compensation. The committee consists of the following physicians:

Gerald D. Dorman, M.D., *Chairman*	New York
Stanley E. Alderson, M.D.	Albany
Herbert M. Bergamini, M.D.	Essex
Robert J. Calihan, M.D.	Monroe
Arthur E. Corwith, M.D.	Suffolk
Irving L. Ershler, M.D.	Onondaga
Harold W. Grosselfinger, M.D.	Rockland
Joseph P. Henry, M.D.	Monroe
David Kershner, M.D.	Kings
Robert W. O'Connor, M.D.	Erie
Guy S. Philbrick, M.D.	Niagara
Charles D. Squires, M.D.	Broome
Earl C. Waterbury, M.D.	Orange
Joseph A. Wintermantel, M.D.	Cattaraugus
David J. Kaliski, M.D., *Director*	New York

Our 1955 annual report to the House of Delegates commented at length on the changes in procedure before referees. We advised physicians who have been requested to stop treatment, or where the carrier objected to the type of treatment, to request the carrier to file the C-8.1* so that the medical issue could be decided promptly by the referee. Physicians should comply promptly with requests to appear at hearings and, if unable to do so, notify the insurance carrier or representative of the Workmen's Compensation Board immediately.

We have received the annual report of the Workmen's Compensation Board for 1954, by Miss Angela R. Parisi, chairman. There was a decrease of accidents for the year 1954 in practically every district of the State. Over 183,000 claims were indexed for hearings. Referee hearings declined about 25 per cent over 1953 due principally to the revised system of hearing procedures which went into effect April 1, 1954. The percentage of cases closed increased during 1954. In 12.6 per cent of the cases, employes failed to appear to press their claims, although medical care had been rendered. Many of these bills had been controverted by the insurance carrier or employer, and the claimant failed or refused to appear; no award was made, and the carriers refused to pay the physician. This points a lesson to physicians who treat compensation claimants where there is no loss of time or less than seven days lost and where the claimant is not entitled to compensation and will not lose a day's work to appear before a referee to press the claim. The physician should inform the claimant that unless he appears at the hearing, if the claim is controverted, he will be required to pay for medical services himself; or the physician may, in such no lost time case, collect his fee and refund it to the claimant if he subsequently appears at the hearing to press a claim, if his appearance is necessary.

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* New York State J. Med. 54: 2240 (Aug. 1) 1954.

On December 31, 1954, there were 26,000 physicians authorized to render medical care in workmen's compensation cases. During the year 1954 arbitration committees outside the four counties in New York City scheduled 175 hearings and disposed of 146 bills. Outside the four New York counties there were only 146 bills disposed of totaling $13,246.91, while in the four New York counties, the Medical Practice Committee received a total of 12,418 objections and disposed of 14,906 including holdovers from previous years, awarding $160,839.83.*

Panels of Medical Experts.—Included in the report of the Governor's Commission in 1933, we recommended a radical change in the method of taking medical testimony and adjudicating claims. It has been the opinion of the county medical societies that the difficult problems confronting referees of the Workmen's Compensation Board could be better solved than by the present method of hearing testimony from physicians or specialists representing the contending parties and from specially qualified physicians appointed by the chairman at her discretion to examine a disputed medical case and render a report on the disputed issue. Most of the difficulties confronting referees in these situations stem from the type and nature of conflicting testimony at the hearing. Apart from the inability of the lay referees often to understand fully the medical testimony or evaluate it is the more important question of the *kind* of medical testimony given before the referees or the Workmen's Compensation Board. It is our opinion, as it was that of the Governor's medical commission in 1933, that panels of experts in the various specialties should be appointed (1) to hear medical testimony and evaluate it and report or to appear before the referee and (2) to examine claimants where difficult medical questions arose either as to diagnosis, causal relationship, necessity for treatment, or other medical questions and report to the referee or to the Workmen's Compensation Board.

While the referee must be the final judge under our present system and while cross-examination of either the attending physicians or specialists on either side and of the impartial panels must be permitted, the opinion of the panels would carry great weight. Furthermore, the type of testimony given either by physicians or specialists before the referees and the panels of medical men would, we think, be on a higher plane and totally different from the testimony often heard before our referees and the Workmen's Compensation Board at present (and indeed in our courts of law in negligence cases). We feel that the adjudication of claims could be greatly speeded up, improper claims could be more readily detected, prolonged and occasionally improper treatment of certain types of cases could be done away with or controlled, and, finally, the question as to early rehabilitation of certain types of injuries could be more readily brought about, if there were any disputes concerning its advisability or who should render it, if a group of outstanding specialists were to act in the capacity here mentioned. Certainly such panels would be looked upon with respect and confidence by all physicians. We believe all this could be done without increasing to any appreciable extent the cost of medical care. Indeed, we feel that the speeding up of hearings in certain types of cases which today are postponed time and again with the resultant useless continuation of medical care will more than offset the cost of the panels.

Panels of experts on a part-time basis and salaried, serving at the request of either party and within the framework of the Workmen's Compensation Board, would serve better than single experts and inspire more confidence. We have held conferences with certain interested groups to obtain support for legislation to restore the panels to Section 13 and will introduce a bill amending Section 13(d) of the Workmen's Compensation Law.

A report of a special medicolegal committee of the Association of the Bar of the City of New York, under Judge David Peck, indicated that a three-year trial of a plan to use court-appointed experts sponsored by medical societies in negligence cases to give impartial testimony has been extremely successful. This states:

> It has improved the process of finding medical facts in litigated cases.
>
> It has helped to relieve court congestion.
>
> It has had a wholesome and "prophylactic" effect upon the formulation and presentation of medical testimony in court.
>
> It has proved that the modest expenditure involved effects a large saving and economy in court operations.
>
> It has pointed the way to better diagnosis in the field of traumatic medicine.
>
> The committee found that the use of impartial medical experts tended to "deter doctors and lawyers from making consciously false or grossly exaggerated claims."
>
> The committee found too that after impartial examinations plaintiffs' claims were being revised

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* Note great disparity between number of disputed and arbitrated bills in the four New York counties (Medical Practice Committee and the rest of the State, county arbitration committees.)

"somewhat more frequently" than defendants' offers were revised upwards.

The medical experts used in the cases are selected by the presiding justices from special panels provided by the New York and Bronx Medical Societies.

LEGISLATION.—We continue to receive complaints from physicians and county society officers about the functioning of the Medical Practice Committee. As recommended by the House of Delegates we have again introduced bills to restore to the county medical societies in counties having a population of one million or more the functions which in 1944 were taken away from them and vested in the Medical Practice Committee. We hope to have more support for this legislation than was the case previously. There are two additional counties which are close to the one million mark, if they have not already reached it, namely, Erie and Nassau. They will be deprived of their functions under Section 13 of the Workmen's Compensation Law as soon as it is official that the counties have reached the one million mark (Senate Intro. 1195, Mr. Curry).

We are also having bills introduced in both houses of the Legislature to bring about the arbitrations of disputed medical bills in the county in which the services were rendered, not in the county in which the claimant resides, as is now the case. We hope this bill will receive the support of the Department (Senate Intro. 1194, Mr. Curry).

Legislation has been introduced to give to the Medical Appeals Unit of the Workmen's Compensation Board, formerly under the jurisdiction of the Industrial Council and Commissioner, real appellate power by making the decisions of this Medical Appeals Unit binding on the chairman of the Workmen's Compensation Board and on all parties to the appeal, rather than advisory as is the case at the present time (Senate Intro. 1201, Mr. Mackell). We shall give in our supplementary report the fate of these bills at the present session of the Legislature.

WORKMEN'S COMPENSATION COMMITTEES.—The last House of Delegates urged the county medical societies to be more vigilant and active in fulfilling their duties under the Workmen's Compensation Law with reference to professional conduct of physicians participating under the law. Compensation committees should give attention to the professional and disciplinary aspects of the law. They should educate physicians to reduce disability to as low a figure as possible by modern methods of medical practice. Physicians should be discouraged from prolonging treatment unduly and should be encouraged to apply rehabilitative methods as early as feasible in all suitable cases. A consultation with a physiatrist will indicate the type of rehabilitative treatment necessary.

Our workmen's compensation committees should enforce the principles of professional conduct and encourage employers and insurance carriers to bring to their attention any evidence of improper medical conduct or incompetence. The societies should look into evidence of unethical conduct. The vast majority of physicians are honest and ethical, but a small percentage take advantage of employers and insurance carriers and unduly prolong treatment. Still rarer are those cases where physicians support fraudulent claims and encourage malingering. We feel that employers and insurance carriers owe it to the public to bring their suspicions in such cases to the medical societies. We fail to find any evidence that the Medical Practice Committee, which superseded the medical societies in the four New York counties, has made any investigations along these lines during more than ten years. We urge the medical societies to be vigilant in policing the medical profession.

REHABILITATION.—As early as 1950 the Council Committee on Workmen's Compensation invited attention of insurance carriers to the value of early rehabilitation. We again placed our views before the New York State Joint Legislative Committee on Industrial and Labor Conditions at the Hotel Sheraton Astor on December 15, 1955. At this session the present chairman of the Workmen's Compensation Board, Miss Angela R. Parisi, made a statement in connection with the subject of rehabilitation in which we concur. We agree with her statement that "discussion between a carrier's medical director and the claimant's attending physician as to the advisability of instituting rehabilitative procedures with respect to the claimant, regardless of who initiates discussion, is not a violation of the provision contained in the first sentence of section 13(j) which reads: 'An insurance carrier shall not participate in the treatment of injured workmen. . . .' "

Section 13 of the Workmen's Compensation Law, as interpreted by us and by Miss Mary Donlon and now by the new chairman of the Workmen's Compensation Board, affords every opportunity for cooperation between the attending physician and the physician representing the employer or carrier. Miss Angela Parisi believes that

> . . .if all parties interested in the rehabilitation of injured workmen are agreeable to the inception of the program I have outlined, we can, in conjunction with all organizations concerned, initiate an education campaign to:
>
> 1. Inform, stimulate, and encourage the medical profession to cooperate in the program by making them ever rehabilitation conscious.
> 2. Enlighten and educate carriers' claims men and hearing representatives readily to recognize cases which may lend themselves to rehabilitation.
> 3. Recommend to all carriers that they establish adequate medical departments or staffs to include members qualified to recognize cases which may require rehabilitation.

We agree again with Miss Parisi when she states, "that every case in which rehabilitation is advisable is not one which, of necessity, requires the attention of a large staff of specialists and an extended period of expensive hospitalization. This is the exception rather than the rule." Dr. Howard A. Rusk has said:

> Rehabilitation for the severely disabled has become generally accepted by the medical profession, indus-

> try, labor, and the public. One of the important principles in rehabilitation is that it should be started early and should be a continuous process designed to meet the total needs of the individual—physical, emotional, and vocational.
>
> As in all medical progress, the physician is the first line of defense in rehabilitation. Many of the simpler technics can be done efficiently and adequately in the physician's own office. However, as in other branches of medicine, if consultative services are used early and wisely, many injuries or disabilities can be minimized so that long-term and often permanent disability is avoided. This applies especially to back injuries, injuries of the hand, and fractures requiring long mobilization. A rehabilitation program is a service program to the physician. He does not and should not lose control of his patient.

We agree with the statement of the chairman that the "fundamental prerequisite to the success of rehabilitative procedures is that the patient be in such frame of mind that he both wishes to undergo the treatment and that he anticipates it will be a success. Thus, it becomes useless and without purpose to mandate, by statute or otherwise, that an unwilling claimant must nevertheless undergo rehabilitation."

We can do no better than quote in full the last two paragraphs of Miss Parisi's report.

> The program I have outlined preserves the concept of "free choice of physicians," is workable, and will accomplish what we are all seeking; that is, the prompt recognition of the case which will be benefited by rehabilitation and the prompt commencement of the rehabilitation of the injured workman.
>
> This proposal places the responsibility squarely on the employer or his carrier to fulfill his obligations under the Workmen's Compensation Law to provide promptly the necessary medical care, which we interpret to include rehabilitation.

On December 31, 1954, the Pilot Study in Rehabilitation, conducted by the Workmen's Compensation Board in New York under the medical directorship of Dr. Willis M. Weeden, had studied and closed the cases of 2,590 claimants since its inception in December, 1950. Only 81 cases were not rehabilitated because of refusal by the attending physicians, while 109 such cases were due to refusal by insurance carriers. In 79 cases the claimants refused to cooperate. The results of this procedure were not as satisfactory as desired due to the difficulty in obtaining early referral of cases, especially a lack of interest on the part of some insurance carriers.

Skilled social workers available in the employ of the Workmen's Compensation Board could be very useful in obtaining the consent and cooperation of reluctant claimants to undergo necessary rehabilitation.

Insurance carriers and employers would be better served by appointing examining physicians of unquestioned qualifications and standing in the profession to act on their behalf in examining claimants under the provisions of Section 13. Carriers would benefit by exercising their right under the present law to examine claimants and recommend such medical care as they deem adequate, especially if the attending physician is not providing what they deem to be the type of treatment necessary to restore the patient to full function promptly or is treating improperly or unduly prolonging treatment. There is no bar under the present law to prevent full cooperation between employer, insurance carrier, and physician. We can assure the full cooperation of the medical societies through their officers and compensation committees in any effort to bring about early rehabilitation where needed or to improve the quality of medical care. We deplore the practice of lay claim representatives or adjustors arguing medical matters with physicians. Physicians properly resent being told by laymen how to practice medicine or what the needs of a particular patient are. Such contacts should be between physicians representing the employer or carrier and the doctor, and no carrier or employer should have the right to interfere in medical matters or curtail or modify treatment except on the basis of a medical examination and report by a qualified medical examiner. The carriers especially, as we have repeatedly stated, would do well to enlist the services of fully qualified physicians known to be fair and impartial in their evaluation of medical cases. They would improve the respect and confidence of the profession in the carriers and avoid many disputes between doctors and carriers with resulting resentment and hard feelings.

ACTIVITIES.—Implementing the action of the last House of Delegates, your director has appeared at a number of county medical societies throughout the year and at a round table conference. These meetings have been well attended and have evidenced interest on the part of physicians to learn more about the details of administration of the Workmen's Compensation Law. We feel these meetings have been a great success.

Your committee has also published in our State JOURNAL articles on workmen's compensation practice. Your director expects to continue providing material on workmen's compensation for the NEW YORK STATE JOURNAL OF MEDICINE and other publications.

VETERANS ADMINISTRATION.—A resolution of the House of Delegates requested us to investigate the extent of the treatment of compensation claimants in veterans hospitals and if possible to stop it. The Veterans Administration is of the opinion that any veteran suffering a nonservice-connected disability who signs an affidavit of inability to pay for medical care has to be treated under their interpretation of the provisions of the law.

The veterans hospitals are not legally entitled to practice medicine and charge a fee for their services which they did when rendering bills to insurance carriers for hospitalization and medical care under the Workmen's Compensation Law.

We enlisted the support of the American Medical Association in this problem, since it is national in scope. We append herewith the opinion of the law department of the American Medical Association as sent to us by Dr. George F. Lull, secretary and general manager of the American Medical Association.

January 19, 1956

Dear Dr. Kaliski:

Some time ago our Washington Office forwarded correspondence that it had had with you relative to the Veterans Administration taking in patients who were eligible to have their treatment paid for under workmen's compensation laws. This material was given to our Law Department, which has rendered the following report:

"Section 6, Public Law No. 2, 73rd Congress, provides that a 'veteran who is in need of hospitalization...and is unable to defray the necessary expenses therefore...shall be furnished necessary hospitalization...in any Veteran's Administration facility, within the limitation existing in such facilities, irrespective of whether the disability...was due to service. The statement under oath of the applicant on such form as may be prescribed by the Administrator...shall be accepted as sufficient evidence of inability to defray necessary expenses.'

"Doctor Kaliski's position is that a veteran's hospital should not admit a compensation claimant since under the circumstances he has a nonservice-connected disability for which he is not liable for the cost of medical care. I agree with Doctor Kaliski's conclusion. It is obvious that the statute is intended to extend hospitalization benefits in nonservice-connected cases to indigent veterans who must look to governmental or private *charity* for such services. Private charity hospitals may investigate the patient's financial need before rendering services without charge. However, the Administrator, under the statute, may rely upon a statement under oath from the veteran that he is unable to pay. In my opinion, the statute permits the Administrator to utilize facilities not needed for service-connected disabilities for the care of *charity* patients, and to rely upon the written sworn statements of such patients that they are in fact indigents. The ability to pay or means test is properly applicable to the situation where the veteran would be required to pay for hospitalization services if he had the means to do so. Where the individual involved is *not* required to pay for hospitalization because he is entitled to such services by law (workmen's compensation claims) irrespective of his financial ability, then his ability or lack of ability to pay is immaterial. My conclusion, as Doctor Kaliski's, is that Congress intended to provide hospitalization to veterans in nonservice-connected cases in a manner similar to the services offered by private charities, providing *charitable* services are needed. The sworn statement of the veteran that he is unable to pay is material only when he requires charitable hospitalization. The workmen's compensation claimant is not in need of charity, and in my opinion an Administrator having knowledge of the facts is violating the law if he applies the ability to pay test in a situation where it is immaterial.

"Doctor Kaliski also calls attention to a situation where the Veterans Administration attempted to charge the Borden Co. for a surgical operation performed upon a veteran in a workmen's compensation case. The statute does not permit a veterans hospital to practice medicine and sell the services of a physician. It applies exclusively to hospitalization services under the circumstances I have previously discussed."

This is our opinion which, I believe, coincides with yours, and we believe that the Veterans Administration is incorrect in its assumption as stated.

Very truly yours,
George F. Lull, M.D.

It has been impossible to date to ascertain how many claimants entitled to treatment under the Workmen's Compensation Law are being treated in veterans hospitals. We recommend that steps be taken to exclude such claimants from treatment in veterans hospitals. We urge the House of Delegates to continue to draw attention to these illegal acts.

Fee Schedule.—For a number of years our House of Delegates has recommended that the workmen's compensation fee schedule be amended to provide fees commensurate with the prevailing rates in private practice for persons of a like standard of living. The average workmen's compensation case is one requiring, in addition to medical care, much time and paper work. Your Committee on Workmen's Compensation and your director have been in touch with our county medical societies, with specialty groups, and with the officials of the Academy of General Practice in order to ascertain what they believe to be adequate fees. We have developed a tentative schedule for presentation to the other "interested parties" with whom we have been requested to confer by the chairman of the Workmen's Compensation Board. We wish to thank the chairman, Miss Angela R. Parisi, who has ultimate responsibilities of promulgating a fee schedule, for this opportunity to confer with the interested parties and agree upon a fee schedule which we hope will be realistic. We expect to use in devising the new schedule the standard medical nomenclature. We feel the fees allowed general practitioners are totally inadequate. Furthermore, we feel that the fees for general practitioners' and specialists' testimony and the fees to specialists for subsequent office visits should be increased.

Municipalities.—Cities or towns as self-insurers are subject to all the provisions of Section 13 of the Workmen's Compensation Law. They are not exempt from the provisions of Section 13(g) concerning objections to medical bills within thirty days if they expect an impartial examination (arbitration) of the value of the physician's services. They are required to pay all bills not objected to in thirty days.

Through the good offices of Dr. Floyd S. Winslow, councillor, and of Mr. Benedict L. Miller, district administrator of the Rochester office of the Workmen's Compensation Board, your director was successful in adjusting a dispute with the City of Rochester through the good offices and the cooperation of the corporation counsel of the city, Miss Honora Miller.

The dispute concerned the interpretation of item 9-a of the fee schedule as to fees to be paid to specialists such as surgeons, etc., who treat very minor injuries requiring only one or two visits. They felt a fee less than that payable to a specialist only should be paid in such cases, while we still maintain, with good reasons, that a specialist is entitled to a specialist's fee if the condition treated by him falls within his specialty (if not, he is entitled only to a general practitioner's fee).

Perhaps we can in our conferences on the new fee schedule work out a fee for specialists, in this type of minor case of one or two visits, which could satisfy both parties. We shall try to do this, as we promised Miss Miller.

Third Party Cases.—Under Section 29 of the Workmen's Compensation Law, if an employe entitled to benefits under the Workmen's Compensation Law is injured or killed by the negligence or wrong of another person not in the same employ, he may take workmen's compensation benefits and, within six months, begin an action against the third party called the "tort-feasor" in legal language. If he obtains an award or makes a settlement with the third party, the insurance carrier or employer who paid compensation costs is entitled to a lien on such recovery to the extent of the total amount of compensation awarded and cost of medical or the amount estimated for the case. Notice of the beginning of the third party action must be filed within thirty days with the chairman of the Workmen's Compensation Board and with the carrier or employer.

If the employe fails within six months to begin the third party action, such failure acts as assignment to the carrier liable for workmen's compensation benefits, provided the employe is notified thirty days before expiration of the time limit. If as a result of such third party action the carrier or employer collects an amount in excess of that paid to the injured man for compensation and medical care, the injured worker or his dependents are entitled to two thirds of the excess, less expenses.

A compromise or settlement less than the amount due under the Workmen's Compensation Law by either the employe or the employer or carrier shall be made only with the approval of the carrier or employer. It seems to be implied that under this section the patient is at all times under the jurisdiction of the Workmen's Compensation Law and the treating physician also must operate under the provisions of Section 13 of the Workmen's Compensation Law [Section 13(c)].

The question has occasionally arisen as to the right of a physician to exact a fee for treatment in a case where under Section 29, (1) the settlement or recovery was in excess of the amount paid or payable by the carrier or employer, including the amount for medical care, or (2) where the physician was asked to render medical care in excess of that to which the patient was entitled under the Workmen's Compensation Law, or (3) where the patient did not wish to take benefits under the Workmen's Compensation Law, and (4) where (3) applied, the award was in excess of what the claimant was entitled to under the Workmen's Compensation Law and of that to which the carrier was entitled for his obligations under the Workmen's Compensation Law, and finally (5) if the patient settled with the tort-feasor without the consent of the employer or carrier or of the Workmen's Compensation Board, and the latter lost jurisdiction and the claimant was no longer entitled to benefits under the Workmen's Compensation Law.

Recently a physician was refused payment of a bill by the carrier for services in a third party action because the patient settled, without notice and permission, with a third party. The carrier claimed no responsibility for the doctor's bill under the circumstances. The carrier, however, would have been responsible for that part incurred before the improper settlement.

The doctor is governed by sections 13 and 29 up to the time of a third party settlement. If settlement is made without the consent of the carrier, the doctor may charge any fee thereafter.

The above is cited so that physicians will be able to guide themselves in third party cases and not be in jeopardy.

Bureau Activities.—To summarize the scope of our Workmen's Compensation Bureau:

1. With reference to physicians throughout the State—
    - (*a*) to assist in the collection or proration of medical bills or their arbitration.
    - (*b*) To help in interpreting the provisions of the Workmen's Compensation Law.
    - (*c*) To assist local county medical society workmen's compensation committees and executive officers in (*a*) and (*b*) and in assisting physicians as a group in public relations.
    - (*d*) To arrange and direct arbitration sessions.
2. With reference to county medical societies—
    - (*a*) To coordinate and unify the work of county medical societies.
    - (*b*) To appear for county medical societies on request at hearings.
    - (*c*) To assist medical society workmen's compensation committees in all workmen's compensation functions and problems.
    - (*d*) To represent the State Medical Society in conjunction with the chairman of the Council Committee on Workmen's Compensation in compensation matters and to provide material for our Legislation Committee.
    - (*e*) To arrange for examination of certain applicants for radiologic ratings at request of county medical societies.
    - (*f*) To insert and check workmen's compensation ratings in the *Medical Directory of New York State*.
3. Council Committee on Workmen's Compensation—
    - (*a*) To carry out mandates of the House of Delegates.
    - (*b*) Confer with chairman and members.
    - (*c*) Report, when directed by the Workmen's Compensation Committee, to the House of Delegates and the Council.
4. Maintain liaison with chairman of Workmen's Compensation Board.

A few additional activities of your chairman and the Bureau during the past year were:

1. Conference with the chairman of the Medical Practice Committee with respect to qualifications for physicians for rehabilitation therapy.

2. Assistance to medical registrar of the Workmen's Compensation Board in obtaining medical reports from delinquent physicians.

3. Attended meetings of advisory committee to the chairman of the Workmen's Compensation Board.

4. Arbitrations in Nassau County three times, and in Newburgh, Albany, Binghamton, Syracuse, Utica, Rochester, Buffalo, and Niagara Falls.

5. Study of the practices of hospitals, orthopedists, and neurosurgeons concerning operations for dislocated disks at the request of the Niagara County Medical Society Workmen's Compensation Committee (to be published).

6. Conferences with the Committee on Legislation and the Committee on Industrial Health.

COMMENT.—Since the retirement of Miss Elizabeth H. Wheeler, your director has performed his duties with the able assistance of Miss Alice Wheeler, who has been with us for over twenty years. Without her knowledge and able, energetic assistance we could not well function, and she deserves our wholehearted thanks for her devotion to the Bureau. We wish to express appreciation to Mr. Irving Sofferman, assistant manager of the New York Compensation Insurance Rating Board, for his sympathetic cooperation and advice.

Mr. Henry D. Sayer has now retired as manager of the Rating Board, and Mr. Robert E. Marshall has been appointed to succeed him. Mr. Sayer, a friend of many years, has our sincere wishes for many more years of good health and happiness. We express to Mr. Marshall our best wishes and promise of full cooperation in his arduous duties.

To Miss Angela R. Parisi and the official members of her administrative staff throughout the State, we offer our thanks for their cooperation and help.

To the many officials of insurance carriers who have cooperated with us, we also express our thanks not only for their help but their confidence in our objectivity in questions of medical care, leading to satisfactory settlements.

PART XI

Publication

The Publication Committee for the current year, was composed as follows:

John J. Masterson, M.D., *Chairman*	Kings
Maurice J. Dattelbaum, M.D.	Kings
Laurance D. Redway, M.D.	Westchester
Norman S. Moore, M.D.	Tompkins
W. P. Anderton, M.D.	New York

The composition of the committee is in accordance with the resolution of the House of Delegates and includes the editor, the assistant editor, the secretary, the treasurer, and a member of the Board of Trustees.

Meetings of the Publication Committee have been held monthly throughout the year except in August. At many of the meetings the president and the president-elect have been in attendance, ex officio. Circulation of the JOURNAL "gratis" to senior class medical students of the nine medical schools of the State during the academic year was continued as a gesture of good will. It is recommended that this policy be continued as previously approved by the House of Delegates in May, 1955.

It is noted that for three years an intraining program has been in effect respecting the JOURNAL editorial and advertising staffs under the general supervision of the editor. The work of these departments is highly specialized. The volume of material in both departments has been on the increase, necessitating a greater degree of efficiency on the part of both. Only a clerk-typist has been added to the JOURNAL personnel since 1952. This addition has materially assisted in relieving more highly specialized personnel of time-consuming and purely routine operations and is in effect an economy.

Applications by our advertisers in the JOURNAL for the use of color have increased markedly. As an example, the issue of November 1, 1955, contains 34 color pages: 5 orange, 2 brown, 1 green, 5 blue, 6 yellow, and 15 red, as compared with November 1, 1952, with 9 pages of color and two of those inserts furnished by the advertiser.

In addition, the issue of November 1, 1955, ran to 176 pages; October issues ran to 144 and 176 pages. This compares with issues of 96 and 128 pages in previous years. The increase is caused by more advertising and the publication of more "must" material, e.g., the cancer series, the allergy series, history of medicine articles, Council minutes, and other features. It should be noted that while the increases have been spread over a period of three years, they have been steady. To a certain extent they reflect the policy of spreading the interest of the contents of the JOURNAL over a wider range of subject matter and the increasing use of the JOURNAL as a publishing medium by the medical schools and the teaching hospitals of the State.

Various questions of advertising policy have been considered during the year by the committee. These were reported to the Council and were approved, as may be noted in the published minutes of that body.

In general the costs of publishing both the JOURNAL and the *Directory* have increased, largely due to factors out of the control of the committee, such as printing and paper prices. Those have been somewhat offset by the increase in advertising rates effective as of 1956, but the net gain or loss will not be apparent until the end of the year 1956.

In 1955, on the recommendation of the editor, the committee approved and the president appointed a member-at-large to sit with the committee at its monthly meetings with voice but no vote. This was done in order to afford an opportunity to an interested member of the Society to familiarize himself with the problems of publication of the JOURNAL and *Directory*. By invitation Dr. John G. Masterson of Brooklyn has acted as such an observer since the last annual meeting.

The thanks of the Committee are extended to the associate editorial board which has continued to work with the editor in upgrading the quality of the scientific material published in the JOURNAL. We are deeply appreciative of their valuable contribution in our endeavors to improve the quality of JOURNAL articles.

THE NEW YORK STATE JOURNAL OF MEDICINE.—The JOURNAL has appeared uninterruptedly in 24 issues throughout the year including a supplement, Part II of the issue of September 1, 1955, containing the minutes of the House of Delegates.

Over 500 manuscripts have been received and processed by the editorial office. It is remarked that many of these have come from sources previously not interested in the JOURNAL as a medium for publication of their material. This new interest, it is hoped, will continue to expand.

During the year series of articles on cancer, anesthesiology, and allergy have appeared and will continue, also a new department of "review" articles. It will be noted that clinicopathologic conferences are now a regular feature of each issue.

Much good material has been received and published on the history of medicine in New York State. Such material constitutes one of the valuable functions of the JOURNAL as the official publication of the Medical Society of the State of New York.

Another valuable section of the JOURNAL is that which appears from time to time under the caption "Openings for Physicians in New York State." Material for this department is furnished by the office of the secretary and is of great interest to physicians who are looking for a place to locate or to relocate. It constitutes one of the many services of the Society to its membership and others.

With regret the JOURNAL again notes the passing of one of the distinguished members of the associate editorial board, Dr. Leo F. Simpson, of Rochester. There have been no other changes in the composition of the board during the year.

With few exceptions, all of the improvements scheduled three years ago in the appearance and content of the JOURNAL have been accomplished. It now represents the coordinated product of many interested people, both physicians and nonmedical persons. Teamwork of this order is a long-range matter. In this connection it is interesting to note that few changes in personnel have occurred in the last three years. Such continuity of service is essential to maintain the highly integrated operation of a largely technical publication such as the JOURNAL. The Society has a large investment in its official publication; together with the *Directory* it represents some $300,000 of gross business yearly. The JOURNAL also represents the Society in the field of state medical journalism. That it should do so adequately is imperative. The field of state medical journalism is a competitive one and promises to become increasingly so, at least in this area.

Miss Alvina Rich Lewis, assistant to the editor, has continued to do excellent work in the organization of the material to be processed and in the conduct of the intraining program of the department. Manuscript material continues to increase in volume as will be noted in the detailed statistical report below.

Miss Frances E. Casey is at all times prepared to carry on Miss Lewis's work and does so with increasing competence during vacation periods and in the occasional instances of illness which any production group encounters. Miss Lewis is also ably assisted by Mrs. Anne G. Colahan, whose work is manuscript editing. She is increasingly experienced in this field and is thoroughly familiar with JOURNAL style and procedure. Miss Joan Vitrano joined the JOURNAL staff in November, 1954, and has carried on her work and training in a highly satisfactory manner.

Miss Grace I. West, in charge of advertising production, has accomplished a difficult job well. The large increase in color advertising in the JOURNAL in the last few years has created many problems, all of which Miss West, with the assistance of Miss Camille Marra, secretary to the advertising representatives, has handled well. Mr. Charles L. Baldwin, Mr. Joseph A. Mullaney, and Mr. James M. Kelley, together with Mr. John A. Bassett, Pacific Coast representative, have handled the advertising problems of the JOURNAL with great competence and notable results. They deserve great commendation for their effective work in maintaining the JOURNAL advertising income.

A new employe, Miss Susan M. Richardson, was added to the staff in 1955, dividing her time between the advertising and editorial departments. Her services as clerk-typist have materially assisted in relieving the more highly trained employes of a large amount of purely routine work such as typing, filing, billing, and the like.

The editor has supervised the processing of scientific and other manuscript material received at the Journal office with the guidance and able assistance of the associate editorial board. He has passed upon all applications for advertising within the established policy of the Publication Committee and, with the business manager, has discussed new equipment needs, replacement of equipment now becoming obsolescent, paper and printing and other operating costs, sales promotion, exchanges both foreign and domestic, and like matters. He has prepared a monthly operating report of the editorial department which is discussed at each monthly meeting of the committee. He has kept the advertising representatives informed in advance of any and all new features to appear in the JOURNAL in which possible advertisers might be interested. He has from time to time referred matters requiring new policy decisions or revision of previous ones to the Publication Committee for adjudication. He supervises the preparation of the editorial and advertising dummies twice a month and attends all meetings of the Publication Committee.

The editor has also worked closely with the Public and Professional Relations Bureau, the Bureau of Workmen's Compensation, the Public Health and Education Committee of the Council, and the legal counsel, as well as other agencies of the Society to insure the accuracy of editorial references to material in their several spheres of competence. An endeavor has also been made by the editor to make personal contact throughout the State with medical schools and teaching hospitals to call to their attention the NEW YORK STATE JOURNAL OF MEDICINE as an increasingly desirable medium for publication of new scientific material, clinicopathologic conferences, conferences on therapy, and the like.

Submitted manuscripts are reviewed by one or more consultants before final acceptance or rejection by the editor. New authors are encouraged to improve the style or content or both of submitted articles; this entails much detailed correspondence or conferences, but it has been and continues to be, in the opinion of the editors, a function of the JOURNAL to encourage, teach, and assist new writers in the interests of better medical journalism.

The masthead of the JOURNAL has recently been redesigned to include instructions to authors and certain other items of information not previously found in that position. Also a series of papers from the New York Academy of Medicine appears for the first time in the JOURNAL as a regular feature.

STATISTICAL REPORT, 1955

In 1955 there were 24 issues and 1 supplement published, totaling 3,840 pages, the highest total ever published.

For comparison:

1952	*1953*	*1954*	*1955*	
3,200	3,208	3,620	3,840	Total pages for year

The issues in 1955 were divided as follows:

3 issues of 128 pages
10 issues of 144 pages
2 issues of 152 pages
3 issues of 160 pages
4 issues of 176 pages
1 issue of 184 pages
1 issue of 208 pages (April 1, Convention)
1 supplement, 136 pages

During 1955, a total of 503 articles were submitted, of which 103, or 20 per cent, were rejected. This compares with previous years as follows:

	1952	*1953*	*1954*	*1955*
Number submitted	440	449	482	503
Number rejected	53	70	96	103
Per cent rejected	12	16	19	20

It should be pointed out that several manuscripts rejected for publication were revised and rewritten by the authors according to the suggestions of the editor and were subsequently accepted for publication.

Of the 503 papers submitted during 1955, 122 were annual meeting papers. This year the system of publishing annual meeting papers independently instead of section by section was continued, thereby giving variety in subject material to each issue. By the use of green and pink colored slips, indicating whether or not the manuscript was ready for publication, an attempt was made at the annual meeting to eliminate some of the correspondence and telephoning which in the past has taken so much extra time in processing annual meeting papers. This new system of colored slips was only partially successful, but it will be repeated this year (1956) to see if it can be made feasible.

There were 549 authors represented in the 406 articles published in 1955. These 406 break down as follows:

208 scientific articles
78 annual meeting papers
51 case reports
9 special articles
20 clinicopathologic conferences
3 medical/surgical conferences
16 history of medicine articles
2 civil defense articles
14 cancer treatment articles
4 fundamentals of allergy articles
1 article containing speeches from Roswell Park Memorial Institute dedication

Comparative statistics on page breakdowns follow:

	1953	*1954*	*1955*
Total number of pages	3,208	3,620	3,840
Text pages	2,154	2,355	2,445
Advertising pages (not including inserts and covers)	1,054	1,117	1,259
Number articles submitted	449	482	503
Number articles published	349	364	406
Number authors represented	588	571	549
Scientific text, pages	1,301	1,552	1,603
Features, pages	362	458	499
Editorials, pages	143	92	104
Minutes and reports, pages	220	253	239
House of Delegates minutes, pages	128	148	136

An analysis of the text pages for 1955 follows:

Scientific articles	1,157
Case reports	114
Special articles	28
Clinicopathologic conferences	138
Medical conferences	16
History of medicine	82
Cancer treatment	57
Fundamentals of allergy	16
Editorials	69
Editorial comment	11
President's page	9
Civil defense	7
Blood banks	4
Roswell Park dedication	7
Cancer diagnosis	6
Facts about nutrition	11

Medical care insurance	17
Workmen's compensation	11
Correspondence	20
Medical news	86
Medical meetings	15
Medical school news	22
Necrology	42
Books, received and reviewed	$68^1/_2$
Woman's Auxiliary	12
Table of contents	$41^1/_2$
State Society officers	72
County society officers	9
Council minutes	84
Annual Meeting announcements	6
Annual Meeting reports	115
Annual Meeting program	32
Index	31
Physicians' Home	2
District branch programs	4
Directory errata	2
Openings for physicians	15
Month in Washington	2
Annual meeting resolutions	2
Miscellaneous announcements	3

FINANCIAL STATEMENT

JOURNAL OPERATIONS,
YEAR ENDED DECEMBER 31, 1955

	Year Ended 12/31/54	Year Ended 12/31/55
Income		
Advertising	$226,832	$246,927
Cash subscriptions	3,099	3,060
Other	5,677	5,234
TOTAL INCOME	$235,608	$255,221
Expenditures		
Printing and mailing	$146,266	$159,141
Advertising	65,464	65,053
Editorial	42,863	45,372
Sundry	18,249	17,865
TOTAL EXPENDITURES	$272,842	$287,431
Net income before dues allocation	$ 37,234*	$ 32,210*
Dues allocation	59,246	59,924
FINAL NET INCOME	$ 22,012	$ 27,714

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*Italics denote figures in red.

Comparative financial statistics for 1954 and 1955 are listed above for your information. The 1955 final net income for the JOURNAL shows an increase of $5,702, due to increased advertising income.

MEDICAL DIRECTORY OF NEW YORK STATE.—Work of compiling data for the 1957 *Directory* is now well under way. As of December 31, 1955, a total of 1,359 copies of the 1955 *Directory* had been sold to individual purchasers. A brief review of the financial status of this publication follows:

Income	
Advertising	$14,400.25
Sales of book	19,912.50
TOTAL INCOME	$34,312.75
Expenditures	
Printing and distribution	$58,384.62
Advertising	6,705.39
Editorial	62,679.69
Sundry	8,427.50
TOTAL EXPENDITURES	$136,197.20

The appreciation of the Publication Committee is extended to Miss Janet Loy, Miss Eileen Carmody, Mrs. Evelyn DeMarco, Mr. Robert W. Miller, and other members of the *Directory* staff for their helpful assistance in the production of this publication.

The work of Mr. Thomas E. Alexander, who has acted as secretary to the Publication Committee at all of its meetings, is gratefully acknowledged. He has also served as business manager for the JOURNAL and in this capacity has been most helpful in assisting with the solution of many production problems that have arisen during the year.

The secretary of the Medical Society of the State of New York, Dr. W. P. Anderton, has rendered, as in previous years, invaluable counsel and assistance in the preparation and editing of the vast amount of data necessary to compile the *Directory* and editing of reports of the bureaus and many committees of the State Society. His work as a member of the Publication Committee during the years has been most helpful.

The chairman of the Publication Committee would be remiss at this time if he did not express his sincere appreciation, thanks, and gratitude to the other members of the committee for their helpful cooperation. We have previously mentioned personally those who carry on the routine work of the JOURNAL and *Directory*. Any improvement in our JOURNAL is entirely due to their selfless efforts and our hardworking and conscientious editor, Dr. Redway. The Society is most fortunate in having such a staff of loyal workers.

Public Relations

The Council Committee on Public Relations for the current year consists of the following members:

Floyd S. Winslow, M.D., *Chairman*	Monroe
George A. Burgin, M.D.	Herkimer
Henry I. Fineberg, M.D.	Queens
John M. Galbraith, M.D.	Nassau
Reid R. Heffner, M.D.	Westchester
John W. Latcher, M.D.	Otsego
John C. McClintock, M.D.	Albany
John D. Naples, M.D.	Erie
Kenneth T. Rowe, M.D.	Steuben
Edward Siegel, M.D.	Clinton

PUBLIC AND PROFESSIONAL RELATIONS BUREAU.—The numerous activities of the Public and Professional Relations Bureau during the past year continued to be carried on under the supervision of Mr. Frederick W. Miebach, director. Liaison with county medical societies and other groups was maintained through the visits of three field representatives. Mr. A. C. Schuyler worked with the Fifth, Seventh, and Eighth District Branches, Mr. Martin J. Tracey with the Second and Fourth District Branches, and Mr. Thomas E. Walsh with the Third, Sixth, and Ninth District Branches. In addition to their field activities, the men assumed other responsibilities. Mr. Schuyler was delegated to develop radio, television, and research projects. Mr. Tracey edited the *Newsletter* and undertook special writing assignments. Mr. Walsh acted as liaison representative between the Bureau and the Woman's Auxiliary and supervised the Speakers' Service.

General Public Relations Program.—The development of an over-all constructive, positive public relations program continued to be the main objective of the committee during the past year. Fully conscious of the fact that a watchful eye must always be kept on Washington lest governmental medicine creep upon us through the back door, the committee through its Bureau attempted to create new projects and stimulate the use of existing activities.

These activities were designed to achieve success in four specific spheres: (1) winning the good will of the public, thereby cultivating a favorable disposition toward the individual physician, his county and State medical societies; (2) improving the numerous facets that make up the doctor-patient relationship; (3) stimulating and helping county medical societies in the development of practical basic and supplemental public relations programs; and (4) promoting the cooperation of individual doctors and county medical societies with voluntary prepayment health insurance plans.

As a means to accomplish these ends, the Bureau divided its activities into two categories, internal professional relations and external public relations. The first classification dealt with activities revolving about the individual physician and county medical societies, while the second concerned negotiations with radio, television, press, writers, and others outside the medical profession. Among the projects undertaken in these areas were the promoting of renewed activity in public service programs, such as emergency medical call plans, mediation committees, and medical economics bureaus; the maintaining of a central publicity and information service; the publishing of pamphlets and brochures; the developing of closer working relations with State Society committes, the A.M.A., and groups of laymen; the continuing visits of field men, and assisting the Woman's Auxiliary.

Field Program.—A basic factor in the growth of internal professional relations and external public relations was the field program. Through visits to county medical society officials the field representatives developed an effective liaison between the committee and physicians in various parts of the State. They not only presented the State Society's PR Program to county officials but also assisted them in carrying out specific projects whenever necessary. They likewise brought back to the committee the views of county representatives which aided in the formation of practical public relations projects. By means of personal contacts, therefore, with physicians and other groups, such as the chamber of commerce, dental society, radio stations, and writers, they played an important role in bringing to successful fruition the State Society's public relations program.

Public Service Projects.—Although public service projects in the form of emergency medical service plans and mediation committees have been sponsored by most county societies for a number of years, improvement was noted in this field. Many societies brought home to their members through their bulletins the need for constant vigilance in the proper functioning of both services at all times. The Bureau emphasized the fact that emergency services must be properly manned twenty-four hours a day and that mediation committees are of little or no use unless publicized.

According to the latest revision of the Bureau's chart on these projects, there are 60 emergency medical service plans in the State. While this is the same number as reported last year, latest reports indicate that the one county society in the State, which does not have a service, is planning to establish one. Although a perfect score of 61 is highly to be desired, your committee expresses the hope that the future record will show perfection not only in number but service as well.

Improvement also was seen in the field of mediation committees. As of the date of this report, 57 such groups are in operation. This marks an increase of one over the 56 reported last year. Two groups, such as the comitia minora or board of censors, in addition to the 57 formal committees, carried out mediation functions. Thus, the over-all figure totaled 59 committees. Although satisfied with the continuing progress being made, your committee reiterated, as it has in the past, that some groups are lacking an essential ingredient for making their committee fully effective, namely, adequate publicity.

Public Relations Conference.—On October 8, 1955, the annual conference of county medical society public relations chairmen was held at the Hotel Biltmore in New York City. There were about 55 persons present, including county medical society public relations chairmen, executive secretaries, and guests, including several from out of the state, among whom was the public relations director of the Connecticut State Medical Society. A highlight of the conference was a discussion of "The Issue of Social Security" (H.R. 7225) by Dr. Ernest B. Howard, assistant secretary, American Medical Association, and Mr. Leo Brown, public relations director of the same organization. Following the custom of previous years, a "Public Relations Kit for County Medical Societies" was distributed to participants in the conference. This kit contained

15 samples of public relations materials from various sections of the country and items specially prepared by the Bureau.

Based on a recorded transcription made during the conference, a digest of the proceedings was compiled and mailed to both participants and public relations chairmen who were unable to attend. Since the issue regarding social security involved in H.R. 7225 was of great importance to the medical profession, a special brochure entitled "Proposed Cash Disability Benefits Under the Social Security Law" was prepared, based on the talks given by Dr. Howard and Mr. Brown. This brochure was made available without charge to all members of the State Society through the columns of the *Newsletter*.

COURSES FOR MEDICAL ASSISTANTS.—A campaign to have as many county medical societies as possible conduct training courses for medical assistants working in physicians' offices was a major project of the Bureau. Designed to bring practical information which can be used by a medical assistant in her everyday work, the courses consist of discussions on medical economics, public relations, and allied subjects. At this writing some 12 county medical societies already have conducted the courses, and an additional 25 have indicated interest in sponsoring such programs.

The campaign commenced with the mailing of a brochure prepared by the Bureau, entitled "How to Conduct Training Courses for Physicians' Office Personnel," to all county medical society public relations chairmen and society executive secretaries. Subsequently, the field representatives visited county societies for the purpose of encouraging them to conduct training courses. When called upon, the Bureau also rendered assistance in the preparation and conducting of the courses. A special brochure entitled "Seven PR Pointers for Medical Personnel" was prepared and distributed by the Bureau for use in the courses as well as for use by doctors in their own offices. This brochure was offered free of charge to all members of the State Medical Society in the October *Newsletter*. As a result of this offer, the Bureau has received to date 541 orders for a total of 2,040 copies of the brochure. Following the mailing of an order blank to county society executive secretaries, the Bureau received 15 orders for a total number of 2,635 copies. In all, to date, the Bureau has distributed 4,858 copies, which includes requests from miscellaneous sources.

Several inquiries were received from outside sources for information about the course. The Academy of Medicine of Cleveland and Cuyahoga County Medical Society (Ohio) requested several copies of the Bureau's publications pertaining to the medical assistants courses. An editor of the McGraw-Hill Publishing Co., planning a book to be entitled "The Medical Assistant," asked for and received background material as to what is happening in this new field.

Many compliments have been paid by young ladies who have attended the course. A typical remark was, "It is nice to speak to others who are faced with the same problems you are, and it is encouraging to realize that the county medical society is trying to help you, as a doctor's assistant, to cope with some of the many problems you must solve every day." An example of the growing interest in these courses was a letter received from the public relations chairman of the Suffolk County Medical Society who requested 500 copies of "Telephone Cues for Medical Personnel," a publication compiled sometime ago by the Bureau for use in these programs.

WOMAN'S AUXILIARY.—The Bureau continued to assist the Woman's Auxiliary. Four major projects in which the Bureau worked closely with Auxiliary were the nurse scholarship and recruitment campaign, the State Fair exhibit, the Health Poster Contest, and the *Distaff*. New projects included the twentieth anniversary issue of the *Distaff* and GEMS (Good Emergency Mother Substitutes).

As in the past, conferences were held with the State Auxiliary president, president-elect, other officers, and State chairmen regarding established as well as new programs. Materials for monthly articles in the NEW YORK STATE JOURNAL OF MEDICINE and copy for the *Distaff* were reviewed. A suggestion that the president of the State Auxiliary send a letter to each new member of every county auxiliary was favorably received, and administrative, secretarial, and clerical assistance was provided where needed and upon request.

As is their practice, the officers, chairmen, and membership of the Auxiliary cooperated with the Bureau in every way possible. The committee is particularly indebted to the president, Mrs. Isadore Zadek, and Mrs. John N. Dill, editor of the *Distaff*, for the manner in which they made it possible for Mr. Walsh to coordinate the Auxiliary activities with those of the Bureau.

RADIO.—Because of the important public information media which radio represents, the Bureau arranged to have a county society public relations chairman present a paper on the excellent results his county society obtained from a year-round weekly radio program, which makes use of both live and prepared material, at the annual conference of county society public relations chairmen. This resulted in renewed appreciation of the value of radio as a PR tool and doubled the number of requests for assistance in securing A.M.A. electrical transcriptions for use on local radio stations. Material for both talks and outlines of talks for use on county society-sponsored "live" radio also was available.

An excellent example of what good public relations work can be accomplished in this area was the awarding of a plaque by the Monroe County Medical Society to radio station WHAM, Rochester. The plaque cited the station for twenty-five years of public service in broadcasting the society's program "Speaking of Health." Your committee congratulates the county society and the station for devoting twenty-five years to the practice of good public relations through the medium of a radio program. We commend the society also for showing its appreciation to a nonmedical group by presenting a plaque at a public dinner. This is a novel public relations technic which we recommend to county medical societies in this State.

Health Films.—Several new catalogs on health films were reviewed. Notes about the films listed therein were made and distributed to interested groups. Inquiries originating in areas in which the county society maintains its own office were referred to that office. All other inquirers were furnished with the title of a film dealing with the subject of their inquiry plus the name and address of the agency that could supply the film. Requests for films on poliomyelitis, heart disease, and cancer were in the majority. A *Newsletter* item also produced many inquiries for information on the availability of certain special films.

Speakers' Service.—The Speakers' Service kept abreast of the topics of interest to the medical profession and supplied information on compulsory health insurance, the government's reinsurance proposal, H.R. 7225, and other issues. It also reviewed magazine articles relating to the economic or social and public relations aspects of medical practice and kept reference materials on these subjects available. Assistance also was given to county society officers in obtaining suitable subjects and materials.

Requests to the service for doctors to speak on medical and medicoeconomic subjects were referred to the county medical society in the area from which the request came. It is the policy of the service to attempt to have local doctors speak in their own communities whenever possible.

Guide for Cooperation.—The Guide for Cooperation between the medical profession and the various media of public information remained very much in the limelight. The Bureau supplied a total of 1,463 copies for distribution to various groups. A shipment of 100 copies was sent to the Hospital Association of New York State, upon request, for the use of its members. Through the cooperation of Dr. W. P. Anderton, 1,288 copies were mailed to new members of the State Medical Society. At report time 75 copies had been given out as a result of miscellaneous requests. Among these was a request for 25 copies by a representative of the *Staten Island Advance* to be used in student lectures.

Many complimentary remarks have been made about the Guide. In a letter to your chairman, Mr. Seymour N. Siegel, director, Station WNYC and Station WNYC-FM, radio stations operated by the City of New York, stated: "This is a distinct and outstanding contribution, and I could not resist the opportunity of writing to you to tell you how much the industry and the working press, in particular, appreciate this gesture of thoughtfulness, on the part of the Society. You deserve a tremendous amount of credit, and I am sure that my colleagues in the mass media are equally enthusiastic." An article in the *Hospital Forum*, published by the Hospital Association of New York State, stated: "No finer service has been rendered the profession of medicine, the hospitals of the State, the media of public information, and finally the public itself, than the adoption of the principles and procedures set forth in this little booklet. It should be on the desk of every hospital administrator in the country."

Your committee will continue its efforts to bring this valuable document to the attention of every member of the State Medical Society, and it hopes that every county medical society will cooperate in every way possible.

The future plans concerning the Guide will be found in the special report of the Subcommittee on Cooperation with Media of Information.

Advisory Service to Press, Radio, and Television.—The Advisory Service to Press, Radio, and Television, always an important project, was one of the most active functions of the Bureau in 1955. As a result of the Guide for Cooperation having become better known to representatives of the various information media, 35 requests were received from writers or magazine personnel for assistance. These requests, which were filled, included help to authors preparing articles for such magazines as *Life*, *Coronet*, *Family Circle*, *Ladies Home Journal*, and *Woman's Home Companion*. On one occasion a completed article was reviewed and returned to the author with comments which he accepted with gratitude.

In helping these people two special divisions, established last year, were used. Inquiries for help in preparing articles were answered by physicians, named by Dr. Theodore J. Curphey, chairman of the Council Committee on Public Health and Education, who were contacted by the field men. Review of completed articles was the function of the Medical Article Review Board. This board consists of one representative from each of the five county medical societies in the New York City area and was appointed by the Coordinating Council of these societies at the request of Dr. Henry I. Fineberg, its public relations chairman. Your committee wishes to express its thanks to Dr. Curphey, Dr. Fineberg, the Coordinating Council, and the physicians who participated for their cooperation in our efforts to gain better publicity for the medical profession.

The advisory service of the Bureau was utilized in many other activities. For example, the staff assisted a representative of the H. W. Wilson Company, a nationally known firm that publishes reference materials for high school and college debaters. Help was given in assembling materials showing the medical profession's opposition to socialized medicine. Through the efforts of the staff, Dr. George B. Coopernail, of Bedford Village, a member of the Westchester County Medical Society which worked with the Bureau on this matter, appeared on the television program "Life Begins at 80." Following the news of President Eisenhower's heart attack, the American Broadcasting Company asked the Bureau to obtain a physician who would explain coronary thrombosis over its local New York City radio station. Through the cooperation of the New York County Medical Society, the Bureau arranged with Dr. Arthur Master, a former member of your committee and well-known heart specialist, to appear on the program.

Your committee feels that the work of the advisory service of the Bureau has been most worth while and is of the opinion that requests for its help will become more numerous in the future. The successful operation of the advisory service is one of the best tools for building better public relations currently at the disposal of the Bureau.

EXHIBITS.—Three projects were undertaken in exhibit work. The first of these was the displaying of "You and Your Medical Care," an exhibit furnished by the American Medical Association's Bureau of Exhibits, at the Hall of Springs, Saratoga Spa, from Memorial Day to Columbus Day. This exhibit was composed of seven separate units using three-dimensional carved figures portraying suggested constructive programs of the medical profession, such as emergency medical service plans and mediation committees, to make medical care more readily available to the people. Cosponsored by the State Medical Society and the A.M.A., the exhibit had a potential audience of almost 100,000. According to a report received by the Bureau from Mr. Leon H. Woodworth, Information Secretary, Saratoga Springs Authority, "The Hall of Springs. . . was visited this past season by 90,008 persons who saw your exhibit."

During the Society's annual meeting in Buffalo, the Bureau also erected and manned an exhibit entitled: "Doctor—PR Publications Pay Dividends!" This exhibit called attention to the publications available from the Bureau without cost for use in doctors' offices and in developing county medical societies' public relations programs. A pamphlet rack also was displayed at the exhibit from which physicians could obtain samples.

On another occasion help was given in the planning, building, and manning of an exhibit sponsored by the Woman's Auxiliary at the Syracuse State Fair.

DISTRICT BRANCH MEETINGS.—Before the district branch meetings were held, newspaper releases were prepared and mailed to newspaper editors in various parts of the State. These releases outlined the programs to be presented, named the doctors participating, and included advance copies of talks to be given by Dr. Azzari, as president, and Dr. Greenough, as president-elect.

During the meetings the field representatives, under the direction of Dr. W. P. Anderton, registered the attending physicians and guests. The Bureau's director also was present to handle publicity with the press at the local level. An innovation this year was a panel discussion on public relations, of which Mr. Miebach acted as moderator, held during the Sixth District Branch meeting.

ANNUAL MEETING.—Following the pattern established successfully two years ago, the Bureau utilized the facilities of radio and television to publicize the 149th annual meeting of the State Society, held in Buffalo. Thirty-six State Medical Society and Woman's Auxiliary speakers took part in a record-breaking total of 46 radio and television broadcasts. These broadcasts reached hundreds of communities in at least 19 New York State counties, and a number were heard in Pennsylvania and Canada.

The talks were delivered over seven Buffalo and 11 rural radio network stations and totaled approximately four hundred and thirty minutes of cost-free air time. Of this, some three hundred and twenty minutes were reserved for the exclusive use of the State Medical Society and Woman's Auxiliary speakers. The balance was used on established interview programs moderated by noted radio and TV personalities. Subjects discussed included the conventions, the public services of the Auxiliary, the State and county medical societies, and a wide range of medical and health topics in the specialty and general practice fields.

The physician-speakers represented 12 county medical societies including Erie, Niagara, Chautauqua, Monroe, Oneida, Albany, New York, Bronx, Westchester, Washington, Tompkins, and Nassau.

Your committee is grateful to the numerous physicians and the members of the Woman's Auxiliary who sacrificed time and effort in preparing and delivering their talks in this successful public relations project.

These broadcasts, which were very favorably received by both broadcasting stations and the public, included both "live" and recorded programs. For the recording of numerous programs without cost, your committee is indebted to the A-V Tape Libraries, Inc., and to Dr. Laurance D. Redway, through whom we obtained the free use of the A-V group's facilities. The radio and TV programs were supervised by Mr. Schuyler, who prepared the scripts for most of the programs, while Mr. Tracey acted as interviewer on several of the broadcasts.

As in past years a press room was maintained throughout the convention for the convenience of reporters covering the meeting. Representatives of the Buffalo press, the wire services, the *New York Times*, and other media of public information used the facilities of the room. The Bureau's field and secretarial staff manned the press center and helped the members of the working press in every way possible. Available for the use of the press were 26 digests of scientific papers presented during the convention, which had been prepared in the form of press releases for the convenience of reporters. Another service provided by the press room was the furnishing of copies of resolutions passed on by the House of Delegates which were deemed to be sources of good publicity for the medical profession and of interest to the general public.

Shortly after the annual convention, work was begun on a digest of the highlights of the proceedings of the House of Delegates. As a result of this activity a brief résumé of some of the important resolutions passed by the House, as well as a listing of officers and other officials elected by the House, was made available within a short time after the convention. This 11-page digest was sent out to members of the House of Delegates, State Society officers, county medical society secretaries, and executive secretaries. Before being mailed out, the digest of the proceedings was submitted to Dr. W. P. Anderton.

Headquarters Foyer.—As a means of presenting some of the activities of the State Society to visitors to headquarters a new display headed "Events of the Year" was kept up to date in the foyer. The display featured newspaper clippings and pictures telling the story of the district branch meetings, the award to the general practitioner of the year, and other events. Pamphlets of interest to the public also were made available by means of racks attached to the peg-board on which the display was exhibited.

Public Relations Session.—Assistance was given in publicizing and programming the public relations session, held during the 149th annual meeting in Buffalo, at the request of Dr. John D. Naples, chairman. Invitations bearing Dr. Naples' signature were prepared and sent to county medical society presidents and public relations chairmen. A brief one-page description of the program was included with each invitation. This thumbnail outline also was distributed by the field men on their visits.

Following the session a digest of the minutes, recorded by Dr. Laurance D. Redway, was made and sent to the participants, county medical society public relations chairmen, executive secretaries, and other interested parties.

At report time help is being given upon request to Dr. Henry I. Fineberg, the chairman of the public relations session to be held during the 1956 annual meeting, in his preparations for the coming meeting.

Special Mailings.—For the purpose of helping county medical society public relations chairmen and other interested persons to keep up with the latest information and technics in medical public relations, the Bureau prepared and sent out several special mailings. These contained both original publications and materials produced by other sources. Among these were two pieces designed to be distributed by Welcome Wagon, Inc.: "Welcome to Westchester" and "Greetings from the Physician of the Suffolk County Medical Society," both of which acquaint newcomers with medical facilities available. Other materials included "Parleys Mend Rift Between Press, Doctors," a reprint from *Editor & Publisher*, a recognized leading trade paper of the newspaper and advertising fields; "Hospitals Relations with Media of Information," a reprint from the *Hospital Forum*, publication of the Hospital Association of New York State, discussing the Guide for Cooperation; "Key to Community Health," A.M.A. booklet explaining why doctors and county medical societies should help form health councils; our own "Seven PR Pointers for Medical Personnel," "How to Conduct Training Courses for Physicians' Office Personnel," and other items.

Publications.—Several original publications written by the Bureau's staff came off the press during the year, and many old ones continued to be in popular demand. The Bureau's latest publication, "Seven PR Pointers for Medical Personnel," containing practical advice for improving doctor-patient relations, has attracted attention not only in this country but abroad. In July the A.M.A.'s *PR Doctor*, a compilation of the latest ideas and publications in the medical public relations field, contained a copy of the pamphlet. In August the Arabian-American Oil Company requested copies, which the Bureau gladly supplied without charge. The letter of request stated that "we had a request from our medical installations in Saudi Arabia to contact you for the purpose of obtaining 20 copies of this booklet," which the author had seen described and pictured in the July, 1955, issue of the *Newsletter*. At this writing the Bureau has distributed 4,858 copies of this publication as the result of 554 orders received, 541 of which were order blanks printed in the *Newsletter*.

The Bureau also completed a new 16-page brochure entitled "How to Conduct Training Courses for Physicians' Office Personnel." This booklet is based on courses conducted in many states throughout the country plus the experiences of several New York State county medical societies in this new field of medical public relations. This brochure also has been widely distributed.

In the process of publication is a new 6-page, two-colored leaflet entitled "Should Chiropractors Be Licensed?," containing excerpts from an article which appeared in *New York Medicine*, official publication of the Medical Society of the County of New York and written by Mr. Robert D. Potter, editor. This will be distributed by the Bureau, working in conjunction with the State Society's Committee to Combat Cults.

Requests for 2,400 copies of an old publication, "Telephone Cues for Medical Personnel," were filled. Another booklet which came off the press a few years ago, "You and the Medical Society of the State of New York," also was in demand. Through Dr. W. P. Anderton alone, 1,288 copies were given to new members.

A special packet entitled "Medical Assistants," which contained valuable materials gathered from various parts of the country, to be used in training courses was made available by the A.M.A. in the fall of 1955 as part of its "PR in Action" series. Included in this packet were "Telephone Cues for Medical Personnel" and "Seven PR Pointers for Medical Personnel." Such inclusion is another indication that these publications are highly regarded by medical public relations leaders.

Newsletter.—The year 1955 marked the fourth consecutive year that the *Newsletter* was mailed to every member of the State Society. In addition, copies were sent to other interested persons, including newspaper editors and medical school deans, who agreed to distribute them to senior students. Approximately 25,500 copies were published each month except August and September.

As a result of offers printed in the *Newsletter* to supply certain materials of interest to physicians, the Bureau received numerous requests. Orders for more than 2,000 copies of "Seven PR Pointers for Medical Personnel" were filled following the publishing of an order blank. The mere mentioning of other publications, without an order blank, brought a great number of requests for three other items. These included the "Guide for Cooperation," "Proposed Cash Disability Insurance Benefits Under Social Security," and "The 1955 Health Insurance Council Report." The offer of the latter brought a request from as far away as England.

This pleasing response indicates to your committee that many of our physicians are public relations-minded and interested in leaflets that will help them improve their own public relations. It also shows that the *Newsletter* is being read by our members and, therefore, is a valuable channel of communication between our State Society and its members.

Publicity was given not only to the numerous public relations projects reported herein but also to the activities of the Society generally whenever it was feasible. Such activities, for example, included the annual meeting, the district branch meetings, the Woman's Auxiliary, the Outstanding General Practitioner of the Year, the Secretaries' Conference, and other subjects.

The columns of the *Newsletter* carried special messages from the chairmen of various Society committees in an effort to increase its value to members. These included a quotation on the Salk Vaccine by the chairman of the Council Committee on Public Health and Education, a request for early submission of resolutions by the Speaker of the House of Delegates, and a statement on the Society's nine-point positive legislative program and its opposition to chiropractic by the chairman of the Council Committee on Legislation.

The projects of allied groups as well as public service activities also received attention. An entire front page, to cite one incident, was given to tell the story of the recommendations for the use of the Salk vaccine drawn up by the State Health Department, the New York State Pharmaceutical Association, and the State Society. Publicity also was given to such projects as the Diabetes Detection Drive.

Efforts were continued throughout the year to make the *Newsletter* as appealing as possible to its readers. Greater variety was sought and greater use of popular features such as "Rx for Better Public Relations" and "The County Society News Round Up" was made whenever circumstances permitted. The committee takes this opportunity to invite county medical society officials to submit items suitable for publication in the *Newsletter* at the discretion of the editor.

At the time this report is being written, application is pending with the U.S. Post Office to change the mailing classification of the *Newsletter*. If granted, the new classification is expected to result in substantial savings in mailing costs as well as improved postal service.

On behalf of the committee a vote of thanks goes to Dr. Henry I. Fineberg, one of our members, for the time and effort he so generously gave to reviewing each issue of the *Newsletter*.

Liaison with A.M.A.—Evidence of the cooperative spirit that seems to grow each year between the Bureau and the A.M.A. was the cosponsoring of the latter's exhibit, "You and Your Medical Care," at the Hall of Springs, Saratoga Spa, during the summer of 1955 as reported elsewhere herein.

Following the pattern of previous years, the Bureau's staff worked closely with its A.M.A. counterpart in many ways. The director and field men attended the Public Relations Institute, sponsored by the A.M.A. in Chicago in the fall of 1955. They also were present at the Medical Society Executives Conference and the Conference of Presidents and Secretaries held in conjunction with the A.M.A. convention in Atlantic City in June. Your chairman also was in Atlantic City for the latter meeting. The director also was present at several other A.M.A. gatherings. These included the Regional Legislative Conference, the Medicolegal Symposium, the Medical Public Relations Conference, and the Boston Clinical Session. He also attended the first Medical Society Executives Conference Institute, which had the blessing of the A.M.A.

There were many other signs of the fine working relations that exist between the Bureau and the A.M.A. Among these was the inclusion of items published by the Bureau in A.M.A.'s *PR Doctor* and "PR in Action," as mentioned elsewhere herein. Both are compilations of selected public relations materials made available to medical public relations workers throughout the country. On several occasions the Bureau assisted the A.M.A.'s Public Relations Department upon request, and the latter, in turn, aided the Bureau when called upon.

Liaison with Society Committees and Other Groups.—One of the important examples of cooperation with Society committees was the assistance rendered in the campaign to prevent enactment of the Peterson-Noonan Chiropractic Licensure Bill.

At the request of the new State Society Committee to Combat Cults, to which both your chairman and the director were appointed, the Bureau's staff carried out the campaign in numerous ways. These included the preparation of special letters to county society presidents, legislation and public relations chairmen, as well as to the legislators; gathering materials; designing a new pamphlet; visits to county society officials and others by the field men; working with the Woman's Auxiliary, and other activities.

There were many occasions when work was carried on with other committees. Among these were the Council Committees on Legislation and Public Health and Education. Whenever feasible, the Bureau's representatives attended meetings of these and other groups. The director, for example, was present at the Annual Conference of Medical Society Secretaries held in Syracuse.

In regard to groups outside the Society, the Bureau also was represented at many meetings. The 51st Annual Health Conference, sponsored by the New York State Health Department; the 7th Annual Session, New York State Academy of General Practice; meeting of the Council Committee on Public and Professional Relations, Dental Society of the State of New York, where a representative spoke on "Teamwork in the Health Professions"; the Roswell Park Memorial Institute, Buffalo, New York State Health Department, were among the meetings attended.

Contacts with other important allied groups were maintained and implemented. From time to time there were negotiations with the Chamber of Commerce of the State of New York, the Health Insurance Council, and other organizations. One of the most important activities in this field were the joint endeavors of the Bureau and the New York State Health Department in promoting the welfare of both the people and the medical profession through proper publicity and other channels.

Public Relations Program for 1956.—The major points of operation in the 1956 public relations program will be the following projects:

1. Stimulating and assisting county medical societies in the conducting of courses for medical assistants in doctors' offices.
2. Maintaining a central information and publicity center to serve on a State-wide basis.
3. Living up to and implementing the "Guide for Cooperation."
4. Encouraging county medical societies to conduct health forums cosponsored by the press.
5. Assisting writers by helping them to obtain information in preparing articles on medical subjects and by reviewing completed manuscripts.
6. Urging the continuance and implementation of the committee's over-all public relations program, with emphasis on the presentation and improvement of public service projects and the adoption of new ones.
7. Promoting the health education of the public through pamphlets and other media.
8. Maintaining and improving liaison relations with State Society committees, the Woman's Auxiliary, and other groups.
9. Expanding radio, television, and press activities as well as the Speakers' Service.
10. Continuing the field program.

In bringing this report to a close, the members of your committee wish to express to the officers, committees, members, and employes of the State Society, as well as to the officials of the 61 county medical societies, their sincere thanks for the excellent spirit of cooperation demonstrated by all during the past year. The accomplishments reported herein would not have been possible without their assistance. The acceptance and implementation of our program is an inspiration to your committee to continue and improve whenever possible our public relations efforts in behalf of the medical profession in this State.

Cooperation with Media of Information

The Subcommittee on Cooperation with Media of Information of the Council Committee on Public Relations, appointed by the president to draw up a code of cooperation between the medical profession, the press, radio, TV, and photographers, consists of the following:

John C. McClintock, M.D., *Chairman*	Albany
Henry I. Fineberg, M.D.	Queens
John D. Naples, M.D.	Erie

Since the last session of the House of Delegates, the subcommittee continued to function and was ready to take any action necessary, concerning the Guide for Cooperation. No action on the part of the subcommittee in regard to interpreting the Guide was necessary, although the Public and Professional Relations Bureau received requests for help from writers, as outlined in the main report of the Council Committee on Public Relations.

The Guide for Cooperation states in its last sentence: "This guide will be reviewed and renewed annually or more often if necessary." In keeping with this promise, plans are under way to hold meetings with representatives of the press, radio, television, writers' groups, and other interested parties. At report time three meetings are being scheduled. The first is to be held Thursday afternoon, March 8; the second, Friday morning, March 9; and the third, Friday afternoon, March 9. A supplementary report covering these meetings will be submitted to the House of Delegates at its May meeting in New York City.

PART XII
MISCELLANEOUS

Belated Bills

These bills are submitted to the House of Delegates because they were received in the office of the State Society more than ninety days after the expenses were incurred.

1. On May 10, 1955, a voucher was received from Dr. Jurgens H. Bauer, member of the Committee on Legislation, covering expenses of traveling from Syracuse to New York City and return on December 8, 1954; expenses amounting to $40.90.

2. On December 21, 1955, a bill was received from Dr. Moses H. Krakow, treasurer of the First District Branch, covering expenses of the executive committee (Coordinating Council) of the branch, as follows:

8 meetings at $10		$80.00
Clerical assistance		50.00
Mimeograph		59.38
Printing	41.69	
	26.27	67.96
Legislation Committee		23.25
Total		$280.59

3. On December 27, 1955, a voucher was received from Dr. Philip Hust, member of the Com-

mittee on Legislation, covering expenses of traveling from Sidney to Kingston and return on September 22, 1955; expenses amounting to $14.70.

Convention

The Convention Committee consists of the following:

Samuel Z. Freedman, M.D., *Chairman*	New York
W. P. Anderton, M.D.	New York
Maurice J. Dattelbaum, M.D.	Kings
Thomas E. Alexander	New York

The 149th Annual Convention of the Medical Society of the State of New York was held at the Hotel Statler in Buffalo, from May 9 through 13, 1955.

Registration.—Registration figures were as follows:

Physicians	1,619
Guests (included are medical students, interns, dentists, nurses, technicians, et al.)	637
Technical exhibitors	332
Total	2,588

House of Delegates.—The House of Delegates met the first three days of the convention. An evening session was held on Tuesday. Thirty-three resolutions were acted upon.

The Session on Physical Medicine was changed to a Section. The 1956 meeting will be held in New York City, May 7 to 11.

Scientific Program.—The Allergy Section held its first meeting, as did the divided Ophthalmology Section and Otolaryngology Section.

Dr. Laurance D. Redway, editor, New York State Journal of Medicine, had some of the panel discussions and scientific papers tape recorded.

Instead of holding postgraduate lectures on Tuesday and Wednesday mornings, round table discussions were substituted.

The following are the attendance figures for scientific meetings:

Sections		
Allergy	Wednesday A.M.	85
Anesthesiology	Thursday A.M.	68
Chest Diseases	Thursday A.M.	56
Dermatology and Syphilology	Thursday A.M.	79
Gastroenterology and Proctology	Thursday A.M.	53
General Practice	Friday A.M.	73
Industrial Medicine and Surgery	Wednesday A.M.	40
Medicine	Thursday A.M.	68
Neurology and Psychiatry	Thursday A.M.	45
Obstetrics and Gynecology	Friday A.M.	69
Ophthalmology	Thursday A.M.	82
Orthopedic Surgery	Wednesday A.M.	60
Otolaryngology	Friday A.M.	43
Pathology and Clinical Pathology	Friday A.M.	37
Pediatrics	Thursday A.M.	53
Preventive Medicine and Public Health	Wednesday A.M.	67
Radiology	Friday A.M.	56
Surgery	Friday A.M.	61
Urology	Friday A.M.	31
Sessions		
History of Medicine	Tuesday 8 P.M.	71
Legal Medicine	Wednesday A.M.	32
Physical Medicine	Wednesday A.M.	78
Public Relations	Thursday A.M.	52
General Sessions	Monday P.M.	109
	Tuesday P.M.	300
	Wednesday P.M.	350
	Thursday P.M.	400
	Friday P.M.	50
Round Table Discussions	Tuesday A.M.	58
	Wednesday A.M.	33
	Thursday 8 P.M.	30

Scientific Exhibits.—The Scientific Exhibits Subcommittee chose 27 exhibits from the applications. The Scientific Awards Subcommittee reported there were not enough exhibits to warrant three awards in each class and picked the following for recognition—two in each class:

Clinical Research

FIRST AWARD

"Focal Hemosiderosis in Rheumatic Heart Disease"
John A. Evans, M.D.
Michael J. Esposito, M.D.—*By invitation*
New York Hospital-Cornell Medical Center, New York City

HONORABLE MENTION

"Roentgen Abnormalities of the Large and Small Intestine Associated with Prolonged Cathartic Ingestion"
Normal Heilbrun, M.D.
Charles Bernstein, M.D.
University of Buffalo School of Medicine, Buffalo

Scientific Research

FIRST AWARD

"The Treatment of Gastric Cancer"
George T. Pack, M.D.
Gordon P. McNeer, M.D.
Kathleen E. Roberts, M.D.—*By invitation*
Douglas A. Sunderland, M.D.
L. Ortega, M.D.
Thomas Randall, M.D.—*By invitation*
Memorial Center for Cancer and Allied Diseases, New York City

HONORABLE MENTION

"Inhibitions of Experimental Venous Thrombosis and Clinical Applications"
Irwin D. Stein, M.D.
Mount Vernon Hospital, Mount Vernon

Certificates of award were sent to the winning exhibitors.

Scientific Motion Pictures.—The motion picture exhibit was planned by Dr. Colgate Phillips, cochairman, Motion Picture and Television Subcommittee. With the help of his committee he reviewed and chose the pictures which were presented with the cooperation of the Medical Film Guild.

TELEVISION.—The television program sponsored by Smith, Kline & French Laboratories, and arranged with the cooperation of the Television Subcommittee, Dr. John H. Talbott, chairman, and the Buffalo General Hospital, ran Monday through Thursday. Attendance ranged from 125 to 425. The television was shown on one large screen rather than on several scattered small television sets.

VIDECLINIC.—The videclinic was an innovation. It consisted of live and film reports on mental health. This, too, was sponsored by Smith, Kline & French and was shown on Monday evening to an audience of about 800.

TECHNICAL EXHIBITS.—Mr. Charles L. Baldwin, in charge of technical exhibits, reported there were 79 exhibits.

ANNUAL MEETING AND DINNER DANCE.—The annual meeting and dinner dance was held on Wednesday evening of the convention week; 162 attended. The speakers were the Drs. Dan Mellen, Renato J. Azzari, Herbert H. Bauckus, James Greenough. Dr. Walter Scott Walls was toastmaster, and the guest of honor was the Very Reverend Philip E. Dobson who spoke on "The Doctor as a Person." An excellent dance band played after the dinner.

WOMAN'S AUXILIARY.—The Woman's Auxiliary to the Medical Society of the State of New York had their convention the first three days of convention week. A corps of hostesses took attendance at meetings and directed doctors to meeting rooms and registration desk. Their help was appreciated.

MISCELLANEOUS.—A card of thanks was sent to each participant in the scientific program.

The committee expresses thanks for the kind cooperation and work of Miss Mollie Pesikoff and Mr. Charles L. Baldwin.

The dates of the 1956 Convention will be May 7 through 11.

A meeting of the Convention Committee, including chairmen of Sections and Sessions, convened on Saturday morning, October 15, 1955, at 10 A.M., at the Hotel Statler in New York City, to arrange the scientific program. The Subcommittee on Scientific Exhibits met on Wednesday afternoon, January 26, 1956, to review applications for exhibits. The technical and scientific exhibits will open on Tuesday, May 8, and run through Friday, May 11.

Nursing Education

The Council Committee on Nursing Education has the following membership:

Raymond S. McKeeby, M.D., *Chairman*	Broome
Joseph A. Geis, M.D.	Albany
Louis M. Rousselot, M.D.	New York

The "Fourteen Principles for the Promotion of Better Nursing Care," which were revised by the Nursing Committee of the New York State Hospital Association and officially approved by the latter organization, were presented to the Council, who also approved them. Since they will be of considerable general interest to the membership, they are being included as a part of this report:

1. There are three levels of nurses needed in hospitals today:

(*a*) Licensed practical nurses with approximately one year of formal preparation.

(*b*) Registered diploma nurses with three years of preparation.

(*c*) Registered degree nurses with four, five, or more than five years of preparation.

2. To meet these needs, schools of nursing should produce nurses in the three groups in the following approximate ratios: licensed practical nurses 45 per cent, registered diploma nurses 45 per cent, and registered degree nurses 10 per cent.

3. There is a serious shortage of nurses in all three of these categories.

4. Recruitment efforts and attempts to obtain financial support should be directed toward all three types of program.

5. Practical nurses schools can be sponsored by high schools or by hospitals. There is no reason why practical nurse students cannot receive their preparation side by side with students in the diploma or registered degree programs in the same hospital.

6. Practical nurses, under proper supervision, can effectively handle a large portion of the basic nursing care in the hospital for which they have been trained.

7. Registered diploma nurses prepared in hospitals, schools of nursing in the regulation three-year period can give treatments and medications, act as team leaders with practical nurses, student nurses, and nurse attendants in the team concept of nursing care, and take charge of wards as assistant head nurses and head nurses. In these latter positions they should have on-the-job training programs in supervisory and administrative technics as well as adequate experience in general staff nursing. They do not need a college background. Some colleges are now offering job relations training courses on an extension basis, and this should be encouraged.

8. Registered basic degree nurses with postgraduate clinical experience can best fill teaching and administrative positions in schools of nursing and to some extent supervisory positions in nursing service.

9. Consideration should be given immediately to the development of a shortened curriculum, with emphasis on practice and application of theory, rather than on theory, which would serve as a basic training for all registered diploma nurses, some of whom might subsequently, at their option, take further courses leading to college degrees or specialized experience.

10. Some form of progression should be developed in the field of nursing education so that a nurse wishing to advance from one category to another could receive some credit for the prepara-

tion she has already obtained, without having to start all over again at the beginning.

11. In a well-organized diploma program intelligent nursing care is achieved by the student nurse having a thorough knowledge of basic principles in all clinical areas. This, combined with adequate supervision and direction at the bedside or in a specialized area, will provide a true learning situation which eventually will result in optimum care of the patient. The rapid changes and technicalities developing in patient care makes this mandatory. Only by a thorough understanding of principles can these constant adjustments be made, thereby insuring nursing for the future.

12. Nursing education does not belong exclusively in the "stream of general education." It cannot and should not be divorced from hospitals. The bedside of the patient is the best place a student can learn nursing skills.

13. Curriculum requirements established by the Education Department should be revised at frequent intervals to conform to changing medical practice.

14. As long as the nursing shortage exists, however, all regulatory bodies should not request curriculum and administrative changes in schools of nursing which may withdraw from the student nurse any additional clinical experience.

It was generally felt that this was somewhat of a practical approach to the acute nursing shortage, realizing that the situation varies greatly in different localities; however, the needs for all types of nurses are recognized. The results of the two-year programs already under way are being evaluated.

There are many problems which will have to be worked out, but it is only through the continuing interest on the part of all professional groups concerned that a practical solution will come about.

Attempts have been made by the Nursing Education Committee to keep the Council advised of Federal legislation regarding the setting up of a commission which would study the needs of nursing services in the United States. This bill has been opposed by the American Medical Association and by the National League of Nursing because it was felt that it would duplicate work that has been done, that the needs are known, and the important thing is a solution to these needs.

Office Administration and Policies

The Committee on Office Administration and Policies consists of the following:

John J. Masterson, M.D., *Chairman*	Kings
W. P. Anderton, M.D.	New York
Renato J. Azzari, M.D., ex-officio	Bronx
Maurice J. Dattelbaum, M.D.	Kings
James Greenough, M.D.	Otsego
Raymond S. McKeeby, M.D.	Broome
Thos. E. Alexander, *Adviser*	New York

Your committee met regularly each month during the past year with the exception of the summer. Almost without exception all members were present.

As has been pointed out in past years, this committee is made up of a member of the Board of Trustees, the treasurer, the secretary, the president-elect, a councillor, the president ex officio, and the office manager as adviser. It is worth noting that its composition is that of "top management." To keep the group informed, the office manager attends each meeting and reports.

We are concerned primarily with the general operations of the office. In this capacity our business includes the establishing and maintaining of office procedures consistent with present-day methods, the approval of all matters relating to personnel from the time an employe is hired, through salary increases, promotions, and separations.

With the approval of the Council and Board of Trustees, this committee is responsible for all office policy. There is also the responsibility for various office services—accounting, mailroom, mimeographing, and telephone. These duties include maintenance and upkeep of the physical equipment and general appearance of our headquarters. All alterations, painting, and repairs are included.

As reported in previous years the collection of the American Medical Association's dues continues to be an expense to the Society for which it is only partly reimbursed. It is our hope that eventually this will be recognized and due recompense made.

Since the reorganization of the Blood Banks Association of New York State, your committee has authorized much assistance through making available both personnel and office services whenever possible. During its early existence, office space, mimeographing and mailroom facilities, telephone, and accounting services were placed at its disposal. In early 1955 the office manager of the Society acted in that capacity for the association. Occasionally we have had to deny requests for help in specific instances. These denials were dictated by Society needs, and while we desired to help, we just did not have the staff or facilities. During the year the Society has purchased equipment from the Association for which the latter had no immediate use. This equipment was utilized at once.

The Christmas party for the staff was held on December 20, 1955, at the Hotel Statler, New York City. Last June the staff held its annual outing at Bear Mountain. Your committee believes these social activities to be an excellent contribution to morale. We are proud of our staff and the manner in which they conduct themselves.

Each year we provide, for each employe who desires it, a physical examination and chest x-ray. We are happy to report that more staff members than ever before took advantage of this during 1955.

The committee was requested to obtain information on the possibility of installing a pension plan for the staff. This is being studied with the hope of making a recommendation to the Board of Trustees.

Since the last meeting of the House of Delegates, the Board of Trustees referred the question of *Directory* cost reduction to our committee. This was the result of a number of suggestions made by

Dr. Leo F. Schiff, trustee. We went carefully and deeply into the whole "cost" question, and our findings can be summarized very succinctly. If it is desired to reduce costs, we must reduce quality. We can produce a book with cheaper material, both cover and paper. We can reduce the amount of material printed in the book. However, it is the committee's belief that should this be done, the volume will not last the two-year period intended. One fact in all the discussion related to the expense of the *Directory*, which has never received its due, is that while the over-all cost is viewed with dismay, the actual net cost per book is $4.32, or $2.16 a year per member.

We believe that, giving consideration to the type of information being supplied our membership through the medium of the *Directory*, it is not expensive. From the beginning of compilation to the time each member receives his copy, we have a special problem. This is not an ordinary publication. Many of the items printed in the biographic section must be verified with independent sources. Special abbreviations must be used to reduce the volume of the book. Employes must be trained in all of this work. The printer must be equipped to handle a special job of this type.

Each issue contains a little more information about New York State physicians. While preparing each issue, we receive requests from many diverse sources to include additional material. We are sure our publication is used extensively and thereby fills a need which no other directory can.

The efforts and work of our staff members are commended by the committee. It wishes to give particular recognition and express its appreciation to each and every member of the staff. We are happy especially to commend Miss Mary McMahon, supervisor of the membership department; Mr. William Bonzer, mailroom supervisor, and Mr. Frank Grassi, accounting department supervisor. The committee could not render a complete report without giving due weight to the wise counsel and considered judgment which our genial secretary and general manager, Dr. W. P. Anderton, contributes to facilitating the work which confronts us month after month. The committee also desires to express its thanks and appreciation to Mr. Thos. E. Alexander for his valued advice and helpful cooperation. The Society is most fortunate in having a man of his competence as accountant and office manager.

In giving recognition to our department heads, the committee has always been well aware that the work of the office could not be carried on without the effort, cooperation, and loyalty of each member of the staff. Review of our employment records reveals that almost half of our staff has been with the Society for more than seven years. We believe that each is entitled to proper recognition, and the committee is pleased to publish the dates of employment and names of the staff.

1928—Miss Janet E. Loy

1935—Dr. David J. Kaliski
Miss Alice Wheeler

1937—Miss Doris K. Dougherty

1938—Miss Grace I. West

1940—Dr. Laurance D. Redway

1943—Mr. Charles L. Baldwin
Miss Eileen Carmody

1944—Miss Mollie Pesikoff
Dr. W. P. Anderton
Mr. William Bonzer

1945—Mr. George Farrell
Mrs. Alice Arana
Mrs. Eunice Leonard

1946—Miss Frances E. Casey
Mrs. Evelyn DeMarco
Mrs. Lois Ward
Mr. Thomas E. Walsh

1947—Mr. Thos. E. Alexander
Miss Alvina Rich Lewis
Mrs. Evelyn Clark
Mrs. Anne G. Colahan
Miss Mary McMahon

1948—Mr. Frederick Miebach
Miss Gretchen Wunsch
Miss Dorothy Hart
Miss Camille M. Marra
Mr. Joseph Logue

1949—Miss Eileen Buckley
Dr. Theodore J. Curphey
Mr. Martin J. Tracey
Miss Susan Baker
Mr. James F. Kelly
Mr. Joseph A. Mullaney

1950—Miss Mary Singer

1951—Miss Lieselotte Benz
Mrs. Florence B. Gallagher
Dr. Harold B. Smith

1952—Mr. Frank Grassi
Miss Julia Downer

1953—Mrs. Yvonne Chapman
Miss Marilyn McKenna

1954—Dr. John H. Iselin
Miss Lucille M. Leipziger
Miss Beatrice Macaura
Miss Dorothy Landis
Mr. Robert Miller
Mr. John Walsh
Miss Joan E. Vitrano
Mr. Ackley C. Schuyler
Mrs. Eleonore S. Solden

1955—Mrs. Jean Robinson
Mr. Arnold Mandel
Miss Ann Marie Marrinan
Miss Susan M. Richardson
Mr. Marvin Lessig
Miss Norma Gigliotte

1956—Miss Lucy Ciccarone

It is recommended that a committee of similar composition be appointed for the succeeding year.

Report of the Nominating Committee

To the House of Delegates, Gentlemen:

In accordance with Chapter XI, Section 4, of the Bylaws of the Medical Society of the State of New York, your Nominating Committee met at the Harvard Club, 27 West 44th Street, New York City, Thursday evening, January 12, 1956, at seven o'clock. Present were:

Second District	Theodore J. Curphey, M.D.	Nassau
Third District	Harry Golembe, M.D.	Sullivan
Fourth District	Alfred A. Hartmann, M.D.	Franklin
Fifth District	Dan Mellen, M.D., *Chairman*	Oneida
Sixth District	Norman C. Lyster, M.D.	Chenango
Seventh District	Donavan M. Jenkins, M.D.	Monroe
Eighth District	Carlton E. Wertz, M.D.	Erie
Ninth District	John F. Rogers, M.D.	Dutchess
Member-at-Large	Frank J. Cerniglia, M.D.	Queens
Member-at-Large	Gervais W. McAuliffe, M.D.	New York
Ex officio	Renato J. Azzari, M.D.	Bronx
Ex officio	W. P. Anderton, M.D.	New York

Dr. Edward R. Cunniffe, First District, was absent on account of illness.

During dinner, Dr. Mellen circulated several letters from component medical societies advocating certain nominations. Immediately after the meal, your committee nominated the following:

President-Elect	Thurman B. Givan, M.D., Kings
Vice-President	Thomas M. Watkins, M.D., St. Lawrence
Secretary	W. P. Anderton, M.D., New York
Assistant Secretary	Ezra A. Wolff, M.D., Queens
Treasurer	Maurice J. Dattelbaum, M.D., Kings
Assistant Treasurer	Samuel Z. Freedman, M.D., New York
Speaker	Frederic W. Holcomb, M.D., Ulster
Vice-Speaker	Frederick W. Williams, M.D., Bronx

Councillors (three years)

Henry I. Fineberg, M.D., Queens
Peter J. Di Natale, M.D., Genesee
John F. Rogers, M.D., Dutchess
Floyd S. Winslow, M.D., Monroe

Councillor (two years, unexpired term)

John C. McClintock, M.D., Albany

Trustee (five years)

* Edward R. Cunniffe, M.D., Bronx

Delegates to the American Medical Association (two years, commencing January 1, 1957)

W. P. Anderton, M.D., New York
Herbert H. Bauckus, M.D., Erie
Thomas M. d'Angelo, M.D., Queens
Gerald D. Dorman, M.D., New York
Edward P. Flood, M.D., Bronx
John M. Galbraith, M.D., Nassau
Thurman B. Givan, M.D., Kings
Harry Golembe, M.D., Sullivan
Joseph A. Lane, M.D., Monroe
John J. Masterson, M.D., Kings
William B. Rawls, M.D., New York
Leo F. Schiff, M.D., Clinton
Earl C. Waterbury, M.D., Orange
Carlton E. Wertz, M.D., Erie
Floyd S. Winslow, M.D., Monroe
Ezra A. Wolff, M.D., Queens
Christopher Wood, M.D., Westchester
Frederick A. Wurzbach, Jr., M.D., Bronx

The nine receiving the highest number of votes will be delegates, and the second nine will be alternates. We are allowed one delegate per each thousand A.M.A. members, or part thereof.

The meeting adjourned at 8:20 P.M.

Respectfully submitted,
Dan Mellen, M.D., *Chairman*

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* Deceased, March 12, 1956.

Report of Special Committee on Constitution and Bylaws

To the House of Delegates, Gentlemen:

Your Special Committee on Constitution and Bylaws consists of:

A. H. Aaron, M.D., *Chairman*............Erie
Thomas O. Gamble, M.D...............Albany
James R. Reuling, M.D.................Queens

The committee has considered the material submitted to it and desires to report as follows:

Last year Dr. W. P. Anderton carefully reviewed the Constitution and Bylaws in order to bring the wordage up to date and eliminate material that had become obsolete. It is on his suggestions that your committee recommends the following:

Chapter III, Section 2.—The third paragraph should be deleted. It reads: "In 1950, four councillors shall be elected for three years, one for two years, and one for one year."

The committee recommends the adoption of this amendment.

Chapter III, Section 3.—The second and third phrases should be eliminated, leaving a comma after the words, "One trustee shall be elected annually for a term of five years," to be followed by the present second sentence after changing the word "Thereafter" to the word "but." This eliminates division which was necessary in 1950. This is no longer necessary. Deleting the words "but in 1950 one trustee shall be elected for five years, one for four years, and one for three years," the section will then read:

> One trustee shall be elected annually for a term of five years, but whenever the terms of two trustees expire in the same year, two trustees shall be elected each for five years. In the event of a vacancy, a trustee shall be elected for the unexpired term. A person to be eligible for election as trustee shall have served at least two years as an officer, or at least three years as a member of the Council, or at least five years as a member of the House of Delegates.

The committee recommends the adoption of this amendment.

Chapter III, Section 4.—Since part of the first sentence is a repetition of the first sentence in Section 1, we recommend deleting the following: "The first order of business at the last scheduled session of each annual meeting of the House of Delegates shall be the nominations and elections for officers of the Society and other members of the Council, a member or members of the Board of Trustees, delegates to the American Medical Association, and. . ."

We recommend that this section read as follows:

> After the appointment of a sufficient number of tellers by the speaker, and after all nominations have been made, the secretary shall cause to be displayed in full sight of the delegates a list of nominees for each office arranged in alphabetical order, and shall also cause to be distributed a sufficient number of blank ballots for the use of the House of Delegates. These ballots shall have printed or stamped thereon the appropriate headings for each office with spaces thereunder in which may be written the name of the candidate or candidates to be voted for.

The committee recommends the adoption of this amendment.

Chapter IV, Section 1(b).—The executive committee now meets regularly the afternoon before the Council meeting. It considers correspondence and perhaps other matters. It reports the next day to the Council and thus saves time for the Council. It would seem wise, therefore, to insert before the last sentence in this section a comma followed by the words "and it shall at all times assist the Council." The section would then read:

> The Council shall establish an executive committee to be composed of the president, the president-elect, the secretary, the treasurer, and three additional members of the Council appointed by the president with the approval of the Council. This committee shall be appointed by the president immediately upon his assumption of the office of president and to serve during his tenure as president only. The executive committee shall have the authority to take action in case of emergency arising in the interim between the meetings of the Council in order to protect the interests and purposes of the Medical Society of the State of New York as set forth in this Constitution and Bylaws. In times of such emergency, the executive committee shall have all the powers and duties which are conferred upon the Council, and it shall at all times assist the Council. Any action taken by the executive committee shall be reported in full to the Council at its next meeting.

The committee recommends the adoption of this amendment.

Chapter VII, Section 7.—Although allowed by custom to sign checks, no allotment of such power and responsibility to either the assistant secretary or assistant treasurer is made. Mr. Alexander, our accountant and office manager, feels it advisable to have this contingency covered in the Bylaws. Your committee, therefore, recommends that there be inserted in the first sentence of this section after the words "the secretary" the words "or assistant secretary." That would necessitate a period after the first "Society" and commence the second sentence after that "Society," with the words, "The secretary."

A sentence in this section is obsolete and should be deleted: "He shall supply each county society with the necessary blanks for making its annual report to this Society."

Section 7 will then read:

> The secretary or assistant secretary shall countersign all checks issued by the treasurer on funds of the Society. The secretary shall be the custodian of the seal of the Society, and of all books of records and papers belonging to the Society, except such as properly belong to the treasurer, and shall keep an account of and promptly turn over to the treasurer all funds

> of the Society which come into his hands. He shall provide for the registration of the members at all sessions of the Society. With the aid and cooperation of the secretaries of the county societies, he shall keep a proper register of all the registered physicians of the State by counties. He shall aid the officers of the district branches in the organization and improvement of the county societies and the extension of the power and influence of the Society. He shall conduct the official correspondence, notifying members of meetings; officers, councillors, trustees, and board members of their election, and committees of their appointments and duties. He shall affix the seal of the Society to all credentials issued to members of the Society elected by the House of Delegates and to such other papers and documents as may require the same. He shall make an annual report to the House of Delegates. Acting in cooperation with the Council, he shall prepare and issue all programs. He shall be a member of the Council. He shall be ex officio a member of all boards and committees without vote. He shall record the name and date of admission of each member of the Society. He shall be in complete charge of the administration of the headquarters of the State Society.

The committee recommends the adoption of this amendment.

Chapter VII, Section 8.—Continuing about the signing of checks, in this section, after the first three words, there should be added "may countersign checks drawn by the treasurer on funds of the Society, he"; the section will then read:

> The assistant secretary may countersign checks drawn by the treasurer on funds of the Society, he shall aid the secretary in the work of his office, and, in the absence or disability of the latter, he shall perform the duties of the office until the secretary resumes the work, or, in the case of a vacancy, until a successor shall be elected.

The committee recommends the adoption of this amendment.

Chapter VII, Section 9.—In the same vein we advocate that there be inserted in the second phrase of the first sentence the words "or assistant treasurer" after the word "treasurer." Also in that same phrase, following the word "secretary," the words "or assistant secretary" should be inserted. This sentence would then read:

> The treasurer shall keep accurate books of accounts of all moneys of the Society which he may receive and shall disburse the same when duly authorized, but all checks drawn by the treasurer or assistant treasurer upon the funds of the Society shall be countersigned by the secretary or assistant secretary of the Society. He shall collect, on or before the first day of June in each year, from the treasurer of each component county society the State per capita assessment. He shall at the expense of the Society give a bond for the faithful performance of his duties, which shall be approved by the Council as to amount, form, and surety. He shall make an annual report to the House of Delegates and monthly reports to the Council. He shall be a member of the Council.

The committee recommends the adoption of this amendment.

Chapter XI, Section 2.—To be up to date, we recommend that the second sentence be deleted and that the present first sentence have its period changed to a comma, followed by the words "each for a term of five years." The section would then read:

> A special committee, to be known as the Malpractice Insurance and Defense Board, consisting of seven members, including a chairman, shall be appointed by the president with approval of the Council, each for a term of five years, annually at expiration of term of office of a member. Vacancies for any other cause shall be filled for the unexpired term by appointment by the president with the approval of the Council. The secretary, treasurer, legal counsel, and indemnity representative shall be ex officio members of the committee with voice but without vote. It shall be the duty of the committee to study and supervise, on behalf of the Society, all matters having to do with malpractice insurance and defense.

The committee recommends the adoption of this amendment.

Chapter XII, Section 1.—We advocate the insertion of the words "and vice-chairman" after the word "chairman" in the second sentence. The section would then read:

> The scientific sections designated by the House of Delegates shall each organize by the election of a chairman, vice-chairman, and secretary. The chairman and vice-chairman shall be elected annually; the secretary for such term as the section may deem fit.

The committee recommends the adoption of this amendment.

Chapter XII, Section 3.—The policy has been established for each section to meet once, instead of twice as formerly at the annual convention. Therefore, the first sentence in Section 3 should be deleted as well as the words "and must have recorded his name and address in the section registry." No particular section registry is kept by a section; rather each member records his section affiliation on the registration card when he registers at the annual convention. Section 3 would then read:

> To participate in the election of any section a member must be registered with such section.

The committee recommends the adoption of this amendment.

Chapter XIV, Section 1.—Paragraph (*b*) is no longer needed. We therefore recommend that "(*a*)" after the words "Section 1" be eliminated as well as paragraph (*b*).

The committee recommends the adoption of this amendment.

Chapter XIV, Section 2.—It is provided in the last sentence of this section that dues may be remitted on account of illness. This is the only permission in the Bylaws for dues remission. The House of Delegates has instructed the Council that it may remit dues on account of temporary service in the armed forces and financial hardship. The American Medical Association allows remission of dues for age over seventy, financial hardship, and temporary service in the armed forces or U.S. Public Health Service. It is, therefore, recommended that the last paragraph of Chapter XIV be amended to read as follows:

> The dues of any member of the Medical Society of the State of New York may be remitted for the current year on account of illness, financial hardship, temporary service in the armed forces or in the U.S. Public Health Service, when the request is made by the member's component county medical society.

The committee recommends the adoption of this amendment.

CHANGE OF FISCAL YEAR.—A resolution was submitted to the committee by the Board of Trustees. The Board of Trustees in their 1955 annual report proposed that the Bylaws, Chapter V, Section 2, last sentence, which now reads: "The fiscal year shall begin July 1 and end June 30 of each calendar year," be amended to read: "The fiscal year shall begin January 1 and end December 31 of each calendar year."

The committee recommends the adoption of this amendment.

AMENDMENTS ON MANDATORY A.M.A. MEMBERSHIP AND ELIMINATION OF DISTRICT BRANCHES.—In considering the next two proposed amendments to the Constitution, your committee desires the indulgence of the House of Delegates to allow it to read these resolutions, each of which is of a different character, but the argument as to the method of handling them is similar, and we would appreciate the opportunity to present this entire story to you and then individually ask for action on each amendment and the substitute amendment offered by the committee.

Resolution number 55-33, Membership in American Medical Association, introduced by Dr. David Fertig, Westchester, was as follows:

> WHEREAS, the American Medical Association is the recognized and established body of the medical profession which speaks for and directs policy of organized medicine at the national level; and
>
> WHEREAS, many members of the Medical Society of the State of New York are not members of the American Medical Association, for various reasons; and
>
> WHEREAS, these members are still affected by the activities of the American Medical Association; and
>
> WHEREAS, these same members receive the benefits of membership in the American Medical Association without belonging to this organization; therefore be it hereby
>
> *Resolved*, that the necessary amendments to the Constitution and/or Bylaws of the Medical Society of the State of New York be made so that all members of county medical societies become members of the American Medical Association.

Also referred to our committee was resolution number 55-29, Proposed Dissolution of the District Branches, introduced by Dr. Richard Cuthbert, Jr., Fifth District Branch:

> WHEREAS, in view of the continued and progressive decrease in attendance at the district branch annual meetings and the apparent lack of interest in same; and
>
> WHEREAS, these meetings are a continued expense to the Medical Society of the State of New York; and
>
> WHEREAS, the Fifth District Branch at its annual meeting in 1954 voted to request the Medical Society of the State of New York to consider the dissolution of the district branches; therefore be it hereby
>
> *Resolved*, that the Bylaws of the Medical Society of the State of New York be changed so as to eliminate the district branches.

We have carefully studied these two resolutions. They have appeared before this House at previous sessions and have been thoroughly discussed and occupied considerable attention and time of this House.

The Planning Committee for Medical Policies of the Medical Society of the State of New York has carefully studied both of these problems, especially the one related to mandatory membership in the American Medical Association and still has it under consideration and will report to this body. I have communicated with Dr. Di Natale, chairman of that committee, in regard to their report and have informed him of the type and character of our report.

We recommend that the Medical Society poll its membership as provided in Article X of the Constitution as follows:

> ARTICLE X—REFERENDUM
>
> At any meeting of the House of Delegates a majority of the members present may order a referendum vote of the Society on any question consistent with the Constitution and Bylaws and in accordance with such regulations respecting the submission of the question as the House of Delegates may prescribe. The members shall vote thereon by mail. The polls shall be closed at the expiration of fifteen days after the mailing of the question; and if the members voting shall comprise a majority of all the active members of the Society, a majority of such vote shall determine the question and be binding on the Society and the House of Delegates. The Council may, in a similar manner, order a referendum to the House of Delegates.

Your committee recommends the following wording of this proposed referendum to the membership:

1. I am in favor of compulsory membership of the members of the Medical Society of the State of New York in the American Medical Association. yes ☐ no ☐
2. I am in favor of elimination of the district branches. yes ☐ no ☐

Signed

Your committee realizes that the House of Delegates is well acquainted with these problems and may be prepared at this time to vote upon them, and we have prepared all changes in the Constitution and Bylaws that are necessary to present to you at this time if you adopt these two resolutions.

We believe it is unwise for this House to act on these resolutions, but they should be submitted to the entire membership as provided for in the referendum in the Constitution and Bylaws so that each member may express himself on two vital alterations in the character of the fundamentals of the Constitution and Bylaws of this organization.

More and more amendments to constitution and bylaws of legislative bodies, both national and State, are being submitted to the citizens for consideration, and I believe all of us are keenly aware of the thoughtfulness and the type of votes that have been recorded on suggested amendments to the Constitution and Bylaws of the State of New York.

An opportunity on the part of the body membership to vote on these will arouse interest and thought, and the end result shall require a majority vote of the entire membership. Whichever way it goes will be mandatory upon the State Society and the House of Delegates. This will be a democratic accomplishment.

We appreciate your indulgence and we herewith recommend:

1. That resolution 55-33, introduced by Dr. David Fertig requiring compulsory membership in the American Medical Association, be not adopted.
2. That resolution 55-29, introduced by Dr. Richard Cuthbert, Jr., requiring elimination of district branches, be not adopted.

We recommend the adoption of the following resolution submitted by the Committee on Constitution and Bylaws: That a referendum be conducted as provided for in Chapter X of the Constitution and the type of ballot submitted by the committee be the one utilized in this referendum.

CONCLUSION.—The chairman of the committee desires to express his sincere appreciation of the unfailing efforts, suggestions, and ideas on the part of Dr. Anderton and his staff; also the keen interest and stimulation that have been accorded him by Drs. Gamble and Reuling.

Respectfully submitted,
A. H. AARON, M.D., *Chairman*

Report of the Special Committee on the Sesquicentennial Celebration

To the House of Delegates, Gentlemen:

This Special Committee was appointed in December, 1954, and during the past year has collected, from many sources, information, details, suggestions, methods of financing, and comprehensive information relative to the celebration of the 150th Anniversary of the Medical Society of the State of New York in 1957. All of this material has been placed in the hands of the Convention Committee of the Society.

The Special Committee was composed of the following:

A. H. Aaron, M.D., *Chairman*	Erie
John J. Finigan, M.D.	Monroe
Herman E. Hilleboe, M.D.	Albany
John H. Iselin, Jr., M.D.	Westchester
Charles A. Prudhon, M.D.	Jefferson

The following representatives of the Medical Society met with the committee: Drs. Frederic Zeman, Laurance D. Redway, Samuel Z. Freedman, Alfred P. Ingegno, and Floyd S. Winslow and Mr. Frederick Miebach.

It is recommended that the sesquicentennial celebration be held in New York City and that it be under the auspices of the already existing committee in charge of convention and its subcommittees. It is also recommended that a subcommittee of the committee be appointed to organize State-wide celebrations at county society level.

Respectfully submitted,

A. H. AARON, M.D., *Chairman*

(*This report is referred to the Reference Committee on Report of the Council, Part XII*)

Report of the Special Committee on American Medical Education Foundation

To the House of Delegates, Gentlemen:

The Special Committee on American Medical Education Foundation consists of the following members:

Daniel S. Cunning, M.D., *Chairman*	New York
John L. Edwards, M.D.	Columbia
William J. Orr, M.D.	Erie
William E. Pelow, M.D.	Onondaga
Edwin R. Russell, M.D.	Oneida

During the past year this committee held no meeting but, through the efforts of its members, helped raise $42,259.30 from physicians in our State for the American Medical Education Foundation.

Chairmen of corresponding committees in county medical societies have been helpful.

Respectfully submitted,
Daniel S. Cunning, M.D., *Chairman*

(*This report is referred to the Reference Committee on Report of the Council, Part VIII*)

Report of War Memorial Committee

To the House of Delegates, Gentlemen:

The War Memorial Committee consists of the following members of the Board of Trustees:

Walter W. Mott, M.D., *Chairman*	Westchester
Leo F. Schiff, M.D.	Essex
Maurice F. Dattelbaum, M.D., *Treasurer, ex officio*	Kings

Now in its eighth year of successful operation, the War Memorial Fund continues increasingly to justify the broad vision of those members of the State Society, among them Dr. James Rooney and his associates, who initiated the project which was passed by the House of Delegates in 1948. It also bears witness to the wise and prudent administration of the fund by succeeding committees, where, among others, Dr. Fenwick Beekman and Dr. Edward R. Cunniffe gave long and devoted service. The latter's ill health forced his resignation as chairman of our committee this year, and the present chairman pledges his best efforts to carry on in the splendid tradition that his predecessors have established.

Your committee feels very strongly that this project is one of the most worth-while and rewarding activities of the State Society. To date the fund has been privileged to aid in the college and professional education of 27 of the children of our colleagues who lost their lives as a result of World War II. We are especially proud to report that three of our beneficiaries graduated in June, 1955, as Doctors of Medicine. There are two students at present who are attending medical school and one a nursing college.

A few brief excerpts from the many letters received may serve to indicate how deeply the help of the fund is appreciated: "I am graduating in medicine this June and am looking forward to the day with pride, some nostalgia, and with great gratitude to the Medical Society of the State of New York. I seriously doubt whether I would have been able to complete the necessarily long training for the degree had it not been for the help of the Society. I am planning on taking a specialty training in surgery, having an intern appointment at the Presbyterian Hospital in New York."

A mother writes to tell of her daughter's graduation from Cornell and her son's degree of M.D. from Vanderbilt, with a resident appointment for training in neurosurgery. She thanks the fund for helping to make these achievements possible.

Another mother says, "It is quite impossible to express my gratitude clearly. College seems to have made my son a different, mature young man, quite a change from the troubled boy with too many problems."

Pursuant to the instructions of the House of Delegates, we have made diligent efforts to ascertain if any of our members died in the Korean conflict. So far, 54 county societies have reported no losses. Onondaga County reported the loss of a member who left three surviving children. If the committee feels there are sufficient funds to extend benefits to

TABLE I.—FINANCIAL REPORT, JUNE 30, 1955

	Amount
Total assessments received*	$241,351
Total interest received*	32,057
Total paid out in benefits*	46,000
Assets of fund, June 30, 1955	228,496
Year ended June 30, 1955	
Assessments received	0
Interest received	5,360
Payments to beneficiaries	9,200

* Since inception of Fund.

these children and the House of Delegates votes to do so, their names will be added to the roster of potential beneficiaries. Application blanks and request for the necessary documents will then be sent to the mother.

We are pressing the remaining six county medical societies for their replies.

During this search the family of one casualty of World War II has come to light, who had not so far applied for benefits. Application papers have been sent to this family in case they wish to avail themselves of the help of the fund.

The financial report of the War Memorial Fund as of June 30, 1955, is given in Table I.

Last year, the committee reported the results of an actuarial projection of the status of the fund up to 1974, when payments to the last beneficiary would complete our work. This showed an estimated balance of $95,984 at that time. However, this estimate contains some variables, based on the assumption (according to present experience) of a utilization of the fund by 80 per cent of possible beneficiaries, a stable interest rate of $2^1/_8$ per cent, and no loss on the sale of securities.

On account of the rising cost of tuition, the House of Delegates in some future year may consider the advisability of increasing the allowance to beneficiaries over the present allowance of $600 per annum, which is now binding on the committee. For this reason the committee deems it appropriate to suggest to those members of the State Society who have joined our ranks since the initial assessment of $12 was levied in 1948 that they may wish to contribute this amount to the fund, so as to insure against any unforeseen contingency.

Again it is the pleasure of the committee to acknowledge the invaluable assistance of its secretary, Miss Mollie Pesikoff, in the work of administering the fund. She has been active in the project since its inception, and her warm interest in the progress of our beneficiaries has kept a close liaison between them and the committee.

Respectfully submitted,
WALTER W. MOTT, M.D., *Chairman*

Report of Special Civil Defense Committee

To the House of Delegates, Gentlemen:

The members of this committee are:

J. G. Fred Hiss, M.D., *Chairman*	Onondaga
Harold Bishop, M.D.	Westchester
Edward A. Burkhardt, M.D.	New York
Theodore J. Curphey, M.D.	Nassau
Herman E. Hilleboe, M.D.	Albany
Joe W. Howland, M.D.	Monroe
John J. Masterson, M.D.	Kings
James E. McAskill, M.D.	Jefferson
Abraham M. Rabiner, M.D.	Kings
Solomon Schussheim, M.D.	Kings
Edward T. Wentworth, M.D.	Monroe
Stuart A. Winning, M.D.	St. Lawrence
Floyd S. Winslow, M.D.	Monroe
W. Warriner Woodruff, M.D.	Franklin

There have been two meetings of this committee during the past year to consider progress and new policies of the medical portion of the civil defense effort of the State.

The most important development during the year was the expansion of the committee's function to include preparations for emergency medical care at the time of natural and major catastrophes occurring within the State. Previously such aid has been given only on an unofficial and voluntary basis.

The committee has participated in the preparation and distribution of a medical "News Letter" periodically to medical defense committee members of county medical societies and other interested persons throughout the State. The circulation of this letter now numbers about 600 copies per issue. There have been several articles in the State JOURNAL dealing with civilian defense problems, prepared jointly by the office of Medical Defense of the State Health Department and by this committee.

Dr. John J. Masterson represented the committee of the State Medical Society at the County Medical Societies Defense Organization in Chicago in November, 1955.

Respectfully submitted,
J. G. FRED HISS, M.D., *Chairman*

(*This report is referred to the Reference Committee on Report of the Council, Part I*)

Blood Banks Commission

To the House of Delegates, Gentlemen:

Your Blood Banks Commission is composed of the following members:

James Greenough, M.D., *Chairman*	Oswego
Renato J. Azzari, M.D.	Bronx
Theodore J. Curphey, M.D.	Nassau
Floyd S. Winslow, M.D.	Monroe
Hollis K. Russell, M.D., Representative, New York State Association of Public Health Laboratories	Westchester
Herbert Brown, Jr., M.D., Representative, American Red Cross	Monroe
William Markel, M.D., Representative, American Red Cross	New York
Leon N. Sussman, M.D., Representative, Hospital Blood Banks	New York
Ernest Witebsky, M.D., Representative, Hospital Blood Banks	Erie
Quentin Jones, M.D., Representative, Hospital Blood Banks	Oneida
Lester J. Unger, M.D., Representative, Hospital Blood Banks	New York
John J. Clemmer, M.D., Representative, Community Blood Banks	Albany
Herman E. Hilleboe, M.D., Commissioner, New York State Health Department	Albany
Jacob Geiger, M.D., Representative, Blood Banks Association of New York State	New York

The House of Delegates in May, 1955, adopted the following recommendations regarding Blood Banks Association of New York State, Inc., which were referred to the Council, and in turn by the Council to the Blood Banks Commission:

1. That the original Blood Banks Association be continued in its original intent under the supervision of the Blood Banks Commission;
2. That the regional blood clearinghouse program in New York State be under the control of the Blood Banks Association. Many state medical societies are already part of this program;
3. Study and report to the Blood Banks Commission by the blood assurance program of the advisability of raising the $3.00 per pint fee to a proper cost estimate fee;
4. That the blood assurance program be continued with the following controls:

(*a*) Report must show the number of certificates suitable to the Council by January 1, 1956.

(*b*) Economies must be shown to the Blood Banks Commission to have been effected by July 1, 1955.

(*c*) Evidence of reorganization must be shown to the Blood Banks Commission by July 1, 1955.

(*d*) The limit of deficit by January 1, 1956, must not exceed the estimate of $18,000 deficit as described in this report.

The House also voted that, if recommendation number 4 *a*, *b*, *c*, and *d* is not met, the Council act with the following recommendations of the reference committee in mind:

(*a*) That the blood assurance program be discontinued.

(*b*) That no further certificates of assurance be issued.

(*c*) That certificates of assurance then in effect be continued to their expiration date and then not renewed.

(*d*) Claims of blood be arranged to be paid by blood banks at the local level at a fee to be arranged between these blood banks and the Blood Banks Association, Inc.

(*e*) That no additional loans be made to the Blood Assurance Program after this date.

(*f*) That sufficient funds be allocated to close out these Blood Assurance Program debts.

(*g*) That the Council and Trustees be authorized to carry out these recommendations.

The chairman studied the resolution and the activities of the Blood Banks Association by conference with President Azzari, former chairman of the commission; Dr. J. Stanley Kenney, president of the Blood Banks Association; Dr. Herman E. Hilleboe, Commissioner of Health of the State of New York; Dr. Herbert Brown, Jr., who represented the Red Cross on the commission; and many members of the board of directors of the Blood Banks Association and several of the Society's office staff.

A meeting of the commission was held June 23, 1955. Your chairman attended, by invitation, a meeting of the board of directors of the Blood Banks Association on July 12, 1955, and a joint meeting of the Blood Banks Commission and the executive committee of the Blood Banks Association was held July 26, 1955.

Several problems were discussed at these meetings and attempts made to solve them, which were continued at further meetings of the Blood Banks Commission on September 9 and December 6, 1955.

At this point it seems advisable to introduce figures to show the monthly financial status of the Blood Banks Association and also statistics in regard to bleeding certificates received and units of blood exchanged, since these reports have been carefully scrutinized by the Blood Banks Commission while studying the problems and making decisions (Tables I and II).

Is the Blood Assurance Program in Fact Insurance?—The charter of the Blood Banks Association does not permit it to participate in insurance under article IX-c of the Insurance Law of the State of New York. Mr. William F. Martin, counsel for the Medical Society of the State of New York and acting for the Blood Banks Association at the request of the Medical Society, submitted a brief with forms and data to the New York State Insurance Department. No official answer has as yet been received by Mr. Martin. On December 5, at an informal interview with representatives of the Insurance Department, it was intimated that the original, individual contract would probably be considered to be insurance, and, if so, neither the Blood

TABLE I.—INCOME

	Certificates	Clearing-house	Dues	Contributions	Other	Total Income	Expense	Deficit
1955								
January	$ 65	$181	$631	$725	$...	$1,602	$8,869	$7,267
February	60	214	689	...	...	963	9,883	8,920
March	555	400	284	...	...	1,239	5,763	4,524
April	823	276	71	100	...	1,270	5,187	3,917
May	585	194	245	...	...	1,024	3,963	2,939
June	157	167	54	...	...	378	3,676	3,298
July	298	209	31	...	70	608	3,300	2,692
August	42	214	...	...	14	270	3,322	3,052
September	1,430	227	20	...	...	1,677	3,948	2,271
October	796	386	...	...	57	1,239	4,218	2,979
November	1,208	348	5	...	194	1,755	4,204	2,449
December	490	261	92	...	478	1,321	3,881	2,560
1956								
January	1,290	435	...	...	930	2,655	3,277	622

	Current Assets			Current Liabilities	Loan
	Cash	Other	Total		
1955					
January	$5,009	$19,388	$24,397	$26,795	$39,000
February	591	20,823	21,414	27,721	44,000
March	2,310	10,644	12,954	14,424	53,250
April	3,365	11,861	15,226	10,698	63,000
May	3,089	12,158	15,247	13,541	63,000
June	3,118	12,352	15,470	12,031	68,000
July	3,598	12,351	15,949	15,007	68,000
August	4,505	10,012	14,517	13,378	71,000
September	3,751	13,004	16,755	14,898	73,000
October	4,100	17,573	21,673	19,449	76,000
November	1,108	15,328	16,436	16,434	76,000
December	4,440	16,157	20,597	20,054	79,000
1956					
January	3,130	21,054	24,184	21,444	82,000

TABLE II.—PINTS EXCHANGED AND BLEEDING CERTIFICATES RECEIVED

Month	Pints Exchanged	Bleeding Certificates
1955		
January	181	26
February	214	24
March	400	222
April	276	329
May	194	234
June	167	63
July	209	119
August	214	85
September	227	542
October	386	319
November	348	483
December	261	196
1956		
January	435	516
	3,512	3,158

Banks Association nor local blood banks should continue the assurance program until (1) its charter be amended to permit the Blood Banks Association to allow it to engage in the insurance business; (2) a new section of article IX of the Insurance Law be enacted to cover such a program; (3) the Blood Banks Association should register with the Insurance Department and be subject to its regulation which would probably mean close inspection of its activities and a demand for sufficient cash reserves to protect holders of blood assurance certificates.

At the meeting of the commission, December 6, 1955, a report on this matter was prepared for the Council. It was recommended that the Assurance Program be terminated except for contracts already negotiated; a committee be appointed to confer with representatives of the Insurance Department to present new evidence (particularly the group contract which had been developed since the original information had been given to the department), to request reconsideration of the question, and to request permission to continue with contracts already negotiated, provided the Medical Society of the State of New York guaranteed that certificate holders would be protected. On December 8, 1955, the Council approved the report of the Blood Banks Commission and a temporary Ad Hoc Committee, consisting of Drs. James Greenough, chairman, Herbert Berger, Andrew A. Eggston, J. Stanley Kenney, and Walter W. Mott, was appointed. This committee, with Mr. Martin and Dr. Dorothea Worcester, of the Nyack Blood Bank, met with Mr. Gould and Mr. Haley of the Insurance Department on December 15, 1955. Much new evidence was presented, and permission was granted to continue contracts already negotiated, provided no new contracts were made. Mr. Gould appeared to be impressed by the humanitarian aspect of the program and the effort that the Medical Society of the State of New York had made in the past three years to establish more adequate blood supplies.

As a result the Council on January 12, 1956, agreed to make the cessation of the Blood Assurance Program temporary until a final decision on this question was received from the Insurance Department.

Since no new contracts could be negotiated, the Blood Banks Association reluctantly decided to request the resignation of the executive director, Mr. A. Carl Messinger, since the work would be radically reduced. The directors were very appreciative of his loyal and valuable services from the inception of the Blood Banks Association, but they felt that with the temporary, or permanent, abeyance of the Blood Assurance Program, they should economize as far as possible.

Extension of the Blood Assurance Program to Greater New York City.—In the early months of 1955, as shown in the financial tables, a considerable sum of money was spent to develop the program in New York City. The Greater New York Hospital Association was unwilling to participate at that time for several reasons: the question of assurance being insurance, a desire to have a broad community-wide participation, lack of actual knowledge of the needs for blood, and reluctance of some of its member hospitals to commit themselves. The Blood Banks Commission advised the Blood Banks Association to cease promotion efforts in New York City for the present, which was done. Several conferences were held between officials of the Blood Banks Association and the Greater New York Hospital Association through the summer and fall. Finally, a round table discussion was held January 24, 1956, attended by representatives of the Greater New York Hospital Association, Medical Society of the State of New York, Coordinating Council, Blue Cross, Red Cross, United Hospital Fund, Blood Transfusion Association, the C.I.O., and the A.F. of L. Each representative was offered a chance to speak. It was the consensus that some action was needed but that a study of facts should precede any action. Dr. August H. Groeschel, of the Greater New York Hospital Association, was elected chairman pro tem. Each organization was requested to write a letter, including suggestions, especially as to an unbiased organization which might conduct the study (the Academy of Medicine or one of the foundations were mentioned) and any other group which should be invited to participate in the project. Representatives of the Medical Society of the State of New York suggested that the Blood Banks Association should be included. After the letters of suggestions are received, a second meeting was proposed for late March or early April.

How Many People Can Become Recipients by Donation of One Pint of Blood?—Actuarial figures are few and not conclusive. However, from experience to date it appears that 1 pint of blood can provide ten well people for a year with 4 pints of blood each when needed.

Blood Exchange Through the Clearinghouse.—This problem presents several factors. For interstate exchange a blood bank must be inspected and licensed by the National Institute of Health. This organization will not license a bank which is concerned only with intrastate blood exchange. Blood banks are naturally reluctant to exchange with unlicensed and uninspected banks. Except in New York City where banks are inspected and licensed by the City Health Department, there is no mechanism for inspection and licensing of local banks in our State. The Blood Banks Association has neither the organization nor the funds to perform this service. County societies are not equipped to do it. Dr. Hilleboe, New York State Commissioner of Health, was approached to see if inspection and licensing could be done outside New York City by the State Health Department. On January 12, 1956, the Council passed a motion to authorize the Public Health and Education Committee to urge the State Health Department to undertake inspection and licensing of intrastate banks. Such action would also greatly facilitate exchange with National Institute of Health licensed banks, although blood sent to them could only be used within New York State. Meanwhile, the National Blood Foundation has urged the clearinghouse of the Blood Banks Association to expand and become the Northeastern Regional Blood Exchange Center. With the expansion of blood programs throughout the country and many citizens requiring blood away from their home states, it is vital that some machinery be set up for exchange of credits and, if necessary, blood. The Far West and North Central Regional Centers have already been activated. The Blood Banks Association is at work now organizing its clearinghouse to cover 11 northeastern states.

Has the Blood Banks Association of New York State Carried out the Mandates of the House of Delegates?—This question was discussed at each meeting of the Blood Banks Commission. The Council authorized the commission to advance any portion of the $18,000 loan mentioned by the House of Delegates for the Blood Banks Association to finance its activities up to January 1, 1956. The commission has been satisfied that the Blood Banks Association has followed the mandates of the House of Delegates up to the meeting of December 6, 1955. At that time, prior to the informal decision of the State Insurance Department, the commission prepared the following report for the Council:

> A meeting of the Blood Banks Commission was held December 6, 1955.
>
> The first matter discussed was whether the Blood Banks Association had carried out the mandates of the House of Delegates of their meeting of May, 1955, in regard to the Blood Assurance Program.
>
> Under 4(*a*) it is necessary to show to the Council by January 1, 1956, a suitable number of certificates. After reviewing the figures, it was evident that the Blood Banks Association during September, October, and November had issued 400 to 500 certificates each month. At this rate of bleeding, the monthly income, including money received from other sources such as blood exchanges, approximated $1,500. Expenses during this same period ran in the neighborhood of $4,000, leaving a deficit of approximately $2,500 each month.
>
> It was pointed out by representatives of the Blood Banks Association that the number of certificates was limited voluntarily by the association in order to prevent the drawing of surplus blood. In the immediate future a monthly number of certificates approximating 750 would be obtained.

With no increase in expenses, approximately 1,450 certificates would be required each month. As the number of certificates increase, however, the expenses would necessarily rise, and an estimate was made that the operation would cease to have a deficit if approximately 2,000 certificates were obtained each month. In spite of falling short of the number of certificates per month at this time, after considerable discussion a motion stating that the number of certificates at the present time was not satisfactory was defeated by a vote of three to two.

It was unanimously voted by the commission that 4(*b*), requiring that economies be shown by the association by July 1, 1955; 4(*c*), evidence of reorganization must be shown by July 1, 1955; and 4(*d*), the limit of deficit by January 1, 1956, could not exceed the $18,000 appropriated by the House of Delegates through the Trustees for assisting the Blood Banks Association until January 1, 1956, must not be exceeded, were all achieved. By January 1, 1956, there will still be approximately $6,000 of the $18,000 approved for loan to the Blood Banks Association. It was thus the opinion of the commission, which is being reported to the Council at this time, that the Blood Banks Association had met the requirements set up by the House of Delegates in May, 1955. . . .

In summary, action of the Blood Banks Commission prior to the decision of the Insurance Department of the State of New York was to inform the Council that in its opinion the Blood Banks Association had met the requirements passed by the House of Delegates in May, 1955, and, therefore, the commission was prepared to recommend to the Council that the Blood Assurance Program be continued until the next meeting of the House of Delegates in May, 1956.

After receiving the decision of the Insurance Department of the State of New York, it is the opinion of the commission that the Blood Assurance Program should be terminated in one of two ways: If the Insurance Department will not permit carrying out the contracts already negotiated, the insurance program should cease at once; if the Insurance Department will permit the negotiated bleedings of mid-December and early January to be fulfilled with assurance by the Council and Trustees of the Medical Society that the Medical Society would back any commitments, then the Blood Assurance Program should cease as soon as these contracts are honored, and no further contracts, individual or group, should be negotiated.

With the discontinuance of the Blood Assurance Program, the only function of the Blood Banks Association will be the Blood Exchange Program. This is in no way affected by the decision of the Insurance Department, nor by the resolution passed by the House of Delegates in May, 1955. If this program is continued, it will perform a very important public service. Income from this program, however, will not be sufficient to carry it. The monthly deficit can be estimated at about $200. The Blood Banks Commission presents these facts to the Council and to the Board of Trustees so that a decision may be made at this time as to whether the Medical Society will continue to support the Blood Exchange Program financially until the next meeting of the House of Delegates in May, 1956.

The Blood Banks Association has come a long way since May, 1955. It is not out of the red, but the deficits have been materially decreased. There are areas in the State where its Blood Assurance Program is vitally needed. Where it has functioned, it has done much to improve the public relations of the medical profession. Added sources of blood recruitment are badly needed. Obtaining blood before it is needed, rather than replacing it after it has been used, seems to offer a way of getting more blood and steadily enlarging the number of donors within the State. If this program succeeds, gradually all potential donors will be enrolled and typed. That would produce much more blood in the blood vessels of the citizens of New York State which could be tapped rapidly when needed or in an emergency.

If the program fails and is abandoned by the Medical Society of the State of New York, the integrity and public spiritedness of its members will be seriously questioned. If the decision of the Insurance Department is favorable, to continue the program will require additional funds, but within one or two years the program should, if carefully managed, be self-supporting and eventually could pay back to the Medical Society the funds which have been or will be loaned to it.

Finally, it would appear advisable for the House of Delegates to reconsider the personnel of the Blood Banks Commission. By the original motion it now consists of 13 members. By designation these are the president and president-elect of the Medical Society of the State of New York, the latter to be chairman; the chairmen of the Council Committees on Public Relations and Public Health and Education; one representative each of the New York Association of Public Health Laboratories, Community Blood Banks, Blood Banks Association of New York State, Inc., and the New York State Department of Health; two representatives of the Red Cross, and four representatives of the Hospital Blood Banks. The committee is too large and somewhat unwieldy. Attendance at meetings approximates 50 per cent.

A committee of six, consisting of the president-elect, chairman; the chairmen of the Council Committees on Public Relations and Public Health and Education; one representative each from the Red Cross, the New York State Department of Health, and the Blood Banks Association of New York State, Inc., would work more effectively and at less expense. The president is an ex officio member of all committees. An advisory committee could be appointed, representing laboratories, hospitals, and blood banks which could be consulted on any technical question. Such a change would materially improve the functioning of the commission.

I wish to thank the members of the Blood Banks Commission, the directors and officer personnel of the Blood Banks Association, Dr. Hilleboe and other members of the State Department of Health, and Dr. Anderton and his staff for wholehearted cooperation and assistance throughout the year.

Respectfully submitted,
James Greenough, M.D., *Chairman*

(*This report is referred to the Reference Committee on Report of the Council, Part IV*)

Reports of the District Branches

First District Branch

To the House of Delegates, Gentlemen:

A meeting of the voting members of the First District Branch of the Medical Society of the State of New York was held at 4 P.M. in the Buffalo Room of the Hotel Statler at Buffalo, New York, on Monday, May 9, 1955. The minutes of the May 19, 1954, meeting and the abstract of the minutes of the Coordinating Council of the First District Branch were approved. There being no further business, the meeting was adjourned.

There were actually no other meetings of the district branch held during the year, but the Coordinating Council met every month as representatives of the district branch from September, 1955, through February, 1956. Below is an abstract of the actions approved by the Coordinating Council at these meetings.

The following letter from Dr. Wolff and David Livingston, president of District 65, was discussed:

> At a meeting between representatives of District 65, RWDSU-CIO, and executives of each of the five metropolitan county medical societies and the Coordinating Council, a plan for provision of medical care to members of the union, based on completely free choice of physicians, was discussed.
>
> There was unanimous agreement on the desirability of a plan of this type, and the medical representatives complimented the union on its efforts to promulgate a medical program based on the free-choice principle.
>
> The medical society representatives will recommend, to their respective societies, approval of a fee schedule for medical services which is comparable to prevailing allowances for similar services to groups of comparable average income.
>
> It is hoped that in this manner an ultimate pattern can be set for the provision of medical care to lower-income groups on a prepaid insurance basis with retention of the basic principle of free choice of physician.

The Council voted to recommend that the county societies ask their members to look with favor on this plan.

A resolution proposing a change in the Code of Ethics of the American Medical Association, which would allow physicians to be partners in pharmacies, provided these physicians do not exploit the patient, was discussed. The Council realized that in certain localities of the United States it was necessary that physicians establish or participate in the ownership of drugstores. But the Counties of Kings, Queens, and Bronx have decided that in New York City we are in favor of abiding by Chapter I, Section 6, of the *Principles of Professional Conduct* of the Medical Society of the State of New York.

The matter of physical examinations of persons suffering from certain specific diseases who have applied for automobile operators' licenses was discussed. It was decided that a subcommittee be appointed to look into the physician's responsibility in this matter and to bring back a report so that the Coordinating Council may communicate with the State Society and, if necessary, with the State Attorney General to determine the physicians' liability in this matter.

The Coordinating Council agreed to cooperate with the Greater New York Hospital Association in setting up a committee to determine the need for blood in New York City. This committee is to study present facilities in New York City for the obtaining and distribution of blood. Drs. Ezra Wolff, Solomon Schussheim, and Herbert Berger were appointed to serve on this committee together with Coordinating Council, five county medical societies, three; Greater New York Hospital Association, three; Blood Banks Commission of the Medical Society of the State of New York, two; American Red Cross, New York City Blood Program, one; City of New York Department of Health, one; City of New York, Department of Hospitals, one; Commerce and Industry Association, one; Congress of Industrial Organizations (C.I.O.), one; American Federation of Labor, one; Associated Hospital Service of New York (Blue Cross), one; a total of 15 members.

The committee at present is making an active survey of the foregoing matters. The Council approved working for the following legislation:

1. In favor of the Autopsy Law.
2. In favor of a law by which the Workmen's Compensation Board of New York State would set up a legally qualified panel of impartial specialists.
3. In favor of a law by which the Workmen's Compensation Appeals Board would have power in conpensation ratings and not be only advisory.
4. In favor of a law to abolish the Medical Practice Committee of the Workmen's Compensation Board.

It was approved that the Coordinating Council recommend to the Council of the Medical Society of the State of New York that that Council request the New York State Health Department for a more equitable distribution of Salk Vaccine, and they request that patients who wish to have the vaccine given to their children by their own private physician be allowed this privilege.

The Coordinating Council approved the plans of the United States Government in its attempt to insure the dependents of armed services personnel and their families under a service benefit plan.

Each of the five county medical societies has approved cooperating with the Tex-Jinx radio broadcast program and have agreed to supply physicians to discuss medical problems during these broadcasts.

Each of the five county medical societies has disapproved the requests of the podiatrists that they be paid for treating patients under United Medical Service (Blue Shield) contracts.

Each of the five county medical societies has disapproved the requests of the nonmedical bioanalysts that they be paid by United Medical Service for pathologic examinations.

It was approved that a letter be sent to the mayor, giving the Council's reasons for opposing the control of municipal hospitals by medical schools, i.e., the fact that it is felt that while municipal hospitals exist primarily for the care of the indigent sick, they can properly be made to subserve other functions. The training of interns and residents is one of these functions of prime importance. But so, likewise, is the continued training of the practicing physicians of the community.

The Department of Welfare was notified that all of the five county medical societies have agreed that they recommend that patients being paid for in nursing homes by the Department of Welfare should either be treated by their family physician who cared for them prior to their entrance into this home or by a Department of Welfare rotating panel of physicians and not by a physician employed by the home or by the physician who owns the home.

The Coordinating Council again went on record approving the position voted by the five county medical societies (Bronx, Kings, New York, Queens, and Richmond) that in their opinion the director of a pathologic or clinical laboratory should be a physician who is a qualified pathologist.

Dr. Henry Fineberg reported for the State Society Legislation Committee concerning the Chiropractic Bill which has been introduced into the Legislature. All of these facts can be found in the *Newsletter* of the Medical Society of the State of New York, volume 12, number 2, February, 1956. Dr. Fineberg also stated that the following bills have been introduced into the New York State Legislature at the request of the Medical Society of the State of New York:

1. Amendment to autopsy law. S. Intro. 1130; Pr. 1188.
2. Municipal intern indemnity bill. S. Intro. 597; Pr. 619.
3. Amendment to Medical Practice Act in regard to advertising. S. Intro. 1101; Pr. 1159.
4. Injunction bill. S. Intro. 1202; Pr. 1263.
5. Abolition of workmen's compensation medical practice committee. S. Intro. 1195; Pr. 1256.
6. Change of place of arbitration of workmen's compensation fees. S. Intro. 1194; Pr. 1255.
7. Appellate rather than advisory role for medical appeals unit. S. Intro. 1201; Pr. 1262.
8. Free choice of physician in medical expense indemnity plans. S. Intro. 1103; Pr. 1161.
9. Free choice of medical expense indemnity plan by State and municipal employes. S. Intro. 1103; Pr. 1161.

The following was read for the information of the Council: Beginning February 20, 1956, the medical profession of Greater New York, through the Coordinating Council, will cooperate with the Tex-Jinx program. Representatives from the five county medical societies of Greater New York, in addition to Westchester and Nassau, will discuss various subjects at 11:15 P.M. on Monday nights, through May 28, 1956.

At the first meeting Dr. Ezra Wolff, of Queens, chairman of the Coordinating Council, will discuss organized medicine in Greater New York, the Coordinating Council, and will mention the services which the medical profession through its county medical society renders to the general public.

1. Dr. Gerald Dorman, president of the New York County Medical Society, will discuss the Emergency Medical Care Service.
2. Dr. Robert F. Warren, president of the Medical Society of the County of Kings, will discuss the methods of operation of the Grievance Committee.
3. Dr. Charles Frank, president of the Medical Society of the County of Bronx, will discuss the cooperation between the county medical societies, and civic organizations such as the Chamber of Commerce, American Legion, Boy Scouts, etc.
4. Dr. Albert H. Douglas, president of the Medical Society of the County of Queens, will discuss the gratuitous services which doctors give to the public.
5. Dr. Leif Jensen, president of the Medical Society of the County of Richmond, will discuss the fostering of voluntary medical care plans.

As a result of a resolution submitted by the Comitia Minora of the Medical Society of the County of Kings concerning the fact that a complaint had been filed against certain of its members before the New York State Commissioner of Insurance, which complaint stated that such members had solicited business for an unlicensed malpractice insurance company, it was decided that the Coordinating Council write to the Council of the Medical Society of the State of New York that the Coordinating Council of the First District Branch deplores the action by which a complaint was made to the Commissioner of Insurance of the State of New York against certain members of the Medical Society of the State of New York. Furthermore, the Coordinating Council requests that the Council of the Medical Society of the State of New York take appropriate action to rectify the effects of these complaints; also, the Coordinating Council requests that if it is found that the Council of the Medical Society of the State of New York find that an error has been made, they so notify the Commissioner of Insurance of the State of New York.

Respectfully submitted,
Charles W. Mueller, M.D., *President*

Second District Branch

To the House of Delegates, Gentlemen:

The executive committee of the Second District Branch met at the Garden City Hotel, Garden City, in April, 1955. Its members attended one hundred per cent. At that time Dr. Anderton allotted us September 14, 1955, for our annual meeting, as per schedule. It was decided to hold it in Smithtown at the Riverside Inn. There were to be no scientific papers inasmuch as it was a mixed group. Mr. Paul Bailey, the historian of Long Island, was selected to be the speaker, if it were possible for him to be there.

The annual meeting of the Second District Branch was held in Smithtown on September 14, 1955. The meeting was very poorly attended, as it has been for the past several years. There were about 40 couples at the dinner. Nassau County alone has about 1,400 doctors. I do not know the membership of Suffolk County, but percentage-wise the meeting was very poorly attended. Dr. Renato J. Azzari, president of the State Society, was present, as was Dr. W. P. Anderton, secretary. Dr. Azzari gave a very interesting talk. Also present was Mrs. Isadore Zadek, president of the Woman's Auxiliary, who also spoke. Mr. Paul Bailey spoke on the history of Long Island. A very enjoyable evening was had by all who attended.

At the executive committee meeting the question of the annual scientific meeting was debated. It seemed to be the wish of nearly all present that if possible it be discontinued. Since then the Nassau and Suffolk County Medical Societies have, on their own, made the same request.

In Nassau County most men belong to more than one hospital staff, which requires attending staff and section meetings. We are so near the metropolitan clinics and the New York Academy of Medicine that scientific meetings here are very poorly attended; over 40 per cent of Nassau County members are doing a specialty, so to attract all it would be very difficult to put on a program such as has been used in the past.

Respectfully submitted,
Leo T. Flood, M.D., *President*

Third District Branch

To the House of Delegates, Gentlemen:

The activities of the Third District Branch of the State Medical Society for the year 1955 consisted of a meeting of the executive committee in Kingston, April 30, the annual meeting in Hudson, September 15, and the organization and planning incident to the two meetings. As in the past, obsolete or not, the committee meetings were practically completely concerned with the annual meeting, which was almost entirely scientific. For some reason or other, there never seems to be any business of any significance. This year a very special effort was made to stimulate the members to attend the annual meeting. Each member was mailed a special invitation in addition to the usual announcement. It seemed well attended for a community of this size, but there is no baseline for comparison with what it would have been otherwise. Many compliments were received, and those who attended seemed enthusiastic. Sixty members (7.4 per cent of the total membership) attended. There were 32 members of the Woman's Auxiliary, three guests, and seven officers of the State Society. The cost to the State Society for the annual meeting itself was $161.

It seems to me that this is a lot of expense and effort just for another scientific meeting, of which members have so many these days, associated with their regular hospital and specialist activities. I wondered whether making it a half-day affair might improve the attendance. It is easy to imagine a member could take off a half day easier than to abandon his practice all day. This idea was presented but was resented by the few who attended the morning session, but they did not seem to be a very representative group. I still think that this and special invitations are worth trying.

In spite of the objections, I would like to see the fiftieth meeting start with a business meeting at 11:30 A.M. and follow with cocktails and lunch from 12 NOON until 2 P.M., (ladies invited to be sure), and then complete the afternoon with a good scientific session. Of course, this will be determined by the executive committee at its spring meeting. I expect to issue special invitations to that meeting also.

I should like you to know that I sincerely appreciate the assistance Dr. Anderton and his staff have given me this year. Their advice was always prompt and concise.

Respectfully submitted,
Everett A. Jacobs, M.D., *President*

Fourth District Branch

To the House of Delegates, Gentlemen:

The executive committee of the Fourth District Branch held a dinner meeting at The Queensbury, Glens Falls, on May 25, 1955. Inasmuch as only four counties had sent representatives, the selection of the host county for the annual fall meeting was decided on the basis of the most overdue county. Essex County fell into this category and was so designated. In deference to the selection procedure, the president of the district branch personally called on the president of the Medical Society of the county of Essex to acquaint him with the decision and to promise him the maximum of assistance in arranging the event.

In August, pleading lack of manpower and geographic difficulties, Essex County was relieved of its assignment. Since lack of time precluded the selection of another site for the annual meeting, it was decided to substitute an executive committee meeting in its place.

On Wednesday, October 19, 1955, at The Queensbury, Glens Falls, the executive committee convened for luncheon. The business meeting was called to order at 1:30 P.M. The minutes of the previous meeting were read and approved.

Stimulated by the collapse of the annual meeting, a review of the situation was roundly discussed. Citing the prohibitive mileages involved, general apathy prevailing in the district, time and economic loss incurred, excessive number of meetings accruing to physicians and conflicting schedules of said meetings, the following compromises were postulated:

1. The third Thursday of October should be set and maintained as the annual meeting date.

2. The annual meeting be held only in the cities of the Fourth District Branch, by invitation of the component medical society.

3. The annual meeting will be relegated to a business affair. In place of scientific papers (district branches are losing ground to more qualified agencies in this field anyhow), the afternoon would be spent in panel discussions with planning committees, public relations committees, workmen's compensation committees, and others. A late afternoon business meeting would follow to correlate matters discussed by the various groups. By inviting parallel committee members of other component societies and from the State level, it was felt that much could be learned and achieved. Such invited guests could serve in the capacity of moderators and sources of information in their respective panel discussions.

4. This business meeting would be followed by an evening dinner and social program.

The foregoing motions were duly seconded and unanimously carried. It was pointed out by Dr. Anderton that the Eighth District Branch was proceeding with a similar program and gaining a large measure of success.

The secretary was instructed to write a letter to each county medical society president and notify him of this decision. The next meeting of the executive committee was scheduled for 12 NOON, April 19, 1956, at The Queensbury, Glens Falls.

The future of this organization or any organization is entirely dependent upon the structure and the plans under which it operates and the active cooperation and good will of its component members. We hope that these structural and planning refinements are realistic and attuned to local needs of the vast and variegated territory that is the Fourth District Branch. In the realm of active cooperation and good will from the component members there is much to be desired. This is not a district problem alone. It is State-wide and national in scope. A minuscule minority carries the load so that an overwhelming majority can practice their profession in the dignity and productiveness afforded us today. In the words of Sir Winston Churchill, "never . . . was so much owed by so many to so few." This becomes a matter of personal conscience. Unless the profession as a whole becomes aware of this apathy for things administrative in their bailiwick, unless the profession as a whole will see fit to relinquish a tiny fraction (that is all it takes) from pleasure and earning time towards mutual organization and support, other less kindly disposed and understanding agencies will do the job for us. It can happen here!

Respectfully submitted,
ALFRED A. HARTMANN, M.D., *President*

Fifth District Branch

To the House of Delegates, Gentlemen:

The executive committee of the Fifth District Branch met at the Hotel Syracuse, Syracuse, on Wednesday, June 22, 1955, with Dr. Cuthbert presiding, and a better-than-average attendance. The majority of the time of this meeting was taken up with the discussion of what to do in regard to our annual meeting to be held in the fall. A reference to the report of the district for the year 1954 will remind you that at that time the district had taken action instructing the president to present a resolution to the House of Delegates to the effect that the district branch be abolished. It will also be noted that the resolution was presented in view of the fact that attendance at the meetings had dwindled to such an extent. In view of this fact, and following considerable discussion, it was moved by Dr. Donald Tulloch, and seconded by Dr. Arthur Gaffney and Dr. Olin Mowry, that the scientific session be dispensed with, and that other arrangements be made for the annual meeting. It was then moved by Dr. Gaffney, and seconded by Dr. Anderton, that the president request the Medical Society of the County of Oneida to provide fifteen minutes of their scientific program on Heart Day for a business meeting of the Fifth District Branch. This motion was carried unanimously.

The president appointed a nominating committee, consisting of Dr. Leo Gibson, chairman, Dr. Arthur Gaffney, and Dr. Frank Valone, to present a slate of officers at the fall meeting. It was moved by Dr. Young, and seconded by Dr. Mowry, that Dr. Arthur Gaffney be designated as the representative of the Fifth District Branch on the State Society's Planning Committee for Medical Policies for a term of four years. The motion was carried.

The date of the annual meeting was set for October 27, 1955, at the Hotel Utica, Utica, to coincide with the sixth annual Heart Day.

The business at the annual meeting consisted entirely of receiving the report of the nominating committee and acting upon same. The slate of officers presented was as follows: Dr. Donald C. Tulloch, Ogdensburg, president; Dr. Olin Mowry, Oswego, first vice-president; Dr. Charles A. Gwynn, Syracuse, second vice-president; Dr. John F. Kelley, Utica, secretary, and Dr. George A. Burgin, Little Falls, treasurer. These officers were unanimously elected to serve for the ensuing two years.

In conclusion, this report would not be complete if it did not record the enthusiasm with which this new departure was greeted. It has been many years since such a large attendance has been enjoyed, and this was due entirely to the very fine scientific program, the highlight of which was the address by Dr. Paul D. White. It was the feeling of many who expressed their opinions that the Fifth District Branch should follow this same plan with regard to its annual meeting in future years.

Respectfully submitted,
RICHARD B. CUTHBERT, JR., M.D., *President*

Sixth District Branch

To the House of Delegates, Gentlemen:

I respectfully submit the report of the Sixth District Branch of the Medical Society of the State of New York for the year of 1955.

The annual meeting of the Sixth District Branch of the Medical Society of the State of New York was held at the Arnot-Ogden Hospital in Elmira on October 26, 1955. Dr. William Boland of Elmira was elected to the presidency for the coming two years; Dr. James Greenough, of Oneonta, first vice-president; Dr. Stewart Wallace, of Ithaca, second vice-president, and Dr. George Nevin, Cortland, secretary-treasurer.

This meeting was unique in that a different type of program was put forward. Rather than the usual type of medical program it was decided this year to bring to the Sixth District Branch a program that was felt might be of more interest to the physician. Legislation, workmen's compensation, medical care insurance, public relations were all divided into various seminars conducted by the repesentatives of those committees from the Medical Society of the State of New York. This proved to be a most interesting and well-attended session. Round table discussions were carried out in each individual field. It was felt by all that they had spent a well worthwhile afternoon.

Following the afternoon session a fine dinner was enjoyed at which the principal speaker was Dr. James Greenough, president-elect of the Medical Society of the State of New York. A fine discussion was also given on the present status of poliomyelitis vaccine by Robert F. Korns, M.D., Assistant Commissioner, New York State Department of Health.

Respectfully submitted,
G. M. Palen, M.D., *President*

Seventh District Branch

To the House of Delegates, Gentlemen:

The first meeting of the advisory council was a dinner at Hotel Canandaigua, Canandaigua, on January 13, 1955. It was well attended, 19 being present, and all the component counties being represented.

A critique of the last annual meeting was held and evolved primarily around two important problems. It was agreed that due to a misunderstanding which arose as to liability for the "honorarium" for Dr. Benton, one of the speakers, between the district and the State Society, the district would pay the stipulated amount. Also the matter of the annual meeting promotion and registration responsibilities was reviewed with the State secretary so that no usurpation of the State Medical Society's authority in the matter occur.

The division of responsibilities of the district officers was reiterated, i.e., first vice-president Dr. Everet Wood would be responsible for maintaining accurate membership records, and Dr. Stevens, second vice-president, would be chairman of the program committee.

Further discussion as to probable location of the 1955 annual meeting which previously had been voted for Rochester was discussed. It was agreed that if possible, the branch would meet at the new Community War Memorial in Rochester in 1955. Also discussed were other possible meeting places. Some prominent speakers were also discussed as possible participants in the program.

Dr. Theodore B. Steinhausen then was called upon to report on the latest information available to him in his dual capacity of planning committee representative and legislation chairman. Among other things of import it was noted that the sense of the advisory council of the Seventh District was that if the State Society needed new facilities for offices, it might be better to stay within the confines of New York City or else move its location to Albany or possibly Syracuse, where such facilities would not be as expensive and more accessible to its member-doctors.

New business was limited to the introduction of Mr. A. C. Schuyler, new field representative of the State Medical Society, replacing Mr. A. Carl Messinger.

The meeting adjourned on the note that the next meeting should be held in late March or early April and again at Canandaigua. It was felt that the respective delegates and alternates of the component county societies of the district should be invited to this meeting so that all of them might be better oriented before attending the House of Delegates meeting of the State Society at Buffalo during the week of May 9, 1955.

The next meeting of the advisory council was preceded by a dinner and collation at the Canandaigua Hotel. This meeting was well attended, each county being ably represented.

Plans for the September 29, 1955, annual meeting of the branch were discussed. It was agreed that the morning session would consist of a panel discussion on thyroid diseases put on by some of our local specialists. This would be followed by two or three papers by prominent speakers, with the luncheon at noon.

The report of the nominating committee by Dr. Watson indicated that it was true that they would recommend that the officers of the branch would be advanced through the chairs; furthermore, it was agreed that because consideration should be given to proper representation for all the component county societies of the branch that the treasurer nominee should come from Cayuga County. Dr. Edward S. Platt of that county was designated as a possible choice.

The kind invitation of the Eighth District Branch to have our advisory council, as a group, attend an orientation dinner at the Statler Hotel on Sunday, May 8, 1955, was considered. This orientation dinner is an annual affair given by the Eighth District to acquaint their delegates and alternates to the House of Delegates of the State Medical Society with the business that normally would come during an ensuing meeting.

The Messrs. Sellers presented a new contractible possibility for the branch accident and health insurance which was being offered to the doctors of the branch. The gist of this offer was that with the new carrier, the Firemen's Fund Insurance Group, the policy would be broadened as to years of coverage for both accident and illness at a slight increase in premium. This was approved.

Dr. Gordon Hemmett, a member of the advisory council, introduced Mr. Arnold Cohn, associate editor of the *Bulletin.*

Dr. Theodore B. Steinhausen's wish that he be relieved of his duties as planning committee chairman of the Seventh District Branch was discussed. It was agreed that if possible, Dr. Kenneth T. Rowe of Hornell be asked to serve in this capacity.

The meeting was adjourned, and it was agreed that the next meeting of the advisory council would be held at the pleasure of the incoming president.

Many of the members of our advisory council and delegates met with the Eighth District Branch at the orientation dinner given at the Hotel Statler May 8, which was on the eve of the annual meeting of the House of Delegates. It was a delightful social and business gathering, at which we discussed all the available resolutions from the viewpoint of the upstate counties. A liaison committee, made up of both districts and which functioned during the session, was appointed.

The annual meeting was held September 29, 1955, at the Oak Hill Country Club, Rochester. Outstanding features of the program were a panel discussion on thyroid diseases with Bernard A. Watson, M.D., Clifton Springs, as moderator. Participants were Jacob Adler, M.D., Rochester; Harry Gold, M.D., New York City; Joe W. Howland, M.D., Rochester; John C. McClintock, M.D., Albany. Also presented were "Treatment of Psychoses with Chlorpromazine and Reserpine" by Dr. Benjamin Pollack, Rochester, and "Recent Advances in Vascular Surgery" by Jere W. Lord, M.D., New York City. Following these papers a short business meeting was held, at which time the final approval of the constitution and bylaws as published and distributed through the medium of the September, 1955, issue of the *Bulletin*, volume XIII, number 9, was voted.

The nominating committee, under the chairmanship of Dr. Bernard A. Watson, reported a single slate as follows: president, Dr. Eldred J. Stevens, Steuben County; first vice-president, Dr. Joseph A. Lane, Monroe County; second vice-president, Dr. James H. Arseneau, Wayne County; secretary, Dr. Robert D. F. Gibbs, Seneca County; and Dr. Edward S. Platt, Cayuga County, treasurer. Following the acceptance of the report of this committee, the approved slate was voted unanimously into office.

At the luncheon which followed, the officers of the State Society were introduced. Mrs. Isadore Zadek, New Rochelle, president of the Women's Auxiliary to the Medical Society, brought greetings from her group, and Dr. James Greenough, Oneonta, president-elect, Medical Society of the State of New York, gave an interesting talk on the present-day functions of district branches. The afternoon session featured the presentation of two outstanding papers: "Surgical Trends in the Treatment of Cancer" by Dr. George Crile, Jr., Cleveland, Ohio, and "Treatment of the Resistant Case of Congestive Failure" by Dr. Harry Gold, New York City.

Respectfully, submitted,
GLENN C. HATCH, M.D., *President*

Eighth District Branch

To the House of Delegates, Gentlemen:

The year 1955 for the Eighth District Branch was both profitable and enjoyable. During the year the branch sponsored programs and projects to meet its three-point commitment—service to the public of the area, service to medicine, and service to its large membership. The year 1955 also was marked by new endeavors to bring more physician-members into active participation in branch affairs and to weld the eight component county societies in even stronger bonds of professional fellowship. From every standpoint 1955 may be regarded as a successful chapter in the long life of the branch.

The year's activities got away to a spirited start at the annual midwinter dinner meeting of the advisory council of presidents and secretaries, the central conference committee on workmen's compensation problems, the planning committee for medical policies, and the chairmen of legislation committees of constituent societies, held at the Hotel Statler, Buffalo, on the night of February 17, with approximately 30 doctors and guests present.

The branch having already chosen Niagara Falls as the site and September 28 as the date of the 1955 annual meeting, preliminary reports were received from Dr. Milton Terris, chairman of the program committee for the annual meeting, and Dr. Guy S. Philbrick, chairman of the local arrangements committee. The president appointed a nominating committee, headed by Dr. Victor L. Pellicano, Niagara Falls, to draft the ticket of recommended candidates for election at the annual meeting.

Dr. Joseph C. O'Gorman, Buffalo, was unanimously re-elected chairman of the Central Conference Committee for the year 1955, and Dr. William J. Orr, chairman of the branch planning committee, presented a report on the successful culmination of negotiations to obtain increased and improved benefits for members under a new branch sickness and accident insurance policy, to be administered by Charles J. Sellers and Co., branch disability insurance representative. A resolution was adopted conferring branch endorsement on the new policy.

Highlight of the meeting was a decision that the medical leaders, delegates, and other elements of the Eighth and Seventh District Branches hold a joint dinner meeting and good fellowship session at the Hotel Statler, Buffalo, on the evening of Sunday, May 8, the night before the official opening of the 149th Annual Convention of the Medical Society of the State of New York in Buffalo. A committee was named to map the program for this "curtain-raiser" get-together of the two branches. The Seventh District Branch previously had indicated its desire for such a joint convention-eve meeting and had agreed to accept an invitation to participate.

The midwinter dinner meeting concluded with the consideration of major bills of interest or concern to medicine, pending in the 1955 session of the State

Legislature, notably the Peterson-Noonan Bill to license chiropractors in this State. It was voted to launch a militant branch-wide attack on this measure. Discussion of pending bills was directed by Dr. John C. Brady, Executive Secretary Harold P. Jarvis, and Counsel Joseph J. Guariglia.

History was made on the night of May 8 when the first joint good-fellowship dinner meeting of the Eighth and Seventh District Branches was held at Hotel Statler, Buffalo, with more than 45 key figures, delegates and others of the two branches present, plus several doctors high in State Medical Society circles. The meeting served to bring to a single assemblage the viewpoints of the profession from 16 western New York counties on the subjects embraced in the agenda, virtually all of which bore a close relationship to the impending session of the House of Delegates of the State Medical Society. President McLouth of the Eighth District and President Glenn C. Hatch of the Seventh District sat side by side. The first joint session of the two branches was voted a huge success and probably will be repeated.

With Niagara Hotel, Niagara Falls, as the setting, the Eighth District Branch held its 50th annual meeting on September 28. The meeting was divided into four parts. They were: 1. A noontime cocktail party and luncheon meeting of the advisory council and allied auxiliary bodies, at which it was voted to hold the customary early-winter dinner meeting of the same groups on December 8 at Hotel Statler, Buffalo, and to take recognition of the tenth anniversary of the founding of the advisory council by means of some simple observance at the 1956 annual meeting of the branch. The proposal that such an observance be held originated with Dr. Elmer T. McGroder.

2. The afternoon scientific session at which the speakers and their topics were: "Headache," Dr. Francis L. McNaughton, Montreal; "Recent Advances in Vascular Surgery," Dr. Jere W. Lord, Jr., New York City, and "Changing Aspects of Thyroid Disease," Dr. Laurence H. Kyle, Washington, D.C.

3. The annual business meeting at which the biennial election of branch officers took place through unanimous adoption of the report presented by the nominating committee. Those elected for 1956–1958 were Dr. E. T. McGroder, Buffalo, president; Dr. Wilfrid M. Anna, Lockport, president-elect; Dr. Clyde L. Wilson, Jamestown, secretary, re-elected; Dr. Richard A. Loomis, Springville, treasurer, re-elected.

4. The evening dinner-dance and meeting which was featured by the addresses of Dr. Charles A. Brady, Buffalo, professor of English at Canisius College, who spoke on "The Physician as Seen in Literature," and Dr. James Greenough, Oneonta, president-elect of the State Medical Society. Mrs. Isadore Zadek, New Rochelle, president of the Woman's Auxiliary to the State Medical Society, was called upon for remarks.

Activities for the year 1955 concluded at the annual early-winter dinner meeting of the advisory council and allied bodies held on the evening of December 8 at Hotel Statler. At that time a cordial invitation from the Cattaraugus County Medical Society to the branch to hold its 1956 annual meeting in Cattaraugus County on September 27 was accepted with enthusiasm. Dr. Milton Terris, assistant dean for postgraduate education at the University of Buffalo School of Medicine, again was chosen to head the program committee. Twelve physicians were designated members of the same committee.

Dr. McGroder was appointed chairman of a special committee to arrange a fitting observance at the annual meeting of the tenth anniversary of the formation of the advisory council. It was voted to hold the annual midwinter dinner meeting of the council and other auxiliary groups on February 16. High spot of the program was the appearance as guest speaker of Dr. Henry I. Fineberg, of Jamaica, chairman of the Council Committee on Legislation of the State Medical Society, who addressed the gathering on "The Shape of Things to Come at the 1956 Session of the State Legislature."

Respectfully submitted,
Sydney L. McLouth, M.D., *President*

Ninth District Branch

To the House of Delegates, Gentlemen:

The executive committee of the Ninth District Branch met at the Roger Smith Hotel in White Plains during the month of May for a short dinner meeting to plan the annual meeting. There was some discussion as to the advisability of holding an afternoon scientific meeting, because of the poor attendance in the past few years. It was decided to have a cocktail hour and dinner meeting.

On the evening of October 5, 1955, the sixth annual dinner meeting of the Ninth District Branch was held at the Hotel Thayer at West Point. There was a cocktail hour followed by an excellent dinner, which was attended by about 50 members of the district and their wives and guests.

The component county society officers were introduced. Dr. Renato J. Azzari, president of the Medical Society of the State of New York, spoke to us, and Mrs. Isadore Zadek, president of the Woman's Auxiliary to the Medical Society of the State of New York, addressed us in her usual interesting way.

The principal speaker of the evening was the Reverend George F. McKinney, chaplain of the Walkill Medium Security State Prison, Walkill, whose topic of "Delinquency, Parental and Juvenile" was extremely well presented and timely.

The meeting adjourned at about 10 P.M.

It is evident from the small attendance that there is no great enthusiasm for these annual meetings and has not been for some time, and it is extremely doubtful if it is worth the time, money, and effort to have these annual meetings. This problem will be taken up at the next executive meeting in 1956.

Respectfully submitted,
Harold S. Heller, M.D., *President*

Woman's Auxiliary

to the MEDICAL SOCIETY OF THE STATE OF NEW YORK

The Annual Meeting

WHILE the doctors are in convention making important decisions affecting the policies of the Medical Society of the State of New York, the Woman's Auxiliary will also be holding its annual meeting to determine how best it can be of assistance in carrying out the fixed purposes of the Society.

Realizing the terrific potential force that a well-informed medical auxiliary may have, the convention program of the Auxiliary is planned with a view to educating and stimulating the interest of all doctors' wives in the problems of the medical profession in the fields of legislation, public relations, health education, and public health.

For good or ill the doctor's wife does interpret the medical profession to her community. To answer the questions put to her, she must have knowledge, and it is at the State convention of the Auxiliary that she is given information and the vision to carry out adequately her role of doctor's wife. The State convention might be said to be a postgraduate school for doctors' wives. Since this is so, doctor, it is most important that your wife should come with you to the convention.

All doctors' wives, whether or not they are Auxiliary members, are invited to attend the various meetings and to make use of all facilities offered. This is the Auxiliary's twentieth convention and a special effort is being made to make it outstanding. Your attention is drawn to the program presented elsewhere in the JOURNAL. Registration is from 5 P.M. Sunday until 8 P.M., and will continue thereafter each day from 8:30 A.M. to 4:30 P.M. All doctors' wives are requested to register, whether members of the Auxiliary or not.

Sunday evening at a general reception in the Sutton Room of the hotel, you and your wife are asked to be the Auxiliary's guests. Here an opportunity is provided to meet old friends and to make new ones.

The Auxiliary board of directors will convene on Monday and Thursday mornings. Round table discussions on legislation, program, public relations, and the American Medical Education Fund are scheduled for Monday from 9 A.M. to 12 NOON. Much useful information can be gained in three hours from the experienced leaders conducting the discussions. Members of county auxiliaries hear casually about such projects as the Physicians' Home; they hear about helping with legislation, or about something called good public relations. The round table discussions provide lucid explanations to their questions as well as give a real understanding of some of the problems concerning organized medicine. At these discussions they are also given the inspiration and realization that they can be of vital assistance to their doctor-husbands in the solution of these problems.

The house of delegates is in session Monday afternoon, Tuesday, and Wednesday. All delegates must be present and those who are not delegates are invited to be observers. A tea honoring the past presidents of the Woman's Auxiliary to the Medical Society of the State of New York, will be held in the Ball Room of the Hotel Pierre Monday afternoon from 4 to 6. Every doctor's wife is invited to attend.

On Tuesday at 12:30, a luncheon honoring the president of the State Auxiliary, Mrs. Isadore Zadek, is arranged to take place in the Hotel Statler. The speaker will be Dr. Marynia Farnham, New York City psychiatrist. Mrs. Mason G. Lawson, president of the Auxiliary to the A.M.A., will be with us and will address the house of delegates.

Wednesday will be devoted to the regular business of the convention and also to the postconvention meeting of the State officers and chairmen, county presidents, and presidents-elect. At seven o'clock Wednesday evening the annual doctors' dinner dance will take place.

In order to give the guests of the convention opportunity to see the sights of New York, formal social affairs have been kept to a minimum. Assistance with tours and theater tickets may be had upon inquiry at the registration desk.

In brief an outline of the Auxiliary's aims and program has been presented. We have large hopes for our 1956 convention. May we count on your cooperation, doctor? Please make sure that your wife is with us.

MRS. JOHN L. NEUBERT, *Chairman*
Convention Committee, 1956

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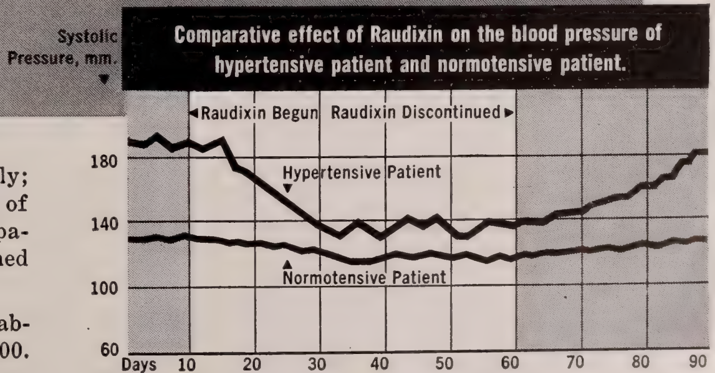

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NECROLOGY

John F. W. Allen, M.D., retired, of Ithaca, died on January 27 in Conklin Sanitarium at the age of eighty-five. Dr. Allen graduated in 1894 from Columbia University College of Physicians and Surgeons. Dr. Allen, who had served as a major in the Medical Corps during World War I, had practiced in Ithaca and Danby for over fifty years. He was an honorary member of the staff at Tompkins County Memorial Hospital and a member of the Tompkins County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

M. Marion Apfel, M.D., of New York City, died in March at the age of eighty-three. Dr. Apfel graduated from New York University College of Medicine in 1893.

G. Herbert Carter, M.D., of Huntington, died at his home on March 2 at the age of eighty-six. Dr. Carter graduated from Columbia University College of Physicians and Surgeons in 1892 and interned at Roosevelt and Sloane Hospitals. He served two terms as president of the medical staff of the Huntington Hospital, which he was instrumental in founding, and for ten years was a consulting physician at the Kings Park State Hospital. He had practiced for more than fifty years and was a member of the Suffolk County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Cameron Duncan, M.D., of Brooklyn, died on March 4 in the Midwood Hospital at the age of eighty. Dr. Duncan graduated in 1898 from Bellevue Hospital Medical College. A consultant in obstetrics and gynecology at Kings County and Lutheran Hospitals, he was also a consultant in obstetrics at Flushing Hospital and Dispensary, and emeritus obstetrician and gynecologist at St. John's Episcopal Hospital, Brooklyn. In 1948 Dr. Duncan was presented a certificate by the Medical Society of the State of New York for fifty years of practice. A former president of the Brooklyn Gynecological Society, he was also a founder and former president of the Flatbush Medical Society and in 1909 he was one of the five physicians who founded the Midwood Hospital. He was a clinical professor emeritus of obstetrics and gynecology at the State University of New York College of Medicine at New York City, a Diplomate of the American Board of Obstetrics and Gynecology, a Fellow of the American College of Surgeons, and a member of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons, the Brooklyn Gynecological Society, the Kings County Medical Society, and the Medical Society of the State of New York.

Raphael Ginzberg, M.D., formerly of New York City, died of a heart attack at the age of sixty on January 19 in Tomah, Wisconsin. Dr. Ginzberg received his degree from the University of Thuringia Faculty of Medicine, Jena, Germany, in 1930. He was senior physician and chief, Geriatrics Department, at the Veterans Administration Hospital in Tomah. Dr. Ginzberg was a member of the American Geriatrics Society.

Arnold Knapp, M.D., of New York City, died on February 29 in the Harkness Pavilion, Columbia-Presbyterian Medical Center, after a long illness, at the age of eighty-six. Dr. Knapp graduated from Columbia University College of Physicians and Surgeons in 1892 and interned at Roosevelt Hospital. He was a consultant in ophthalmology at the Presbyterian, Roosevelt, and Harlem Eye and Ear Hospitals. From 1903 to 1928 Dr. Knapp was a professor of ophthalmology at the College of Physicians and Surgeons and in 1930 was awarded an honorary degree of doctor of science by Columbia University. In 1941 he received the Leslie Dana gold medal from the St. Louis Society for the Blind on the recommendation of the Association for Research in Ophthalmology for his achievement in the prevention of blindness. He was editor in chief of the *Archives of Ophthalmology* and a director of the Knapp Foundation in Ophthalmology. Dr. Knapp was a Diplomate of the American Board of Ophthalmology and a member of the American Ophthalmological Society, the New York Academy of Medicine, the New York Ophthalmological Society, the New York County Medical Society, the Medical Society of the State of New York and the American Medical Association.

Stacy P. Koenemann, M.D., of Avoca, retired, died on February 29 at his home at the age of fifty-two. Dr. Koenemann graduated in 1931 from the University of Toronto Faculty of Medicine. He was a member of the Steuben County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Carl Henry Laws, M.D., of Brooklyn, died of a heart attack at his home on February 29 at the age of seventy-one. Dr. Laws graduated from Minneapolis College of Physicians and Surgeons in 1907. He was a consultant in pediatrics at Long Island

[Continued on page 1168]

HARD-TO-KILL TRICHOMONADS
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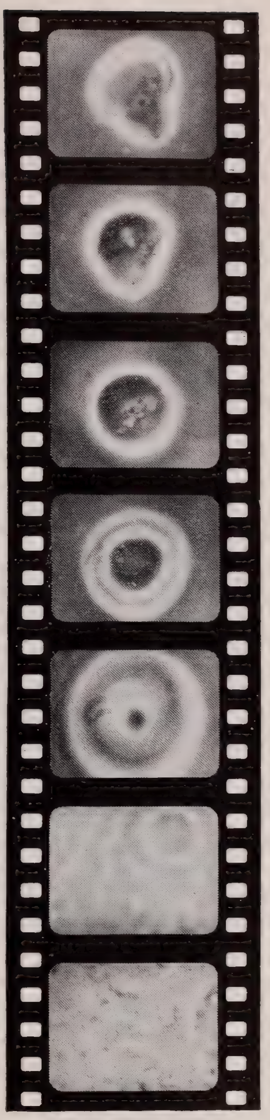

Top to bottom:

2 sec. CONTACTS
4 sec. COMPLEXES
6 sec. DISSOLVES
8 sec. DENATURES
10 sec. SWELLS
15 sec. EXPLODES
16 sec. SCATTERS

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No other agent or combination of agents kills the trichomonad in this specific fashion or with the *speed* of Vagisec liquid.[3] When the patient uses Vagisec jelly as well — the recommended routine — these good effects continue indefinitely.[4]

Reaches hidden trichomonads — Unlike many agents, Vagisec liquid thoroughly penetrates and dissolves the cellular debris and mucoid material lining the vaginal surface.[3] It reaches hidden trichomonads — often the cause of treatment failure — as well as parasites swimming freely in the canal.

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> OFFICE TREATMENT — *Wipe vaginal walls dry with cotton balls, then wash thoroughly for about three minutes with a 1:250 dilution of* Vagisec *liquid. Remove excess fluid with cotton balls. Dr. Davis recommends three treatments the first week, two the second and one the third.*
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> HOME TREATMENT — *Patient douches with* Vagisec *liquid at night and inserts* Vagisec *jelly every morning except on office treatment days, through two menstrual periods. Douching is contraindicated for pregnant women.*

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References: 1. Davis, C. H.: J.A.M.A. *157*:126 (Jan. 8) 1955. 2. Davis, C. H.: West. J. Surg. *63*:53 (Feb.) 1955. 3. Davis, C. H., and Grand, C. G.: Am. Jour. Obst. & Gynec. *68*:559 (Aug.) 1954. 4. Davis, C. H. (Ed.): Gynecology and Obstetrics (revision), Hagerstown, Md., W. F. Prior, 1955, vol. 3, chap. 7, pp. 23-33.

[Continued from page 1166]

College Hospital, Mary Immaculate, Coney Island, Lutheran, and St. Joseph's, Far Rockaway, Hospitals. Formerly a professor of pediatrics and of child health and welfare at Long Island College of Medicine, Dr. Laws was a Licentiate of the American Board of Pediatrics and a member of the American Academy of Pediatrics, the Brooklyn Academy of Pediatrics, the Kings County Medical Society, and the Medical Society of the State of New York.

Matthew Samuel Levitas, M.D., of Brooklyn, died on February 20 in the Veterans Administration Hospital, Fort Hamilton, after a short illness, at the age of sixty-three. Dr. Levitas graduated from the Long Island College Hospital School of Medicine in 1916. He was an assistant attending surgeon at Maimonides Hospital, Brooklyn, and formerly was an assistant pathologist at Cumberland Hospital and an adjunct surgeon and chief of the surgical clinic at Israel Zion Hospital. He had served on the staffs of the Brooklyn Cancer Institute, Infants Home of Brooklyn, and the Brooklyn Jewish Home for Convalescents. A former anatomy instructor at Long Island College Hospital, Dr. Levitas was a former national surgeon general of the Veterans of Foreign Wars of the United States. He was a member of the Kings County Medical Society and the Medical Society of the State of New York.

Charles Edward Manning, M.D., retired, of West Babylon, died on January 22 at the age of eighty-one. Dr. Manning graduated from Long Island College Hospital School of Medicine in 1897. He was a retired member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Gaetano Thomas Mega, M.D., of Brooklyn, died on January 29 at the Kingsway Hospital after an illness of two weeks at the age of fifty-six. Dr. Mega graduated from the New York Homeopathic Medical College and Flower Hospital in 1926. For many years he had served on the staff of Kingsway Hospital. He was a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Florence Julia V. Normandeau, M.D., of Schenectady, died on February 2 at St. Clare's Hospital at the age of seventy-six. Dr. Normandeau graduated from the Chicago College of Medicine and Surgery in 1912.

Antonio Valenti-Mestre, M.D., of New York City, died at the Doctors Hospital on February 23 at the age of fifty-six. Dr. Valenti-Mestre received his degree from the University of Valencia Faculty of Medicine in 1922. He was a consultant physician at Fitkin Memorial Hospital, Neptune, New Jersey. Dr. Valenti-Mestre was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Willets Wilson, M.D., of Ithaca, died on February 6 at the age of eighty-three. Dr. Wilson graduated from Cornell University Medical College in 1902. He was an honorary member of the staff at the Tompkins County Memorial Hospital and a member of the Tompkins County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

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150th Annual Meeting

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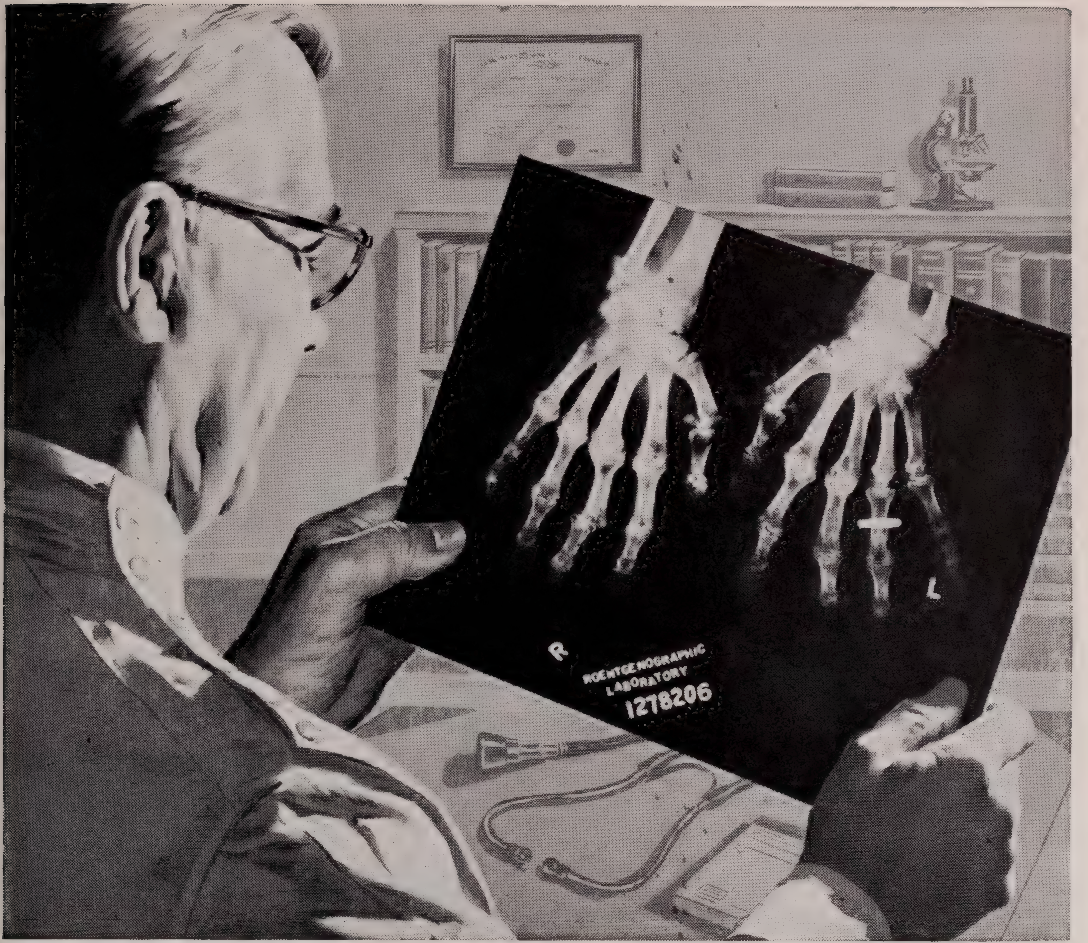

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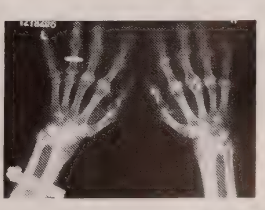

REFERENCES:
1. J.A.M.A. 159: 645 (Oct. 15) 1955.
2. J.A.M.A. 158: 386 (June 4) 1955.

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NEWS FROM THE MEDICAL SCHOOLS

Albany Medical College

X-ray Interpretation—The first program in a postgraduate course in x-ray interpretation was held on February 9 with succeeding programs on February 16, March 1, 15, and 22. Dr. John F. Roach, professor and chairman, Department of Radiology, arranged the course, and other instructors included Dr. Donald H. Baxter, associate professor of radiology, and Drs. Irving Van Woert, Jr., and Robert R. Wadlund, assistant professors of radiology.

Appointed—Dr. Crawford J. Campbell, associate professor of orthopedic surgery and head, Subdepartment of Orthopedics, has been appointed a member of the Surgical Forum Committee of the American College of Surgeons. In this capacity, Dr. Campbell will assemble and present work on fundamental surgical research and problems of orthopedic surgery at meetings of that organization.

Speaker—Dr. Charles Janeway, Thomas Morgan Rotch Professor of Pediatrics, Harvard Medical School, spoke on "The Gamma Globulins" at the college on February 7. This lecture was sponsored by the Albany Medical College chapter of the Student American Medical Association.

Awarded—Dr. Matthew N. Levy, associate professor of physiology, has received a special travel award to attend the 20th International Physiological Congress in Brussels, Belgium, in the summer of 1956. Dr. Levy, who was chosen to attend the Congress on the basis of his outstanding achievements in the field of circulation research, received the grant from the Federation of American Societies for Experimental Biology and will talk on "The Effect of the Viscosity of Blood Upon the Resistance to Blood Flow."

New York University College of Medicine

American Korean Foundation—Future physicians of the Chonnam University Medical College, Kwangju City, South Korea, will be offered the latest methods in American medical education when a team of young Korean doctors complete their special training at New York University-Bellevue Medical Center and return to the faculty of the Chonnam University in June. The Korean doctors at the College of Medicine are studying American methods of teaching students in four of the basic sciences: anatomy, pathology, physiology, and microbiology. A fifth member of the team, Dr. Young Inn Kim, is observing teaching methods in pharmacology at Cornell University Medical College.

University of Rochester School of Medicine and Dentistry

Promoted—Dr. Frank P. Smith to associate professor of neurosurgery, associate surgeon, and chief, neurosurgical division, Division of Surgery; Dr. Vernon Thomas, head, division of anesthesia, associate professor of anesthesia, and chief anesthetist, and Dr. Roger Terry to associate professor of pathology.

State University of New York College of Medicine at Syracuse

Resigned—Dr. Edward J. Stainbrook, professor and chairman of psychiatry, announced his resignation to become effective in the summer of 1956 to become professor and chairman of the newly created Department of Psychiatry at the University of Southern California School of Medicine and chief, psychiatric services at Los Angeles County Hospital. Dr. Stainbrook is responsible for the establishment of residency training of psychiatrists in Syracuse as well as the development of the Department to its present group of eight full-time teachers of psychiatry.

Speaker—Dr. Priscilla White, a member of the Joslin Clinic, Boston, and attending physician at New England Deaconess, Boston Lying-In, and Faulkner Hospitals, and instructor in pediatrics, Tufts College, spoke on "Diabetes in Pregnancy" on March 20 at the College. Dr. White was the guest of the Syracuse chapter of the national woman's medical fraternity, Alpha Epsilon Iota.

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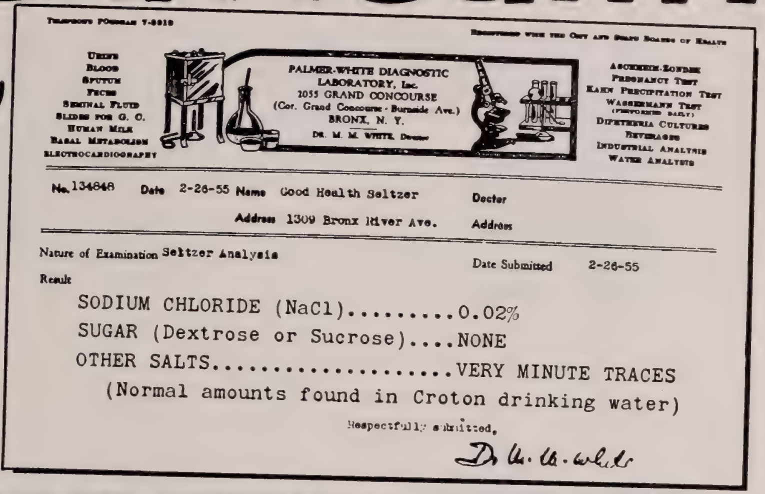

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Dr M. M. White

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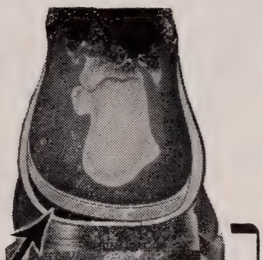

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MEDICAL NEWS

Albany County Medical Society—A meeting of the Medical Society of the County of Albany was held on February 28 at the Colonie Country Club in Albany. Dr. John Powers, medical director of Civil Defense in Albany County; Dr. Harry Eastman, medical director of Disaster Service of the American Red Cross in Albany County, and Dr. Willard B. Warring, chairman of the committee on preparedness, discussed "Disaster and Civil Defense."

Hill-Burton Grants—The Department of Health, Education, and Welfare reports the status of all Hill-Burton grants for the State of New York as of January 31. Projects approved during the past month include Southside Hospital in Bay Shore, at an estimated total cost of $1,426,531, an approved Federal share of $121,038, and 66 additional beds; Montefiore Hospital in New York City at an estimated total cost of $474,600, an approved Federal share of $158,200, and 42 additional beds; Brookhaven Memorial Hospital in Patchogue at an estimated total cost of $1,267,745, an approved Federal share of $217,814 .and 96 additional beds, and Taylor Brown Memorial Hospital in Waterloo at an estimated total cost of $1,149,000, an approved Federal share of $376,000, and 75 additional beds.

Approved, but not yet under construction, including the above, are 13 projects at a total cost of $15,386,805, including $4,650,964 Federal contribution and designed to supply 880 additional beds.

Under construction are 19 projects at a total cost of $55,747,590, including Federal contribution of $7,924,138 and designed to supply 1,747 additional beds.

Completed and in operation are 73 projects at a total cost of $73,737,247, including Federal contribution of $21,101,404 and supplying 4,029 additional beds.

Poliomyelitis Vaccine Survey—A State grant of $23,900 has been awarded to Russell Sage College for a study of some of the problems involved in field testing and using the Salk poliomyelitis vaccine. Dr. Francis A. J. Ianni, assistant professor of anthropology and psychology at Russell Sage College, and Dr. Walter E. Boek, research anthropologist at the State Department of Health and research associate professor of sociology and anthropology at Russell Sage, will be codirectors of the study, according to Dr. Herman E. Hilleboe, State health commissioner.

Among the subjects to be studied are factors that influenced families to determine whether or not to have their children vaccinated, differences between participating and nonparticipating families, roles of fear and knowledge in bringing about participation in the program, and public attitude toward science and medical research of the type carried on in the 1954 field trials.

Kings County Pediatric Section—A meeting of the pediatric section of the Medical Society of the County of Kings and Academy of Medicine of Brooklyn was held on March 19 in Brooklyn. Dr. Alex J. Steigman, chairman of the Department of Pediatrics, University of Louisville School of Medicine, and physician-in-chief of Children's Hospital in Louisville, Kentucky, spoke on "The Current Status of Poliomyelitis Prevention."

Personalities

Elected

Dr. Victor A. Bacile, chairman, Dr. Frank A. Gagan, president, and Dr. Frank C. Starpoli, secretary, of the medical board of St. Francis Hospital, Poughkeepsie. . .Dr. Arthur J. Bedell, Albany, first honorary member of the Ophthalmological Society of South Africa. . .Dr. Brittain F. Payne, New York City, president of the Pan American Association of Ophthalmology at the fifth Pan American Congress of Ophthalmology in Santiago, Chile, January 8 through 14. . .Dr. Alexander C. Perlino, re-elected president, Dr. John G. Grotz, vice-president, Dr. Marvin Sarles, treasurer, and Dr. Anthony W. Kozlowski, secretary, of the medical staff of Lafayette General Hospital, Buffalo.

Speakers

Dr. Stanley E. Alderson, professor of surgery, Albany Medical College, before the Rensselaer County Medical Society on March 13 on "Workmen's Compensation Problems". . .Dr. Leona Baumgartner, New York City Health Commissioner, at a public health forum at the Brooklyn College of Pharmacy at Long Island University on February 28. . .Dr. Herbert Conway, professor of clinical surgery at Cornell University Medical College, Dr. Jacob Fried, associate in radiology at Columbia University College of Physicians and Surgeons, and Dr. Jesse A. Tolmach, associate professor of clinical dermatology and syphilology at New York University Post-Graduate Medical School, in a symposium on "Cancer of the Face" at Meadowbrook Hospital in Hempstead on March 20. . .Dr. Richard L. Frank, professor of clinical psychiatry, State University of New York College of Medicine, New York City, be-

[Continued on page 1174]

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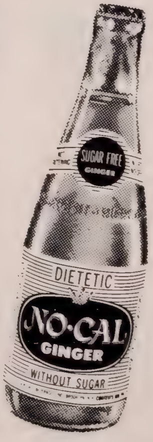

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KIRSCH BEVERAGES, BROOKLYN 6, N. Y.

[Continued from page 1172]

fore the hospital staff of the Veterans Administration Hospital at Northport on February 28 on "Understanding the Communications of the Patient". . .Dr. Merton C. Hatch, associate clinical professor of obstetrics, State University of New York College of Medicine at Syracuse, before the physicians of Oneida County on March 13 on "The Value of X-ray in Obstetrics". . .Dr. Henriette R. Klein, assistant clinical professor and attending psychoanalyst, Columbia University College of Physicians and Surgeons, New York City, before the hospital staff of the Veterans Administration Hospital at Northport on March 1, on "Problems in Evaluating Changes in Patients: The Interview as an Investigative Tool". . .Dr. George T. Pack, New York City, the Louis T. Wright Memorial Lecture on February 29 at Harlem Hospital on "The Influence of Disease on History"; annual clinic day at Niagara Falls on March 3, on "The Problem of Pigmented Moles and Malignant Melanomas"; at the Southeastern Surgical Congress, Richmond, Virginia, on March 12 on "Diagnosis and Treatment of Sarcomas of the Soft Tissues," and at the Ocean Medical Society meeting, Brooklyn, on March 19, in a symposium on cancer, discussing "The Diagnosis and Treatment of Metastatic Cancer of the Liver". . .Dr. Nathaniel E. Reich, Brooklyn, at the Long Beach Memorial Hospital, Long Beach, on February 28 on "Pulmonary Embolism"; at the Brooklyn Thoracic Society on March 1 on "Metastatic Heart Disease," and at Beth Israel Hospital, New York City, on March 7 on "Treatment of Refractory Heart Failure". . .Dr. Anna L. S. Southam, professor of obstetrics and gynecology at Columbia University College of Physicians and Surgeons, before the South Side Clinical Society on March 21 in Babylon, on "The Use of Endocrine Products in the Treatment of Menstrual Abnormalities". . .Dr. Robert Westlake, Syracuse, before the Cortland County Medical Society on February 27 on "Pyelonephritis."

Appointed

Dr. Rene J. Dubos, member of the Rockefeller Institute for Medical Research, New York City, to the newly established National Advisory Allergy and Infectious Diseases Council. . .Dr. Leopold Reiner, pathologist of Beth Israel Hospital in Boston, to the post of pathologist and director of laboratories at the Bronx Hospital. . .Dr. Bernard Rothbard, Brooklyn, as medical director of the United Wire, Metal & Machine Medical Center.

Awarded

Dr. Alma A. Paulsen, chief psychologist, Bureau of Child Guidance, New York City Board of Education, recipient of the first scholarship from the Beatrice M. Hinkle Memorial Fund. . .Dr. Tomiko Ito, Cornell University-New York Medical Center, Drs. Aida Baltazar, A. G. Varsos, Robert M. Epstein, Erwin E. Simandl, and J. P. White, Columbia University College of Physicians and Surgeons, Drs. G. W. Frimpter and Richard B. Moore, New

York University-Bellevue Medical Center, and Dr. Murrary A. Greene, Maimonides Hospital, New York Heart Association fellowships for the study of diseases of the heart and blood vessels at New York City medical institutions.

Honored

The late Dr. Morley B. Lewis, Sag Harbor, by furnishings for wards of the Southampton Hospital, of which he was one of the founders forty years ago. . .Dr. Louis Hauswirth, eighty-year-old director emeritus of medicine of Beth David Hospital, with a dinner at the Waldorf-Astoria Hotel in New York City, on March 3.

New Offices

Dr. Colburn A. L. Campbell, Hammondsport, practice of orthopedic surgery in Bath. . .Dr. Seymour Cohen, associated with Dr. Lester Lipson in the practice of internal medicine in Monticello. . . Dr. Frank Gilbert, Lake Placid, general practice in Saratoga. . .Dr. William A. Little, general practice in Roscoe.

1955 Accidental Deaths in the United States

Accidental deaths in the United States increased by about 2,000 during 1955, bringing the year's total to approximately 92,000, according to statisticians of the Metropolitan Life Insurance Company.

This increase is due principally to motor vehicle accidents, with the number of fatalities from such mishaps probably reaching 38,500—or 2,500 more than in 1954—the statisticians noted. Thus motor vehicle mishaps accounted for more than two fifths of all accidental deaths, a far greater toll than from any other single type of accident.

Public accidents other than those involving motor vehicles took a slightly larger number of lives than in 1954, totaling nearly 16,000. Injuries arising out of and in the course of employment caused about 14,000 deaths, the same as in the previous year. Fatal injuries in the home declined to about 27,000, a small improvement over 1954's record.

"Without the full cooperation of drivers and pedestrians, safety experts cannot effectively attack the traffic accident problem," the statisticians concluded.

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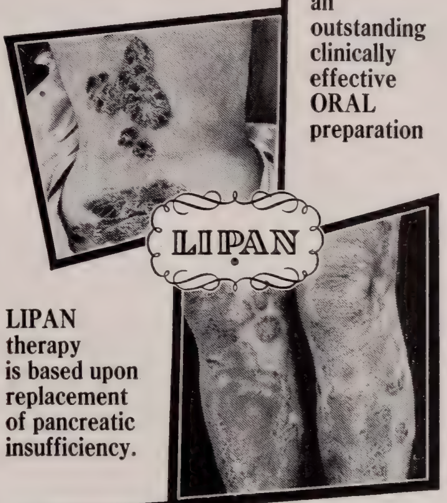

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MEDICAL MEETINGS

New York Cancer Society

The seventh meeting of the New York Cancer Society, combined with the sections on medicine and surgery of the New York Academy of Medicine, will be held on April 3 at 8:30 P.M. in Hosack Hall, New York Academy of Medicine, Fifth Avenue at 103rd Street, New York City.

Various aspects of "The Scope of Palliative Treatment for Malignant Disease" will be discussed by Dr. Bronson S. Ray, New York Hospital; Dr. Robert H. Wylie, Columbia-Presbyterian Medical Center; Dr. Arthur M. Sutherland, Memorial Center for Cancer and Allied Diseases; Dr. Milton Friedman, New York University College of Medicine, and Dr. Alfred Gellhorn, Columbia University College of Physicians and Surgeons. Dr. Claude E. Forkner, New York Hospital, will act as moderator of the symposium.

Broome County Medical Society

The Broome County Medical Society will celebrate its 150th anniversary on April 4. Dr. Elmer Hess, president of the American Medical Association, and Dr. Renato J. Azzari, president of the Medical Society of the State of New York, will address physicians of the county and their wives at an anniversary dinner in the Arlington Hotel in Binghamton.

Steuben County Medical Society

The Steuben County Medical Society will meet on April 12 at 6:30 P.M. at the Baron Steuben Hotel in Corning. Dr. Paul A. Bunn, of Syracuse, will speak on "Antibiotics."

Greene County Medical Society

A meeting of the Greene County Medical Society will be held on April 12 at 8:00 P.M. at the Greene County Memorial Hospital in Catskill. Dr. George M. Masotti, associate professor of psychiatry at University of Buffalo School of Medicine, will speak on "Recognition and Management of Psychiatric Problems in General Practice."

On May 17 at 8:00 P.M. the Greene County Medical Society and the local chapter of the Academy of General Practice will meet, also at the Greene County Memorial Hospital. Dr. Charles W. Lloyd, assistant professor of obstetrics at the State University of New York College of Medicine in Syracuse, will speak on "The Practical Applications of Endocrinology in General Practice."

American Academy of General Practice

The fourth annual scientific assembly of the West Virginia chapter of the American Academy of General Practice will be held at the Daniel Boone Hotel, Charleston, West Virginia, on April 14 and 15. The speakers will be authors of textbooks and monographs. Among them will be Dr. Russell Cecil, professor of clinical medicine, (emeritus), Cornell University, on "Osteoarthritis"; Dr. Harry Gold, professor of clinical pharmacology, Cornell University, on "Psychosomatic Aspects of Drug Therapy," and Dr. Meredith Campbell, professor of urology, New York University, on "Common Urologic Conditions in Infants and Children."

American College of Allergists

The twelfth congress and graduate instructional course in allergy of the American College of Allergists, Inc., will be held April 15 through 20 at the Hotel New Yorker in New York City. For further information, contact the American College of Allergists, 401 Marquette Bank Building, Minneapolis 2, Minnesota.

Aero Medical Convention

The annual meeting of the Aero Medical Association will be held at the Drake Hotel, Chicago, Illinois, on April 16 through 18. There will be 137 papers presented dealing with every aspect of the field and coming from military and civilian sources in nine countries. Section meetings will be held on space medicine, civil aviation medicine, aviation physiology, aviation ophthalmology, acceleration and deceleration, air passenger transportation, noise and vibration, pilot selection and aviation psychology, personal equipment, aviation pathology, aviation medical education, and a combined symposium on escape from high performance aircraft. All members of the profession are invited to attend any or all of these sessions.

Memorial Lecture

The fourth annual Emanuel B. Schoenbach memorial lecture will be delivered in the solarium of the Maimonides Hospital of Brooklyn on April 26 at 8:30 P.M. Dr. John H. Dingle, professor and chairman of the Department of Preventive Medicine, Western Reserve University, School of Medicine, and president of the Armed Forces Epidemiologic Board, will speak on "Studies on the Occurrence and Spread of Respiratory Illness in Families."

Postgraduate Course

A six-day postgraduate course in clinical medicine will be given May 7 through 12, sponsored by the Department of Medicine of Johns Hopkins Hospital and the Johns Hopkins University School of Medi-

[Continued on page 1178]

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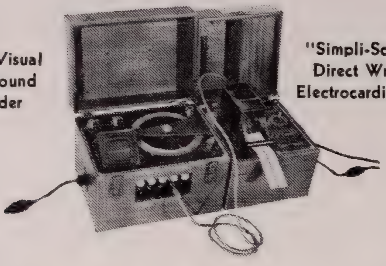

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[Continued from page 1177]

cine in Baltimore, Maryland. For information, write to Dr. Philip A. Tumulty, Department of Medicine, The Johns Hopkins Hospital, Baltimore 5, Maryland.

American Trudeau Society

The 51st annual meeting of the American Trudeau Society, medical section of the National Tuberculosis Association, will be held in New York City May 21 through 23.

Dr. David Spain, Brooklyn, will moderate a panel discussion on emphysema on May 21, and on May 22 Dr. Leonard Greenburg, New York City, will speak on "Air Pollution of Cities." Dr. H. McLeod Riggins of New York City will be the moderator of a panel on "Treatment of Tuberculosis: Hospital, Home, Clinic," on May 23. That same day Dr. Walsh McDermott of Cornell University Medical College will act as moderator of a panel on host factors in antimicrobial therapy.

Reservation blanks may be obtained from the National Tuberculosis Association, 1790 Broadway, New York 19, New York.

American College of Chest Physicians

The 22nd annual meeting of the American College of Chest Physicians will be held at the Hotel Sherman, Chicago, Illinois, June 6 through 10. Fireside conferences, inaugurated at the annual meeting in 1955, will be repeated.

Examinations for Fellowship in the College will be held on June 7. On June 9, more than 150 physicians will receive their certificates of Fellowship at the annual convocation.

All interested physicians are invited to attend. There is no registration fee. Copies of the program may be obtained by writing to the Executive Offices, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois.

Tuberculosis Symposium

The fifth annual symposium for general practitioners on tuberculosis and other chronic pulmonary diseases will be held in Saranac Lake from July 9 through 13. It is approved for 26 hours of formal credit for members of the American Academy of General Practice.

Further information and copies of the program may be obtained by writing to Dr. Edward N. Packard, general chairman, Symposium for General Practitioners, P.O. Box 262, Saranac Lake, New York.

Legs are staple articles and will never go out of fashion while the world lasts.—Jarrett and Palmer

Health Record

In 1955 the health record of the American people appears to be exceptionally good, according to the statisticians of the Metropolitan Life Insurance Company.

The death rate for the year, 9.2 per 1,000 of population in the United States, will be about equal to that for 1954, which was the lowest on record. This marks the eighth successive year for which the death rate for the country has been below 10 per 1,000 population. In 1945, only one decade ago, the death rate was 10.6 per 1,000 population, one sixth above the level for 1955.

A notable feature of the 1955 record is another substantial reduction in mortality from tuberculosis. For the first time the death rate from this disease will have been somewhat less than 10 per 100,000 of the population.

Mortality from influenza and pneumonia continued at a low level in 1955. Although there have been outbreaks of influenza within the last decade, the general trend of mortality has been sharply downward.

In 1955 there were about 29,000 cases of poliomyelitis in the country, compared with about 39,000 for the year before.

Among the communicable diseases of childhood, there was an appreciable reduction in the number of reported cases of measles. For scarlet fever there was little change from the year before, but there was an appreciable rise for whooping cough. The number of reported cases from diphtheria, already at a relatively low level, continued to decline. The combined death rate from these conditions of childhood was under 1 per 100,000 population during the year.

The 1955 mortality record for the major chronic diseases was about the same as that for 1954, according to the statisticians.

There was little change in the death rate from cancer, which continues to account for about one sixth of the total mortality, the statisticians note. On the other hand, the death rate from the cardiovascular-renal diseases showed a small rise, practically all of which occurred in mortality from coronary artery disease. There was practically no change in the death rate from diabetes.

The accident fatality rate during 1955 was practically as favorable as in 1954. The record for occupational accidents was about the same in the two years, but home accidents showed a moderate decline. In contrast, the death rate from motor vehicle injuries rose. The suicide rate in 1955 increased somewhat, but that for homicides dropped slightly.

Infant mortality continued to improve in 1955 and the rate will be about 26 per 1,000 live births, a new low for the United States. "One decade ago, in 1945, the rate was almost 50 per cent higher," the statisticians report. "Maternal mortality during 1955 remained near the low level of the year before, somewhat over 5 per 10,000 live births."

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BOOKS RECEIVED

(*The following books were received during the month of February, 1956*)

Practitioners' Conferences Held at The New York Hospital-Cornell Medical Center. Edited by Claude E. Forkner, M.D. Vol. 3. Octavo of 293 pages, illustrated. New York, Appleton-Century-Crofts, 1956. Cloth, $6.75.

Androgens. Biochemistry, Physiology, and Clinical Significance. By Ralph I. Dorfman, Ph.D., and Reginald A. Shipley, M.D. Octavo of 590 pages, illustrated. New York, John Wiley & Sons, 1956. Cloth, $13.50.

Food Poisoning. By G. M. Dack, M.D. Revised edition. Octavo of 251 pages. Chicago, University of Chicago Press, 1956. Cloth, $6.00.

Advances in Pediatrics. Vol. 8. Editor, S. Z. Levine, M.D. Associate Editors, John A. Anderson, M.D., Margaret Dann, M.D., A. Ashley Weech, M.D., Myron E. Wegman, M.D., and Warren E. Wheeler, M.D. Octavo of 273 pages, illustrated. Chicago, Year Book Publishers, 1956. Cloth, $8.00.

Ciba Foundation Symposium on Experimental Tuberculosis, Bacillus and Host, with an Addendum on Leprosy. Editors for the Ciba Foundation, G. E. W. Wolstenholme, M.B., and Margaret P. Cameron, M.A., assisted by Cecilia M. O'Connor, B.Sc. Octavo of 396 pages, 69 illustrations. Boston, Little, Brown & Company, 1955. Cloth, $9.00.

A Follow-Up Study of World War II Prisoners of War. By Bernard M. Cohen Ph.D., and Maurice Z. Cooper, M.D. Octavo of 81 pages, illustrated. Washington, Superintendent of Documents, 1954. Cloth, $1.50. (VA Medical Monograph)

"The Exceptional Child Faces Adulthood." Proceedings of the 1955 Spring Conference of the Child Research Clinic of The Woods Schools held in collaboration with The Department of Special Education, Teachers College, Columbia University and The School of Education, The City College, New York in New York City, May 6 and 7, 1955, on the topic "The Exceptional Child Faces Adulthood" in three sessions. Octavo of 114 pages. Langhorne, Pennsylvania, The Woods Schools, [1955].

Congenital Heart Disease. Report of the Fourteenth M & R Pediatric Research Conference. Octavo of 118 pages, illustrated. Columbus, M & R Laboratories, 1955.

Retrolental Fibroplasia Role of Oxygen. Report of the Sixteenth M & R Pediatric Research Conference. Octavo of 62 pages, illustrated. Columbus, M & R Laboratories, 1955.

Nutrition in Infections. By W. Alan Wright, M.D. (Conference Chairman), C. E. Alexander, A. E. Axelrod, Ph.D., A. El Deeb, A. El Mofty, *et al.* Octavo of 174 pages, illustrated. New York, New York Academy of Sciences, 1955. Paper, $4.00. (Annals of the New York Academy of Sciences, V. 63, Art. 2, pp. 145–318)

Psychotherapy and Counseling. By Lawrence K. Frank, A.B., and Rollo May, Ph.D. (Conference Co-chairmen), F. H. Allen, M.D., L. N. Austin, P. David, P. E. Johnson, *et al.* Octavo of 114 pages, illustrated. New York, New York Academy of Sciences, 1955. Paper, $3.50. (Annals of the New York Academy of Sciences, V. 63, Art. 3, pp. 319–432)

Biology of Poliomyelitis. By Karl Habel, M.D., (Conference Chairman), M. Adler, H. E. Alexander, M.D., S. M. Aronson, M.D., G. Barski, *et al.* Octavo of 327 pages, illustrated. New York, New York Academy of Sciences, 1955. Paper, $5.00. (Annals of the New York Academy of Sciences, V. 63, Art. 3, pp. 737–1064)

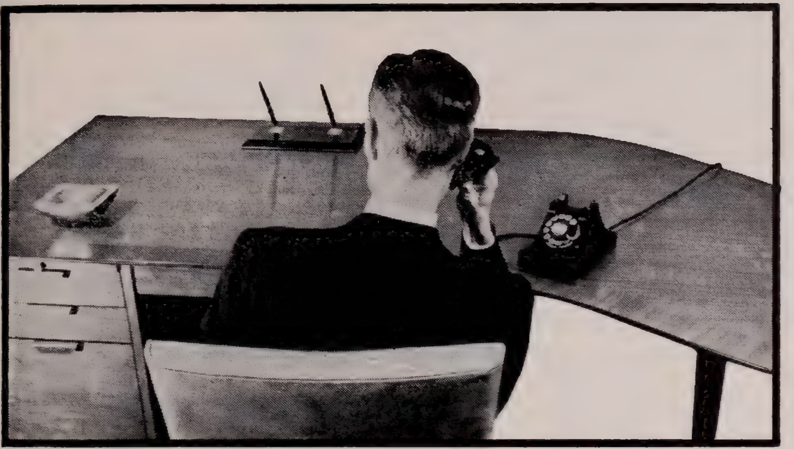
1956 Edition, Physician's Federal Income Tax Guide. For the Preparation of 1955 Returns and 1956 Estimates. By Hugh J. Campbell and James B. Liberman. Edited by Henry D. Shereff. Quarto of 94 pages. Great Neck, N.Y., Channel Press, 1955. Paper, $2.50.

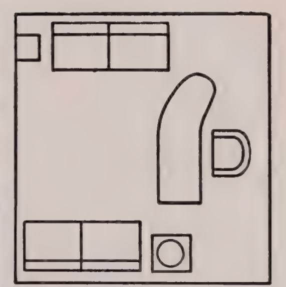
A Manual of Fractures and Dislocations. By Barbara Bartlett Stimson, M.D. Third edition. Duodecimo of 224 pages. 97 illustrations. Philadelphia, Lea & Febiger, 1956. Cloth, $4.50.

Symposium on Myasthenia Gravis. Henry R. Viets, M.D., and George D. Gammon, M.D., Guest Editors. Papers read at the First International Conference on Myasthenia Gravis at Philadelphia, Pa., on December 8–9, 1954, under the auspices of The Myasthenia Gravis Foundation, Inc., New York. Quarto of 88 pages, illustrated. [New York], "The American Journal of Medicine," (New York, The Myasthenia Gravis Foundation), 1955.

A Course in Practical Therapeutics. By Martin Emil Rehfuss, M.D., and Alison Howe Price, M.D. Third edition. Quarto of 972 pages, illustrated. Baltimore, The Williams & Wilkins Company, 1956. Cloth, $15.

[Continued on page 1182]





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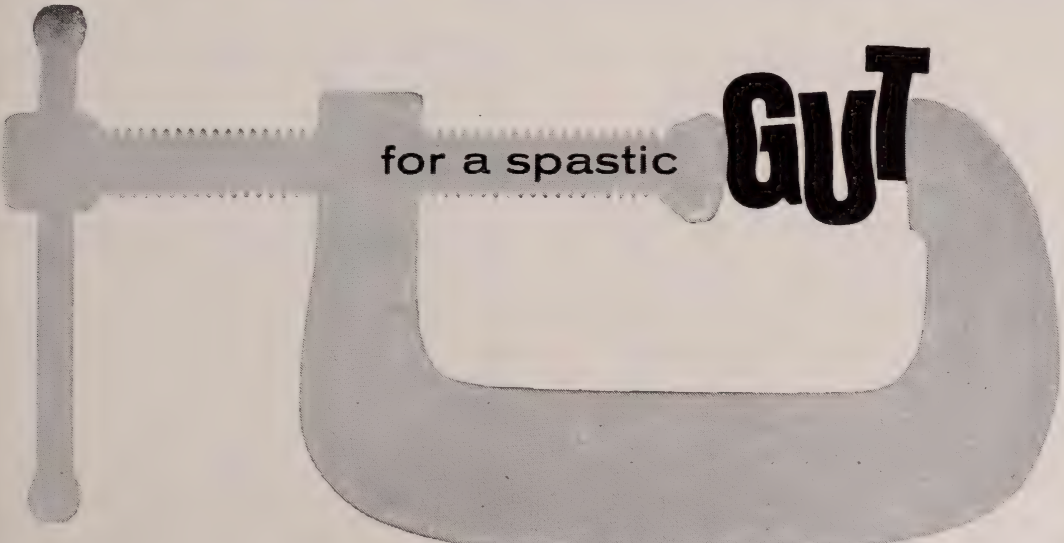

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[Continued from page 1180]

A Modern Pilgrim's Progress for Diabetics. By Garfield G. Duncan, M.D. Duodecimo of 222 pages, illustrated. Philadelphia, W. B. Saunders Company, 1956. Board, $2.50.

Diseases of the Chest. By H. Corwin Hinshaw, M.D., and L. Henry Garland, M.B. Quarto of 727 pages. 634 illustrations on 288 figures. Philadelphia, W. B. Saunders Company, 1956. Cloth, $15.

Shock and Circulatory Homeostasis. Transactions of the Fourth Conference, December 6, 7, and 8, 1954, Princeton, N.J. Edited by Harold D. Green, M.D. Octavo of 291 pages, illustrated. New York, Josiah Macy, Jr. Foundation, 1955. Cloth, $5.00.

Growth and Development of Dental and Skeletal Tissue—Clinical and Biological Aspects. Report of the Seventeenth Ross Pediatric Research Conference. Octavo of 78 pages, illustrated. Columbus, Ross(formerly M & R) Laboratories, 1956.

Current Therapy 1956. Latest Approved Methods of Treatment for the Practicing Physician. Edited by Howard F. Conn, M.D. Consulting Editors, George E. Burch, M.D., M. Edward Davis, M.D., Vincent J. Derbes, M.D., Garfield G. Duncan, M.D., *et al.* Quarto of 632 pages. Philadelphia, W. B. Saunders Company, 1956. Cloth, $11.

Christopher's Textbook of Surgery. Edited by Loyal Davis, M.D. Quarto of 1,484 pages. 1,359 illustrations on 716 figures. Philadelphia, W. B. Saunders Company, 1956. Cloth, $15.50.

Diseases of the Endocrine Glands. By Louis J. Soffer, M.D., with J. Lester Gabrilove, M.D., and the Section on the Gonads by Arthur R. Sohval, M.D. Second edition. Octavo of 1,032 pages. 102 illustrations and 3 colored plates. Philadelphia, Lea & Febiger, 1956. Cloth, $16.50.

BOOK REVIEWED

British Obstetric and Gynecological Practice. Edited by Sir Eardley Holland, M.D., and Aleck Bourne, M.B. In two volumes. Obstetrics volume, Sir Eardley Holland, Editor. Gynecology volume, Aleck Bourne, Editor. Octavo. 1,166 pages; 841 pages. Illustrated. Philadelphia, F. A. Davis Company, 1955. Cloth, $29.50 set.

Obstetrics.—The obstetric specialist will enjoy reading this handsome book. It is not for the undergraduate, largely because there are 37 authors and continuity is only fairly well maintained.

More space is given to Grantly Dick Read's ideas than to antepartum hemorrhage. In the discussion of placenta previa radiologic methods of diagnosis appear to outweigh the clinical. Braxton Hicks' version and vaginal packing are approved. For breech presentation external version is advocated, and under anesthesia too; piper forceps are not mentioned. The chapter on cesarean section by C. McIntosh Marshall is outstanding.

Gynecology.—Only on the title page is gynecology spelled without the familiar British "AE." A score of authors, all British and all held in high regard in this country, have covered the field remarkably well. This reviewer read every word with great interest.

Jeffcoate's chapter on abnormal uterine bleeding and Blaikley's chapter on the cervix are particularly valuable. Many of us will agree with Bourne that self-treatment of trichomoniasis is useless. Bibliographies are brief but perhaps this is as it should be in a book of this sort. A handsome volume warmly recommended.—CHARLES A. GORDON

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn 16, New York. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selections for review will be based on merit and interest to our readers.

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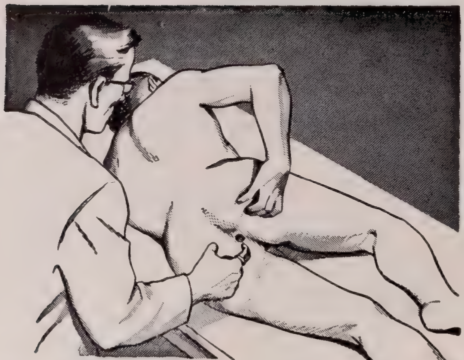
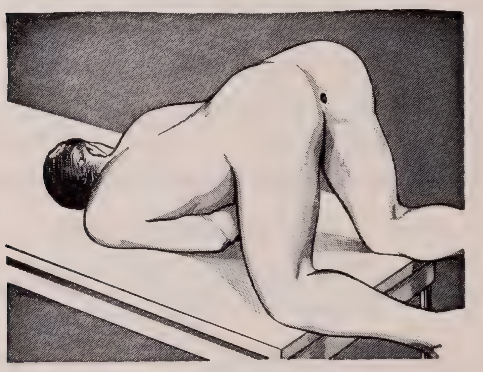
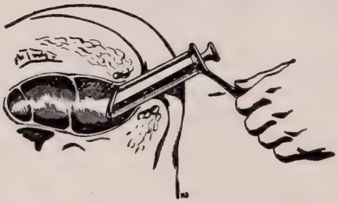


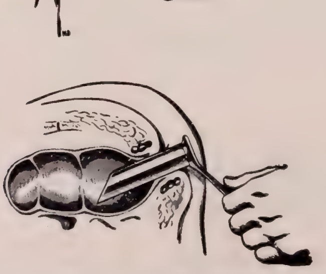
Sims position for digital and anoscopic examination, right knee across and in front of left thigh.



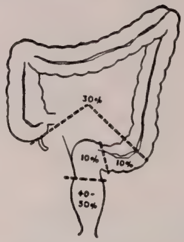
Shoulder-chest position on ordinary table for proctoscopic and sigmoid examination. Thighs slightly apart, at right angles to edge of table. Left shoulder under chest, face to right.

Anorectal examination — digital and anoscope or proctoscope.





After gentle digital examination of the walls of the rectum, the well-lubricated anoscope or proctoscope with its obturator is inserted within the anal canal in the direction of the table. The obturator is withdrawn and air enters the rectum, permitting a view beyond the length of the proctoscope.



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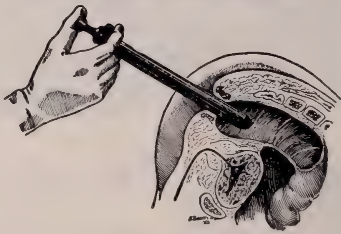
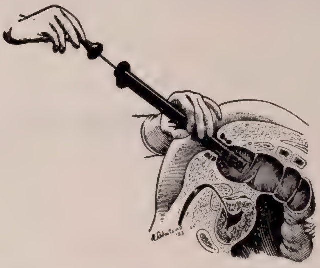
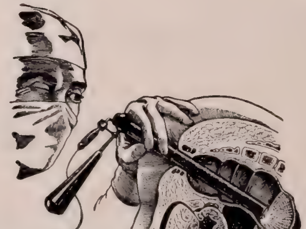
Sigmoidoscopic examination, with the patient in the knee-chest position.



Introduction of sigmoidoscope with obturator *just beyond the sphincter.*



Obturator is removed before advancing the sigmoidoscope.



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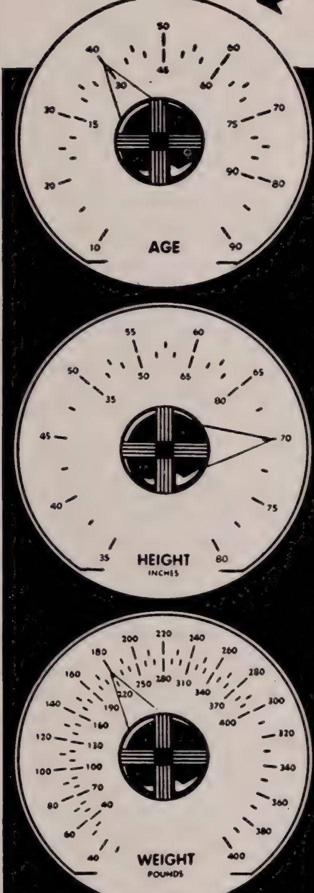
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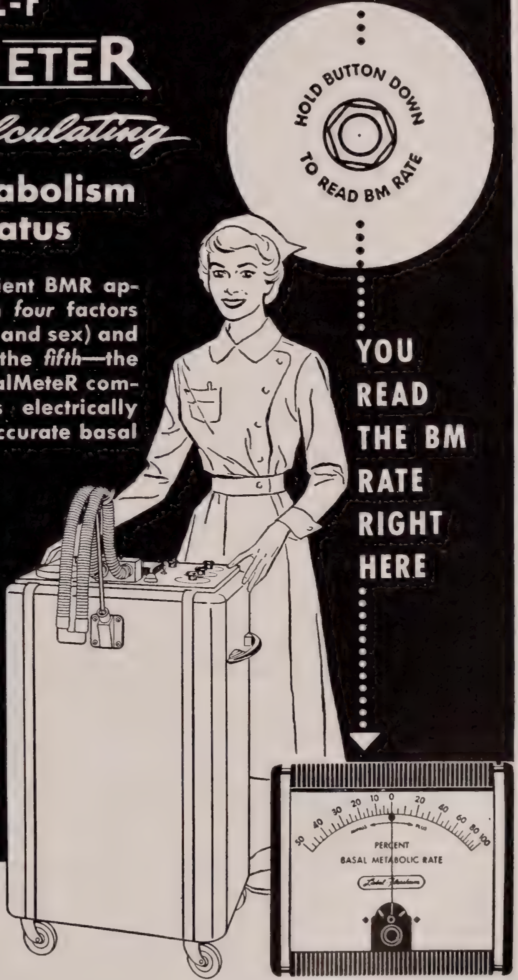
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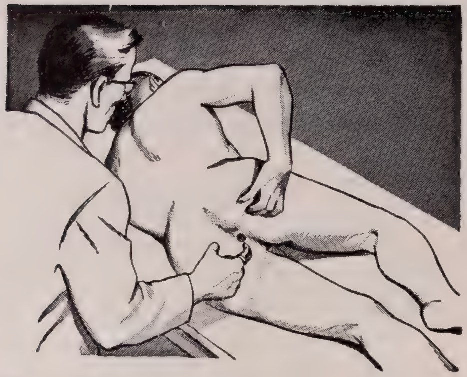
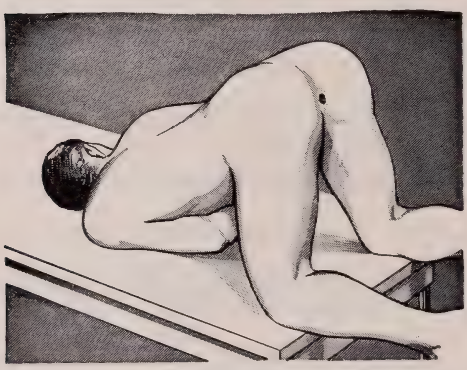
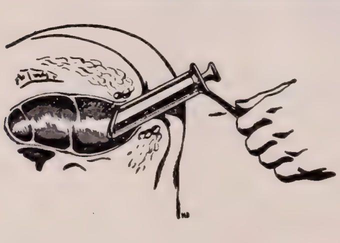


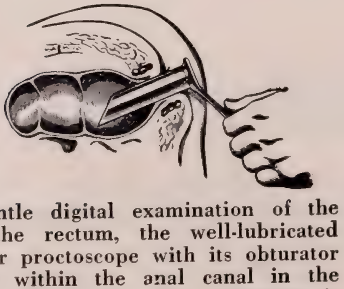
Sims position for digital and anoscopic examination, right knee across and in front of left thigh.



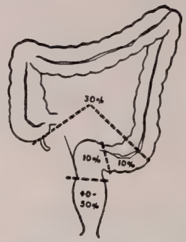
Shoulder-chest position on ordinary table for proctoscopic and sigmoid examination. Thighs slightly apart, at right angles to edge of table. Left shoulder under chest, face to right.

Anorectal examination — digital and anoscope or proctoscope.





After gentle digital examination of the walls of the rectum, the well-lubricated anoscope or proctoscope with its obturator is inserted within the anal canal in the direction of the table. The obturator is withdrawn and air enters the rectum, permitting a view beyond the length of the proctoscope.

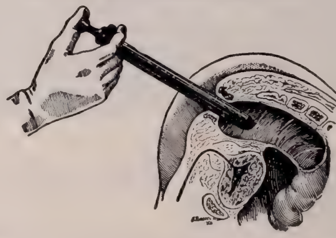


40 to 50 per cent within reach of digital and proctoscopic examination.

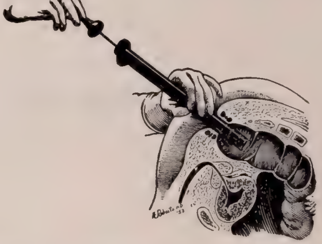
40 to 70 per cent within reach of proctoscopic and sigmoidoscopic examination.

The sites of COLONIC POLYPS PARALLEL the SITES OF COLONIC CARCINOMA. BARIUM ENEMA, EXPULSION, and AIR CONTRAST FILMS will detect polyps and carcinoma proximal to rectosigmoid.

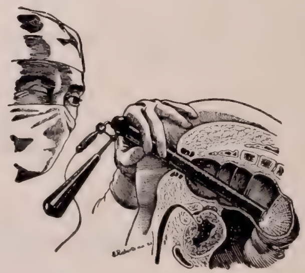
Sigmoidoscopic examination, with the patient in the knee-chest position.



Introduction of sigmoidoscope with obturator *just beyond the sphincter.*



Obturator is removed before advancing the sigmoidoscope.



ONLY UNDER DIRECT VISION *should the sigmoidoscope be advanced.*

(Prepared by the Subcommittee on Cancer, Medical Society of the State of New York)

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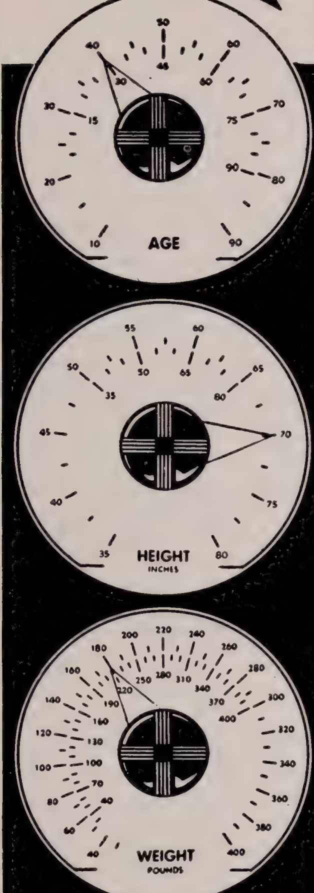
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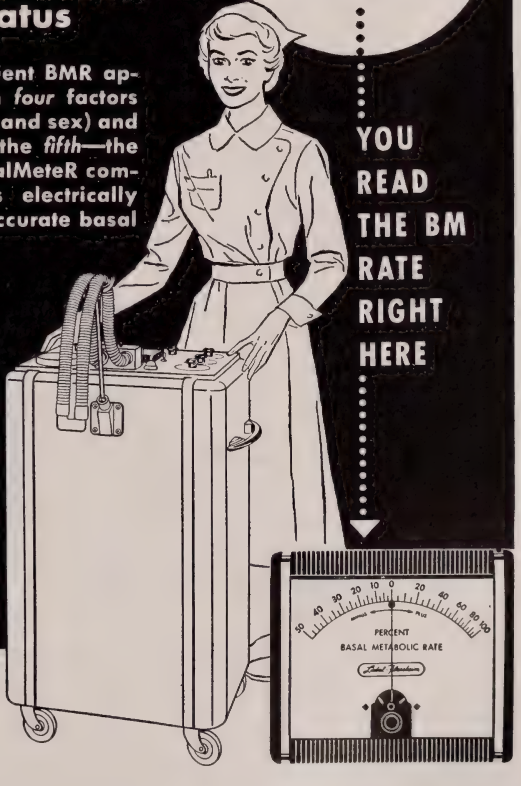
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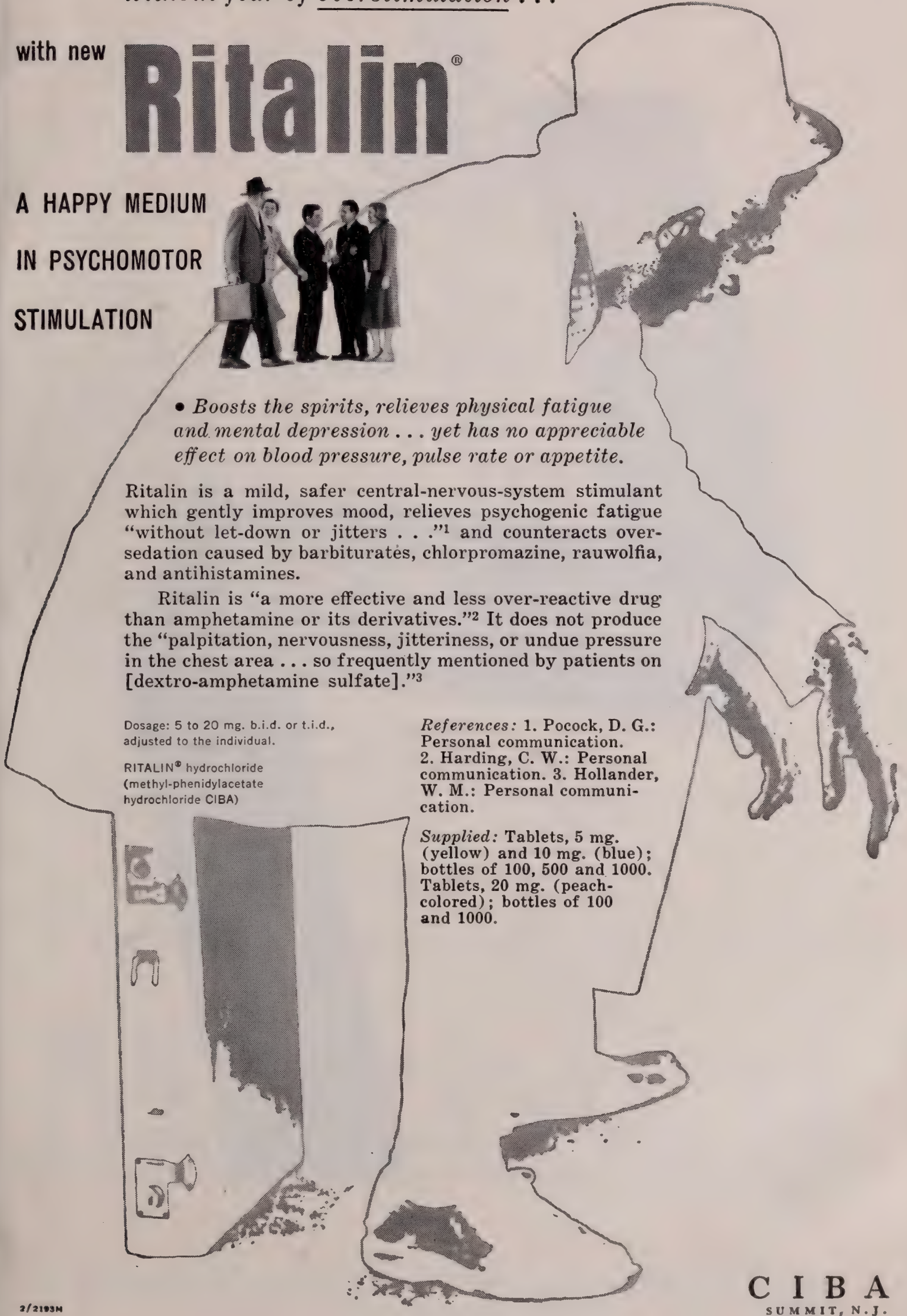

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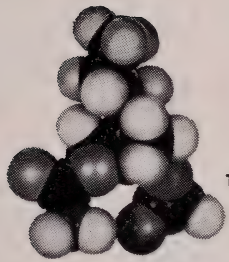

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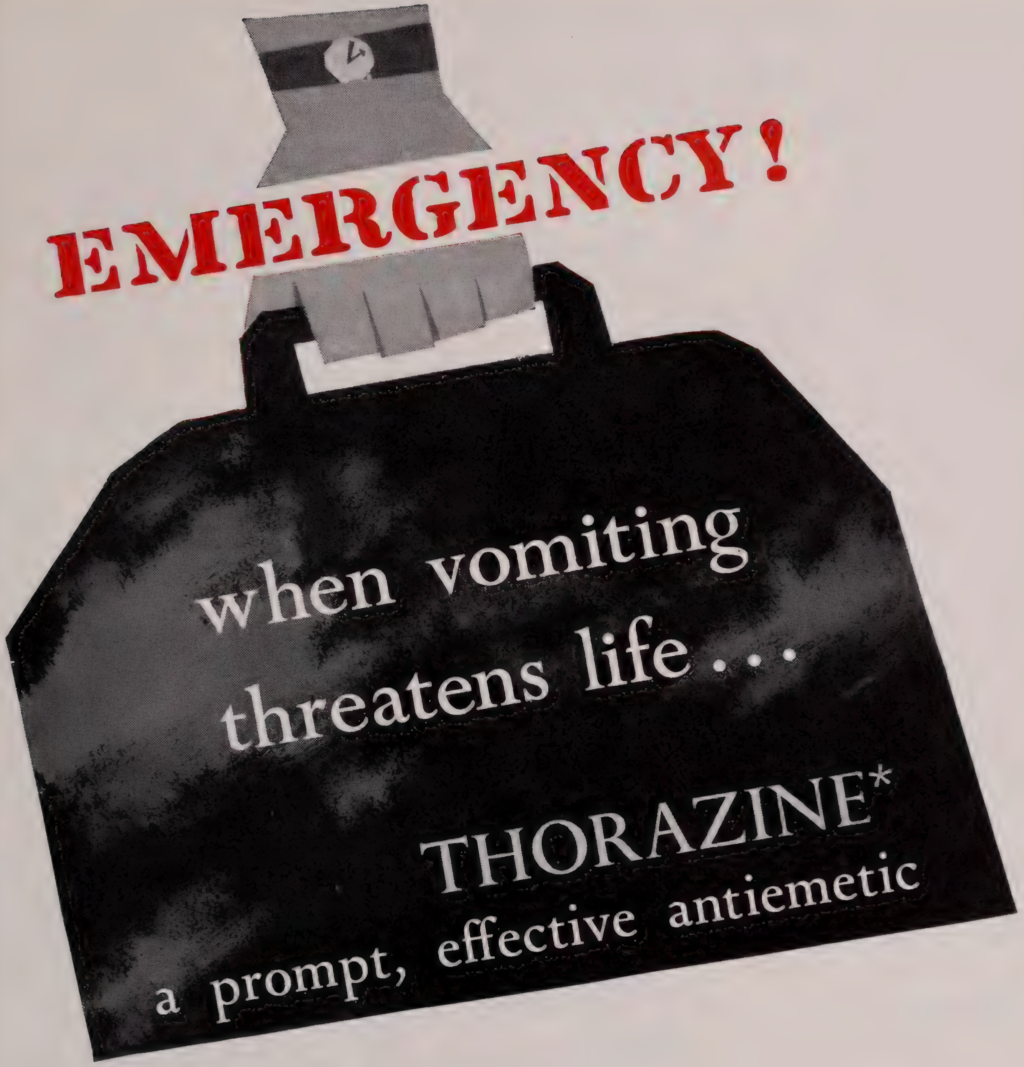
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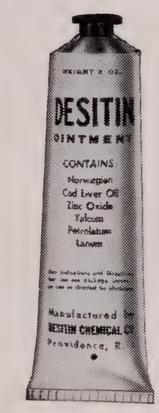
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Countless sufferers have found relief at Sharon Springs, 50 miles west of Albany, in the colorful hill country bordering the Mohawk Valley.

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Full information at once.

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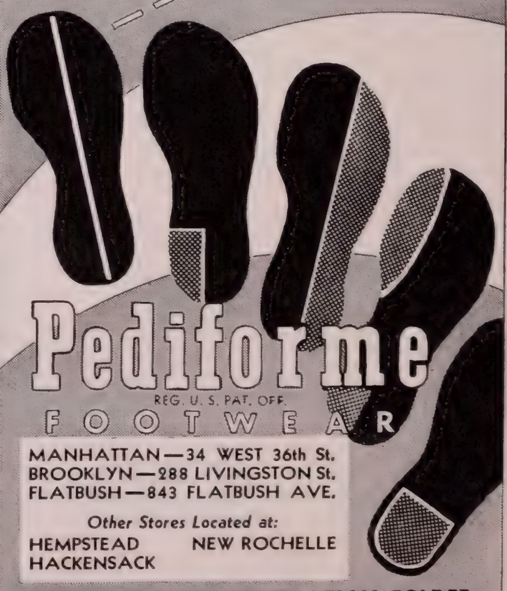
Charter Member, Assoc. of Amer. Spas
(Medically Supervised)



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WRITE FOR SHOE ALTERATION FOLDER

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triple synergistic action relieves primary dysmenorrhea

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Tri-Synar—through triple synergism—attacks smooth muscle spasm 3 ways . . . musculotropic, anticholinergic and antihistaminic. Powerful parasympathetic sedation is possible with only small doses of belladonna. Side effects are decidedly restricted.

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Each tablet contains:

Powdered Extract of Belladonna* . . 4.1 mg.
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Ethaverine Hydrochloride . . . . . 20.0 mg.

*Equivalent to 2.5 minims of tincture of belladonna U.S.P.

Bottles of 100.

Elixir **TRI▲SYNAR**

Each teaspoonful (5 cc.) contains:

Fluidextract of Belladonna† . . . . . 0.017 ml.
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Ethaverine Hydrochloride . . . . . 12.5 mg.

†Equivalent to 2.5 minims of tincture of belladonna U.S.P.

Bottles of 16 fl. oz.

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A DIVISION OF ARMOUR AND COMPANY
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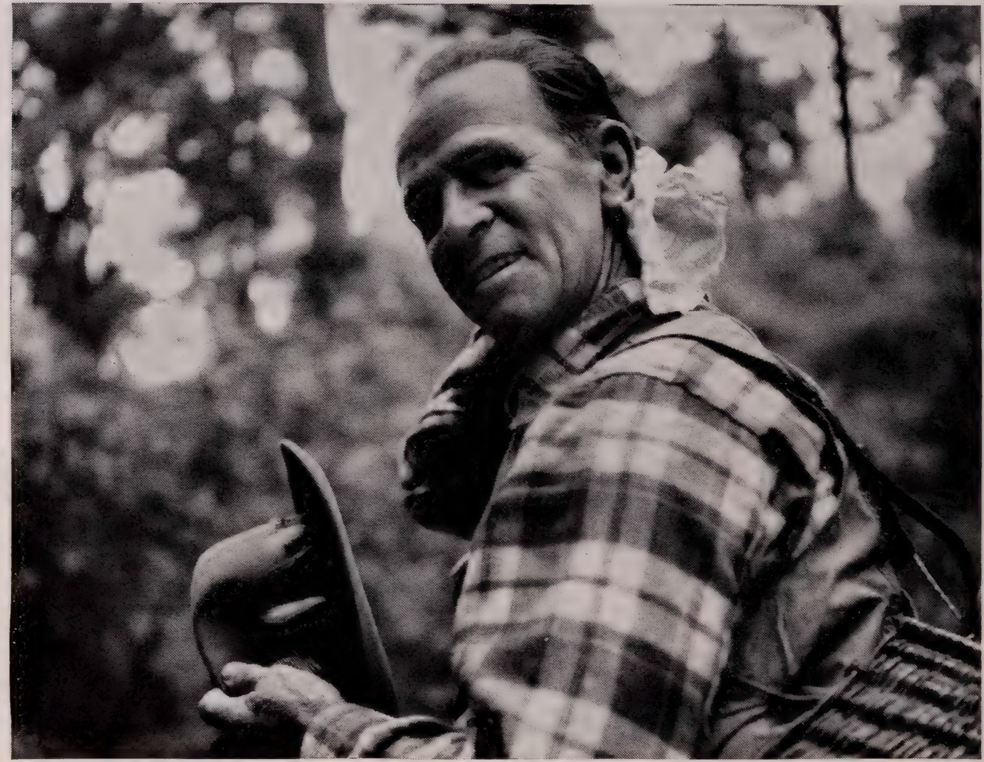
"Yessir, since I retired I've been fishing every day!"



Each year, as more and more people attain a ripe old age, more and more physicians prescribe GEVRAL to help keep these senior citizens fit and active. This special geriatric diet supplement provides 14 vitamins, 11 minerals, and Purified Intrinsic Factor Concentrate in one convenient, *dry-filled* capsule.

Gevral*

GERIATRIC VITAMIN-MINERAL SUPPLEMENT LEDERLE

Each GEVRAL Capsule contains:

Vitamin A	5000 U.S.P. Units
Vitamin D	500 U.S.P. Units
Vitamin B_{12}	1 mcgm.
Thiamine Mononitrate (B_1)	5 mg.
Riboflavin (B_2)	5 mg.
Niacinamide	15 mg.
Folic Acid	1 mg.
Pyridoxine HCl (B_6)	0.5 mg.
Ca Pantothenate	5 mg.
Choline Dihydrogen Citrate	100 mg.
Inositol	50 mg.
Ascorbic Acid (C)	50 mg.
Vitamin E (as tocopheryl acetates)	10 I.U.
Rutin	25 mg.
Purified Intrinsic Factor Concentrate	0.5 mg.
Iron (as $FeSO_4$)	10 mg.
Iodine (as KI)	0.5 mg.
Calcium (as $CaHPO_4$)	145 mg.
Phosphorus (as $CaHPO_4$)	110 mg.
Boron (as $Na_2B_4O_7 \cdot 10H_2O$)	0.1 mg.
Copper (as CuO)	1 mg.
Fluorine (as CaF_2)	0.1 mg.
Manganese (as MnO_2)	1 mg.
Magnesium (as MgO)	1 mg.
Potassium (as K_2SO_4)	5 mg.
Zinc (as ZnO)	0.5 mg.

Other Lederle geriatric products include: GEVRABON* Vitamin-Mineral Supplement Liquid with a wine flavor; GEVRAL* Protein Vitamin-Mineral-Protein Supplement Powder; and GEVRINE* Vitamin-Mineral-Hormone Capsules.

dry-filled sealed capsules a Lederle exclusive, for more rapid and complete absorption!

Lederle LEDERLE LABORATORIES DIVISION AMERICAN Cyanamid COMPANY PEARL RIVER, NEW YORK

*REG. U.S. PAT. OFF.

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ANNOUNCES A POSTGRADUATE COURSE IN

FRACTURES AND OTHER TRAUMA

JUNE 4–9, 1956

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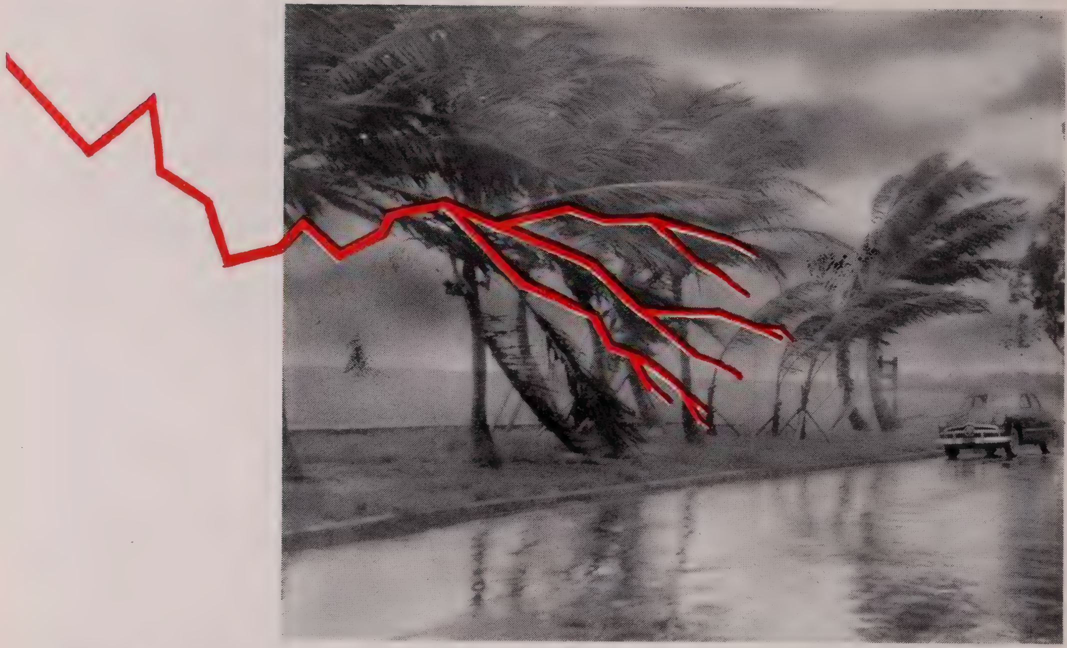

when neuritis strikes

how long need it last?

Instead of enduring long weeks of pain and disability, your patients with inflammatory radiculitis (of non-traumatic or non-mechanical origin) can usually be quickly relieved with Protamide. When used promptly—within a few days after onset of pain—complete recovery can be expected in just a few days.

Published studies* and experience in many thousands of cases treated in private practice demonstrate these advantages—even in types of neuritis intractable to older therapies. You can duplicate these results in your practice. Keep Protamide on hand for use at the patient's first visit.

Available at pharmacies and supply houses—
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use **PROTAMIDE®** *promptly*

. . . one ampul daily, intramuscularly

Sherman Laboratories Detroit 11, Michigan

*A portfolio of all published studies will be sent on request

Upjohn

Delta-Cortef* for inflammation, neomycin for infection:

Neo-Delta-Cortef†

TOPICAL OINTMENT

Each gram contains:

Delta-1-hydrocortisone acetate	5 mg. (0.5%)
Neomycin sulfate (equiv. to 3.5 mg. neomycin base)	5 mg.
Methylparaben	0.2 mg.
Butyl-p-hydroxybenzoate	1.8 mg.

Supplied: 5-gram tubes

EYE-EAR OINTMENT

Each gram contains:

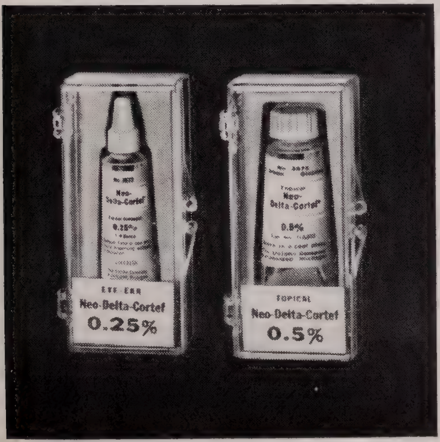
Delta-1-hydrocortisone acetate	2.5 mg. (0.25%)
Neomycin sulfate (equiv. to 3.5 mg. neomycin base)	5 mg.

Supplied: ⅛ oz. tubes with applicator tip

*TRADEMARK

†TRADEMARK FOR THE UPJOHN BRAND OF PREDNISOLONE ACETATE WITH NEOMYCIN SULFATE

The Upjohn Company, Kalamazoo, Michigan



Enriched Bread...

in the Ideal Reducing Diet

In reducing, the primary consideration is the establishment of a negative caloric balance as well as the maintenance of an optimal nutritional state in the obese person. For achieving this objective "the ideal reducing diet . . . not necessarily devoid of any food present in the normal diet" includes "meat, poultry, fish, eggs, milk, and other dairy products, leafy green and yellow vegetables, citrus fruits, and enriched and whole grain products . . . all desirable and necessary" foods.*

High in palatability and high in many nutrients, enriched bread shares notably in helping make the reducing regimen appealing and adequate nutritionally. In so doing it helps "to assure weight reduction without irritability and personality change" as well as "to avoid self defeat due to physical weakness and consequent inactivity."* Furthermore, the "ideal reducing diet" makes for increased likelihood of a permanent change from excessive eating to normal food habits "tuned to self control rather than outright abnegation."

The table presented below shows that 4 to 6 average slices of enriched bread serve to good advantage nutritionally in reducing diets. Providing generous amounts of protein, B vitamins, and minerals, enriched bread goes far toward making the low caloric regimen adequate in these nutrients. Its protein, containing an average of 10.5 per cent of milk protein, functions for growth and repair of tissues as well as for maintenance. Fresh or toasted, or as tasty sandwiches, enriched bread provides eating satisfaction, an essential for making the reducing regimen tolerable.

The nutritional statements made in this advertisement have been reviewed by the Council on Foods and Nutrition of the American Medical Association and found consistent with current authoritative medical opinion.

Contribution of 6 Slices of Enriched Bread

	Nutrients and Calories	Percentages of Allowances**
Protein	11.7 Gm.	18%
Thiamine	0.33 mg.	22
Niacin	3.0 mg.	20
Riboflavin	0.21 mg.	13
Iron	3.3 mg.	28
Calcium (average)	122 mg.	15
Calories	379	13

*Berryman, G. H.: Obesity—A Brief Review of the Problem, Metabolism *3*:544 (Nov.) 1954.

**Percentages of daily allowances for fairly active man 45 years of age, 67 inches in height, and weighing 143 pounds: Recommended Dietary Allowances, Washington, D.C., National Academy of Sciences—National Research Council Publication 302, 1953.

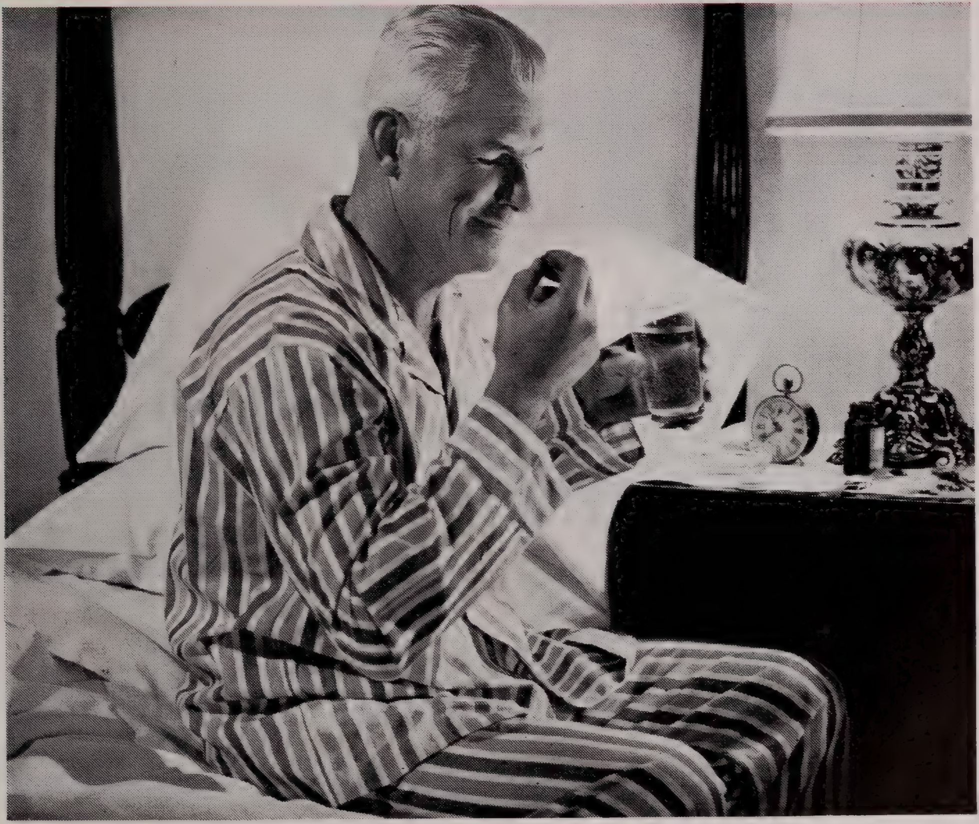
AMERICAN BAKERS ASSOCIATION 20 North Wacker Drive • Chicago 6, Illinois

Somnos®

CAPSULES AND ELIXIR CHLORAL HYDRATE

"one of the safest of all sedatives"[1]

MAJOR ADVANTAGES: Induces "natural sleep and sedation without medullary depression."[2] Affects no vital function.



SOMNOS is well tolerated even by the older patient

SOMNOS induces quiet, restful sleep – without after-effects. SOMNOS contains only *chloral hydrate* – "an effective somnifacient which merits wider use."[3]

Within an hour of taking SOMNOS, your patient usually will be asleep. It will be a quiet, restful sleep, from which he will awaken refreshed – without unpleasant after-effects.

When necessary, the person who has taken SOMNOS may be awakened easily. SOMNOS is especially valuable for the insomnia of the elderly,[4] as well as for cardiac and psychiatric patients.[2]

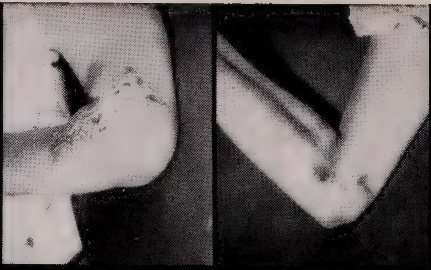
SHARP & DOHME

Philadelphia 1, Pa.
DIVISION OF MERCK & CO., INC.

References: 1. Mod. Med. 19:59, 1951. 2. West Virginia M. J. 49.292, 1953. 3. Pharmacology and Therapeutics, Phila., Lea & Febiger, 1954, p. 146. 4. Geriatrics 9:303, 1954.

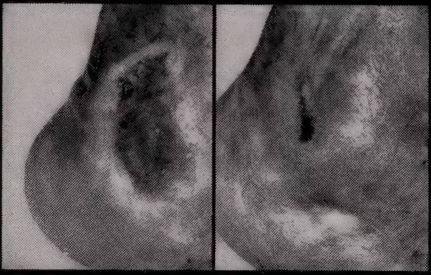
relieves pain and itching... stimulates healing

even when other therapy fails...



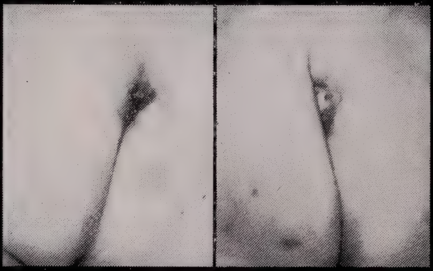
left Traumatic ulceration with edema in a paralyzed arm

right Almost complete healing with Panthoderm Cream applied twice daily for three weeks



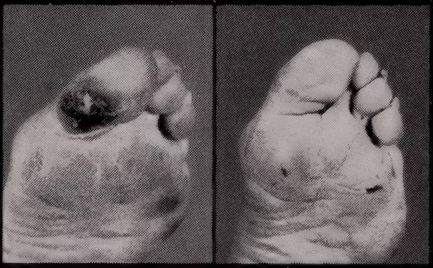
left Varicose ulcer of ankle, large, deep, profuse foul-smelling discharge

right Healing of ulcer after treatment with Panthoderm Cream for ten weeks



left Gangrenous ulcer of the buttocks

right Healing after twice daily application of Panthoderm Cream for four weeks



left Diabetic ulceration of great toe of two months' duration; unresponsive to previous therapy

right Complete healing after two weeks therapy with Panthoderm Cream

panthoderm cream

2% Pantothenylol (analog of pantothenic acid) in a water-miscible base

non-sensitizing
aesthetically agreeable

PANTHODERM
PANTHODERM

available in 1 oz. tubes; 2 oz. and 1 lb. jars

SAMPLES and literature available upon request

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Arlington-Funk Laboratories, division, 250 East 43rd Street • New York 17, N.Y.

NOW—EFFECTIVE STEROID HORMONE
THERAPY OF RHEUMATIC AFFECTIONS
WITH GREATER SAFETY AND ECONOMY

PABALATE®-HC

Robins

Pabalate with Hydrocortisone

Clinical evidence indicates that, in Pabalate-HC, the synergistic antirheumatoid effects of hydrocortisone, salicylate, para-aminobenzoate, and ascorbic acid achieve satisfactory remission of symptoms in *up to 85% of cases studied*

- *with a much higher degree of safety*
- *even when therapy is maintained for long periods*
- *at significant economy for the patient*

Each tablet of Pabalate-HC contains 2.5 mg. of hydrocortisone — 50% more potent than cortisone, yet not more toxic.

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tablet:
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m salicylate .... 0.3 Gm.
m para-aminobenzoate.. 0.3 Gm.
acid ....50.0 mg.
E: Two tablets four times daily.
nal information on request.

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for the majority of diabetics

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40 UNITS IN 1 CC
KEEP IN A COLD PLACE
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GLOBIN INSULIN

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a clear solution . . . easy to measure accurately

**Discovered by Reiner, Searle, and Lang
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BURROUGHS WELLCOME & CO. (U.S.A.) INC. • Tuckahoe 7, New York

pronounced
MUSCLE-RELAXING ACTION

Equanil*

MEPROBAMATE

(2-methyl-2-*n*-propyl-1,3-propanediol dicarbamate)

LICENSED UNDER U.S. PATENT NO. 2,724,720

For significant relief in myositis, osteoarthritis, backstrain, and related conditions marked by:

- ***Muscle spasm***
- ***Restriction of motion***
- ***Stiffness and tenderness***
- ***Pain***

As a superior muscle-relaxant, EQUANIL offers predictable action and full effectiveness on oral administration. It does not disturb autonomic function and is relatively free from gastric and other significant side-effects. Its anti-anxiety property provides important correlative value.

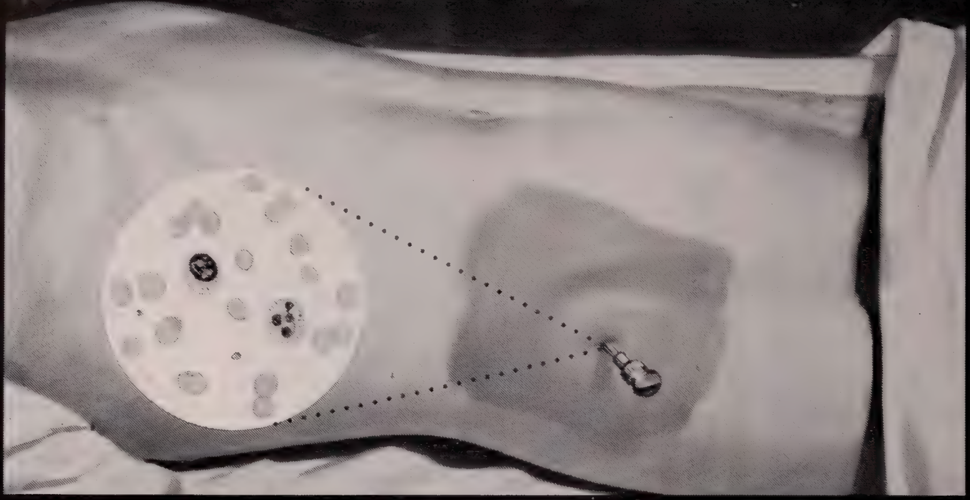
Usual dosage: 1 tablet t.i.d. The dose may be adjusted either up or down, according to the clinical response of the patient.

Supplied: Tablets, 400 mg., bottles of 50.

Wyeth ®
Philadelphia 1, Pa.

anti-anxiety factor
with muscle-relaxing action
. . . relieves tension

ANATOMY OF DISEASE



iliac crest puncture

now . . . for better patient response
all factors to treat **all** treatable anemias

ARMATRINSIC

One of the reasons for better patient response . . . Armatrinsic supplies ferrous betainate hydrochloride—the new iron salt with the "built-in" hydrochloric acid, important for proper iron absorption.

JUST 1 ARMATRINSIC CAPSULE B.I.D. SUPPLIES:

Vitamin B_{12} with Intrinsic Factor Concentrate*	1 U.S.P. Unit (Oral)
Liver Fraction 2 N.F. with Duodenum (Containing Intrinsic Factor)	100 mg.
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Folic Acid	1.4 mg.
Ascorbic Acid U.S.P.	100 mg.
Cobalt Chloride	20 mg.
Molybdenum	1.5 mg.
Copper	0.50 mg.
Manganese	0.50 mg.
Zinc	0.50 mg.

*Unitage established before compounding

Adults: 2 or 3 capsules daily with meals.
Bottles of 50 capsules (small, attractive, odorless)

. . . and for your anemic patients who prefer *liquids* **ARMATINIC®** *Liquid*

For a fast start and vigorous improvement
Bottles of 8 and 16 fl.oz.

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A DIVISION OF ARMOUR AND COMPANY • KANKAKEE, ILLINOIS

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STAY ON
THE JOB . . .
COMFORTABLY

in URINARY DISTRESS

Pyridium®

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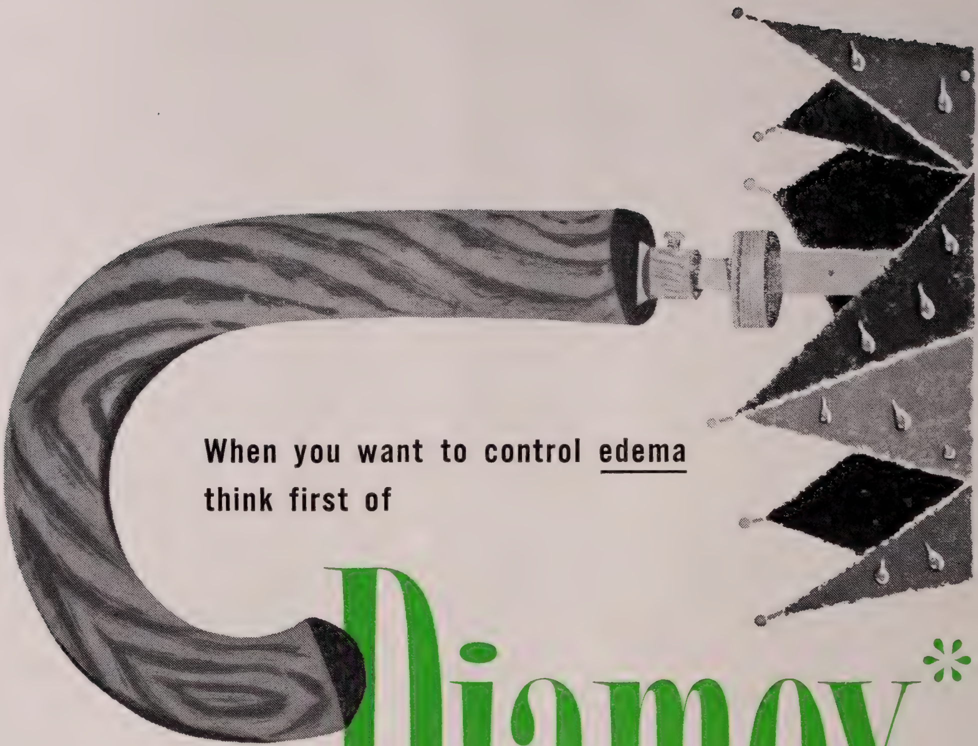

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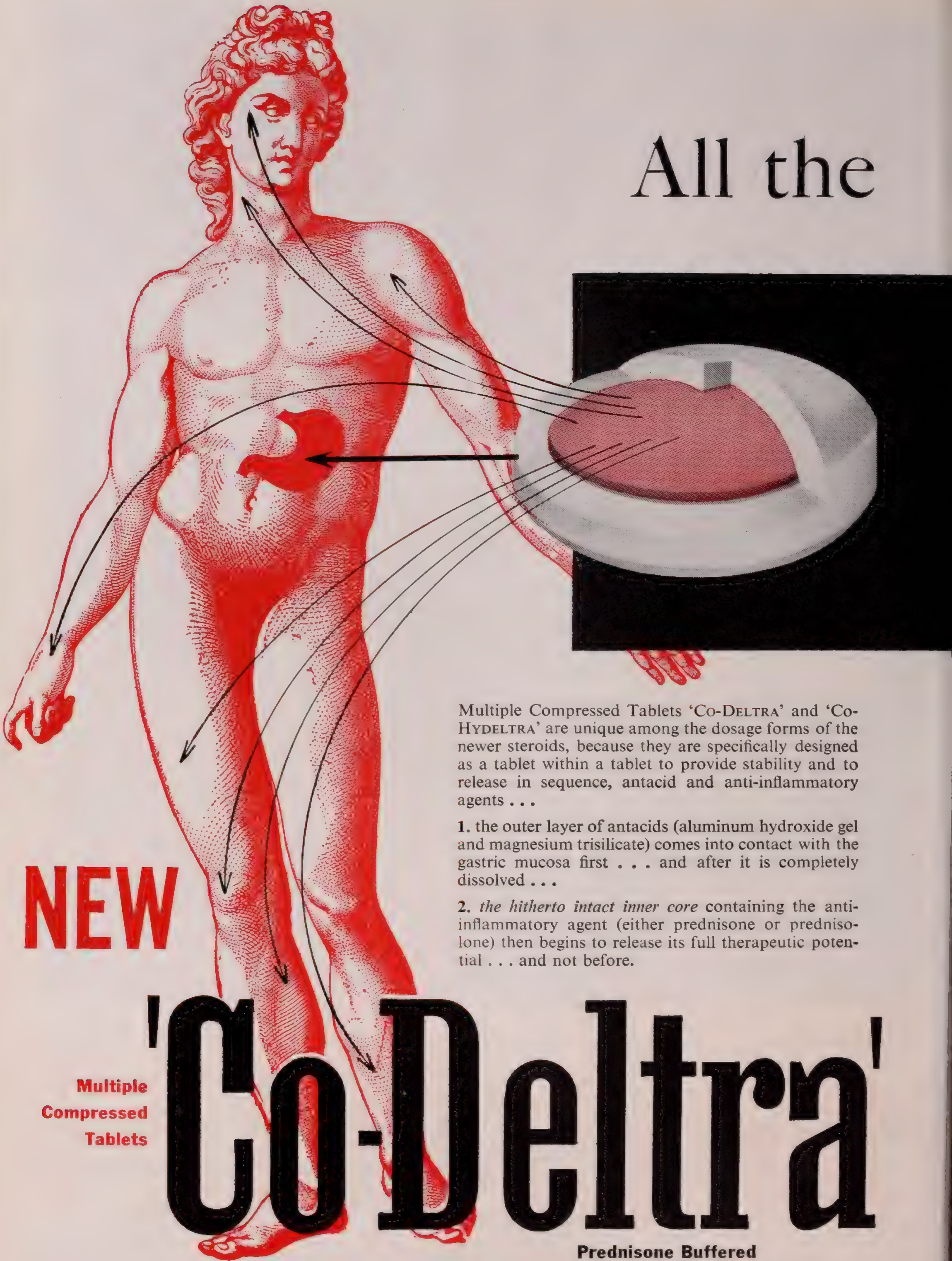

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[1] Bollet, A. J., Black, R., and Bunim, J. J.: *J.A.M.A.* **158**: 459, June 11, 1955.

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(1) Smith, R. T.; Kron, K. N.; Peak, W. P., and Hermann, I. F.: J.A.M.A. 160:745 (Mar. 3) 1956. (2) Amols, W.: J.A.M.A. 160:742 (Mar. 3) 1956. (3) Abrahamsen, E. H., and Baird, H. W., III: J.A.M.A. 160:749 (Mar. 3) 1956. (4) Rodriguez-Gomez, M.; Valdes-Rodriguez, A., and Drew, A. L.: J.A.M.A. 160:752 (Mar. 3) 1956.

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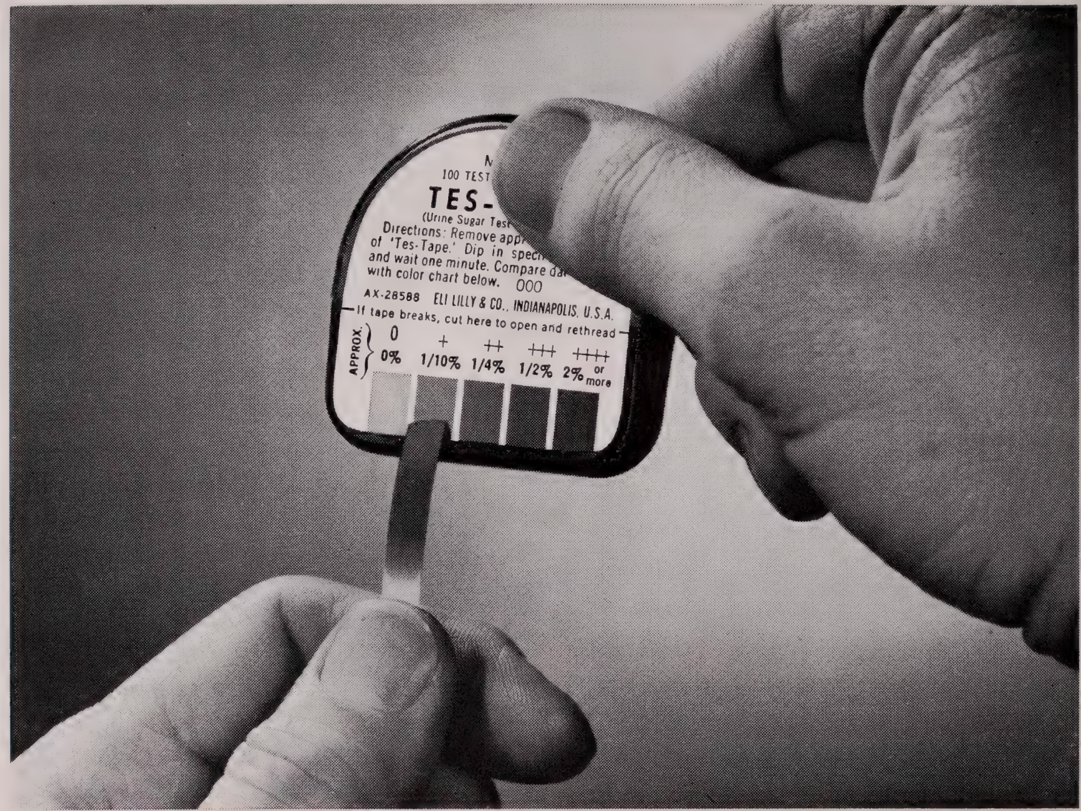
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EDITORIALS

Edward R. Cunniffe, M.D.

Dr. Edward R. Cunniffe died on March 12, 1956, at Union Hospital, the Bronx, where he had served as acting surgeon and trustee. He had also been director of the second surgical division of Fordham Hospital for more than twenty years, a post from which he retired in 1946.

Dr. Cunniffe was graduated from Cornell University Medical College in 1903 and served his internship at Fordham Hospital. He was consultant in surgery at hospitals in the Bronx, Westchester County, and New Jersey and had for many years taught at Fordham University, holding the rank of clinical professor of surgery when the medical school closed. He was a Fellow of the American College of Surgeons and first president of its Bronx chapter. He was also a past president of the Bronx County Medical Society, the Bronx Surgical Society, and the First District Branch of the Medical Society of the State of New York.

In 1945–1946 Dr. Cunniffe served as president of the Medical Society of the State of New York. A delegate to the American Medical Association for many years, he became a member of the A.M.A. Judicial Council and later its chairman. He served also as a trustee of the State Medical Society and was chairman of the board at the time of his death.

He will be remembered by all for his genial personality and faithful service to organized medicine. He has earned his rest.

Thomas A. McGoldrick, M.D.

Dr. Thomas A. McGoldrick died at his home in Brooklyn on March 8, 1956, at the age of eighty-one. For many years Dr. McGoldrick was active in the affairs of medicine and was president of the Kings County Medical Society in 1942 and president of the Medical Society of the State of New York in 1943–1944. Later, in 1947–1948 he was vice-president of the American Medical Association. He was also a member of the New York State Industrial Council.

Dr. McGoldrick was graduated in 1893 from Manhattan College, which awarded him the honorary degree of Doctor of Laws in 1936; he received his degree of Doctor of Medicine from Long Island College of Medicine in 1896. He was attending surgeon and chief surgeon of the New York City Police Department from 1904 to 1937 and medical director of St. Anthony's Hospital, Woodhaven, from 1925 until his death. From 1938 to 1945 he was medical director of Welfare Hospital, Second Division, now the Goldwater Memorial Hospital on Welfare Island. In 1944 he was decorated Knight of St. Gregory by Pope Pius XII.

Always active in medical organizations, Dr. McGoldrick served the Medical Society of the State of New York, his county and national groups with loyalty and integrity.

The Doctor in CIVIL DEFENSE

Medical Defense Committee of the Medical Society of the State of New York and the Office of Medical Defense, New York State Department of Health

J. G. FRED HISS, M.D., SYRACUSE, NEW YORK, *Chairman*

Will You Know What to Do?

> *" . . . and he had for a moment a feeling of blind, murderous rage at the crew of the ship (hospital ship), and then at all doctors. Why didn't they come to help these people?"*

This is a quotation from John Hersey's *Hiroshima.** Many verbal and written reports of the bombing of Hiroshima have expressed the same general idea. *There was public resentment against the medical profession because there were not enough supplies or medical personnel to care for the thousands of injured.*

At the time of the Worcester tornado, one or two hospitals sensibly closed their doors (other hospitals had plenty of room) to more patients when they had accepted as many as they could treat adequately. Surveys after the disaster showed that this was resented by the public who believed there should be no limit to a hospital's capacity.

This fact must be acknowledged and accepted by the medical profession: Physicians will be blamed for any failures to provide care for persons injured in an enemy attack. Members of the medical profession must also realize that the attitude, "I will be ready when the time comes," is not enough. In fact, the physician's medical knowledge will not be nearly enough in a time of nuclear attack, when everything is chaos and there are thousands upon thousands of injured in need of medical care. How much could a physician do with no place to work, no supplies to work with, and no one to help him?

The Civil Defense Emergency Medical Services is making plans for operations after an attack which will enable a physician to use his medical knowledge. For these plans to work successfully, the physician must be familiar with them. All available laymen are being trained by the Emergency Medical Services to help the physician. But the physician must know where to go to get the help of such trained persons. Even then in many cases the physician may be forced to work with uninformed persons. These people will look to him for direction, and he *must* know

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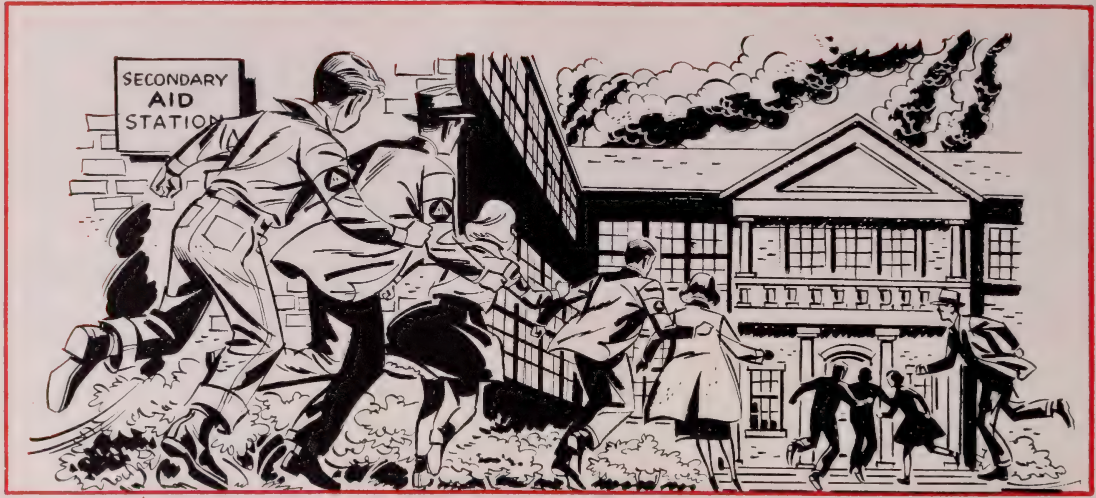
* Published by Alfred A. Knopf, Inc., New York City, 1946.



what to do.

The State of New York has stockpiled 18 million dollars worth of medical supplies for use after an enemy attack. Normal supplies will be either destroyed or quickly exhausted, and physicians will have only these stockpiled supplies with which to work. Three groups of supplies are being stockpiled:

1. State Aid Station Outfits, which will be used for setting up aid stations after attack.
2. Mobile Hospital Outfits, which will be used to set up emergency hospitals in schools or other buildings.
3. Blood collection supplies.

State Aid Station Outfits have been stored in and near urban areas and contain the supplies necessary to give emergency treatment to the injured before transport to a hospital.

Mobile Hospital Outfits are being stored at selected locations outside of urban areas. They will be set up in schools or other buildings and will be used to care for those injured in an attack

or to provide facilities to which an urban hospital may evacuate. Each outfit contains all the equipment necessary to set up a 200-bed emergency hospital and to keep it in operation for about ten days. With additional personnel and supplies and tiered litter-cots, the outfit could be used to care for 400 to 500 patients. At the end of ten days it is expected that additional supplies will be available from Federal stockpiles or private manufacturers.

Supplies for the collection of whole blood have been stored outside of cities. As soon as word is received of an enemy attack, blood collection centers will be set up where these supplies are stored. As soon as the blood is taken, it will be shipped immediately in refrigerated trucks to areas where it is needed.

How will the physician know where to go in order to use these available supplies? He must learn the Civil Defense plan in his locality now.

According to the Emergency Medical Services plan, the movement of all supplies and personnel into and the movement of the injured out of the attacked area will be controlled by a central city or county control center, which is a permanent installation. The disaster area will be divided into zones with the operations within each zone controlled by a zone headquarters which has already been designated. At this zone headquarters there will also be a supply and assignment depot for personnel and supplies. Buildings have already been assigned to be used as aid stations or emergency hospitals within the zone. After attack the medical officer at zone headquarters will direct the establishment of other aid stations where needed, and he will assign new buildings to be used in place of those destroyed. Medical installations within the zone will send all requests to and receive information from the zone headquarters.

Imagine that all permanent hospitals in an area are destroyed. The physician reports to an assigned medical installation. He is the first to arrive. He has no supplies, no personnel, and hundreds of injured needing care. *What can he do*? He must know how and where to send a message for help. Again, imagine that the permanent hospital is not completely destroyed, but that this physician is the only physician left who is able to function, as happened in a hospital in Hiroshima. Within an hour all intact medical supplies would be gone. How and where would this physician send a cry for help? It would be too late for him to learn then. He should prepare for the emergency now.

Again, imagine that a physician reports to a medical installation which is already operating.

He gets to work and tries to function in the same manner as he has always done, under ideal conditions. He may be lost without a nurse at his elbow, without certain supplies with which he is familiar, and confused by the noise. He did not take the time before attack to adapt his mind to the conditions that would prevail, to learn exactly how much volunteers have been trained to do, and to familiarize himself with the supplies. Such a situation might even cause him to be so emotionally upset—for even physicians are human—that he is utterly useless or performs technics in a manner that he would not ordinarily think of doing.

Every physician should recognize that in the event of a disaster caused by enemy attack (1) ideal hospital conditions will not be possible, (2) there will be insufficient professional personnel, (3) stockpiled supplies will be limited. Every physician should realize that after attack he will hold the position of a half-god. People will look to him for the answers to all questions and expect him to know all and do all.

Emergency Medical Services has been doing everything it can to make it possible for the physician to perform at the best of his ability after an enemy attack. But all the stockpiling, plans for operations, and training of volunteers will be of little use unless members of the medical profession know what to do.

Each physician should enroll in Civil Defense and find out now the place to which he would report in the event of attack or evacuation. He should know the installation to which he would turn for supplies or help and how to get in touch with that installation. Without this minimum information the physician could do little or nothing effective. Over and above these basic plans the physician can learn much at the Medical Services training institutes held at various locations throughout the State each fall.

Physicians must understand that they will be held responsible by the public for the medical care of the injured following attack and make Civil Defense a part of their lives now. In order to be able to face the situation physically and emotionally, each physician must prepare himself—and not wait until it is too late.

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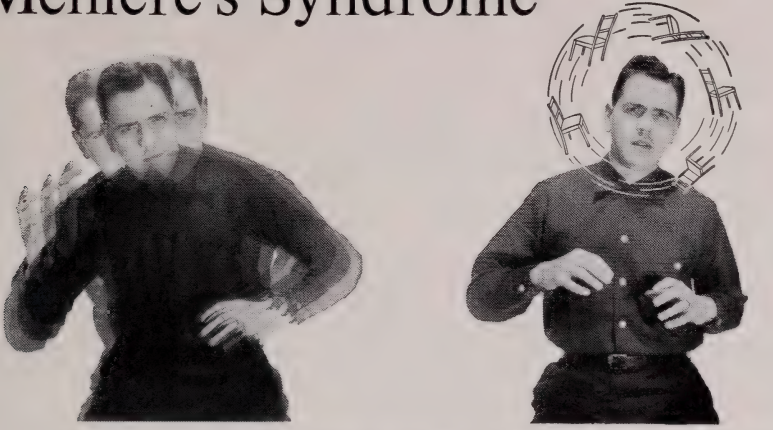
DRAMAMINE® IN VERTIGO

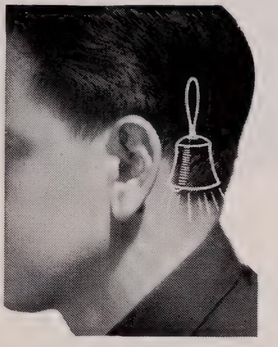
Notes on the Diagnosis and Management of "Dizziness"

III. Ménière's Syndrome



1. Paroxysmal Whirling Vertigo. *This consists of sudden attacks of dizziness, often when the patient is at rest or asleep. The patient may feel that he himself is whirling or that fixed objects about him are whirling. The attack usually lasts for a few minutes; occasionally it is severe for weeks or subacute for months.*

2. Subtotal Hearing Loss. *Deafness will usually affect the high tones and it may be unilateral or bilateral. Sometimes the hearing loss is severe and also progressive.*



3. Tinnitus. *This is usually unilateral and present in the ear with greater hearing loss and is without a definite pattern.*

Fewer diagnostic errors[1] will result if a "triad of symptoms" is required of patients with suspected Ménière's syndrome. These are the symptoms of typical Ménière's syndrome:

1. Severe paroxysmal vertigo which may be of two types; either the patient feels that he is whirling or that objects about him are whirling.
2. Fluctuating subtotal hearing loss, usually affecting the higher tones, is noted at the same time as vertigo.
3. Tinnitus, usually unilateral, is associated with the deafness and dizziness.

With Ménière's syndrome there is no definite localization[2] by the Bárány (vestibular reaction) test and results of the caloric test are not diagnostic. Physical examination should rule out disease of the central nervous or cardiovascular systems before a diagnosis is made.

"Treatment with Dramamine®. . . is effective[3] in aborting and preventing attacks of Ménière's syndrome . . . will prevent or arrest attacks of vertigo. It will also reduce the intensity of the tinnitus and so may save some of the hearing in the affected ear."

Dramamine is recommended for Ménière's syndrome as the sole therapy or in combination with other treatment programs.

It is a therapeutic standard also for motion sickness and is useful for relief of nausea and vomiting of radiation sickness and fenestration procedures.

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1. DeWeese, D. D.: Symposium: Medical Management of Dizziness. The Importance of Accurate Diagnosis, Tr. Am. Acad. Ophth. *58*:694 (Sept.-Oct.) 1954.
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3. Queries and Minor Notes: Ménière's Syndrome, J.A.M.A., *141*:500 (Oct. 15) 1949.

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SCIENTIFIC ARTICLES

The Geriatric Physician's Responsibility

ROBERT T. MONROE, M.D., BOSTON, MASSACHUSETTS

(*From the Departments of Medicine of Peter Bent Brigham Hospital and the Harvard Medical School*)

The function of the geriatric physician is still a vague concept. Doctors who take care of aging people are either those who want to and who, therefore, go where the old people are concentrated or those who are compelled to do so in the course of daily duty. The first are in danger of error due to emotional bias or to observations which are limited to one type of aging person; the second take their attitude from the experiences which they have had and which vary from the attractive to the repulsive. One often has the advantage of an institution to support him and can make long-term observations, but his subjects are a captive audience. The other is the servant of his patients, but his influence may be the greater—at least he is described as "my doctor." Since the overwhelming majority of aging people are not in institutions of any sort and never will be, their medical needs must be met by those who form the backbone of our profession, the general practitioners. It is for those of us who have been dubbed geriatricians to build a body of technics and data on all sorts and conditions of old people and to teach it to our colleagues in general practice. That geriatrics is scarcely recognized in our medical schools and teaching hospitals is evidence of the complexity of our task and the meagerness of our accomplishments.

The plan for the clinical study of aging individuals which follows meets the practicing physician's full responsibility with our present knowledge and resources. It takes a great amount of time and, therefore, is not useful for those whose busy practices permit them to accept responsibility only for current symptoms. It can be illuminated by changing the names of the three monkey idols from "Hear-no-evil, See-no-evil, Speak-no-evil" to "Hear-all-evil, See-all-evil, Speak-no-evil."

The first two monkeys refer to the usual thorough medical history, physical examination, and routine laboratory studies. The past history tells what diseases the patient has had, some of which, such as tuberculosis and asthma, might again become active. Knowledge that a cholecystectomy or appendectomy or hysterectomy has been done not only limits differential diagnosis in the future but also suggests how well acquainted the patient is with sickness and its care. An oldster who has "never been sick" needs a different type of health education when trouble catches up with him than one who has always been a loyal supporter of doctors. And some past troubles linger so actively in memory as to affect performance for years afterwards, as a fractured bone, an accident, or a session with heart disease or arthritis.

The presenting illness is described readily and listened to willingly. What identifies the geriatric physician is his awareness that it cannot be assessed properly without all the past history he can get, for he needs to know what sort of individual he has in charge, what this—or any—illness means to him by reason of his past experiences, his total resources, and his responsibilities. He is alert to what the patient does not say or did not mean to say. Even the most competent, carefree, healthy old person needs to discover in his doctor the ability to take him as a normal human being.

It is good discipline to come to a tentative conclusion as to what the physical examination

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Presented at the Eighth Annual Scientific Meeting of the Gerontological Society, Baltimore, Maryland, October 27, 1955.

will show after the introductory thirty to sixty minutes of history taking. The surprises are excellent teachers. They sharpen the method by which the next history is investigated. They exercise our ability to receive discoveries without permitting the patient to be aware of them until we can do so with the best effect on him. The geriatrician can take calmly the common rasping systolic murmur, hypertension, carotid sinus irritability, absent dorsalis pedis pulses, because he knows that often they have no clinical significance. And the examination is complete, the patient is thereby assured, and the physician has data for building a therapeutic program and for a baseline for later examinations.

The laboratory tests which are done will vary somewhat according to the splendor of the physician's laboratory or clinic. Basically, the blood should be studied for the presence of anemia and the type of anemia; the urine should be studied for protein, sugar, and sediment, and feces for occult blood are available through the previous rectal examination. Vital capacity, electrocardiogram, and x-ray film of the chest are desirable. How much farther the tests go should depend on the clinical needs of each patient. Having never been in a position to command a list of blood chemistry tests and x-rays routinely, I am free to criticize those who do. They may be excused in university hospitals on grounds of teaching and research, but they are expensive, and somebody has to pay for them. They cannot take the place of long interviews with the patient.

In explaining our findings and planning therapy of the immediate complaints and needs, we must keep before us the monkey, "Speak-no-evil." Then we won't spread iatrogenic diseases. We will not say, "You are good, considering your age," "Watch your blood pressure" (how?), "Go slow, relax, take it easy" (how slow, why?), "Don't catch cold." Aging people, overly sensitive to signs that may indicate failing physical and mental powers and to suggestions that inevitable death draws near, can be frozen into senile inactivity by carelessly phrased comments. The geriatrician knows that the life expectancy of his aging patient is considerable, almost regardless of his current state. If he can convince his patient of this, he goes far to produce an attitude of confidence in life and of willingness to cooperate in treatment.

The treatment of particular diseases does not differ in essential respects in old people as compared to younger people. Perhaps some will be treated more seriously, as, for example, the common upper respiratory tract infections which can persist so long and upset so many bodily systems. Others are to be treated less vigorously because drastic therapy can be harmful. Diabetes mellitus is a good example; a sudden attack on it by insulin can precipitate a cerebral or coronary occlusion. Since diabetes which begins late in life is relatively mild, its control by diet and exercise can be tried first; my own belief is that mild hyperglycemia with no glycosuria is of no importance and that maintenance of body weight is a good sign of balance. However, the presence of diabetes must be known, for in acute infections or fractures it can become decompensated and will require prompt and active measures. Heart disease is another example. A heart murmur or enlargement or irregularity or abnormal electrocardiogram establish only the fact of heart disease. It remains to be determined whether such disease is now causing symptoms. If it is not, and I venture to guess that it is not most of the time, then why advise treatment as for decompensation? I am not convinced that the high blood pressure of old people requires such drug treatment, even when extreme, or that diverticula in the alimentary tract should be dosed, or that peptic ulcer does as well with strong atropine-like drugs as with simple alkaline powders. But I grant that the whole field of adaptation of specific disease therapy to aging people is very little explored at the present time; hence, my contentions may display ignorance as much as wisdom.

There are two further comments on the initial diagnostic and therapeutic summary. First, the list of disorders and distortions which the studies have revealed can be long, embarrassingly and overwhelmingly long. That does not mean that they are to be ignored as inevitably due to age nor that they are all to be attacked at once. We are to pick and choose according to their importance to the patient and according to his progress. Studies on fairly well old people and autopsy revelations suggest that there are about as many disease processes in the well as in the invalided. If this is so, what makes the difference between chronic sickness and health? It is not always the severity of a disease. Can there not be a big factor in the way a man stands up to his troubles or in his good fortune in having reasons to stand up to them? Second, there are many distresses that are handled best by explaining them to the patient and showing thereby the needlessness of treating them by drugs or other means. If anginal pain goes away on rest before nitroglycerin can be taken, is that not enough? If muscular aches can be corrected by rest and exercise and can be expected to follow abuse and idleness, why use any of the aspirin family? If drugs cannot cure aerophagia or gallstones, why should we try them? If we believe that physicians are hired by patients to eradicate symptoms, we should try. The geriatricians, more than other physicians, see the desirability of treating the patient who has symptoms, with the purpose of encouraging confidence and independence and drive.

Pharmacotherapy in the last few years has transformed the medical management of many diseases as radically as surgery has changed in the last half century. It has saved many lives and multiplied the effective use of hospital beds. And yet it warrants severe criticism too. Was there ever a time when polypharmacy and patent nostrums flourished more than they do now? Each week the general practitioner is waited upon by representatives of about six drug houses and gets about three wastebaskets full of advertising, all beseeching him to "try" wonderful, symptom-oriented, "balanced" preparations that have both sedatives and stimulants or vitamins with all the mineral elements attached. This sort of postgraduate education is thrust upon the practitioner with more charm than the postman hands him his *Journal of the American Medical Association;* it requires considerable independence on his part to take his new information from dispassionate sources. The recent fad is to advertise vitamin recipes and food concentrates especially for old people, with the word geriatrics incorporated in their names! Those who buy them may hope to escape deterioration but are only identified as in real danger of it. Until we have more reliable information on the proper pharmacotherapy of the last third of life, would it not be well to realize that the less medication we prescribe, the more we are likely to build confidence in continuing health?

In such manner the first and second interview with the aging patient passes, and a program is set up to heal active disease. But the aging patient needs far more than that, and the physician must be ready to help him, often to encourage him to seek help. The area of service is difficult for both of them to visualize; it is usually left to the chance "art of medicine." In general, it is the concept of the individual as a dynamic, constantly changing equilibrium made up of many forces acting from within himself and from all outward sides upon himself; for good or ill the balance is altered by disease, possibly but not clearly by years, certainly by physical, social, economic, political, and spiritual action. The geriatric physician needs much help from other specialists-in-living before he can teach the general practitioner how to proceed in this area without fear and trembling. Meanwhile, the concept of *fitness* can serve as a practical guide, and by inviting his aging patient to return for frequent visits, he can promote a better equilibrium, which, growing from the patient's own understanding and step-by-step acceptance, is achieved with less upset than that which could be imposed suddenly from without.

Nutritional fitness is fairly well understood by the physician. He knows that the best diet for his old people is a normal diet and that it is to be changed only as little and for as short a time as necessary. It is one which contains milk, eggs, meat or fish or poultry, vegetables, fresh fruit, and water. It cannot be assumed that it is eaten; each item must be checked. When this is done, he is surprised to discover how very many people omit one or more items. The excuses are numerous; the present or anticipated penalties can be unfortunate as in avitaminosis, demineralized bones, obesity, or indigestion. The circumstances in which food is taken are also important—whether the meals are regular, whether they are supplemented by snacks, whether they are eaten on the run or alone or with bickering or pleasantries, whether they are the high points in empty days or happy interludes. Is breakfast avoided because of chronic hangover or no money? How much coffee, tobacco, and alcohol are used? What is a better tonic than zest? Clearly, discussion of food habits can be very fruitful in improving the health and personality equilibrium of the aging person.

Physical unfitness is extremely common as we grow older. It is partly due to the way in which we eat and do our work and partly to neglect of play. Participation in games does so much for balance, coordination, and capacity to face life's problems. Recreation has become too generally the sedentary observations of other people's activity rather than the recreation of our own forces. And why should it be deemed improper for an oldster to play, or necessary for him to play well or not at all, or necessary for him to go slowly? Is there any evidence that active play is harmful? The fatigue endpoint of physical play is more clearly recognized and more promptly heeded than that of physically inactive work. The best management of ordinary reactive hypertension, palpitation, carotid sinus irritability, and motor indigestion is the promotion of the vivacious use of the body.

Social unfitness can descend upon us as our children grow up and move away and as our friends die off. Friendships are in need of constant attention and replacements. Casual acquaintances at work do not fill the lonely hours at home. Attendance at lectures, concerts, or church can emphasize isolation as well as lessen it. Economic unfitness is bound up with social unfitness in many instances, for constriction of the means to spend on a former level invites isolation. The heavy responsibilities of the middle years, plus the seduction of acquiring necessary luxuries and the fond hope that retirement will not be forced upon us or that it will be attended by a generous pension from some source, result in many people entering old age with meager incomes, lessened status, and broken ties with the community.

Mental unfitness is a useful concept to describe the poor performance of so many of us that is clearly not based on organic brain damage or neurotic misapprehensions. Adult education fortunately is growing in popularity; it needs to be extended more to old people, to revive and rectify their interest in reading, to promote a zestful curiosity, and to encourage independent judgment. Physicians see so much deterioration from daydreaming and laziness, and a deal of absorption with bodily misbehavior can be a result.

It hardly needs to be remarked that the means are not now available in our society to each independent aging person to make the most of his declining years, and so they are declining years. But do they have to be? It is not the responsibility of research groups, such as the Gerontological Society, to discover what skills can improve with age, what can continue at good levels, and what must decline? To develop and define jobs, occupations, social and physical and educational opportunities that will be attractive, readily available, and esteemed to be normal features of a community of self-propelled individuals?

Our efforts have begun with the sick and the defeated. They must be expanded to the well and successful in circumstances acceptable to them.

Finally, the physician has a responsibility to himself. If he lives long enough, he is going to be a geriatrician by example or in practice. Has he provided well for his old age? Has he been prudent with his money? As a professional man his income is likely to be exaggerated by the laity; he is expected to contribute to all worthy causes, and he can look forward to no outside contribution if he should retire. But need for current income and the habit of being of service to his fellow men make it improbable that he will retire.

Has he kept up with his medical studies so that his work is good? If surgery or his special field is closed to him, has he prepared himself to shift to a different type of practice? Has he expanded his intellectual interests so that he can accept his role as counselor in community and public activities or as a creative hobbyist? Has he kept himself fit physically, socially, and emotionally so that his equilibrium is not upset by whatever fate deals him? The one faculty which must not atrophy is a lively curiosity. Possibly curiosity killed the cat, but lack of it makes us dead on our feet.

When I'm right, no one remembers; When I'm wrong, no one forgets.—UMS BULLETIN, NOVEMBER, 1955

Radiotherapy of Cancer of the Lung

ROBERT J. BLOOR, M.D., AND ANDREW B. ADAMS, M.D., ROCHESTER, NEW YORK

(From the University of Rochester School of Medicine and Dentistry and Strong Memorial Hospital)

Cancer of the lung is becoming one of the more common types of malignant diseases. It is approaching the frequency of carcinoma of the prostate and carcinoma of the stomach. Because of difficulties in diagnosis, most of the lung cancer that is seen is far advanced and can be given only palliative treatment. Since radiotherapy is the most important agent for such palliative treatment, it is necessary that radiologists be informed of the possibilities and pitfalls of such treatment.

Surgical treatment of bronchogenic carcinoma has made great strides in the past twenty years. Since 1933 when the first successful resection of a bronchogenic carcinoma was accomplished, there has been a steady improvement of operative technic and a steady decline in operative mortality. Surgical treatment has cured many bronchogenic carcinomas. However, in relation to the total number of cases of this disease, surgical treatment has cured only a small proportion. Table I, modified from Ackerman and del Regato,[1] shows the proportion of patients that can be operated and resected under optimum conditions.

TABLE I.—Surgical Treatment of Bronchogenic Carcinoma

	Per Cent
Patients admitted to hospital	100
Patients operated (thoracotomy)	60
Patients in whom resection was done (pneumonectomy)	35
Patients surviving five years	9

The 90 per cent of patients who cannot be cured surgically, with occasional exceptions, cannot be cured by any means at our disposal.

In the past radiotherapy has cured an occasional patient with bronchogenic carcinoma. Recent developments in equipment and technic have made it possible to deliver much more adequate dosage of radiation to tumors within the thoracic cage and may have an important part in the future primary management of this disease. Nevertheless, the present poor results in the treatment of bronchogenic carcinoma are due to our inability to detect tumors that have not disseminated. Unless the tumor is localized at the time of treatment, radiotherapy is no more effective for its control than is surgery. Until the problem of early diagnosis is solved, the patient with disseminated disease will always be with us and will require treatment for relief of symptoms.

On theoretic grounds, presently available technics of radiotherapy would give a considerable probability of cure in favorable cases. Even so it would be difficult to justify primary radiotherapy in the face of the proved potentialities of surgery. Allison[2] has described one approach to this dilemma. The operable patients are divided at random into three groups. In one the patient receives surgery forthwith; in another the patient is given a small dose of radiation and then surgery, and in the third the patient receives intensive radiotherapy followed by surgery. When this study is complete, it should give some indication of the efficacy of radiotherapy as primary treatment.

The present paper will deal with the application of radiotherapy to the palliative treatment of incurable bronchogenic carcinoma. The first section will present a series of case reports to show what radiotherapy can do in suitable patients. The second part will present a résumé of our experience with radiotherapy as an indication of how often it will be palliatively effective.

Case Reports

The effectiveness of radiation in relieving symptoms produced by bronchogenic carcinoma is stressed by several authors. Smithers,[3] Roswit, Kaplan, and Jacobsen,[4] and Lenz[5] all mention relief of one or more of the specific symptoms produced by bronchogenic carcinoma by the use of radiotherapy. The symptoms present may be quite severe and debilitating, and the relief afforded may be dramatic and complete. The following series of cases will illustrate the

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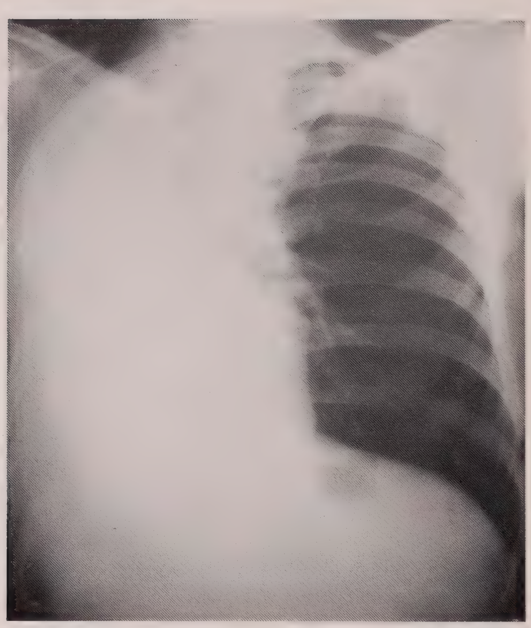

Fig. 1. *Case 1*—Before treatment. Note atelectasis of right lung with mediastinal and tracheal shift to this side.

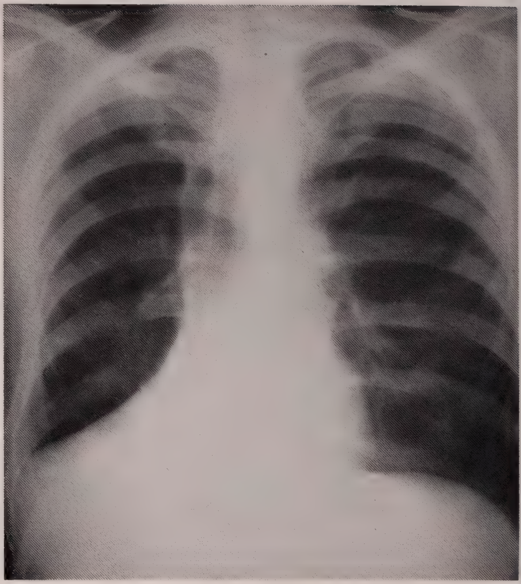

Fig. 2. *Case 1*—After treatment. Atelectasis of the right lower lobe is still present, but there has been aeration of the remainder of the right lung and partial correction of the mediastinal shift.

type of symptomatic complications that may be present and the degree of relief afforded.

The one case of long-term survival that is included is not intended to imply a usual result. Similar cases of apparent cure of oat cell carcinoma have been mentioned by others.[5,6] This would suggest an aggressive approach to the radiotherapy of this tumor type.

Relief of Bronchial Obstruction and Productive Cough

Case 1.—The first patient, E. D., a sixty-year-old male, was referred with a diagnosis of epidermoid bronchogenic carcinoma, inoperable because of carinal involvement. His chief complaint was cough productive of large amounts of blood-streaked sputum which had been gradually increasing over an eight-month period. His chest film showed complete atelectasis of the right lung with marked retraction of the mediastinum (Fig. 1). Bronchoscopy revealed a friable tumor of the right main stem bronchus which had extended to involve the trachea.

A tumor dose of 6,250 r was given with 1,000-kilovolt radiation over a six-week period. His symptoms were markedly relieved, and the change in the appearance of the chest film was striking (Fig. 2). At the suggestion of the radiotherapy department he was rebronchoscoped at this time; the carina was found to be clear, and a pneumonectomy was done. He was last seen in good condition two years after radiotherapy and surgery.

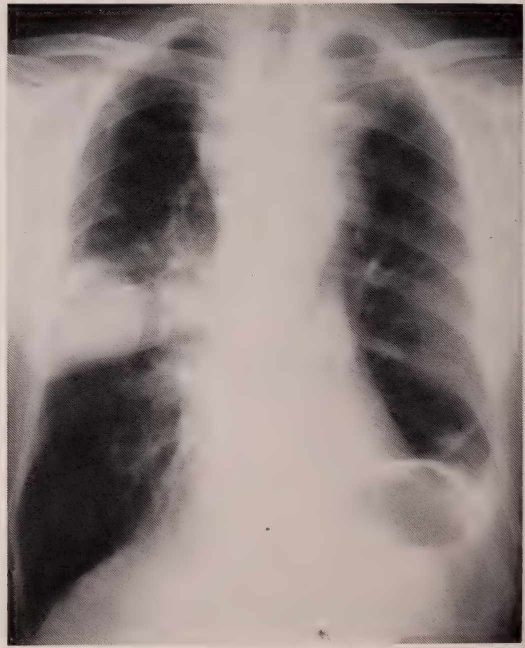

Fig. 3. *Case 2*—Before treatment. Marked upper mediastinal widening and large peripheral lesion present on right.

Relief of Superior Mediastinal Obstruction

Case 2.—P. J., a sixty-five-year-old, white male, entered the hospital in February, 1954, because of severe dyspnea. He presented the picture of su-

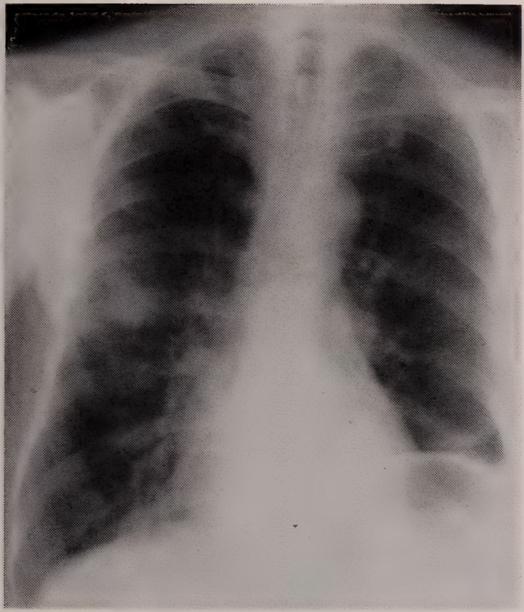

FIG. 4. *Case 2*—After treatment. The mediastinum and peripheral nodule have both been markedly reduced in size.

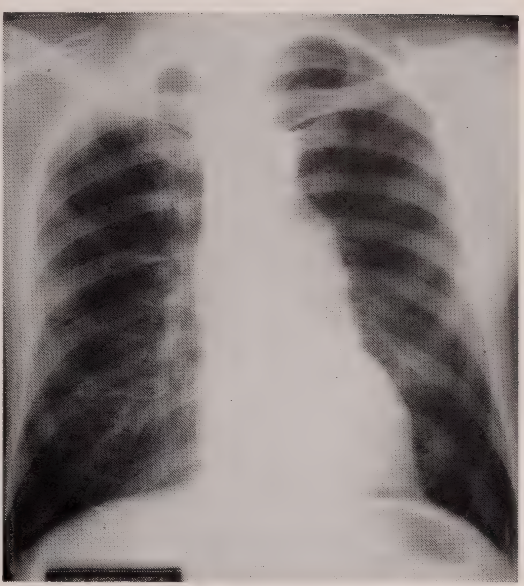

FIG. 5. *Case 3*—Clouding, lack of aeration, and bone destruction at right apex. There was no significant change in the appearance of the chest after treatment.

perior mediastinal obstruction with dilatation of the veins of the head and neck and edema of the face. A chest film showed marked widening of the superior mediastinum with a peripheral isolated lesion in the right lung field (Fig. 3). A diagnosis of undifferentiated carcinoma, probably epidermoid in type, was made on biopsy of a cervical node.

This man received 4,000 r tumor dose of 1,000-kilovolt radiation in four weeks through a pair of L-shaped opposing ports which included the mediastinum and the mass in the right lung field. It had been planned to carry dosage higher, but the development of symptoms due to cerebral metastases made this impossible. The venous distention, cough, and dyspnea cleared gradually during the four weeks of treatment, and two weeks after therapy his chest film had cleared markedly (Fig. 4). He died three months later of the cerebral metastases without return of his pulmonary symptoms.

PAIN FROM SUPERIOR SULCUS TUMOR

Case 3.—T. P., a sixty-year-old, white male, was referred with severe pain in the right shoulder and arm which had been slowly progressive over an eight-month period. At the time we saw him he showed a Horner's syndrome, and limitation of shoulder movement with muscle atrophy on the right. A radiograph at this time showed haziness in the right apex with destruction of the first rib (Fig. 5). Biopsy revealed epidermoid carcinoma.

This man received a tumor dose ranging from 3,800 r minimum to 4,300 r maximum in a four-week period with 200-kilovolt radiation, half value layer 2 mm. of copper. Over the next two months there was gradual decrease in shoulder and back pain, and the shoulder muscles regained their tone and development. He was pain-free for about three months, but the pain recurred and required chordotomy for its ultimate control.

TREATMENT OF TUMOR RECURRENT POSTOPERATIVELY

Case 4.—G. M., a fifty-nine-year-old, white male, was first seen in this department in August, 1953, fifteen months after right pneumonectomy for squamous cell carcinoma of the bronchus. His complaints at the time of referral were cough, hemoptysis, and dyspnea. Otherwise he was healthy and vigorous. A chest film showed deformity of the chest secondary to his pneumonectomy but did not reveal evidence of tumor growth (Fig. 6). On bronchoscopy, however, a mass of tumor was found filling the right bronchial stump and involving the carina and left main stem bronchus with partial obstruction. Biopsy showed the same type of tumor that had been previously present.

Intensive local therapy to a total of 5,200 r in five weeks was given with 1,000-kilovolt rotational therapy. He improved symptomatically during treatment with a decrease in cough, sputum, and dyspnea. Reaction to the treatment was insignificant. He remained asymptomatic for one and one-half years when the tumor again recurred and was successfully reirradiated to a similar dosage. He

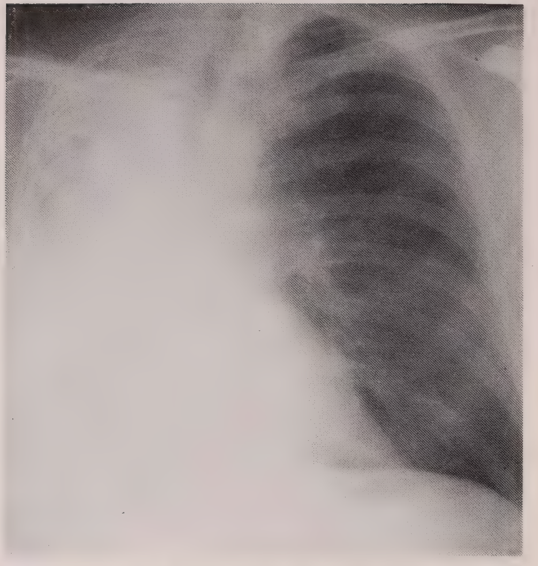

FIG. 6. *Case 4*—The clouding of the right chest and the mediastinal shift to this side are changes secondary to the patient's pneumonectomy. There has been no change in the appearance of the patient's chest at any time since his lung was resected.

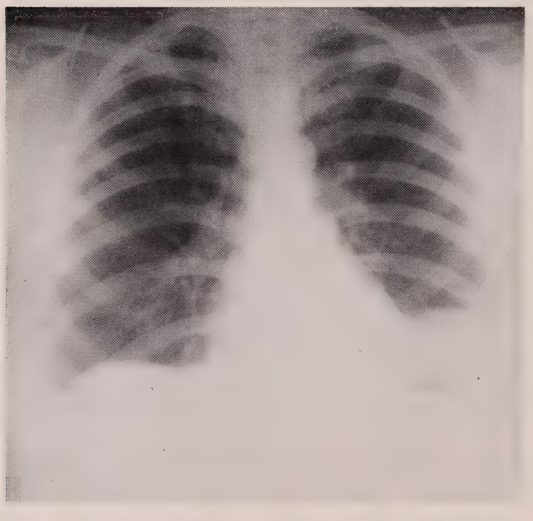

FIG. 7. *Case 5*—Before treatment in 1942. Note tumor mass at left base.

was last seen twelve months after his second course of therapy, at which time he was in good condition.

LONG TERM CONTROL OF BRONCHOGENIC CARCINOMA

Case 5.—A. C., a forty-four-year-old, married woman, was admitted complaining of cough, hemoptysis, and chest pain in November, 1942. She had had chest pain for two years and in the last seven or eight months had noticed increasing fatigue. A chest film showed a large mass in the left base (Fig. 7). This woman was explored after phrenectomy and pneumothorax; the tumor was biopsied, but at the time it was not thought to be operable because mediastinal nodes were found. After some discussion and consultation with several pathologists, it was finally agreed that the tumor was an oat cell carcinoma.

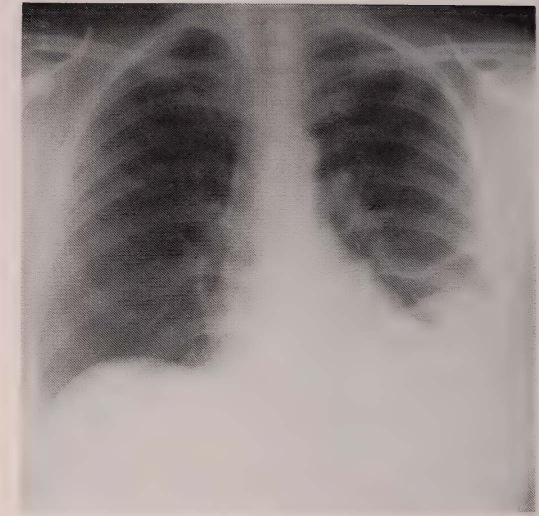

FIG. 8. *Case 5*—After treatment in 1953. The elevation of the left diaphragm is due to phrenectomy done before exploration of the chest in 1942. No tumor can be seen.

This woman received an estimated dose of 3,500 r to the main tumor mass in five weeks and a lesser amount to the mediastinal area. She was still alive and well in the fall of 1954, eleven years after treatment. A chest film at this time showed no evidence of tumor (Fig. 8).

This group of five patients shows the degree of relief which can be obtained in bronchial obstruction, cough, dyspnea, pain, and superior mediastinal obstruction by the judicious use of radiation. The last two cases also illustrate that in specific instances quite long-term survivals can be achieved.

Technic

In the treatment of bronchogenic carcinoma we have adopted certain general principles of selection of technic. Some patients have come to us with apparently localized disease. These we have treated intensively for long-term palliation, either with multiple ports at 220 kilovolts or with rotation therapy at 1,000 kilovolts. Patients with evidence of more extensive intrathoracic disease have been treated for relief of symptoms, either with opposed or multiple ports at 220 kilovolts or with opposed ports at 1,000 kilovolts, the ports being large and the dosage low. During the early part of the study 220 kilovolts were used exclusively; for the latter two-thirds 1,000-kilovolt radiation has been used increasingly and is now used exclusively.

Where intensive therapy has been used, the objective of therapy has been to achieve a tumor dose of 5,500 to 6,000 r in five to six weeks, although this has rarely been possible with 220 kilovolts. For relief of symptoms in extensive disease, 4,000 to 4,500 r to the tumor in four weeks has been the limiting level. In practically all instances radiation has been given at the average rate of 1,000 r (tumor) per week. Radiation dosage in all instances has been calculated by cross-sectional outlines and isodose curves, using either point-plot or composite plot methods described by Bloor and Quick.[7] Accuracy of port position has been verified in all cases by radiography with the therapy beam as described by Bloor, Fuller, and DiLella[8] for conventional equipment or with 1,000 kilovolts as described by DiLella.[9] Because of our conviction that normal tissue reaction is greater with large incremental doses given every second or third day than with smaller daily doses given to the same total, we treat every port every day.

Technically, the treatment factors can be divided into four groups:

1. *1,000-kilovolt rotation:* 1,000 kilovolts, half value layer 9 mm. of copper, 100 cm. target-axis distance.
2. *1,000-kilovolt opposed ports:* 1,000 kilovolts, half value layer 9 mm. of copper, 100 cm. target-skin distance.
3. *220-kilovolt multiple ports (3 to 6 ports):* 220 kilovolts, half value layer 1.1 or 2 mm. of copper, 50 cm. target-skin distance.
4. *220-kilovolt opposing ports:* 220 kilovolts, half value layer 1.1 or 2 mm. of copper, 50 cm. target-skin distance.

Port sizes varied, depending on the size of the lesion.

Analysis of Material

In the period from 1950 to 1954 a total of 48 patients was treated in this department for intrathoracic carcinoma of the lung. Since this is a discussion of short-term palliative results, the many patients who did not receive treatment are not included. No extrathoracic extensions or metastases are considered in this series. All of these patients had roentgenographic or bronchoscopic as well as clinical evidence of lung tumor. All but four of these patients had histologic confirmation of this diagnosis by autopsy, direct biopsy, biopsy of metastatic node, or cytologic studies. Forty of these patients lived at least one month after therapy.

The evaluation of palliative therapy is a much more difficult problem than the determination of the results of a curative program. Impressions of palliative effect are frequently vague and can rarely be expressed objectively. There are two factors that are of particular importance. Successful palliation implies either prolongation of the patient's life in a symptom-free condition or relief or prevention of distressing symptoms with or without prolongation of life.

Many attempts have been made in the past to assess the palliative value of radiotherapy by analyzing survival after treatment. Perhaps the most exhaustive of these is that of Adelman.[10] The inability to separate the inherently greater life expectancy of those patients in good enough physical condition to tolerate intensive radiotherapy from the effects of the therapy itself has been a constantly confusing factor. In this study we share the same difficulty. Because of the relatively small number of cases and the variety of technics involved, we cannot show definite correlation between dose and survival in our patients.

The evaluation of improvement from therapy as opposed to survival is not subject to clear-cut interpretation. There are certain objective findings that can be used, such as change in the appearance of chest films, weight gain, and ability to do work, but the effects of therapy are frequently subjective and depend on the patient's appearance or sense of well-being. We have attempted to divide patients into certain broad groups of effectiveness as defined below:

1. Good: Complete relief or marked amelioration of symptoms, such as cough, dyspnea, pain, etc., for a period of at least three months or until death.
2. Equivocal: Partial relief of symptoms or complete relief for a period of less than three months.
3. None: Symptoms persisted or increased despite therapy.

A comparison of the four treatment technics,

TABLE II.—Analysis of Technics

Degree of Palliation	Technics				Totals
	1	2	3	4	
Good	6	10	6	1	23
Equivocal	1	4	3	0	8
None*	3	4	0	10	17
Totals*	10	18	9	11	48

* Five of these patients were terminal when treated and died of progression of disease within two weeks.

TABLE III.—Effect of Dosage

Degree of Improvement	Under 2,000 r	2,000 to 4,000 r	Over 4,000 r
Good	0	4	19
Equivocal	0	4	3
None	9	7	2
Total	9	15	24

listed above, in relation to their palliative effectiveness is shown in Table II.

If the five patients who died within two weeks of treatment are eliminated, 23 out of 43, or 53 per cent of the patients treated, received good palliation.

Table II suggests that equally good results could be obtained with any of the first three technics. As far as relief of symptoms goes, this is probably true. The degree of patient reaction produced and the amount of time and effort involved on the part of the patient and radiotherapist are important factors that are not brought out in this table, and it is here that the value of 1,000 kilovolts is apparent.

The radiation dosage received by the tumor is of considerable importance in the effectiveness of palliation. One can say generally that the higher the dosage, the greater the effect if the quantity is not so great as to damage normal tissue irreparably. This general relationship is borne out in Table III.

This table suggests that a dose of under 2,000 r in the tumor is futile and that the proportion of good results tends to increase with increasing dosage.

As would be expected, the doses that can be obtained practically vary with the different technics. These relationships are shown in Table IV.

It will be seen that while 220-kilovolt multiple ports and 1,000-kilovolt opposed ports show about the same dosage potential, 1,000-kilovolt rotational therapy is definitely superior in its possibility for high dosage.

Comment

Because of the poor prognosis of bronchogenic carcinoma and the lack of striking prolongation of life with radiotherapy, many patients with inoperable or recurrent disease are regarded as hopeless, and nothing is done to relieve their symptoms. The specific examples of treatment benefit given here show that many of these patients can be made much more comfortable and productive by the use of palliative radiotherapy. The relief of bronchial and superior mediastinal obstruction and the alleviation of cough, dyspnea, and hemoptysis are quite constant results. The control of pain due to carcinomatous involvement of the nervous structures is not so constant and is frequently very temporary. While no examples of treatment of metastatic bone lesions are given and none is included in our series, these respond well to moderate dosage and are always worth treating.

The series of patients reported in this paper is too small and variegated to permit statistical analysis. We believe that the data presented indicate certain significant trends and permit certain tentative conclusions:

1. Good palliation is not achieved with tumor doses of less than 2,000 r and is uncommon with doses of less than 4,000 r.
2. Better palliation is achieved with higher dosage, and significantly higher doses can be obtained with 1,000 kilovolts than with 220 kilovolts in practice.
3. Good palliation can be obtained with 220-kilovolt multiple port technics if one is willing to expend the time and effort necessary. Patient reactions are greater with this radiation quality than with 1,000 kilovolts.

TABLE IV.—Dosage Levels Attained

Technic	Under 2,000 r	2,000 to 4,000 r	Over 4,000 r	Total	Per Cent over 4,000 r
1. 1,000-kilovolt rotation	0	2	8	10	80
2. 1,000-kilovolt opposed	0	8	10	18	55
3. 200-kilovolt multiple	0	4	5	9	55
4. 200-kilovolt opposed	9	2	0	11	0

These results are in accord with physical considerations of dosage distribution. Repeated dosage calculations indicate that it is impossible to achieve a tumor dose higher than the surface dose with other than multiple ports or rotational therapy regardless of the energy used. Even with 1,000-kilovolt opposed ports, it is impossible to achieve a greater dosage in the tumor than is received by the surface in the average patient. With 220-kilovolt opposing port technics the tumor dose will be only 60 to 70 per cent of that given to the surface. Skin tolerance is the factor which limits radiation dosage in this situation. More than 4,300 to 4,500 r surface dose cannot be tolerated at 220 kilovolts, making the maximum tumor dosage obtained with 220-kilovolt opposing ports about 3,000 r. With 1,000 kilovolts a surface dose of 4,500 to 5,000 r in four and one-half to five weeks, which results in a tumor dose of the same value with opposing ports, will usually be tolerated.

Multiple port technics show definite superiority on physical grounds and in relationship to the results obtained. In the average patient, with six ports at 220 kilovolts, tumor doses of 120 per cent of surface dose can be achieved in many cases. In a multiple port arrangement of this sort, however, it is almost inevitable that rather large volumes of lung will be intensively irradiated, and the proportion of reactions will be high.

Rotational therapy represents the theoretic ultimate of multiportal therapy. With this procedure at 1,000 kilovolts, tumor dose approaches twice the amount given to the skin, which is no longer a limiting factor in radiation dosage. While a large volume of lung is irradiated in a complete rotational scheme, the dosage levels in the lung are surprisingly low and are well tolerated. The tolerance of the tissues in the intense field of radiation becomes a limiting factor, and while 6,000 r frequently have been given, we have occasionally had difficulty with esophagitis, which limited the total dosage.

The selection of patients with carcinoma of the lung for radiotherapy must be approached with some care. The patient must be in sufficiently good condition to tolerate a course of radiation totaling 4,000 r tumor dose in four weeks and to live for a sufficient period to enjoy the benefits of his therapy. Radiation given to the moribund patient will rarely produce significant results, and the strain of the therapy on the patient's waning resources will only make his condition worse. Perhaps the only exception to this is the patient in desperate straits from superior mediastinal obstruction. If supervoltage equipment is not readily available, patients with extensive disease can be satisfactorily treated with conventional therapy equipment if well-planned and carefully executed multiple portal arrangements are used.

The patient with localized disease, we feel, should receive the benefits of supervoltage therapy, particularly rotational therapy, if it is at all possible. It is in this group that the potential radiation cures of bronchogenic carcinoma lie.

Summary

1. The present problems of treatment in carcinoma of the lung are discussed.

2. Selected case reports are used to illustrate the palliative possibilities of radiotherapy.

3. The results of therapy in 48 patients are presented.

4. The value of radiotherapy in cancer of the lung is discussed.

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Discussion

H. W. Burnett, M.D., *New York City*.—Dr. Bloor and Dr. Adams have made an excellent clarification of a most important subject which is difficult to analyze. It is a pleasure to have the opportunity to review their material.

We have been conducting a similar study of our lung cases and are in full agreement with the opinions of the authors. To illustrate the magnitude of the problem of carcinoma of the lung, during the past several years we have treated more patients with this condition than with any other form of malignant disease.

As the authors have mentioned, the present five-year survival rate with surgery alone is less than

9 per cent, leaving over 90 per cent of patients as candidates for irradiation therapy. Of these patients almost 40 per cent have disease apparently confined to the lung and local mediastinal nodes. In this group there is the best prospect of obtaining good palliative benefit and a certain number of long-term survivals free of symptoms.

Every technic should be employed to obtain the maximum benefit. Dr. Bloor has shown that a significant tumor dose is necessary for palliation as well as for cure. Doses of less than 2,000 r, as he has shown, are of little benefit to the patient, even when palliation is the only objective. In other words, palliative treatment does not imply giving small amounts of irradiation, but rather palliation is the result often obtained in a patient treated adequately.

Many patients obtain less benefit from irradiation than they might if given the opportunity for more adequate treatment. Often the radiologist is requested to give a "few days of treatment" and then stop because the referring physician has not become acquainted with the potential benefits of a full series of treatments. Such "token" therapy does not benefit the patient and creates the impression that irradiation is of little value.

The authors have shown that maximum palliation and often very long survivals are obtained with treatments of 4,000 r and above. Referring physicians and patients should be encouraged to continue treatments for a sufficient period so as to obtain the maximum benefit.

As well as the factor of total dosage, the authors have added further confirmation to the concept of well-planned dosage distribution. Although there is an understandable tendency to employ the convenient arrangement of opposing single portals, the authors' dosage distribution studies and palliative benefits confirm the real value and importance of multiple portals, especially in the range of 200 to 250 kilovolts.

With 1,000 kilovolts, especially with rotation, impressively better palliation was obtained with more comfort and convenience for the patient. However, not having such equipment available does not endorse "short-cut" methods with 200 kilovolts. On the contrary, the authors have shown that much benefit can be obtained with 200-kilovolt equipment if carefully directed multiple portals are carried to a tumor dose of at least 4,000 r.

This paper should serve as a useful incentive to careful treatment planning and adequate dosage as a means of improving results in this large group of patients.

Clinical Experience with Intermediate Insulins

After experience with 160 diabetic patients over a four-year period Dr. Robert Edgar Mitchell, Jr., concludes that when symptoms cannot be controlled by diet alone, the intermediate insulins (globin or NPH) have proved effective in treating most mild or moderately severe cases, and even severe cases. He summarizes his observations as follows: (1) There is no appreciable difference in control of diabetes in the actions of globin and NPH insulins at the end of the twenty-four-hour period in daily doses ranging from 20 to 100 units in a single dose. (2) The average case without acute complications can be controlled with a single dose of either insulin one hour before breakfast. (3) For initial treatment of diabetic coma, either globin or NPH can be used with regular unmodified insulin (in separate syringes when used with globin, in same syringe with NPH), although the unmodified is still preferred. (4) "Brittle" diabetics, especially the thin and child diabetics, require special care and insulin adjustments. Globin on NPH insulin in divided doses often with regular unmodified insulin in addition, given 70 per cent before breakfast and the rest later in the day, has been used successfully in labile diabetics. (5) Changing to an insulin from another animal species or to one prepared by a different manufacturer, or occasionally hyposensitization measures, may be required to prevent or combat allergic reactions or even anaphylactic shock. (6) There has been no appreciable difference in allergic manifestations between globin and NPH insulins. The author says that in his experience such reactions have been negligible. (7) Individual responses and experience are the best guides in selection of the proper insulin preparation.—*Pennsylvania Medical Journal, September, 1955*

Medicolegal Aspects of Head Injuries

WALLACE B. HAMBY, M.D., BUFFALO, NEW YORK

(*From the University of Buffalo School of Medicine and the Buffalo General Hospital*)

In cases of injury to the head, obviously the physician's primary duty is medical and not legal. In a culture less socialized than our own, this duty is more easily discharged than here. Now the law so jealously encloses us that there are few opportunities for man to be injured "on his own," so to speak. After awakening in the morning, a person injured in his own house may legally claim compensation, for trauma even of his own making, from the owner of the house or from the carrier of his personal liability insurance. Spared this possibility, he departs for work in the car owned and insured by himself or jointly with a finance company or in a public conveyance insured by the community. He arrives at the scene of his labors where the integrity of his person is the responsibility of his employer for the next eight hours. Thereafter, his safety during his recreation or during his sleep is in the financial keeping of someone else who has made it his business to sell insurance against physical mishap.

When the mishap finally occurs, the patient often finds himself obliged to seek legal aid to obtain the financial coverage he had so fondly imagined earlier was his by right of purchase, of employment, or by virtue of citizenship in the modern state. He now suddenly plunges into a bewildering pool, the currents of which he only vaguely may have suspected earlier. To stay in business, his insurers attempt to minimize his complaints and thereby his compensation. To counteract this tendency, his lawyers inflate the estimate of his damage. Members of the jury bend toward fat or lean settlements according to their generosity with other people's money or to their cynicism. The doctor's dilemma lies in giving testimony based on medical fact in the midst of frank and frantic partisanship. It is no easy task.

Although highly desirable at all times, the keeping of accurate records is even more necessary in cases of trauma than elsewhere. A record made at the scene is infinitely more impressive than one which apparently is suddenly brought up from even a recognizedly superior memory. Roentgenograms of the skull should be made in all cases of head injury, whether or not the knowledge of a skull fracture is useful to the physician in management of the case. When indicated clinically, recorded observations on the pressure of the spinal fluid and the presence or absence of blood reinforce medical opinion with fact. Electroencephalograms in cases of necessity serve a similar function.

Fortunately, in most cases of brain trauma, the effects are registered at once or within a matter of months. In some cases delayed effects must be anticipated. Brain contusion and laceration may be followed in a few cases by the appearance of convulsive seizures within one to three years. The development of children's brain functions may be arrested or curtailed by severe trauma. While these are problems of grave import, they are not the consequences of trivial injury, and we may be assisted in doubtful cases by specific tests for evidences of fundamental injury. More often than realized, the painful sequelae of motion injuries of the head arise from concomitant neck trauma. Recognition and treatment of this condition often shortens and minimizes the patient's disability.

Having treated the case, the physician is called upon for his opinion concerning the extent of injury, the degree and duration of disability, and prognosis. On these points are based the patient's legal benefits.

Most of the difficulties in expression of medical opinion come in cases having had no recognizable physical damage to the brain. It is common after a solid blow to the head, with or without skull fracture and whether or not followed by a short period of unconsciousness, for patients to experience more or less prolonged headache, dizziness, faulty memory, distractability, and poor judgment. By and large this syndrome is of shorter duration and is less disabling in patients with no legal problems confronting them. A prompt settlement of the legal case often is followed by clearing of the symptom complex. On the other

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hand, the syndrome appears in its typical guise after accidents having no legal implications. This makes resolution of the problem very difficult for the physician in the witness chair.

It may be helpful to compare these cases with those known to have sustained organic brain damage. In such cases the brain wounds give evidence of their presence in altered neurologic or mental function, in altered electroencephalographic records, and in some cases in abnormal pneumoencephalographic patterns. The mental changes from the original level often are measurable by psychometric technics. These often indicate downgrading of mental ability after organic brain damage.

In our civilization the head has come to occupy the popular esteem earlier reserved for the heart as the seat of thought, mind, and emotion. This is true even, and perhaps especially, among people whose central nervous system utilization rarely transcends the reflex level. The idea of possible injury to this master organ becomes intolerable, releasing fears and emotions capable of throwing the entire psychologic mechanism into chaos. The physician witness then unwittingly becomes entangled in a maze complex beyond common appreciation. To state that such a patient has no injury of his brain is true from the organic standpoint. To say that he has no disability is far from the truth and is unfair to the patient. The psychologic and basic emotional states have been profoundly altered. The point at which honest functional disability ends and malingering begins is a foggy frontier where boundaries are tremendously obscured for the average physician. Even experienced psychiatrists often are confused in drawing the line. The fact that a patient's injury might be followed by a lowering of his social level from inability to continue to hold a higher paying job is not in itself evidence of physical injury. The accident may be the only thing the patient has ever found to put a detested relative on his own or to solve some other secret personal problem. In some cases the basic psychologic conflicts solved for a patient by any kind of an accident may defy detection.

Another fruitful field for perplexity lies in the fixation of degrees of disability, preferably expressed in percentages. Such devices of course simplify legal problems considerably, and physicians are often strongly urged to express opinions "with reasonable medical certainty." When an unexpected answer is given, the lawyer may explain that this or that rule must not have been considered; hence, a different opinion might be entertained. This is where the physician should awaken to the fact that he is trying to express legalistic phrases in medical terms. It is not the physician's duty to spell out answers to legal conundrums, and he should refuse to attempt it. Certainly he can be aware that a head-injured patient with no organic residual may be partly disabled psychologically and may so declare. In the highly complex sociolegal field the physician can ill afford to attempt playing the role of an amateur lawyer.

140 LINWOOD AVENUE

Simple Palpation to Detect Valvular Incompetence in Patients with Varicose Veins

Numerous diagnostic tests for detection and localization of "blow-outs" have been devised. Performance and interpretation of many of these are complicated and inconclusive. Out of his own experience, Dr. Robert A. Nabatoff has found simple palpation, easy to master and quickly carried out, an accurate means of detecting sites of valvular incompetence as a guide to effective treatment of varicose veins. Visualization of the femoral vein is essential to accurate evaluation of the branches of the saphenous vein near the saphenofemoral junction. These are the vessels that usually cause recurrent varicosities. While the saphenofemoral junction is usually the site that proves most important, incompetent valves may occur in other communicating vessels of the thigh or leg, or at the junction of the short saphenous vein and popliteal vein. If the operation is to be satisfactory the surgeon must first detect all such sites of valvular incompetence.

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Primary Vertebral Osteophytosis

EDGAR M. BICK, M.D., NEW YORK CITY

(From the Mount Sinai Hospital)

THE appearance of osteophytes on the vertebral column has been accepted rather casually ever since their occurrence was first noted. Long before the discovery of x-rays these osseous outgrowths were described from autopsy specimens, and they have even played a prominent part in the reports of paleopathologists. For the most part, beginning with modern nosology in the nineteenth century, this lesion has been classified among the spinal arthritides, sometimes accompanied by a variety of prefixes and modifying adjectives in keeping with the terminology fashionable in each passing decade. More recently vertebral osteophytes have been causally associated with degeneration of the intervertebral disk.[1,2] Some observers, feeling justifiably uncertain of the specificity of these osteophytes, have referred to them simply as "lipping of the vertebra."

Vertebral osteophytes present a histopathology and roentgenographic appearance quite unique in the spinal column (Fig. 1).[3] Pathologically these localized osteogenic proliferations occur within the longitudinal vertebral ligaments or their expanses at the site of insertion into the apophyseal rings of the vertebral bodies.[4,5] The stimulus of this osseous proliferation is similar to that elsewhere in the skeleton where powerful ligaments insert into bone—for example, the adductor tubercle of the femur, the calcaneus at either end, or the iliac crests.

In the human spine, phylogenetically unaccustomed to the orthograde position, the insertion of the longitudinal ligaments into the vertebral rings may be subject to persistent strain from a variety of causes. Any spinal dysfunction or structural defect which disrupts the local balances of one or more vertebral segments places an abnormal strain on these ligaments and thereby stimulates osteophytic proliferation at their insertion into bone. Among the common causes for such local or multiple strains are (1) degeneration or herniation of the intervertebral disk, (2) degenerative chondromalacia of the intervertebral articulations (osteoarthrosis of the spine), (3) the wedged vertebrae of com-

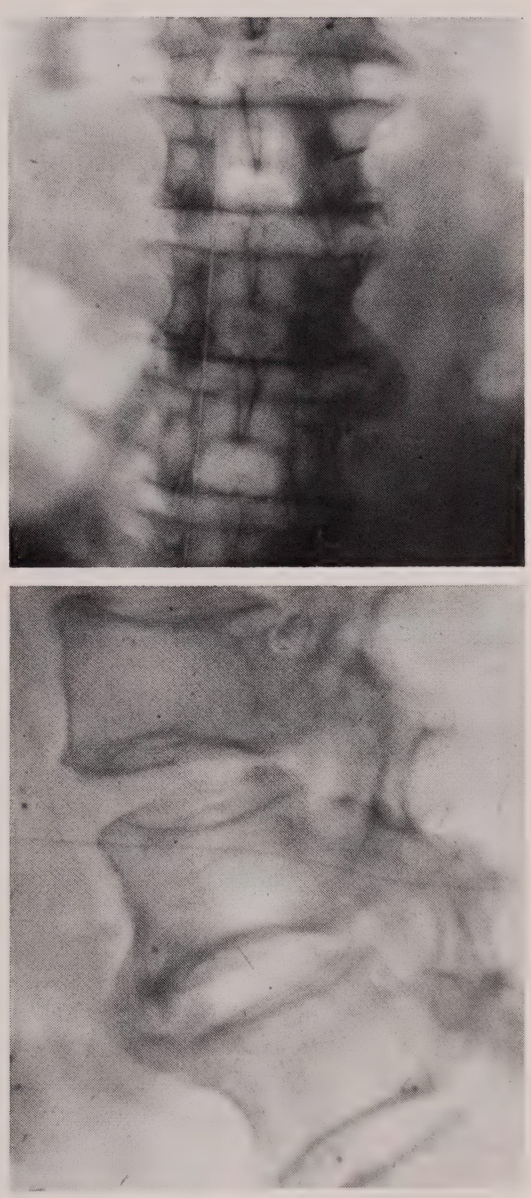

FIG. 1. Vertebral osteophytes.

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pression fractures, (4) Scheuermann's vertebral necrosis of adolescence, and (5) the adult phase of structural scoliosis. In these instances vertebral osteophytes appear secondary to the preceding osseous pathology and should be so noted.

This report concerns itself with the less common but not at all infrequent occurrence of primary vertebral osteophytosis. In this syndrome there are no discernible associated structural changes in the vertebral column. The vertebral osteophytes appear to be present as the only ossific lesion. Studying a number of such cases with their histopathology in mind, one finds that they fall into a group quite consistent with the etiologic hypothesis of ligamentous strain.[6] Such cases are most apt to occur in the lumbar spines of middle-aged males or females who are more or less overweight with pendulous abdomens. As a response to this anterior load, gravity demands a compensatory functional lordosis. In this position of the lumbar spine an abnormal strain is placed on the anterior longitudinal ligament of the vertebral column, and osteophytes appear first in the area of maximum tension. Usually this is found to be between the interspaces of the third and fourth lumbar vertebrae, although individual differences in postural compensation may cause a variation of the level of maximum strain.

In the dorsal spine, primary vertebral osteophytosis is most apt to be found in cases of postural round back, often in those of long and lanky structure. Here the lateral ligaments are most likely to be involved, although, as in the lumbar spine, the local effects of postural imbalance may vary. The syndrome appears least frequently in the cervical spine where osteophytes are usually secondary to disk degeneration. When primary osteophytes occur in this segment, they characteristically maintain an almost straight line between the adjacent vertebral surfaces, as though being stretched within the ligament.

The syndrome is difficult to evaluate in terms of symptoms. Often a recent strain or injury will disclose on the x-ray film vertebral osteophytes obviously antedating the episode. They are found to some extent almost universally in the symptom-free dorsal spines of individuals past forty. The ordinary pains associated with primary vertebral osteophytosis are those of muscle strain or muscle fatigue. These are the symptoms of postural imbalance or postural strain which, in persisting, have provoked the lesion itself. In its uncomplicated form symptoms are self-limited and ordinarily are relieved by simple back supports or short periods of rest. Local heat to the back in almost any modality is almost always palliative.

The diagnosis of primary vertebral osteophytosis is based on x-ray film observation. It is to be suspected in the presence of persistent or recurrent nagging pains in individuals of middle age showing postural imbalances. It is a primary syndrome only when other structural lesions of the spinal column are not discernible. Occasionally, and especially in the cervical and dorsal spines, the remnants of an unfused vertebral ring may confuse the observer. The small, rounded, or triangular and smooth-surfaced ossicle is quite different in appearance from the osteophyte and bears no pathologic or even histologic relationship to it. Above all, primary vertebral osteophytosis is not and must not be considered an arthritic lesion. To do so invites a multiplicity of treatments all out of proportion to the simplicity of measures which will relieve the strains manifested in this syndrome.

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Discussion

Frederick R. Thompson, M.D., *New York City.*—Dr. Bick is to be congratulated for drawing to the orthopedic surgeons' attention this specific entity of primary vertebral osteophytosis and for showing us how it differs from the arthritic lipping with which we have so commonly associated it in the past. He has stressed its relative harmlessness and the ease with which symptoms can be relieved. Above all, he has made us conscious of the fact that in the past we have unduly alarmed some of our patients who have this entity by the use of the careless phrase "arthritis of the spine." This has caused some patients to undergo needless worry and expense, attempting to track down sources of infection and metabolic disturbances to arrest a dreaded condition they never had. For this reason it is pertinent to recognize a new subgroup in our nosology and to classify it properly as an osteophyte containing growing bone rather than consider it degenerative calcification in an edematous ligamentous insertion.

From the etiologic standpoint, however, it is difficult for me to believe that the stimulus of growth arises solely from abnormal tension stresses placed on the ligament inserted into bone. I would like to ask Dr. Bick if there is not a basic disturbance in the histochemistry of these individuals which is the primary cause. In the few cases I have seen there has been a hereditary factor in some, and in others, particularly those with extensive involvement of all areas of the spine, there appears to be some associated metabolic disturbance. If the stress factor of the ligamentous attachment is the major productive stimulus, one should not see these osteophytes in certain portions of the dorsal spine where they may occur in the concavity of curves. Although Dr. Bick has shown us that the dorsal spine is more likely to have its spur formation laterally then anteriorly, still it is difficult to explain the presence of the osteophytes in areas where, seemingly, no strain is imposed on the underlying bone cortex. I cannot believe that man's graduation to the upright posture has placed much undue strain on ligamentous structures. If it has, the osteophyte should be present to some extent in every individual. If not, there may be a concurring abnormal histochemical change in the system which initiates the outgrowth of these osteophytes. I wonder if Dr. Bick would care to speculate upon this.

R. D. Severance, M.D., *Syracuse.*—This excellent presentation has pointed out to us a new differential diagnosis in the low back pain group. Too often these are spoken of as arthritides, and not infrequently we hear the expression of exacerbation of one of these arthritides by a trauma.

If we can learn to differentiate this group of primary osteophytosis, we will have a stable background to refute such loose conclusions. In order to understand Dr. Bick's presentation, it would be helpful to have read his previous presentations on longitudinal growth of the lumbar vertebrae and development of the vertebral ring, or annulus, of bone, which have appeared in the *Journal of Bone and Joint Surgery,* and a recent paper in the *American Journal of Roentgenology.* These presentations are so basic and classic that they make this differentiation presented today seem logical.

Although I cannot entirely accept this distinction as the result of strain, I think we should all watch our future cases carefully with this in mind so that we may be helpful to Dr. Bick in a further experience evaluation of this primary condition.

Edgar M. Bick, M.D., *Closing Remarks.*—The answer to Dr. Thompson's question is very simple. When a human being lives long enough, he always develops some sort of vertebral osteophytes.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

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Antibiotics in Urology

J. SYDNEY RITTER, M.D., F.A.C.S., AND ALFRED A. JOHNSON, M.D., F.A.C.S., NEW YORK CITY

(From the Department of Urology, New York Polyclinic Medical School and Hospital)

SINCE the introduction of the newer chemotherapeutic and antibiotic drugs, there has been a marked change in the pathology of infectious diseases. In fact, many of the younger urologists have rarely seen the lethal effects of infection which was a constant threat in the management of the urologic patient just a few short years ago. In spite of the great accomplishments of these drugs, it has become increasingly evident that their use has brought about certain complications which are due primarily to the remarkable capacity of survival inherent in all living organisms. The enormity of the problem can best be appreciated by noting that in 1953 in the United States the total sales of antibacterial drugs alone was close to three fourths of the total medicinal sales. The development of such a great production of drugs did not come about in as orderly a manner as might be expected. The drugs which are in use today are essentially the ones which have survived the initial test of trial. Their use has been primarily on an irrational and haphazard basis. This paper pertains to certain basic concepts concerning antibiotic drugs and presents a rational method for their use in order to increase their value and to reduce to an absolute minimum the complications which their misuse has brought about.

In order to understand better the use of antimicrobial agents, a brief review of certain basic principles is timely. Any drug is of value if it is capable of destroying or helping to destroy a specific organism in vivo. The in vitro activity of a drug may or may not be similar to that within the human body because of many factors which prevent a drug from acting in the body as it does in a test tube. Antimicrobial therapy does not alter the basic mechanism of healing. It may help by various methods to inhibit the growth or to destroy the invading organisms, but the final result, success or failure, usually depends primarily on the ability of the patient to overcome the effects of the infection.

Antimicrobial drugs may be of little value in the human because of certain basic factors. A full understanding of these factors is important in the proper evaluation and use of the drugs. The in vivo effect of any antimicrobial drug depends on the ability of that drug to reach the site of the infection and to remain there in sufficient concentration and for a sufficient length of time to exert its full bacteriostatic or bactericidal effect. In chronic types of infection the bacteria are generally located in necrotic areas. Of all the antimicrobial drugs commonly used, only streptomycin and isoniazid have been shown to be able to penetrate into necrotic tissues. The majority of new drugs used are most effective against actively growing or metabolizing bacteria, and conditions which slow down the metabolic rate of these bacteria greatly diminish the antimicrobial activity of these drugs. Certain factors within necrotic tissue, such as low oxygen tension, local pH or acidity of tissues, presence of free fatty acids, etc., suppress the metabolic activity of certain bacteria, and in this state these bacteria are not susceptible to the antimicrobial drugs being used. Infected wounds, burns, and necrotic areas present a lower acidic environment, and in this environment bacteria are less susceptible to antimicrobial drugs because the effectiveness of these drugs is lessened by a lowered pH of the tissues. These environmental factors certainly impose important limitations on antimicrobial drugs.

Another factor to be considered is the increasing appearance of drug-resistant strains of bacteria, either naturally resistant or resistant as a result of previous exposure to one of the drugs. Certain bacteria are naturally resistant to a given antimicrobial drug; other bacteria may be susceptible but may have certain dormant cells among them which, because of their low metabolic activity, are not susceptible to the effects of the drug and which may later multiply. Drug resistance may develop among one species of bacteria more frequently than another and also more readily to one drug than to another. Since resistant strains of a given organism can be trans-

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mitted to other hosts, this problem can become exceedingly significant in the very near future.

Although antibiotics have been of inestimable value to both physicians and patients, their almost universal use has brought forth a group of complications which are constantly being brought to our attention. They are relatively few in comparison with the number of drugs used and the number of patients treated, but they are gradually increasing, not only in numbers but also in the severity of the reactions they cause. For the proper evaluation and use of these drugs reactions to them must be thoroughly understood and every means taken to minimize their incidence and severity.

Various types of toxic reactions have been encountered with almost all of the chemotherapeutic and antimicrobial drugs. Hypersensitivity reactions are the most important because of their increasing frequency. Since penicillin is still the most commonly used drug, it is responsible for the majority of reactions, which may vary from the minor skin eruption to a severe and dangerous type of exfoliative dermatitis. Fever may occur with these skin rashes but may also occur alone. This symptom can be confusing to the physician who may interpret it as a result of continuing or recurrent infections. The most serious complication of penicillin, however, is the anaphylactic reaction which has been reported to occur and which has resulted in increasing numbers of fatalities. Aside from penicillin, other drugs may cause hypersensitivity reactions, and the next most common ones are streptomycin and dihydrostreptomycin, which may cause the same type of reactions already mentioned. Both these drugs can also produce serious neurotoxic reactions, such as vestibular dysfunction and deafness.

Para-aminosalicylic acid has also caused a significant number of hypersensitivity reactions, such as skin rashes, fever, urticaria, and an infectious mononucleosis syndrome. Tyrothricin, bacitracin, polymyxin, and neomycin can produce some neurotoxic and nephrotoxic reactions.

In contrast to the drugs already mentioned the tetracyclines and chloramphenicol seldom cause hypersensitivity reactions. However, they can cause gastrointestinal disturbances, such as nausea, vomiting, and diarrhea. Although these symptoms sound innocuous, the occurrence of vomiting or diarrhea in a critically ill patient may present a serious risk and obstacle to the recovery of the patient. In addition, chloramphenicol has been reported to cause plastic anemia.

One of the common reactions occurring after the administration of the broad-spectrum antibiotics is the phenomenon of superinfection caused chiefly by the Monilia group of organisms. It is generally believed that the antibiotics reduce the flora of a given area and invite the invasion of the Monilia which flourish and cause the troublesome reactions that are increasing in frequency. Far more serious, however, are the superinfections caused by the staphylococcus, usually following the use of the broad-spectrum antibiotics and only occasionally associated with penicillin and streptomycin. Although quite rare as yet, an acute fulminating staphylococcal enterocolitis may progress to a fatal conclusion.

However, what we consider one of the most important complications of antibiotics has not received the attention it deserves. We refer to the ability of antibiotic drugs to suppress or disguise all or most of the usual clinical manifestations of an infectious disease without actually bacteriologically sterilizing or curing the patient. As has already been mentioned, antimicrobial drugs may be totally inadequate in the presence of localized infections with suppuration or in areas of necrosis; yet these same drugs used indiscriminately can suppress the clinical manifestations so that the recognition of their existence may be extremely difficult or even impossible. The following two case reports aptly illustrate the masking of clinical symptoms by antibiotic drugs.

Case 1.—The patient was a sixty-four-year-old, well-developed, well-nourished, white male who was admitted with a diagnosis of carcinoma of the bladder. His general condition was satisfactory, and all other physical findings were within normal limits. The patient's bowel was prepared with penicillin and streptomycin, and on December 29, 1954, a bilateral ureterosigmoidostomy was performed. Postoperatively the patient was continued on antibiotics. The immediate postoperative course was uneventful, and temperature never rose above 100 F. Urinary output was excellent and averaged about 700 cc. daily through the rectal tube. On the third postoperative day the patient became moderately distended, and Wangensteen suction was applied through a Levin tube. The distention improved, but the patient's general condition became progressively worse. The abdomen remained soft at all times. The patient gradually became acidotic. Although urinary output averaged 600 to 700 cc.

daily and the temperature remained normal, it was suspected that a urinary leakage had occurred, and the patient was operated on on the fifth postoperative day. At operation, when the abdomen was opened, seropurulent fluid was evacuated from the cavity. It was noted that the left ureter had separated from the intestine and that there was free urine and feces in the abdominal cavity. The peritoneum showed no signs of inflammation. This was probably due to the antibiotic therapy and was a factor in obscuring the local pathology. A colostomy and a ureterocutaneostomy were performed. The patient was returned to his room in fair condition, but in spite of supportive therapy his condition became progressively worse, and he expired within seventy-two hours.

Case 2.—The patient was a sixty-two-year-old, white, well-developed, well-nourished male who was admitted to the hospital because of urinary retention. Complete urologic workup revealed a 4 plus enlargement of the prostate, normal chemistry, and normal genitourinary tracts. On August 6, 1954, a retropubic prostatectomy was performed. The pathologic report was benign prostatic hypertrophy. The temperature on the first postoperative day rose to 103 F. The patient was given penicillin and streptomycin with prompt reduction of the temperature to normal. On the morning of the fifth postoperative day the patient complained of a severe pain and tightness through the chest, the pain radiating from the midsternal region to the right side of the chest and also to the left anterior and left posterior chest wall. He was in severe distress. His skin was cold and wet, and his blood pressure was 214/90. His pulse was rapid and regular. An electrocardiogram taken at this time showed an acute left ventricular strain. His condition became progressively worse. His temperature gradually rose from 101 to 105 F. on the eighth postoperative day. Terramycin was given intravenously. On the eighth postoperative day the patient suddenly went into a shocklike state. A slight distention of the abdomen occurred, and Wangensteen suction was applied through a Levin tube. The abdomen remained soft at all times. The patient's condition became critical, and he expired on the ninth postoperative day. A postmortem examination was done, and the essential features were as follows: acute perforating duodenal ulcer on the anterior superior aspect of the first portion of the duodenum with diffuse fibrinous peritonitis and subdiaphragmatic abscesses.

The above remarks are applicable of course to all branches of medicine and surgery. However, as urologists we are interested in factors which pertain primarily to our specialty. One phenomenon which is seen frequently by urologists is an infection in an obstructed anatomic area. Every urologist has treated a urinary tract obstruction with associated infection with initial success but with subsequent recurrence of infection, either with the same organism, which may be susceptible or resistant, or with a different organism, which again may be susceptible or resistant to the antibiotic being used. Frustration may be compounded by a repetition of these stages even after changing antibiotics. It is a well-known axiom in urology that obstruction not only predisposes toward infection but maintains it and that the only way to eliminate the infections is first to provide for free drainage of urine by removing the obstructive factor.

The following case illustrates the ineffectiveness of antibiotics in urinary tract infections with an obstructive factor present.

Case 3.—The patient was a seventy-one-year-old, white female who was admitted for a cholecystectomy and appendectomy which were performed on August 18, 1954. Postoperatively the patient ran a temperature which spiked from 99 to 102 F. Urine cultures showed a Proteus vulgaris infection which was sensitive to Chloromycetin, Terramycin, and Furadantin. The temperature continued in spite of the use of appropriate antibiotics. On the twelfth postoperative day a complete urologic examination revealed a nonopaque calculus impacted in the ureteropelvic junction of the right kidney. The calculus was dislodged with a catheter which was left in situ for drainage. Repeated cultures revealed the same organism, and sensitivity tests showed it to be sensitive to the antibiotics previously mentioned. The temperature continued to spike in spite of catheter drainage and antibiotic therapy. On the thirty-second postoperative day a right pyelolithotomy and nephrostomy were performed. Following this there was a prompt reduction of temperature to 99 F. without antibiotics. Patient made a gradual and uneventful recovery.

The successful treatment of genitourinary infections will depend upon several factors, such as the identification of the organism, the choice of the appropriate antibiotic, the presence or absence of complicating factors, and the general condition of the patient.

There is a great variety of organisms which can cause genitourinary infections. The incidence of different strains of bacteria varies considerably from series to series, and it is essential that the offending organism be identified at the onset of the illness. Frequently repeated cultures will present to the physician important information regarding any changes in the predominating organism.

Since there is no single antibiotic which is applicable in every case, a knowledge of the various antibiotics, including their proper use, their limitations, and their complications, is essential in order to treat effectively genitourinary infections. For the proper evaluation and choice of any given antibiotic, the physician must know how effective it is in comparison with other drugs; whether it is effective in necrotic tissues, extracellular fluids, or intracellularly; the frequency and type of reactions it may cause; its method of administration; and its synergists and antagonists.

Although strains of certain species of bacteria are more or less uniformly susceptible to a given antibiotic, many bacteria vary widely in their susceptibility. In addition, certain organisms which may be sensitive at first may become quite resistant to the antibiotic within a relatively short period of time. For these reasons it is essential that susceptibility tests be used, not only at the onset of therapy but repeated frequently throughout the course of treatment.

Recently there has been a great interest in the use of combinations of antibiotic drugs. Although experimental evidence has shown various combinations to be effective, enough clinical experience has not been accumulated as yet for a full evaluation. At the present time there is little evidence to conclude that a combination is more effective than a single antibiotic in a given specific infection. The action of a combination of antibiotics is not predictable against every species of organism, and indiscriminate use of these combinations is more likely to result in drug sensitivities.

In the treatment of any infection the general condition of the patient is of the utmost importance. Adequate evaluation will require a thorough investigation in most cases because serious pathology may be present without symptoms. For the successful treatment of urinary infections, it is essential that there be a free flow of urine. Partial or complete obstruction of urinary flow is the primary factor underlying all urinary infections. Such obstructive conditions as calculi, strictures, prostatic enlargements, etc., must be corrected and free drainage established before complete and permanent eradication of the invading organisms can be expected. Persistent infection with obstruction will practically never be cured by antibiotic therapy unless these obstructive factors are removed. Finally, one must never forget that antibiotics can suppress clinical symptoms of localized infections, particularly in the abdomen. These must be thought of and searched for if the course of the patient indicates a failure of the prescribed treatment.

There is no doubt that antibiotics have profoundly affected the treatment of infections. No one can question their value, but the physician must recognize the limits of their value. These limits, however, can be erased by increasing the natural defense mechanism of the body and by proper use of any surgical procedure which may be indicated to relieve obstructive factors and provide for free drainage.

Summary

We have observed the treatment of infections in the urinary tract over the past quarter century. The various swings of the pendulum have been for and against the many different modalities employed with an aim to remove or eliminate infections in the urinary tract. With the introduction of a new modality there is usually an enthusiastic period, then a period of hesitancy, and finally a relegation to the dormant shelves of the pharmacy. Such drugs as mercurochrome and bacteriophage have been through this cycle. When bacteriophage was first advocated, great difficulties were encountered in laboratory control; we are still having these great difficulties because of the cost and the long, detailed procedures required to obtain the specific phage. It is our opinion that when further advances have been made in the isolation of specific phages active against individual strains of organisms instead of classes of organisms, we will then attain the Utopia in this difficult problem. That all local, enclosed infections must be opened and favorable drainage obtained is accepted by all of us; nevertheless, it cannot be emphasized too frequently. Furthermore, prior to instituting therapy of any type, the diagnosis of the local condition plus a complete bacteriologic study and sensitivity tests are essential. After the treatment has been instituted, repeated cultures and sensitivity tests should be carried out.

The cases herein presented illustrate the importance of these conclusions. It is with the hope of stimulating more careful use of the medicaments now being advocated to obtain more satisfactory results and stabilize therapy that this paper is presented.

Discussion

Francis S. Creighton, M.D., *Elmira.*—The authors have presented a very timely paper when we consider the wide use of the antibiotics today. It is of particular value in view of the complications brought about by misuse and the giving of the medication over too long a period of time. No one denies the value of these drugs, but great care must be exercised in using them.

One basic principle in our work is to provide adequate drainage, and no amount of antibiotics will be of value until this has been established. This was well illustrated in one case mentioned, and I am sure we have all had a like experience. I am also sure that when proper drainage is established in any case, much smaller amounts of the drugs will be required.

It is my personal practice to get a sterile culture and sensitivity test on every case before antibiotic therapy is started. When the organism and sensitivity are known, enough medication is prescribed for a three to four-day period and then stopped. I see the patient in one week and repeat the sterile culture routine. It is noteworthy how the flora of the tract will change after a period of medication. Therefore, it is imperative to repeat the sterile culture if one is to get the most out of the use of antibiotics.

I have received reports from the laboratory on many occasions in which one or more drugs will be slightly, moderately, or not at all effective against the organism concerned. In such cases I give no medication at all and repeat the sterile culture and sensitivity tests in three to four days. I think the term "broad-spectrum" is gradually losing favor in view of the reports we get from the laboratory in which no drug will be effective in eliminating the organism. Too, we should remember that severe allergic reactions, superinfections, and toxicity may follow the too long use of these antibiotic drugs.

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Rehabilitation

HOWARD A. RUSK, M.D., PHILIP R. LEE, M.D., AND JOHN J. UNTEREKER, M.D., NEW YORK CITY

(*From the Department of Physical Medicine and Rehabilitation and Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center*)

REHABILITATION has been defined as "the third phase of medical care."[9] The physician's responsibility to his patient in regard to rehabilitation was clearly defined in the American Medical Association's *Handbook of Physical Medicine and Rehabilitation:* "The practice of rehabilitation for any doctor begins with the belief in the basic philosophy that the doctor's responsibility does not end when acute illness is ended or surgery is completed; it ends only when the individual is retrained to live and work with what is left. This basic concept of the doctor's responsibility can be achieved only if rehabilitation is considered an integral part of medical service."[9]

During recent years there has been an increasing realization that rehabilitation is not merely a simple program of physiotherapy or a routine exercise program but a totally designed program to meet total needs. Miss Ollie Randall, one of our nation's leading authorities on the problems of our aging population, described it in this way: "I should like to submit to you my belief that rehabilitation and physical medicine as we now know it is but the inevitable coming of age of the science and art of medicine or, perhaps more accurately, of its reaching its true stature as an art."[234]

Because of the vastness of the literature in the field of rehabilitation, no attempt will be made to produce a definitive review of even the current literature in the field. In this review we will first refer to previous reviews and other sources of information on the earlier literature; second, cite references from the literature of the past few years describing the problems associated with and the results of rehabilitation in a variety of individuals, diseases, and disabilities; finally, discuss some aspects of rehabilitation which have been of particular interest to us.

Watkins reviewed the subject of physical medicine and rehabilitation in 1950[315] and again in 1952.[316] Marks and Greene have reviewed the literature on rehabilitation as it pertains to neurology and psychiatry annually in recent years.[189–191] Many of the textbooks[9,23,143,144,148,159] contain much valuable information as well as many useful references, as do recent books and monographs on special aspects of rehabilitation.[39,40,65,69,76,78,112,120,147,153,174,197,202,208,261,273,276,281,324,337] An extensive bibliography was published in 1949 which included a review of the literature from 1940 to 1946.[238] In addition, many articles were abstracted in the two published volumes of the *Year Book of Physical Medicine and Rehabilitation.*[163,164] For those interested in special rehabilitation problems, a series of rehabilitation monographs have been published by the Institute of Physical Medicine and Rehabilitation.[40,69,76,78,79,120,177,193,259] Although rehabilitation has been considered by some to be the special province of the specialist in physical medicine and rehabilitation and many have written on the subject,[1,144–146,162,253,255,286] it has also engaged the attention of the director of the United States Public Health Service,[268] the president of the American College of Physicians,[289] prominent surgeons,[91,94] orthopedists,[229,274] pediatricians,[27,140] neurologists,[14,191] psychiatrists,[46,120] and the President's physician.[322] Reports on the subject have appeared by the British Medical Association,[34] the California Department of Education,[44] the Ford Motor Company,[243] the Bulova Watch Company,[54] the National Conference of Tuberculosis Workers,[212] the United States Office of Vocational Rehabilitation,[342] and the American Public Welfare Association.[10]

Interest in rehabilitation has not been limited to the United States. Articles have appeared describing programs in Canada,[117,200,344] England,[34,106,123,124,299] Puerto Rico,[50] Greece,[184] Indonesia,[285] Australia,[41,115] South Africa,[119,341] Ceylon,[206] Denmark,[136] Finland,[224] France,[47] Korea,[251] Scandinavia,[81] and Mexico.[43] There is also available information on the activities of the United Nations in this field.[304]

The Problems

Although the literature indicates there is considerable interest in rehabilitation at the present time, various authorities have expressed the opinion that interest is lagging behind the ever-increasing need.[91,144–146,161,253,255] It has become increasingly apparent that as we grow older, we are more liable to chronic illness and disability with all the attendant social and economic consequences. Attention has been focused on this problem of chronic disease by the Commission on Chronic Illness[53] and by many individuals.[33,132,161,239,253,255,276,283]

In New York's Westchester County physical disability due to chronic disease is a major cause of public dependence.[125] This is also true in New York City where chronic disease, disability, and old age are responsible for 45 per cent of the general public assistance payments. This figure rises to 70 per cent if Aid to Dependent Children and Home Relief are included.[33] The percentage of men over sixty-five who are still part of the labor force is showing a continuous decline. In 1890, 68 per cent of the men over sixty-five were in the labor force, but in 1950 this figure dropped to 45 per cent, and it is even less today. The implications of this are apparent when we consider that there are now over 11 million people in the United States sixty-five years or older, and only one-third of these individuals have incomes in excess of $500. Actually one-third have no income at all.[155]

The commonest cause of chronic disease and disability is cardiovascular disease. It is estimated that there are nine to ten million persons with cardiovascular disease in the United States. The cost, in terms of loss of income alone, to persons with heart disease disability amounted to almost two and one-half billion dollars in 1953.[167] Other common causes of disability are the rheumatic diseases, orthopedic defects, neuromuscular diseases, cancer, accidents, respiratory diseases, and mental or emotional illness.

The number of long-term disabled—those persons of all ages who, because of some physical or mental disease or impairment, have for more than six months been unable to work or follow other normal activities—constitute about 3.3 per cent of the civilian population in the United States. On an average day in the United States in 1954 there were 2.9 million persons aged fourteen to sixty-four with long-term disabilities. If all ages are included, the figure rises to 5.3 million. Of these, 4.1 million are noninstitutionalized, and 1.2 million are in institutions of one kind or another.[280]

Dr. Herman E. Hilleboe, Commissioner, New York State Department of Health, has recently given seven reasons for the concern of public health with the problem of chronic disease.[132] His major reasons were, in effect:

1. Chronic disease and disability constitute the major cause of economic insecurity.

2. They cause over 70 per cent of all deaths in this State.

3. Their incidence and relative importance are rising with the increasing proportion of older persons and the control of infectious diseases.

4. Too little is known of their cause, prevention, or cure.

Although the cause, prevention, and cure of most chronic diseases are at present unsolved problems and despite the fact that the pathologic sequelae of many chronic diseases are irreversible, nonetheless, much can be done to reverse the emotional, physical, social, and economic disability which often results from chronic illness. Rusk and Taylor[262] have stated that there are an estimated two million physically handicapped who are employable if adequate rehabilitation were available. The economic benefits of rehabilitation to the disabled individual and to the community have been well documented.[155,193,194,249,262,293] As an example, in New York State in 1952 the Department of Vocational Rehabilitation assisted in the rehabilitation back into employment of 1,017 disabled persons over the age of forty-five. Prior to rehabilitation their combined earnings had been $433,000 annually. They were rehabilitated at a cost of $197,000, and their income after rehabilitation was $2,336,000 during the first year.[155] During 1952, 64,000 persons were rehabilitated back into employment through State-Federal rehabilitation programs. This group now earns more than 100 million dollars annually, pays over ten million dollars per year in income taxes, and in less than three years will pay back into the Federal government an amount in excess of the cost of their rehabilitation.[262] Additional information on the vocational aspects of rehabilitation is available in the annual reports of the various State divisions of Vocational Rehabilitation and in many articles.[32,41,54,73,88,113,114,118,160,215,240,241,290,293,306,318,328] Although it is not so easy to document psychologic and social benefits to the individual and the community from rehabilitation, they are nonetheless as definite and dramatic.

Although 80 per cent of the patients who require rehabilitation can be managed by the family physician, there is need in approximately 20 per cent for the assistance of specialized personnel and facilities. The problems posed by many of the severely disabled illustrate this need most dramatically. Prior to World War II there were few specialized facilities for rehabilitation and ever fewer where adequate medical supervision existed. Under the stimulus of the Baruch Committee many facilities have been developed to meet the varying needs of different communities. The National Society for the Welfare of Crippled Children and Adults has recently published a booklet describing many of these facilities.[235] Numerous articles have also appeared describing some of these and other facilities in varying detail.[6,18,76,89,93,129,141,171,246,270,277,289,299,301,323,333,334]

Although the lack of sufficient, adequate rehabilitation facilities, whether they be inpatient facilities in general hospitals or community outpatient centers, is a major problem at the present time, it is secondary to the lack of well-trained personnel. The shortage of personnel, particularly physicians, constitutes a major roadblock to progress in rehabilitation. The importance of this problem and a method of meeting the challenge is the subject of a separate article which appeared in the JOURNAL.[258]

Another major problem in rehabilitation is the delay in proper referral of patients who could benefit from rehabilitation. The patient with paraplegia is a dramatic case in point. Even today it takes longer to treat the complications which may result from the lack of proper management than it does to retrain these individuals in ambulation and self-care and to prepare them for independent living. Early referral for rehabilitation would prevent many of the complications and would expedite the return of these patients and many others to an independent life.

Patients for Rehabilitation

GENERAL.—The physician may wonder what type of person with what kind of disease can benefit from rehabilitation. During the past few years the problems associated with and the benefits of rehabilitation have been described for the following:

1. The aged.[25,66–71,85,88,96,97,117,121,126,155,157,176,227,234,237,279,317]
2. The young.[27,140,172,197,278,331]
3. The chronically ill.[97,161,216,253,255,278]
4. The alcoholic.[95]
5. The public welfare recipient.[10,44,207]
6. The handicapped.[5,13,27,41,46 54,144,145,169,172,203,204,213,215,228,300,305,331]
7. The industrial accident case.[6,50,94,171]
8. The incapacitated worker.[115]
9. The physically impaired student.[116]
10. Those with congenital and acquired disabilities.[80,107]
11. The disabled housewife.[56,127,158,259]
12. The patient following: (*a*) chest or cardiac surgery.[8,199,236,282]
    (*b*) Neurologic surgery.[298]
    (*c*) Total laryngectomy.[170,311]
    (*d*) Amputation.[2,4,7,22,38,55,59,92,105,117,153,219,226,310,320]
13. The patient with: (*a*) a neurologic disorder.[14,80,152,173,210,244,317,338]
    (*b*) Aphasia.[135,174,221,256,296]

(*c*) An orthopedic defect.[27,46,156,197,263,266,300]
(*d*) Cleft palate.[166,218]
(*e*) A mental handicap.[142]
(*f*) An acoustic handicap.[339]
(*g*) Blindness.[104,129]
(*h*) Burns.[312,330]
(*i*) Cerebral palsy.[3,52,65,78,113,118 197 297,306,343]
(*j*) Multiple sclerosis.[77,128,187,188]
(*k*) Paraplegia.[11,28,51,63,75,123,124,173,183,208–210,254,294]
(*l*) Quadriplegia.[45,82]
(*m*) Muscular dystrophy.[340]
(*n*) Leprosy.[29]
(*o*) Parkinson's syndrome.[57,211,288,317]
(*p*) Epilepsy.[122]
(*q*) Arthritis and rheumatism.[26,42,84,86,109,149,150,165,177–182,198,225,229,247,308]
(*r*) Rheumatic fever.[30,37,102,130]
(*s*) Heart disease.[21,35,36,83,98,108,126,131,134,137,151,195,220,223,230,236,241,242,291,313,321,336]
(*t*) Cerebral vascular disease.[20,21,61,90,99–101,110,138,168,186,214,217,226,267,275,303,307,314,319,332,335]
(*u*) Tuberculosis.[133,212,302]
(*v*) Bronchial asthma.[271]
(*w*) A psychiatric disorder.[31,227,237,269,273,290,325,326]

Additional subjects which have been discussed include metabolic requirements of occupational therapy procedures,[231] automobile driving for the severely handicapped,[245] rehabilitation and workmen's compensation,[287] physical medicine procedures,[17,24,103] the role of the caseworker in rehabilitation,[19] the prevention and treatment of decubitus ulcers,[48,111] physical medicine and rehabilitation in home care programs,[60] psychiatric aspects of physical medicine and rehabilitation,[196] counseling for the physically impaired student in high school,[116] self-help devices,[15,62,87,177,203,204] the role of the official agency in rehabilitation,[13] and the pathology of rehabilitation.[106]

CARDIOVASCULAR DISEASE.—The problems faced by the individual with cardiovascular disease depend primarily on: (1) the individual—his mental, physical, social, and economic resources; (2) his disease—its etiology, the anatomic and physiologic abnormalities which may have resulted, the natural history of the disease, its stage and severity; (3) his family—the strength, support, motivation, economic assistance, etc., which they may or may not supply; (4) his community—its understanding, its medical resources, employment resources, social and other resources which may aid in rehabilitation. Attitudes are particularly important, especially the attitude of the family, the physician, the employer, fellow workers, and others who may be closely associated with the patient. Each individual requires a thorough individual evaluation before a program of rehabilitation can be planned and successfully carried out.

The dramatic gains in recent years in the field of cardiovascular surgery, in the prevention of recurrent attacks of rheumatic fever and in the medical treatment of hypertension have created an increasing number of problems for those interested in the rehabilitation of persons with cardiovascular disease. Although some of the current surgical procedures for the correction of cardiovascular defects are curative, the majority are palliative and serve primarily to prolong the life of the patient in a state of lesser disability. For the most part these individuals and many others with cardiovascular disease must have regular medical supervision throughout their lifetime. They may have medical, psychologic, social, or economic problems as a result of their disease, and if they are to achieve the maximum satisfaction and happiness in life, we as physicians must consider all these aspects of the problem.

In recent years there has been a more optimistic approach to the management of patients after myocardial infarction. The use of anticoagulants, diets, and the chair rest treatment[16] indicate a more positive approach to early management. There has also been increasing evidence that the prognosis for life and rehabilitation to employment is much better than had generally been assumed. Olshansky *et al.*[222] have recently reported on a survey of employment practices as related to cardiacs in the Greater Boston area. They found that among 262 employes who had a coronary thrombosis during the year, 217 were re-employed at the time of the survey. This is even a better result than obtained by Master and his group[192] who found that among clinic and private patients 70 per cent were able to return to work after myocardial infarction. Crain, Missal, and Wilson[64] had previously shown that of the employes of the Eastman Kodak Company who suffered a myocardial infarction, over 78 per cent were able to return to work. Many of these employes were able to work for many years after their infarctions. The authors stressed the importance of selective placement and proper medical supervision in the rehabilitation of these patients.

Little has been added in recent years to the program of rehabilitation for the hemiplegic which had been described in detail in earlier publications.[58, 248] The program consists initially in the application of lifesaving measures if they are needed; followed by attention to the prevention of deformity; treatment of deformities if present; retraining in the activities of daily living, with emphasis on self-care and walking; treatment of any speech disability that might exist; proper attention to the psychologic and the social problems of the individual; and treatment of any underlying or coexisting medical conditions. Although hemiplegia continues to present one of the most complex and challenging problems in medicine today, there is no question that a dynamic rehabilitation program can offer much to these severely disabled patients. This program does not, as far as we know, alter the basic pathology, but it can do much to ameliorate the psychologic, physical, social, and economic consequences of it. We have repeatedly seen patients whose initial prognosis for rehabilitation was considered to be poor because they presented the typical clinical picture of a person with senile or degenerative vascular disease of the brain. With a dynamic rehabilitation program these individuals have changed from unkempt, depressed, helpless, hopeless individuals who were unable to care for even a minimum of their daily needs to individuals who were spirited, intelligent, and alert and who were able to return to lives of independence and dignity.

Rheumatoid Arthritis.—The rehabilitation of the patient with severe rheumatoid arthritis continues to be a major and very difficult problem. The value of the steroids and physical therapy in the rehabilitation of selected patients is not questioned, but they do not solve the problem. King[149] and Lowman *et al.*[181] have emphasized the importance of psychosocial factors, and Preston[229] has re-emphasized the value of orthopedic procedures and surgery in the total rehabilitation of the severely disabled patient with rheumatoid arthritis.

Lowman *et al.*[178–181] have intensively studied a group of severely disabled rheumatoid arthritic patients during the past four years. In the rehabilitation of these patients they have found the following to be important.

1. Drug tolerance. The ability of the individual to tolerate a dose of steroids or other drugs that will control signs and symptoms without producing side-effects or toxic reactions requiring reduction of dosage or discontinuance of the drug.

2. Joint tolerance for physical activity. This depends not only on the active inflammation resulting from the rheumatoid process but also on the secondary hypertrophic arthritis which has occurred in the joints as a result of excessive wear and tear. There is no ready index for determining joint tolerance. Roentgenograms are helpful, but they may also be grossly misleading. A trial of activity is the best means of determining tolerance. This alone will determine whether or not a patient's goals must be modified to conform to the tolerance of his joints.

3. Psychologic soundness. The psychologic timber of the patient was found to be more important than any other single factor in determining success or failure in attainment of goals.

4. Socioeconomic factors. The re-establishment of the patient in a social and economic situation in which he will be able to function successfully is the ultimate goal in the rehabilitation of these individuals. There are many problems related to family adjustments, housing, traveling, and job placement that require patience and persistence if they are to be solved. They vary greatly from individual to individual, but they are almost always present, and they must be effectively dealt with if rehabilitation is to achieve its desired goal.

5. Functional training. Although joint range of motion, muscle power, and a joint's tolerance for activity are rough indices of a patient's functional capacity, the latter is the primary objective, and the former are important only as they contribute to this functional capacity. Functional training in rehabilitation is stressed, and training is directed toward the attainment of the maximum performance in those activities which are essential to independent daily living.

6. Special devices. These are utilized only when the patient is unable to perform proficiently the activities of daily living without mechanical assistance. The self-help devices which have been utilized are many and may be grouped generally as follows: (*a*) chairs, wheelchairs, and toilet seats, (*b*) aids in dressing, (*c*) aids in feeding and self-care, (*d*) crutches, (*e*) aids in housekeeping, and (*f*) braces. These have been described in detail in a recent monograph by Lowman.[177]

When attention is given to all these factors, the results of rehabilitation of the patient severely disabled by rheumatoid arthritis may be very gratifying. Lowman, Lee, and Rusk[180] have recently reported the results of the first two years of a total rehabilitation program for the rheumatoid arthritic cripple. Despite severe handicaps eight of 38 of the individuals were able to obtain full-time jobs. This does not include the housewives who returned to their homes and were able to resume their jobs in this capacity, nor does it include the patients who engaged in part-time work at home. Of the 38 initially hospitalized there were 22 who were discharged totally self-sufficient and an additional 12 who were partially self-sufficient. There were only four who remained hospitalized at the time of their report.

Poliomyelitis.—The rehabilitation of the patient with poliomyelitis consists essentially of (1) the prevention of deformities, (2) the development of the maximum potential muscle strength by means of muscle re-education, (3) training in the activities of daily living to develop the patient's maximum functional potential, (4) bracing and self-help devices when the patient is unable to achieve his maximum functional potential without these mechanical aids, and (5) consideration of and care for the psychologic, social, and vocational problems which may be present. Many patients with poliomyelitis whose major problem is respiratory must be handled initially in the acute, general hospital. The long-term management of these patients is probably best carried out in the specialized respirator centers which have been developed throughout the country.

Parkinson's Syndrome.—The problems related to the successful rehabilitation of the patient with Parkinson's syndrome can best be overcome by a close, continuing physician-patient relationship. The value of drugs and physical therapy to maintain the patient in a state of maximum function and independence are well known. It is not so widely appreciated that the solution of psychologic, social, and vocational problems may be of even greater benefit to the patient. In the event of a failure of the above total approach to the patient and his problems, the recently developed chemopallidectomy[57] may be helpful in reducing rigidity and tremor and in increasing the patient's functional capacity if he has not degenerated significantly prior to operation.

Spinal Cord Injury.—Of particular importance to the practicing physician is the management of the patient during the acute period following the injury. Patients in whom a spinal cord injury is suspected should be moved from the scene of the accident with the greatest care. The patient should be lifted and transported with the back in the neutral position on a flat, firm stretcher. As little movement as possible should be allowed during the patient's initial care. Roentgenograms of the back should be taken on the original stretcher. It is preferable to defer roentgenograms rather than risk further trauma.

A flat, hard surface with a foam rubber mattress is satisfactory for a bed. A Stryker frame is preferable if it is available because it permits the patient to be turned every two hours without difficulty. We believe this is important in the prevention of decubiti.

In our experience at the Institute of Physical Medicine and Rehabilitation of New York University-Bellevue Medical Center, early laminectomy is desirable in spinal cord injuries (except in high cervical lesions), especially if a block is demonstrated. This allows the greatest opportunity for the recovery of neuromuscular function and is important because of its value in predicting functional recovery.

Although the rehabilitation of these patients requires the teamwork of orthopedist, neurosurgeon, urologist, neurologist, plastic surgeon, and specialist in physical medicine and rehabilitation, it is a problem in which the general practitioner plays an important role. His services are invaluable in maintaining the general health and morale of the patient. In many instances he must make the decision as to whether rehabilitation should be attempted. This decision should be approached with hope, courage, and understanding rather than the defeatist attitude that frequently exists.

The rehabilitation program should be started as early as the condition of the patient permits. If the patient is paraplegic, early standing in the tiltboard and general conditioning exercises for the upper extremities form the basis for the early training program. Later ambulation with braces and training in the activities of daily living become most important in the training program. The management of the bladder is also very important. Tidal drainage is the simplest method of early management. It is usually possible for the patients to achieve good bladder and bowel control with proper training. The eventual return of the individual to an independent life depends not only on his proficiency in these activities but also on the absence of complications and the solution of social, psychologic, and vocational problems. Many paraplegic patients will make an excellent adjustment and prove to be valuable, contributing members of our society if provided the opportunity to do so.

AMPUTATIONS.—Although the general practitioner often must call upon the services of medical specialists when dealing with amputee patients, he must assume the responsibility for preparing his patient physically and psychologically for the amputation and must see to it that the patient has a proper prosthetic device, adequately fitted, and is adequately trained in its use. Slocumb's *Atlas*[281] gives excellent descriptions of the proper sites and types of procedures to perform which will achieve the desired goal of maximum functional capacity if followed by proper fitting of the artificial limb and proper postprosthetic training.

One phase of management of the amptuee to which the physician should give particular attention is the immediate postoperative period while the stump is being shrunk in preparation for a prosthetic device. During this period of six to eight weeks the patient should be given graduated conditioning exercises in preparation for both crutch-walking and the later use of the artificial limb, and measures should be taken to prevent deformities.

In advising his patient on the selection of a prosthetic device, the physician must be aware that not all limbs are suitable for all amputees. In fact, he must realize that not all amputees can wear a limb profitably.

Recent prosthetic research has produced considerable improvement in the artificial limbs which are now available. These new limbs, combined with proper preparation of the patient, improved surgical technics, prevention of deformities postoperatively, proper fitting of the prosthesis, and adequate training after fitting the prosthesis have led to considerable improvement in the rehabilitation of many amputees.

The physician must point out objectively to the patient those skills which the patient can expect to achieve with proper training and those skills which the patient has little chance of ever regaining. Extreme caution must be taken in the latter, however, since it is unwise to tell a patient what he cannot do for this cannot be determined in most cases until the patient has had adequate training. Training is absolutely essential if the amputee is to be successfully rehabilitated.

Summary

In this review article we first referred to previous reviews and other sources of information; second, we cited references from the literature of the past few years describing the problems and results of rehabilitation in a variety of individuals, diseases, and disabilities; and, finally, we discussed briefly the rehabilitation of patients with cardiovascular diseases, rheumatoid arthritis, poliomyelitis, Parkinson's syndrome, spinal cord injury, and amputations.

We have also tried to show in this brief review that the problems medicine faces in dealing with the growing incidence of chronic disease and disability extend far beyond any medical specialty; these are problems which must be faced and solved by medicine as a whole. Rehabilitation is every physician's business, not merely that of the specialist in physical medicine and rehabilitation. The concepts of rehabilitation and the technics must be made part of the armamentarium of all physicians, and they must be made part of the medical programs of all of our hospitals because medical care is not complete until the patient has been trained to live and work with what is left.

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(Number three of a series of articles on Recent Advances in Medicine and Surgery)

Influence of Anesthesia on Maternal Mortality

Reviews of the literature show that anesthesia deaths contribute substantially to maternal mortality. Dr. John E. Osborn believes there are a number of reasons for this which, taken together, are indicative of the inferior position held by obstetric anesthesia, both in its relation to the field of obstetrics on the one hand and the field of anesthesia on the other. In summarizing his program for prevention of unnecessary maternal deaths from this cause, the author says (1) Personnel should be adequately trained to administer the anesthetic—a principle which, in surgery, is accepted without question. In obstetrics there appears to be an all too common opinion that almost anybody who happens to be around will do. (2) Because of the problem of vomiting with aspiration during inhalation anesthesia (causing more deaths than any other factor in this category), the obstetrician should instruct his patients not to eat or drink when they feel they are going into labor. If the woman has eaten within five to six hours before coming to delivery, inhalation anesthesia should not be used. (3) The near-fatal preventable accidents, which are not reported, should be noted as being as important and teaching as vital a lesson as the fatal ones that get into the statistics. (4) The obstetrician, after deciding on the best type of anesthetic for the individual patient, should instruct her properly so that she will accept the decision with confidence and know what to expect.

The author classifies and outlines anesthesia procedures and technics. Pudendal block, he believes, in certainly the safest of the conduction methods, and probably safest of any of the anesthetic methods for vaginal delivery. As for cesarean section, in his own experience the vast majority are done under local anesthesia.

—*Minnesota Medicine, September, 1955*

Clinical Observations on the Oral Use of Hexamethonium, Hydralazine, and Rauwolfia Extracts in Essential Hypertension

G. SALAND, M.D., I. FISCHER, M.D., H. P. HERNRIED, M.D., E. D. STOLIAR, M.D., AND H. B. ZURROW, M.D., BRONX, NEW YORK

(*From the Hypertension Clinic and the Medical Service of the Bronx Hospital and the Hebrew Home and Hospital for the Chronic Sick*)

RECENTLY the introduction of the autonomic and adrenergic blocking drugs has made possible a new approach to the therapy of hypertension.[1-4] Since the constant pathologic feature of essential hypertension is arteriolar constriction,[5] it seems reasonable to direct therapy toward the release of arteriolar constriction. The drugs which seem to effect a "chemical sympathectomy" appear suitable for such use.

In this study hypertensive patients were treated on an outpatient basis for the most part. For this reason the hypotensive drug to be used needed to have the following attributes:

1. The drug should be effective when administered orally.
2. The drug should have a sustained hypotensive effect.
3. The drug should have minimal side-reactions which should be without danger to the patient.

The drugs selected for this study were hexamethonium, hydralazine, and rauwolfia.

Method

The upper limits of normal arterial blood pressure are often taken as 150 mm. Hg systolic and 90 mm. Hg diastolic. This standard has been employed in this study.

The patients were from the Hypertension Clinic and the Medical Service of the Bronx Hospital, the Hebrew Home and Hospital for the Chronic Sick, and from private practice.

Patients with hypertension of unknown etiology were accepted for this study regardless of age, sex, or cerebral, cardiac, or renal status. Most of these patients had been carefully observed for two years prior to this study; a few were observed for slightly less time. No patient had a history of hypertension of less than one year prior to observation. All patients had been on placebo therapy during the period of observation. Patients were seen weekly during observation and therapy. Blood pressure readings were taken in both arms while the patient was in a sitting position. Symptoms were noted. The base pressure of each patient was determined by averaging readings observed over a period varying from two months to two years. When no effect was obtained with the exhibited drug after sufficient study or when side-reactions of sufficient severity to warrant stopping the drug occurred, the patient was started on another hypotensive drug. When the maximum hypotensive effect was obtained with any one drug but not to the desired therapeutic level, a combination of drugs was administered to determine whether a more marked response could be obtained. When any change in drug therapy was made, the base pressure was again used for comparison of effect. Serial studies as such are not reported here. The dosage used was the maximal tolerated or effective dose. The range of dosage is given below.

In this study a drug which reduced blood pressure to 150/90 mm. Hg was considered to be 100 per cent effective regardless of the original blood pressure level. A drug which reduced the pressure only 25 per cent toward 150/90 was 25 per cent effective, etc. This scheme was applied to the systolic and diastolic pressures separately. Effects were then classified as follows for ease of tabulation.

Class 1—75 per cent or more drop in blood pressure toward normal.
Class 2—50 to 74 per cent drop in blood pressure toward normal.
Class 3—25 to 49 per cent drop in blood pressure toward normal.
Class 4—0 to 24 per cent drop in blood pressure toward normal.

TABLE I.—Response of Hypertensive Patient to Various Regimens of Pharmacologic Management

Drugs	Response in Systolic Blood Pressure Class 1	2	3	4	Total Patients	Response in Diastolic Blood Pressure* Class 1	2	3	4	Total Patients
Hexamethonium	12	5	7	5	29	14	3	3	8	28
Hexamethonium after exclusion†	8	4	5	4	21	10	1	0	6	17
Hydralazine	2	3	2	1	8	3	0	1	2	6
Hydralazine after exclusion†	2	2	1	0	5	2	0	1	1	4
Hexamethonium and hydralazine	13	6	4	2	25	16	7	2	0	25
Hexamethonium and hydralazine after exclusion†	13	5	3	2	23	15	6	2	0	23
Rauwolfia	12	4	4	8	28	20	3	1	3	27
Rauwolfia and hydralazine	9	5	7	2	23	20	1	0	1	23
Rauwolfia and hydralazine after exclusion†	7	5	7	1	20	17	1	0	1	19

* Only patients with diastolic pressure over 90 mm. Hg are included.

† Exclusion: Patients who died or who did not tolerate the drugs.

Class 1 was considered good, Class 2 fair, Class 3 poor, and Class 4 no result. If the diastolic pressure was 90 mm. Hg at the outset and remained at this level, no evaluation was made; if it dropped below 90, the effect was read in Class 1. While this method of classification may appear arbitrary and perhaps may allow for many 100 per cent effective results where the initial pressures are only mildly elevated, study of the data below will demonstrate that most patients in each group had blood pressures well above the 150/90 range.

The final reported evaluation of the drug effect on systolic and diastolic pressures was also made after excluding patients who died or who did not tolerate the medication.

Results

Hexamethonium.—This drug was given alone to 29 patients, of whom 20 were females and nine were males, ranging in age from forty-two years to eighty-four years. The pressures measured from 260 to 160 systolic, with 21 cases over 200, and from 150 to 90 diastolic, with 25 cases over 100. The period of therapy ranged from two days to seven months. The dosage varied from 375 to 2,500 mg. per day in divided doses. In this series two deaths occurred, one due to myocardial infarction after two days of therapy and the other due to cerebral vascular accident after two weeks of therapy. Therapy had to be discontinued in six cases because of constipation, dizziness, urinary retention, or syncope.

The results are indicated in Table I. A good drop in systolic pressure was obtained in eight out of 21 cases, and a good drop in diastolic pressure was obtained in ten out of 21 cases after excluding patients who died or who did not tolerate the drug.

Hydralazine.—This drug was given alone to eight patients, of whom seven were females and one male. Their ages ranged from fifty-seven to eighty-four years. Blood pressures varied from 190 to 268 systolic, with seven over 200, and from 90 to 150 diastolic, with seven over 100 mm. The period of therapy ranged from two weeks to four months. The dosage was from 100 to 500 mg. per day in divided doses. The drug had to be discontinued because of dizziness, headache, or palpitation.

As indicated in Table I, a good drop in systolic pressure was obtained in two out of five patients and in diastolic pressure in two out of five patients after excluding patients who could not tolerate the drug.

Hexamethonium and Hydralazine.—These drugs were given together to 25 patients, 17 females and eight males with ages from forty-one to seventy-nine years. Their pressures ranged from 170 to 268 systolic, with ten cases over 200, and from 90 to 170 diastolic, with 23 cases over 100. The period of therapy varied from two weeks to thirteen months. The dosage was from 500 mg. hexamethonium and 100 mg. hydralazine to 3,000 mg. hexamethonium and 500 mg. hydralazine. The drugs were discontinued in two patients because of headache, dizziness, and ataxia.

As indicated in Table I, a good drop in systolic pressure was obtained in 13 out of 23 patients and in diastolic pressure in 15 out of 23 patients after excluding patients who did not tolerate the drugs.

Rauwolfia.—This drug was given to 29 patients, 23 females and six males, with ages from forty-two to eighty-four years. Their pressures ranged from 165 to 268 systolic, with 12 cases over 200, and from 90 to 150 diastolic, with 19 over 100. Period of therapy ranged from five days to twelve months. The dosage was from 4 to 8 mg. of the purified extract to 400 mg. of the whole root.

As indicated in Table I, a good drop in systolic pressure was obtained in 12 out of 28 patients, and a good drop in diastolic pressure was obtained in 20 out of 27 patients after excluding patients who did not tolerate the drug. In one case the systolic pressure was below 150 and was therefore not evaluated; in two cases the diastolic pressures remained at 90 and were therefore not evaluated.

RAUWOLFIA AND HYDRALAZINE.—These drugs were given together to 23 patients, 17 females and six males; their ages ranged from forty-three to eighty-four years. Their pressures varied from 170 to 270 systolic, with 20 cases over 200, and from 90 to 150 diastolic, with 16 cases over 100. The period of therapy was from three weeks to ten months. The average dose was 4 to 8 mg. of rauwolfia plus 100 to 300 mg. of hydralazine a day in divided doses. In three cases the drugs were discontinued because of stuffiness of the nose, rash, and arthralgia.

As indicated in Table I, a good drop in systolic pressures was obtained in seven out of 20 patients and in diastolic pressures in 17 out of 19 patients after excluding patients who did not tolerate the drugs.

Comment

In a disease as variable as essential hypertension, adequate controls for the study of hypotensive agents are difficult to establish. By studying a small population for approximately two years prior to this study and administering the various regimens serially to most of the individuals, a degree of constancy was obtained which may allow comparisons between the various regimens employed.

With the dosage schedule and the method of evaluation employed, it is apparent that the use of a combination of rauwolfia and hydralazine more regularly resulted in a beneficial hypotensive response than did the other regimens studied, although the difference in the effect of rauwolfia alone is not statistically significant (Table I). The hypotensive effect was greatest on the diastolic pressure and was less regularly observed on the systolic pressure, perhaps due in part to the system of evaluation employed.

Side-effects of the drugs occasionally necessitated the cessation of therapy. With hexamethonium, side-effects were unpredictable and occurred suddenly without prior alteration of dosage. This may be due to variation in absorption of the drug since it produces variable states of constipation. The two deaths encountered in this study occurred during the use of hexamethonium and appear to be unrelated to the use of the drug since the patients were critically ill when they received the drug.

Reactions to hydralazine included headache, dizziness, palpitation, arthralgia, low-grade fever, and in one case rash. Complaints associated with rauwolfia included increased bowel movements, nightmares, tiredness, and stuffy nose.

Hypotensive agents derive their rationale in the management of essential hypertension from their ability to counteract the arteriolar constriction associated with the disease. In the last analysis, despite success in the relief of arteriolar constriction, the mortality and morbidity rates will determine the efficacy of this form of therapy for hypertension. This will require considerable study of controlled and treated patients for a long period of time.

Conclusion

With the regimens and the method of evaluation employed, it was noted that all the drugs were capable of reducing blood pressure in varying degrees.

Rauwolfia gave the fewest serious side-reactions and was effective in lowering both systolic and diastolic pressures.

Rauwolfia and hydralazine in combination were somewhat more effective in lowering the diastolic pressures.

We wish to acknowledge the able assistance of Mrs. Elsie Grossman, R.N., whose work enabled us to study each patient in this series in great detail.

We are indebted to Warner-Chillcott Laboratories, New York City; Ciba Pharmaceutical Products, Inc., Summit, New Jersey; Riker Laboratories, Inc., Los Angeles, California; and E. R. Squibb & Sons, New York City, for supplying the drugs used in this study.

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A Superior New Nasal Decongestant

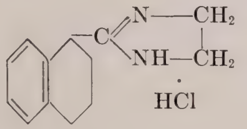
Clinical Evaluation of Tyzine in 675 Patients

HAROLD C. MENGER, M.D., BROOKLYN, NEW YORK

A PREVIOUS communication[1] presented a preliminary evaluation of Tyzine,* a new sympathomimetic amine found to be exceptionally effective and well tolerated as a topical vasoconstrictor in the treatment of some 203 patients with nasal congestion. Further experience with this agent in the treatment of a total of 675 patients forms the basis of the present report.

Parish[2] has also reported a clinical trial of Tyzine with remarkably favorable results in the 80 patients treated. Both of these earlier reports have reviewed the pharmacologic studies which provide experimental evidence of the safety and other advantages of this agent. Clinical experience thus far has fully borne out the promise indicated by pharmacologic observations.

Tyzine is designated chemically as 2-(1,2,3,4-tetrahydro-1-naphthyl) imidazoline hydrochloride, which is represented by the following structural formula:



Materials and Methods

A 0.1 per cent solution of Tyzine (buffered to pH 5.5 to 6.5) was used by topical application as a nasal spray or drops in the treatment of 675 patients, 275 males and 400 females ranging in age from six months to eighty-five years. The solution was used as a spray by 565 patients and as nose drops (2 to 4 drops in each nostril) by 110 patients. It is felt that a spray is superior to drops since the solution is thereby spread diffusely throughout the intranasal chambers, while nose drops usually flow along the floor of the nose and are then swallowed.

Instillations were generally made four times a day (572 patients) but were made only three times a day by 15 patients, five or six times a day by 50 patients, and seven or eight times a day by 35 patients.

TABLE I.—THERAPEUTIC RESULTS IN 675 PATIENTS

Diagnosis	Number of Cases	Results: Excellent	Results: Fair	Results: Poor
Acute rhinitis	190	185	3	2
Allergic rhinitis (seasonal)	170	150	10	10
Vasomotor rhinitis	125	120	2	3
Sinusitis	75	70	5	...
Eustachitis	65	65	...	...
Chronic rhinitis	35	35	...	...
Postoperative	15	15	...	...
TOTAL	675	640 (95%)	20 (3%)	15 (2%)

The usual duration of treatment was four to seven days (610 patients) but only one day in two cases and three days in ten cases; three patients used the solution only once. Longer periods of therapy were needed in 50 cases: ten days in three, two weeks in 40, three weeks in four, and one month in three.

To determine the effect, if any, on blood pressure, readings were taken in 450 adult patients, including 60 with hypertension. These determinations were made before treatment, ten minutes after the first instillation, and after several days of treatment.

Results

Table I shows the results obtained in this series. "Excellent" indicates satisfactory relief of nasal congestion for three hours or more after each instillation. (The duration of relief was as long as five to seven hours in ten cases.) "Fair" indicates relief lasting one to two hours. "Poor" indicates little or no relief or relief lasting less than one hour.

Although no side-effects were noted in any of the 200 patients in the preliminary series reported, later observations have indicated that Tyzine, like other nasal decongestants, occasionally produces drowsiness in infants. All patients under twelve years of age in the present series, there-

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* Tyzine (brand of tetrahydrozoline) Nasal Solution for use in this study was supplied by Chas. Pfizer & Co., Inc., Brooklyn, New York.

TABLE II.—INCIDENCE OF DROWSINESS IN CHILDREN

Age (Years)	Number of Children	Number with Drowsiness
1/2	1	1
1	1	1
1 1/2	2	. .
2	3	. .
3	6	1
4	6	. .
5	8	. .
6	17	. .
7	8	. .
8	9	. .
9	18	. .
10	5	. .
11	4	. .
12	2	. .
TOTAL	90	3

fore, have been tabulated according to age, and the occurrence of this effect in three instances is shown in Table II. Medication was discontinued promptly when drowsiness was noted, and the infants regained normal alertness within six to twenty-four hours.

Other than these rare instances of drowsiness in infants, no significant side-effects were observed in any of the patients treated with Tyzine Nasal Solution. There were no instances of local irritation, rebound congestion (even in patients treated for as long as one month), or increase in blood pressure (even in hypertensive patients).

Summary and Conclusions

A new nasal decongestant, 0.1 per cent Tyzine solution, was used to provide symptomatic relief of nasal congestion from various causes in 675 patients. Excellent relief was afforded in 95 per cent of the patients and fair relief in 3 per cent. The remaining 2 per cent were not benefited appreciably. The duration of relief after instillation of the solution was generally about four hours, and by repeated instillations, as needed, relief was maintained continuously for periods up to one month.

No adverse effects have been observed with the use of Tyzine aside from occasional instances of drowsiness in infants, such as may occur with the use of other decongestant agents. This exceptional freedom from adverse effects, notably the absence of rebound congestion, and exceptional potency are qualities that have long been sought in a nasal decongestant.

202 WEIRFIELD STREET

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Present Status of Cancer Tests

Methods for early detection of cancer can be roughly divided into three groups: (1) measurement of some product of cancer, (2) measurement of some change in the body resulting from cancer, and (3) measurement of some change which favors the development of cancer. In the first group are such tests as the Papanicolaou smear technic for detection of cancer of the cervix; in the second are the flocculant tests of Penn and the C-reactive protein antiserum test which is highly specific for inflammation: and in the third are attempts to assess hormonal imbalance. Prefatory to reporting their own investigations, Douglas H. Sprunt, William M. Hale, and associates cite Dunn and Greenhouse (Public Health Service Publ. No. 9, 1950) on criteria in evaluating a cancer test; that is, it should be positive in 90 per cent of early, localized cancer and that there should be only 5 per cent false positives. With these criteria in mind, comparative studies were conducted on the flocculation tests. Experience in mass studies with the Papanicolaou technic is reported, and also unsuccessful attempts to measure hormonal imbalance. They found the Papanicolaou smear technic an excellent screening test. On the other hand, they found in their study of the flocculation tests that although the number of cancers giving positive reactions was quite high, the positives do not reach 90 per cent. In attempts to measure changes predisposing to cancer, the authors tried to conjugate a steroid with a protein to make an antigenic compound, but linkages attempted so far are too quickly broken after injection into an animal.

—*Science, August 12, 1955*

The Treatment of Tuberculous Lesions of Bones and Joints with Iproniazid (Marsilid)

DAVID M. BOSWORTH, M.D., NEW YORK CITY

(From the Orthopedic Services of St. Luke's and Sea View Hospitals)

THE chemicals isoniazid and iproniazid were introduced to the profession in January, 1952, in a special issue of the *Quarterly Bulletin of Sea View Hospital.* In that issue Grunberg and Schnitzer reported on in vitro and in vivo experiments with the use of the isonicotinic acid hydrazine (isoniazid, Rimifon) and Number 1-Isonicotinyl Number 2-Isopropyl-hydrazine (iproniazid, Marsilid). They used the H 37 Rv strain of Mycobacterium tuberculosis. An extremely high protection rate for mice infected with intravenous injections of that strain of bacillus was attained, although with dosages which at this time would be considered toxic. Experiments to show the comparative protection afforded by streptomycin, para-aminosalicylic acid, tibion, and the isoniazid (Rimifon), and iproniazid (Marsilid) disclosed very strong evidence in favor of the latter two drugs. Furthermore, the action of the isoniazid and iproniazid seemed to be directly destructive of the tuberculous organism rather than merely inhibiting its growth.

Experimentation was carried on by Zieper and Lewis on the Macaca rhesus monkey. Despite the susceptibility of this monkey to tuberculosis there appeared to be complete control of the infection.

The clinical study on patients was begun by Robitzek, Selikoff, and Ornstein. Toxic side-reactions seemed to be related to the central and autonomic nervous systems. The question of possible liver damage was raised, but no definite evidence of it was noted by them.

These authors studied the use of the material in patients showing advanced tuberculosis. Definite and important beneficial chemotherapeutic effects were reported. Because of the increased toxicity of iproniazid, most of their work was carried out with the isoniazid.

Because of the paucity of the isoniazid drug material at that time, Bosworth *et al.* used the iproniazid. They made a preliminary report on the use of iproniazid on six patients in the *Bulletin of Sea View Hospital* in that first issue. Cases were selected which by past experience were expected to die because of their severe disease involvement and which were universally resistant to prolonged treatment with streptomycin. Amazing improvement occurred.

The above preliminary work established a basis upon which the author could logically proceed. Rather great improvement in the treatment of tuberculous bone and joint lesions apparently had occurred. Aside from the direct action of the drug in destroying the tubercle bacillus, numerous favorable side-actions of great importance were noted. Temperature reduction was promptly accomplished, appetite re-established, weight gain promoted, pain was relieved, and a marked tendency to wound healing occurred regardless of secondary infecting organisms.

Even during this preliminary work, it appeared that the iproniazid was more effective than isoniazid, although more toxic.

Benefits

Our work has been carried out almost exclusively with iproniazid. Later in the paper reference will be made to a comparative study of the effectiveness of isoniazid and iproniazid.

The original antituberculous action of this drug has been thoroughly confirmed. In orthopedic lesions where exposure of dead bony surfaces is always present and secondary infection with mixed organisms very common, the drug with the stronger action is preferable despite its increased toxic potential.

Early in the use of iproniazid it was found that in one group of patients with proved open lesions, most either healed their incisions or had negative cultures throughout their treatment period. A few showed only a single positive culture with many negative cultures after initiation of therapy. Only one patient continued to have an occasional

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Presented at the 14th Asian Medical Congress, Kyoto, Japan, April 2, 1955.

positive culture scattered among many negative cultures. This same experience with the control of the M. tuberculosis has continued to date. It is probable that the occasional cultures found were the result of failure to secure contact of the bacteria with the drug where bacteria were imbedded in caseous abscess detritus.

Besides the control of the M. tuberculosis, the other benefits noted above existed. Anorexia was promptly overcome and appetite re-established. Where temperature existed, it rapidly returned to normal. Pain was relieved almost universally, and a euphoric state supplanted the apprehension of these seriously ill patients. Weight gain was universal, often up to 50 or 60 pounds.

In a further study it was shown that deep sinuses communicating with bone foci rapidly healed, or their discharges were promptly reduced and altered. In one group treated less than a year, half the patients closed their sinuses and healed. Most of the others closed to a dry crusting state. A few continued to drain but were markedly improved. Only in an occasional patient did the sinus condition not improve. This was recorded over a year ago, and many of these patients have healed since that time on continued medication.

Not only did deep sinuses heal, but superficial wounds grossly contaminated with mixed tuberculous and nontuberculous organisms healed in a similar fashion. This is well shown by another group of patients treated for less than a year early in the use of the drug. Again half the wounds healed, most of the others were dry crusted, a few were improved but still moist, and only an occasional case did not respond to the drug. The status of these patients has also continued to improve with further medication.

Even closed abscesses and infected joints in the above group of patients were noted to decrease in size and apparently heal as the general condition of the patients improved. The joints with synovial lesions in this group of patients were, of course, unproved except by clinical and roentgen findings and their association with open proved lesions in the same patients.

The healing of sinuses and wounds contaminated with mixed infecting organisms suggested to us the use of this material in nontuberculous wounds arising from bone or joint where the organisms were resistant to antibiotics. This we shall comment on later.

Furthermore, the development of generalized bone demineralization after several weeks medication was found to be of use in exposing sequestra in sclerosed areas of bone, thus denoting their presence and allowing for their removal.

Toxicity

Symptomatology has been noted as related to the toxic effects on the nervous system and liver.

As related to the nervous system these are manifested in many forms, both central and autonomic. Dizziness, tremor, euphoria, drowsiness, headaches, tinnitus, dryness of the mouth, diaphoresis, visual accommodation weakness, hesitancy, obstipation, impotence, flushing, twitching, and paresthesias have all been noted. They are evanescent, cease on withdrawal of the drug, and may even disappear on continued medication. None of them has been permanent, and none of them is disabling even during medication. Hypertonic reflexes are frequently seen. When hypertonicity advances to the point where clonus develops, reduction of dosage of the drug should be carried out.

Development of a psychosis represents the most severe neurotoxic complication. Of 142 patients treated to date, 23 showed some psychic change. Eleven developed a psychosis. These were generally of euphoric type. Some of them had to be institutionalized for short periods. Three developed rather severe psychic changes of temporary nature but rapidly recovered. Three developed mild psychic and personality changes and six minimal aberrations. These mild and minimal changes usually represented only a variation in behavior pattern.

Where psychosis or personality change appears in these cases, medication with iproniazid should be stopped. It can often be reinstituted later. Under treatment by sedation with chloral hydrate or paraldehyde plus occasional institutional care of the severely toxic patient, all have recovered, to our knowledge, except for one patient who left the country partially recovered and whom we have not been able to follow.

No patient has developed a psychosis when treated on an outpatient basis (see dosage below). These psychic changes apparently are caused by the fact that iproniazid appears, on the average, 50 per cent greater in amount in the spinal fluid than in the blood serum. Since the upper limits of toxicity are approached in efficient medication with this drug, toxic limits may be exceeded with reference to the central nervous system even on dosage not toxic to the body as a whole. Apparently such changes are reversible.

Early in our use of iproniazid evidence of liver toxicity was watched for by liver function tests before starting iproniazid therapy and repeated weekly thereafter. Occasional mild alteration of liver function was found. Most changes, however, were seen to vary or even to disappear on continued medication with the drug. We were never able to establish definitely that changes in liver function had resulted from iproniazid and not from some other factor. Where the situation was desperate, we have on occasion successfully used the drug even in the face of evidence of already existing liver pathology. No increase in the liver dysfunction was seen. No permanent demonstrable damage has accrued to any patient in our series from toxicity to the liver due to this drug. At the present time, therefore, liver function estimation is done only before beginning the use of iproniazid and is not repeated thereafter unless indicated on clinical grounds.

Dosage

For severely infected cases the dosage should be begun at an accurate 4 mg. per Kg. body weight. After the initial rapidly developing favorable response occurs (two or three days), dosage should be reduced to 3 mg. per Kg. body weight and usually may be continued at this rate thereafter. If symptoms of toxicity develop at this dosage, as they will in a few cases, further reduction can be made to 2 mg. per Kg. body weight. The drug is not cumulative and according to our experience may be continued indefinitely

Accuracy of weight as related to dosage is imperative. Exceeding 4 mg. per Kg. of body weight will frequently cause the development of toxic symptoms referable to the central nervous system. Failure to maintain the maximum level of dosage possible will result in discouragingly slow response. When weight gain occurs, dosage must be increased to maintain a proper level. We have maintained patients on medication with iproniazid for over two years without any clinically unfavorable response.

In instituting treatment the patient should be hospitalized until the optimal nontoxic dosage is established. Thereafter, if the physical condition warrants it, treatment can be carried out at home. During medication with this drug we see the patient at least every two weeks.

Comparison of Iproniazid with Isoniazid

A special study was made of patients who were placed on isoniazid and later transferred to iproniazid. All patients were severely ill, and three died. Two of those were paraplegics and died from ascending nontuberculous kidney infection. One of them died of a sudden massive pulmonary hemorrhage resulting from a caseous pneumonic chest involvement. In the survivors there was a very much greater clinical response to the use of the iproniazid than there was to the use of the isoniazid. Mild increase of toxicity was noted from the iproniazid over that from the isoniazid.

Of extreme importance was the fact that of the patients with sinuses, none of them healed their lesions on the isoniazid. Most of them during a comparable interval and on a lower dosage healed their sinuses on iproniazid.

Results

In our first two and a half years experience with this drug in the treatment of patients showing severe infection of bone or joint with the M. tuberculosis, 142 patients were treated and have been closely studied. Most of them represented failures from previous streptomycin therapy. These patients were seriously ill, as can be denoted by the fact that 11 died. Neither excellent hospital or nursing care nor medication with iproniazid saved them. This left 131 living patients for study.

Of these 131 patients three were treated for less than one week and then removed from our care. Such a short period of therapy is inadequate. These patients, therefore, were discarded from further study.

Of the remaining 128 patients, 59 are healed and have been removed from medication; 23 are healed but are still on the medication. This makes a total of 82 patients out of 128 who have healed their serious lesions and show every evidence of remaining healed (64 per cent). Twelve other patients have improved to such an extent that their lesions can be considered arrested, and the drug has been stopped. Thirty-three other patients are still on the drug and steadily improving. Their condition denotes recovery in the future. Only one patient who did not die failed to improve.

Iproniazid in Nontuberculous Bone and Joint Infections

Because of the healing of tuberculous sinuses with mixed infection, as noted above, we have employed iproniazid in 21 consecutive patients with nontuberculous draining lesions from bone or joint. These patients have been carefully studied and reported. The beneficial side-actions and toxicities noted in the use of this drug in tuberculous cases remained essentially the same in the nontuberculous cases.

There was a marked beneficial change in wound healing. No direct action on the numerous types of bacteria infecting the wounds of these patients was noted. It was found that wounds frequently healed with bacteria still contaminating them. In certain instances it was noted that the bacteria healed within the wound no longer acted as pathogens. Of 17 patients 13 completely healed their wounds and have remained healed. Four others healed, reopened, and are again closing. Of the 13 patients who healed, three closed over metal implants of considerable size. In only two of the 13 patients who healed was further surgical operation performed to assist in their closure. Of the 13 patients who healed, eight had bone infections which we would have previously considered hopeless as to outlook or control.

We must not accept iproniazid in the place of antibiotics where bacteria are shown to be susceptible to the latter. Where resistances develop, however, and wounds become stationary as to healing, it appears certain that iproniazid can be of considerable assistance. The improvement in tissue healing appears to be without reference to the action of the drug on the bacteria present.

Surgery and Iproniazid

Surgical stabilization and treatment of tuberculous bone and joint lesions must on the whole still be considered as valuable as in the past. A special study of the children in the above series of cases was made, and it became apparent that in children surgery may occasionally be avoided and tuberculous lesions of bones or joints healed with some residual of function. Where considerable destruction has taken place, reconstructive or ankylosing forms of surgery are still necessary. As an example, replacement of destroyed vertebral bodies is impossible by the use of this drug, and spinal fusion to support such areas should be carried out, even in children.

Valuable as this drug appears to be, and actually is, the patient must be treated as a sick individual and given every mode of supportive therapy, such as surgical and medical care, nursing and dietary attention, etc. This drug is an excellent adjunct to but not a replacement for good treatment otherwise.

Resistance of Bacteria to Iproniazid

A final word should be said about the development of resistance of tuberculous bacteria to iproniazid. Such resistance does seem to develop in vitro. Actually, it may develop in vivo. It became apparent in the use of streptomycin that in bone and joint lesions development of resistance did not contraindicate the continuance of medication with that drug. It is also now apparent that development of resistance to iproniazid does not contraindicate the continuance of this new drug. If one considers not only the control of the M. tuberculosis, but also the tremendous tendency to wound healing, weight gain, relief of pain, and the euphoria produced, plus the fact that we have seen no patient unfavorably influenced by the development of resistance of the organism to the drug, there is every reason to continue medication and to disregard such resistance.

742 Park Avenue

A friend is a person with whom I may be sincere. Before him, I may think aloud. . . .
A friend may well be reckoned the masterpiece of Nature.—Ralph Waldo Emerson

Skin Sensitivity to Chlorpromazine

JOSEPH I. SINGER, M.D., AND SIDNEY MERLIS, M.D., BAY SHORE, NEW YORK

(From the Research Division and the Clinical Facilities of Central Islip State Hospital, Central Islip; the Southside Hospital, Bay Shore; and the Department of Dermatology, New York Polyclinic Medical School and Hospital, New York City)

SINCE the introduction of chlorpromazine hydrochloride* into the therapeutic armamentarium, it has found a wide application. In common with all of our recent remedial agents, restrictions and contraindications are gradually recognized as the medication obtains general acceptance. Undesirable side-effects have been noted, most important of which are jaundice, Parkinson's syndrome, and transitory hypotension. Minor reactions, such as dryness of the mouth and nasal congestion, due to autonomic nervous system effect and mild allergic phenomena, such as urticaria and photosensitivity, have also been reported.[1]

Epidermal sensitivity was first recognized by the French in February, 1954, who reported ten cases of contact type dermatitis among nurses handling Largactil.[2] The appearance of such reactions was thought to be dependent on maximal use of the product since in certain departments where the drug was not administered extensively, reactions were practically unknown to the personnel. The lesions were eczematous with successive development of vesicles, redness, edema, infiltration, and desquamation accompanied by intense pruritus. The starting point was almost always localized to the right hand, extending later to the forearms, face, neck, and infrequently to the trunk. Patch tests with Largactil were positive. The injectable solution was the chief source of initial sensitization with tablets responsible for the production of relapses in sensitized individuals. Suppositories were handled by two sensitized nurses without reactions. One highly allergic nurse suffered a relapse by contact with coworkers who had just administered the injection. Such reactions never occurred in any of the patients under chlorpromazine hydrochloride therapy. Reactions only subsided when contact with the allergen ceased. Specially selected, nonsensitive personnel, adequately protected, were recommended for the administration of chlorpromazine hydrochloride to patients.

Lewis and Sawicky[3] were the first to report findings of contact type dermatitis from chlorpromazine hydrochloride in this country. Case histories of two nurses with proved dermatitis venenata were summarized in their article.

Our attention was brought to the problem of skin reactions when a nurse and several attendants at the Central Islip State Hospital who handled chlorpromazine hydrochloride sought medical attention for their skin disease.

Case Reports

CASE 1.—B. H., white, female, age forty, had worked at Central Islip State Hospital as nurse in charge of her ward for four years. She first handled chlorpromazine hydrochloride by injection on December 19, 1954. On January 7, 1955, a severely pruritic, erythematous, and scaling dermatitis developed on her hands and face which required hospitalization for three days, during which period of time she received cortisone and an antihistamine with improvement. On returning to work there was a recurrence of a similar but milder eruption. She noticed that whenever she prepared chlorpromazine hydrochloride for injection, there was erythema, edema, and pruritus of her hands. She was first examined by one of us (J.I.S.) on February 14, 1955, at which time she showed an erythematous, scaling, subsiding dermatitis of her hands, face, and neck. Mild local therapy was prescribed, and the patient gradually recovered. The possibility of a contact dermatitis from chlorpromazine hydrochloride was recognized, and patch testing with the suspected agent was recommended.

She was next seen on March 3, 1955, for a slight erythematous and papular dermatitis of her hands and eyelids. She claimed that this relapse followed the counting out of chlorpromazine hydrochloride tablets five days previously. Patch tests with chlorpromazine hydrochloride, 1 per cent and 25 per cent aqueous solution, and chlorpromazine hydrochloride syrup were performed. A moderately severe, positive erythematous reaction was obtained from the chlorpromazine hydrochloride solution but not from the syrup. The reaction was still present as thickening and erythema when the patient was examined two weeks later. Concomitant with the positive patch test there was a pruritic vesicular eruption on the fingers and slight edema of the eyelids.

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* Trade names: Thorazine and Largactil. Supplies and chemical data were supplied through the courtesy of Smith, Kline & French Laboratories, Philadelphia, Pennsylvania.

Case 2.—M. A., a fifty-seven-year-old, white female attendant, had been working at the same institution for two and one-half years. She started to handle chlorpromazine hydrochloride in January, 1955, when she filled syringes and injected the medication once weekly. She stated that her face and hands became red following her first contact with chlorpromazine hydrochloride. This reaction became progressively worse after each contact. She was first examined by one of us (J.I.S.) on February 9, 1955, at which time she was advised to avoid contact with chlorpromazine hydrochloride, which she did, and the reaction gradually cleared. When her dermatitis subsided, she returned to the treatment room on March 14, 1955.

Her further contact with chlorpromazine hydrochloride was in the tablet form only, which she counted out for patient use. By evening of the same day there was a severe recurrence of her dermatologic symptoms. On examination her face was considerably edematous and erythematous, extending onto the neck and "V" of the chest as a scaling and thickened eruption. Her hands, fingers, and forearms presented the same findings. There was no past history of allergic skin disease. In 1939 and 1954 bouts of alopecia areata were experienced. General medical history was likewise negative. Patch test with the chlorpromazine hydrochloride solution was positive.

Comment

Two definite cases of epidermal sensitivity to chlorpromazine hydrochloride have been presented. There were several other hospital workers with mild to severe reactions who refused or failed to report for patch testing. This allergic reaction is not new. It has been reported by the French and, more recently, in the literature of this country. Chlorpromazine hydrochloride is being used extensively in the mental institutions of our country, possibly 250,000 treatments being given daily. At Central Islip State Hospital between 1,000 and 2,000 patients are under treatment daily with this drug. The question of cutaneous sensitivity among hospital workers fortunately has been limited to only a few at the present time. However, reactions in these sensitive individuals have been severe enough to prohibit their further handling of this medication. Lewis and Sawicky[3] quote a report of negative patch tests in 50 normal adults and failure to react on repeat patch testing of these individuals after a few months. We patch tested ourselves with 1 per cent and 25 per cent aqueous solution of chlorpromazine hydrochloride with negative results. In the cases under observation sensitization occurred within a relatively short period of time. Besides nurses and other medical personnel the possibility of pharmacists experiencing reactions must be kept in mind.

Summary

Case reports of two patients with proved contact dermatitis from chlorpromazine hydrochloride have been presented. A problem of sensitivity among hospital workers due to sensitivity to this drug exists.

Addendum

Since the above report was submitted, another case of contact type dermatitis in a hospital attendant due to chlorpromazine hydrochloride sensitivity has come under our care. The patient was a forty-four-year-old, white woman who dispensed Thorazine tablets to patients after first grinding them to a powder-like consistency. Her dermatitis chiefly involved the hands and was of a severe, vesicular, erythematous and edematous type at onset, later becoming thickened and scaly. Patch tests with chlorpromazine hydrochloride were positive, and the patient responded rapidly to therapy.

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"They who don't read, like they who can't read, don't know."—UMS Bulletin, November, 1955

Pneumothorax Following Operations on the Lower Neck

FRANK C. MARCHETTA, M.D., F.A.C.S., BUFFALO, NEW YORK

(*From the Head and Neck Service, Roswell Park Memorial Institute*)

OPERATIONS on the lower neck may give rise to pneumothorax. This complication may cause rapid deterioration of the patient and even death if not recognized. A recent mortality on the Head and Neck Service caused by unrecognized pneumothorax prompted an evaluation of our more recent experience with this complication.

Pneumothorax has occurred four times during the last 150 radical surgical procedures performed on the Head and Neck Service at the Roswell Park Memorial Institute. Routine postoperative chest x-rays demonstrated pneumomediastinum of minor degree as an incidental asymptomatic finding in several other patients. These patients were considered potential candidates for pneumothorax, but no special treatment was carried out. Deaths may be avoided if pneumothorax is anticipated.

Case Reports

CASE 1.—Mr. B. C., a seventy-year-old, white man, was admitted to the hospital with a diagnosis of "squamous cell carcinoma, right floor of the mouth with metastatic right subdigastric nodes." He was taken to the operating room on October 18, 1954, and a modified pull-through operation was done with splitting of the mandible, resection of the floor of the mouth, right radical neck dissection, left suprahyoid neck dissection, and tracheotomy.

During surgery a sucking sound was heard in the right supraclavicular area. An x-ray was taken while the patient was still on the operating table. No pneumothorax was demonstrated; however, pneumomediastinum was evident on the x-ray. One hour and twenty minutes after the patient was returned to his room, he was described as restless with poor color and pulse of 116. Aspiration through the tracheotomy tube revealed a clear tracheobronchial tree. Breath sounds were absent on the left. A portable chest film confirmed the diagnosis of pneumothorax (Fig. 1). A large, short needle on a three-way stopcock was inserted into the left third interspace in the mid-clavicular line, and 900 cc. of air were removed. A soft rubber catheter was inserted into the chest through a trocar and attached to an underwater seal. Shortly after the removal of the air the breathing improved, and the pulse dropped to 98 (Fig. 2). The tube was removed in forty-eight hours, and the patient had an uneventful recovery.

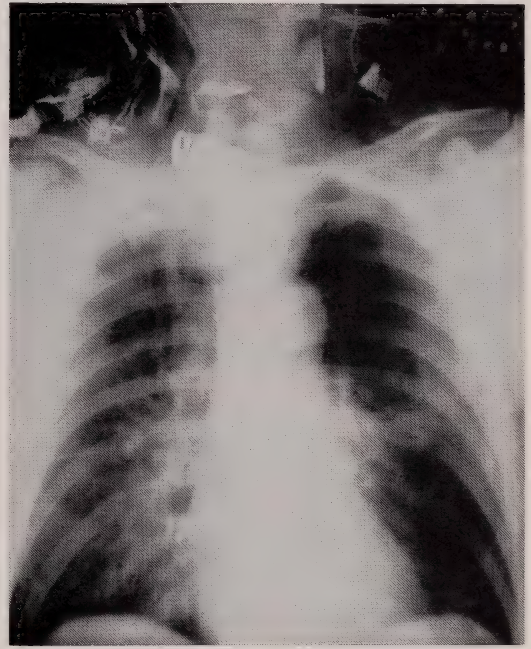

FIG. 1. *Case 1*—The pneumothorax is evident in the left chest. Note that the radical neck dissection was done on the right side. This is evidence against injury to the cupola as cause for pneumothorax in this case.

CASE 2.—F. M., a sixty-one-year-old Catholic priest, was admitted with a diagnosis of "squamous cell carcinoma of the left pyriform sinus." On February 4, 1955, a laryngectomy, partial pharyngectomy, and left radical neck dissection were done. Both lobes of the thyroid gland were greatly enlarged and extended into the substernal area. All of the left lobe and 80 per cent of the right thyroid lobe were removed en bloc with the specimen. Exaggerated breathing and retraction of the superior mediastinal tissues were noted during surgery. An

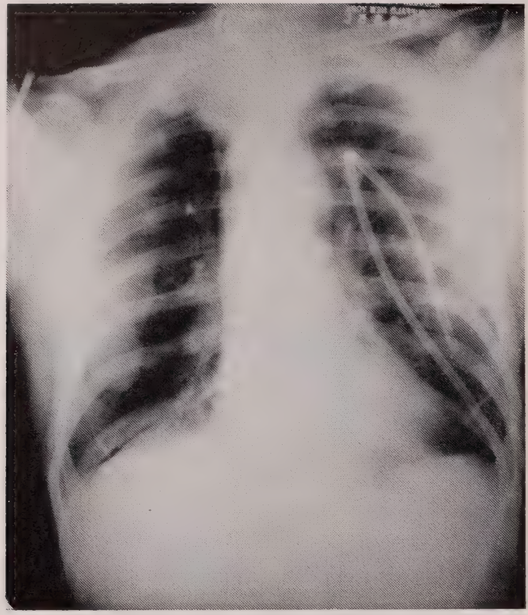

FIG. 2. *Case 1*—The intrathoracic catheter is in place. The lung is completely re-expanded.

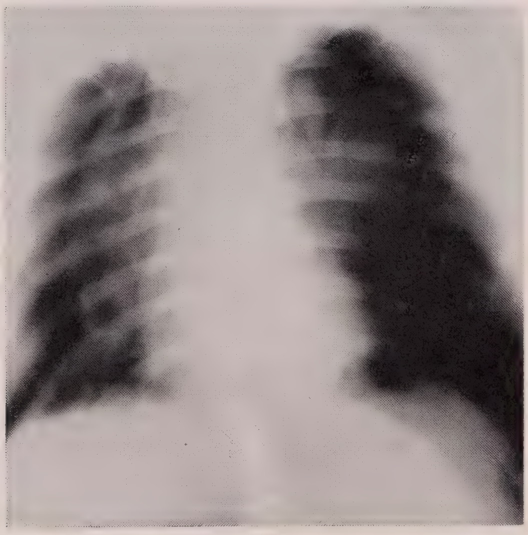

FIG. 3. *Case 2*—This is a portable film showing bilateral pneumothorax.

occasional sucking sound was heard, and his color was poor. The tracheobronchial tree was clear, but the patient showed signs of poor aeration. Chest x-rays showed the presence of a bilateral pneumothorax (Fig. 3). Soft rubber whistle-tip catheters were inserted through the second interspace, midclavicular line bilaterally. These were attached to an underwater seal with constant suction (Fig. 4). The patient recovered.

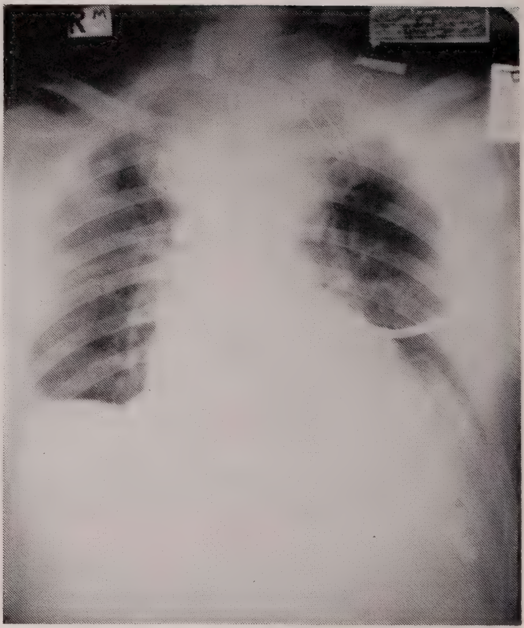

FIG. 4. *Case 2*—Re-expansion of the lungs after bilateral catheter drainage attached to continuous suction.

CASE 3.—Mr. W. G., a fifty-four-year-old, white male, was admitted to the Roswell Park Memorial Institute on November 17, 1948. The diagnosis was "squamous cell carcinoma, right floor of the mouth." The patient refused radical surgery, and consequently the lesion received radiation therapy. The tumor regressed, and the patient remained free of disease until March, 1952. At that time a revisit examination revealed a squamous cell carcinoma on the left lateral edge of the tongue (second primary on the opposite side of the mouth). Again, the patient refused surgery, and this lesion was treated with irradiation. The patient subsequently remained free of disease until August, 1954, at which time he developed metastatic nodes in the left upper cervical area. The risk of further irradiation was explained to the patient, and he consented to a left radical neck dissection which was performed on August 30, 1954.

At the end of the operation the patient demonstrated difficulty in aerating. The tracheobronchial tree was clear. There were diminished breath sounds in the right chest. A portable x-ray film of the chest was taken while the patient was still in the operating room, and this showed a pneumothorax on the right side (Fig. 5). A trocar and catheter were inserted through the right second interspace in the mid-clavicular line and connected to an underwater seal. There was rapid and complete re-expansion of the lung, and the postoperative course was uneventful (Fig. 6). The patient recovered.

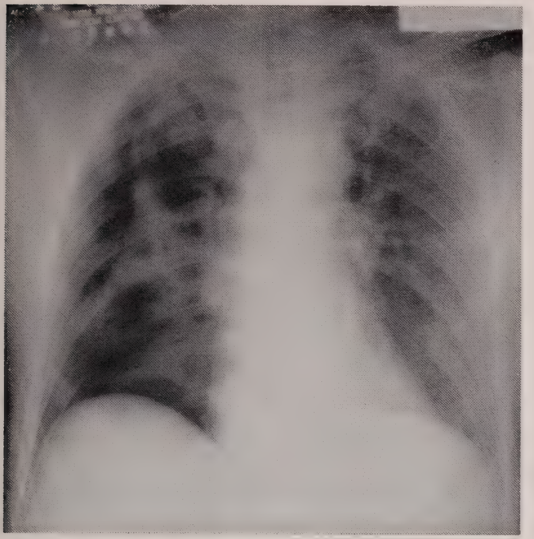

FIG. 5. *Case 3*—The pneumothorax is evident in the right chest. Note again that the radical neck dissection was done on the opposite side (left radical neck).

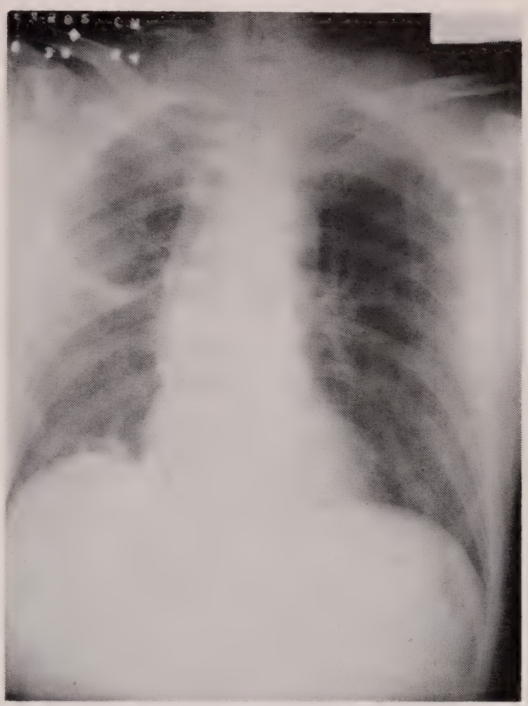

FIG. 6. *Case 3*—Complete re-expansion after catheter drainage.

CASE 4.—Mr. A. M., a sixty-four-year-old, white male, was admitted to the Roswell Park Memorial Institute on September 7, 1954, with a diagnosis of "squamous cell carcinoma, anterior floor of the mouth and metastatic nodes in the right submaxillary area. On November 8, 1954, a radical resection of the anterior mandible, anterior floor of the mouth and tongue, bilateral neck dissection, and tracheotomy were performed. The patient's condition throughout the entire operative procedure was satisfactory. However, at the moment the second internal jugular vein was ligated, the patient became abruptly cyanotic, and his face gradually became edematous. No remarkable change was noted in either the patient's pulse or blood pressure. The patient's general condition at the completion of the operation was good.

The postoperative course was not unusual for the first two days. Moderate edema and cyanosis were present as a result of the simultaneous bilateral jugular vein ligation. On the third postoperative day the resident checked the patient and changed his dressing at about 10 A.M. The patient was ambulatory, the wound appeared normal, and the tracheobronchial tree was clear.

Two hours later the patient had a coughing spell, developed respiratory distress, and became cyanotic. The resident was called and responded quickly. The tracheobronchial tree was suctioned, and the secretions were described as moderate in amount. Oxygen was started. In spite of intensive supportive therapy the patient expired forty-five minutes after the coughing spell.

At autopsy mediastinal emphysema and pneumothorax on the right side were found. There was a 0.5-cm. linear laceration in the mediastinal pleura anterior to the hilus of the right lung. (Subcutaneous emphysema was not a prominent feature.)

Comment

The pediatric literature contains many reports on pneumothorax following tracheotomy.[1,2] All authors, however, warn that this complication is infrequent and must be recognized promptly to avoid a mortality. Day Riis[3] states that, "pneumothorax following tracheotomy is much more common in children (especially children under four) than in adults." Barrie (1940)[4] reported four patients who died of tension pneumothorax following thyroidectomy and made reference to the work of Keis (1934), who reported seven deaths from this complication following thyroidectomy. Aiken (1942)[5] summarized the incidence of this complication at Guy's Hospital, London, and reported six cases of pneumothorax and two cases of pneumomediastinum in 900 block dissections of the neck.

There are four recognized routes by which air may enter the chest to produce pneumothorax. These have been clearly outlined by Barrie

(1940)[4] and Aiken (1952)[5] and will be briefly discussed.

Injury or tear of the cupola of the lung may provide a direct route by which air may enter the chest. Anatomically, the cupola rises above the clavicle into the root of the neck. This portion of the pleura, however, is well protected by the scalene muscles, the subclavian vessels, and the periapical fat pad. We feel that injury of this sort is infrequent and accounts for pneumothorax rarely.

Injury to the mucosa of the respiratory passages may allow air to enter the mediastinum and subsequently rupture into the thorax. This route was exemplified by one of our patients who sat upright on the table during a bronchoscopy. The scope was immediately withdrawn from the trachea, but later in the day the patient showed signs of mediastinal and subcutaneous emphysema. Pneumothorax did not develop, and he recovered with supportive therapy only. Reading[6] (of the Guy's Hospital) stated that injury to the mucosa of the respiratory tract rarely caused pneumothorax.

Air may enter the interstitial tissues of the lung from ruptured alveoli. The emphysematous blebs thus formed may perforate and produce pneumothorax. This was demonstrated by the experimental work of Macklin (1937).[7] The interstitial air passes along the perivascular spaces to the root of the lung. As air accumulates, it may make its way up into the neck and down into the retroperitoneal space and manifest itself as emphysema. The pneumothorax in Macklin's experiments was bilateral. Reading (1949)[6] described this as expiratory emphysema and stressed the importance of expelling air from the lungs under pressure as a contributory factor.

Fourth and last, air may enter the wound and superior mediastinum directly. We feel that this is the most frequent cause of pneumomediastinum and pneumothorax following lower neck surgery and was the mechanism which produced pneumothorax in the four cases presented.

The loose tissues in the superior mediastinum can be seen to retract during inspiration. Sometimes a sucking noise can be heard. During expiration these loose tissues are pushed upward and occlude the narrow outlet of the thoracic cage, acting as a plug to the escape of air which was previously sucked into the mediastinum. This causes the entrapped air to dissect along the perivascular and peritracheal spaces to the hilus of the lung. These small bubbles of air coalesce to form large blebs. Rupture of one of these produces pneumothorax, not only unilateral but often bilateral. Barrie (1940),[2] using cadavers, repeated the experiments of Keis and demonstrated the above sequence of events.

The four reported cases demonstrate several interesting and important points. Pneumomediastinum apparently precedes the pneumothorax and in most cases is asymptomatic. The onset of pneumothorax, however, causes rapid and progressive deterioration of the patient. In Cases 1 and 2 specific mention was made of the sucking noise (subclavian area) during surgery. Subcutaneous emphysema was not an important feature in either of these cases. In all four cases mention was made of the apparent difficulty in aeration in spite of the patent and clear tracheobronchial tree. The withdrawal of air from the thorax resulted in recovery in three cases. In the fourth case the condition was not recognized, and the pneumothorax resulted in the death of the patient.

Once the diagnosis was made, a catheter was immediately inserted into the thorax. This will prevent pneumothorax from recurring. The treatment of pneumothorax by needle aspiration of air requires constant medical supervision and repeated x-rays to check for recurrence of pneumothorax. This allows for greater error, as was demonstrated by two cases on our chest service. Each developed pneumothorax following chest surgery. It was recognized, and the air was aspirated with a syringe and needle. The patient improved clinically, and x-rays showed re-expansion of the lung. Later in the evening, after a change of both medical and nursing personnel, the pneumothorax recurred, but before recognition and treatment the patient expired.

Residents and house physicians should be well schooled in the recognition and treatment of this complication. The insertion of a large-bore needle into the chest may be lifesaving, whereas waiting for an attending or x-ray diagnosis may be disastrous.

Summary

1. Four cases of pneumothorax following radical surgical procedures on the neck were reported.

2. The pathologic physiology of pneumothorax following neck surgery was reviewed.

3. Difficulty in aerating, clear tracheobron-

chial tree, and absent breath sounds should make one suspect the diagnosis.

4. Withdrawing air from the chest was lifesaving. Catheter drainage is safer than needle aspirations.

5. Deaths may be prevented if pneumothorax is anticipated in all patients who have undergone surgery on the lower neck.

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Wide Scale Cancer Survey Reported

The largest cancer survey ever conducted in any country has been completed in ten American metropolitan areas by the National Cancer Institute. The survey, reported in the December 24 *Journal of the American Medical Association,* showed that "some progress" has been made in the management of the cancer problem.

There was a rise in incidence from 1937 to 1947, but it is difficult to determine the significance of this or to tell how much of the rise is "real," the report said.

"Improved techniques for diagnosis have resulted in the discovery of some cases that in the past would have been missed. The number of physicians with training and experience in diagnosis of cancer has also increased. Improved economic conditions in 1947 compared to 1937 may also have contributed. People are more likely to obtain adequate and specialized medical care during economic prosperity than during a depression period," the report said.

Cancer incidence, prevalence, and mortality rates were surveyed in 1937–39 and 1947–48 in Chicago, Detroit, Philadelphia, Pittsburgh, Atlanta, New Orleans, Dallas, Denver, San Francisco, and Birmingham, Alabama.

The survey was on "a scale unrivaled in any other country" and could not have been undertaken without the support of state and county medical societies, the report said. Thousands of physicians contributed information concerning their patients.

"It is heartening to realize that such studies may be undertaken within the framework of the American system of medical care without breaching the traditional physician-patient relationship," the report said.

The survey showed that in 1947, 430 of every 100,000 residents had cancer at some time during the year—26 per cent more than in 1937, and 149 of every 100,000 died of cancer—an increase of 19 per cent. In 1947, 319 new cases were diagnosed for every 100,000 persons—30 per cent more than in 1937.

The survey also revealed that: 32 of every 100 newborn children may expect to develop cancer at some time during their lives, if present rates continue. Of those 32, three may be expected to develop cancer by age forty-five, 14 by age sixty-five, 23 by age seventy-five, and the remainder in after years. More than 500,000 new cases are being diagnosed in the United States each year. At current rates, cases may be expected to increase by more than 50 per cent in the next twenty-five years, since both total population and the proportion of older persons are expected to increase.

Cancer illness rates increase rapidly during adult life and old age—at rates of about 40 per 100,000 at age twenty-five; 475 per 100,000 at fifty, and 1,900 per 100,000 at seventy-five. Adjusting for age difference, cancer is discovered at the same rate among men and women (331 and 330 per 100,000). The death rate is higher for men than women (169 against 147 per 100,000). This is due mainly to the fact that cancer in men originates more frequently in such sites as stomach and lungs, with poor chances for recovery. In men the risk of cancer of the digestive system is dominant, with a lifetime probability of 10.3 per 100. In women the risk of cancer before sixty-five is highest in the reproductive organs—a rate of 7.2 for the genital organs and 7.5 for the breast per 100. After sixty-five, the risk is greatest in the digestive system.

Nearly all forms, except cancer of the reproductive organs, occur more frequently among men. Cancer of the lung and bronchus occurs four and one-half times more among men than women. The laryngeal cancer rate is 12 times greater. Incidence and mortality for cancer of the lung and bronchus more than doubled from 1937 to 1947. This may be due partially to improved case finding, but part of the rise is real. In 1947 cancer was diagnosed at a rate of 272 per 100,000 among nonwhite persons, compared to a rate of 333 for whites. Skin cancer is relatively rare among nonwhites, while among white persons the skin accounts for one in seven cancers. The low nonwhite rate is generally considered to result from "a true racial difference in susceptibility." From 1937 to 1947 the number of cancer patients seen in hospitals increased 7 per cent—from 68 to 73 per 100 patients.

Making the report were John R. Heller, M.D., Sidney J. Cutler, M.A., and William M. Haenszel, M.A., Bethesda, Maryland, of the National Cancer Institute of the U.S. Public Health Service, Department of Health, Education, and Welfare.

CASE REPORT

Extended Sympathectomy in the Treatment of Advanced Rheumatoid Arthritis

A Preliminary Report

ROBERT A. HERFORT, M.D., F.A.C.S., WHITE PLAINS, NEW YORK

(*From the Surgical Service of Grasslands Hospital, Valhalla, New York*)

To the physician in attendance, the management of the patient with far-advanced rheumatoid arthritis continues to be somewhat less than satisfactory. The more recent additions to the rheumatologist's armamentarium, notably the steroids, have their limitations in their temporary effect, undesirable side-actions, and in the relative and absolute contraindications to their use. Phenylbutazone and the gold compounds similarly have proved to be frequently toxic in the patient with rheumatoid arthritis.

Surgical intervention in the form of sympathectomy has been employed previously in patients afflicted with this disease. Rowntree and Adson[1] in 1927 first reported the results of sympathetic ganglionectomy in a series of patients with rheumatoid arthritis and associated vasomotor phenomena. Encouraging results have been reported by Flothow[2] in five patients, Leriche and Jung[3] in two patients, and by Young[4] in seven patients. The dearth of more recent follow-up reports in the literature from these investigators would suggest that the long-term results were not heartening. However, in a recent letter to the author, Leriche[5] still maintains that sympathectomy is of value in those patients where the proper indications are present. White, Smithwick, and Simeone[6] in their authoritative monograph report a series of five arthritics who failed to exhibit significant improvement, and indeed in some the course of the disease appeared to be adversely affected by sympathectomy. In the light of heretofore inadequate knowledge of the anatomic variations of the sympathetic ganglia, these failures suggest incomplete sympathetic denervation.

The present communication offers the case history of a patient with advanced rheumatoid arthritis and associated peripheral arterial insufficiency who exhibited clinical improvement after extended lumbar sympathectomy. The inherent fallacy of conclusions drawn from a single operative case is appreciated. An attempt will be made, therefore, to gather a series of similar patients in the future so as to enhance the statistical significance of the conclusions that will be drawn.

Case Report

L. C., a sixty-three-year-old, white, married woman, presented a history of progressive rheumatoid arthritis, the onset of which was at the age of forty-five years. Early in the disease the joints of the hands and upper and lower extremities were involved in the arthritic process with attendant limitation of motion and pain. There had been periodic redness and swelling of these joints in the past three years with the right knee displaying more inflammatory activity than the other joints. In 1953 and again in 1954 courses of cortisone were administered with temporary symptomatic relief; the pain and limitation of motion promptly returned on cessation of the drug. For the two-year period prior to the last admission to the hospital, the patient had been unable to walk by herself, requiring a walker or wheelchair to get about. In this same period she had been unable to turn on her side in bed without assistance because of the immobility of the hips, knees, and ankles. These joints had been the sites of more or less continuous pain at rest with exacerbations of pain on attempted active or passive motion or with the advent of inclement weather. The pain had necessitated the use of approximately 30 grains of aspirin and 1 to 2 grains of codeine daily over the previous fifteen years. Ulceration of the skin over the distal thirds of both legs had been noted since the institution of cortisone therapy for the first time in November, 1953.

This patient was admitted to Grasslands Hospital for the first time in June, 1954, for the application of skin grafts to the ulcerative lesions of the legs. Workup at that time revealed the presence of hypertensive cardiovascular disease in addition to far-advanced rheumatoid arthritis with complete limitation of motion at both hips, knees, and ankles.

Pinch grafts were applied to the ulcers over the right leg on June 7, September 7, and December 14, 1954, with sloughing of the grafts on each occasion. Split thickness dermatome grafts were applied to the granulating ulcerations over the left leg on September 7, 1954, with a similar lack of success.

Admission to Grasslands Hospital for the fourth time was on January 7, 1955. Examination at this time revealed multiple granulating ulcerations, 1 to 2 inches in diameter, over both legs in their distal thirds. There was complete limitation of motion at the hips, knees, ankles, elbows, and wrists. Marked arthritic deformities were present in the metacarpophalangeal, metatarsophalangeal, and interphalangeal joints. The patient was confined to bed in which she lay with elbows, hips, and knees in partial flexion. She complained of pain in all these joints with the right knee being most painful. Both feet and legs were cool and pale; popliteal, posterior tibial, and dorsalis pedis pulses were present bilaterally. The erythrocyte sedimentation rate on January 10 was 26 mm. per hour corrected. On January 17 a right lumbar sympathetic block employing 1 per cent procaine produced a temperature rise of some 8 degrees F. in the right foot with simultaneous diminution of pain in the right knee and ankle.

On January 19 an extended right lumbar sympathectomy encompassing the second, third, and fourth lumbar ganglia was carried out via the retroperitoneal approach. On the first postoperative day the patient stated that she was free of pain in the right hip, knee, and ankle; also that the right lower extremity was warm and dry, and that she could move it actively without the usual pain. The ulcerations over the right leg epithelialized within ten days after surgery. On January 31 an extended sympathectomy was carried out in the left lumbar area with similarly gratifying results.

On May 2, 1955, the patient was found to be ambulatory without support. She claimed that she could walk and stand without pain. Analgesic drugs had not been employed since the fourth postoperative day. The ulcerations were completely epithelialized; both feet and legs were warm and dry. At this time the right hip displayed 45 degrees flexion and 30 degrees abduction; the right knee had 90 degrees of flexion; the right ankle exhibited 30 degrees range of motion. The left hip had 45 degrees flexion and 30 degrees abduction, the left knee 90 degrees of flexion, and the left ankle 30 degrees range of motion. The patient offered the observation that the mobility of the joints was increasing progressively as she was more active since leaving the hospital. She requested that sympathectomy be performed in the upper extremities. In a letter dated January 5, 1956, the patient stated that she was ambulatory and was quite free of pain in hips, knees, and ankles.

Comment

Residual and also recurrent sympathetic activity has been demonstrated in patients who have undergone lumbar sympathectomy.[7-9] Residual activity suggests incomplete denervation; recurrent sympathetic activity suggests regeneration of nerve fibers. It would appear that lumbar sympathetic denervation should be anatomically complete in order to effect permanent relief in those syndromes in which the procedure is indicated. Kuntz[10] demonstrated the existence of accessory sympathetic ganglia in the lumbar segments. The rami communicantes of the accessory ganglia do not enter the paravertebral lumbar sympathetic chain. Occurring as they do on the rami of the paravertebral chain and also on the anterior lumbar nerve roots, the accessory ganglia are, therefore, distinct anatomically from the lumbar chain and probably function independently.[10] An extended sympathectomy, by dividing the rami entering the paravertebral sympathetic chain as far laterally as possible in the psoas muscle border, endeavors to encompass the accessory ganglia. In the extended procedure residual decussating fibers originating in contralateral sympathetic ganglia[11,12] should be stripped as well after excision of the paravertebral chain. Scarification in cross-hatch fashion of the periosteum of the lumbar vertebrae, after mobilization of the inferior vena cava on the right and the abdominal aorta on the left, has been added to the above procedures to enhance the completeness of the sympathectomy. In the author's experience with six patients, the hemorrhage ensuing from the periosteal incisions has been controlled by the topical application of Gelfoam pledgets and by allowing the intact posterior parietal peritoneum to fall back into the lumbar paravertebral gutter.

The effect of sympathectomy on periarticular tissues, notably the tendinous expansions of skeletal muscles, is not known. These periarticular structures are involved in the inflammation of rheumatoid arthritis and probably contribute to joint immobility by their reflex spasm.[13] Hunter and Boeke, as quoted by Bremer,[14] have noted a sympathetic innervation in skeletal muscle. This sympathetic supply has been interpreted by them as being responsible for muscle tonus in the normal muscle and tendon. That sympathectomy allows for more complete relief of periarticular muscle spasm may follow.

Gardner[13] has suggested that joint pain arises from stimulation of perivascular autonomic fibers and endings in the joint capsules and synovia. White, Smithwick, and Simeone,[6] however, state that all available evidence proves that articular sensation is mediated completely through the peripheral spinal nerves. It would be heterodox, therefore, to suggest that there may be a lumbar sympathetic representation in the innervation of the joints of the lower extremities. The absence of pain after extended sympathectomy in our patient would suggest that this exists. The absence of joint pain with increased mobility in arthritic joints after sympathectomy may be attributable to relief of vasospasm, denervation of the periarticular musculotendinous tissues, and sympathetic denervation of the joint capsules and synovia.

Summary

The history of a patient with advanced rheumatoid arthritis who appeared to benefit from extended bilateral lumbar sympathectomy is presented. Recent reports of the variations and ramifications of the lumbar sympathetic outflow appear to justify extension of the conventional sympathectomy technic to encompass accessory ganglia and decussating fibers. A theoretic discussion of the rationale in physiology and anatomy for sympathectomy in the arthritic is also presented. It is suggested that the role of sympathetic denervation in the treatment of the patient with advanced rheumatoid arthritis should be re-evaluated.

5 Old Mamaroneck Road

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Advisory Board Ruling for Nurses on Hypodermic Therapy

A meeting of the medical advisory board to the Visiting Nursing Association of Buffalo was held on October 20 at the Association's headquarters in response to a request from Mrs. Tessa M. Klein, R.N., Director of the Association. Dr. Walter Scott Walls, president of the Erie County Medical Society and chairman of the board, presided.

The function and duty of the board, a county medical society agency, with a membership of eight physicians, is to furnish expert professional advice and promulgate medical policies for the help and guidance of the Nursing Association whenever notified by the Association that it is faced with a problem or problems regarding which it would like to have the advisory assistance and cooperation of the Board.

On the occasion of the October 20 meeting, the board, at the request of the Association, carefully reviewed the statement of policies governing "hypodermic therapy," as drafted and approved by a previous medical advisory board. This statement actually was a ruling by the board and was accepted by the Association as a standing order with which it gladly would comply. After reviewing this ruling, the Board voted to reaffirm it without change. It was likewise voted to request *The Bulletin* to publish this "Medical Advisory Board Ruling on Hypodermic Therapy." It is herewith presented in full:

"When drugs are to be given hypodermically the nurse must secure written orders from the physician (telephone order may be accepted in an emergency case). This must be followed by written instructions dated the day of the first injection. Order to be filed with the patient's permanent record.

"When any of the new drugs are ordered, the nurse is to obtain the following information from the physician, and note on the patient's record:

(1) Content of the drug, (2) Anticipated reaction.

"1. When liver extract or any other drug is given hypodermically over a long period of time, new written orders must be obtained from the physician *every three months.* Streptomycin—one exception to this rule—written renewal required *every six months.*

"2. Arthritis vaccine may be given for as long as *one month* under the careful supervision or jurisdiction of the physician.

"3. ACTH and CORTISONE may be given for a period of *one week,* at the end of which time a physician *must* see the patient to determine future orders.

"4. INSULIN may be given the diabetic patient for *three months,* at which time orders must be renewed. "INSULIN shots shall not be given by Visiting Nurses to produce shock or sub-shock state.

"5. GOLD shall not be administered by Visiting Nurses.

"6. CURARE shall not be administered by Visiting Nurses.

"7. Patients under heavy sedation, from drugs such as Demerol, Pantopon, Morphine, etc., should be under close medical supervision with written orders renewed at least weekly."

—Bulletin, The Medical Society, County of Erie, November, 1955

TREATMENT OF CANCER

IRWIN E. SIRIS, M.D., *Editor*

Subcommittee on Cancer
Council Committee on Public Health and Education
Medical Society of the State of New York

with the cooperation of

Bureau of Cancer Control
New York State Department of Health

Treatment of Advanced Cancer

KENNETH B. OLSON, M.D., ALBANY, NEW YORK
(*From the Subdepartment of Oncology, Albany Medical College*)

ADVANCED cancer will be arbitrarily considered as cancer which has no reasonable chance of being cured by surgery or roentgenotherapy. These patients have incurable cancer. Specific treatment of advanced cancer offers only transient benefit at best and is frequently futile. The treatment of the *patient* with advanced cancer has many rewards for both the patient and physician in terms of comfort, productivity, peace of mind, and knowledge of service rendered. Cancer as a disease has a different connotation for both physicians and lay persons from most other chronic diseases because of the common presence of pain and the knowledge that this pain in all probability will increase with the progress of the disease. Physicians sometimes are as discouraged by this prospect as their patients, and they may inadvertently convey this discouragement to their patients.

An interested physician and an intelligent patient can achieve considerable. An illustrative case is that of a forty-six-year-old man in good general condition who was found to have pulmonary metastasis from a bladder carcinoma. His symptoms were slight, but he was insistent on complete knowledge of the situation and eventually was told. He stated candidly that his greatest fear was not the knowledge of impending death but rather the fear of intractable pain. He requested and was given what he termed a "dignified death" with adequate control of his pain so that his family and friends did not see any disintegration of his personality because of pain. Such complete cooperation is not always possible, but it is a goal which can be sought and may be achieved in most cases to a lesser extent.

The physician's attitude, his ability to listen, and above all his willingness to see and talk with these patients are of greater value than most of the pain-killing drugs and all of the anticancer drugs that are now available. I have heard physicians say that they disliked visiting a terminal cancer patient because there was nothing that they could do for them. Perhaps there are some patients who do not relish visits of this sort, but there are many more who anticipate and depend on such supposedly futile visits. Abandonment is the prelude to despair. The ability of the physician to be amusing, bantering, or serious and considerate at the proper time is indeed the art of medicine, and it seems unlikely that science will ever achieve a substitute for this, short of a true chemotherapeutic cure for advanced cancer.

Among the immediate problems faced by the physician is how much the patient should be told about the diagnosis. It is obvious that there is no single or simple answer to this question. There are times when it is essential for economic or family reasons that the patient be told the entire truth. Certainly in most instances a responsible member of the family should be aware of the situation, but sometimes a member of the family requests that the truth be kept from the patient at all costs, and here the physician must reserve the right to make the decision he feels is wisest for the patient. In the reverse situation, when the family decides to inform the patient against the advice of the physician, the truth can be qualified by the physician. Much more important than whether or not the diagnosis is told the patient is the manner in which it is told. To tell the blunt truth and remove all hope of further treatment is both unnecessary and cruel. The truth can be considerably tempered by the knowledge that there are many palliative measures available and that if one is ineffective, others can be tried. It is astonishing and frequently gratifying to observe the rebound from depression and the boost of morale that can follow a discussion of this sort, and it is the exceptional patient that will not offer to cooperate in the use of both established as well as experimental treatments. It is quite permissible to use treatments which are known to be ineffectual in order to keep the patient from falling into the hands of the unscrupulous. This is in itself quackery of a sort and is only justified if it will save needless discomfort and expense. A letter to a reputable institution experimenting with a new treatment will usually quickly determine if the patient is suitable for acceptance.

In many instances of advanced cancer the topic of the diagnosis need never be raised by either the physician or patient. Some patients are aware of their condition but do not wish to know the full truth. Their wishes should be respected, and there is little sense in going out of one's way to tell them what they suspect. A tacit understanding frequently develops which is a most satisfactory solution. If the patient becomes particularly curious or is losing confidence in the treatment he is receiving, it is unwise to withhold the truth at all costs, and it is only the most exceptional patient who should be told a direct falsehood. A falsehood is almost always discovered, and this may destroy the confidence of the patient in his physician. The management of these problems is rarely simple, and the measure of success achieved is proportional to the interest of the physician, the time spent with the patient, and the patient's intelligence. Even in the best planned situation there are failures, and these will continue as long as there are nostrums available and until a real cure for cancer is found. False cancer cures are not confined to the unscrupulous and known frauds, and occasionally well-trained physicians are overly impressed and deluded by isolated results when they are unfamiliar with the natural course of malignant disease. New treatments must be tried and evaluated, but positive results must be examined most critically and with considerable skepticism.

The known agents that are effective against cancer are rather few. The use of hormones in the treatment of advanced breast cancer is well established, but as yet it has not replaced roentgenotherapy for palliation. It is significant that no better androgen than testosterone proprionate and no better estrogen than diethylstilbestrol have been found, although many others have been screened and tested.[1] No effective androgen treatment without virilization has been discovered, although this has been sought. Androgens are more effective in the younger women and up to perhaps five years after the menopause, whereas estrogens are more satisfactory in the older women because they are at least as effective as androgens and have fewer side-effects. Chlorotrianisene (TACE) has been found unsatisfactory as a mammary tumor suppressant agent, perhaps because sufficiently high blood levels could not be maintained and uterine bleeding was a common complication and more difficult to control than with other estrogens. Surgical castration is regarded as the treatment of choice in the premenopausal woman with recurrent breast cancer, and menopause by roentgenotherapy is less predictable and less effective but may be resorted to in those cases which refuse surgery.

Adrenalectomy is a form of surgical hormone therapy of great current interest and may eventually find its place in treatment. A review of 240 cases of breast cancer[2–6] in whom adrenalectomy had been done indicated that 43 per cent of cases showed subjective improvement and 24 per cent were improved objectively. The selection of cases for this procedure is not as yet clear, and for the present it must be regarded as an experimental treatment. It is pertinent to state that adrenalectomy has been almost uniformly ineffective in many other types of advanced cancer in which it has been tried.

Prostatic cancer in the advanced state responds most satisfactorily to hormone therapy or hormone deprivation.[7] It is generally accepted that orchiectomy and estrogen therapy should either be combined or used in the order stated for best results. There is some disagreement,[8] and there is evidence that estrogen therapy alone is effective and that orchiectomy may be withheld and used as a reserve measure when reactivation of the carcinoma is apparent. TACE is said by some urologists to have advantages over other estrogens because of fewer side-effects and perhaps more specific action. Dosage with diethylstilbestrol is extremely variable. In general, small amounts are used and increased as symptoms warrant. Some investigators[9] have achieved satisfactory results with 500 mg. daily and believe that there is less nausea and vomiting with this dose than with smaller dosages.

Small doses of cortisone and hydrocortisone[8] have been used to suppress adrenal function in prostatic carcinoma. This procedure appears to produce some relief of pain but has not prolonged survival. Paradoxically testosterone has been used in a few cases of prostatic carcinoma with favorable results after treatment with estrogens has ceased to be effective. Hormone therapy, castration, adrenalectomy, and even hypophysectomy have been used in other types of advanced cancer without satisfactory results.

Significant advances[10,11] have been made in the treatment of leukemia in recent years, but space does not permit a detailed review. Myeleran[12] has proved to be a significant addition to roentgenotherapy and radioactive phosphorous in the treatment of chronic myelogenous leukemia and may prove to be the initial treatment of choice. Triethylene melamine (TEM) is a valuable adjunct to roentgenotherapy in chronic lymphatic leukemia. In acute leukemia the most rapid response may occur following ACTH or cortisone therapy which is used initially in the seriously ill patients. Folic acid antagonists (aminopterin and amethopterin) require three to six weeks for a response and can be used in the less ill patients or simultaneously with the hormones. These drugs are most effective in children and rarely produce remissions in adults. 6-Mercaptopurine is perhaps the drug of choice in adults with acute leukemia and will produce remissions in about one fifth of the cases in which it is used. Azazerine[13] is a drug not yet fully evaluated, but there is suggestive evidence that when it is used simultaneously with 6-mercaptopurine, more remissions will be produced than if either drug is used alone. There is no evidence as yet that these remissions are of any longer duration. A significant prolongation of survival has occurred in acute leukemia with the use of the drugs and hormones mentioned.

Multiple myeloma is best treated[14] with urethane (ethyl carbamate), although particular problems such as pathologic fractures will respond to roentgenotherapy. Cortisone is of value, especially in the terminal phases of this disease.

In the treatment of malignant lymphoma roentgenography combined with nitrogen mustard (HN_2) or one of its analogs remain the chief therapeutic agents. There is no definite evidence that life has been significantly prolonged by use of these agents, but the period of roentgenotherapy has been reduced, and symptomatic improvement can occasionally be achieved more rapidly than previously. TEM is frequently of value in the ambulant patient when oral administration is an advantage. This drug is less predictable and requires a longer time for its action than HN_2. Newer analogs of TEM, such as triethylene phosphoramide (TEPA) and triethylene thiophosphoramide (Thio-TEPA), are less toxic than HN_2 but are also less effective in the group of lymphomatous tumors. While HN_2 and similar acting agents are effective in most forms of malignant lymphoma, there is evidence that they are most useful in Hodgkin's disease. They are valuable but less effective in giant follicle lymphoma, lymphosarcoma, and reticulum cell sarcoma. Cortisone may be of value during periods of roentgenotherapy and in the terminal phases of these diseases. Unfortunately its effect is not of great duration. Butazolidin[15] is of value for the relief of symptoms, especially fever, and some investigators believe that it may produce objective improvement.

Bronchogenic carcinoma remains a discouraging problem, especially when pulmonary resection is not possible. Roentgenotherapy has been widely used and will occasionally produce satisfactory remissions. Recurrences are inevitable, and duration of life is so short in most advanced cases that it rarely seems worth the expense and discomfort it causes the patient. If the tumor is obstructing the vena cava or trachea, HN_2

treatment may be a lifesaving measure because it reduces the tumor size sufficiently so that roentgenotherapy can be begun with safety. In selected cases HN_2 and roentgenotherapy are useful, but for relief of anorexia, pain, and cough they are of little value. Thio-TEPA has been of no value in a small number of cases treated. Intrapleural HN_2 is of value in the control of recurrent pleural effusions due to cancer.

Roentgenotherapy remains the principal and most valuable therapeutic measure in advanced carcinoma of the head, neck, and pelvis. Intra-arterial HN_2, either alone or combined with Aureomycin, has not gained wide acceptance as a therapeutic measure in these tumors, although there is little doubt that an occasional dramatic effect can be achieved. Antibiotic therapy combined with hygienic measures can often diminish pain. Radical surgery is sometimes of great value in the removal of bulky tumor masses and fistulous tracts, and occasionally marked palliation results.

Advanced tumors of the gastrointestinal tract with the possible exception of the esophagus are resistant to both roentgenotherapy and chemotherapy. Surgical treatment in the form of by-pass operations or colostomies for relief of obstruction may be of value in selected cases. Rarely roentgenotherapy can be of value in the relief of pain.

Neurosurgical procedures for the relief of pain have been notably improved so that pain in the upper extremities and thorax as well as back and leg pain may be controlled feasibly by cordotomy, nerve section, or a combination of both. This provides symptomatic relief but does not alter the basic situation, and safeguards against pathologic fractures must be provided when evidence of bone destruction is present. Lobotomy has occasional advocates, but it alters the personality to such a marked extent that it should be reserved for the most refractory cases.

Chlorpromazine[16] seems to be of great value in the terminal phases of advanced cancer, and it is believed to assist in the control of intractable pain. It is perhaps too soon to assess accurately the position of this drug, but it is also of value in the control of nausea and vomiting.[17,18] It can produce jaundice and a hypotensive effect which may be annoying and occasionally is serious in its consequences.

The use of analgesic agents has not changed appreciably in recent years, and still the most effective agents are aspirin, codeine, and morphine. Demerol has less effect on the gastrointestinal tract and may be better tolerated than morphine, although it is less effective for the control of pain. Most of the other and newer analgesic agents have their enthusiasts; perhaps there are occasional situations where they may be of value, but in general they are inferior to the drugs mentioned.

All of the above agents are useful in certain situations, but perhaps their chief value is the element of hope that their use may engender. Their therapeutic value may be enhanced or destroyed by the physician's attitude which in the final analysis is the most important factor in maintaining a high patient morale. Inevitably there comes a time when all measures have failed, and this point must be recognized. It seems unwise to use all resources available in the form of intravenous fluids and oxygen to prolong a most miserable existence when all known effective treatments have proved valueless.

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Editor

SAMUEL J. PRIGAL, M.D.

Associate Editors

MURRAY ALBERT, M.D., JOSEPH FRIES, M.D., WILLIAM B. SHERMAN, M.D.

Specific Injection Treatment of Hay Fever and Asthma

SELIAN HEBALD, M.D., NEW YORK CITY

(From the Institute of Allergy, Roosevelt Hospital and the Allergy Clinic, Hospital for Joint Diseases)

PATIENTS with seasonal hay fever show positive skin reactions to extracts of the offending pollens. In asthma skin testing will reveal one or more allergens to which the patient is sensitive in about half the cases. The incidence of positive skin reactions is greater among asthmatics of the younger age group. In the age group over forty positive skin reactions are much less common since at this age asthma is more often due to respiratory infection rather than to external allergens. However, in many patients asthma is due to a combination of infection and external allergen sensitivity, and in such cases both causes must be treated. When an external allergen can be detected, avoidance is the ideal treatment. Often this is impossible or impractical, and it is in these cases that specific injection treatment is the best available method of protection for the allergic patient.

The allergens most commonly used in specific injection treatment are the pollens, house dust (either a stock mixture or dust from the patient's home), chicken or duck or goose feathers, the danders of dog, cat, rabbit, and horse, and the spores of molds. Dust is probably the most common specific agent causing allergic rhinitis and asthma. The irritant in it seems to be different from all the known substances and has not yet been identified. The common mold spores causing symptoms in this area are Alternaria and Hormodendrum. Silk and goat epithelia are rarely used for hyposensitization. Orris root, which was frequently used for specific injection treatment years ago, is no longer a common offender today since cosmetic manufacturers rarely use it now in the manufacture of their products. All these substances may cause asthma or rhinitis or both in sensitive patients. There are other allergens, such as cottonseed and kapokseed, to which acute sensitivities are sometimes encountered. These two materials are found in upholstered furniture, mattresses, and stuffed toys. Complete removal of these articles from the home is the procedure of choice. Specific treatment with extracts of these seeds is dangerous and should not be attempted.

Specific injection therapy is not necessary for foods except those of the cereal group (wheat, rye, corn, and rice), which cause asthma and rhinitis by inhalation in bakers and cooks. Patients who react to cereals by inhalation can usually eat them without trouble.

In the northeastern area of the United States there are three pollen seasons for hay fever—spring, early, and late.

The *spring season* extends from early March to early June and is due to the tree pollens. Chief of these, in the order in which they appear, are elm, poplar, ash, beech, birch, oak, sycamore, and hickory. Of these, oak and birch are the most important and widespread. Treatment with the pollen of one tree will not protect against sensitivity to any of the others, although treatment with one species of a genus will protect against all of that genus. For example, an extract of white oak or red oak will protect against all the oaks but not against hickory or birch.

The *early season* begins in mid-May, continues into mid-July, and is caused by pollination of the grasses, of which the heaviest pollen producers are orchard grass and timothy. Other important grass pollens are sweet vernal, June, and red top. The grasses are closely related botanically, and a patient reacting to the pollen of one will react to all. An extract containing equal parts of timothy, June, and orchard grass is a good one for grass therapy. Sorrel (sour grass), a weed and not botanically a grass, pollinates during the early season approximately from May 20 to June 20. One other important pollen producer during this period is English plantain, also a weed which pollinates heavily from early May to about June 20 and then scantily into August. A patient whose symptoms do not begin until about June 1 is probably a pure grass case clinically, while if the onset is mid-May with a good deal of symptoms before June 1, he is almost certain to be a plantain case with or without grass sensitization. Patients are often sensitive to the grasses, plantain, and sorrel and must be treated with all three since there is no cross protection.

The *late season* begins early in August and lasts until the first frost. The most important causes of hay fever in this period are the ragweeds, high and low. They cause more hay fever than all other pollens combined. A mixture of equal parts of high and low ragweed is recommended for treatment.

Often patients who clinically have one type of seasonal hay fever, such as ragweed, in addition show positive skin reactions to the grasses and/or the trees without ever having had clinical hay fever during the grass or tree season. Such positive skin reactions should be regarded only as potential causes of trouble. These patients frequently develop clinical hay fever to the additional pollens at a future date and should be advised concerning this possibility. However, they should not be treated with pollens which are not causing clinical symptoms. Patients who are sensitive to the pollen of only one season, both clinically and on skin test, not infrequently develop positive skin reactions and clinical sensitivity to the pollen of other seasons in subsequent years.

The general principle of injection treatment is to give gradually increasing doses which must be adjusted to the patient's tolerance. The *intracutaneous skin test* is a guide both to the patient's sensitivity and tolerance in taking dosage. These tests are graded as *marked* (skin redness, itching, and showing pseudopods), *moderate* (skin redness and itching but no pseudopods), *slight*, and *negative*. A marked reaction signifies confirmation of sensitivity when associated with a positive clinical history. Moderate and slight reactions call for investigation with stronger extracts. Completely negative skin tests to the extracts of pollens, danders, dusts, and molds signify that these allergens are not the cause of the patient's symptoms.

Patients may be divided into three classes according to their skin sensitivity, as determined by the strength of extract which is required to produce a marked reaction. Patients showing a marked reaction with an extract containing 10 protein nitrogen units per ml. are classified as "A" cases or hypersensitive. Those showing a marked reaction to 100 units are classified as "B" cases or sensitive, while those requiring 1,000 units to produce a marked reaction are classified as "C" cases or moderately sensitive. If a marked reaction is elicited with a certain concentration, testing beyond this point is contraindicated. Patients are first tested intracutaneously with a 10-unit strength extract and observed for twenty minutes before proceeding to test with a 100-unit extract or a 1,000-unit extract if so indicated. Skin testing is performed by the *intracutaneous technic*, a small wheal (0.01 ml.) being raised on the outer aspect of the arm. *Scratch tests* with powdered extracts may also be used to ascertain sensitivity. These are usually done on the inner aspect of the forearm.

TABLE I.—Average Dosage According to Degree of Sensitivity

	Dosage (Protein Nitrogen Units per Ml.)*		
Dose Number	Class A Marked Reaction to 10 Units	Class B Marked Reaction to 100 Units	Class C Marked Reaction to 1,000 Units
1	2	10	25
2	5	20	50
3	10	40	100
4	15	80	200
5	20	125	400
6	30	200	600
7	50	300	800
8	70	500	1,000
9	100	700	1,500
10	150	1,000	2,000
11	250	1,500	3,000
12	400	2,000	4,000
13	600	3,000	6,000
14	800	4,000	8,000
15	1,000	5,000	10,000

* 1 unit equals 0.00001 mg. protein nitrogen per ml.

Table I gives the average dosage for patients according to degree of sensitivity as determined by skin tests. Dosage is given in protein nitrogen units per ml.; 1 unit equals 0.00001 mg. protein nitrogen per ml. This schedule may be used for the administration of all pollens, molds, and animal danders.

Extracts standardized by other methods, such as total nitrogen, weight by volume, and Noon units, may be administered in the same general manner. Dust extracts, however, are not usually standardized but put up in a concentrate, 1:10 and 1:100 dilutions. Treatment is usually begun with a 1:100 dilution and is gradually increased to a maximum of 0.5 ml. or more of the concentrate.

It should be remembered that many patients are highly sensitive, and their maximum tolerated dose will be smaller than that in the table. While it is true that those who take their dosage well and reach a large maximum dose generally have a better clinical result, it is also true that highly sensitive patients on a small maximum dosage may also have good clinical results.

Injections are given at four to seven-day intervals subcutaneously in the outer aspect of the arm, middle and lower thirds. Syringes graded to tenths of a milliliter should be used in treatment. A $^1/_4$-inch, 26-gauge, or slightly larger needle may be used.

In seasonal hay fever it usually takes about 15 injections to reach maximum dosage. Treatment should commence approximately three months before the pollinating season so that this dosage is reached when pollination commences. Injections should be continued through the season. It is not necessary to reduce dosage during the season except in some patients who are highly sensitive.*

Patients may stop therapy at the end of the season and begin again in the spring of the following year, or they can be treated perennially. Under *perennial therapy,* when the maximum dosage is attained, this dose is administered at three to four-week intervals throughout the year, with the interval reduced to two weeks during the season. If the interval runs beyond four weeks, dosage must be correspondingly reduced and then carefully increased during subsequent visits at about two-week intervals. Satisfactory results with perennial treatment are about 10 per cent higher than those obtained with preseasonal treatment. When changing to a freshly made extract, dosage should be reduced to one-third or one-half the previous amount given and then gradually increased to full dosage. Perennial treatment is not recommended in patients who are very sensitive and whose maximum dosage is small. Patients may also be treated coseasonally although they start late, even after their pollinating season begins. Small doses carefully increased at two or three-day intervals to the end of the season often produce worth-while clinical benefit.

One should proceed very slowly at first in patients who have never received treatment with the specific allergen being administered. Marked local reactions often occur at the beginning of treatment in some cases, and it sometimes takes numerous injections with very little increase in dosage before the normal schedule can be followed. Patients should always be asked the extent and duration of the local reaction at the site of the previous injection. Increase in dosage is judged accordingly, and treatment is highly individualized. Children usually take dosage well. In treating a pregnant patient dosage should be reduced to one-third or one-half the usual schedule and discontinued when the season is over. Perennial treatment is not recommended during this period.

About one third of hay fever patients suffer from asthma when they are untreated. Therapy usually controls this very well. A satisfactory clinical result can be obtained in about 85 per cent of treated hay fever patients. Winter colds and sinus infections are often greatly reduced when hay fever is properly treated.

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* Editor's Note: Not all allergists accept this opinion. Many of them reduce the dosage by one-third or one-half for many patients.

Some patients lose their clinical hay fever after several years of treatment, but many more continue to require treatment most of their lives. It is good policy to retest the hay fever patient once a year. A patient under treatment who goes through two or three seasons without any symptoms whatsoever and whose skin tests are greatly decreased, almost to negative, may be regarded as a clinical cure. There are many such patients. However, some of these "cured" patients, after being entirely well for several years, return with full-blown clinical symptoms and again show marked skin tests to the pollen to which they were previously sensitive.

Bacterial vaccines, autogenous and stock, are important agents of therapy, especially in infective asthma. The autogenous vaccines are usually made from infected tissues of the nasal accessory sinuses after operation, antral washings, and sputum cultures. The laboratories usually make them in strengths of two to five billion killed organisms per ml. or a 1 per cent suspension. These vaccines should be diluted down to 1:1,000 for beginning treatment. These autogenous vaccines may be very potent and should be given in carefully graded doses up to about 1 ml. of a 1:10 dilution. This maximum amount may then be given at three to four-week intervals on a perennial basis. Skin testing with bacterial vaccines gives us no reliable information and so cannot serve as a guide to therapy.

Systemic or *constitutional reactions* resulting from injections occur occasionally in the course of treating the allergic patient. Most reactions occur within thirty minutes after an injection. The first signs of a constitutional reaction usually are itching of the palms of the hands, itching of other parts of the body, sneezing, coughing, and facial redness. Other symptoms may be urticaria, angioedema, and in severe reactions asthma. The sooner a reaction occurs following an injection, the more severe it is apt to be. At the first sign of trouble a tourniquet should be applied above the site of injection and about 0.4 ml. of epinephrine 1:1,000 given above the tourniquet or in the opposite arm. Epinephrine should be repeated if a marked improvement does not occur in a few minutes. As a rule the reaction is soon under control, and the tourniquet may be gradually released. While some of these reactions may be attributed to errors in technic or in judgment of dosage, even the most experienced physician cannot avoid them entirely. Patients should remain in the office at least fifteen minutes after receiving treatment. If a marked local reaction occurs following an injection, the succeeding dose should be reduced. When a patient has had a constitutional reaction, the amount of allergen given at the next visit should be about one-quarter the amount or less than the previous dose. Maximum dosage for this patient should now be less than that which produced the reaction. Caution should be exercised when increasing dosage on very warm days. Antigens are probably more quickly absorbed in very hot weather because of peripheral vasodilatation, and systemic reactions are, therefore, more apt to occur, especially in highly sensitive patients.

A clinical cure, an immunity, does take place with treatment, but desensitization does not in fact occur in most cases. In these patients we have the unique combination of immunity and coexisting sensitivity, because even after successful therapy sensitizing antibodies are still present in the patient's serum and cells in lesser, equal, and sometimes even greater amounts; positive reactions to the offending allergens are still obtainable on skin testing.

111 East 88th Street

(*Number eleven of a series on Fundamentals of Modern Allergy*)

Whenever a man's friends begin to compliment him about looking young, he may be sure that they think he is growing old.—Washington Irving

CLINICAL ANESTHESIA CONFERENCE

A series of conferences on medical emergencies in the operating room including causes of death during anesthesia

Prepared by the Anesthesia Study Committee of the New York State Society of Anesthesiologists

BARNETT A. GREENE, M.D., *Chairman*

Onset of Fatal Myocardial Infarction Just Before Anesthesia

THIS operating room death barely missed becoming a death under anesthesia, and if a postmortem examination had not been performed (as is too usual in such circumstances), it would have probably been attributed to anesthesia. The anesthesiologist served excellently as an emergency medical consultant in the diagnosis and immediate management of the totally unexpected shock state that beset a patient electively scheduled for a cholecystectomy.

Case Report

A sixty-nine-year-old male was scheduled for a cholecystectomy at 8:30 A.M. of his third hospital day. The history was that of chronic cholecystitis with a recent acute exacerbation, as evidenced by pain and tenderness in the right upper quadrant, nausea, and vomiting.

He weighed 146 pounds; blood pressure was 135/75, hemoglobin 12.5 Gm., erythrocyte count 4,200,000; urine contained 1 plus sugar and albumin. No other physical abnormalities were noted. On the day before operation he required several doses of meperidine; Luminal Sodium at bedtime was followed by normal sleep.

In the operating room the patient seemed stuporous and readily fell into deep sleep, even though the preanesthetic medication had been only 50 mg. of meperidine and 0.3 mg. (1/200 grain) of atropine. Yet the patient readily awakened and responded properly to questioning. His skin was moist with sweat; respiration was 32 per minute and of an irregular paradoxic pattern suggestive of Biot's breathing; the pulse rate was 110 to 130 per minute. The blood pressure was 60/40, and his lips were quite cyanotic. Nevertheless, the patient stated that he was quite comfortable.

The differential diagnosis of the cause of the shock state consisted of excessive effect from meperidine or myocardial infarction. The patient was removed from the operating room to the Recovery Unit. An infusion of Neo-Synephrine 1:100,000 failed to raise his blood pressure. As a therapeutic test of the possible diagnosis of excessive meperidine effect, 2 mg. of n-allynormorphine (Nalline) were injected intravenously. There was no change in respiration, mental state, or blood pressure.

During these therapeutic measures the standard leads of an electrocardiogram were obtained with a direct-writing machine. The findings were (1) an inversion of the T wave and elevated "take-off" of the ST segment in all leads and (2) an abnormally wide and deep Q wave. These abnormalities were consistent with acute myocardial infarction. The patient was continuously treated with a vasopressor and oxygen by nasal catheter. A medical consultant subsequently verified the anesthesiologist's electrocardiographic interpretation. The patient died about eight hours later. At postmortem examination an infarction was found in the region supplied by the anterior descending branch of the left coronary artery. Two closely similar cases, also fatal, have recently occurred in New York City.

Comment

This case dramatically illustrates the following points:

1. The anesthesiologist must be constantly alert for the sudden onset of catastrophic medical conditions which more commonly strike the patient at home, at work, or in a medical ward.
2. The ability to take and read the basic data of an electrocardiogram is a valuable asset to the anesthesiologist.
3. A postmortem examination is essential for the certain diagnosis of an operating room death unless the cause and mechanism are grossly obvious.

(*Number seven of a series of Clinical Anesthesia Conferences*)

Health Examination Form Available

At a recent meeting of the Subcommittee on General Practice of the Council Committee on Public Health and Education of the Medical Society of the State of New York, it was voted to call to the attention of all county medical societies the availability of the Health Examination Form.

Some apparent advantages, especially to general physicians, in the use of this form in daily practice are as follows:

1. Time-consuming features of routine office examinations are simplified and shortened.
2. Cancer detection in the doctor's office, including the obtaining of cytologic smears and other simple office procedures, is emphasized.
3. A comprehensive record is readily available when a doctor must appear in court.
4. This record of an orderly and systematic examination makes a physician's services more valuable to his patient.
5. Complete and thorough physical examinations by family doctors will counteract arguments for the mass screening approach to detection put forth by certain agencies.
6. The cost is only one cent for each form.

Physicians may order these forms from their County Medical Society Secretary.

Postgraduate Radio Programs

NEW YORK ACADEMY OF MEDICINE

Presented over Station WNYC-FM and arranged by the Committee on Postgraduate Radio Programme of the Graduate Medical Faculty

NORTON S. BROWN, M.D., *Chairman*

IAGO GALDSTON, M.D., *Secretary*

History of Dermatology

HERMAN GOODMAN, M.D., NEW YORK CITY

DERMATOLOGY is the study of the skin. It is presumed to mean the skin and the hair and the nails in health. Dermatopathology infers these structures in disease. For the most part dermatology is considered as a contraction of dermatopathology. In our time cosmetology is the equivalent of dermatology.

The history of dermatology, dermatopathology really, began when man first observed and classified. You may rightfully say this is the beginning of all physical sciences. Observation. Classification. We must add recording to justify the word science. Further, you must accept this statement. No one fact, no one person has stood alone. Each contributor to knowledge required the aid and assistance of those preceding him or contemporary with him. Bacteriology could not become a science until the microscope was perfected.

Clinical dermatology is an ancient science. The skin was accessible to observation. Classification into healthy skin and diseased skin was obvious. Records were made and are still in existence dating from the glory that was Babylon and King Hammurabi. He was born as many years prior to Christ as the years since the birth of the Saviour. Other records of observation and classification and treatment are found in the tablets of Ashurbanipal of Assyria. The date? Seventh century before Christ.

The ancient Persians and Phoenicians observed, classified, treated, and recorded facts on skin, hair, and nails. Our own William Allen Pusey (1865–1940) wrote, "skin diseases obtrude themselves upon the attention in a way very few others do, and none of man's medical efforts have been much earlier than those to relieve his itching and to get rid of sores and parasites that afflicted his skin. . ."

Every one recalls Hippocrates (460–377 B.C.). Few remember that the bases of his fame rested on the shoulders of Anaximander of Miletus (611–547 B.C.) with his concept of primordial body substance; on Alcmaeon of Croton (about 500 B.C.) with his moist and dry, warm and cold fundamentals; on Pythagoras (580–489 B.C.) and his follower, Empedocles (490–430 B.C.), who proposed the four basic elements: earth, air or spirit, water, and fire.

Hippocrates listed a series of conditions of the skin in disease. He left us names for the most part. We guess, more or less accurately, what the conditions were in that day compared to what they are today. There was no language of dermatology, no alphabet.

Recall, we are telling you of things as they were twenty-five hundred years ago. Philosophers, priests, poets, and princes acted as physicians.

Each influenced an art which had not become a science. For our purpose, and we are skimming the mountain tops, you must know a disease either leprosy or one very much like it was observed. It was classified as contagious. It was beyond treatment available in those days. The wise men observed; they classified. They made their decision. Leprosy-not leprosy, unclean-clean. So one might say, the specialty of dermatopathology, or dermatology for short, was born. Its daughter art, cosmetology, flourished. A visit to the Metropolitan Museum of Art will repay you if you but glance at the display cases of the implements of beautification from ancient Egypt and other lands bordering the Mediterranean.

We leave the ancients on this note. We jump the centuries to the time of the discovery of the New World. Why? Because at that period a new disease or a new form of an old disease was observed in Europe. It was difficult to classify. For fifty years it had no name other than geographic reference to each Old World section, as French disease, Italian disease, etc. The contagious nature of the ailment and its most usual modes of transfer gradually became known. Printing by the movable type of Gutenberg made the facts available to those who could read. Word of mouth distortions dropped. About 1530 Fracastoro wrote his poem, naming the victim of the new disease, Syphilis. He also wrote on molecules of contagion. Nobody much paid attention to that. The name Syphilis impressed itself on the entire world. This disease had a name. Everything relating to leprosy was transferred to syphilis. The priests, philosophers, poets, and princes rushed to the bandwagon—the physicians, too. Leprosy declined in importance in Europe. Syphilis was the object of observation and classification. The same weight was placed on unclean-clean.

In brief, observation of the cutaneous covering of man was important. It made possible the imposition of the life or near life sentence of treatment for leprosy and later for syphilis or relieved the patient of that dire (and it was dire) mode of life.

This is oversimplification. It must be so in this short exposition of the subject. Despite Fracastoro and his molecules of contagion, the people, wise and not so wise, did not accept any theory of bacteria. They had no microscopes, no mode of staining. They made very good observations and excellent classifications. They tried every mode of treatment, from the vegetable kingdom, from the animal kingdom, from the mineral kingdom. It was not the right time for them to try synthetics. That came later, much later.

Were you strangely affected by the choice of the examples of leprosy and syphilis in our history of dermatology? Each is a systemic infection. We know that. The ancients and renaissance scientists were not altogether certain. Perhaps then you understood, and properly too, that those philosophers, priests, poets, princes, and physicians did not limit their observations, classifications, and treatments to diseases with cutaneous manifestations. Exactly so. The age of specialism had not dawned. The wise men—and all those who read were wise—considered the universe their field. In the realm of the cutaneous arts, they observed diseases of the hair, skin, and nails. They observed animal parasites. They discoursed on beautification of men and women. When you visited the Metropolitan Museum, did you think of the mummification as beautification of the dead? If not, you must visit Cairo for an hour in the special room reserved for Tutankhamen relics.

The wise surgeons, physicians, women doctors observed the skin. Looking at the tongue until most recently was not only to have the patient keep quiet during the examination but to disclose external signs to the physician. The Far East contributed a form of protection against smallpox through inoculation, moist and dry, of scabs from a patient to nonprotected youths.

Have several dates in mind: from the beginning of recorded history to about Hippocrates, say 400 B.C.; then the discovery of the New World in 1492. Your next date is equally easy—say the Great Fire of London, the one of 1666. Why? Because that is good to recall one of the earliest aids to observation, the compound enlarging glass we dignify with the name of microscope. Leeuwenhoek may or may not have discovered the lens system. He was certainly one of the very first to see (observe), classify, and record (he made drawings) spermatozoa, red blood cells, many types of microorganisms, and the minute structure of muscle tissue. He wrote a treatise, "On the Mite." It was about the mites of cheese and flour and other stored food. No mention of the mite of scabies or the itch has been found.

Aid to observation, enlargement through a system of lens, brought advances into the study of the minute structures, including the skin. The sister art of botany received its greatest boost through the recording of a system of classification by Carl von Linne (1707–1778). Disease of the skin, previously listed as names, was crowned by a classification through the contribution of Joseph Plenck (1738–1807). Plenck was variously professor of chemistry, botany, surgery, anatomy, and obstetrics at Vienna. In 1776 he published a text which presented the first practical system of nomenclature of dermatology. Frankly, it followed the system of Linne. It offered dermatologists a language to transfer their observations. Plenck provided a classification. Fortunately or no, it was based on external appearances. It was better than what did not exist prior to 1776. It proved the foundation of other more complicated and, oftentimes, too complicated systems.

Physicians—it was not yet the period of dermatologists—in each of the great geographic and language sections of Europe grasped the system of Plenck and molded it to their own ends. In England it was the team of Willan and Bateman. In France it was Lorry. In France we name Alibert of the famous Hôpital Saint Louis. Each had followers. Each had modifiers. Note, we named no one from Germany. We must wait until the middle of the next century for the name of the founder of our kind of dermatology, the kind that flourished until the early twentieth century. It is easy to remember the date we offer, 1848—the year of decision!

We name Ferdinand Hebra (1810–1880). His original study leading to the creation of the specialty of dermatology was in the field of scabies. Refresh your recollection of the period. The patients with skin diseases were in the wards devoted to diseases of the chest. Scabies was the prevalent skin disease. Through his labors Hebra created the Vienna school of thought in dermatology—the external school—causation from without. He formulated the dictum: No acarus, no scabies. Hebra created a therapy based on external applications. He founded a form of dermatology with reliance on clinical inspection (observation once more) and classification. He recorded his observations with his son-in-law, Moritz Kaposi (1837–1902). The aid to observation, the microscope, was utilized. Vegetable parasites were uncovered as the true cause of diseases of the scalp, hair, and skin. In brief we had a festival of external causes for skin disease. This again is simplification. For our purpose we hold that the Vienna school of thought in dermatology emphasized the external.

A recital of discoveries of bacterial causes of diseases of the skin about the period of the year of decision, 1848, is truly imposing. We go to the French school of thought in dermatology. Its founder was Alibert. For the purpose of this short, and it is very short, résumé or epitome of the history of dermatology, we say that the French school of thought in dermatology differed from the Vienna school of thought. Alibert held scabies to be due to the effect of some fermentescible substance circulating in the blood that produced the disorder of the skin. Hold this as the key to the approach of the French school of thought in dermatology. Ignore the idea advanced by others that the presumed high incidence of syphilis led to the notion that simple loss of hair in spots, the area Celsi or alopecia areata of Celsus, was due to cryptic syphilis.

Of course each school recognized the validity of thought in certain diseases as expressed by the other. In brief, this classification is made: (1) diseases in which only the skin is involved, (2) diseases due to some internal fault in which the expression is found on the skin, (3) diseases of a mixed type.

The first dermatologists in the United States were influenced more by the Vienna school of thought in dermatology than by the French school of thought. The pioneers in this specialty found the physical school of Vienna with its concentration of hospitals more convenient than the hospitals of Paris which were widely separated geographically. Perhaps, too, German was easier than French for our people. The first modern American contribution to dermatology was made by Thomas Casper Gilchrist (1862–1927). He uncovered the cause of blastomycetic dermatitis in 1896.

Our English cousins in dermatology were clinicians first and dermatologists second. We name James Erasmus Wilson (1809–1884). He was a famous anatomist and surgeon. He was opposed to specialization, yet devoted himself to dermatology. We name Jonathan Hutchinson (1828–1913). He was a superspecialist in major surgery, ophthalmology, neurology, syphilology, and dermatology. Let us say that the English school of dermatology took a middle course—traveled both sides of the street.

More about our own beloved United States. Let us proudly say dermatology here was born in the Vienna school of thought tradition. We accepted the observation, classification, external treatment pathway. There were reservations. We were not blind followers of any one school. We started with observation, limited more or less to the unaided eye. A skilled eye it was. We accepted the microscope and improved on it. We found the limits of external causes of skin disease. Let us say the U.S.A. school of dermatology was eclectic. It chose the best from each. And improved upon it. The world's best known eponym is for the American Louis A. Duhring (1845–1913). Everywhere the name of Jay Frank Schamberg (1870–1934) is associated with progressive pigmentary disease of the skin. Silas Weir-Mitchell (1829–1914) gave us erythromelalgia. The Philadelphia neurologist, Francis Xavier Dercum (1856–1931), presented adiposis dolorosa. Henry Koplik (1858–1927) told us about the spots, named for him, appearing before the cutaneous signs of measles.

American dermatologists grasped offerings of associated sciences. Zealots went far afield. In the main there was sanity and fair conservatism. We accepted newcomers from abroad. Our youth and oldsters turned to Europe time and time again. Specialists from all the world visited these shores. Great conferences were platforms for exchange of ideas. The literature, periodicals and books, abstracts and discussions, led to a startling appreciation of each school of thought in dermatology. Soon our postgraduate institutions assumed their place in the sun.

A new day was dawning. Some think night was descending upon the dermatology born in 1848. The twentieth century brought the fruits of new and terrifying results of adventures into the field of synthesis along conventional chemical lines and then the less conventional one of physics. The nineteenth-century dermatologist, with his frock coat, his simple enlarging lens on a black string around his neck, his dictum—yes syphilis, no syphilis—his prescription pad, was doomed. What started this? Our old friend syphilis—the advances made in syphilis through the new sciences of serology, bacteriology, and synthetic chemistry. The hammer fell with salvarsan or 606. It was the first knell of doom. Salvarsan offered problems observation and classification could not solve. Biochemistry was born and required a new type of student. It was not enough to have eyesight and capacity for remembering pictures. Dermatology became a living, vibrant, dynamic subject. The adherents of the dead, static picturebook dermatology accepted the new or withered on the vine.

It was a logical pathway. It led from the first practical result of the chemistry of the boy William Perkin (1838–1903) and his dyes through salvarsan of Paul Ehrlich (1854–1914) to the sulfanilamides of Gelmo and Horlein. A collateral pathway led to the adventures of Alexander Fleming (1881–1955); Howard Walter Flory (1898–); Rene J. Dubois (1901–); Selman A. Waksman (1888–). The impact of their productions on dermatology are being felt this moment.

Then we have the superhighway. It started as far back as recorded history when Thales of Miletus rubbed a piece of fossil resin. He observed the amber attracted bits of cloth and feathers. As a child you repeated this experiment of twenty-five hundred years ago. Thales opened the story of electricity. Step by step, the road led to modern radioactivity.

A far cry from rubbing a piece of dry resin! A far cry from the observation, classification, and recording of dermatology twenty-five hundred years ago. Today the dermatologist must be all things to all people. His workshop is as cluttered as the laboratory of the alchemist of old. He delves into chemistry his father did not dream of and seeks the answer to the riddle his grandchildren will not know.

We close with briefest mention of the one single greatest influence on dermatology since the discovery of America. It antedates the year of decision. We refer to 1798. That was the year for dermatology, whether you believe in dermatopathology or cosmetology, whether you consider the skin in health or disease. Reflect one moment. The time it takes your watch to click. Reference is made, of course, to the transition by Edward Jenner (1749–1823) of cowpox accidentally transferred to certain protection against the scars of smallpox. Jenner removed the need for thick veils by brides. He opened the skin of the face to the sun. He made a clear skin a desirable asset. He added to our problems in the field of biology and the reaction of human beings to noxious materials. All in the field of dermatology.

(*Number two of a series of Postgraduate Radio Programs*)

SPECIAL ARTICLE

New York State Health Department Activities for the Aged

A Summary of Existing Activities Within the State Health Department's Program for Persons Over Sixty Years of Age

FRANK W. REYNOLDS, M.D., ALBANY, NEW YORK

(*Director, Bureau of Chronic Disease and Geriatrics, New York State Department of Health*)

Most of the public health activities of the New York State Department of Health benefit persons of all age groups, including those who are sixty years of age and over. Moreover, many of the activities specifically affecting younger age groups ultimately will have an impact as these persons advance in years to become senior citizens.

There are, however, several bureaus whose work directly affects older people. These activities are summarized below.

Bureau of Chronic Disease and Geriatrics

Because of the narrowing margin between health and illness in later life, the benefits of all chronic disease control programs accrue particularly to the aged. Of special interest in this respect are the Health Department's activities in cardiovascular disease control.

Cardiovascular Diseases.—With advancing age, diseases of the heart and blood vessels (especially arteriosclerosis and its complications) take an ever-increasing toll of human lives (Table I).

Included in the cardiovascular disease control program at the present time are activities for (1) early detection of heart disease, (2) improved medical care, (3) rehabilitation of cardiac housewives, and (4) research studies designed to obtain basic information about heart disease and its prevention or earlier detection.

1. *Early Detection:* At the Cardiovascular Health Center in Albany legislators and State civil servants over the age of forty are carefully examined for evidences of heart disease. As part of the examination, laboratory studies are made to determine which tests are most helpful for the early detection of heart disease. Up to March 31, 1955, 2,100 persons between the ages of forty and fifty-five years have been examined, and 907 of these have had the first of their annual re-examinations. Participants will remain under observation until their retirement from State service, in many cases five to ten years after they reach the age of sixty years.

TABLE I.—Death Rates per 100,000 Male Population from Arteriosclerotic Heart Disease, 1949–1951

Age Group (Years)	New York City	Upstate New York
25 to 34	7.5	9.4
35 to 44	90.2	86.1
45 to 54	388.2	354.4
55 to 64	1,090.7	898.6
65 to 74	2,345.3	1,875.6
Over 75	5,364.7	4,099.8

Another project directed at early detection of heart disease through the interpretation of chest x-rays is currently being made in Erie County. A certain proportion of those thus examined were sixty years or over.

2. *Improved Medical Care:* This bureau has sought to assist local cardiac clinics to improve their services. Of the 39 heart clinics in upstate New York 22 will accept persons over the age of sixty; the remaining 17 clinics are children's heart clinics exclusively. Efforts also have been made to improve the standards of cardiac care through sponsorship of courses and seminars on heart disease and through the dissemination of professional educational material to practicing physicians.

3. *Rehabilitation:* At the Chronic Disease Research Institute in Buffalo a unit of the rehabilitation service is devoted to the rehabilitation of cardiac housewives through a "Heart of the Home" training program. There is no upper age limit for participation in this program.

4. *Research:* Of particular significance for the senior citizens of the present and future are the research studies being carried out and planned for future implementation at the Cardiovascular Health Center in Albany and at the Chronic Disease Research Institute in Buffalo. The studies at Albany depend upon the use of human subjects; many of those at Buffalo are basic laboratory research. A retrospective epidemiologic study of coronary artery disease and various environmental factors that may affect its development is being carried out in collab-

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Prepared as documentation for the Subcommittee on Health, Medical Care and Rehabilitation of the Governor's Conference on the Problems of the Aging, Albany, October 18 to 20, 1955.

oration with the Bureau of Communicable Disease Control.

Chronic Disease Research Institute.—The Chronic Disease Research Institute's program, under its new director, Dr. Simon Rodbard, will be largely devoted in the future to studies in the field of cardiovascular disease. Nevertheless, the institute has made significant contributions to research problems in respect to gout and to the effect of various drugs in the treatment of arthritis, both conditions that are more prevalent in the older age groups.

Adult Rehabilitation Program.—The adult rehabilitation program now under way at the New York State Rehabilitation Hospital in West Haverstraw has for its purpose the study of the extent to which disabled persons receiving public assistance can be rehabilitated. There is no upper age limit for this program, and it is probable that a significant proportion of the beneficiaries of this work will be in the older age groups. The successful conduct and evaluation of this project should have great significance for persons over the age of sixty years.

Planned Programs of Significance for the Aged.—As previously indicated, any project coming under the cognizance of this bureau will have significance for the aged. The programs will all fall into one or more of the following categories: (1) health maintenance and early detection of disease, (2) improved medical care for patients with chronic illness, (3) rehabilitation, and (4) research. Among the projects for which planning is well advanced are the following:

1. *Diabetes Detection:* Primarily a disease of older people, diabetes exists unrecognized in a sizable segment of the population. A diabetes detection program for implementation by local health units is being developed by this bureau.

2. *Multitest Clinics:* Clinics for the screening of patients for more than one chronic disease already exist in three localities in upstate New York. The work being done here and elsewhere is being followed with interest so that we can properly render advisory service to local health departments interested in multitest clinics.

3. *Improved Home Medical Care:* Considerable thought is being given to ways in which the State Health Department can assist local units to improve the quality of home medical care and the quality of medical care in nursing homes and other custodial institutions.

4. *Rehabilitation Needs in Rural Areas:* In conjunction with the Saranac Lake Rehabilitation Guild, a survey is to be made of the rehabilitation needs in rural areas of New York State. The survey will include nine counties of upstate New York.

5. *Epidemiologic Studies of Certain Chronic Diseases:* There are being developed plans for epidemiologic studies in several chronic diseases, such as angina pectoris, hemiplegia, and coronary artery disease.

Bureau of Cancer Control

On the basis of Levin and Goldstein's study of cancer incidence, mortality, and expectancy, one can predict that a minimum of 20 per cent of all persons in New York State will develop cancer during their lifetime. At any one time in the upstate area it has been estimated that approximately 50,000 persons have cancer in various stages.

Since over one half of the cancer areas reported annually occur in individuals over sixty (median age was 63.9 in 1953), all parts of our cancer control program benefit the aged person. More specifically, the functions which help these people are:

1. Public education is making them aware of cancer and its danger signals by talks, meetings, literature, movies, etc.

2. Professional education—by making physicians cancer conscious and keeping them up to date, the aged person with cancer symptoms benefits.

3. Cancer clinics—both detection centers and tumor clinics admit those over sixty, although we have no age breakdown on this.

4. Cancer nursing is stimulated by the bureau and carried out by local health departments. It is estimated that a large part of cancer nursing is concerned with those individuals over sixty. Cancer nursing comprises 3 per cent of all nursing visits in upstate New York.

Future Activities.—As our present program grows and expands, it will automatically concern more people over sixty since the public is becoming more aware of cancer. The incidence (reported cases) is increasing, and the median age for cases is over sixty.

Roswell Park Memorial Institute

The Roswell Park Memorial Institute has as its purpose "to conduct investigations of the cause, mortality rate, treatment, prevention, and cure of cancer and allied diseases." Although the annual reports of the hospital do not show an analysis of the patients by age, it can safely be assumed that over half of the patients are sixty years of age or over.

At the end of 1953 there were 79,685 patients who had been admitted to the Roswell Park Memorial Hospital, 2,888 of whom were added during the calender year 1953. Malignant lesions diagnosed on new patients totaled 1,507, those with benign conditions or no evidence of disease 1,516.

In addition to the hospital facilities, the institute operates a large outpatient service, and it is reasonable to believe that this too would serve large numbers of persons over the age of sixty years.

The research program of the institute includes both clinical projects (e.g., to improve surgical technics) and laboratory studies (e.g., on the biology and biochemistry of malignant tissues). This is a large, competent, and active research group that has made many significant contributions to the cancer problem.

Future Activities.—The institute is currently in the process of expanding its hospital facilities. Formerly a 100-bed hospital, Roswell Park before long will have enlarged its inpatient facilities fivefold.

Bureau of Nutrition

The activities concerned with the aged in which the Bureau of Nutrition is participating may be categorized under aged (over sixty) and chronically ill.

Aged (over Sixty).—Major activities in this category are as follows:

1. The Albany Senior Citizens Center undertook a nutrition project, the beginning phase of which was a series of nutrition classes. One of the bureau staff helped with the organization of the general project and the procurement of local resource people.
2. A list of references and films on nutrition for older people was compiled for the Bureau of Adult Education, New York State Education Department.
3. Reference materials and information about the food needs of older people were furnished Radio Bureau, State Department of Commerce, for use on radio program for Senior Citizens Week.
4. A diet survey of the aging population of Westchester County, New York, was undertaken jointly by the county departments of health and public welfare to discover the gross inadequacies, if any, in dietaries of persons sixty-five years of age or older living alone.

Chronically Ill.—In this category there are the following activities:

1. A growing phase of the bureau's work is assistance to private and public institutions which care for the aged and chronically ill. This assistance is given through advice on food service organization, menu evaluation, purchasing of equipment, and recruitment of qualified personnel. Consultation has been given at various times to county welfare homes and infirmaries in Clinton, Rensselaer, Schenectady, Broome, Erie, and Jefferson Counties.
2. A Menu Evaluation Form and Guide has been prepared for use of nursing home operators and has been made available to several professional personnel responsible for inspection of such homes.
3. A study of the food service in 20 nursing homes in Nassau County was conducted during 1954. The findings were incorporated in a paper prepared by the bureau director and the Nassau County Deputy Commissioner of Health which was presented at the American Public Health Association meeting in October, 1954.
4. Several staff education sessions have been conducted for public health nurses on nutrition for the chronically ill, normal and therapeutic.
5. Assistance in the organization of classes for aged clients of the Monroe County Welfare Department was given by one of the bureau staff.
6. A series of leaflets on food service problems was prepared for use of nursing home operators in Erie County.
7. A survey of food service in a sample of nursing homes in the city of Rochester was made to provide a realistic base for classes for nursing home operators.
8. Director gave paper on nutrition and chronic illness at the Second Capital District Conference on Aging at the Ann Lee Home in 1953.
9. Several Syracuse Community Nutrition Institutes have included one or more sessions on aging and chronic illness.
10. Two members of bureau staff participated in a two-day institute for nursing home operators at Cornell under the auspices of the Department of Rural Sociology in cooperation with the New York State Department of Social Welfare.
11. Special session on nutrition and chronic illness was held at Annual Health Conference, 1953.

Bureau of Epidemiology and Communicable Disease Control

Communicable diseases affect elderly people who are susceptible but in most cases with decreasing frequency with advancing age. One notable exception is lobar and bronchopneumonia. The Bureau of Epidemiology and Communicable Disease Control has made age distribution studies of many communicable diseases.

Of the 390 known typhoid carriers in New York State, 234 (60 per cent) are over the age of sixty years. There is, moreover, an occasional outbreak of typhoid fever in homes for the aged.

The bureau is also interested in the epidemiology of motor vehicle accidents and has made age distribution a factor in the analysis of the data.

Bureau of Medical Rehabilitation

There are two categories in which the Bureau of Medical Rehabilitation furnishes services to persons over sixty years of age:

1. If the person happened to have poliomyelitis that late in life or needed specific treatment related directly to an earlier attack of poliomyelitis, they would be eligible under the existing law.
2. There is no age restriction for patients seen at orthopedic clinics. Not infrequently elderly patients are seen in the clinics, particularly if they have chronic arthritis or are recovering from fractures. Occasionally a hemiplegic may come to a clinic. In

very rare instances, if the clinic orthopedist needs x-rays to evaluate the disability, they are paid through our ancillary service fund. A small amount of money is set aside annually to take care of patients over twenty-one in these highly selected service categories.

We have no estimate on the number of patients in this over sixty age group. Our annual age breakdown is by five-year age groups to twenty, then to twenty-one, and twenty-one and over. Because of program decentralization it would be necessary to make specific arrangements with the field offices if we wished this data another year.

Bureau of Maternal and Child Health

Although the Bureau of Maternal and Child Health deals with an age group that by definition excludes persons over sixty years of age, one might say that the goal of all our activities is to help those people in our population who fifty to sixty years from now will be over sixty years of age. There is some reason to believe that activities promoting sound physical and mental health during the stages of growth and development of the human organism are beneficially related to the aging process.

Home Accident Prevention

The over sixty age group currently accounts for two thirds of the home accident fatalities in upstate New York. This was nearly 1,000 persons in 1953 when 1,576 persons died from home accidents. Over 80 per cent of the home accident deaths among the over sixty age group are due to falls. These facts are used as guide lines in the present home accident prevention efforts, which center around (1) helping each community recognize and accept the extent and nature of its problem and (2) working out ways to control the problem.

The methods now being used to achieve these goals include (1) staff education for local health departments, (2) development and selected distribution of educational materials, (3) consultation to community groups, and (4) work with State-wide groups in developing coordinated programs.

Future activities probably will be largely an intensification of current activities.

Motor Vehicle Accidents Study

This preliminary study suggests that the motor vehicle accident rate of persons over the age of sixty years may be somewhat higher than the rate among persons between the ages of twenty-five to sixty years.

Bureau of Dental Hygiene

In recent months the Bureau of Dental Health has been planning to establish a classification of periodontal disease and subsequently to undertake a study of the prevalence of this condition. Periodontal disease is known to be common in adults, and in the older age groups it is the cause of more lost teeth than dental caries.

TABLE II.—Nursing Visits to 45 to 64 and 65 and over Age Groups 1954

Region	45–64 Age Group	65 and Over Age Group
TOTAL VISITS EXCLUSIVE OF VISITS FOR DIABETES, CARDIAC, CEREBRAL ACCIDENT, AND ARTHRITIS		
Albany	9,935	14,550
Buffalo	5,319	7,144
Rochester	5,779	8,970
Syracuse	8,999	16,615
White Plains	25,952	29,668
Total	55,984	76,947
Diabetes Visits		
Albany	800	1,982
Buffalo	1,322	2,511
Rochester	546	902
Syracuse	904	2,052
White Plains	2,102	4,427
Total	5,674	11,874
CARDIAC VISITS		
Albany	1,208	4,565
Buffalo	1,362	2,996
Rochester	408	1,933
Syracuse	661	4,043
White Plains	4,512	11,407
Total	8,151	24,944
CEREBRAL ACCIDENT VISITS		
Albany	370	1,788
Buffalo	43	284
Rochester	170	855
Syracuse	426	1,281
White Plains	1,463	4,487
Total	2,472	8,695
ARTHRITIS VISITS		
Albany	1,261	1,475
Buffalo	205	377
Rochester	473	1,532
Syracuse	471	1,306
White Plains	1,254	3,189
Total	3,664	7,879
Grand Total	75,945	130,339

Total visits, all age groups and all categories—674,230

Bureau of Nursing

Because chronic diseases are more common among the aged than among persons in the younger age groups and because many of these conditions can be treated in the home, many of the public health nurse's home visits are to assist elderly people. The same is true of the visits made by physiotherapists. Approximately 25 per cent of all home visits are made for persons over the age of sixty years (Table II).

Division of Tuberculosis Control

Although the over-all incidence of tuberculosis has been decreasing, the average age of persons admitted to tuberculosis hospitals has been steadily increasing. Tuberculosis is becoming more and more a disease of older people, especially among males.

The entire tuberculosis control program from case-finding to hospitalization applies to persons over the age of sixty years. In 1953 there were reported in upstate New York 1,261 cases of tuberculosis among persons fifty-five years of age and over. This represents 31 per cent of all cases reported. In the same year, of a total of 153,914 chest x-rays taken, 25,033 were taken on persons over the age of fifty-five years.

Convention Announcement

The Medical Society of the State of New York has again arranged for the services of the Languild Convention Service during the 150th Annual Meeting, May 7 to 11, at the Hotel Statler, New York City. This service is available *without cost to our members* beginning now and continuing through the first four days of the meeting, May 7, 8, 9, and 10, when representatives of Languild will be on hand near the registration desk on the mezzanine.

The services offered are:

Tickets—Information about Broadway shows, concerts, radio and television programs, movies, sporting events—*and will help you secure tickets.* If you wish to make reservations in advance, write the Languild Convention Service indicating that you are planning to attend the May 7 to 11 meeting.

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very rare instances, if the clinic orthopedist needs x-rays to evaluate the disability, they are paid through our ancillary service fund. A small amount of money is set aside annually to take care of patients over twenty-one in these highly selected service categories.

We have no estimate on the number of patients in this over sixty age group. Our annual age breakdown is by five-year age groups to twenty, then to twenty-one, and twenty-one and over. Because of program decentralization it would be necessary to make specific arrangements with the field offices if we wished this data another year.

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ADDITIONAL ANNUAL REPORTS

Medical Society of the State of New York

1955–1956

Treasurer's Report

To the House of Delegates, Gentlemen:

It is always with hope that your treasurer submits his report. This hope is one that looks forward to that time when every member will give diligent attention to the finances of the Society and have some knowledge as to how his dues dollar is spent.

The work of the treasurer is almost completely concerned with figures, and these figures are one of the bases on which future plans are made. Any new activity always raises the question whether money is available.

Appended to this report is a comparative table of income and expenditures from the years 1950 through 1955. These figures are for the calendar year in each instance.

For the year 1955 total income exceeded total expenditures by almost $24,000. Dues before allocation of a portion to the JOURNAL increased $7,800. (All figures quoted herein are to the nearest hundred dollars.) The JOURNAL, before allocation of dues, decreased its loss by $5,000 from 1954.

In reviewing our expenditures 11 items showed increased amounts over 1954, while 14 resulted in decreases. Those which showed material increases and the amount of such increases follow:

	Increase
Administration	$ 5,600
Woman's Auxiliary	1,100
Legal Counsel Retainer and Expenses	2,500
A.M.A. Conference Meeting Room Expense	1,200
Medical Directory	32,100
Annual Meeting	15,500
Blood Banks Commission	600
Blood Banks Association of New York State	19,300

The increase in the *Medical Directory* expense over 1954 is accounted for in two ways. First, the amount shown for 1954 is based on an estimate of what the *Directory* will cost. Second, as of the end of 1955 we had available some 1,300 copies for sale at $15 per copy. As these books are sold, in 1956, the effect will be to reduce the $32,100.

The Annual Meeting in 1955 (Buffalo) resulted in a loss of $16,500. In 1954 (New York) the loss was almost $1,100. The differential is largely due to the lesser income we receive in booth rentals from the Buffalo meeting.

Increased activity of the Blood Banks Commission since May, 1955, was responsible for a $600 increase in this item.

With regard to the Blood Banks Association of New York State, in 1954 the loss to the Society was $27,658. In 1955, because of loans to the Association, the loss amounted to $47,000, an increase of $19,300.

Some decreased expenditures in 1955 compared with 1954 were (to the nearest hundred dollars):

	Decrease
Public and Professional Relations Bureau	$1,500
Legislation Bureau	400
Workmen's Compensation Bureau	1,800
Bureau of Medical Care Insurance	400
Scientific Activities	300
Planning Committee for Medical Policies	700
Traveling	6,900
Pensions	3,800

Some of the above decreases were due to economies directly effected by the various bureaus. Your treasurer would be remiss if he did not note that all cooperated cheerfully. Committee chairmen made sacrifices. Appropriations were voluntarily reduced. In some instances items were completely eliminated. In other instances the total amount appropriated was not fully used.

During the past few years much time has been given to the matter of deficits. The House of Delegates has gone on record more than once as favoring a "pay-as-you-go" policy. The Council and Board of Trustees have faced the matter of continuing deficits with the realization that unless expenses were reduced, another increase in dues would be necessary. For both 1954 and 1955 we were able to show a modest income. The General Fund is no longer insolvent. As a matter of fact, we have a surplus of $29,078. Small though the surplus is, we hope the good work will continue. We ought to build up our General Fund surplus to the point where it amounts to approximately $125,000. In so doing, we shall be able to avoid the pinch for cash we have felt each year end. Previously we have had to borrow money several times. We were fortunate in not having to do so this year. It is a

TABLE I.—INCOME AND EXPENDITURES, 1950 THROUGH 1955

	1950	1951	1952	1953	1954	1955
INCOME						
Members' Dues	$329,336.00	$433,010.00	$439,400.00	$439,010.00	$551,711.48	$559,514.67
JOURNAL	*9,937.55**	2,532.16	*12,466.39**	*31,563.68**	*37,234.09**	*32,210.23**
Interest	651.99	672.90	855.47	881.05	869.25	590.52
Sundry	28.74	16.28	.....	.....	.....	.....
TOTAL INCOME	320,079.18	436,231.34	427,789.08	408,327.37	515,346.64	527,894.96
EXPENDITURES						
Administrative	93,289.19	97,766.81	102,657.88	109,220.70	124,058.70	129,698.05
Public and Professional Relations Bureau	68,815.43	65,531.85	93,334.88	93,479.05	73,132.78	71,657.56
Legislation Bureau—Albany	27,031.37	31,289.96	25,828.73	26,336.47	26,018.33	25,614.06
Workmen's Compensation Bureau	20,661.19	21,329.33	23,396.84	23,825.92	25,109.39	23,355.53
Bureau of Medical Care Insurance	16,883.63	17,482.44	19,094.39	19,328.92	19,330.80	18,919.04
Scientific Activities	19,400.90	20,622.05	19,952.04	20,177.92	22,513.56	22,251.22
District Branches	2,995.22	3,648.71	2,764.94	2,573.25	2,809.28	3,009.28
Planning Committee for Medical Policies	424.11	426.67	1,088.83	1,110.04	1,283.92	571.77
Woman's Auxiliary	2,000.00	2,210.16	6,890.95	10,067.13	7,913.82	9,048.61
Malpractice Insurance and Defense Board	1,011.91	910.22	2,625.91	3,420.32	2,962.64	2,949.47
Malpractice Audit	750.00	800.75	1,000.00	1,000.00	1,250.00	1,250.00
Counsel—Retainer and Expenses	21,975.90	27,000.00	27,000.00	30,000.00	30,000.00	32,500.01
Traveling Expenses	26,657.53	28,385.69	26,126.11	23,929.96	27,996.78	21,135.84
World Medical Association	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	.....
A.M.A. Conference Room Expense	91.77	164.50	769.81	173.77	150.00	1,359.82
Societies for Medical Research	500.00	500.00	500.00	500.00	500.00	.....
Committee on Alcoholism	274.52	783.57	26.23	.....	.....	.....
Conference of Presidents	50.00	50.00	50.00	75.00	150.00	.....
Special Legal Services	11,777.18	7,087.03	1,000.00	.....	.....	.....
Veteran's Medical Service Plan	1,451.14	26.78	249.23	14.42	88.86	115.70
Medical Directory	48,665.70	48,960.62	44,088.85	81,301.22	40,397.05	72,534.89
Annual Meeting	*4,929.68**	8,637.60	*3,872.91**	16,403.31	1,073.07	16,533.17
Moving Expense and Alterations	.....	.....	11,517.68	3,320.46	518.43	60.00
A.M.A. Convention—Students	.....	216.43	129.01	712.77	.....	.....
Middle Atlantic States Conference	.....	25.09	53.22	*1.52**	.....	.....
Pensions	.....	5,000.00	5,000.00	5,400.00	7,400.00	3,600.00
Citizens' Health Council	.....	.....	1,000.00	750.00	25.00	100.00
Blood Banks Commission	.....	.....	588.54	334.66	64.98	667.12
American Medical Education Foundation	.....	.....	25,000.00	25,000.00	.....	.....
American Medical Association Convention	.....	.....	.....	5,313.55	.....	.....
State Convention—Students	.....	.....	.....	209.53	396.09	.....
Blood Banks Association of New York State, Inc.	.....	.....	.....	4,341.36	27,658.64	47,000.00
TOTAL EXPENSE	360,777.01	389,856.26	438,861.16	509,318.21	443,802.12	503,931.14
NET INCOME	$ *40,697.83**	$ 46,375.08	$ *11,072.08**	$*100,990.84**	$ 71,544.52	$ 23,963.82

* Italics denote figures in red.

distinct pleasure to report this as well as having operated in the "black."

The work of the treasurer includes the review of each individual expenditure as bills are paid. Almost without exception an informal meeting is held once a week with the secretary. In addition, the services of the accounting department are continually called upon for financial information and reports. An expression of appreciation to our secretary and general manager, Dr. Walter P. Anderton, is most certainly in order. His advice and assistance have proved to be most valuable. Mr. Frank Grassi, our accountant, and Mr. Thomas E. Alexander, our office manager, fully cooperated in assisting the treasurer, and a word of thanks is extended to them as well as to the entire staff of the accounting department.

Respectfully submitted,

Maurice J. Dattelbaum, M.D., *Treasurer*

Budget Committee

To the House of Delegates, Gentlemen:

Your Budget Committee is composed of the following:

Maurice J. Dattelbaum, M.D., *Treasurer, Chairman*................................Kings
Frederic W. Holcomb, M.D., *Speaker*......Ulster
Samuel Z. Freedman, M.D., *Assistant Treasurer*...............................New York

The duty of this committee is to prepare the annual budget of the Society. Each bureau or activity is contacted through its committee chairman, and an estimate of its financial needs for the year is requested. Your committee then proceeds to its work.

The work of the committee in preparing a complete budget for the Society as a whole is not difficult. Our greatest problem is that of presenting to the Council a sound, workable fiscal plan, within our income, on which to operate for the succeeding year. The general rule in past years has been to budget a deficit. It is a distinct pleasure to report to the House that for the fiscal year ending June 30, 1956, the reverse is true. In the table appended to this report, you will note that the General Fund anticipates a net income of $26,240 (Table I). Because of certain variable factors, this estimate will vary somewhat when our year ends.

The problem of reducing requested appropriations by various committee chairmen becomes serious when proposed reductions are substantial. Your committee, in recommending reductions to the Council, is well aware of the feeling which may develop. We have done our utmost to enable the Society to end its year "in the black." In so doing it has been necessary to attempt to evaluate some of the services which are provided the membership. At times your committee has recommended substantial reductions in certain appropriations because it honestly believed that a particular function or service does not merit the monies asked for. In some instances the Council has approved. In others the committee has been overruled, and amounts have been partially or completely restored.

In addition to holding four full morning committee meetings, presentation of the completed budget was made by the chairman to the Council and Board of Trustees.

TABLE I.—Summary of Budget for the Year Ended June 30, 1956

Income	
Dues	$483,675
Interest	200
Journal	22,011
	$505,886
Expenditures	
Administration	$135,331
Public and Professional Relations Bureau	76,788
Legislation Bureau	26,894
Workmen's Compensation Bureau	25,288
Bureau of Medical Care Insurance	19,941
Scientific Activities	23,215
Woman's Auxiliary	8,772
Travel	28,100
Annual Meeting	3,600
District Branches	4,640
Planning Committee for Medical Policies	1,500
Malpractice Insurance and Defense Board	3,500
Malpractice Audit	1,250
Malpractice Survey	1,500
Legal Counsel	35,000
A.M.A. Delegates' Expense Fund	1,000
Conference of Presidents of State Societies	75
Veterans Medical Service Plan of New York	150
Pensions	3,600
Alterations, Office	1,000
Citizens Health Council	100
New York State Society Blood Banks Commission	900
Blood Banks Association of New York State, Inc.	20,000
Provision for Salary Adjustments	2,000
Sesquicentennial Celebration	2,000
Medical Directory, 1957	53,502
	$479,646
Excess of Budgeted Income Over Budgeted Expenditures	$ 26,240

The effort expended in budgetary study by each member of the committee is deeply appreciated by your chairman. Without this effort the Budget Committee would merely be a rubber stamp. Your chairman takes this opportunity of thanking Drs. Holcomb, Freedman, and Anderton for their cooperation and valuable advice, and, particularly, Mr. Thos. E. Alexander and his able staff.

Respectfully submitted,

Maurice J. Dattelbaum, M.D., *Chairman*

Expense Curtailment Committee

To the House of Delegates, Gentlemen:

The Expense Curtailment Committee was appointed after discussion held at the 1955 Annual Meeting of the House of Delegates. This committee is composed of the following:

Maurice J. Dattelbaum, M.D., *Chairman*	Kings
Harold F. Brown, M.D.	Erie
Samuel Z. Freedman, M.D.	New York
Frederic W. Holcomb, M.D.	Ulster
Walter W. Mott, M.D.	Westchester

The purpose of this committee is to review Society expenditures with the aim of making suggestions as to possible reductions through more efficient methods, eliminating the possible duplication and overlapping of activities, and perhaps in some instances the discontinuance of certain major or minor activities or services.

The committee has not approached its work with the thought of making irresponsible recommendations. Nor is it our intention to offer suggestions without full and complete study of our problems. We are well aware of the need for full cooperation with other committees of the Society. Contacts of an understanding nature must be made with the Planning Committee, the Budget Committee, the Office Administration and Policies Committee, and the Publication Committee, to name only some.

In approaching its work the committee has assigned its members certain studies. We have given particular attention to the *Directory*. This committee is aware that the Committee on Office Administration and Policies has studied the question of printing and paper costs, the frequency of issue, the possibility of charging the membership, and the like. We have approached the matter from the question of office procedures, paying particular attention to the method of gathering the various material, preparing copy for the printer, and the method of verification of biographic data. At present we are looking into the possibility of using tabulating equipment for this work. It will be some time before a decision can be reached. One comment which we should make in this connection is that the installation of so-called labor-saving machinery is not necessarily a cure-all. In some instances, while this kind of equipment will permit greater accuracy, it not only will not save money but in the long run would cost more. Furthermore, much of this equipment is admittedly a time saver only if it can be utilized 100 per cent of the time or nearly so. Whenever we utilize it only 50 per cent or less of the time, we then will find our costs increasing proportionately.

The committee has discussed the Bureau of Medical Care Insurance and after careful consideration recommends that the Bureau be discontinued or be consolidated with (1) an Industrial Medicine Bureau, or (2) the Workmen's Compensation Bureau, or (3) consolidation of all these activities under one director.

In reviewing the Legislation Bureau we believe the work of the Albany office should continue. With regard to the annual expense of $10,000 for legal counsel, it is our thought this item be allocated in the budget in such a way that it can be applied to any legal work throughout the year for any specific purpose in any of the nine district branches.

Your committee feels that with the improvement which is so evident in the JOURNAL, there is not much that we could propose at this time.

With regard to the Workmen's Compensation Bureau, there is no change we can recommend other than noted previously regarding the Bureau of Medical Care Insurance.

With regard to the Public and Professional Relations Bureau, Dr. Floyd Winslow, chairman, is aware of our efforts to curtail expenses. He has cooperated as much as possible under the conditions which are always confronting us in public relations matters. No suggestions are being made at this time.

It is hoped that a supplementary report regarding malpractice insurance can be submitted at the Annual Meeting in May.

At the last meeting of the House, it was suggested that we install necessary labor-saving equipment. We have determined that in many instances the Committee on Office Administration and Policies is doing just this. During the past few years a number of such devices have been purchased. Among them are the following:

1. A collator—this quickly puts into page number sequence large mimeograph runs.
2. A counting machine—this machine counts anything within size limitations. It is used for counting envelopes and other material bundled according to post office regulations.
3. A tying machine—this will bind and tie mail as required by the post office. (The installation of items 2 and 3 has saved about $3,000 per year in labor.)
4. A kind of photostating machine. This has saved the services of one clerk amounting to about $2,800 per year.

In conclusion, the membership must realize that certain expenses are fixed. Rent, electricity, salaries of personnel, and other items of this type make for an efficient working force. There is no way that this outlay can be substantially reduced. As a matter of fact, we should anticipate a possible increase in these categories.

Your chairman wishes to thank each committee member for his cooperation and suggestions in a difficult task. Attendance at our meetings has been good and is indicative of the interest which prevails.

The appreciation of the committee for the excellent work which Dr. Walter P. Anderton performed for us is acknowledged. The office manager has attended all meetings, and his assistance has been very helpful.

It is recommended that a committee of similar composition be authorized to continue next year.

Respectfully submitted,

MAURICE J. DATTELBAUM, M.D., *Chairman*

Report of the Council

PART I

Inhalation Therapy

The Special Joint Committee on Inhalation Therapy consists of the following:

Medical Society of the State of New York

Irving M. Pallin, M.D.	Kings
Hylan A. Bickerman, M.D.	New York
Edwin B. Emma, M.D.	New York

New York State Society of Anesthesiologists

Vincent J. Collins, M.D., *Chairman*	New York
Paul Wood, M.D.	New York
Moses Krakow, M.D.	Bronx

During the course of the year three informal meetings and one formal committee meeting (September 28, 1955) have been held.

As outlined in last year's report, the work of the committee was divided into three phases:

1. Determination of standards: Dr. Bickerman and Dr. Pallin reviewed current practices in inhalation therapy and concluded that the second report by the Committee on Public Health Relations of the New York Academy of Medicine, entitled "Standards of Effective Administration of Inhalation Therapy," represented a basic guide that should be more widely applied in hospitals. The committee as a whole approved these standards as a guide with respect to problems regarding therapy.

2. Essentials for schools of therapy: Dr. Emma prepared an excellent organizational outline entitled "Essentials of an Acceptable School of Inhalation Therapy," including a suggested curriculum. This outline parallels those already in existence for schools of x-ray technicians and schools of physical therapy which are currently used by the Council on Medical Education of the American Medical Association. This outline was unanimously approved by the committee and is attached as an appendix to this report (Appendix A). It is considered that this outline should accompany any resolution to the American Medical Association and its Council on Education regarding inhalation therapy. It may be considered as an initial guide for the promulgation of definite essentials.

3. Recognition of technicians: Dr. Wood reported that a registry of technicians similar to that currently in use for medical technologists under the egis of the American Society of Clinical Pathologists was desirable. This method enabled physicians to exert advisory control and also eliminated the pitfalls of a legal or political type of certification. After discussion it was unanimously agreed that Dr. Wood's recommendation be endorsed. It was considered that the New York State Society of Anesthesiologists at the State level and the American Society of Anesthesiologists at the national level could act as an advisory group; further that a national association of inhalation therapists, such as the American Association of Inhalation Therapy Technicians, formulate the processing, registration, and maintain the registry.

A resolution submitted to the Council of the Medical Society of the State of New York from Dr. Paluel Flagg, entitled "Resolution for the Creation of a Course on Pneumatology in the American Medical Association," was referred to this committee. This resolution was thoroughly evaluated, and it was evident that the reason for the present committee's formation was to achieve a similar goal. Also the committee believed that this goal can be achieved through existing organizational machinery in the American Medical Association without the formation of a new A.M.A. Council. The committee considered that Dr. Flagg's resolution should be tabled.

The committee considered that the over-all goal of improving inhalation therapy practice in hospitals must be achieved at the educational level. The establishment of schools for the proper teaching and training of men to become reliable and efficient technicians is of course self-evident. To achieve this end and channel or direct the educational content properly, the committee thoroughly believes that the New York State Medical Society can be instrumental in fostering the establishment within the Council on Medical Education of the American Medical Association of a set of principles entitled "Essentials for Approved Schools of Inhalation Therapy."

The committee recommends to the House of Delegates:

1. That the report of the Committee on Public Health Relations of the New York Academy of Medicine be considered as minimum standards in the field of inhalation therapy.

2. That the attached outline, "Essentials of an Acceptable School of Inhalation Therapy," be approved as a preliminary working basis for the development of schools in inhalation therapy in the hospitals of this State and that the outline be presented to the Council on Medical Education of the American Medical Association as a suggested working basis in the event that the subject of schools of inhalation therapy is considered by them as per attached resolution.

3. The committee recommends that the following resolution be approved by the House of Delegates of the Medical Society of the State of New York and that it be presented with any appropriate amendments to the House of Delegates of the American Medical Association in June, 1956.

> WHEREAS, the field of inhalation therapy is an important adjunct to the management of patients in all medical and surgical specialties; and
>
> WHEREAS, inhalation therapy encompasses the problems of resuscitation and the management of asphyxia from all causes; and
>
> WHEREAS, there is an extensive need for properly trained and properly recognized technicians to assist

the medical profession in problems of inhalation therapy; and

Whereas, technicians in other ancillary specialties such as radiology and physical medicine have established, through the Council on Medical Education of the American Medical Association, "approved schools of therapy"; therefore be it

Resolved, that the Council on Medical Education of the American Medical Association be requested to set up "Essentials of Approved Schools of Inhalation Therapy"; and be it further

Resolved, that the attached Outline of Essentials be submitted for consideration by the Council as a preliminary working basis.

APPENDIX A

Essentials of an Acceptable School for Inhalation Therapy Technicians

Preamble

The organizations primarily concerned with the training of inhalation therapy technicians are the Council on Medical Education and Hospitals of the American Medical Association and the American Society of Anesthesiologists. The council functions by inspecting, reporting, and approving these schools. The American Society is concerned with the promotion of educational activities and the registration of qualified personnel.

The following standards have been established for the information of physicians, hospitals, prospective students and for the protection of the public.

I. *Administration*

A. Acceptable schools for training inhalation therapy technicians should be established only in medical schools and hospitals approved by the Council on Medical Education and Hospitals of the American Medical Association or in colleges or universities affiliated with acceptable hospitals and accredited by the Association of American Universities or the respective regional association of colleges and secondary schools.

B. All training of technicians shall be under competent medical control.

C. Resources for continued operation of the school should be insured through regular budgets, gifts, or endowments but not entirely through students' tuition fees. Experience has shown that commercial schools operated for profit frequently do not adhere to proper ethical and educational standards and are not acceptable.

D. There must be available records of high school, college work, or other credentials of students. Attendance and grades of students together with a detailed analysis of their clinical experience shall be recorded, by means of which an exact knowledge may be obtained regarding each student's work.

II. *Faculty*

A. The school should have a competent teaching staff. The director should be a physician who has had specific training or experience in inhalation therapy acceptable to the Council. He shall take part in and be responsible for the actual conduct of the training course.

B. In clinical practice the enrollment shall not exceed four students to each instructor. In order to be considered as an instructor, a technician should have not less than three years of experience.

III. *Facilities*

A. Provision should be made for each student to receive clinical practice adequate in kind and amount under the supervision of the teaching staff.

B. Adequate equipment should be available for demonstration and clinical use. This should include all types of modalities in current accepted use.

C. Where affiliation with other hospitals is deemed necessary or important, it should be permitted only if adequate supervision is possible.

D. A library of adequate space and availability and containing up-to-date references, texts, and scientific periodicals pertaining to inhalation therapy should be maintained.

IV. *Requirements for Admission*

Candidates for admission should satisfy one of the following requirements:

1. Completion of four years of high school. Courses in biology, physics, chemistry, algebra, and geometry are recommended.
2. Passing of a college entrance examination for admission to an accredited college or university.
3. Graduation from a school of nursing recognized by the State board of nurse examiners.

V. *Curriculum*

A. Length of course should include not less than nine months of theoretic instruction and practical hospital experience.

B. Distribution of Time:

Subject	Clock Hours Theory		Clock Hours Practice	Qualifications of Instructors
1. Applied sciences				
Anatomy	12		..	M.D.
Bacteriology	12		..	
Chemistry	6		..	
Pathology	12		..	
Physiology	12		..	
Psychology	6		..	
Physics	10		..	
2. Procedures				
Analyzers and tests	6		6	Inhalation therapist
Chambers and hoods	12		30	
Humidifiers and inhalators	6		9	
Humidity rooms	9		15	
Masks and catheters	12		21	
Nebulizers and aerosol	6		9	
Resuscitators and respirators	18		45	
Regulators and manifold	6		15	
Tents and incubators	15		30	
3. Inhalation therapy as applied to:				
Emergency	6		15	M.D. for theory; qualified therapist for practice
Medicine	12		30	
Obstetrics	6		15	
Pediatrics	6		15	
Surgery, general	6		15	
Surgery, thoracic	6		15	
Surgery, neuro	3		15	
4. Ethics and administration	15		30	Qualified therapist
5. Nursing arts		180*		Qualified therapist
6. Clinical practice		470*		Qualified inhalation therapist
Totals (hours)	220	650	330	
	1,200 hours			

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* Theory and practice.

VI. *Ethics*

Exorbitant fees and commercial advertising should be considered unethical.

Schools conducted primarily for the purpose of substituting students for paid technicians will not be considered for approval.

VII. *Admission to the Approved List*

A. Application for approval of a school for inhalation therapy technicians should be made to the Council on Medical Education and Hospitals of the American Medical Association, 535 North Dearborn Street, Chicago 10, Illinois. Forms will be supplied for this purpose on request. They should be completed by the administrator of the institution requesting approval.

B. Approval may be withdrawn whenever, in the opinion of the Council, a school does not maintain an educational program in accordance with the above standards.

C. An approved school should notify the Council whenever a change occurs in its directorship.

D. Approval may be withdrawn whenever a training program has not been in operation for a period of two consecutive years.

PART VIII

Liaison Committee with Veterans Administration

The Council Committee on Liaison with the Veterans Administration is composed of the following:

Herbert H. Bauckus, M.D., *Chairman*	Erie
George A. Burgin, M.D.	Herkimer
Harry Golembe, M.D.	Sullivan
Francis O. Harbach, M.D.	Onondaga
James R. Reuling, M.D.	Queens
Frederick S. Wetherell, M.D.	Onondaga

At the time of this report we have not had a meeting. It is intended that we shall have one before the annual meeting. It is also intended that any recommendations of the Liaison Committee will be presented to the Council of the Medical Society of the State of New York.

The administration of the Veterans Medical Service Plan of New York, Inc., is cared for by the Board of Directors of the Plan, which is a separate corporation, although in active contact with the Liaison Committee. The work of the Plan during the year has been substantially the same as that of the previous years. We have the same coordinator system with a coordinator in the Albany, Buffalo, New York, and Syracuse branches. The directors of the Veterans Medical Service Plan of New York, Inc., are as follows:

Herbert H. Bauckus, M.D., *President*	Erie
Joseph P. Henry, M.D., *Vice-President*	Monroe
W. P. Anderton, M.D., *Secretary*	New York
James R. Reuling, M.D., *Treasurer*	Queens
Edward R. Cunniffe, M.D.*	Bronx
Dan Mellen, M.D.	Oneida
Arthur H. Stein, M.D.	Albany
Thomas A. McGoldrick, M.D.*	Kings
J. Stanley Kenney, M.D.	New York

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* Deceased.

The chairman of the committee has reported at various times during the year to the Council. These reports were received as information, and there was no action taken by the Council on either the work of the Liaison Committee or the Veterans Medical Service Plan of New York, Inc.

Following the meeting of the Liaison Committee, it may be found necessary to submit a supplementary report to the House of Delegates.

Report of the Malpractice Insurance and Defense Board

To the House of Delegates, Gentlemen:

The Malpractice Insurance and Defense Board consists of the following:

Joseph A. Lane, M.D., *Chairman*	Rochester
Thomas M. d'Angelo, M.D., *Vice-Chairman*	Queens
J. Stanley Kenney, M.D.	New York
Leo F. Schiff, M.D.	Clinton
John C. Brady, M.D.	Erie
Christopher Wood, M.D.	Westchester
John F. Kelley, M.D.	Oneida
Walter P. Anderton, M.D., *ex officio*	New York
Maurice J. Dattelbaum, M.D., *ex officio*	Kings
William F. Martin, counsel, *ex officio*	New York
Harry F. Wanvig, secretary, *ex officio*	New York

During the past year this board held one special and nine regular meetings, many of which were attended by your president, Dr. Renato J. Azzari, your president-elect, Dr. James Greenough, speaker of the House, Dr. Frederic W. Holcomb, and by Mr. Robert J. Bell, attorney for the Society, and Mr. James M. Arnold, assistant indemnity representative. All of these gentlemen took part in discussions of matters before the board, and their suggestions and advice were most helpful. The board desires to express its appreciation of the interest in its work manifested by the officers of the Society and hopes that their frequent attendance at our meetings will continue.

In addition to its stated meetings, the board met four times as a committee of the whole, and individual members, acting as subcommittees, interviewed members in various parts of the State with regard to matters affecting their malpractice insurance protection.

During the year the board interviewed 13 members and took action with respect to insurance coverage in a total of 23 cases. During the examination of these individual cases, the board has become increasingly aware of the plight in which many members would find themselves were it not for the control the Society, acting through this board, has over the continuance of their insurance protection in the Group Plan.

Much time has been devoted during the year to questions involving classification of procedures for insurance purposes and in revising the existing classification lists. This entire subject will again be reviewed when the annual report of the Society's actuaries is received. At the same time the board will study and recommend in a supplementary report the regrouping of counties into rating areas as directed by the House of Delegates last year.

Excellent progress has been made in some counties in the work of their advisory committees on malpractice insurance and defense, which has provided much assistance to our legal counsel and insurance carrier in the handling of suits and claims. Also, it has helped an increased number of members to understand the nature of actions brought against medical men and the defense problems involved. It is believed that other counties would welcome recommendations which would assist them in the organization of similar committees and suggestions as to how they can function to good advantage. Accordingly, the board prepared and sent to the Council for approval and publication a brief summary of suggestions which it believes will be helpful.

After long and careful consideration the board prepared and sent to the Council a report on the situation created by the activities of certain brokers, excess-line brokers, and others in soliciting and placing malpractice insurance of Society members in nonlicensed insurance organizations, particularly Lloyd's of London. The board had substantial reasons to believe that this was contrary to the insurance laws of the State and contravened a published order of the Superintendent of Insurance. In its report it sought and obtained from the Council authority to employ special counsel to investigate the facts and the applicable laws and to carry out with the Superintendent of Insurance such negotiations as the board deemed necessary and desirable to correct the situation. Further discussion of this matter will be found in the latter part of this report.

At the time this report was prepared, the board had under consideration a complete revision of the insuring clause and the exclusions in our policy contract. This work requires a great deal of study and testing in the light of experience and the needs of the members as well as negotiations with our insurance carrier, the Employers Mutual. Finally, any changes made in the policy contract must be approved by the Insurance Department before they may become effective. If and when the proposed revisions are finally approved, a full report of them will be made to all members of the Society.

Each month the board examined with legal counsel the new suits and claims reported and those disposed of during the preceding period. (Throughout the remainder of this report, suits and claims will be referred to by the general term "claims," unless it is necessary to differentiate between them.) Following is a statement of claims reported and disposed of during 1955 compared with the previous year. The form of this statement has been changed to include the claims open and outstanding at the beginning and at the end of the year, and this method of reporting will be followed in all future reports.

	1955	1954
On hand at first of year	690	558
Reported during year	499	524*
	1,189	1,082
Disposed of during year	399	392*
On hand at end of year	790	690

* Omitted from these figures are seven claims reported to and 88 disposed of by the Yorkshire which were included in last year's report.

Although there was a decrease in the number of claims reported in 1955 and a small increase in the number disposed of during the year, there was a net increase of 100 claims outstanding at the year's end.

The 499 new claims reported during the year represent the number of events or occurrences which resulted in claims against insured members regardless of the number of members involved in any one event. The actual total number of new claims reported against individual members was 598.

It will be remembered that during any given calendar year claims chargeable to as many as six or eight different policy years are reported. The statistical data reported by our actuaries is on a policy-year basis, while the annual report of the board must, of necessity, be by calendar years. Therefore, the only ratio which the board can report is that of the total number of claims reported during a calendar year (regardless of the policy years involved) to the total number of members insured during that calendar year. Thus, during 1955 there was one event which resulted in a claim for each 22.5 members insured and one new individual claim for each 19.6 members insured. Although, as indicated above, there was a reduction in the number of new events or occurrences reported during 1955, these ratios are the highest ever experienced by the Group Plan. This was due entirely to the decreased number of members insured during the year. This will be referred to later in this report.

At this point it is desired to invite special attention again to the experience of the Yorkshire Indemity Company with our Group Plan as developed to the end of 1955. Although we have not been advised as to what reserves they have established for claims not yet reported, the time is approaching when, for the first time in the history of malpractice insurance, we will have the final run-off cost of this form of insurance for a large number of policyholders under the laws and conditions of a single state. For that reason it is important to watch the Yorkshire's experience carefully.

It will be recalled that the Yorkshire resigned as the carrier of our Group Plan on June 30, 1949. During the 6.5 years since then, there has been a total of 322 new claims reported to them for events which occurred prior to that date. Of these, 64 were still open and outstanding at the end of 1955, for which reserves of $260,750 have been established. This is an average of more than $4,000 each. For the benefit of those members who from time to time have questioned the propriety of including such reserves in our loss experience, this is the clearest demonstration available of the necessity for them.

As of December 31, 1955, the Yorkshire's underwriting experience with our Group Plan was as follows: *(see top of next column)*

Income		
Premiums, 1936–1949		$5,346,895
Disbursements		
Claims closed, 1936–1955	$4,849,217	
Operating costs, 1936–1949	1,790,385	
Reserves		
Outstanding, December 31, 1955	260,750	6,900,352
Underwriting loss		$1,553,457

This experience was accumulated on 121,460 exposures (policy years) indicating that during the 13.5 years, 1936–1949, every member insured in the Group Plan paid an average of $12.79 less for his insurance than it cost the company to insure him. As pointed out by the board last year, had it been the intention of the Society to buy insurance at less than cost, this would have been an outstanding achievement. But, since that was not the intention, this is a record in which no one can take pride or find any satisfaction. At the expense of being repetitious, this fact is again pointed out because it is an effective answer to those members who persisted in believing that their rates, whatever they happened to be, were always too high.

A similar statement of the underwriting results can be made for the Employers Mutual for the years 1949 to 1954 as developed to the end of 1955. A detailed analysis of the following figures, analyzed by policy years, will be found in the annual report of our actuaries, Messrs. Wolfe, Corcoran, and Linder, which will be filed later with the secretary of the Society.

Income		
Premiums	$8,570,178	
Contingent loss factor	522,875	$9,093,053
Disbursements		
Claims closed	3,153,109	
Operating costs	2,230,658	
Taxes on contingent loss factor	15,686	
Reserves		
Outstanding	4,502,200	
Unreported	1,674,704	11,576,357
Underwriting loss		$2,483,304

This loss resulted from 77,336 exposures (policy years) and represents an average loss per doctor insured, 1949 to 1954 inclusive, of $32.11. Since it is not intended that any losses accrue to our insurance carriers, how is it possible that they have occurred? The answer is a very simple one: the number of claims per insured member and the cost of disposing of them have increased faster than anyone could foresee or for which anyone could compute adequate rates.

This situation, however, is not without a ray of hope for ourselves and the Employers Mutual. It will be remembered that last year, for the first time in many years, no increase in our rates was required. This year, we have been advised by our actuaries that their preliminary audit indicates that a small credit of 2.5 per cent may be possible. While it would be premature to assume that we have finally reached the peak of the upward curve of our loss ratios and are now in a reverse cycle, the experience of the last two years indicates that for the time being at least we may have reached a leveling-off plateau. Whether we go on from here to still higher points in the future or start on a downward course is completely in the hands of the practicing members of the Society and the extent to which we guard every act, every word, every record of every patient every day. It is not enough that these represent good intentions on our part, but they must be considered in the light in which they will be presented to a court and jury. When put to that test, our own troubles, exasperation, or fatigue will not be accepted in extenuation for an unfavorable result.

In May, 1954, the House of Delegates directed that the loss experience of the Group Plan be computed by counties, and our actuaries are now engaged in that work. Since it will require at least another month to complete their study, their final report and recommendations will have to be dealt with in a supplementary report by the board. It seems likely that their report will recommend several rating areas instead of the two presently used and that although this may result in decreases in rates in certain areas, increases may be necessary in others. Also, the board may have some changes to recommend in the classification of procedures for rating purposes. These possibilities are mentioned here so that no one will expect an exact 2.5 per cent reduction in his rate next fall.

Table I is a statement of the number of members insured by counties during 1955.

While the upstate area continued to show an increase in the number of members insured, the losses in the metropolitan area resulted in a net decrease for the State as a whole of 1,795. The decrease in the metropolitan area was due almost entirely to members who transferred their insurance to Lloyd's of London.

Last year the board pointed out that Lloyd's are not licensed in New York and, therefore, cannot lawfully solicit or accept malpractice insurance in this State for a member of the State Society so long as he can obtain such insurance from a licensed company. In his cease and desist order of July, 1953, served on all Lloyd's representatives, the Superintendent of Insurance stated clearly that the difference in insurance rates offered by nonlicensed insurers had no bearing on the applicability of the insurance laws. Last year and again in February of this year, the Insurance Superintendent issued public warnings to residents of this State against the purchase of insurance from unlicensed organizations.

TABLE I.—ANNUAL REPORT OF MEMBERS INSURED AS OF DECEMBER 31, 1955 SHOWING PERCENTAGE INSURED OF COUNTY MEMBERSHIP

County	Number of Members	Number Insured	Per Cent Insured
Cayuga	68	63	93
Schoharie	18	16	89
Oswego	57	50	87
Yates	22	19	86
Sullivan	44	37	84
Chemung	119	93	78
Herkimer	59	46	78
Broome	271	211	77
Fulton	57	44	77
Greene	26	20	77
Oneida	290	223	77
Tioga	21	16	76
Rensselaer	154	116	75
Allegany	34	25	73
Wyoming	29	21	72
Genesee	57	41	71
Jefferson	91	65	71
Madison	48	34	71
Schenectady	220	156	71
Tompkins	93	66	71
Chenango	39	27	69
Onondaga	559	388	69
Orange	207	144	69
St. Lawrence	92	64	69
Albany	394	268	68
Chautauqua	126	86	68
Delaware	44	30	68
Saratoga	59	40	68
Warren	82	55	67
Steuben	109	71	65
Monroe	784	503	64
Ontario	113	72	64
Seneca	30	19	63
Cattaraugus	94	58	62
Columbia	54	34	62
Lewis	16	10	62
Wayne	64	40	62
Suffolk	499	307	61
Clinton	60	36	60
Orleans	20	12	60
Otsego	65	39	60
Ulster	110	63	57
Niagara	199	112	56
Erie	1,222	676	55
Rockland	152	84	55
Westchester	1,203	665	55
Putnam	24	13	54
Schuyler	11	6	54
Essex	32	17	53
Montgomery	60	32	53
Franklin	69	35	51
Livingston	41	21	51
Cortland	44	22	50
Richmond	205	103	50
Washington	35	16	45
Dutchess	249	110	44
Nassau	1,270	561	44
New York	6,906	3,058	44
Queens	1,953	783	40
Bronx	1,519	593	39
Kings	3,251	1,110	34
TOTAL	23,843	11,745	49

Members were also warned by the board last year that if Lloyd's, by their excessively low rates, were able to draw enough members away from the Group Plan to cause its dissolution, the Society would lose control over all elements of the malpractice insurance of their members, including the rates they pay and the right to insurance by all who want it. It was also pointed out that if the legal and sound source of protection now available to members were eliminated, Lloyd's could then insure them as "excess lines" and, not being under the control of the Insurance Department, could demand any rates they cared to charge. That those rates would be higher than those now charged by the Group Plan may be taken for granted.

Regardless of these serious warnings and apparently without regard to what their actions might mean to themselves and fellow members in the future, an increasing number of members, following repeated announcements, articles, and editorial comments in the *Bulletin of the Kings County Physicians Guild,* transferred their insurance to Lloyd's and/or British companies. Apparently none of them stopped to inquire if any part of their "Lloyd's policy" was carried by Lloyd's or ceded to British companies whose names or financial condition they know nothing about. Nor, apparently, were they impressed by the recent dispatch from London printed in the New York press reporting that Lloyd's reserves had become involved to such an extent by various losses sustained in the United States that they had to appeal to the government for help from the British treasury.

This trend, if allowed to go unchecked, would eventually cause dissolution of the Group Plan of the Society and leave the members to the mercies of an unauthorized and unlicensed carrier. In the circumstances the board considered itself obligated to initiate such steps as might bring to an end the unlawful activities by Lloyd's, their agents, and supporters.

Accordingly, when the necessary authority had been obtained from the Council, the board engaged the services of Messrs. Watters and Donovan, one of the leading insurance law firms in the United States, to advise it and to conduct such negotiations with the Insurance Department as might be necessary to correct the situation. After a conference with the board and completion of his study of the law and the facts which he was able to verify, Mr. Donovan, on behalf of the Society, filed a memorandum with the Insurance Department which contained a citation of the law involved and a well-documented statement of facts showing the activities of various insurance brokers and medical groups indicating probable violations of the insurance laws of this State. This matter is now pending before the Insurance Department, and it is hoped that final action on it will be ordered in the near future.

During his examination of the law, Mr. Donovan noted that Section 112 states that, "No person . . . shall in this state in any way or manner aid such insurer (not licensed or authorized to do any insurance business in this state) in effecting any insurance or annuity contract." Also, that Section 126 provides that, "No . . . person shall by any advertising or public announcement in this state call attention to any unauthorized insurer or insurers." These provisions of the insurance law appeared to apply to the Kings County Physicians Guild, the chief proponents of Lloyd's malpractice insurance activities in New York. The Guild's *Bulletin* had repeatedly and ardently called to the attention of its readers the offerings of insurance in Lloyd's.

Pending a final determination by the Insurance Department, the board cannot refrain from expressing wonder at the confidence with which members of the Society have turned to an unlicensed organization, expecting not only to receive the kind of insurance service afforded them through their Society but also to continue to save money in the future. All mature people know by experience which amounts to instinct that when something is offered them, whether it be shoes, tires, or medical services, at a quarter to a third of the established market price in their community, there must be something inferior in the commodity or ulterior in its offering. Yet, here is a group of doctors who have disregarded the warnings of the State Insurance Department and of their own State Society, as well as what their own instincts should have told them, to follow the voice of false prophets offering "something just as good for less," far less—in fact too far less to be trusted by thoughtful men.

The board takes pleasure in advising the members that although the Yorkshire withdrew from our business in 1949, it is still cooperating with the board and giving the same thoughtful care to claims against members that they did while carrying our Group Plan. The board also wants to acknowledge with thanks the great help it has received from its various county and specialty advisory committees. Especially, it wants to extend its thanks and appreciation of the excellent assistance and encouragement it has always received from the officers and staff of the Employers Mutual Liability Insurance Company.

Respectfully submitted,
Joseph A. Lane, M.D., *Chairman*

RESOLUTIONS

1956 House of Delegates
Medical Society of the State of New York

The following resolutions will be presented to the House of Delegates of the Medical Society of the State of New York, May 7 to 11, 1956, Hotel Statler, New York City, and are published here for information.

Payment for Diagnostic Study by Blue Cross and Blue Shield Plans (56–1)

Proposed by Medical Society of the County of Richmond

WHEREAS, diagnosis is fundamental in the proper management of disease; and

WHEREAS, there is inadequate provision for such services in the Blue Cross and Blue Shield plans; and

WHEREAS, in order to receive payment for diagnostic services, Blue Shield physicians must (under pressure from their patients) admit these otherwise ambulatory patients to hospitals, thus occupying beds sorely needed for truly ill people and thereby creating unnecessary overloading in the hospitals, and expense; therefore be it hereby

Resolved, that the Medical Society of the State of New York request the Blue Shield and Blue Cross plans within the State to insure their subscribers against the cost of diagnostic survey in or out of hospitals; and be it further

Resolved, that Blue Shield plans be requested to provide proper remuneration to the physician for such essential services.

Fee to Qualified Medical Specialists by Blue Shield (56–2)

Proposed by Medical Society of the County of Richmond

WHEREAS, general practitioners, on the one hand, and qualified specialists in the fields of internal medicine and its various subspecialties and pediatrics, on the other, are the same in Blue Shield; and

WHEREAS, this fails to recognize the training and experience of these qualified specialists; and

WHEREAS, this places these specialists in direct competition with the general practitioner, a situation to be decried; therefore be it hereby

Resolved, that the House of Delegates of the Medical Society of the State of New York recommend to Blue Shield plans that the fee allowed a specialist by them for in-hospital medical services be on an indemnity basis.

Fees for Medical Care of Blue Shield Insurees (56–3)

Proposed by Medical Society of the County of Richmond

WHEREAS, the present fees for Blue Shield insurees are $4.00 per day for the first twenty-one days; and

WHEREAS, there is extension of Blue Shield service benefits to higher income groups and to ever more subscribers; and

WHEREAS, the larger part of a physician's income may eventually emanate from such sources; and

WHEREAS, such payments for even the twenty-one day period (a long one for most medical illnesses) are considerably below remuneration to physicians in the surgical specialties and that received by physicians in their private practices; and

WHEREAS, the present small fees tend to widen the gulf between the income of the general practitioner and surgeons, creating ever more friction within our ranks; therefore be it hereby

Resolved, that the Medical Society of the State of New York urge the Blue Shield plans in the State to insure purely medical payments to physicians to an appropriate figure more commensurate with the value of the service rendered—$10.00 for the first day and $6.00 per day for twenty-one days.

Consultation Fees in Blue Shield (56–4)

Proposed by Medical Society of the County of Richmond

WHEREAS, it is axiomatic in the practice of medicine that consultation between physicians representing various disciplines adds to the sum total of knowledge and directly benefits the patients; and

WHEREAS, such consultations are counted by the Joint Commission on Accreditation of Hospitals as an index of a hospital's efficiency, thereby emphasizing their value; and

WHEREAS, consultants must spend years of study and experience to qualify themselves as experts in their respective fields of medicine; and

WHEREAS, there is extension of Blue Shield benefits to an ever larger portion of our population through increased service benefits and to ever higher income brackets and to ever more subscribers; therefore be it hereby

Resolved, that the Medical Society of the State of New York actively endorse the following: a fee of $25.00 for such consultations when they are requested by attending physicians; additional consultations up to a limit of six at a reduced rate or a maximum of three per week at a reduced fee; such fees to be paid by the Blue Shield plan.

Plan NOW - - - for the
Annual Dinner Dance

Wednesday, May 9, 1956

Hotel Statler, New York City

- ***Unusual Menu!***
- ***Music by Ben Cutler's Orchestra!***
- ***An Enjoyable Evening!***

Medical Society of the State of New York

FOR CORRECTION

SEE page 2145

MINUTES OF THE COUNCIL

The following is a summary of the minutes of the February, 1956, meeting of the Council of the Medical Society of the State of New York, as approved March 8, 1956.

The Council met February 9, 1956, from 9:15 A.M. to 3:30 P.M. at the Manhattan Club, New York City. Dr. Renato J. Azzari, president, occupied the chair.

Secretary's Report

Executive Committee.—Dr. Anderton reported on communications considered by the Executive Committee on February 8, 1956:

1. A letter of February 2, 1956, from Messrs. Martin, Clearwater, and Bell to Dr. David J. Kaliski regarding the case of Dr. Harold Somberg. (Dr. Somberg is not a member of this Society.) The letter transmits an inquiry from Dr. Somberg's attorney as to whether or not we would pay half the cost of printing a record on appeal. Mr. Phillips, the attorney, also asked if the Society intended to submit a brief as amicus curiae, if their motion for leave to appeal the decision is granted. The appeal is from a ruling under the Workmen's Compensation Law.

After discussion and consultation with Mr. Martin, it *was voted* not to participate in this matter.

2. Correspondence regarding the request of Dr. Wendell L. Bryce, of Richfield Springs, for transfer of his membership from the Medical Society of the County of Otsego to the Medical Society of the County of Herkimer. The Executive Committee recommends that this transfer be sanctioned, subject to approval of the Medical Society of the County of Herkimer. The Medical Society of the County of Otsego has already agreed.

Approval *was voted.*

3. A letter of January 30 from Dr. Henry I. Fineberg, one of February 5 from Dr. Floyd S. Winslow, and one of February 6 from Dr. Harold C. Hodge, professor of pharmacology and toxicology at the University of Rochester School of Medicine and Dentistry, who is one of the chief members of the New York State Society for Medical Research. These wrote Dr. Anderton regarding a request that this Society contribute $75 to $100 toward the purchase of a gold medal and plaque to be presented to Mr. Oswald Heck at a dinner which is planned in his honor in the near future.

The Executive Committee recommends to the Council that they petition the Board of Trustees for this contribution.

It *was so voted.*

4. Letter from Dr. James R. Reuling, Windermere, Florida, February 5, 1956:

> Dear Dr. Azzari:
>
> Because of the present inconvenience (as well as the expense) and the future uncertainty of attending meetings of the Council and the Board of Trustees, I request that you present to the Council my resignation as a member of the Board of Trustees.
>
> This is done, after long and careful consideration, for the best interests of the Medical Society of the State of New York, since it is my feeling that the members should be readily available at all times.
>
> I shall always be mindful and grateful for the honor and trust that has been bestowed on me, and I shall be forever appreciative of the many pleasant contacts and associations which it has been my privilege to enjoy.
>
> Fraternally yours,
> James R. Reuling

It *was voted* to accept the resignation, expressing deep regret.

5. "For the record, it is not necessary to read a letter from Dr. Bruce Underwood, secretary and general manager of the Kentucky State Medical Association, in thanks for a telegram which was sent in the name of the Society to Dr. Woodford B. Troutman, secretary of the Kentucky State Medical Association, at the time of the dinner which was tendered to Dr. Underwood on his leaving his work for the association."

Dues Remission.—The Council voted to remit annual State dues of three members for 1955 and of 13 members for 1956 because of illness and of two members for 1955 and 41 members for 1956 because of service with the armed forces. It was also voted to request remission of American Medical Association dues of four members for 1955 and of 28 members for 1956, to rescind a remission of 1955 dues previously granted because of military service, and to remit 1954 and 1955 annual State dues of one member erroneously dropped from membership instead of being transferred upon removal from one county to another. Dr. Marshall Wheaton Dyer, of Onondaga County, elected a retired member in May, 1954, was reinstated as an active member as of September 27, 1955.

General.—Dr. Anderton reported: "As usual at this time of the year, matters legislative occupy the center of your stage. Dr. Henry I. Fineberg will report to you regarding his efforts about matters referred from the House of Delegates, and particularly about his work in combating the bill advocating licensing of chiropractors. His Subcommittee to Combat Cults and his Ad Hoc Committee to appear before a Regents committee have helped him much.

"The Nominating Committee met January 12, 1956, and will recommend the following candidates to the House of Delegates:

President-Elect........Thurman B. Givan, M.D.
Vice-President........Thomas M. Watkins, M.D.
Secretary..............W. P. Anderton, M.D.
Assistant Secretary........Ezra A. Wolff, M.D.
Treasurer...........Maurice J. Dattelbaum, M.D.
Assistant Treasurer....Samuel Z. Freedman, M.D.
Speaker...........Frederic W. Holcomb, M.D.
Vice-Speaker......Frederick W. Williams, M.D.
Trustee (for five years)..Edward R. Cunniffe, M.D.

Councillors
  (for three years)
    Henry I. Fineberg, M.D.
    Peter J. Di Natale, M.D.
    John F. Rogers, M.D.
    Floyd S. Winslow, M.D.
  (to finish unexpired term of two years)
    John C. McClintock, M.D.

Delegates to the American Medical Association
  (nine receiving most votes to be delegates; second nine to be alternates)
    W. P. Anderton, M.D.
    Herbert H. Bauckus, M.D.
    Thomas M. d'Angelo, M.D.
    Gerald D. Dorman, M.D.
    Edward P. Flood, M.D.
    John M. Galbraith, M.D.
    Thurman B. Givan, M.D.
    Harry Golembe, M.D.
    Joseph A. Lane, M.D.
    John J. Masterson, M.D.
    William B. Rawls, M.D.
    Leo F. Schiff, M.D.
    Earl C. Waterbury, M.D.
    Carlton E. Wertz, M.D.
    Floyd S. Winslow, M.D.
    Ezra A. Wolff, M.D.
    Christopher Wood, M.D.
    Frederick A. Wurzbach, Jr., M.D.

"As the result of resolution 55-23, as amended and passed by the House of Delegates, dealing with a canvass of opinion of the State Society regarding social security for physicians, on July 11, 1955, your secretary sent a memorandum to the secretaries of the county medical societies, requesting them to poll their members. Suggested questions were included. A second memorandum was sent on January 16, 1956.

"To date, only 22 of our 61 county societies have replied. From these it has been learned that the majority opinion is opposed to participation by self-employed physicians in social security under its present compulsory form (554 against 508).

"On the other hand, a large number of physicians (815 against 152) favor social security if voluntary participation could be arranged.

"A total of 593 physicians against 224 are in favor of the passage of the Jenkins-Keogh Bill rather than the passage of compulsory social security.

"To the question, 'If the Jenkins-Keogh Bill were enacted into law, would you favor social security for physicians?,' 376 answered yes, and 381 answered no.

"New York County disapproved of polling its members but has previously twice voted to favor social security. Bronx County approved of social security, on a voluntary basis only, in 1954. Livingston County favors the Jenkins-Keogh Bill and prefers it over social security if contributions into the pension system were to be a tax-exempt business expense.

"It appears that because of the small number of counties heard from, not much value can be determined from this study at present.

"Your secretary, with Drs. Azzari and Fineberg, attended a meeting of the Council on Legislation of the Dental Society of New York State on January 14. On January 17, with Drs. Azzari, Fineberg, Freedman, and Dorman, he attended a dinner honoring Dr. Paul Dudley White and the meeting of the Medical Society of the County of Kings. That afternoon I had met with Dr. Fineberg and several members of the executive committee of the New York State Pharmaceutical Association. This body, like the dentists, agreed to take a strong stand against licensure of chiropractors. On January 18 your secretary was present at the official opening of the Blood Transfusion headquarters at 139 East 23 Street, where Drs. Azzari and Dorman delivered interesting addresses. Two days later I attended a meeting of the Joint Commission for the Improvement of Care of the Patient in New York State. On January 23 I attended a meeting of your Legislation Committee's Subcommittee to Combat Cults and, later, a meeting of the Medical Society of the County of New York. The following afternoon, with Drs. Greenough and Kenney, I went to a meeting called by the Greater New York Hospital Association in regard to the New York City blood supply for transfusions. The afternoons of January 26 and 28, respectively, were spent in Albany, in appearance with your ad hoc committee before a committee of the Regents of the University of the State of New York, and at a meeting of the Economics Committee.

"The secretary also has scheduled for February 2, Subcommittee on the Hard of Hearing and the Deaf (Public Health and Education Committee); February 3, Sesquicentennial Committee; February 8, Expense Curtailment, Publication, Office Administration and Policies, and Executive Committees and Malpractice Insurance and Defense Board."

Dr. Anderton also stated: "The report regarding the questionnaire on social security that was sent to the various counties is included in the secretary's report. The secretary also took the liberty of sending a copy of this part of the report to Dr. George Lull, secretary of the American Medical Association, because he had requested such information. I, therefore, move approval of this act of the secretary."

It *was voted* to approve the report and supplementary report as a whole.

The Treasurer's report was accepted.

Reports of Committees

American Medical Education Foundation.—Dr. Gerald D. Dorman stated that the American Medical Education Foundation planned a dinner on Wednesday, April 25, and intended to invite a representative from each approved medical school in the country. It is expected that 20 or 30 members of each county medical society in the New York area would also attend.

Blood Banks Commission.—Dr. James Greenough stated: "A meeting, sponsored by the greater New York Hospital Association, was held January 24, 1956. Drs. Anderton, Kenney, and Greenough attended as representatives of the Medical Society of the State of New York.

"There were also representatives of the Greater New York Hospital Association, the Coordinating Council, Blue Cross, Red Cross, the Blood Transfusion Association, United Hospital Fund, the Department of Hospitals of New York City, the C.I.O., and the A.F. of L.

"Each representative was asked to express his opinion in regard to the complicated question of blood procurement and disbursement in New York City.

"At the conclusion of the meeting it was the unanimous opinion that a careful study of the entire matter should be made.

"Dr. A. H. Groeschel of the Greater New York Hospital Association was appointed chairman pro tem. Each organization was requested to write to Dr. Groeschel, expressing any ideas which it might have on the subject. In the letter it was hoped that suggestions would be made regarding an unbiased agency which might conduct the study, methods for financing such a study, and proposals of any other groups that might participate in the project. It was agreed that about two months would be required for the parent organizations to accomplish these preliminary steps. Another meeting was planned for late March or early April. At that time it was hoped that definite arrangements could be made for a detailed study.

"As chairman of the Blood Banks Commission and a representative of the Medical Society of the State of New York at the original meeting, I wish to ask the Council what action it wishes taken."

After discussion, it *was voted* that Dr. Greenough compose a letter to this group and submit it to the Council at the March meeting.

Dr. Greenough continued: "One other Blood Banks item I would like to tell you, and that is for the month of January the tentative balance sheet shows a deficit of $600, which is $1,600 less than any previous deficit."

It *was voted* to accept the report.

Constitution and Bylaws.—Dr. Anderton reported for Dr. Frederick W. Williams, chairman: "The Constitution and Bylaws Committee recommends that the proposed changes in the bylaws of the Medical Society of the County of Schenectady and in the bylaws of the Medical Society of the County of Saratoga be approved."

The recommendation *was adopted.*

Convention.—Dr. Samuel Z. Freedman, chairman, reported: "This is a communication from Dr. Aaron, chairman of the Sesquicentennial Committee:

> TO: Council of the Medical Society of the State of New York.
>
> FROM: Sesquicentennial Committee, consisting of Drs. Aaron, Finigan, Hilleboe, Iselin, and Prudhon.
>
> Since its appointment in December, 1954, this committee has studied various suggestions for the Sesquicentennial of the State Society in 1957. All of the suggestions have been collected and reviewed by the committee and, as consultants, Dr. Zeman, Dr. Winslow, Dr. Redway, Dr. Freedman, Dr. Anderton, Dr. Ingegno, and Mr. Miebach.
>
> We desire to recommend that the ideas and material we have accumulated be turned over to the Convention Committee in charge of the 1957 sesquicentennial convention of the Society for use in the celebration connected with the meeting in New York City.
>
> On motion it was voted that rather than have the district branches carry on the State-wide portion of the celebration, the counties be requested to do this.
>
> It is suggested that the Sesquicentennial Committee be discharged and that a subcommittee of the Convention Committee be appointed to carry out the State-wide program.

"The Sesquicentennial Committee was appointed more than a year ago, and it was my belief that they were to carry on all the way through. At the meeting which was held a week ago, we were convinced that perhaps there was a little confusion so the suggestion of Dr. Aaron's was passed that the Convention Committee run the sesquicentennial celebration in 1957. In view of the fact that the Council has decided that the main function is to take place in New York City, in February, 1957, when there will be the scientific sessions plus the dinner, and the delegates will meet in May at Buffalo, it sounded feasible that that be done."

After discussion it *was voted* that the report of the Sesquicentennial Committee be approved.

After discussion it *was decided* that Dr. Greenough would soon appoint the Convention Committee and its subcommittees and that Dr. Azzari would give him assistance.

Economics.—Dr. John C. McClintock, chairman, presented the following report: The Economics Committee met January 28, 1956, at the Fort Orange Club, Albany. All members were present except Dr. Gerald B. Manley of Geneseo.

In accordance with instructions of the Council, the committee considered the proposal to provide medical care for dependents of members of the armed forces, as embodied in H.R. 7994, and approved the following telegram sent January 23 to Dr. George F. Lull, secretary, American Medical Association.

> Informal discussions with representatives from a few county societies in New York State indicate willingness to cooperate with Defense Department's Plan for medical care of dependents of service personnel in armed forces, providing: (1) maximum utilization wherever possible is made of existing civilian medical personnel and hospital facilities for dependent care with free choice of these by patient; (2) providing insurance type program be instituted whereby serviceman pays percentage of premium cost and nonprofit plans are used as Blue Cross and Blue Shield; (3) home-town care programs, while approved by the State Society for veteran's care, are objected to because of complete subsidization by

government; (4) whatever program is adopted must not require increase in existing armed forces medical installation nor augment medical personnel in the services.

Walter Anderton, M.D., Secretary

After considering resolutions from county medical societies, the Committee on Economics recommends Council approval of the following resolution:

> WHEREAS, the Department of Defense has asked the Congress of the United States to clarify and coordinate provision for the medical care of dependents in all the armed forces, the Coast Guard, Coast and Geodetic Survey and the Public Health Service; and
>
> WHEREAS, dependents have been clarified in the bill (H.R. 7994) to provide this legislation; and
>
> WHEREAS, the people living in the area served by United Medical Service, Inc., Northeastern New York Medical Service, Chautauqua Region Medical Service, Inc., Genesee Valley Medical Care, Inc., and Central New York Medical Plan, Inc., are enthusiastically supporting the service benefit feature of Blue Shield; and
>
> WHEREAS, these Plans serve 85 per cent of the population of New York State; and
>
> WHEREAS, the medical societies of the counties of these areas have endorsed the service benefit principle; and
>
> WHEREAS, unless Blue Shield is enabled to write service benefits in all areas of New York State, both Blue Shield and the medical profession will suffer untold loss of prestige; and
>
> WHEREAS, service benefits, to be satisfactory to the public, must be at a realistic level and the scheduled allowances must be satisfactory to the physicians rendering service; and
>
> WHEREAS, commercial companies and panel plans cannot deliver the services of the vast majority of physicians, such a solution of the problem will inevitably lead to the eventual government control of medicine; therefore be it
>
> *Resolved*, that all Blue Shield Plans be strongly urged to take the necessary steps to institute a $6,000 service ceiling program; and be it further
>
> *Resolved*, that all members of the New York State Medical Society be asked to participate in making the $6,000 service ceiling program successful; and be it further
>
> *Resolved*, that the New York State Medical Society recommend to each county society the activation of this resolution through its representative Blue Shield Plan without undue delay.

The committee reviewed the annual reports of its Subcommittee on Public Medical Care, Subcommittee on Medical Expense Insurance, and the Bureau of Medical Care Insurance.

Your committee considered the need for a uniform State-wide contract and heartily agrees with the reference committee's report favoring a uniform State-wide contract, combining indemnity and service, service benefits to be limited to certain income ceiling levels and benefits above those ceilings to be on an indemnity basis as approved by the 1955 House of Delegates.

Your committee recommends that the Council strongly urge all members of the Medical Society of the State of New York to participate in making the $6,000 service ceiling program available in all areas of New York State. Unless uniform benefits are made available on a service basis for State-wide groups in the near future, the medical profession is in danger of losing the civil service employes group of the State of New York since legislation has already been introduced to make this service available to them. Large State-wide industrial groups have already been lost to Blue Shield because of the lack of uniform benefits throughout the State on a service basis.

Subcommittee on Medical Expense Insurance.—At a meeting held January 12, 1956, the subcommittee, under the chairmanship of Dr. Carlton E. Wertz, considered and acted on the following matters:

1. A letter from Mr. Murray Halpern, 75 Beaver Street, New York 5, addressed to Dr. Renato J. Azzari, president, requesting approval of the State Society of an accident and health insurance plan for all its members. The subcommittee pointed out that a resolution was adopted in the 1954 House of Delegates that "whatever units of medical organizations in the State of New York above the county level consider group insurance plans, the same must be approved by each individual county society. Societies already having existing plans shall in no way be interfered with, and when group plans of this type involve any phase of insurance, they should consult with the Bureau of Medical Care Insurance of the Medical Society of the State of New York for information in regard to the advisability of the plan, both as to cost and coverage, and the suitability of the company to provide such coverage." A motion to reaffirm the action of the House was carried.

2. The subcommittee considered a brochure from the Professional Mens Association, Inc., of New York City, which operates a collection and credit loan agency. After review the subcommittee recommended to the Council that no action be taken.

3. The subcommittee also considered a descriptive brochure of the Hebrew Butcher Workers Union, Local 234, which lists a panel of physicians to whom a member of the union is referred. The members of the union were insured by United Medical Service. When the matter was called to the attention of United Medical Service, they reported that the brochure was developed without their knowledge. Your subcommittee was informed that United Medical Service would not renew their contract with the union unless they permit free choice of physician for policyholders.

The subcommittee recommends that Blue Shield organizations should be warned to protect themselves against procedures on the part of groups where free choice of physician is not permitted.

4. The subcommittee reviewed a plan for medical care known as District 65 FWDSU-CIO and recommended that the Council should receive a report on it, which will be presented by the chairman of the Council Committee on Economics.

5. Dr. Ray Trussell, executive officer of the School of Public Health and Administrative Medicine, Columbia University, presented a progress report on the survey of health insurance coverage for the people in the State of New York which is being conducted at the request of Senator George R. Met-

calf. The purpose of this survey is to determine ways and means for extending voluntary prepaid insurance to a maximum number of people. Dr. Trussell stated that he has provided Senator Metcalf with preliminary information about a medical and hospital program for state employes and in his report emphasized that medical care should be on the free choice of physician principle, with emphasis on service benefits for civil service employes and the privilege of civil service employes to purchase these benefits after the age of retirement. Bills to provide this service have been introduced in the Senate and Assembly.

After hearing Dr. Trussell's report the subcommittee again reviewed the necessity of a uniform State-wide contract to provide coverage for State and national accounts and felt that full cooperation should be extended to Senator Metcalf and his committee.

6. The subcommittee reviewed a resolution adopted by New York State Blue Shield Plans December 9, 1955, and is in accord with it. This resolution will be presented in the report of the Council Committee on Economics.

7. Dr. Milton Wolfson, president of the Podiatry Society of the State of New York, was referred by Dr. Anderton to the subcommittee. Representatives of the Podiatry Society appeared to request that the Medical Society of the State of New York approve that services of podiatrists to Blue Shield subscribers be paid for in the same manner as services rendered by physicians. The Podiatry Society representatives felt that if they could persuade the State Society to recommend to Blue Shield Plans the payment to podiatrists for these services, they would be in a more favorable position in negotiations with the Blue Shield Plans. The subcommittee understands that Blue Shield Plans have been approached on this matter by the Podiatry Society and that several county medical societies have indicated to their local Blue Shield Plans that they are not desirous of having the Plans pay podiatrists for benefits provided in Blue Shield contracts. Blue Shield Plans have not elected to pay for these benefits, even though under the law it is permissible.

Dr. Wertz pointed out that the State Society cannot dictate policies to Blue Shield Plans and that the subcommittee was not in favor of approving any additional benefits until statistical information is available to the Blue Shield Plans on what the additional cost would be. The subcommittee further pointed out that participating physicians assume the full responsibility of the plans, and if overutilization occurs, it might be necessary for the physicians to accept a proration of fees. Representatives of the Podiatry Society agreed that they would make available to the subcommittee what the additional cost to provide these services would be.

8. Dr. Louis H. Bauer, chairman of the board of United Medical Service, appeared before the subcommittee to suggest that paragraph 2, under "Claim Payments," in the Standards for Approval of New York State medical care plans by the Medical Society of the State of New York be changed. The present provision reads as follows: "When care has been rendered by a nonparticipating physician and claim filed for such care, payment shall be made direct to the nonparticipating physician or to the subscriber upon presentation of receipted bill." Dr. Bauer's suggested change would read: "When care has been rendered by a nonparticipating physician and claim filed for such care, payment shall be made, at the option of the plan, either to the subscriber or to the nonparticipating physician upon request of the subscriber."

Dr. Bauer feels this change is desirable because the Blue Shield Plans owe something to the participating physician who agrees to accept the fee schedule in full payment on the service benefit level and also agrees that in the event a plan is unable to pay claims in full, to accept proration of fees. Under the present provision in the Standards there is no inducement for a doctor to become a participating physician when the nonparticipating physician has the same privileges. After discussion, a motion was carried that this suggested change in the Standards be presented to the Council for approval and recommendation to the House of Delegates.

Mr. George P. Farrell, director of the Bureau of Medical Care Insurance, reported as follows: January 6, 1956, your director conferred with Dr. John C. McClintock, chairman of the Council Committee on Economics, to outline a program for the Bureau for the ensuing year and, on the invitation of Dr. McClintock, attended a meeting of the Economics Committee, January 28, 1956, in Albany. He also attended the Subcommittee on Medical Expense Insurance, January 12, 1956, at United Medical Service, 2 Park Avenue, New York City, and has assisted in the preparation of the subcommittee's annual report.

It *was voted* to adopt the report with its recommendations.

Supplementing his report, Dr. McClintock presented the following: Mr. George P. Farrell, director of the Bureau of Medical Care Insurance, reports as follows: February 2, 1956, I attended a joint meeting of Districts II and III of Blue Shield Medical Care Plans in Utica. Among the many things discussed, I wish to report that the Plans considered two State-wide groups, New York Telephone Company and New York State civil service employes. It was reported that the Blue Shield Plans will lose the New York Telephone Company group to a commercial carrier, because Blue Shield cannot offer uniform benefits to the Telephone Company employes throughout the State, and the commercial carrier is offering an experience-rated contract.

Considerable discussion was had regarding the bill recently introduced by Senator Metcalf to provide health benefits to civil service employes (Senate Intro. 928; Assembly Intro. 1284), and it was brought to the attention of the group that there was no provision in this bill for either medical or surgical benefits. It only refers to hospital benefits and the extent coverage would be offered.

Dr. Merle Evans, chairman of District III, instructed me to contact the executive officer of the School of Public Health and Administrative Medicine of Columbia University, Dr. Ray Trussell, who is making a survey for Senator George R. Metcalf regarding means of extending voluntary prepaid insurance to a maximum number of people in the State.

February 6, 1956, I met Mr. Frank Van Dyke, Dr. Trussell's assistant, who wrote the recommendations for the Metcalf Committee regarding his bill. The committee, I believe, is in favor of a service type contract, both for hospital and medical care, for the civil service employes within the State, but due to the fact that at present a uniform State-wide contract could not be offered by the Blue Shield Plans, medical and surgical care was not included in the recommendation. Mr. Van Dyke pointed out that since legislation has been introduced, the commercial companies have appeared before the committee and recommended that the only type of coverage that should be purchased for both hospital and medical care coverage should be in the form of deductible amounts which even apply to the basic contracts. This would reduce the cost of the coverage substantially, and it was Mr. Van Dyke's understanding that Governor Harriman is leaning toward some type of commercial insurance with a deductible amount in the basic contract. I believe that Dr. Trussell and his committee are making every effort to cooperate favorably with Blue Cross, Blue Shield, and the medical profession.

There will be a public hearing on this bill February 22, 1956, at 2 P.M. in Albany. Mr. Van Dyke is notifying all Blue Cross and Blue Shield Plan presidents of this meeting, and I have also asked him to include the names of Drs. McClintock, Wertz, and Harold B. Smith, because I believe the medical profession should be officially represented at this hearing.

There will also be a private hearing by Senator Metcalf's committee which I understand will be for only Blue Cross, Blue Shield, and medical representatives; the date has not been determined. Mr. Van Dyke informs me he will notify the above group of the time and place of this meeting.

Dr. McClintock stated: "A supplementary report has been placed before you this morning concerning the work that is going on in the Legislature by Chairman Metcalf and his committee with regard to medical care for people in the State of New York, for civil service employes, and the reaction of the Governor and some of his party concerning this problem. The important thing, as far as the Council is concerned, is that on February 22 there will be a hearing in Albany on this matter, at which all Blue Cross and all Blue Shield presidents have been requested to appear, and it is suggested that the president appoint members of the State Society to represent the Society at these hearings. It has been suggested that Drs. McClintock, Wertz, and Harold B. Smith, to which group I would like to add the name of Mr. George Farrell, be empowered to represent the Society at these hearings."

It *was voted* to adopt the supplementary report.

The president, with the approval of the Council, appointed Dr. Carlton E. Wertz, Dr. Harold B. Smith, Dr. John C. McClintock, and Mr. George P. Farrell.

It *was voted* to adopt the report as a whole.

Ethics.—Dr. Thurman B. Givan, chairman, reported the receipt of a letter from a pharmacist inquiring "if it is unethical for a Doctor of Medicine to steer or direct his patient to bring his prescription to certain drugstores, without giving the patient a chance to choose his own drugstore." He presented the opinion of the committee that such practice is not ethical.

The Council *voted* approval.

Dr. Givan also reported that the committee had considered an inquiry as to whether the Council's ruling of November 10, 1955, with regard to ownership or part ownership of drugstores by physicians applied also to a drug department of a medical clinic or medical group. The committee decided that it is unethical in this State for a physician to own or partly own either a drugstore or a drug department of a medical clinic or medical group.

The Council *approved* this opinion.

Regarding the resolution on "Questionable Advertising of Medical Books Written for the Laity," adopted by the 1955 House of Delegates, which called for investigation of the subject by the Council, Dr. Givan reported that the committee had requested specific material as a basis for discussion. A book of comics was received, but it had not at that time been read by the committee members.

Dr. Givan continued: "There is one other thing that was referred to us from the House of Delegates that requires action by this Council. On October 14, 1954, the Council voted: '. . . that because the changes in the *Principles of Professional Conduct* have given rise to numerous questions by members of our profession in this State and because many of our members consider them to be ambiguous, this Council recommends to the county societies that these changes be not activated until the next meeting of the House of Delegates,' referring to the changes voted in 1954, and including one on advertising, one on contract practice, one on free choice of physician—and another on proration of fees, which since then has been settled by law and is in effect.

"We discussed the first three propositions. Section 4, of Chapter 1, of the *Principles of Professional Conduct* on advertising:

> Solicitation of patients, directly or indirectly, by a physician, by groups of physicians, or by institutions or organizations is unethical. This principle protects the public from the advertiser and salesman of medical care by establishing an easily discernible and generally recognized distinction between him and the ethical physician. Among unethical practices are included the not always obvious devices of furnishing or inspiring newspaper or magazine comments concerning cases in which the physician or group or institution has been, or is, concerned. Self-laudations defy the traditions and lower the moral standard of the medical profession; they are an infraction of good taste and are disapproved.

"The clarification as brought in by Dr. Ingegno, of Kings County, reads as follows: 'It should be understood that any medical care plan, company, or organization which advertises for subscribers and directs such subscribers to a restricted panel of physicians for medical care is advertising for the benefit of the physicians involved.'

"After a lengthy discussion the committee voted to recommend that this should be a part of the *Principles of Professional Conduct.*"

After discussion it *was voted* to table the "clarification" portion.

Dr. Givan continued:

> *Section 3.* Contract practice as applied to medicine means the practice of medicine under an agreement between a physician or a group of physicians, as principals or agents, and a corporation, organization, political subdivision or individual, whereby partial or full medical services are provided for a group or class of individuals on the basis of a fee schedule, or for a salary or for a fixed rate per capita.
>
> Contract practice per se is not unethical. Contract practice is unethical if it permits of features or conditions that are declared unethical in these *Principles of Professional Conduct* or if the contract or any of its provisions causes deterioration of the quality of the medical services rendered.

"It is recommended that in the first paragraph the words 'duly licensed' be inserted before the words 'physician' and 'physicians.'

"It is recommended also that the following sentence be added to the second paragraph, instead of the one that was accepted before. It should read: 'Contract practice which allows diversion of fees for professional medical services to a hospital, organization or political subdivision is unethical.'

"We shortened the recommendation that the House passed before, which reads: 'A contract with a hospital, organization or political subdivision which is supported in whole or in part by public funds or by solicitation of private subscriptions to diagnose and treat patients is ethical only when such diagnosis and treatment is for a patient who is a public charge.'

"We felt this would be more clear. I called up Dr. Ingegno who put it in, and he agreed fully with the new substitution.

"I move this portion of the report."

After discussion it *was voted* to table this portion for further study.

It *was voted* that this matter be referred also to the Committee on Hospital and Professional Relations and that they be asked to report on it, at the latest, by April.

Dr. Givan continued: "One other thing on 'Free Choice of Physician':

> *Section 4.* The right of the patient freely to choose his doctor must be preserved and maintained. Nothing in any individual or group method of practice must be permitted to interfere with this right.

"It is recommended that the following clarification be added:

> Free choice of physician is defined as the unrestricted freedom of a patient to choose his own physician. The interjection of a third party who has a valid interest, or who intervenes between the physician and the patient, does not per se cause a contract to be unethical. A third party has a valid interest when, by law or volition, the third party assumes legal responsibility and provides for the cost of medical care and indemnity for occupational disability.
>
> If, however, the third party be an organization or corporation which agrees to provide medical and/or surgical services through the medium of individual or group practice, payment to the physicians under contract being either on an indemnity or a per capita basis, a requirement restricting choice of physician to either the individual or group practitioners under contract vitiates the subscriber's right to free choice of physician. This is against the best interests of the public and of the medical profession.

"We discussed this at length also. Remember this part has been passed already, and we were asked not to activate it. The counsel reviewed it. The committee feels that nothing in the new recommendation adds to the ideas already embodied in Section 4; therefore, we recommend deletion of the clarification."

After discussion it *was voted* that the clarification be deleted.

Dr. Givan continued: "The Committee on Questions of Ethics suggests to the Council that in the *Principles of Professional Conduct,* wherever the term 'physician' or 'doctor' appears, the phrase 'doctor medicine' or 'doctors of medicine' be substituted. That will take care of osteopaths and others who call themselves physicians or doctors."

After discussion approval *was voted.*

It *was voted* to approve the report as a whole with the exception of those portions which had been amended, deleted, or tabled.

Hospital and Professional Relations.—Dr. Raymond S. McKeeby, chairman, reported: "This committee has a final recommendation to the resolution which was referred to the Council by the last House of Delegates in regard to solicitation of funds from doctors for hospital building projects.

"Questionnaires were sent to the various representative areas throughout the State. In studying the answers, the following conclusions were made. In one building drive 'terrific pressure was put on the doctors on the staff for substantial contributions to the fund needed for new construction.' In a few cases some drives have 'suggested' the amount they feel a staff member should contribute, based on the extent of his utilization of the hospital facilities and on his economic status in the community. In other cases an over-all quota is set for the medical staff as a fund-raising goal, and in some instances the medical staff have agreed to meet this quota and have assumed the responsibility for obtaining contributions from their own membership. Incidentally, this seems to have been the best and most rewarding approach in the fund-raising drives. There were many answers where solicitation was on a hopeful voluntary basis but with no thought of any discriminatory action by a hospital against a member of a medical staff who failed to meet what they felt was his appropriate contribution or who failed to make any contribution whatsoever. Therefore, the committee feels that since this practice of coercion is not 'a State-wide condition' and only limited to isolated instances, there is no need of taking 'measures to alleviate the situation,' but that each local group of doctors, when faced with such a problem, should solve it to the mutual satisfaction of themselves in their own community.

"One other item in regard to the Proposed Agreement and Statement of Policy between the Medical Society and the Hospital Association of New York State. As you know, this was forwarded to the Hospital Association for their consideration. At the time of the writing of this report, no answer had been received. A meeting is being arranged between the Hospital and Professional Relations Committee and the Hospital Association's Committee on Medical Relations to help clarify the issues."

After discussion it *was voted* that the report be adopted.

Industrial Health.—Dr. Peter J. Di Natale, chairman, stated: "The committee has met several times this year, and matters of industrial health in general were discussed. I have an annual report, which I will not read. It is informative. There is nothing in it that is controversial.

"We in the Industrial Health Committee regret the serious illness of Dr. Cunniffe, first and foremost because of our deep respect for him, and second, perhaps less important, because Dr. Cunniffe had expressed a genuine interest in our affairs at our last meeting.

"Your chairman attended the Congress of Industrial Health at Detroit, January 22, 23, and 24. The meeting was devoted to the chairmen of the various state committees throughout the country, and your chairman made a brief report on our activities. The meeting was devoted to industrial medicine."

It *was voted* to adopt the report.

Legislation.—Dr. Henry I. Fineberg, chairman, presented the following report:

Legislative activity in Albany has not been too dramatic. Bills concerned with medicine and health are being introduced in the Legislature, but no definite trend in any one direction is noticeable. The experts believe that nothing of too great import will happen until after the 15th of this month.

During the next few weeks our committee will meet and review all proposed legislation related to our profession. A complete report will be submitted to the Council at its next meeting.

The legal counsel of our Legislation Bureau has informed us that the ten bills sponsored by our Society have been introduced.

Much of our attention during the past month has been directed toward blueprinting an "antichiropractic program."

On January 14 Dr. Azzari, Dr. Anderton, and your chairman attended a luncheon meeting of the Council on Legislation of the Dental Society of the State of New York, at the Hotel Statler in New York City. We received the assurance of this group that dentistry will support us in our fight to defeat any proposals for chiropractice licensure. It should be noted that the Dental Society has had introduced an injunction bill, the purpose of which is to prevent dental mechanics from practicing dentistry.

Dr. Anderton and your chairman visited the headquarters of the New York State Pharmaceutical Association in New York City on the afternoon of January 17 in order to meet with the executive committee of the New York State Pharmaceutical Association legislation committee. We were told that the pharmacists will also go along with us in our "crusade" against the licensing of chiropractors. The secretary of the State Pharmaceutical Association discussed a bill which the pharmacists would like to introduce in the Legislature. It would conform to Treasury Decision No. 49, approved February 17, 1955, "which established basic procedural regulations governing the filling of oral (telephoned) prescriptions for certain narcotic drugs or compounds of narcotic drugs found to possess relatively little or no addiction liability." In a number of states some type of amendment to the state narcotic law has been enacted, with a view toward allowing the oral prescription in keeping with the Federal law and regulations.

The request of the pharmacists appears reasonable. However, before taking any action, we feel that it is only fair that we consider the opinion of Mr. Frank J. Smith, chief of Narcotic Control of the Department of Health of the State of New York. We have written Dr. Albert Vander Veer, of Albany, our representative on the Advisory Board of the Narcotic Control Section, requesting that he contact Mr. Smith and ask him to send his recommendations in to us.

A meeting of the Steering Committee appointed by our president to blueprint a campaign against the chiropractors—henceforth to be known as the Committee to Combat Cults—was held in the office of the Medical Society on January 23 at 3:30 P.M. A plan of action was adopted.

The Ad Hoc Committee, appointed by Dr. Azzari, met with the Committee on Charters, Law and Legislation of the Board of Regents, at the State Education Building, during the late afternoon of January 26. A group of chiropractors had had an audience with the same group earlier that day, and our committee was granted the opportunity to present *our case* against the licensing of chiropractors.

Dr. Edward T. Wentworth, in his usual inimitable manner, fully discussed chiropractic from a scientific standpoint and showed why it should receive no recognition whatsoever as one of the healing arts. We were informed that a minority group of "special" chiropractors have requested that approval be given to a bill, with restrictions, which would permit them to treat renal and cardiovascular diseases among other illnesses.

The members of the Board of Regents, present at the meeting, practically admitted that chiropractic scientifically is not worthy of much consideration. However, it was their contention that chiropractors are coming into our State and practicing without licenses, and, therefore, the only feasible approach is to license them and thus limit their activities. The Regents asked the assistance of our Society in drawing up a bill that will contain restrictions but will permit chiropractors to practice the healing art. This is necessary, we are told, not from a scientific standpoint but from the point of view of the social well-being of the public. The majority of the members of the Board of Regents is said to be of the opinion that the public will visit chiropractors regardless of whether we approve them or not.

Our committee reiterated its stand: that chiropractic is quackery; that we cannot be a party to any scheme that would license chiropractors and give them the stature that they do not deserve; that we will not compromise with charlatanism; and that we will not sponsor or support any licensing bill, no matter how many restrictions are included. Dr. Azzari expressed our sentiments when he said that our profession must in all conscience refuse to recognize that chiropractic is anything but cultism.

It was the opinion of several members of the Board of Regents that we should consider fighting for a strong injunction bill which would restrain chiropractors from practicing medicine in the same manner in which the Bar Association has kept certified public accountants from practicing law.

The impasse that developed was not resolved. No definite decision was reached by the Board of Regents committee while we were present.

It *was voted* to approve the report.

Dr. Fineberg stated: "I have a supplementary report.

"The meeting of the executive committee will be held on the afternoon of February 16, 1956.

"On January 17 a bill was introduced by Senator Metcalf (Senate Intro. 505) and Assemblyman Ashbery (Assembly Intro. 805) which authorizes the 'Commissioner of Health to convey to the County of Tompkins for use as a general hospital the land, buildings, and essential hospital equipment now owned and operated by the State as Hermann M. Biggs Memorial Hospital.'

"Dr. Moore is well acquainted with this proposal, which has the approval of the local county medical society, the State Department of Health, and most of the members of the Board of Overseers of the hospital. (This information was relayed to your chairman by Dr. Curphey, Dr. Larimore, and Dr. Charles Stewart Wallace of Ithaca.)

"Information reached us that there was to be an open hearing on this bill on February 7 and that a representative of the State Society should be present. There being no opportunity for approval by the Council, your chairman contacted a majority of the members of the executive committee of the Committee on Legislation and our president, and Speaker Holcomb was requested to go to Albany. He graciously consented to represent our Society, and I am sure that he has a report for you."

Dr. Holcomb reported: "I am sure that you gentlemen realize that as a past medical director of a tuberculosis sanatorium for sixteen years, I felt there could be no objection on the part of anyone to having a county such as Tompkins County receive a gift of a $4,000,000 hospital, and I thought it was a waste of time to go to Albany.

"When I arrived at this hearing, I found a tremendous number of people. Fortunately, I began taking notes. They spoke for about three hours. They began with a county attorney of Chemung who opposed the bill from the standpoint of its legality, stressed mental health need and too hasty action on the part of the State. Then a pathologist spoke of too little time to test wonder drugs. The next man—these are all from constituent societies of our group that are under this big hospital, we will say of the region—was from Broome County, Elmira, an ex-patient of Biggs Hospital, who gave an emotional story about what it would mean to the patients if they were transferred to another place. The next was the Commissioner of Welfare of Wayne County, J. Willis Bangs, an attorney. He spoke about the God-given scientists, etc., to cure tuberculosis, the question of Dr. Hilleboe exceeding his right as Commissioner of Health by giving away taxpayers' money.

"Next we had the assemblyman from Tioga County, who arose and talked at length about giving millions of taxpayers' money to Tompkins County. He said the taxpayers should have a referendum before acting on it. The next, the assemblyman from Schuyler County, got up objecting very strongly, spoke of decentralization of industry and the needs of this hospital. The next, a senator, who said he represented five counties and that he had the backing of the medical societies in his five counties in coming to this meeting and speaking against the bill.

"Then we had the assemblyman from Seneca County who spoke about the State Department of Health abusing its privileges. The next was the assemblyman from Cortland County, who also said that he represented and spoke for the doctors of the county and the health associations. He said there were still enough patients to fill a hospital. The next man was from Wayne and, then, following him, the county attorney and supervisors from Yates County. In other words, the only ones who spoke for the bill were from Tompkins County, and in the face of this three-hour opposition I did not feel that I was empowered to speak and perhaps throw away the opinion of these men who purported to represent the medical societies of these seven counties. I felt very badly that I could not speak and say I approved, as I did in my heart, that this hospital be given to Tompkins County. Therefore, I also, in the one or two moments that I spoke, said I spoke not only as a representative of the Legislation Committee but also as the Speaker of the House of the State Society who represented all of the county societies, and at this time I thought the matter should be studied by the Council, or have Council action, or go further with the Legislation Committee, so I would prefer to withhold any comment.

"Therefore, I recommend that Dr. Fineberg immediately contact the presidents of the county societies concerned and see whether the senators and assemblymen who spoke in opposition represent the medical group."

After discussion Dr. Fineberg's report *was approved,* including Dr. Holcomb's recommendation, which calls for a letter to be sent to the presidents of the seven county medical societies asking their views.

It was understood that this approval included support of the bill, Senate Intro. 505 and Assembly Intro. 805.

Malpractice Insurance and Defense.—President Azzari stated: "A report of the Malpractice Insurance and Defense Board with reference to county medical society advisory committees was introduced at the last meeting and tabled for action at this meeting."

Since its organization in 1946, the Malpractice Insurance and Defense Board has been struggling with the problems assigned to it by the Society and fighting a losing battle at the State level against the increasing incidence of malpractice claims and rising costs of insurance. Realizing that some of the problems involved, particularly that of defense of suits and claims, could be analyzed to best advantage at the county level, the House of Delegates in 1954 authorized and urged the formation by county societies of advisory committees to the Malpractice Insurance and Defense Board.

Purpose.—These committees were authorized for the following purposes:

1. To advise the Malpractice Insurance and Defense Board on any matters submitted to them.
2. To analyze suits and claims against their county members and, in conference with the legal counsel and a representative of the claim department of our carrier, arrive at a conclusion as to whether or not liability exists in each case examined.
3. To advise the Board, the legal counsel, or the nearest claim representative of the company of any event or situation in which it is believed that prompt hospitalization, medical or surgical care should be provided for a patient through the responsible doctor to repair or minimize an injury sustained. When all concerned are agreed, rehabilitative action can be undertaken as an obligation to the patient and to retain his good will for his doctor.
4. To advise the legal counsel as to any medical defense that can be made, to supply witnesses for defense, or to assist counsel in obtaining any special witness he considers necessary for effective defense.
5. To advise the Board of any circumstances or facts known to the committee indicating that a member is a specially hazardous risk with recommendations as to what change, if any, should be made in the insurance of the member in question.
6. To report to the county society or its comitia minora, as may be directed, any corrective measures that should be taken with respect to the attitude or departures from sound and accepted practice which, in the opinion of the committee, may bring discredit on the medical profession in the community.
7. To report to the county society or its comitia minora, as directed, the trend of malpractice claims in its area and to communicate to the county society members such "do's" and "don'ts" as will assist in avoiding the kind of claims the committee has had an opportunity to review.
8. To inform itself as far as possible on all matters having to do with the malpractice insurance and defense welfare of the members of its county society and in such matters act when required as a liaison agent between its members and the Malpractice Insurance and Defense Board of the Society and its representatives.

Composition.—1. County society committees should be composed of six to 24 members depending on the size of the county membership. In the small counties it may be found advantageous to combine several contiguous counties in one undertaking. In any event the committees should be large enough to distribute such investigative work as may be necessary among a number of members and not leave all of it to be done by a few. Also, it is desired that as many members as possible have an opportunity to learn at first hand the nature and causes of malpractice claims arising in their county.

2. Obviously, the members selected for a committee should be doctors whose ability, judgment, fair-mindedness, and integrity are above question and, as far as possible, free of any personal bias.

3. As many of the specialties as possible and general practice should be represented on the committee.

4. Although a county committee should be concerned with all malpractice actions against its members, it is probable that the details of those insured outside the Group Plan will not be available to it for study. Therefore, since a large majority of cases submitted to the committee will involve members insured in the Group Plan, the doctors appointed to the committee should be supporters of it. It would be patently unwise to submit cases for study and recommendation to a committee composed of doctors who have no stake or personal interest in the successful operation of the Group Plan.

Source of Information.—At present each advisory committee that has already been formed is receiving a brief notice of each suit or claim filed against its members. Each of these cases is fully investigated by a field investigator of our carrier, and a written report, including all of the pertinent data obtained, is filed with the claim department of the company. In addition, the legal counsel may have other data and, in any event, is always prepared to advise as to the legal points involved. The indemnity representative has a complete record of the insurance history of each member and of any previous claim he may have had. All of this will be available to the committee as a starting point in each case it undertakes to examine.

Meetings.—The committee should meet monthly or on call of the chairman, depending upon the number of cases to be examined.

Notice of meetings should be sent to the legal counsel, indemnity representative, and the claim department of the company so that they may have available the information referred to above bearing on the cases to be examined.

Operations.—The committee should be granted the broadest powers by its county society so as to carry out effectively the purposes for which it is formed. It should regard itself as a board of inquiry with authority to examine any pertinent records available to it, such as hospital and doctors' office records, and to confer with the defendant and such other persons, except plaintiffs represented by an attorney, as may be able to furnish information bearing pertinently on the case being examined. In short, the committee should secure and examine all information available to permit reaching a sound, fair, and unbiased conclusion on all points involved.

Records.—No records should be kept of discussions, conclusions reached, or recommendations made regarding any case. What transpires at a meeting should be regarded as highly confidential and never discussed outside the committee.

Cooperation of Members.—In the beginning some members may object to attending committee meetings for the purpose of discussing their medical acts or mistakes. This can be partly overcome by formal authorization by the county society to make such investigations but mainly by giving the defendant doctor assurances that the interest of the committee is both confidential and friendly; that the purpose of it is to help him and the Society to arrive at an equitable and proper conclusion and finally, as far as it may be necessary, to protect his interests.

Conclusion.—This plan offers the only means available by which the county societies can join the State Society in a concerted attack on the growing threat of malpractice cases in our State. Malpractice, the defense of suits and claims which grow out of it, and the insurance against the consequences of them touch the welfare of all practicing members of the State Society. Through the medium of this plan it is hoped to provide an opportunity for the largest possible number of members of the State Society to inform themselves on the details of this subject.

All communications to the Board should be addressed to its secretary, Mr. Harry F. Wanvig, 2 Park Avenue, New York 16. His telephone number is Murray Hill 4-3211. Committee chairmen are urged to call him by telephone in emergencies and reverse the charges.

Mr. William F. Martin is our legal counsel. His address is 30 Broad Street, New York 4, and his telephone number is Hanover 2-0670. He is frequently in court, but one of his assistants who can usually answer emergency legal inquiries is always in the office.

Following is a list of claim representatives of our carrier, the Employers Mutual Liability Insurance Co. of Wisconsin, together with their addresses and telephone numbers:

New York: 60 East 42nd Street, New York 17
Telephone: Vanderbilt 6-0210
Albany: 75 State Street
Telephone: Albany 6-7666
Buffalo: 1 West Genesee Street
Telephone: Madison 0475
Rochester: 25 North Street
Telephone: Hamilton 5775
Syracuse: 472 South Salina Street
Telephone: Syracuse 74-5341

It *was voted* to approve the report.

The Council *voted* to go into executive session.

In executive session the Council discussed the January 12, 1956, report of the Malpractice Insurance and Defense Board and kindred matters. The secretary was instructed to request the Medical Society of the County of Kings to arrange a conference of three members of its comitia minora with an ad hoc Council committee, Dr. Samuel Z. Freedman, chairman, Dr. Henry I. Fineberg, and Dr. Herbert Berger. The Council voted to reaffirm its October 13, 1955, resolution directing the Malpractice Insurance and Defense Board to authorize Mr. James B. Donovan to represent the Society in investigating the solicitation of malpractice insurance from members of the Society by brokers and excess line brokers of nonlicensed insurance organizations and in negotiations with the New York State Superintendent of Insurance, as the Board deems necessary and advisable. And the secretary was instructed to notify the Board that no evidence should be presented without first being presented to the Council.

Office Administration and Policies and Publication.—Dr. John J. Masterson, chairman, stated: "To save expenses to the Society, we meet on the Wednesday before the meeting of the Council. Therefore, we are unable to report in the agenda sent out by Dr. Anderton.

"I have a report of the Office Administration and Policies Committee consisting of five pages, mostly dealing with pensions, and the report of the Publication Committee, consisting of three pages. May I move, sir, that these reports be included in the agenda for the next meeting, and be acted upon at that time?"

It *was so voted.*

Public Health and Education.—Dr. Theodore J. Curphey, chairman, reported that he had attended five meetings and arranged 18 postgraduate lectures in ten counties since his last report to the Council.

He stated: 1. A meeting of the Subcommittee on Epilepsy was held on January 12 in the offices of the Society. Present were Drs. S. B. Wortis, chairman; H. Houston Merritt; A. M. Rabiner; T. J. Curphey; Robert R. Korns, Assistant Commissioner of Health; William G. Beadenkopf, Assistant Director of the Bureau of Epidemiology and Communicable Disease Control; Henry Brill, Assistant Commissioner of Mental Hygiene; and Commissioner of Motor Vehicles Joseph P. Kelly, with his assistant, Mr. Vincent P. Russell.

Dr. Korns reported that information from the Wisconsin State Commissioner of Health, Dr. Carl Neupert, indicated that their law concerning epileptic drivers (which our Subcommittee on Epilepsy has considered a model for this type of regulation) has been working beneficially. It was agreed by the committee, however, that it would be well to await the results of the Drivers' Research Project proposed to the Governor by the Commissioners of Health and Motor Vehicles before any change in the New York State Law is drawn up in line with the Wisconsin Law.

The subcommittee recommended that a six-month limit be set on licenses for epileptics, which would bring the old cases under the same rule as the new ones, necessitating a review of their condition periodically. It was pointed out that the Vehicle and Traffic Law makes no provision for the issuance of a license for less than three years. However, it was agreed that for the moment no amendment would be proposed; rather the Commissioner could summon epileptic drivers for a review of their condition. After a number of such reviews certain of these individuals might be permitted to hold licenses for a longer period of time.

No time limit was set within which an epileptic should not have had a seizure before being granted a license, pending the deliberations of the over-all subcommittee which will deal with all aspects of physical and mental disability of applicants for licenses. The past driving records of all epileptic applicants will be required with their applications.

The subcommittee had been provided with the records of 22 epileptic applicants regarding whom Commissioner Kelly desired guidance. On two of these it was recommended that a follow-up electroencephalogram be given before a decision is reached. The remainder were approved for licenses, with review in six months.

2. A request has come from the Motor Vehicle Bureau for assistance in solving a dilemma posed by the depletion of the supply of "MD" license plates, which they fear may be exhausted by 1957. We have transmitted to Mr. Ryan an estimate of 3,000 newly licensed physicians within the next two years, which we procured from Dr. Stiles Ezell, secretary to the Board of Medical Examiners. Mr. Ryan also wants our opinion of his proposal to limit "MD" plates to one vehicle for each doctor, instead of two. Another suggestion would be to create a new two-letter plate series of some other combination recognizable as being reserved for physicians.

It *was voted* to approve this request, "one M.D. motor vehicle license plate per doctor."

Dr. Curphey continued: "The next point deals with the Northern New York Rehabilitation Survey. The Council might recall, on the advice of Dr. Mott and with the approval of this body, it was suggested to the group that in order to conduct the survey and not jeopardize physicians supplying the names of patients to the group, the patients be advised by the doctors that they should cooperate in the survey. That information was sent to Dr. Brightman, and I suspect that he conveyed it to the survey group. Dr. Brightman called this morning to say that last night the steering group of this survey met and have changed their policy. The entire program is now under the auspices of the State University at Syracuse, which was not the case when I reported to the Council last month. I would judge from what Dr. Brightman said that there is some doubt as to the efficacy of this approach that we recommended, and he has asked me to present to the Council a counterproposition, that these people who are in need of rehabilitation who are under the care of doctors in this area have their doctors submit to the survey group their histories identified by code, that is, in an anonymous fashion. The survey group, in turn, will study the histories and will decide which ones they want to explore and will so notify the doctor. It is Dr. Brightman's feeling that then our suggestion would be in force; that the doctor, in turn, advise the patient to allow himself to be studied by the survey group. It is just the interposition of this precaution of having the doctor submit the history on the patient by code.

"I personally can see no objection. I would like to remind this Council that our Subcommittee on Physical Medicine and Rehabilitation, in studying the prospectus for this survey, approved it and recommended that the Council also approve the principles of the survey. On the strength of that I move that we acquiesce in the request that the doctors supply the survey group with the case histories in code anonymously."

It *was so voted.*

Dr. Curphey requested approval of the appointment, following consultation with President Azzari, of Dr. Joe W. Howland of Rochester to represent this Society at a meeting with "an advisory committee on survey standards and qualifications having to do with radiation installations." The meeting was held prior to the Council meeting.

Approval *was voted.*

Dr. Curphey stated: "I would also request the appointment of Dr. S. B. Wortis as chairman of the Accident Prevention Subcommittee. Dr. Wortis has been very active in our mental hygiene group, and he has been chairman of the ad hoc committee to study the epileptic problem for Commissioner Kelly."

It *was so voted.*

Dr. Curphey continued: "The next item, sir, is the request for the approval of Dr. Kenneth Olson's trip to Chicago to attend the Golden Film Festival on April 23 to 27. He is chairman of our Film Review Subcommittee. I brought some figures that show the activity of this Film Review Subcommittee. In 1955 there were 642 individual shipments of films through the State, 24 to private physicians, 198 to staffs of hospitals, 79 to medical schools, and 338 to nursing schools. Therefore, in view of the performance of this committee, I think it would be proper to have Dr. Olson's expenses paid to this Film Festival."

It *was voted* to approve the payment of Dr. Kenneth Olson's expenses, to be taken from the Public Health and Education Committee budget.

Dr. Curphey also reported about the proposed study of the Revici method of treating certain cancer patients. A letter from Dr. Peter Kasius, Deputy Commissioner of Social Welfare, was discussed.

The Council felt unable to supply the desired information and *voted* so to notify the Deputy Commissioner.

It *was voted* to adopt the report as a whole.

Public Relations.—On behalf of Dr. Floyd S. Winslow, chairman, Dr. John C. McClintock, a member of the committee, presented the following report: "Participation in the campaign to prevent enactment of the Peterson-Noonan chiropractic licensure bill and preparation for the annual meeting were some of the projects of your committee and the Public and Professional Relations Bureau since the last Council meeting.

"The Bureau cooperated with Dr. Henry I. Fineberg, chairman, Committee on Legislation, in making plans for the campaign against the chiropractic licensure bill. These included mailing three letters. The first was sent to the president of each county medical society urging his cooperation. The second outlined the campaign to public relations and legislation chairmen of each county society. The third will present the position of the Society to members of the Legislature. Informative literature, including a pamphlet prepared by the Bureau, accompanied the letters.

"On January 23 your chairman, Mr. Miebach, and the field men attended a meeting of the campaign steering committee, the Committee to Combat Cults. The field men were asked to contact county society officials in all parts of the State.

"Preliminary preparations are in progress for the annual convention to obtain free public service time for programs from local radio and television stations.

"The *Newsletter* featured the chiropractic campaign and the annual meeting.

"The Speakers' Service worked on assembling and preparing an outline of material plus a list of questions and answers on why chiropractors should not be licensed.

"Releases covering postgraduate lectures were sent to newspaper editors in Broome, Fulton, Greene, Schenectady, Suffolk, and Sullivan counties.

"Mr. Miebach represented the Bureau at the Medical Society Executives Conference Institute, the first of its kind, in Chicago, February 6, 7, and 8.

"The Bureau has been assisting Dr. Fineberg in his preparation of a program for the Public Relations Session at the annual meeting.

"Requests continued to be filled by the Bureau from writers for help in preparing articles for national magazines. These included the *Ladies Home Journal, Life,* and *Coronet.*

"Plans are under way to hold meetings with the representatives of the press, radio, and television to bring the Guide for Cooperation up to date."

It *was voted* to accept the report.

Workmen's Compensation.—Dr. Gerald D. Dorman, chairman, presented the following report:

We are enclosing herewith copy of a letter dated January 25, 1956, which summarizes our activities with respect to the treatment of workmen's compensation claimants in veterans hospitals. This investigation was begun as a result of a resolution passed by our House of Delegates in 1955. We append herewith also copy of a letter dated January 19, 1956, from Dr. George F. Lull, expressing the opinion of the Law Department of the American Medical Association. This opinion agrees with that which we have expressed that the Veterans Administration is incorrect in its assumption that it must treat workmen's compensation claimants if they sign an affidavit of inability to pay for medical care. We feel the treatment of workmen's compensation claimants in veterans hospitals is improper and illegal and should be discontinued. The extent to which such cases are admitted is being investigated by us.

We have informed the Council that the State Insurance Fund was objecting to the payment of medical bills rendered by physicians for assistance at operation in hospitals where interns were not available for assistance at operation. The State Insurance Fund held that Item 9 was ground for refusal to pay an assistant's fee, even though it was conceded that the hospital's interns were not available for operation. This dispute was State-wide, and recently other companies are making the same objections to bills for assistance at operation. We have tried to have the chairman of the Workmen's Compensation Board issue a declaration or explanation concerning this item. We feel that since the hospital is required to provide an intern for assistance at operation as a part of the operating room fee which is paid to the hospital, objection, if any, should be to the hospital bill and not to the doctor's bill.

We have also tried to get an explanation as to the payment of mileage fees, to no avail. The enclosed letter indicates the reluctance of the chairman of the Workmen's Compensation Board to make a statement on these points, holding that a dispute as to medical fees should be decided by arbitration. We hold that it is the function of the chairman of the Workmen's Compensation Board to set fees and explain the circumstances under which they are to be paid, even if it is necessary to file with the State Department such explanation. This should be done in order to avoid the disputes and hard feelings engendered by the failure of certain carriers to pay fees not adequately explained in the schedule.

We are proceeding with the discussions on the new fee schedule approved by Miss Parisi and are awaiting the appointment of a committee by the insurance carriers and self-insurers. We have been ready for some time with a detailed list of the schedule, a result of conferences with county medical societies and specialty groups, including the Academy of General Practice.

We have conferred with representatives of the Commerce and Industry Association of New York State about our suggestion to appoint panels of experts under Section 13(d) of the Workmen's Compensation Law to replace the physicians now appointed to assist referees in determining questions of causal relationship, medical care, degree of disability, etc. We have reason to believe that we may be able to obtain the support of this organization for a bill in the Legislature to bring about the appointment of panels of experts.

Your director addressed the Bronx County Medical Society on Wednesday, January 18, 1956, on workmen's compensation matters, before a large interested audience.

January 25, 1956

Dr. W. P. Anderton, Secretary
Medical Society, State of New York
386 Fourth Avenue
New York 16, New York

Dear Dr. Anderton:

Shortly after the meeting of the House of Delegates we received a notice of a resolution number 55-12 passed by the House of Delegates, that "the Council, through the Bureau of Workmen's Compensation, determine the extent to which veterans hospitals are treating compensation cases and that the Society make every effort to abate any abuse of the Workmen's Compensation Law that may exist."

Following the receipt of this resolution, the director of the Workmen's Compensation Bureau was in contact with various veterans hospitals and with the chief medical director of the Veterans Administration in Washington, D.C.

In general, it was the position of the Veterans Administration that if a veteran took an oath of inability to pay for medical care, he was entitled to same for nonservice-connected disabilities, even though the condition was covered by the provisions of the Workmen's Compensation Law of New York State. Correspondence with the Veterans Administration resulted in an opinion from the legal representative of the Veterans Administration supporting the position taken by the medical director of the Veterans Administration in Washington.

Incidentally the Borden Company, a self-insured employer, had objected to a bill of $390.50 submitted by the Veterans Administration in Bath, New York, in a compensation claim, which bill included a fee of $100 for an operative procedure and a number of smaller sums for other medical services in addition to the bill for hospitalization.

It was apparent that little was to be gained by further correspondence with the Veterans Administration, and it was thought advisable, since the matter involved states other than New York, in which compensation claimants are entitled to medical care at the expense of the employer, to refer the entire matter to the American Medical Association for further consideration. On October 31, 1955, the director of the Workmen's Compensation Bureau addressed a communication to Dr. Wm. J. Kennard, assistant director of the American Medical Association in Washington, D.C., advising him of the resolution passed at the House of Delegates of the Medical Society of the State of New York, concerning the treatment of compensation claimants in veterans hospitals and requesting information concerning the extent of admissions of compensation claimants to veterans hospitals throughout the country in addition to New York State. This was as a result of a meeting with Dr. Kennard at a meeting of the Industrial Council of the American Medical Association at the Hotel Statler in New York City and an invitation from Dr. Kennard to send the matter to him to obtain further information and perhaps the views of officials of the Veterans Administration in Washington, D.C.

On November 14, 1955, the director of the Workmen's Compensation Bureau was informed that the correspondence in this matter had been referred to Dr. George F. Lull, secretary and general manager of the American Medical Association, for submission to the appropriate Council of the American Medical Association for information and further instructions in the matter. Ultimately the matter was referred to a Council before the American Medical Association, and I am pleased to enclose a letter dated January 19, 1956, received from Dr. Lull including the opinion of the Law Department of the American Medical Association. This letter is self-explanatory.

The question of what further steps to take with respect to the Veterans Administration requires the further consideration of the Council which is respectfully requested at this time.

Very truly yours,
Gerald D. Dorman, M.D., *Chairman*
David J. Kaliski, M.D., *Director*

cc to Dr. Azzari
cc to Dr. Bauckus
cc to Dr. Dorman

January 19, 1956

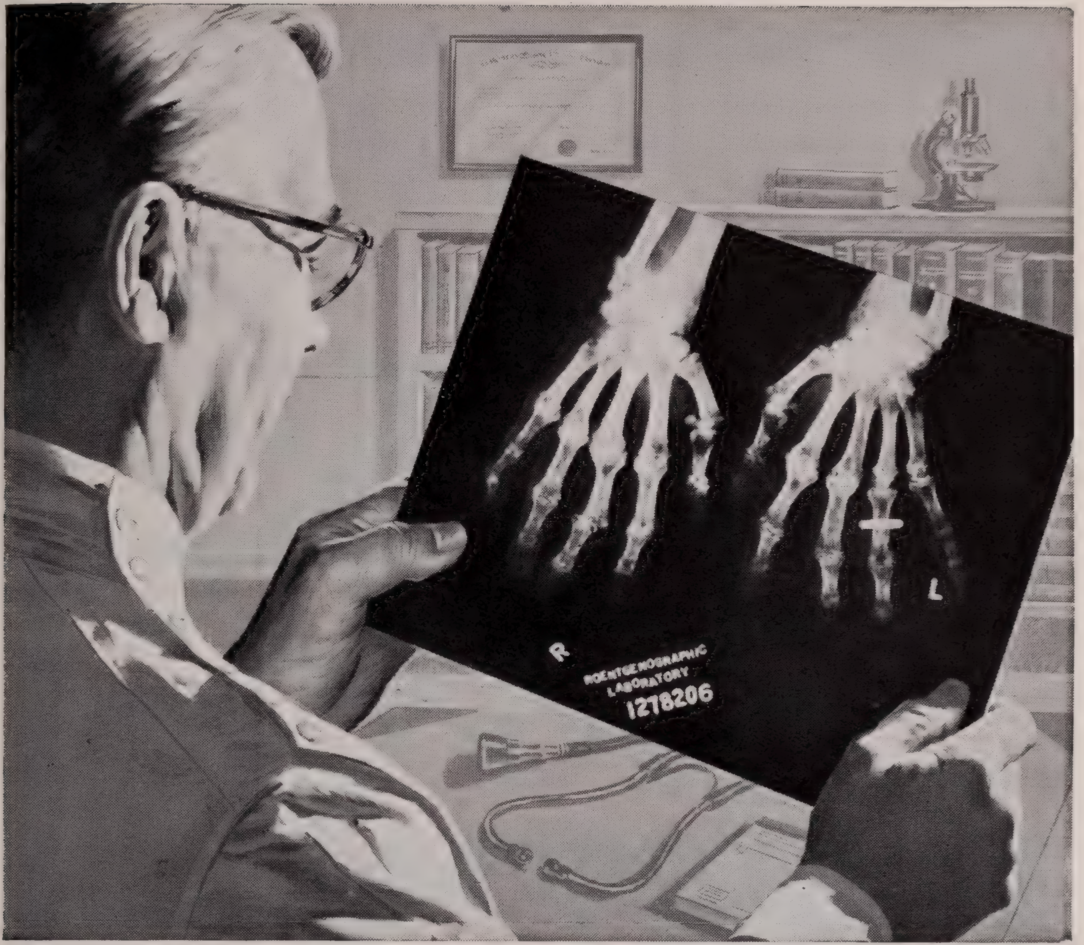
Dr. David J. Kaliski, Director
Workmen's Compensation Bureau
Medical Society of the State of New York
386 Fourth Avenue
New York 16, New York

Dear Dr. Kaliski:

Some time ago our Washington office forwarded correspondence that it had with you relative to the Veterans Administration taking in patients who were eligible to have their treatment paid for under workmen's compensation laws. This material was given to our Law Department, which has rendered the following report:

> "Section 6, Public Law No. 2, 73rd Congress provides that a 'veteran who is in need of hospitalization . . . and is unable to defray the necessary expenses therefore . . . shall be furnished necessary hospitalization . . . in any Veteran's Administration facility, within the limitation existing in such facilities, irrespective of whether the disability . . . was due to service. The statement under oath of the applicant on such form as may be prescribed by the Administrator . . . shall be accepted as sufficient evidence of inability to defray necessary expenses.
>
> "Doctor Kaliski's position is that a veterans' hospital should not admit a compensation claimant since under the circumstances he has a nonservice-connected disability for which he is not liable for the cost of medical care. I agree with Dr. Kaliski's conclusion. It is obvious that the statute is intended to extend hospitalization benefits in nonservice-connected cases to indigent veterans who must look to governmental or private *charity* for such services. Private charity hospitals may investigate the patient's financial need before rendering services without charge. However, the Administrator, under the statute, may rely upon a statement under oath from the veteran that he is unable to pay. In my opinion, the statute permits the Administrator to utilize facilities not needed for service-connected disabilities for the care of *charity* patients, and to rely upon the written sworn statements of such patients that they are in fact indigents. The ability to pay or means test is properly applicable to the situation where the veteran would be required to pay for hospitalization services if he had the means to do so. Where the individual involved is *not* required to pay for hospitalization because he is entitled to such services by law (workmen's compensation claims) irrespective of his financial ability, then his ability or lack of ability to pay is immaterial. My conclusion, as Dr. Kaliski's, is that Congress intended to provide hospitalization to veterans in nonservice-connected cases in a manner similar to the services offered by private charities, providing *charitable* services are needed. The sworn statement of the veteran that he is unable to pay is material only when he requires charitable hospital-

[Continued on page 1342]



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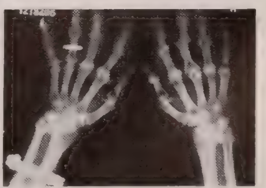


REFERENCES:

1. J.A.M.A. 159:645 (Oct. 15) 1955.
2. J.A.M.A. 158:386 (June 4) 1955.

BRISTOL-MYERS CO., 19 West 50 Street, New York 20, N. Y.

[Continued from page 1340]

ization. The workmen's compensation claimant is not in need of charity, and in my opinion an Administrator having knowledge of the facts is violating the law if he applies the ability to pay test in a situation where it is immaterial.

"Dr. Kaliski also calls attention to a situation where the Veteran's Administration attempted to charge the Borden Co. for a surgical operation performed upon a veteran in a workmen's compensation case. The statute does not permit a veterans' hospital to practice medicine and sell the services of a physician. It applies exclusively to hospitalization services under the circumstances I have previously discussed."

This is our opinion which, I believe, coincides with yours, and we believe that the Veterans Administration is incorrect in its assumption as stated.

Very truly yours,
George F. Lull, M.D.

American Medical Association
535 North Dearborn Street
Chicago 10, Illinois

January 27, 1956

Dr. David J. Kaliski, Director
Workmen's Compensation Bureau
Medical Society of the State of New York
386 Fourth Avenue
New York 16, New York

Dear Dr. Kaliski:

I have your letter dated January 9 wherein you advise that your Society desires me to issue a statement relative to Line 9 of the Medical Fee Schedule with respect to the allowance of a fee for an assistant to a surgeon at operation in hospitals whose interns are not available to assist the operating surgeon.

I have also before me your letter bearing the same date addressed to Mr. Leo Murin, Associate Counsel to the Board, wherein you request a statement from me relative to Line 10 of the Fee Schedule with respect to allowance for mileage to an anesthetist for travel to and from the hospital where the anesthesia was administered.

In my opinion, after a fee schedule or amendment thereto is promulgated and duly filed in the Department of State, any controversy with regard to a fee payable thereunder is a matter for determination by the Medical Practice Committee or an arbitration committee appointed pursuant to Section 13-g. For the chairman to attempt to resolve the controversy by issuing a statement intended to clarify or interpret any line or lines in the schedule is improper and would constitute a usurpation of the responsibilities of the Medical Practice or arbitration committee.

I anticipate that the recommendations which you are now working on, with respect to a contemplated revision of the Schedule, will eliminate such controversies, so far as possible, in the future.

Very truly yours,
Angela R. Parisi, *Chairman*

Workmen's Compensation Board
State of New York
80 Centre Street
New York 13, New York

It *was voted* to adopt the report as a whole.

Dr. Dorman stated: "One other matter that I would like to bring up is not connected with workmen's compensation. I received a telephone call from the secretary of the American Medical Association asking that the county society send a representative to appear before the Senate Finance Committee in regard to the extension of the Social Security Law, House Resolution 7225, as far as the disability provisions of that law go, and the Legislation Committee of the Medical Society of the County of New York is recommending to the Comitia Minora that I represent New York County in that matter. As I am also a councillor of the State Society, I cannot be there without some implication that I am also speaking for the State Society, and I would like the authorization of the Council so to speak.

"The particular portion of the change of Number 7225 which we will be opposing will be the question of payment for permanent disability to disabled persons, public disabled persons, at age fifty. There is no definite specification in the law as to what constitutes total disability. Persons are eligible for disability privileges under it only when they are submitting to rehabilitation, and there is no definition as to what rehabilitation consists of, whether taking an aspirin for a backache or going over to Dr. Rusk's rehabilitation clinic.

"Another factor in the bill is reducing the retirement age of women to sixty-two from sixty-five, which is going to be, according to the testimony given by Mr. Meyers, the chief actuary of the Old Age Compensation, the item which is going to increase cost the most. Women average a retirement age of 68.7, I believe, and men average a retirement age of 69.4, so that it is not necessary to reduce the retirement age of women. Women are living longer than men and are more healthy. One of the insurance companies in this city, I understand, within the last two months has raised their required retirement age from sixty-five to sixty-eight for employes, so that the trend in industry is away from reduction. Retirement disability payments at sixty-two will cause an increased burden."

It *was voted* that Dr. Dorman be empowered to represent the State Society at the hearing on Bill 7225.

New Business

Dr. Mellen

Dr. Dan Mellen *was elected* a member of the Board of Trustees until the next meeting of the House of Delegates, to fill the vacancy created by Dr. Reuling's resignation.

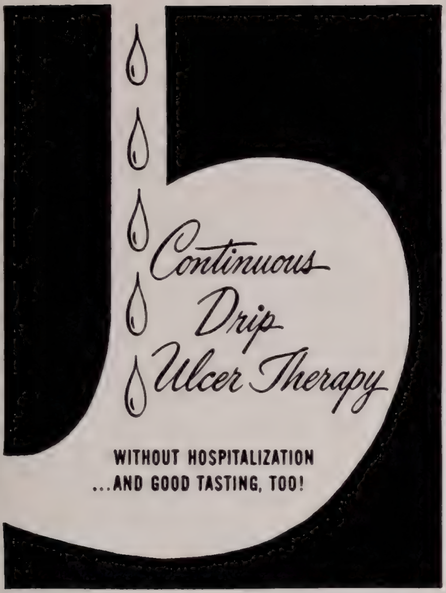
Albany Office

The Council *voted* to recommend that the Board of Trustees renew the lease of our Albany office for three years.

Law Department Conference

Mr. William F. Martin, counsel, requested permission to attend the American Medical Association Law Department Conference.

It *was voted* that Mr. Martin be so authorized.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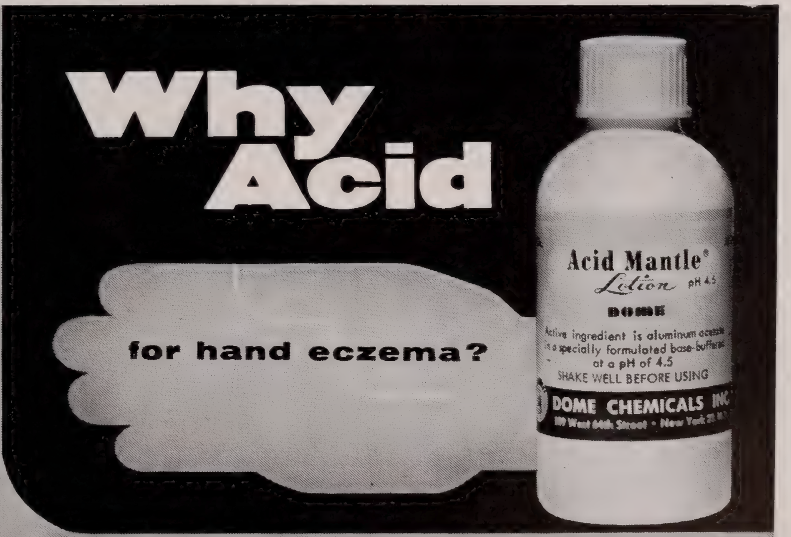
*Steigmann, F., and Goldberg, E.: Ambulatory Continuous Drip Method in the Treatment of Peptic Ulcer, Am. J. Digest. Dis. *22*:67 (Mar.) 1955.

†Mg trisilicate 3.5 gr.; Ca carbonate 2.0 gr.; Mg oxide 2.0 gr.; Mg carbonate 0.5 gr.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NECROLOGY

Emanuel M. Abrahamson, M.D., of New York City, died on March 19 at his office at the age of fifty-seven. Dr. Abrahamson graduated in 1926 from Columbia University College of Physicians and Surgeons and interned at Jewish Hospital, Brooklyn. He was a Diplomate of the American Board of Internal Medicine and a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

William Berman, M.D., of White Plains, died at his home following a brief illness on March 12 at the age of fifty-five. Dr. Berman graduated from Cornell University Medical College in 1925 and interned at Lenox Hill, Mount Sinai, and Manhattan State Hospitals. He was an attending psychiatrist at Grasslands Hospital, Valhalla, an associate in neuropsychiatry at St. Agnes Hospital, White Plains, a consultant in neuropsychiatry at Phelps Memorial Hospital Association, Tarrytown, and a consultant in psychiatry at United Hospital, Port Chester. Dr. Berman was a Diplomate of the American Board of Psychiatry and Neurology and a member of the American Psychiatric Association, the American Psychopathological Association, the American Psychoanalytic Association, the Association for Research in Nervous and Mental Diseases, the New York Academy of Medicine, the New York Neurological Society, the New York Psychoanalytic Society, the Westchester County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

George Ernest Binkley, M.D., of New York City, died of a heart attack on vacation in Jamaica, British West Indies, at the age of sixty-six on March 15. Dr. Binkley graduated in 1914 from the University of Toronto Faculty of Medicine. He was an attending in surgery at St. Vincent's Hospital, a consultant in surgery at the New York Infirmary, St. John's Riverside Hospital, Yonkers, and Memorial Hospital of Greene County, Catskill, and surgeon emeritus, Memorial Center for Cancer and Allied Diseases, New York City. A Diplomate of the American Board of Surgery and a Fellow of the American College of Surgeons, Dr. Binkley was a member of the American Proctologic Society, the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Clarence Hornbeck Bonnell, M.D., of Rye, died in November, 1955, at the age of seventy-nine. Dr. Bonnell was graduated in 1903 from Long Island College Hospital School of Medicine and interned at Kingston Avenue and St. Luke's Hospitals. Dr. Bonnell, who was retired, was a member of the Westchester County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Edward Rutherford Cunniffe, M.D., of the Bronx, died on March 12 following a long illness at the age of seventy-four. Dr. Cunniffe was graduated from Cornell University Medical College in 1903. Dr. Cunniffe retired in 1946 after many years as surgical director at Fordham Hospital. He was an attending surgeon at Union Hospital of the Bronx, a consultant in surgery at St. Elizabeth's and Fordham Hospitals, Morrisania City Hospital, Bronx, St. Joseph's Hospital, Yonkers and Holy Name Hospital, Teaneck, New Jersey.

Dr. Cunniffe served as president of the Medical Society of the State of New York from 1945 to 1946 and for many years was chairman of the Judicial Council of the American Medical Association. During World War II he was Bronx Borough head of the Emergency Medical Service for Civilian Defense by appointment of the late Mayor Fiorello H. La Guardia, a former chairman of the Bronx Cancer Committee, chairman of the Board of Trustees of the Medical Society of the State of New York, a past president of the Bronx County Medical and Bronx Surgical Societies. During the nineteen twenties he taught at the Fordham University Medical School.

Dr. Cunniffe was a Fellow of the American College of Surgeons from which organization he had received a gold medal, and a member of the New York Surgical Society, the Bronx Surgical Society, the Bronx County Medical Society, the Medical Society of the State of New York, and the American Medical Association. (*See editorial in this issue, page 1234*).

John Quinn Donahue, M.D., of Cohoes, formerly of Jamaica, Long Island, died at his home in St. Petersburg, Florida, on February 14 at the age of sixty-three. Dr. Donahue was graduated from Albany Medical College in 1923. He had practiced in Plattsburgh and Jamaica prior to his retirement in 1955.

Charles D. Graney, M.D., of Le Roy, died in a hospital in Batavia after a long illness on March 18 at the age of eighty-four. Dr. Graney graduated in 1901 from the University of Buffalo School of Medicine. He was an attending physician at St. Jerome Hos-

[Continued on page 1346]

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[Continued from page 1344]

pital, Batavia. For more than fifty-four years he had practiced in Le Roy and in 1952 was chosen by the Medical Society of the State of New York as "outstanding general practitioner of the year."

Henry Joseph Feaster, M.D., of Brooklyn, died on March 8 at the age of sixty-three. Dr. Feaster was graduated from the Long Island College Hospital School of Medicine in 1916. He was an attending in otolaryngology at Long Island and Norwegian Hospitals, and chief otolaryngologist at the Long Island College Outpatient Department. Dr. Feaster was a Diplomate of the American Board of Otolaryngology, a Fellow of the American College of Surgeons, a Fellow of the American Academy of Compensation Medicine, Inc., and a member of the American Academy of Ophthalmology and Otolaryngology, the Association of Military Surgeons of the United States, the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Francis Henny Glazebrook, M.D., of New York City and Rumson, New Jersey, died on March 11 at his home after a long illness at the age of seventy-nine. Dr. Glazebrook was graduated in 1900 from Cornell University Medical College. A former director of the medical department of the New York Stock Exchange, a post he had held from 1928 to 1939, he had served as senior surgeon at the Morristown, New Jersey, Memorial Hospital, consultant in surgery at the New Jersey State Hospital, Morris Plains, and a surgeon for the Delaware, Lackawanna and Western Railroad. He was a past president of the Morris County Medical Association, the Morristown Memorial Medical Board, and a former vice-president of the New Jersey Surgical Society. A Fellow of the American College of Surgeons, he was a member of the Medical Society of the State of New Jersey and the American Medical Association.

Raymond Francis Charles Kieb, M.D., of Beacon, died in the Vassar Brothers Hospital, Poughkeepsie, on March 12 at the age of seventy-four. Dr. Kieb graduated from Cornell University Medical College in 1904. He was a consultant in neuropsychiatry at Highland Hospital, Beacon, and an honorary consultant in neuropsychiatry at the Vassar Brothers Hospital, Poughkeepsie. He was a former State Correction Commissioner, medical superintendent of the Matteawan State Hospital for the Criminally Insane, Beacon, and in 1940 was appointed superintendent of the Institution for Mental Defective Delinquents, Napanoch. He retired in 1946. Dr. Kieb was a Fellow of the American Psychiatric Association and a member of the New York Society for Clinical Psychiatry, the Dutchess County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Bertram Krugman, M.D., of Jamaica, died of a heart attack at his home on March 19 at the age of sixty-one. Dr. Krugman graduated from New York University and Bellevue Hospital Medical College in 1919 and interned at New York Lying-In Hospital. He was an associate in proctologic surgery at St. John's Long Island City Hospital, chief proctologist at St. Johns Long Island City Hospital Outpatient Department, and associate in proctologic surgery at Jamaica Hospital. Dr. Krugman was a member of the New York Proctological Society, the Queens County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Charles S. Lakeman, M.D., of Rochester, died after a long illness on February 19 at the age of fifty-eight. Dr. Lakeman was graduated in 1923 from the University of Buffalo School of Medicine. He was an associate chief of surgery at Rochester General Hospital. He was a member of the Rochester Academy of Medicine, the Rochester Pathological Society, the State Medical Grievance Committee, to which he was appointed in 1952 by the State Board of Regents, president of the medical board of Rochester General Hospital, a past president of the Monroe County Medical Society, and a member of the Medical Society of the State of New York, and the American Medical Association.

Thomas A. McGoldrick, M.D., of Brooklyn, died on March 8 at his home at the age of eighty-one. Dr. McGoldrick was graduated in 1896 from the Long Island College Hospital School of Medicine. In 1907 he was appointed a police surgeon and named chief surgeon of the department in 1934. He served as director of medicine at St. Anthony's Hospital, Woodhaven, Queens, as well as a consulting physician at St. Catherine's, Unity, Mercy (Rockville Centre), and Goldwater Memorial Hospitals. During World War II he was Brooklyn director of the Emergency Medical Service for Civilian Defense and in 1949 he was appointed by Governor Thomas E. Dewey as a medical representative of the State Industrial Council. In 1945 he was made a Knight of the Roman Catholic Order of St. Gregory by Pope Pius XII and in 1936 he was awarded an honorary Doctor of Laws by Manhattan College. From 1943 to 1944 he was president of the Medical Society of the State of New York and president of Kings County Medical Society in 1937. Dr. McGoldrick was a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association. (*See editorial in this issue, page 1234.*)

Kurt Messing, M.D., of Canandaigua, died at the Veterans Administration Hospital, Bronx, on February 18 at the age of fifty-nine after an illness of six months. Dr. Messing received his medical degree in 1922 from the University of Berlin. From 1952 to 1955 he was a member of the Canandaigua Veterans Administration Hospital medical staff. Dr. Messing was a member of the Ontario County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

[Continued on page 1348]

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[Continued from page 1346]

Frank John O'Brien, M.D., of White Plains, died of a heart attack at his home on March 13 at the age of sixty-five. Dr. O'Brien graduated in 1927 from the University of Louisville, Kentucky, College of Medicine. A former associate superintendent of schools in New York City, Dr. O'Brien retired as head of the board's Division of Child Welfare last September. In June, 1952, he was awarded an honorary degree of Doctor of Education by Holy Cross College, Worcester, Massachusetts. For ten years he was medical director of the Louisville Psychological Clinic and also directed the Bureau of Mental Health of the Kentucky State Board of Health. For five years he was on the faculties of the University of Louisville College of Medicine and the Louisville City Hospital. He also served on the medical staffs of St. Joseph's Infirmary, the Norton Infirmary, and the Crippled Children's Hospital in Louisville.

In 1931 Dr. O'Brien came to New York City as assistant director of the Board of Education's Bureau of Child Guidance and was made director until February, 1941, when he became an associate superintendent. He was president of the American Orthopsychiatric Association. He was staff psychiatrist at St. Agatha's Home and School, Nanuet. He was a Fellow of the American Psychiatric Association and a member of the Orthopsychiatric Association, the New York Society for Clinical Psychiatry, the Westchester County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Roy Eldredge Platner, M.D., of Liverpool, died suddenly on February 12 at his home at the age of seventy-two. Dr. Platner graduated from Syracuse University College of Medicine in 1910. For thirty years he served as health officer of the Town of Salina. He was a senior anesthetist at Crouse-Irving Hospital, Syracuse, and a member of the Syracuse Academy of Medicine, the Onondaga County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Frederick Joseph Price, M.D., of Syracuse, died in the Syracuse Veterans Hospital on February 20 at the age of thirty-eight. Dr. Price graduated from the University of Syracuse College of Medicine in 1943. He was an assistant attending physician at St. Joseph's Hospital, Syracuse. Dr. Price was a member of the Onondaga County Medical Society and the Medical Society of the State of New York.

Jacob Leonard Seidenstein, M.D., of Saranac Lake, died suddenly at his home on February 27 at the age of fifty-five. Dr. Seidenstein was graduated from New York University and Bellevue Hospital Medical College in 1928. He was an attending in ophthalmology at Saranac Lake General Hospital. Dr. Seidenstein served in both world wars, as a machine gunner in World War I and an army major in World War II. A Diplomate of the American Board of Ophthalmology, Dr. Seidenstein was a member of the Franklin County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Frederick Seilheimer, M.D., of Buffalo, retired, died suddenly of a heart attack in his home on February 22 at the age of seventy-seven. Dr. Seilheimer graduated from Albany Medical College in 1907. Before his retirement Dr. Seilheimer served as plant physician for the Buffalo Forge Company. He was a member of the Buffalo Academy of Medicine, the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

F. Hallett Spencer, M.D., of Waverly, died on February 9 at the Robert Packer Hospital at the age of eighty. Dr. Spencer graduated from Columbia University College of Physicians and Surgeons in 1899. During World War I he served as a major in the Army. He was a member of the Tioga County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Daniel Norman Wanderman, M.D., of New York City, died in the Mount Sinai Hospital on March 8 at the age of forty-six. Dr. Wanderman graduated from the New York Homeopathic Medical College and Flower Hospital in 1931 and interned at Sydenham Hospital. He was an associate in obstetrics and gynecology at Sydenham Hospital, a clinical assistant in gynecology at the Mount Sinai Hospital Outpatient Department, and had served at the New York Polyclinic Medical School and Hospital as an associate professor of gynecology. Dr. Wanderman was a Diplomate of the American Board of Obstetrics and Gynecology, a Fellow of the American College of Surgeons, and a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

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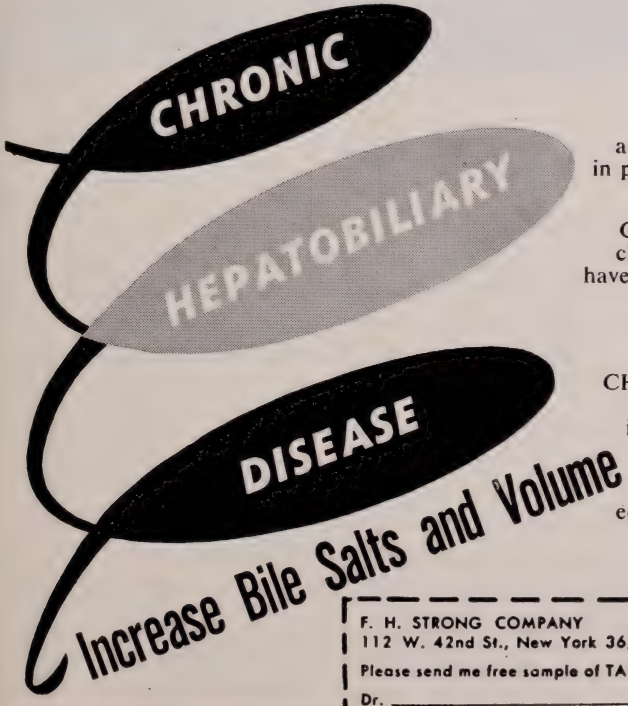

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IN EXURBIA THESE DAYS—

Exurbia is that area which spreads out luxuriously beyond the suburbs. In semi-rural Exurbia live the authors of the nation's books, plays, magazines, advertisements, TV shows — and dreams. A new phenomenon has become part of the Exurbian landscape: the *planned* big family. The Exurbanites, as part of their own personal dream, are moving out of the city where their many children breathe clean non-urban air and roam free of urban traffic.

Educated, but they want big families — A survey just completed among 29,494 graduates of 178 colleges shows that men of the class of '45 have families *averaging 70% larger* than those of the class of '36 in the ten years after graduation.[1] When Exurbanite wives come for contraceptive advice so that they may space their large families, they want to make sure that the method you recommend *really* does a job of protecting them.

The most protective method for women of high parity — Clinical studies show that the diaphragm-jelly technique provides the greatest degree of protection.[2] It is the preferred method for women of high parity who want large families — but only *when* they want them — and who may not be protected by use of jelly alone, a method that seems better suited to the low-parity patients. According to Tietze, urban population groups using the diaphragm-and-jelly technique have an unplanned pregnancy only "once in ten to 15

FAMILIES ARE PLANNED BIG

years." When patients use the method properly, unplanned pregnancies seldom occur.

Comfort is important—Along with the peace of mind that follows use of the diaphragm-jelly method goes comfort when the physician recommends the RAMSES® Diaphragm. Its cushioned rim guards against irritation, and its flexibility in all planes permits easy movement. RAMSES "10-hour jelly," used with the RAMSES diaphragm, immobilizes sperm and stays effective for a full ten hours. It is well tolerated.

Neat "Tuk-A-Way"® Kit—When young women learn that *for thirty years* physicians have relied on RAMSES Diaphragm and Jelly to help plan families, *big* families, such as those flourishing in Exurbia today, they leave the physician's office confident of receiving sound contraceptive advice. At all pharmacies: RAMSES "TUK-A-WAY" Kit #701 (diaphragm, introducer and jelly in a neat zippered bag), RAMSES Diaphragms 50-95 millimeters in size, RAMSES Jelly* in 3 and 5 oz. tubes.

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1. College Study Report: Population Bulletin 11:45 (June) 1955.
2. Tietze, C., in Dickinson, R. L.: Techniques of Conception Control, ed. 3, Baltimore, Williams & Wilkins Co., 1950, pp. 55-57.

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MEDICAL NEWS

Society of Medical Jurisprudence—The 696th regular meeting of the Society of Medical Jurisprudence was held at the New York Academy of Medicine building, 2 East 103rd Street, New York City, on March 12 at 8:30 P.M.

Dr. L. A. Orkin, attending urologic surgeon and chief of the urologic service, Montefiore Hospital, New York City, spoke on "The Diagnosis and Management of Urological Trauma," which was discussed by Dr. Sol Fineman, associate clinical professor of radiology at Columbia University.

Medical Officer Examinations—A competitive examination for appointment of medical officers to the regular corps of the United States Public Health Service will be held in various places throughout the country from June 12 through 15. Appointments provide opportunities for career service in clinical medicine, research, and public health. They will be made in the ranks of assistant and senior assistant, equivalent to Navy ranks of lieutenant (j.g.) and lieutenant.

Entrance examinations will include an interview, physical examination, and comprehensive objective examinations in the professional field. Application forms may be obtained from the Chief, Division of Personnel, Public Health Service, Department of Health, Education, and Welfare, Washington 25, D.C. Completed application forms must be received in the Division of Personnel no later than April 30.

Cerebral Palsy Council—The annual meeting of the Coordinating Council for Cerebral Palsy in New York City was held on February 23. Officers elected include Dr. William Cooper, president; Dr. Lawrence Slobody, vice-president; Dr. Helen M. Wallace, secretary; Dr. Leo Mayer, treasurer, and Dr. Anoch Lewert, assistant treasurer.

American Medical Education Foundation—New York State contributors to the American Medical Education Foundation for the month of February were: *Albany*—Dr. Milton S. Dunn; *Amityville*—Dr. Leopold Goldfarb; *Ballston Spa*—Dr. V. C. Baker; *Bellmore*—Dr. Jesse C. Lawrence; *Binghamton*—Dr. Alvin R. Carpenter; *Bronx*—Dr. Charles Mandel; *Buffalo*—Dr. Eugene J. Lippschutz; *Canandaigua*—Drs. Charles E. Bathrick, Henry Buxbaum, Ivan J. Gotham, Jr., Joseph A. Griffen, Robert Holkelman, Ludwig Mayer, E. C. Merrill, Malcolm Merrill, A. N. Sainsbury, Philip M. Standish, and James A. Stringham; *Clifton Springs*—Dr. Samuel Kutz; *Corinth*—Dr. Raymond D. Snyder; *Elmira*—Drs. William T. Boland and Lionel Dichter; *Galway*—Dr. N. Panin; *Geneva*—Drs. William E. Achilles, Ray E. Deuel, Jr., Morton Orlov, Ronald E. Prindle, and Philip W. Skinner; *Glen Cove*—Dr. John M. Galbraith; *Great Neck*—Dr. Leonard J. Bloome; *Jamaica*—Dr. Robert E. Carter; *Mannsville*—Dr. Max N. Margulies; *Mechanicville*—Dr. John C. O'Brien; *Middle Grove*—Dr. Edmond A. Suss; *Middletown*—Dr. M. Benjamin; *Newburgh*—Dr. E. H. Douglass, Jr.; *New Rochelle*—Dr. Walter Berlin.

Also: *New York City*—Drs. Irving Abelow, Placido Acevedo, A. E. Ada, Howard J. Agatston, Albert H. Aldridge, Julius Alkoff, Arthur C. Allen, J. B. Amberson, Jr., Leonora Andersen, Walter P. Anderton, Arthur J. Antenucci, N. P. Appy, Isidore Arons, George Baehr, Irving Balensweig, Louis Barash, Hugh R. Barker, William A. Barnes, David N. Barrows, Joan M. Baumgartner, John M. Beal, Simon A. Beisler, Hans E. Bejach, Bernard Berglas, Edmund Bergler, Alice R. Bernheim, Morton I. Berson, George C. Biondi, N. A. Biondi, Milton J. Blaustein, David Bloom, Austin P. Boleman, Truman L. Boyes, Walter W. Brandes, Lester Breidenbach, Goodwin M. Breinin, Charles Brenner, Harry Britenstool, Bertram E. Bromberg, W. Bronson, Norton S. Brown, William T. Brown, Myron I. Buchman, David C. Bull, Michael S. Burman, Leonard Burness, and Charles L. Burstein.

Also: Drs. Janet Caldwell, Henry A. Carr, Robert E. Carroll, George Z. Carter, L. J. Caruso, Isaac Chomski, John A. Cinelli, Eugene Clark, G. J. Coffin, Abraham Cohen, Joseph E. Constantine, John M. Converse, Nelson W. Cornell, Joseph E. Corr, John M. Cotton, Lloyd F. Craver, Edward P. Danforth, Harold B. Davidson, Nathan Davis, Archie L. Dean, Harry C. W. Schultz de Brun, Carlos De Gutierrez, Alvin M. Donnenfeld, J. E. Drew, Dorian Eisenklam, Anny Elston, Herbert A. Epstein, James H. Ewing, James A. Feltman, Laci Fessler, George A. Fiedler, Irving C. Fischer, Joseph Fisher, Lester Fox, V. K. Frantz, Joseph L. Frey, W. G. Frey, Milton Friedman, Maurice R. Friend, Emil Froeschels, Anthony R. Gabriel, Walter I. Galland, S. E. Ganz, A. Garcia, J. R. Gepfert, Leon Ginzberg, Irving A. Glass, Andre Glaz, Sidney S. Goldensohn, Salomon Goldschmitt, Dan M. Gordon, Gilbert Grossman, Stuart I. Gurman.

Also: Drs. Leonard A. Hallock, Francis J. Hamilton, John E. Hammett, Frank Hardart, Jr., Harold D. Harvey, Emanuel Hauer, Louis A. Hauser, Louis Hauswirth, James P. Hennessy, Albert C. Herring, Julius J. Hertz, George F. Hoch, Jerome J. Hoffman, V. A. Hofmann, Hubert S. Howe, Robert M. Hui, Franz W. Husserl, Eugenia Ingerman, Kinichi Iwamoto, Edward Jacobs, William C. Jacobson, Max Jacoby, Henry C. Johnston, Gerald B. Kara, Joseph T. Kauer, Samuel F. Kelley, Samuel Kenigsberg, Henry A. Kingsbury, Henry B. Kirkland, I. S. Klemes, Isabel Knowlton, Elliott

[Continued on page 1354]

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Formula

Semoxydrine HCl (Methamphetamine HCl) 5 mg.; Pentobarbital 20 mg.; Ascorbic acid 100 mg.; Thiamine HCl 0.5 mg.; Riboflavin 1 mg.; Niacin 5 mg.

1. Eisfelder, H.W.: Am. Pract. & Dig. Treat., 5:778 (Oct., 1954).
2. Sebrell, W.H., Jr.: J.A.M.A., 152:42 (May, 1953).
3. Sherman, R.J.: Medical Times, 82:107 (Feb., 1954).

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[Continued from page 1352]

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Also: *New York Mills*—Dr. Moritz Elias; *Pelham Manor*—Dr. Arthur G. DeVoe; *Phelps*—Dr. Kurt F. Grainer; *Saratoga Springs*—Dr. T. J. Goodfellow; *Schuylerville*—Dr. Mark D. Duby; *Sharon Springs*—Dr. Robert Shelmandine; *Suffern*—Dr. Frank J. Errico; *Syracuse*—Dr. Carl W. Clark, Jr.; *Utica*—Dr. James E. Compson; *Wantagh*—Dr. A. A. Stuart; *Watertown*—Drs. Walter S. Atkinson, H. L. George, and Willis W. Young; and *Woodside*—Dr. A. Dombrowiecki.

National Academy of Religion and Mental Health—A new organization, the National Academy of Religion and Mental Health, has opened offices in the New York Academy of Medicine, 2 East 103rd Street, New York 29, New York. A nonprofit organization engaged in research and education in all relationships between religion and health, and especially mental health, the Academy has been organized on an interfaith and multidisciplinary basis.

The Academy has been elected to the membership of the World Federation For Mental Health. Memberships in the Academy are being solicited from professional workers and interested laymen. The research committee includes Dr. John M. Cotton, director of psychiatry at St. Luke's Hospital in New York City; Dr. Harvey J. Tompkins, director, Jacob R. Reiss Mental Health Pavilion, St. Vincent's Hospital, New York City, and Dr. Earl A. Loomis, Jr., professor of psychiatry and religion, Union Theological Seminary, New York City.

Inquiries concerning the program of the Academy should be made to the Reverend George C. Anderson, director.

Clinical Pediatrics Course—A course in clinical pediatrics for practitioners is being given each Thursday afternoon through May 3 by the Albany Medical College under Dr. Paul R. Patterson, chairman of the Department of Pediatrics. The course, which began on March 29, is administered by the faculty of the Department of Pediatrics at Albany Medical College.

Some of the topics include growth and development, diagnosis of cerebral palsy, treatment of diarrhea and vomiting, psychosomatic pediatrics, congenital heart disease, and common infections of children.

Queries should be addressed to Dr. Frank M. Woolsey, Jr., associate dean and director of postgraduate medical education.

Annual Residents' Night—Annual residents' night of the Pediatric Section of the Medical Society of the County of Kings and Academy of Medicine of Brooklyn was held on April 23 at 1313 Bedford Avenue in Brooklyn.

Speakers at the scientific session included Drs. Arnold A. Minsky, Hyman Lieberman, Anna Sandberg, Oscar Schwartz, Larry R. Schneck, Samuel S. Brown, Armand Moettus, William R. Richardson, Amelia M. Lantin, Felix Feldman, Robert E. Gioia, and William Batiuchok.

New York A.M.E.F. Contributions—During 1955, New York exceeded all other states in number of contributors and amounts of contributions to the American Medical Education Foundation.

The number of contributors, both through the A.M.E.F. and alumni associations, amounted to 10,190. Contributions to both of these groups totalled $501,000.44, almost twice as much as the total for the next highest state.

Public Health Commissioned Reserve—Qualified physicians and other professional health personnel actively engaged in public health practice and preventive medicine are being encouraged to apply for commissions in the United States Public Health Service's commissioned reserve, according to Dr. Leonard A. Scheele, surgeon general of the service.

Commissioned reserve officers will be called for emergency duty primarily to reinforce the staffs of official state and local health agencies and to augment the Public Health Service operating staff. No commissioned reserve officer will be called to emergency active duty, with the exception of volunteers, unless the situation is publicly recognized as requiring such action.

All interested personnel are invited to write to the Surgeon General, Public Health Service (DP), Washington 25, D.C., for further information.

New Bulletin Available—*Medical Electronics*, in cooperation with the Institute of Radio Engineers, has prepared a bulletin of information on companies interested in instruments for the medical applications of research. Copies of the bulletin may be obtained by writing to Dr. E. E. Sheldon, 509 Fifth Avenue, New York 17, New York.

American Cancer Society—American Cancer Society Clinical Fellowships are available for the coming academic year, beginning July 1, 1957. The clinical fellowships program will continue through June 30, 1958. The deadline for filing applications is May 1. Applications or information requests should be addressed to Dr. Brewster S. Miller, American Cancer Society, 521 West 57th Street, New York 19, New York.

Hill-Burton Grants—The Department of Health, Education, and Welfare reports that as of February 29 the status of all Hill-Burton grants for the State of New York is: Approved, but not yet under construction, 13 projects at a total cost of $15,386,805, including $4,650,964 Federal contribution and de-

[Continued on page 1356]

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[Continued from page 1354]

signed to supply 880 additional beds. Under construction are 19 projects at a total cost of $55,747,590, including Federal contribution of $7,924,138 and designed to supply 1,747 additional beds. Completed and in operation are 73 projects at a total cost of $73,737,247, including Federal contribution of $21,100,109 and supplying 4,029 additional beds.

Leukemia Society, Inc.—The Leukemia Society, Inc., formerly the Robert Roesler de Villiers Foundation, will award grants-in-aid to support research projects on leukemia for the year 1956–1957. In order to be reviewed at the meetings of the selection committee on June 1 and September 1, 1956, and March 1, 1957, applications should be received no later than May 15 and August 15, 1956, and February 15, 1957. The Leukemia Society, Inc. will also accept applications for fellowships for studies in the field of leukemia and allied diseases to be given during the year 1956–1957, to be awarded by the selection committee on the above dates. Qualified investigators should apply to the Leukemia Society, Inc., 67 Wall Street, New York 5, New York.

Public Health Grants—Eleven grants totaling $491,328 to enable hospitals, health agencies, and community groups to conduct research and demonstrations for the improvement of hospital services were made recently by the U.S. Public Health Service, Dr. Leonard A. Scheele, surgeon general, has announced.

Among the recipients was the United Hospital Fund of New York, New York City, for an analytic study of management improvement programs in hospitals and a demonstration to show how hospital organizations can help hospitals start these programs and carry them on effectively; $62,859. Dr. Hugo V. Hullerman, director of hospital services for the fund, will be principal investigator.

Jefferson County Medical Society—The regular meeting of the Medical Society of Jefferson County was held on March 20 at the Black River Valley Club in Watertown. Dr. Alfred Wedd, associate professor of medicine at the University of Rochester School of Medicine, spoke on "Diagnosis and Treatment of the Common Cardiac Arrhythmias."

Personalities

Elected

Dr. Arthur J. Greenberger, director of urology, president; Dr. Irving Gruber, director of dentistry, vice-president; Dr. Israel G. Epstein, attending physician, secretary, and Dr. David Rosen, director of otolaryngology, treasurer, of the medical board of Sea View Hospital, Staten Island...Dr. Edward Packard, Saranac Lake, reelected president of the Saranac Lake Society for the Control of Tuberculosis.

Appointed

Dr. Murray Berger, New York City, as rhinoplastic surgeon of the new Beth David Hospital in New York City...Dr. A. David Gurewitsch, assistant attending physician in charge of physical medicine at the Neurological Institute, Presbyterian Hospital, New York City, as director of medical services for the Institute for the Crippled and Disabled and as associate clinical professor of physical medicine and rehabilitation at the College of Physicians and Surgeons, Columbia University, New York City... Dr. Thomas H. McCullough, Latham, as Town of Colonie public health officer to succeed Dr. John Douglas.

Speakers

Dr. George T. Pack, New York City, at a symposium on gastric cancer before the New York Academy of Gastroenterology on April 9, and before a meeting of the Worcester District Medical Society, Worcester Massachusetts, on April 11 on adequate surgery in the treatment of cancer.

Awarded

Dr. Nicholas P. Christy, Columbia University College of Physicians and Surgeons, New York City; Dr. Joseph Dancis, New York University College of Medicine, New York City; Dr. Merlin D. DuVal, Jr., State University of New York College of Medicine at New York City, and Dr. David T. Karzon, University of Buffalo School of Medicine, Buffalo, the John and Mary R. Markle Foundation grants for medical research...Dr. Perry B. Hudson and Dr. Gabriel C. Goodman, College of Physicians and Surgeons, Columbia University, grants for studies relating to cancer and cultured and tumor cells in behalf of the Damon Runyon Memorial Fund...Dr. and Mrs. Richard A. Rendich, Brooklyn, the family action award at the National Catholic Family Life Convention in Boston on March 12.

Honored

Drs. Raphael Bellantoni, Frank LaGuttuta, Michael J. Lynch, Edward Pecora, Michael F. Sullivan, Benjamin F. Barnes, and Eugene F. Kelly, with testimonial scrolls in February for more than twenty-five years on the staff of St. Joseph's Hospital in Yonkers.

New Offices

Dr. G. Charles La Belle, practice of internal medicine and cardiology in Rome...Dr. Eileen B. McAvoy, associated with the Foster-Hatch Medical group in Penn Yan.

Retired

Dr. William S. S. Horton, as director of surgery at Long Beach Memorial Hospital since 1927.

Resigns

Dr. Timothy D. Baker, State district health officer for Ontario, Yates, Wayne, and Schuyler Counties, to join the International Cooperation Mission in India.

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CHLOROMYCETIN is a potent therapeutic agent and, because certain blood dyscrasias have been associated with its administration, it should not be used indiscriminately or for minor infections. Furthermore, as with certain other drugs, adequate blood studies should be made when the patient requires prolonged or intermittent therapy.

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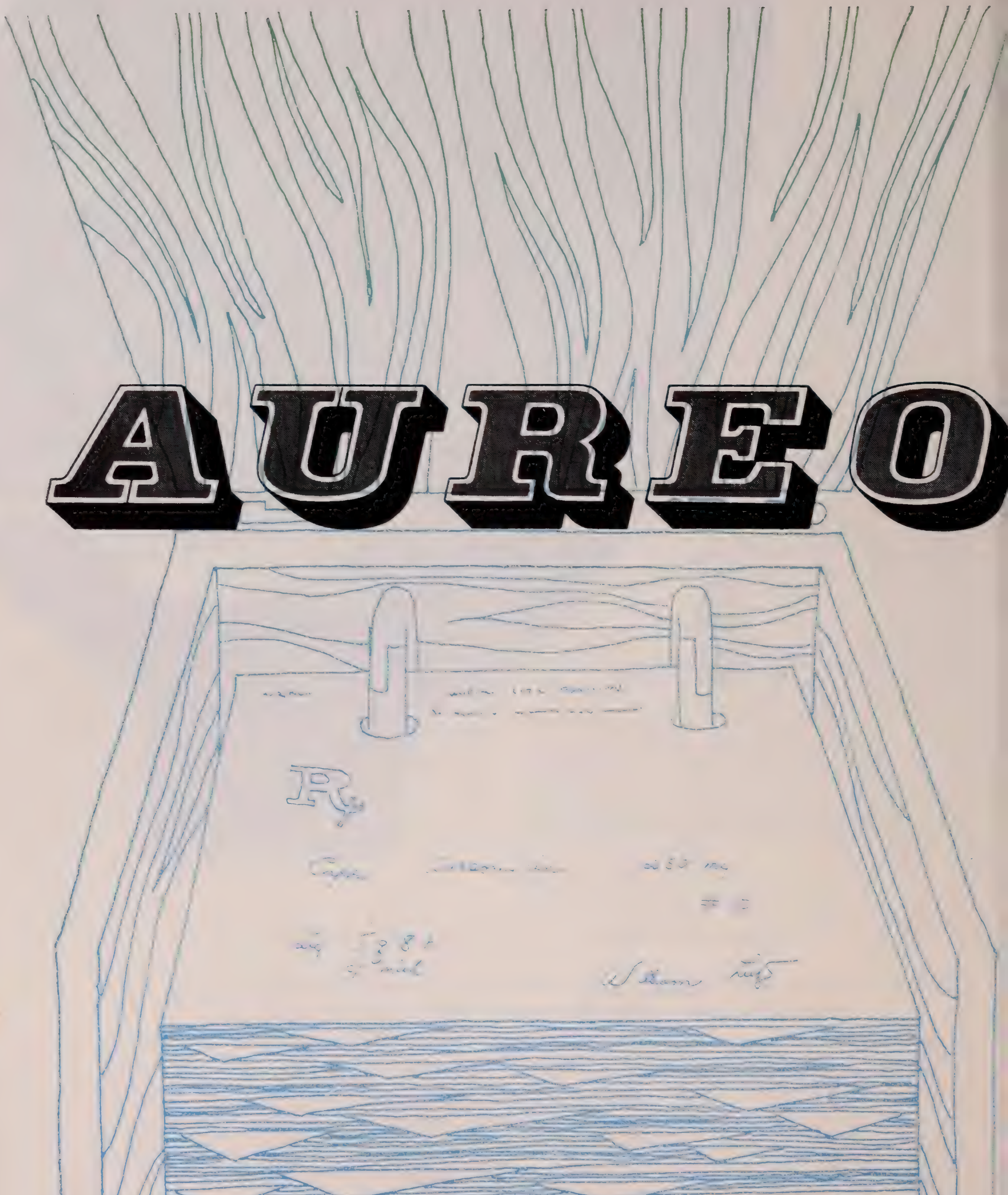
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Each capsule contains:

AUREOMYCIN Chlortetracycline	250 mg.
Ascorbic Acid (C)	75 mg.
Thiamine Mononitrate (B_1)	2.5 mg.
Riboflavin (B_2)	2.5 mg.
Niacinamide	25 mg.
Pyridoxine (B_6)	0.5 mg.
Folic Acid	0.375 mg.
Calcium Pantothenate	5 mg.
Vitamin K (Menadione)	0.5 mg.
Vitamin B_{12}	1 mcgm.

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Thiamine Hydrochloride	1.5 mg.
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MEDICAL MEETINGS

Student American Medical Association

Representatives from 70 medical schools will attend the sixth annual convention of the Student American Medical Association at the Sherman Hotel, Chicago, Illinois, May 4 through 6.

A panel discussion entitled "Rx From the Press" will be held on May 5 and will include Gilbert Cant, medical editor of *Time* magazine; Robert Goldman, assistant managing editor of *Parade* magazine; Fred Roll, producer of television's *March of Medicine,* and Arthur Snider, science editor of the *Chicago Daily News.*

Postgraduate Seminar

The Mount Sinai Hospital of Greater Miami will hold its sixth annual postgraduate seminar on "Recent Advances in Diagnosis and Therapy" at the Fontainebleau Hotel, Miami Beach, Florida, May 17 through 20. Among the lecturers will be Dr. Alexander Brunschwig of Cornell University, Dr. Louis Leiter of Columbia University College of Physicians and Surgeons, and Dr. Solomon Silver of Columbia University. For further information, write to the Seminar Committee, Mount Sinai Hospital of Greater Miami, Miami Beach, Florida.

Physical Therapy Confederation

The second congress of the World Confederation for Physical Therapy will be held at the Hotel Statler, New York City, from June 17 through 23. Dr. Howard A. Rusk, director of the Institute for Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center, will be among the speakers at the general sessions.

Further information may be obtained from the Confederation, 1790 Broadway, New York 19, New York.

Drug Acts as Booster for Nitroglycerin

The drug with the trade name Metamine has been found to be useful as a booster for nitroglycerin in relieving the severe pain of angina pectoris, two Baltimore physicians have reported. Angina pectoris is a heart condition marked by severe chest pain and feelings of suffocation and impending death. Attacks are usually precipitated by exertion.

While Metamine, the biphosphate salt of triethanolamine trinitrate, has the same effect as nitroglycerin, it is slower acting. However, its span of action (four to six hours) is much longer, the doctors said in the December 31 *Journal of the American Medical Association.* Because of its longer action span, regular use of the drug diminishes the frequency of use of nitroglycerin, they said. Intolerance to Metamine is rare, as are undesirable side-effects such as skin, blood, and gastrointestinal manifestations, they said. It has a slight, but unimportant, tendency to lower blood pressure.

The drug was given to 71 patients, of whom 51 had known histories of angina pectoris, and 20 who never had had previous treatment for coronary heart disease. The average number of angina attacks among the patients dropped from 7.1 a day before using Metamine to 3.4 a day with Metamine. Only 13 patients showed no improvement while taking the drug

Drs. Harvey L Fuller and Leon E. Kassel of Sinai Hospital, Baltimore, said that further study may reveal ways that Metamine can be used to prevent and relieve attacks of acute coronary insufficiency, and to offset and reduce the effects and extent of myocardial infarction, another coronary disorder.

The study was supported in part by a grant from the Cardiovascular Research Foundation of Thos. Leeming & Co., Inc., New York City.

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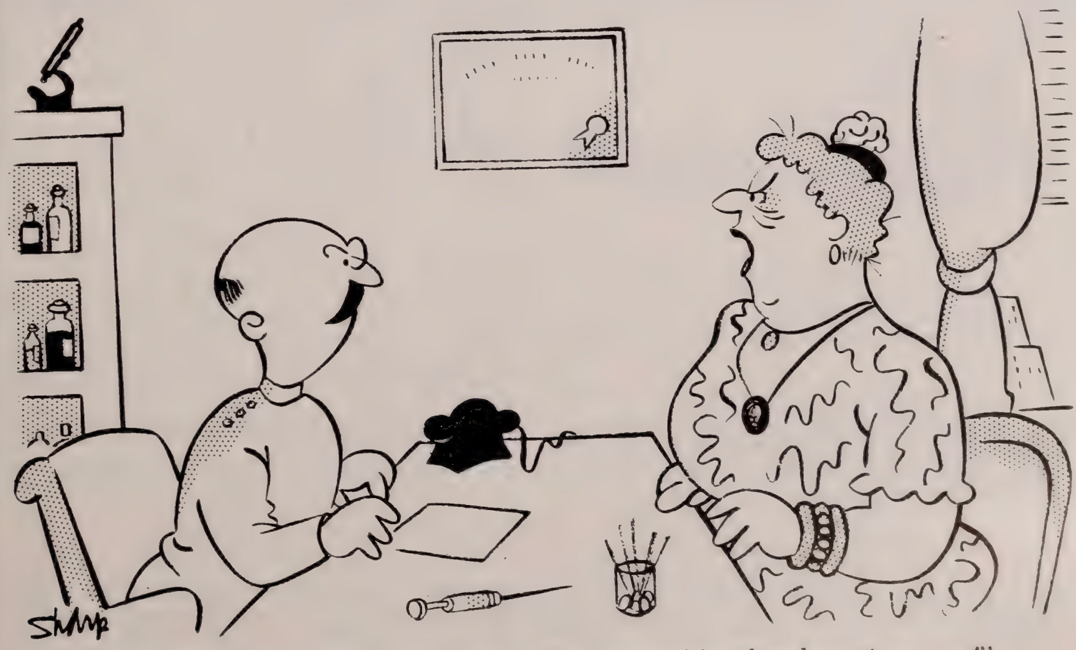

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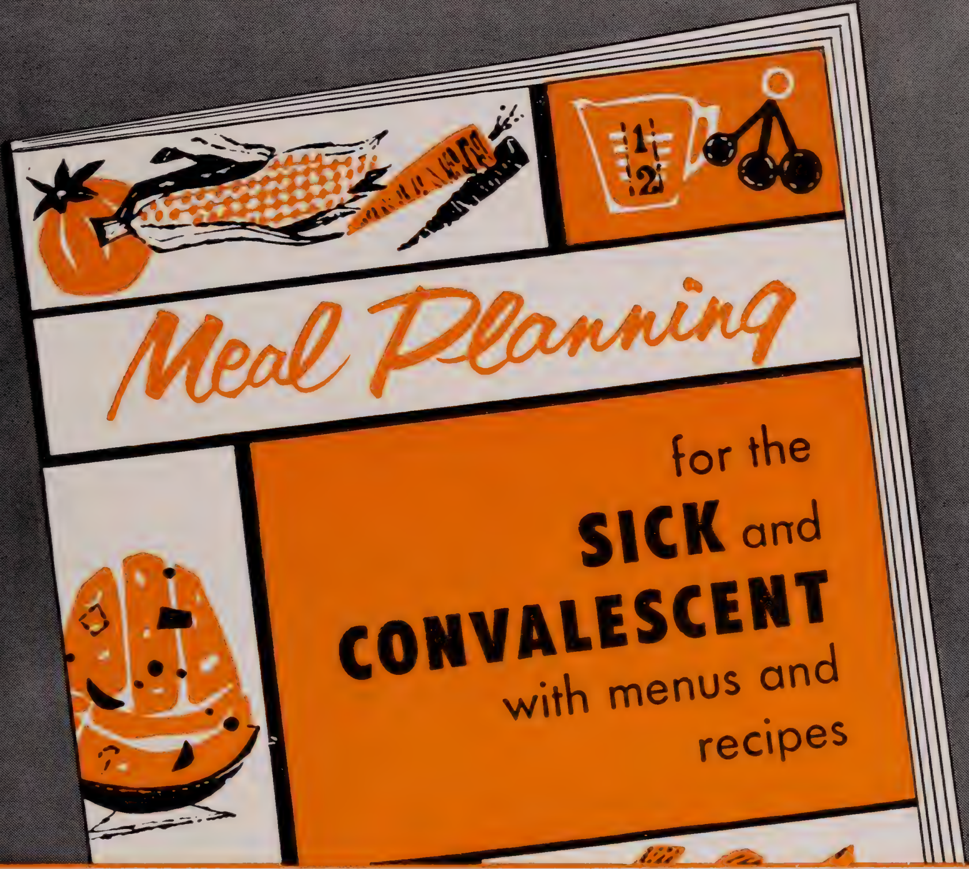

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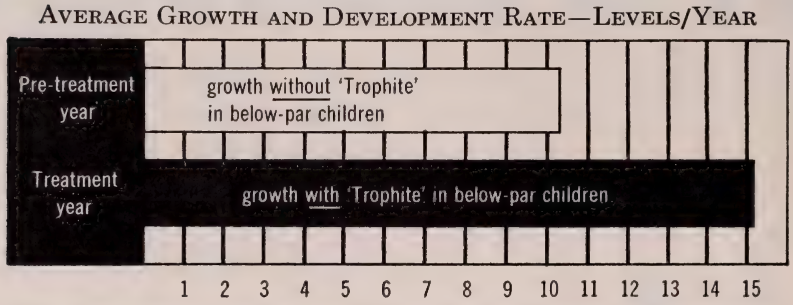

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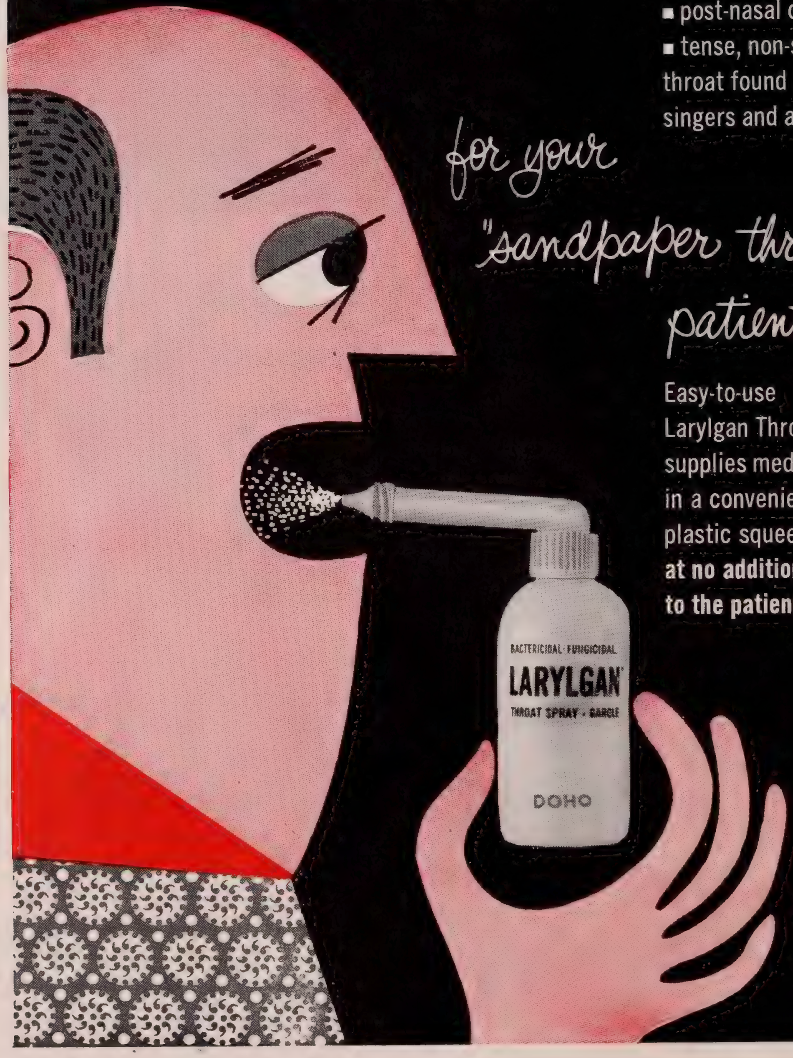
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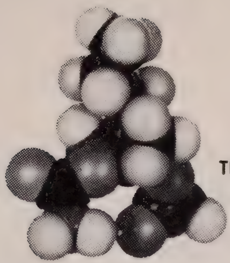

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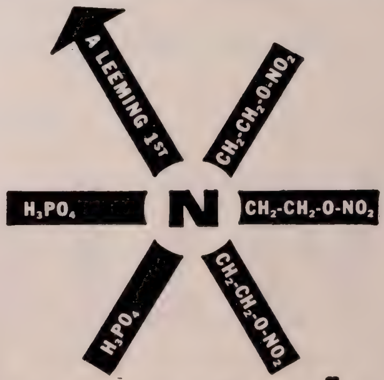

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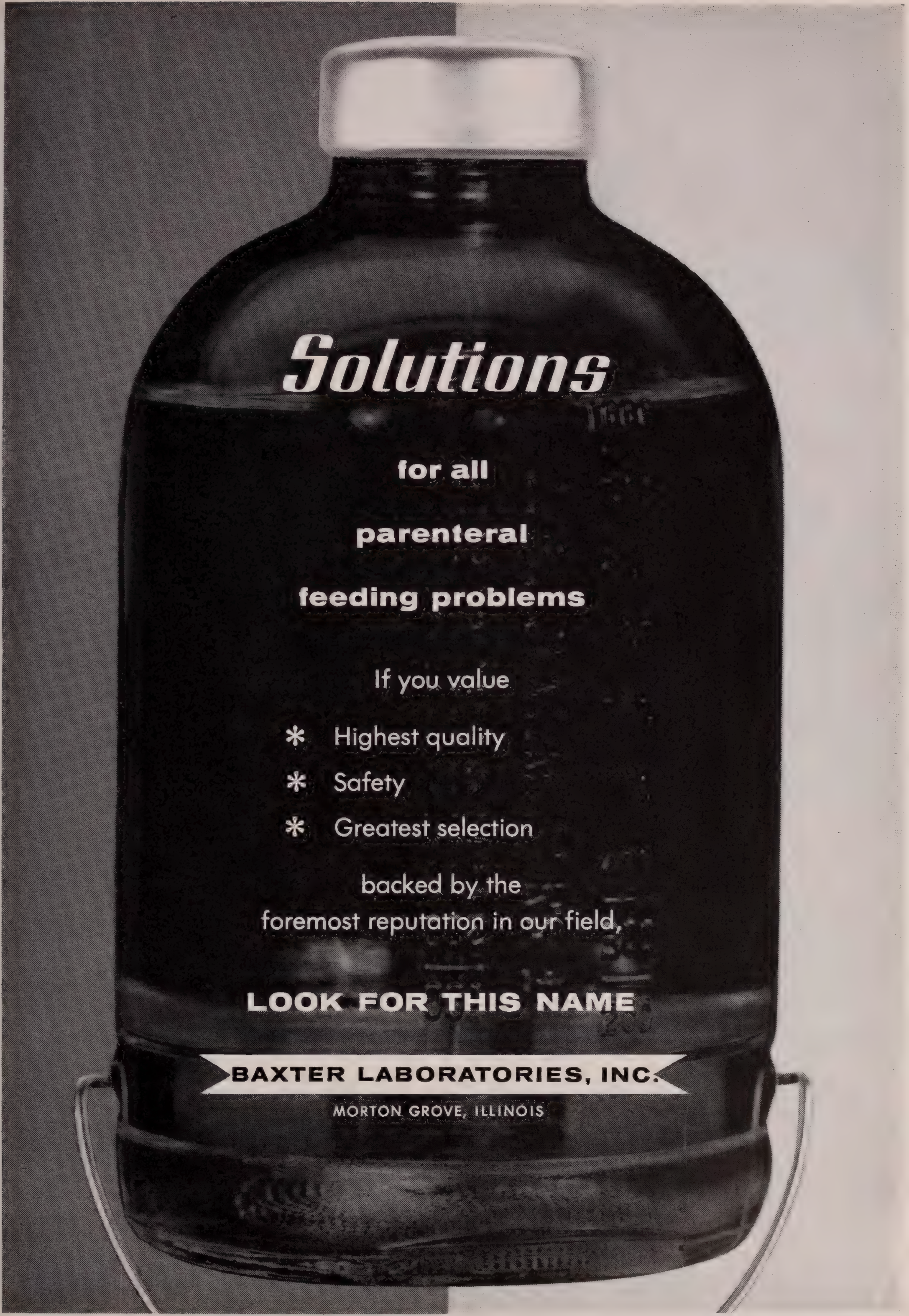

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on infection
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tablets
'V-Cillin-Sulfa'
(PENICILLIN V WITH TRIPLE SULFAS, LILLY)

...combine the superior oral penicillin and three sulfonamides

'V-Cillin-Sulfa' provides you greater control over a wider range of microorganisms. 'V-Cillin' (Penicillin V, Lilly) and sulfas used concurrently produce faster and more effective antibacterial action in certain infections. In general, the combination is most beneficial in mixed infections, infections due to bacteria only moderately susceptible to either single agent, and conditions in which bacterial resistance might develop.

The much higher penicillin blood levels produced by 'V-Cillin' and the effectiveness and safety of the triple sulfas make 'V-Cillin-Sulfa' your most valuable preparation of its type.

DOSAGE: 1 to 2 tablets q.i.d.

SUPPLIED: Each tablet provides 125 mg. (200,000 units) 'V-Cillin' plus 0.5 Gm. sulfas—equal parts of sulfadiazine, sulfamerazine, and sulfamethazine.

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a "judicious combination..."

for antiarthritic therapy

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That cortisone and the salicylates have a complementary action has been well established.[1-5] In rheumatic conditions, functional improvement and a sense of feeling well are noted early. No withdrawal reactions have been reported.

One clinician states: "By a judicious combination of the two agents . . . it has been possible to bring about a much more favorable reaction in arthritis than with either alone. Salicylate potentiates the greatly reduced amount of cortisone present so that its full effect is brought out without evoking undesirable side reactions."[1]

INDICATIONS:

Rheumatoid arthritis . . . Rheumatoid spondylitis . . . Rheumatic fever . . . Bursitis . . . Still's disease . . . Neuromuscular affections

EACH TABLET CONTAINS:

Cortisone acetate	2.5 mg.
Sodium salicylate	0.3 Gm.
Aluminum hydroxide gel, dried	0.12 Gm.
Calcium ascorbate (equivalent to 50 mg. ascorbic acid)	60 mg.
Calcium carbonate	60 mg.

* U.S. Pat. 2,691,662

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(*Continued from page 1378*)

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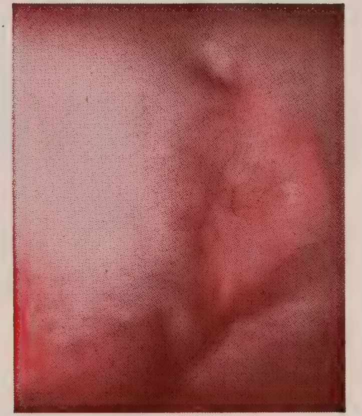
New Relief from the Enigmas of Pruritus Ani

CASE – MALE, 55 YEARS

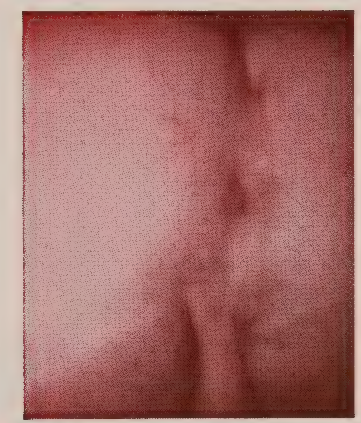
Hydrolamins Ointment, an isotonic, specially selected combination of amino acids, offers a new answer to the baffling problem of ano-genital pruritus.

Therapy is based on the observation[1,2,3] that this non-irritating protein counteracts the protein-precipitating irritant responsible for the pruritus and is protein-sparing to perianal tissue.



BEFORE

Rectal itch for 20 years; itching in rectal area extending across perineum to scrotum in wide area. Red scratches in perineal region. Severe erythema. Areas sensitive, painful, tender.



AFTER

Hydrolamins applied 3 times daily to whole area. No irritation developed. Itching relieved immediately, and healing was complete in three weeks.

FORMULA:

Hydrolamins offers an isotonic, specially selected combination of amino acids derived from lactalbumin, in a vehicle of polyethylene glycol 1500.

SUPPLIED:

1 oz. (28 Gm.) and 2.5 oz. (70 Gm.) tubes with peel-off label.

Lewal PHARMACEUTICAL COMPANY CHICAGO 14, ILLINOIS

REFERENCES:

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2. Bodkin, L. G., and Ferguson, E. A., Jr.: Successful Ointment Therapy for Pruritus Ani, Am J Digest. Dis. 18:59 (Feb.) 1951.
3. McGivney, J.: Recent Advances in Proctology, Texas J. Med. 47:770 (Nov.) 1951.

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VITAMINS LEDERLE

B+C

COMPLEX

assures full potency

Separate packaging of dry vitamins and diluent (mixed immediately before injection) assures the patient a more effective dose. May also be added to standard IV solutions

Dosage: 2 cc. daily.

Each 2 cc. dose contains:

Thiamine HCl (B_1)	10 mg.
Riboflavin (B_2)	10 mg.
Niacinamide	50 mg.
Pyridoxine HCl (B_6)	5 mg.
Sodium Pantothenate	10 mg.
Ascorbic Acid (C)	300 mg.
Vitamin B_{12}	15 mcgm.
Folic Acid	3 mg.

Lederle

LEDERLE LABORATORIES DIVISION

AMERICAN *Cyanamid* COMPANY

PEARL RIVER, NEW YORK

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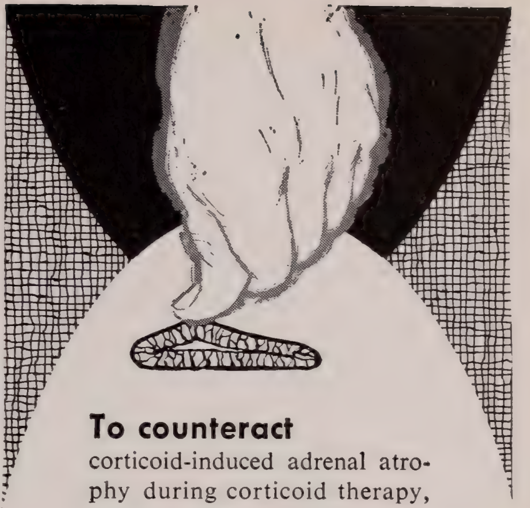

To counteract corticoid-induced adrenal atrophy during corticoid therapy, *routine support* of the *adrenals with ACTH is recommended.*

THIS IS THE PROTECTIVE DOSAGE RECOMMENDATION FOR COMBINED CORTICOID-ACTH THERAPY

- When using *prednisone* or *prednisolone:* for every 100 mg. given, inject approximately 100 to 120 units of HP* ACTHAR *Gel.*
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Discontinue administration of corticoids on the day of the HP*ACTHAR *Gel* injection.

HP*ACTHAR® *Gel*
(IN GELATIN)

The Armour Laboratories brand of purified adrenocorticotropic hormone—corticotropin (ACTH)

*Highly Purified

Unsurpassed in Safety and Efficacy
More than 42,000,000 doses of ACTH have been given

THE ARMOUR LABORATORIES
A DIVISION OF ARMOUR AND COMPANY
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A completeness of treatment unavailable heretofore

for the anginal patient

because

Pentoxylon®

LONG-ACTING TABLETS CONTAINING PENTAERYTHRITOL TETRANITRATE (PETN) 10 MG. AND RAUWILOID® (ALSEROXYLON) 1 MG.

THE BIG

7

IN ANGINA

- Reduces nitroglycerin need
- Reduces incidence and severity of attacks
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- Lessens heart load and reduces tachycardia
- Reduces anxiety, allays apprehension
- Lowers blood pressure in hypertensives (not in normotensives)
- Produces objective improvement demonstrable by ECG.

combines the valuable *tranquilizing*, *bradycrotic*, and *nonsoporific sedative* actions of Rauwiloid (the original alseroxylon) with the long-lasting coronary vasodilatation of pentaerythritol tetranitrate (PETN).

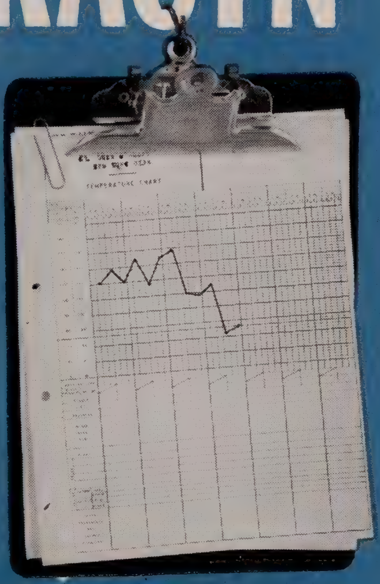
DOSAGE: one to two tablets q.i.d., before meals and on retiring. Available in bottles of 100 tablets.

Riker
LOS ANGELES

clinical advantages with

TETRACYN®

BRAND OF TETRACYCLINE



- rapid absorption and distribution to all parts of the body
- prompt, broad-spectrum action against infections caused by gram-positive and gram-negative bacteria, spirochetes, certain large viruses and protozoa
- minimal incidence of adverse reactions
- available in a wide selection of convenient dosage forms for oral, parenteral or topical use, including new *faster-acting, better-tasting* **TETRABON*** (brand of tetracycline) *homogenized mixture*, 125 mg. tetracycline in each delicious, fruit-flavored 5 cc. teaspoonful; therapeutic blood levels within one hour. Bottles of 2 fl. oz. and 1 pint, packaged ready to use.

Tetracycline the nucleus of modern broad-spectrum activity, discovered and identified by Pfizer scientists

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PFIZER LABORATORIES
Division, Chas. Pfizer & Co., Inc.
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magnified potency

with Meti-steroid

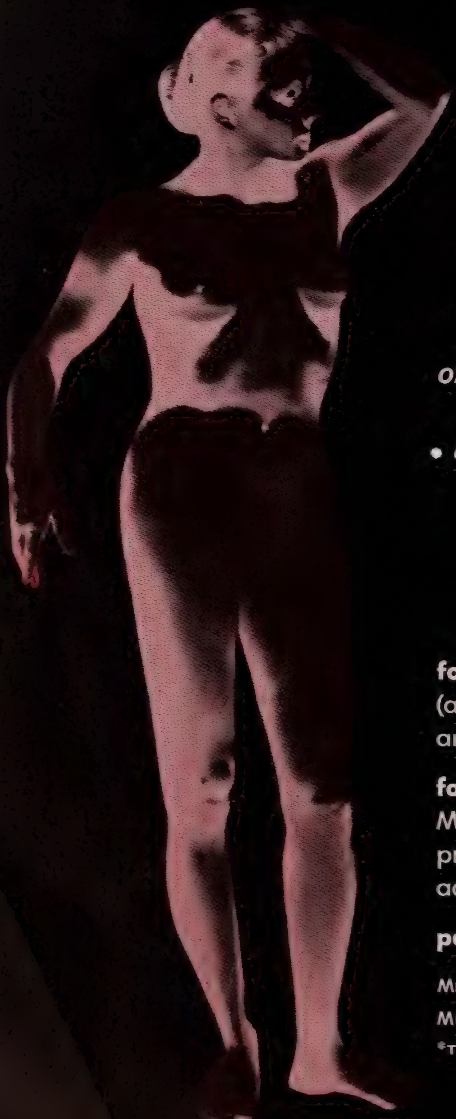
effectiveness in allergic

and inflammatory dermatoses

new

Meti-Derm cream 0.5%

with METICORTELONE, original brand of prednisolone



- *approximately twice the per milligram anti-inflammatory activity of topical hydrocortisone*
- *cosmetically acceptable*
- *water-washable*

for effective local relief of allergic (atopic and contact) dermatoses, nonspecific anogenital pruritus.

formula: Each gram of water-washable METI-DERM Cream contains 5 mg. (0.5%) of prednisolone, free alcohol, in a cosmetically acceptable base.

packaging: METI-DERM Cream, 0.5%, 10 Gm. tube.

METI-DERM,* brand of prednisolone topical.
METICORTELONE,® brand of prednisolone.
*T.M.

...and adding dual control

to Meti-steroid skin therapy—

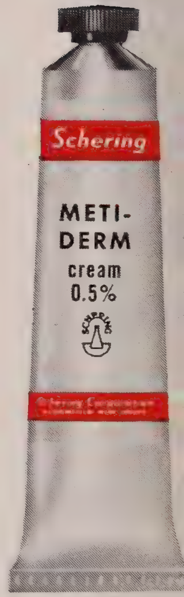
protection

against infection

new

Meti-Derm ointment

with Neomycin



enhanced effectiveness

in allergic, inflammatory

dermatoses when

minor infection

is present

or anticipated

neomycin in addition to prednisolone, free alcohol —for protective coverage against virtually all pathogenic skin bacteria with a well-tolerated, *topical* antibiotic.

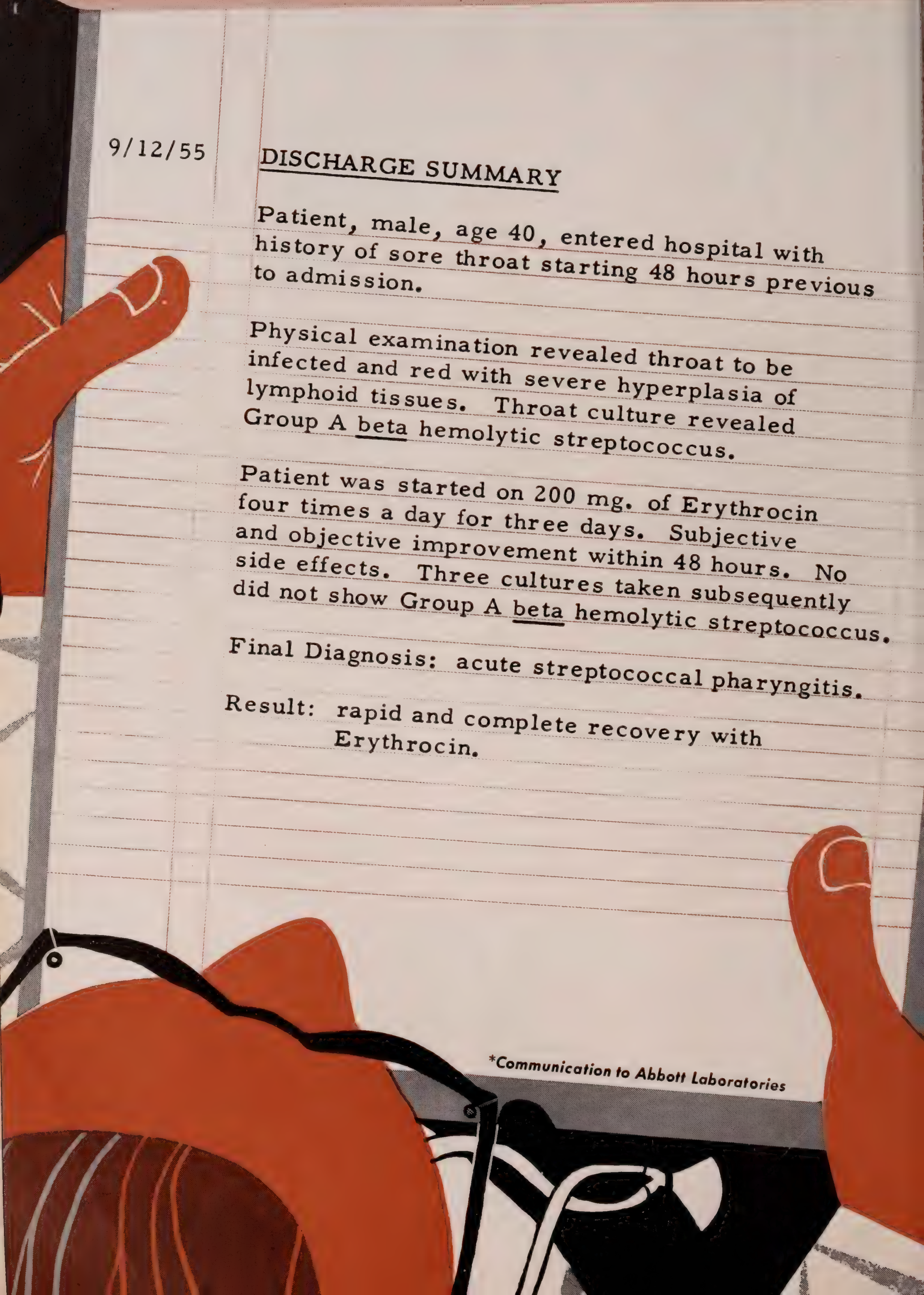
formula: Each gram of water-washable METI-DERM Ointment with Neomycin contains 5 mg. (0.5%) prednisolone, and 5 mg. (0.5%) neomycin sulfate equivalent to 3.5 mg. neomycin base.

packaging: METI-DERM Ointment with Neomycin, 10 Gm. tube.

Schering

MD-J-656

Erythrocin in the treatment of pharyngitis*



9/12/55

DISCHARGE SUMMARY

Patient, male, age 40, entered hospital with history of sore throat starting 48 hours previous to admission.

Physical examination revealed throat to be infected and red with severe hyperplasia of lymphoid tissues. Throat culture revealed Group A beta hemolytic streptococcus.

Patient was started on 200 mg. of Erythrocin four times a day for three days. Subjective and objective improvement within 48 hours. No side effects. Three cultures taken subsequently did not show Group A beta hemolytic streptococcus.

Final Diagnosis: acute streptococcal pharyngitis.

Result: rapid and complete recovery with
Erythrocin.

*Communication to Abbott Laboratories

specific against coccic infections

Specific—because you can actually pinpoint the therapy for coccic infections. That's because you know most bacterial respiratory infections are caused by staph-, strep- and pneumococci. And these are the very organisms most sensitive to ERYTHROCIN—even when they resist penicillin and other antibiotics.

filmtab® **Erythrocin®**
(Erythromycin Stearate, Abbott)
STEARATE

with little risk of side effects

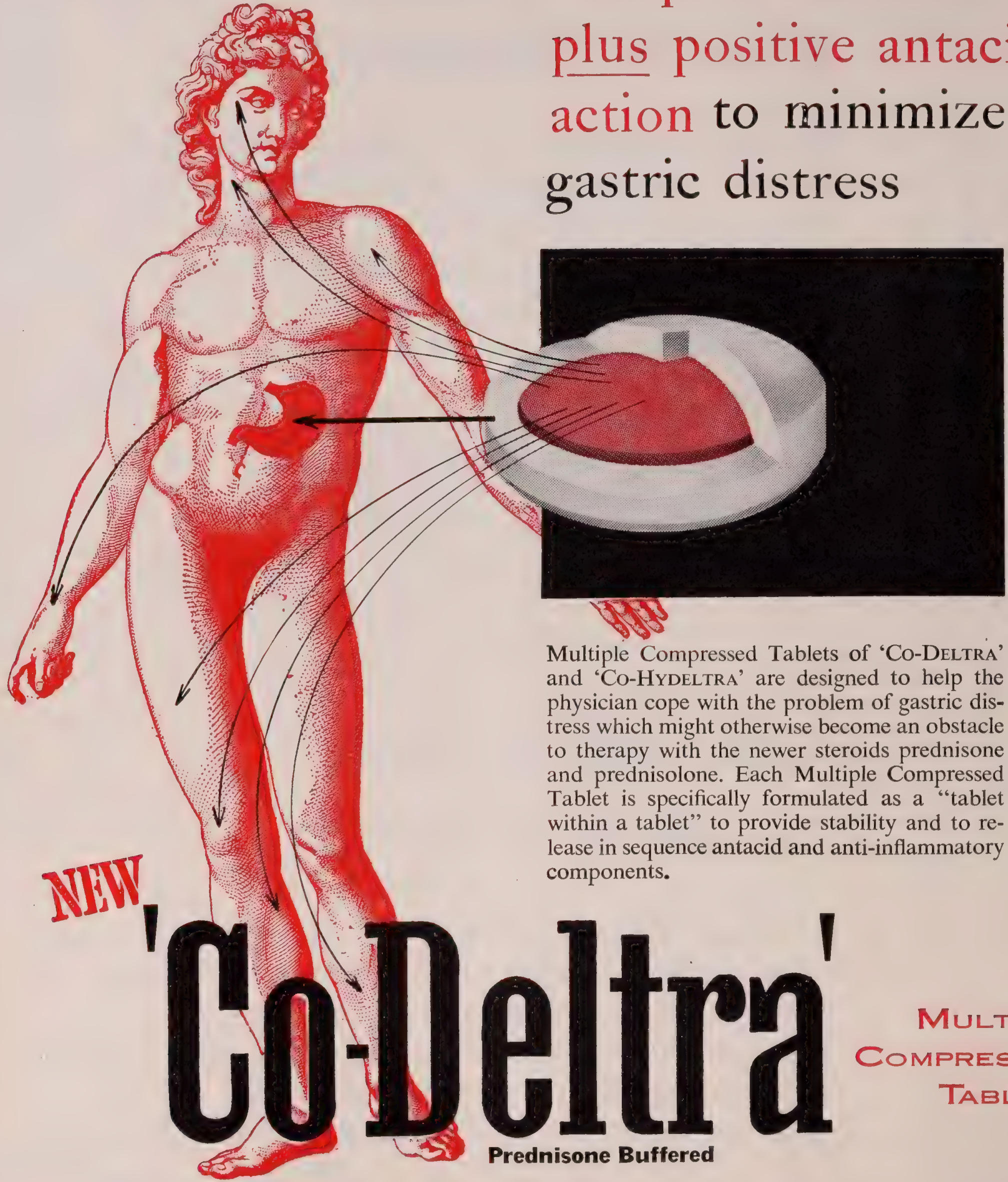
Low toxicity—because ERYTHROCIN (in contrast to many other antibiotics) rarely alters intestinal flora. Thus, patients seldom get gastroenteral side effects. Or loss of vitamin synthesis in the intestine. No allergic reactions, either. *Filmtab* ERYTHROCIN Stearate (100 and 250 mg.), bottles of 25 and 100. Abbott

filmtab® **Erythrocin®**
(Erythromycin Stearate, Abbott)
STEARATE

® Filmtab — film-sealed tablets; pat. applied for

605169

All the benefits of prednisone and prednisolone plus positive antacid action to minimize gastric distress



Multiple Compressed Tablets of 'Co-Deltra' and 'Co-Hydeltra' are designed to help the physician cope with the problem of gastric distress which might otherwise become an obstacle to therapy with the newer steroids prednisone and prednisolone. Each Multiple Compressed Tablet is specifically formulated as a "tablet within a tablet" to provide stability and to release in sequence antacid and anti-inflammatory components.

NEW

'Co-Deltra'

Prednisone Buffered

MULTIPLE COMPRESSED TABLETS

and

'Co-Hydeltra'

Prednisolone Buffered

Supplied: Multiple Compressed Tablets of 'Co-Deltra' and 'Co-Hydeltra', each containing 5 mg. prednisone or prednisolone, 300 mg. of dried aluminum hydroxide gel, U.S.P., and 50 mg. of magnesium trisilicate, U.S.P., bottles of 30 tablets.

SHARP & DOHME
Philadelphia 1, Pa.
Division of Merck & Co., Inc.

'Co-Deltra' and 'Co-Hydeltra' are the trademarks of Merck & Co., Inc.

now!
enzymatic debridement
safe and convenient
for office practice

Panafil **ointment**

4 oz. AVOIR
Rystan
Panafil
OINTMENT

- Effective in resistant skin lesions...including wounds, burns and ulcers.[1,2]
- Simultaneously promotes wound healing.
- Convenient, ready-to-apply as continuous dressing.
- Nonirritating, even when dressings are not changed for several days.

PANAFIL Ointment combines three active ingredients to provide

safe, controlled debridement
plus healing action

1—PAPAIN...Efficient debriding enzyme...harmless to viable cells.

2—UREA...Augments Papain's debriding action, especially in encrusted lesions.

3—CHLOROPHYLL DERIVATIVES...Control inflammation and promote healthy granulation.

PANAFIL Ointment contains papain powder 10%, urea crystals, U.S.P. 10%, and water-soluble chlorophyll derivatives, N.N.R. 0.5% in a hydrophilic ointment base. Available *on prescription* only in 1-ounce and 4-ounce tubes.

References: 1. Miller, E.: New York State J. Med., to be published. 2. Reports to Clinical Research Division, Rystan Company.

Literature and samples for clinical trial available on request.

Rystan company · MOUNT VERNON, N. Y.

Bon Voyage begins

with **BONAMINE***

BRAND OF MECLIZINE HYDROCHLORIDE

longest-acting motion-sickness remedy[1] → effective in low dosage → controls various symptoms of motion sensitivity in minutes → one dose often prevents motion sickness for 24 hours → as safe as a placebo[1] → BONAMINE TABLETS, *scored, tasteless, 25 mg.* → BONAMINE CHEWING TABLETS, *pleasantly mint flavored, 25 mg.*

1. Report of Study by Army, Navy, Air Force Motion Sickness Team: J.A.M.A. *160*:755 (March 3) 1956. *Trademark

Pfizer PFIZER LABORATORIES, *Division, Chas. Pfizer & Co., Inc.,* Brooklyn 6, N. Y.

Meat...

and the Rehabilitation of Protein Depleted Patients

Although the recommended daily allowance of one gram of protein per kilogram of body weight is adequate for the average healthy adult,[1] greater amounts may be needed in the rehabilitation of patients depleted in protein after severe infections, mechanical trauma, burns, or extensive surgery.[2] Protein needs for tissue regeneration during convalescence are high.

To speed rehabilitation of the protein depleted patient, top quality protein and calories should be given in generous quantity.[2] However, a high protein intake, 130 grams daily, at best induces a slow response.[3] Intakes at 3 or 4 times that level may produce considerably more rapid gain in weight, strength, and morale.[4,5] If mastication and swallowing are difficult, canned strained meats—such as used in infant feeding—may be used to advantage in the high protein diet.[2]

Lean meat, outstanding in contained top quality protein, may well be made the keystone of the high protein diet. Its abundance of vitamin B complex and essential minerals—iron, phosphorus, potassium, and magnesium—adds to its therapeutic value. Important also are its appetite appeal, its easy digestibility, and its virtual freedom from allergenic properties.

---

1. Recommended Dietary Allowances, Washington, D. C., National Academy of Sciences—National Research Council, Publication 302, 1953.
2. Co Tui: Review: The Fundamentals of Clinical Proteinology, J. Clin. Nutrition *1*:232 (Mar.-Apr.) 1953.
3. Keys, A.; Brozek, J.; Henschel, A.; Mickelsen, O., and Taylor, H. L.: The Biology of Human Starvation, Minneapolis, Univ. of Minnesota Press, 1950.
4. Burger, G. C. E.; Drummond, J. C., and Sandstead, H. R.: Malnutrition and Starvation in Western Netherlands, The Hague General State Printing Office, 1948, Part II, p. 91.
5. Co Tui; Kuo, N.H.; Chuachiaco, M., and Mulholland, J.H.: The Protein Depletion (Hypoproteinia) Syndrome and Its Response to Hyper-Proteinization, Anesth. & Analg. *28*:1 (Jan.-Feb.) 1949.

The nutritional statements made in this advertisement have been reviewed by the Council on Foods and Nutrition of the American Medical Association and found consistent with current authoritative medical opinion.

American Meat Institute
Main Office, Chicago... Members Throughout the United States

R
ROENTGENOGRAPHIC LABORATORY
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Personalize Arthritis Therapy with Steroids plus BUFFERIN®

Exploit fully the use of salicylates in arthritis—give steroids in minimal doses—combine salicylates with corticosteroids for additive antiarthritic effect—this is the program Spies[1] advocates in a recent article in the Journal of the American Medical Association.

Treatment of rheumatoid arthritis demands a "highly individualized program," Spies[1] writes. The additive action of salicylates permits use of smaller amounts of hormones, thus lessening or eliminating their well-known side effects. "A proper mixture of salicylates and corticosteroids produces an effective antirheumatic agent in many cases."[1]

Suit your treatment to your individual arthritic patient. Use the hormone you prefer, in the dosage you think best, but for better results combine it with BUFFERIN, the salicylate proved to be better tolerated by arthritics.[2]

BUFFERIN contains no sodium, a marked advantage when cardiorenal complications make a salt-restricted diet necessary.

Each BUFFERIN tablet contains 5 grains of acetylsalicylic acid and the antacids magnesium carbonate and aluminum glycinate.

REFERENCES:

1. J.A.M.A. 159:645 (Oct. 15) 1955.
2. J.A.M.A. 158:386 (June 4) 1955.

BRISTOL-MYERS CO., 19 West 50 Street, New York 20, N. Y.

". . . may be unique as a wide-spectrum antimicrobial agent that is bactericidal, relatively nontoxic, and does not invoke resistant mutants."[1]

Furadantin®

BRAND OF NITROFURANTOIN

in acute and chronic pyelonephritis, cystitis, prostatitis

Percentage of Effectiveness of Furadantin Against Various Strains of Bacteria in Vitro

	Aerobacter aerogenes	Proteus sp.	Paracolo-bactrum sp.	Micro-coccus pyogenes	Strepto-coccus pyogenes	Esche-richia coli	Pseudo-monas aeruginosa
Furadantin	**82.1**	**66.6**	**31.2**	**91.9**	**93.9**	**60.0**	**13.3**
Antibiotic A	71.4	55.5	25.0	93.5	96.9	66.0	26.6
Dihydrostreptomycin	14.2	25.9	12.5	38.7	27.2	28.0	6.6
Antibiotic B	3.5	0	0	66.1	63.6	0	2.2
Penicillin	3.5	0	0	27.4	39.3	0	0
Antibiotic C	14.2	7.4	18.7	46.7	72.6	22.0	11.1

ADAPTED FROM PERRY[2]

Furadantin's "high degree of effectiveness against bacteria responsible for urinary tract infections is brought out by this study."[2]

Furadantin dosage—simple and safe: Average adult dose is 100 mg., q.i.d., (at mealtime, and on retiring, with food or milk). Average daily dosage for children is 5 to 7 mg./Kg. in four divided doses.

SUPPLIED: Tablets, 50 and 100 mg., bottles of 25 and 100.
Oral Suspension, 5 mg. per cc., bottle of 118 cc.

REFERENCES: 1. Waisbren, B. A., and Crowley, W.: A.M.A. Arch. Int. M. 95:653. 1955. 2. Perry, R. E., Jr.: North Carolina M. J. 16:567, 1955.

NITROFURANS—A NEW CLASS OF ANTIMICROBIALS—NEITHER ANTIBIOTICS NOR SULFAS

Eaton
LABORATORIES

Upjohn

Ulcer protection that lasts all night:

Pamine* BROMIDE

Tablets

Each tablet contains:
Methscopolamine bromide .... 2.5 mg.

Average dosage (ulcer):
One tablet one-half hour before meals, and 1 to 2 tablets at bedtime.

Supplied: Bottles of 100 and 500 tablets

Syrup

Each 5 cc. (approx. 1 tsp.) contains:
Methscopolamine bromide .... 1.25 mg.

Dosage:
1 to 2 teaspoonfuls three or four times daily.

Supplied: Bottles of 4 fluidounces

Sterile Solution

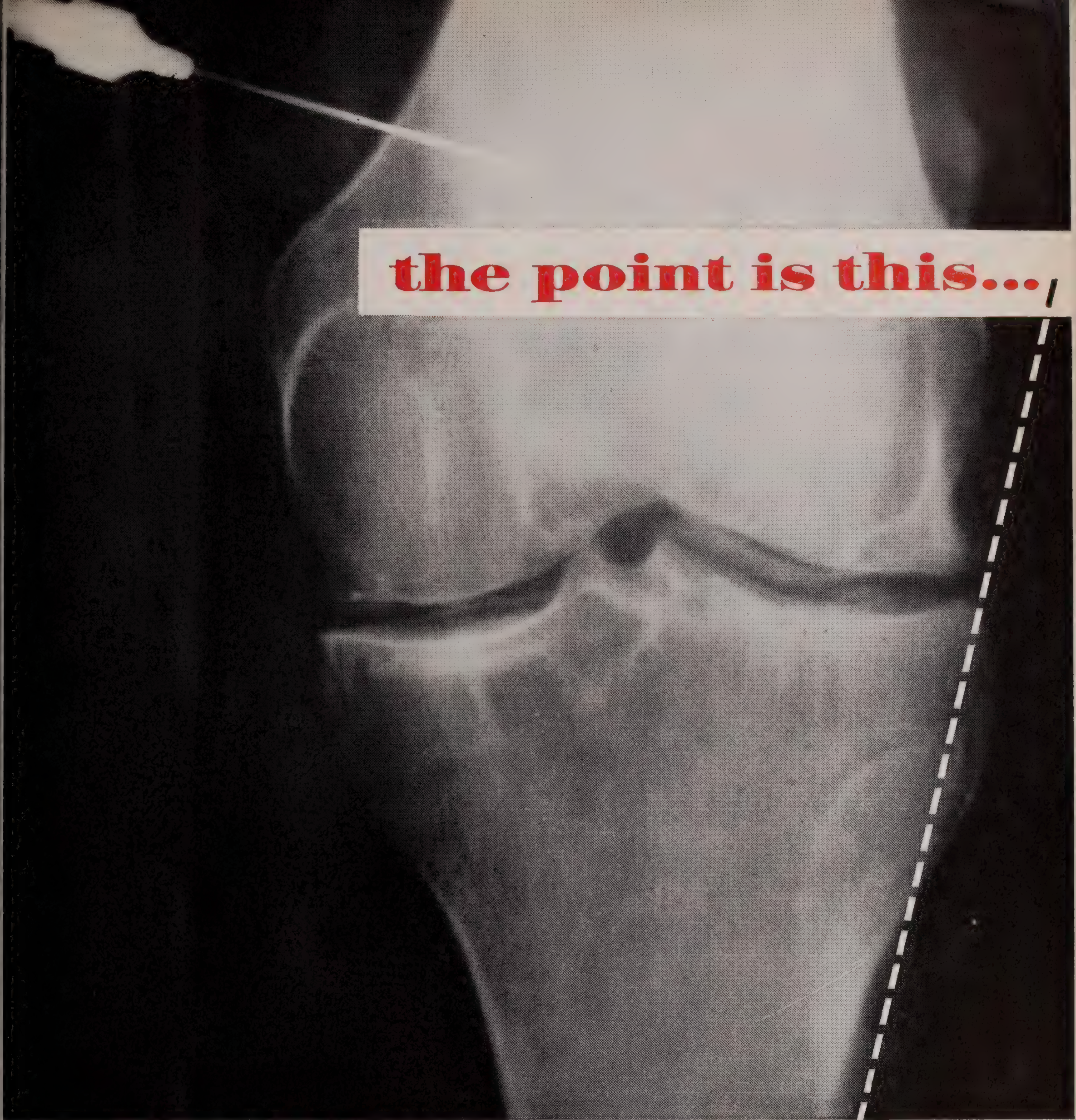
Each cc. contains:
Methscopolamine bromide .... 1 mg.

Dosage:
0.25 to 1.0 mg. (¼ to 1 cc.), at intervals of 6 to 8 hours, subcutaneously or intramuscularly.

Supplied: Vials of 1 cc.

*TRADEMARK, REG. U. S. PAT. OFF.—THE UPJOHN BRAND OF METHSCOPOLAMINE

The Upjohn Company, Kalamazoo, Michigan



the point is this...

HydroCortone® -TBA

(HYDROCORTISONE TERTIARY-BUTYLACETATE, MERCK)

gives the arthritic patient more days of freedom from joint symptoms—in many patients the anti-rheumatic effect persists 2 to 10 times longer than after injection of hydrocortisone acetate. Its action is local and without systemic effect.

SHARP
DOHME

Philadelphia 1, Pa.
Division of Merck & Co., Inc.

SUPPLIED: SALINE SUSPENSION HYDROCORTONE-TBA—25 MG./CC., VIALS OF 5 CC.

TRANS WORLD AIRLINES
TWA

HORN & HARDART
RESTAURANT
REINFORCED CONCRETE CONSTRUCTION

ACHROMYCIN*
Tetracycline *Lederle*

In the treatment of

respiratory infections

January and his associates[1] have written on the use of tetracycline (ACHROMYCIN) to treat 118 patients having various infections, most of them respiratory, including acute pharyngitis and tonsillitis, otitis media, sinusitis, acute and chronic bronchitis, asthmatic bronchitis, bronchiectasis, bronchial pneumonia, and lobar pneumonia. Response was judged good or satisfactory in more than 84% of the total cases.

Each month there are more and more reports like this in the literature, documenting the great worth and versatility of ACHROMYCIN. This antibiotic is unsurpassed in range of effectiveness. It provides rapid penetration, prompt control. Side effects, if any, are usually negligible.

No matter what your field or specialty, ACHROMYCIN can be of service to you. For your convenience and the patient's comfort, Lederle offers a *full* line of dosage forms, including

ACHROMYCIN SF

ACHROMYCIN with STRESS FORMULA VITAMINS. Attacks the infection—defends the patient—hastens normal recovery. For severe or prolonged illness. Stress formula as suggested by the National Research Council. Offered in Capsules of 250 mg. and in an Oral Suspension, 125 mg. per 5 cc. teaspoonful.

For more rapid and complete absorption. Offered only by Lederle!

dry-filled sealed capsules

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[1] January, H. L. et al: Clinical experience with tetracycline. *Antibiotics Annual* 1954-55, p. 625.

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LEDERLE LABORATORIES DIVISION
AMERICAN CYANAMID COMPANY
PEARL RIVER, NEW YORK

*REG. U.S. PAT. OFF.

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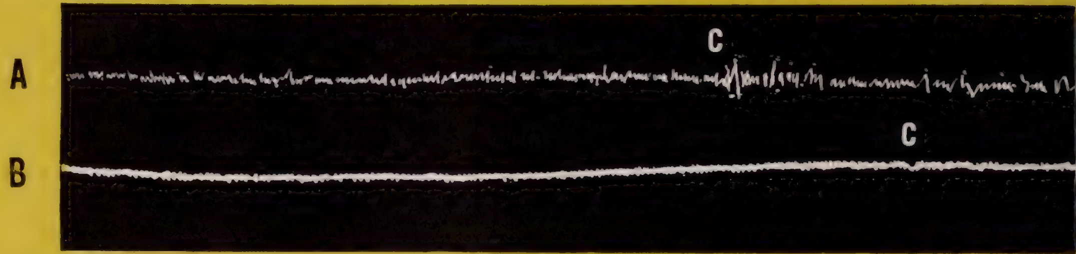
Reduces Muscular Tension

= Equanil*

MEPROBAMATE
(2-methyl-2-*n*-propyl-1,3-propanediol dicarbamate)
Licensed under U.S. Patent No. 2,724,720

Electromyography shows decisive response



Electromyographic study of neuromuscular hyperactivity in 42-year-old male with anxiety-tension syndrome. A, Before EQUANIL; action potential of high amplitude and frequency. B, After one week of ambulatory treatment with EQUANIL; showing definite reduction in tension, greater ability to relax, and marked improvement in muscular coordination. C, Point where patient makes effort to relax.[1]

The remarkable effectiveness of EQUANIL may be demonstrated in two ways. One is by its ability to relieve muscle spasm and neuromuscular tension.[1] The second is by its ability to relieve mental tension and anxiety.

Usual dosage: 1 tablet t.i.d. The dose may be adjusted either up or down, according to the clinical response of the patient.

Supplied: Tablets, 400 mg., bottles of 50.

1. Dickel, H.A., et al.: West. J. Surg. *64*:197 (April) 1956

anti-anxiety factor
with muscle-relaxing action
. . . relieves tension

Wyeth®
Philadelphia 1, Pa.

*Trademark

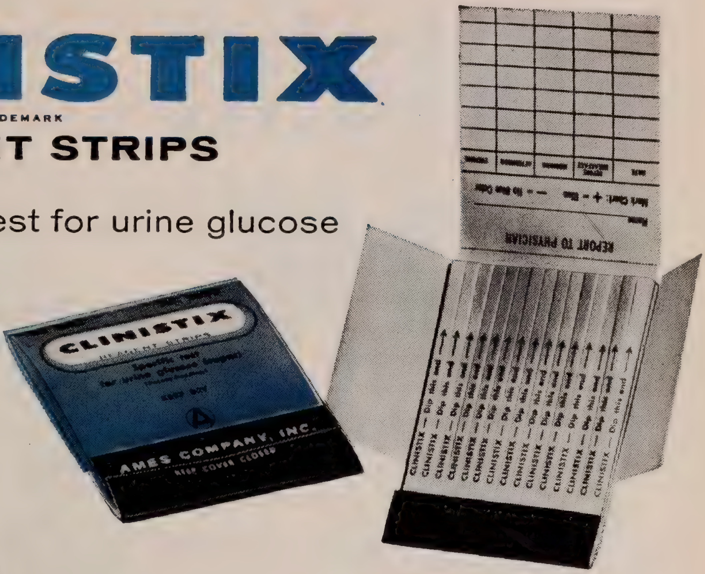
NEW CONCEPT IN URINE-SUGAR TESTING

CLINISTIX

TRADEMARK

REAGENT STRIPS

specific enzyme test for urine glucose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REAGENT STRIPS
AMES COMPANY, INC.
KEEP COVER CLOSED
REPORT TO PHYSICIAN
CLINISTIX — Dip this end

just dip
and read

POSITIVE
NEGATIVE
Strip
turns
blue
No
blue
color

complete specificity... unaffected by non-glucose reducing substances...differentiates glucose from other urine-sugars... thousands of tests reveal no substance causing a false positive.

extreme sensitivity... detects glucose concentrations of 0.1% or less.

utmost simplicity and convenience... a CLINISTIX Reagent Strip moistened with urine turns blue when glucose is present.

qualitative accuracy... used whenever presence or absence of glucose must be determined rapidly and frequently. CLINISTIX does not attempt to give quantitative results because so many factors in urine influence enzyme reactions.

economy... CLINISTIX saves time and cuts costs...each strip is a complete test rapidly performed without reagents and equipment.

available: Packets of 30 CLINISTIX Reagent Strips in cartons of 12—No. 2830.

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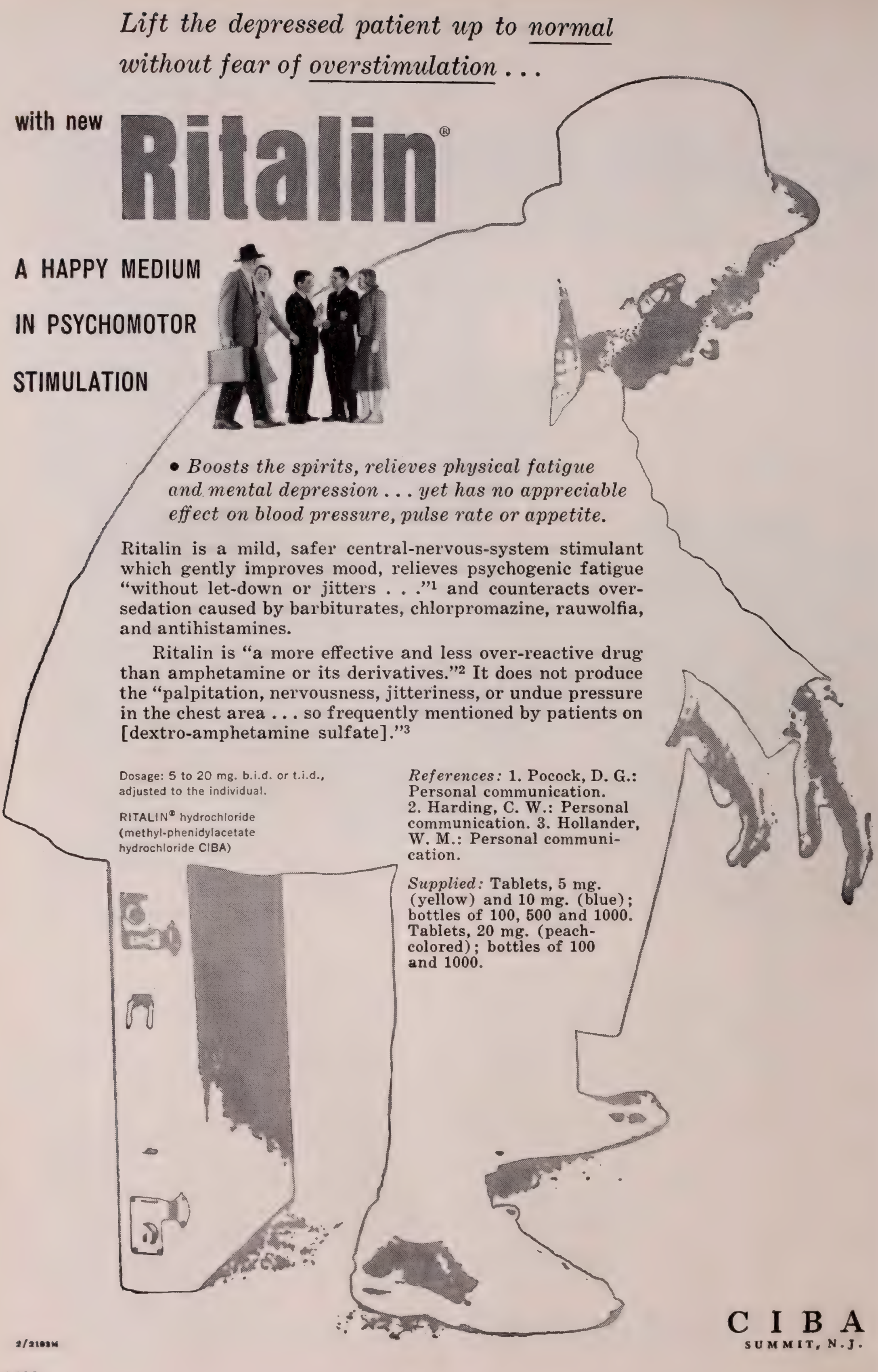


Lift the depressed patient up to normal without fear of overstimulation . . .

with new **Ritalin®**

A HAPPY MEDIUM IN PSYCHOMOTOR STIMULATION

- *Boosts the spirits, relieves physical fatigue and mental depression . . . yet has no appreciable effect on blood pressure, pulse rate or appetite.*

Ritalin is a mild, safer central-nervous-system stimulant which gently improves mood, relieves psychogenic fatigue "without let-down or jitters . . ."[1] and counteracts oversedation caused by barbiturates, chlorpromazine, rauwolfia, and antihistamines.

Ritalin is "a more effective and less over-reactive drug than amphetamine or its derivatives."[2] It does not produce the "palpitation, nervousness, jitteriness, or undue pressure in the chest area . . . so frequently mentioned by patients on [dextro-amphetamine sulfate]."[3]

Dosage: 5 to 20 mg. b.i.d. or t.i.d., adjusted to the individual.

RITALIN® hydrochloride (methyl-phenidylacetate hydrochloride CIBA)

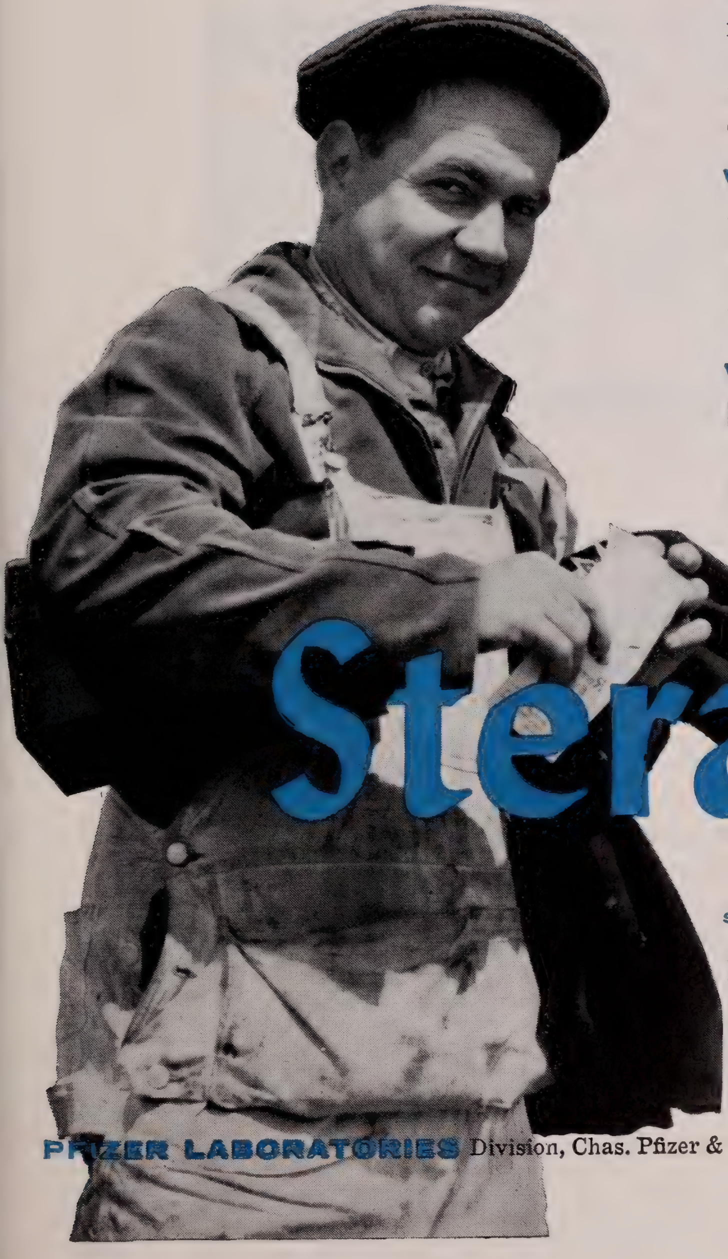
References: 1. Pocock, D. G.: Personal communication. 2. Harding, C. W.: Personal communication. 3. Hollander, W. M.: Personal communication.

Supplied: Tablets, 5 mg. (yellow) and 10 mg. (blue); bottles of 100, 500 and 1000. Tablets, 20 mg. (peach-colored); bottles of 100 and 1000.

C I B A
SUMMIT, N.J.

2/2193M

in rheumatoid arthritis



STANDING

is easier with STERANE[1]—3-5 times more active than hydrocortisone or cortisone.[2]

WALKING

follows rapidly.[1] STERANE "is more effective than any previous drug in the control of . . . rheumatoid arthritis."[3]

WORKING

functional mobility is restored even where other steroids fail or cease to be effective.[2,3]

WITH MINIMAL DISTURBANCE

of electrolyte balance[1-3]—patients may even be treated without diet restrictions.

Sterane®

brand of prednisolone

supplied: *White, 5 mg. oral tablets, bottles of 20 and 100. Pink, 1 mg. oral tablets, bottles of 100.*

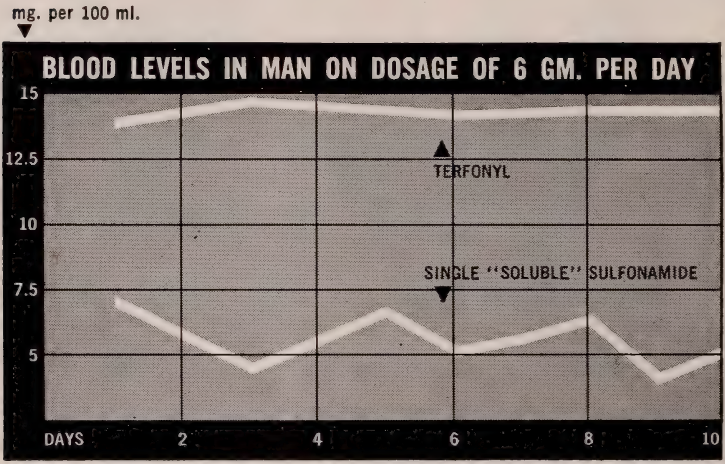
1. Spies, T. D., et al.: GP 12:73, No. 1, 1955. 2. Boland, E. W.: J.A.M.A. 160:613, 1956. 3. Gillhespy, R. O.: Lancet 2:1393, 1955.

PFIZER LABORATORIES Division, Chas. Pfizer & Co., Inc. Brooklyn 6, New York

maximum efficacy with minimum risk

Terfonyl

SQUIBB METH-DIA-MER SULFONAMIDES



– After Lehr, D., Modern Med. 23:111 (Jan. 15) 1955.

Terfonyl is absorbed as well as single "soluble" sulfonamides, but is eliminated at a slower rate. For this reason, Terfonyl blood levels are much higher.

In experimental infections (Klebsiella, Pneumococcus, Streptococcus), Meth-Dia-Mer sulfonamides have been shown to be from three to four times more effective on a weight basis than single "soluble" sulfonamides.

Toxicity is minimal because normal dosage provides only one-third the normal amount of each sulfonamide. The body handles each component as though it were present alone, although therapeutic effects are additive.

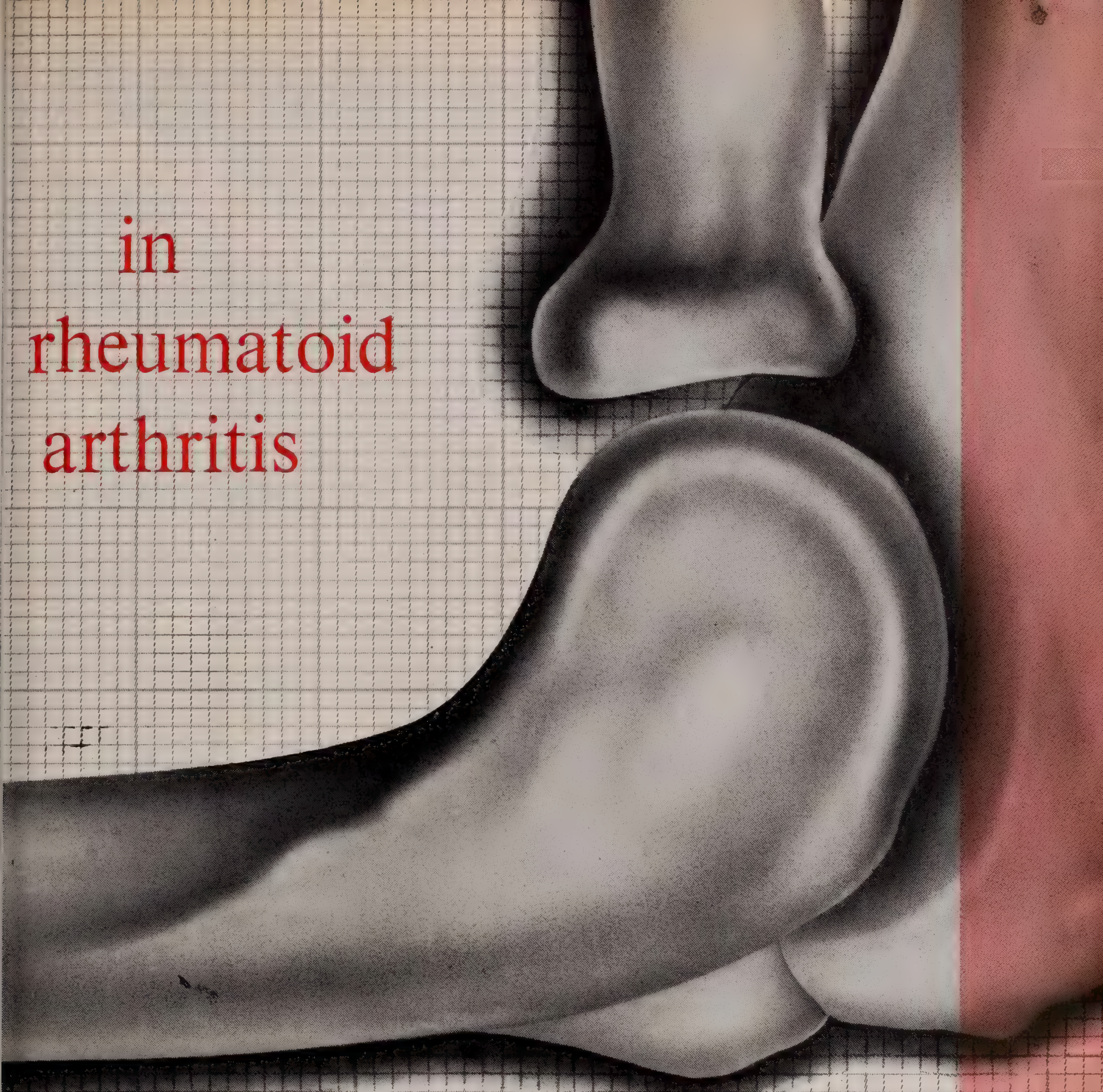
Terfonyl Tablets, 0.5 Gm., bottles of 100 and 1000.
Terfonyl Suspension, 0.5 Gm. per 5 ml., pint bottles.

0.167 Gm. each of sulfamethazine, sulfadiazine and sulfamerazine per tablet or per 5 ml. teaspoonful of suspension.

SQUIBB

'TERFONYL'® IS A SQUIBB TRADEMARK

in rheumatoid arthritis



replaces cortisone and hydrocortisone
permits treatment of more patients

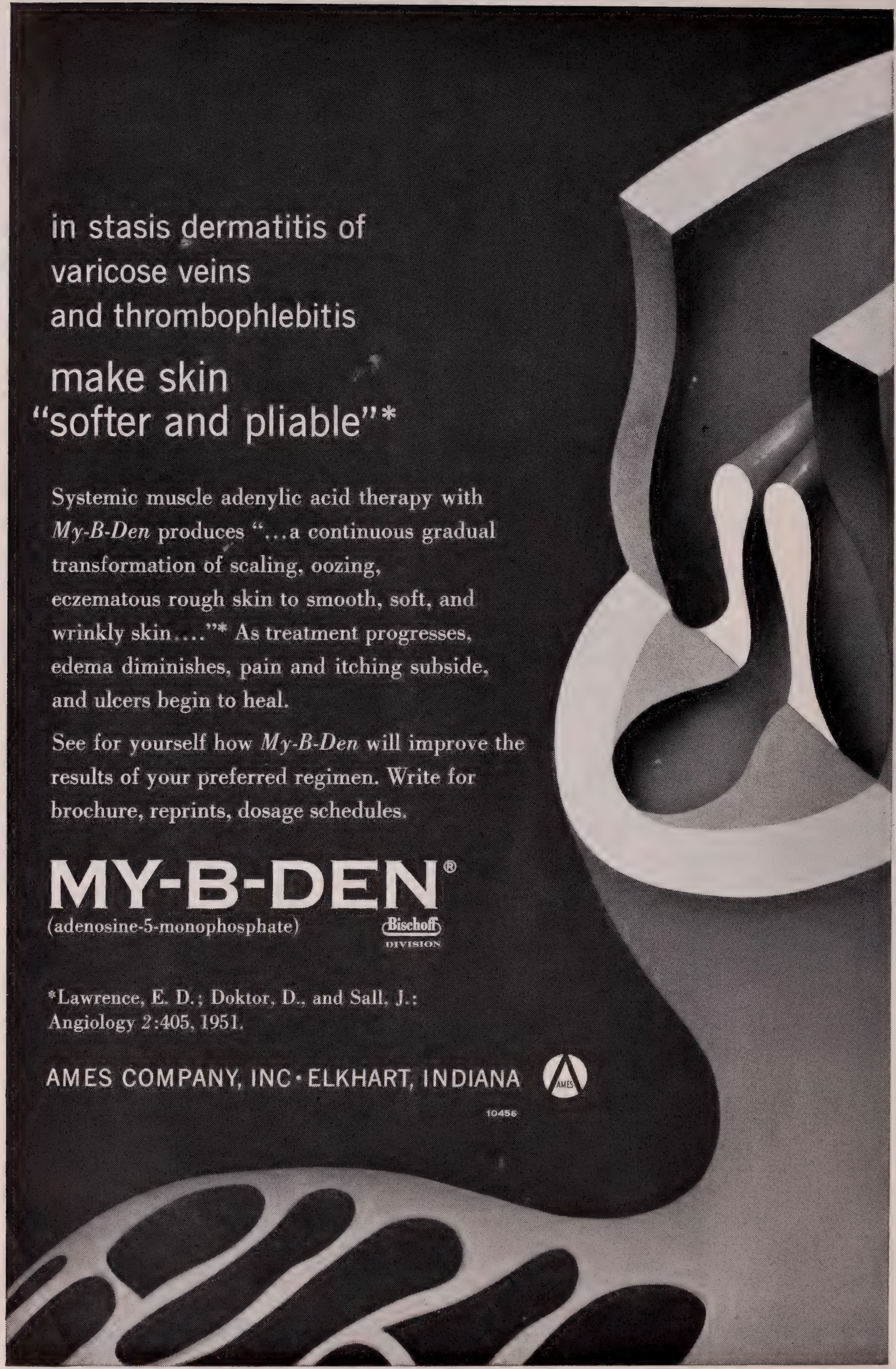
METICORTEN*
(PREDNISONE, SCHERING)

Schering

- significantly less edema due to sodium retention
- excellent relief of pain, swelling, tenderness
- effective in smaller dosage

*T.M.

MC-J-63-1255



in stasis dermatitis of
varicose veins
and thrombophlebitis

make skin
"softer and pliable"*

Systemic muscle adenylic acid therapy with *My-B-Den* produces "...a continuous gradual transformation of scaling, oozing, eczematous rough skin to smooth, soft, and wrinkly skin...."* As treatment progresses, edema diminishes, pain and itching subside, and ulcers begin to heal.

See for yourself how *My-B-Den* will improve the results of your preferred regimen. Write for brochure, reprints, dosage schedules.

MY-B-DEN®
(adenosine-5-monophosphate)

Bischoff
DIVISION

*Lawrence, E. D.; Doktor, D., and Sall, J.: Angiology 2:405, 1951.

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The
NEW
Phenothiazine
Derivative

Sparine

Promazine Hydrochloride
10-(γ-dimethylamino-*n*-propyl)-phenothiazine hydrochloride

For the Management of the Acutely Agitated Patient

- *The acute alcoholic* • *The acute psychotic* • *The drug addi*

A promising new agent in chemopsychotherapeutics, SPARINE has demonstrated impressive effectiveness in controlling acute excitation without inducing significant side-reactions.[1,2,3]

SPARINE is a new, clinically effective phenothiazine derivative, which may be administered intravenously, intramuscularly, or orally. The route and dosage are determined by the extent of central-nervous-system excitation and by the patient's response.

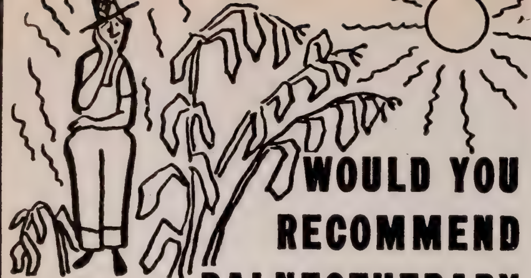
Supplied: Tablets, 25, 50, and 100 mg., bottles of 50 and 500; 200 mg., bottles of 500. Injection, 50 mg. per cc., vials of 2 and 10 cc.

1. Seifter, J., et al.: To be published. 2. Fazekas, J.F., et al.: M. Ann. District of Columbia 25:67 (Feb.) 1956. 3. Mitchell, E.H.: J.A.M.A. In press.

Wyeth®
Philadelphia 1, Pa.

*Trademar

An Exclusive Development of Wyeth Research



WOULD YOU RECOMMEND BALNEOTHERAPY

If your patient is feeling wilted and run down?

Stubborn arthritis and rheumatism cases often respond to warm sulphur water baths, daily massages, hot packs and Nauheim baths.

Countless sufferers have found relief at Sharon Springs, 50 miles west of Albany, in the colorful hill country bordering the Mohawk Valley.

Certain of your own patients can also benefit from a vacation at this historic Spa. Care is used by resident physicians to follow your prescribed regimen. Quiet living and the sulphur water Spa routine usually do the rest.

Full information at once.

WHITE SULPHUR BATHS
SHARON SPRINGS 2, N. Y.
Charter Member, Assoc. of Amer. Spas
(Medically Supervised)

premenstrual tension

- block premenstrual water retention
- reduce vascular congestion
- eliminate excessive nervous tension
- prevent premenstrual tension . . . with

Neo-Mensalin*

Each tablet contains:

2-amino-2-methyl-l-propanol 8-bromotheophyllinate	50 mg.
Pyrilamine Maleate	30 mg.

Samples and literature on request.

*TRADEMARK

Walker LABORATORIES, INC.
MOUNT VERNON, NEW YORK, U. S. A.

When diarrhea follows indiscreet eating, prescribe . . .

Cremosuxidine®

SULFASUXIDINE® SUSPENSION WITH PECTIN AND KAOLIN

MAJOR ADVANTAGES: Has pronounced antibacterial action. Adsorbs and detoxifies intestinal irritants. Can be added to infant formula or to milk. Passes easily through ordinary nipples. Tasty, chocolate-mint flavor.

Average dosage for infants: ½ to 1 tsp. six times daily; for *children:* 1½ to 2½ tsp. six times daily.

SHARP & DOHME
Philadelphia 1, Pa.
DIVISION OF
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Schering
CORTICLORON
NASAL SPRAY
Anti-inflammatory • Antiallergic
CHLOR-TRIMETON®
+CORTISONE

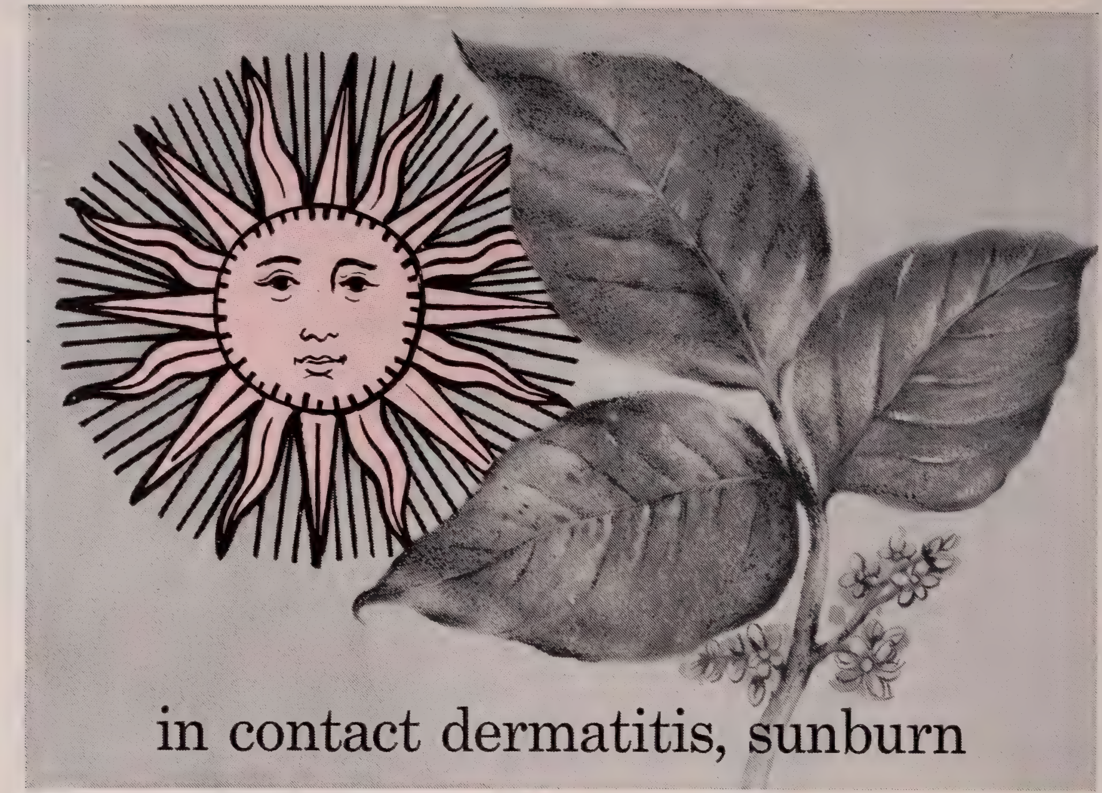
in nasal allergies...
rapid relief from congestion

breathing easier in *2 to 5 minutes* · relief *even for refractory patients* safe for *hypertensive and cardiac patients* · equally well-tolerated by *adults and children* · *in convenient new spray form*

CORTICLORON Nasal Spray, 15 cc., in plastic bottle, provides superior coverage with evenly atomized mist. Also available for ophthalmic use — CORTICLORON Sterile Suspension, 15 cc. dropper bottle.

Schering

CORTICLORON,® brand of cortisone acetate and chlorprophenpyridamine preparations. CC-J-3-356



in contact dermatitis, sunburn

661003

'Surfadil'

(CYCLOMETHYCAINE AND THENYLPYRAMINE, LILLY)

. . . speeds healing, controls itching and pain

Order a supply for your treatment table today. Available in 75-cc. (plastic) and 1-pint bottles. Pleasantly scented, skin tone in color.

Also available as a cream, in 1-ounce tubes and in 1-pound and 5-pound jars.

'Surfadil' lotion combines the time-proved topical anesthetic, 'Surfacaine' (Cyclomethycaine, Lilly); an effective antihistaminic, 'Histadyl' (Thenylpyramine, Lilly); and the protective adsorbent, titanium dioxide. 'Surfadil' lotion controls pain and itch, combats extravasation of fluids, adsorbs moisture, and deflects the sun's rays.

'Surfadil' lotion provides prompt and prolonged relief from contact dermatitis caused by such agents as drugs, chemicals, clothing, and poison ivy, oak, or sumac. Also valuable in eczema, insect bites, heat rash, and sunburn.

Lilly

QUALITY / RESEARCH / INTEGRITY

ELI LILLY AND COMPANY

80TH ANNIVERSARY 1876 · 1956

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CHARLES L. BALDWIN, JR.
JOHN A. BASSETT
Pacific Coast Representative

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GENERAL INFORMATION

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EDITORIALS

Antipolio Vaccine

The January 12, 1956, minutes of the Council include a matter of policy relating to antipolio vaccine, important to all physicians of the State. As interpreted by the secretary of the Society, Dr. W. P. Anderton, the sense of this portion of Dr. Curphey's report[1] follows:

> It was recommended to the members of the Society that antipolio vaccine be administered in accordance with priorities established by the New York State Health Department upon recommendation from the U.S. Public Health Service. It was recommended that no individual should be denied the vaccine because of the inability to pay, that physicians be willing to administer to the indigent the vaccine supplied by the State Health Department, and in case of individuals who can pay for administration, a fee be charged, but that there be no charge for vaccine if the physicians obtain it without cost.
>
> Furthermore, physicians are urged to keep record of such inoculations in conformity with a recent amendment to the State Sanitary Code, which requires the name, address, and age of the patient, the manufacturer's name, batch number of the vaccine, and date of vaccination.
>
> It is hoped that the commercial supply of this vaccine will increase in the near future.

Dr. Curphey's report containing the above recommended policy was approved by the Council. It is urged that all physicians administering antipolio vaccine in this State familiarize themselves with the recommended procedure and the provisions of the amended State Sanitary Code requiring accurate recording of the data as above outlined.

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[1] NEW YORK STATE J. MED. 56: 760 (Mar. 1) 1956.

Interesting Iowa Court Decision

On November 28, 1954, Judge C. Edwin Moore in Polk County District Court, Iowa, reportedly ruled after lengthy trial of an action that hospitals employing radiologists and pathologists and that sell their services to patients "are engaged in the illegal corporate practice of medicine."[1]

The successful defendants to the action were the Iowa Board of Medical Examiners, the Iowa Association of Pathologists, the Attorney General of Iowa, and, as interveners, the Iowa State Medical Society. The action was brought by the Iowa Hospital Association and 34 member hospitals. Judge Moore's ruling upheld a 1954 Iowa attorney general's opinion that it is illegal for hospitals to employ physician specialists and charge patients for their professional services.

It is not the purpose of this JOURNAL to enter into details of the claims and counterclaims of this action. These may be found by anyone interested in the references herewith.[1–3] However, Judge Moore is reported to have said in a statement to the *Des Moines Tribune* explanatory of his ruling,[1] that

> 1. It is illegal for hospitals to employ medical specialists on a salary or percentage arrangement.
>
> 2. Although the hospital may act as the physician's collection agent, patients must be billed for the professional services of the pathologist or radiologist in the name of the physician.

---

[1] J.A.M.A. 160: 58 (Jan. 7) 1956.
[2] J. Iowa M. Soc., Dec., 1955, reprint.
Bull. Coll. Am. Pathologists, Dec., 1955, vol. 9, no. 12.

3. It is legal for hospitals to charge patients for the use of facilities provided by the hospital in the pathology and radiology departments. In this event a separate bill would be submitted by the physician to the patient for his professional services.

4. The hospital may lease space, equipment, and other facilities to the physician. This lease can provide for payment of a flat sum or a percentage of the departmental income, providing the payment is from the physician to the hospital.

5. Laboratory technicians may be the employes of either the hospital or the physician. Details of the status of these technicians, as well as details of financial arrangements between physicians and hospitals, should be worked out at the local level.

The Iowa Hospital Association has indicated that the decision will be appealed to the Iowa Supreme Court.

This ruling, pending probable appeal and possible reversal, seems to add clarification where it has been long needed in an area of considerable controversy. Reportedly, it confirms the position held by most physicians that the practice of medicine is the right of the individual. We shall await with much interest further developments in this case.

Editorial Comment

Minority Obstruction to Medical Care Insurance. Commenting editorially on a matter of grave importance to all physicians in the State, the *Bulletin of the Medical Society of the County of Kings*[1] says, in part,

> When a few doctors obstruct a plan to provide medical care insurance for civil employes of our State and for Federal employes resident in New York State . . . after a conclusive majority of the doctors of the State have endorsed the plan through their designated spokesmen . . . can this mean disloyalty?
>
> Minorities serve a useful function . . . when they are ruled by selfish leaders they go wrong. It takes an aggressive minority to prod a stuffed-shirt complacent majority into needed progressive changes. When the votes are counted, a loyal minority joins the majority to make the action unanimous. . . .
>
> For more than fifteen years a majority of doctors have agreed that something should be done about the rising costs of medical care. In New York, as in most other commonwealths, laws have been enacted to license "voluntary nonprofit medical care insurance" plans. Through such agency it is possible for people having limited or moderate resources to pay for such medical care as may become necessary. The first experiences were developed "on a local level." The success of this plan of insurance is now assured . . . it has matured and no longer can it be called an experiment.
>
> Today comes a new problem. In New York each voluntary nonprofit plan is limited to operations within 18 counties.
>
> The civil employes of the entire State are seeking the benefits of this new social plan for hospital and doctor-care insurance . . . with their dependents they count up to some 125,000 persons. There are other large groups.
>
> The Federal employes . . . never too well paid . . . are also asking for this newer type of insurance to pay hospital and doctor-care bills. The number domiciled in New York State is estimated to be 200,000 . . . increased by their dependents to 500,000 persons.
>
> There are other large groups . . . employes of concerns doing a multistate business . . . railways and other carriers, mine workers and fuel suppliers, and many others. All these large groups want similar coverage regardless of the domicile locations.
>
> The doctors of our State through the Blue Shield Plans of New York are willing to provide coverage for residents of our State who are employed in such groups . . . but . . . minorities of two areas . . . disloyal to the creed of our profession . . . refuse to abide by the terms of contracts which assure paid-in-full care for patients who are in the lower income levels . . . to terms of coverage accepted by physicians in all other parts of the State.

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[1] Bull. M. Soc. Kings County **35**: 47, 69 (Feb.) 1956.

In one area this disloyalty goes to the point of organizing to take over the local Blue Shield . . . to repudiate the philosophy of the majority of our State. Can the damage they do be repaired?

A conflict within the profession will do for us what a divided profession did for doctors in many foreign lands. It gives the politicians opportunity to take over and exploit doctor-care as a political bonus to their followers.

Is this what doctors of these two areas want?

The *Bulletin* minces no words in its characterization of the action of certain minorities in this matter of Blue Shield coverage for all in this State. It would seem to be intolerable that a few small groups of willful physicians could for long thwart the wish of the great majority acting in the public interest for uniform coverage of the State. Such action strikes at the roots of democratic procedure. We find it difficult to believe that, provided the facts are fully disclosed, any such group or groups can prevail.

Convention Announcement

The Medical Society of the State of New York has again arranged for the services of the Languild Convention Service during the 150th Annual Meeting, May 7 to 11, at the Hotel Statler, New York City. This service is available *without cost to our members* beginning now and continuing through the first four days of the meeting, May 7, 8, 9, and 10, when representatives of Languild will be on hand near the registration desk on the mezzanine.

The services offered are:

Tickets—Information about Broadway shows, concerts, radio and television programs, movies, sporting events—*and will help you secure tickets.* If you wish to make reservations in advance, write the Languild Convention Service indicating that you are planning to attend the May 7 to 11 meeting.

Night Clubs—Advice as to atmosphere, floor shows, dancing, cover and minimum charges—*reservations made for you.*

Restaurants—Information about type of food, atmosphere, cost, directions—*and make arrangements for you.*

Transportation—Assistance in making train and plane reservations.

Shopping Service—Advice regarding any type of shopping—*and even do it for you.*

Sightseeing—Arrange for trips around the city, the United Nations, to the Statue of Liberty, to Hyde Park and West Point.

Places and Activities of Interest—Information about exhibits, museums, galleries, athletic events, etc.

If you wish to make advance arrangements, you may write:

LANGUILD CONVENTION SERVICE
545 Fifth Avenue
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Mention that you are a member of the Medical Society of the State of New York and expect to attend the May 7 to 11 meeting.

IMPORTANT RESEARCH CONTRIBUTION

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PROTEOGENIC EFFECTIVENESS • The newest Searle Research development, Nilevar, exerts a potent force in protein anabolism. Yet it is without appreciable androgenic effect (approximately one-sixteenth of that exerted by the androgens).

Investigations with Nilevar show that nitrogen, potassium and phosphorus are retained in ratios indicating protein anabolism. Nilevar is thus the first steroid which is primarily anabolic and which provides a practical means of meeting the numerous demands for protein synthesis.

NILEVAR IS ORALLY EFFECTIVE • Clinical response to Nilevar is characterized not only by protein anabolism but also by an increase in appetite and an improved sense of well-being.

SAFETY AND PRECAUTIONS • Nilevar has an extremely low toxicity. Laboratory animals fail to show toxic effects after six months of continuous administration of high dosages. Nilevar should not be administered to patients with prostatic carcinoma. Nausea or edema may be encountered infrequently.

DOSAGE • The daily *adult* dose is three to five Nilevar tablets (30 to 50 mg.) but up to 100 mg. may be administered. For *children* the daily dose is 1 to 1.5 mg. per kilogram of body weight. Individual dosages depend on need and response to therapy. Nilevar is available in 10 mg. tablets. G. D. Searle & Co., Research in the Service of Medicine.

INDICATIONS:

Nilevar is indicated in the vast area of surgical, traumatic and disease states in which protein anabolism is desirable for hastening recovery. The specific indications are:

1. **Preparation for elective surgery.**
2. **Recovery from surgery.**
3. **Recovery from illness: pneumonia, poliomyelitis and the like.**
4. **Recovery from severe trauma or burns.**
5. **Nutritional care in wasting diseases such as carcinomatosis and tuberculosis.**
6. **Domiciliary care of decubitus ulcers.**
7. **Care of premature infants.**

*Trademark of G. D. Searle & Co.

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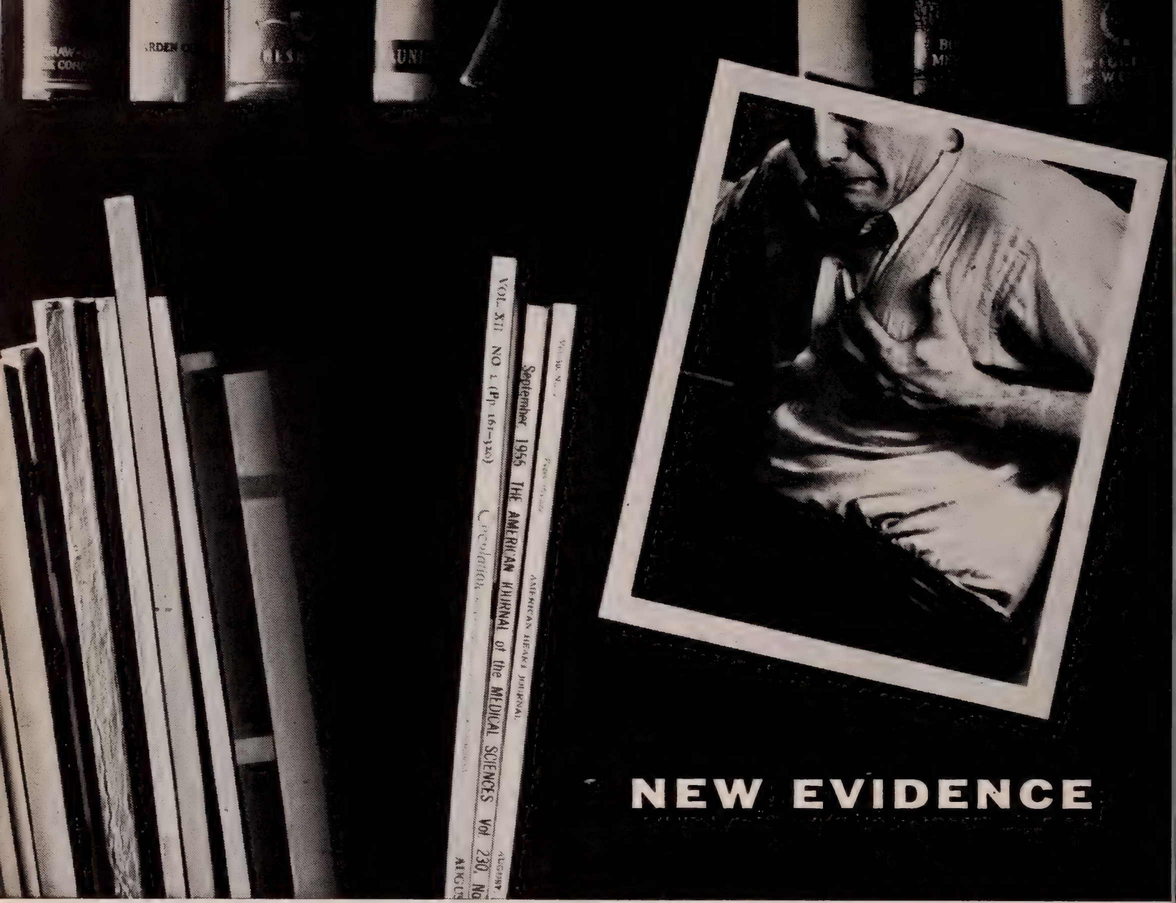

VOL. XII NO. 2 (Pp 161-320) Circulation
September 1955 THE AMERICAN JOURNAL of the MEDICAL SCIENCES Vol. 230, No
AMERICAN HEART JOURNAL
NEW EVIDENCE

How you can prevent attacks of angina pectoris

Three new studies have recently been added to the extensive investigation of Peritrate's effectiveness in preventing attacks of angina pectoris:

For some patients, state Rosenberg and Michelson, Peritrate "may mean the difference between complete, or almost complete, absence of symptoms, or a prolonged illness with much suffering." *Am. J. M. Sc.* 230*:254 (Sept.) 1955.*

"Impressive and sustained improvement" was also observed in a small number of patients treated by Kory *et al. Am. Heart J.* 50*:308 (Aug.) 1955.*

Among anginal prophylactic drugs evaluated by Russek's group "only this agent [Peritrate] appears worthy of the designation, 'long-acting coronary vasodilator.'" *Circulation* 12*:169 (Aug.) 1955.*

By prescribing Peritrate on a continuous daily dosage schedule (10 or 20 mg. 4 times a day) you can diminish the number and severity of attacks . . . reduce nitroglycerin dependence . . . increase exercise tolerance . . . improve abnormal EKG findings.

Usual dosage: 10 to 20 mg. *before meals* and at bedtime.

Five convenient dosage forms: *Peritrate* 10 mg. and 20 mg.; *Peritrate Delayed Action* (10 mg.) for extended protection at night; *Peritrate with Phenobarbital* (10 mg. with phenobarbital 15 mg.) where sedation is also required; *Peritrate with Aminophylline* (10 mg. with 100 mg. aminophylline) in cardiac and circulatory inadequacy.

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WARNER-CHILCOTT

SCIENTIFIC ARTICLES

Indications for Surgery of the Adrenal Glands

FRANK C. HAMM, M.D., AND SIDNEY R. WEINBERG, M.D., BROOKLYN, NEW YORK

(*From the Division of Urology, State University of New York College of Medicine at New York City and the Kings County Hospital*)

PRECEDING the discovery of some of the essential hormones of the adrenal cortex, surgery of these glands was followed by a prohibitive mortality. One of the principal functions of the adrenal cortex is control of water and electrolyte balance. The flame photometer, by helping the clinician to make rapid determination of blood electrolytes, has been an important additional aid. These innovations have helped reduce the operative mortality of adrenal surgery to levels approaching those of other major procedures. The average well-equipped hospital has all the physical equipment necessary for surgery of the adrenal glands. A conscientious and alert house staff is also necessary for close supervision during the immediate postoperative period for sudden death may occur from adrenal insufficiency. As the atmosphere for this type of surgery improved, a wave of enthusiasm for adrenalectomy appeared. Not only was interest stimulated in the further study and surgical treatment of intrinsic disease of the adrenal, but removal of these glands was reported for extrinsic conditions, such as advanced carcinomas of the prostate and breast. Sufficient time has elapsed so that some of the earlier enthusiasm has abated and a more sober appraisal of the situation is now possible.

A review of our experience with adrenal surgery and adrenal disease was undertaken to clarify some of the indications (Table I). A total of 45 cases is included in this study. In 36 there was demonstrable intrinsic disease of the adrenal, and in nine patients adrenalectomy was done for extrinsic conditions.

TABLE I.—ADRENAL SURGERY OR ADRENAL DISEASE IN 45 CASES, 1950–1953

	Hospital			
	Kings County*	Brooklyn	Brooklyn Veterans†	Total
Adenoma of adrenal	2	6	1	9
Carcinoma of adrenal	8	3	. .	11
Congenital adrenal hyperplasia	. .	1	. .	1
Nodular hyperplasia	. .	1	. .	1
Cyst of adrenal	. .	1	. .	1
Neurocytoma	. .	1	. .	1
Neuroblastoma	. .	3	. .	3
Pheochromocytoma	6	2	1	9
Bilateral adrenalectomy				
Carcinoma of prostate	. .	3	3	6
Carcinoma of breast	1	1	. .	2
Hypertension	. .	. .	1	1
TOTAL	17	22	6	45

* Cases hospitalized since 1950.

† Only those patients treated on the urologic service between 1950–1953 are included.

Adrenalectomy for Extrinsic Disease

Six patients had advanced carcinoma of the prostate with widespread metastases. All had previously had orchiectomy and estrogen therapy. Four had bilateral simultaneous adrenalectomy. In the remaining two patients operation was done only on one side; the patient's poor condition never permitted the removal of the remaining gland. In two patients the adrenals were found almost completely replaced with carcinoma on microscopic section; in one of these men the removal of these badly destroyed glands produced little or no systemic effect. He had no alteration in blood pressure and required very little care during his postoperative period. Adrenalectomy did not alter the course of the primary disease of any of these patients. The moderate improvement reported in the occasional case seems out of proportion to the magnitude of the procedure.

Presented at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Section on Urology, May 13, 1955.

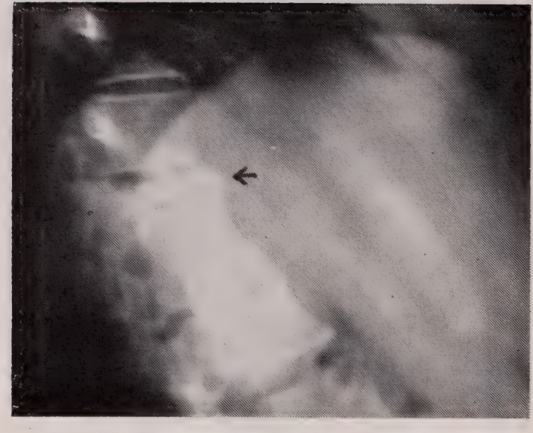

FIG. 1. Collapse of twelfth dorsal vertebra because of metastatic carcinoma from the left mammary gland.

The outlook for mitigation of symptoms in selected cases of advanced carcinoma of the breast may be better. Huggins[1] reports that women with advanced differentiated or adult type of adenocarcinoma are improved by oophorectomy and adrenalectomy. The patients with breast carcinoma are generally in a younger age group and, therefore, are better subjects for this undertaking. Pyrah and Smiddy[2] have reported their results on 22 patients with advanced mammary cancer. Ten were improved, and five had major remissions. The duration of the longest remission is two hundred and twenty days. A good palliative result was observed in one of our patients.

Mrs. H. D., a forty-three-year-old, white female, had a left radical mastectomy elsewhere for carcinoma of the breast on May 2, 1950. The carcinoma was of the alveolar type. In April, 1952, she was admitted to the Kings County Hospital because of intractable pain arising from collapse of her twelfth dorsal vertebra due to bony metastases (Fig. 1). Metastases also were noted in the right ilium (Fig. 2). On May 28, 1952, a bilateral oophorectomy was done, and testosterone therapy begun. Response seemed inadequate so that on August 12, 1952, bilateral adrenalectomy was done. The patient was placed in the prone position; both adrenals were removed simultaneously by two surgical teams using the bed of the resected twelfth rib as their approach. After her postoperative period she was soon able to ambulate. She returned home relieved of pain and was able to carry on housework until January, 1954, when she had a fracture of the left femur. This was treated by pinning. Recovery progressed for about ten months when she had severe hematemeses, apparently resulting from the administration of cortisone, for no abnormal findings were noted in a complete gastrointestinal examination. The patient died suddenly in hypoglycemic crisis on February 24, 1955. This represents a remission of about twenty-four months. At autopsy diffuse carcinomatosis was found.

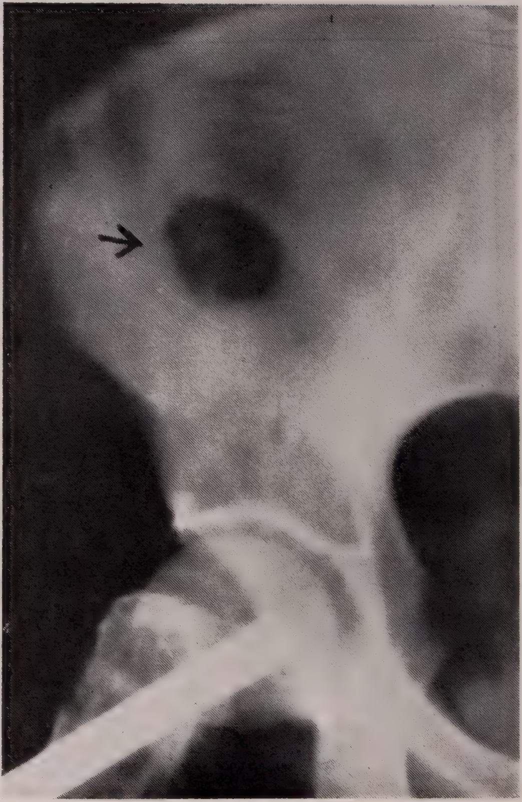

FIG. 2. Area in left iliac bone showing metastatic carcinoma.

Our experience with bilateral adrenalectomy for the treatment of malignant hypertension has been limited. The procedure followed was similar to that of Wolferth in that bilateral sympathectomy was combined with adrenalectomy.

A major remission was obtained in a forty-one-year old, white male, with a blood pressure of 210/160, hypertensive encephalopathy, and two preoperative attacks of cardiac decompensation. He was operated on in the spring of 1952. The postoperative blood pressure was stabilized at 160/90. His condition is satisfactory except for episodes of acute adrenal insufficiency due to stress, which are controlled by increased cortisone and salt administration.

As might be expected, more satisfactory results have followed surgery for benign intrinsic lesions

TABLE II.—Cases of Pheochromocytoma

Case	Age	Sex	Hospital	Presenting Complaints	Blood Pressure and Response	Roentgen Studies	Surgical Procedure	Histologic Diagnosis	Result
1	53	F	Brooklyn	Headache, weakness, dyspnea coming in paroxysmal attacks	120/80. Good response to histamine test	Tomography: bilateral adrenal enlargement	Bilateral adrenalectomy for tumors	Benign pheochromocytoma (bilateral)	Remission
2	..	M	Brooklyn	Aphasia left hemiplegia, weakness, cerebral changes of personality	250/85	No definite suprarenal tumors seen with perirenal oxygen studies	Contraindicated because of complications	Pheochromocytoma on basis of elevated circulating catechol amines	Complications too advanced to risk surgical treatment
3	60	M	Veterans	Pain in left lower quadrant of abdomen, history of coronary thrombosis	174/84. Good response to benzodioxane	Left suprarenal mass	Excision of left adrenal and kidney	Malignant pheochromocytoma	Remission
4	67	F	Kings County	Anorexia, weight loss, gastrointestinal symptoms, tenderness over lower thoracic and lumbar vertebrae	180/90	Left suprarenal mass with depression of kidney	Left nephrectomy and adrenalectomy	Malignant pheochromocytoma	Died. Extensive metastases at autopsy to liver and pancreas
5	26	F	Kings County	Headache, dyspnea, sweating	220/154. Response to benzodioxane and Regitine	Normal suprarenal areas	Excision of 3-cm. mass above the bifurcation of the aorta (organ of Zuckerkandl)	Benign pheochromocytoma	Remission
6	42	..	Kings County	Headache, buzzing in ears, dizziness, vomiting	200/115. Good response to Regitine test	Normal suprarenal studies. Catechol amines 600	Excision of 5-cm. mass from organ of Zuckerkandl	Benign pheochromocytoma	Died. Autopsy. Cerebral edema cause of death
7	48	..	Kings County	Severe headache, dizziness, loss of sight	225/160	None	None. Died day of admission	Pheochromocytoma found at autopsy	Cerebral edema cause of death
8	39	..	Kings County	Right cortourethral angle tenderness	115/110. No response to Regitine test	Evidence of right suprarenal tumor	Excision of right renal mass	Calcified mass 7 by 5 by 3 cm. Both aseptic center diagnoses pheochromocytoma	Remission
9	32	..	Kings County	Flushing of face, syncope, dizziness	192/138. Diagnostic response to Regitine and benzodioxane	No evidence of tumor	Excision of right adrenal mass	Pheochromocytoma 21 Gm. in weight	Remission

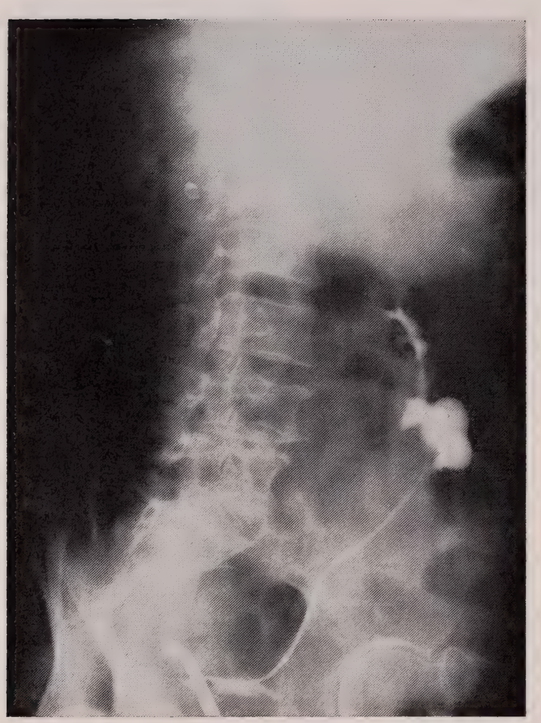

FIG. 3. *Case 3*—Oblique view of left malignant pheochromocytoma invading and displacing the left kidney.

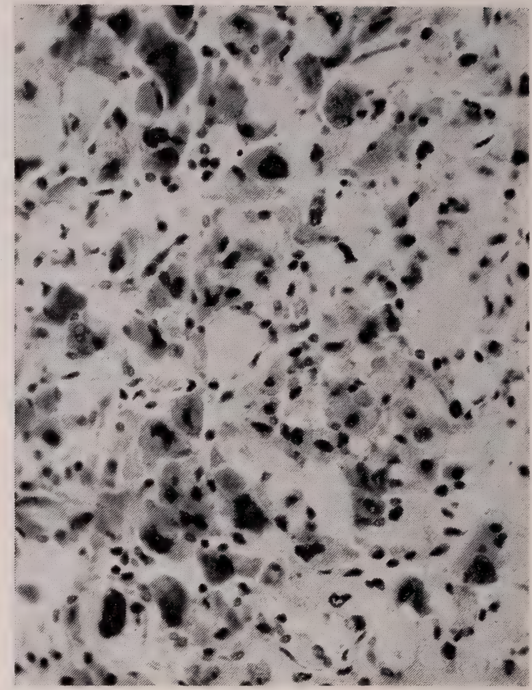

FIG. 4. *Case 3*—Microphotograph of malignant pheochromocytoma.

of the adrenal glands. The pheochromocytomas and adenomas of the adrenal cortex are the lesions most commonly seen.

Pheochromocytoma

Because satisfactory relief of symptoms follows an excision of a pheochromocytoma, it must be excluded in the differential diagnosis of all cases of severe hypertension. Pheochromocytoma usually produces a transitory type of hypertension, but in a substantial number of patients a sustained type is found.

Table II is a summary of our findings in nine patients with this tumor and emphasizes several pertinent facts. These patients were all seen within the last five years. All except one had complaints of headache, dyspnea, tachycardia, and other symptoms referable to an increase of circulating epinephrine and norepinephrine. In two of the patients sustained hypertension had caused cardiovascular complications. One patient had a coronary thrombosis and the other patient a cerebral hemorrhage with resultant aphasia. This patient had such extensive vascular damage that it was decided that surgery was contraindicated. In the one patient who did not have hypertension or the other signs of excessive circulating amines, there was evidence of degeneration of the pheochromocytoma with cyst formation and calcification of its walls so that necrosis of the secreting tumor must be assumed. The most useful diagnostic aid has been the response of the patient to adrenolytic substances with a marked fall in blood pressure. In our experience the Regitine test has proved to be the safest and most reliable. On the most recent patients studied, analysis was made of the circulating catechol amines. These amines are elevated when there is a pheochromocytoma present. Cahill[3] regards this as the most reliable diagnostic test. However, the complexity of this laboratory determination precludes its widespread use at present.

Roentgen-ray localization of pheochromocytoma is not always possible. Only four of the nine patients had such positive evidence of a suprarenal tumor. Large pheochromocytomas in suprarenal position will displace the neighboring kidneys. This is discernible after pyelography (Figs. 3 and 4).

According to Melicow[4] determination of

TABLE III.—Cases of Benign Tumors of Adrenal Cortex

Case	Age	Hospital	Hormonal Changes	Roentgen Findings	Diagnosis
10	28	Brooklyn	Severe psychoses, mixed adrenogenital corticoid syndrome. 17-ketosteroids 26 mg.	Only suggestive of adrenal tumor	3-cm. adenoma of right adrenal
11	33	Brooklyn	Severe psychoses, adrenocorticoid syndrome	No renal depression or suprarenal tumor noted	8-cm. adenoma of left adrenal
12	55	Kings County	Diabetes, hypertension, amenorrhea. 17-ketosteroids 12.5 mg., 11-oxysteroids 17.0 mg.	Suggestive of left suprarenal tumor	0.5-cm. adenoma removed at operation.
13	67	Brooklyn	None	None	Adenoma, incidental finding at autopsy
14	84	Kings County	None	None	2-cm. hemangioma found at autopsy
15	57	Brooklyn	None	None	Adenoma, incidental finding at postmortem
16	57	Brooklyn	None	None	Bilateral adenomas incidental findings at autopsy
17	49	Brooklyn	None	None	Adenoma, incidental finding at autopsy
18	54	Brooklyn	Baldness, hypertension, diabetes, hirsutism, ketosteroids normal	Suprarenal mass	Diffuse nodular hyperplasia of adrenal cortex

malignancy in pheochromocytoma cannot be made from microscopic examination alone; cellular structure in the benign or malignant type may be similar. However, when periadrenal invasion or definite metastases are seen, a diagnosis of malignancy can be made. This has occurred in two of our nine patients. Metastases were seen invading the contiguous kidney in one patient and the neighboring pancreas in the other. In this patient extensive metastases were seen at autopsy with implants in the liver and lung. Pheochromocytoma may occur in aberrant chromaffin tissue in about 10 per cent of the cases. Two of our patients had pheochromocytoma of the organ of Zuckerkandl. In both these patients a transverse upper abdominal incision permitted an exposure adequate to explore both suprarenal areas and the para-aortic areas. One of the patients with pheochromocytoma had cutaneous neurofibromatosis. This coincidence is reported in 10 per cent of patients with pheochromocytoma.

Adenoma of Adrenal Cortex

The other benign lesion of the adrenal glands most frequently encountered is a cortical adenoma. These lesions are fairly common findings. Commons and Callaway[5] found 216 adenomas in 7,437 autopsies, an incidence of 2.86 per cent. Table III summarizes our experience with these tumors. They are benign, not too large, and only when adrenal cortical hypersecretion occurs, can the lesion be recognized clinically. If increased androgen-like steroids are produced, the 17-ketosteroids are excreted in the urine in greater amounts than normal. Similarly an increase in the 11-oxysteroids usually means the metabolic corticoids are in superabundance. When abnormal figures are obtained, these tests are diagnostic, but a distinct full-blown clinical picture of hyperadrenalcorticalism or Cushing's syndrome can be seen with normal steroid excretion tests. This occurred in two of our patients. In the light of our present incomplete knowledge of adrenal steroid excretion, it is possible that a so far unrecognized molecule may be the responsible etiologic agent for this syndrome. A determination of the circulating 17-hydroxycorticosteroids levels, as described by Perkoff and associates,[6] may be more positive proof, but as yet we have no experience with this method.

If a localized adenoma can be diagnosed, then it should be removed. But if not, we still recommend surgical exploration and subtotal adrenalectomy because Cushing's syndrome is a progressive disease and will shorten the life span of the afflicted individual. Subtotal adrenalectomy has resulted in favorable remission of symptoms in cases of bilateral hyperplasia of the adrenals with Cushing's syndrome.

The four clinical cases reviewed were all patients with mixed adrenogenital and adrenocorticoid syndrome. All these patients were females. This condition is most commonly seen in the female. They presented a similar picture of obesity, hirsutism, alteration of glucose metabolism, and depression of female sexual reproductive functions. One of the patients (Case 11) became pregnant and was delivered of a normal infant only after she recovered from unilateral

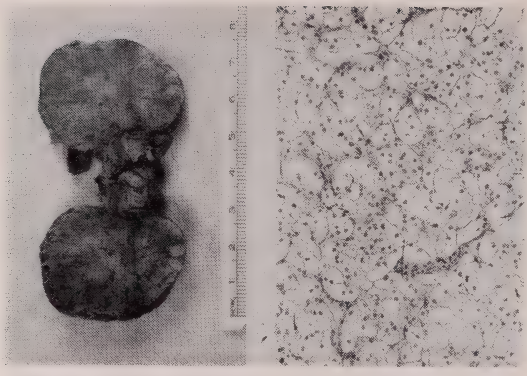

FIG. 5. *Case 11*—Benign adenoma of adrenal gland.

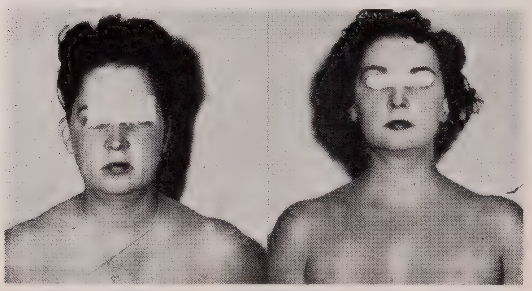

FIG. 6. *Case 10*—Preoperative appearance (*left*) and improved appearance eleven months postoperative (*right*).

adrenalectomy (Fig. 5). Since the widespread use of cortisone, it has been apparent that an excess of adrenal corticoids can induce a psychotic state or can at least induce an active psychoses in an unstable individual. Three of the four patients presented a paranoid type of personality; two patients, Cases 10 and 11, had been confined to mental institutions and had received shock therapy. After removal of an adenoma of the adrenal one of these patients recovered, and permanent improvement was obtained in her psychiatric state. In the other there has been amelioration of symptoms (Fig. 6).

It is of interest that the most severely disabled patient had the smallest adenoma. This patient, Case 12, presented a picture of mixed adrenogenital corticoid syndrome (Fig. 7). The preoperative roentgen study suggested a left suprarenal tumor except for the mottled appearance of the suprarenal area (Fig. 8). We have observed that the mottling is not characteristic of adrenal tumor. The left suprarenal area was then explored, and no gross evidence of adenoma was visualized, but a large triangular pad of adipose tissue was noted. Adrenalectomy was performed on the assumption that the patient's condition was due to bilateral hyperplasia of the adrenals and that the other adrenal could be removed later. Postoperatively, the patient had symptoms of severe adrenal insufficiency so that atrophy of the remaining adrenal gland must be assumed. The pathologist then reported finding an adenoma in the surgical specimen (Fig. 9). The adenoma measured 0.5 cm. in diameter and was composed of large cells with foamy cytoplasm (Fig. 10). Our experience with this patient leads us to believe that the size of the adenoma

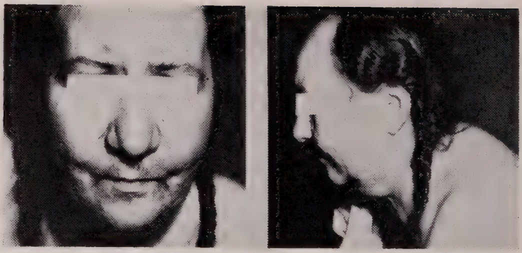

FIG. 7. *Case 12*—Preoperative appearance of patient with diagnosis of adrenocorticoid syndrome. Note hirsutism and buffalo hump.

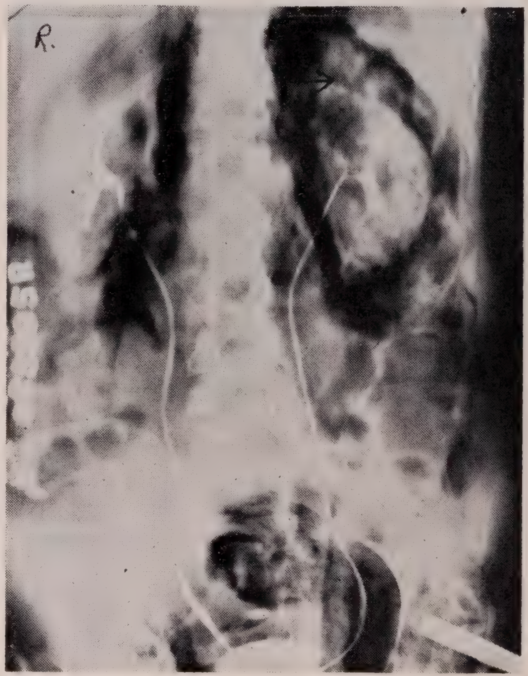

FIG. 8. *Case 12*—Preoperative paracoccygeal oxygen study. The shadow in left suprarenal area is suggestive of a suprarenal mass, except for mottling. This mottling is usually seen with a suprarenal fat pad.

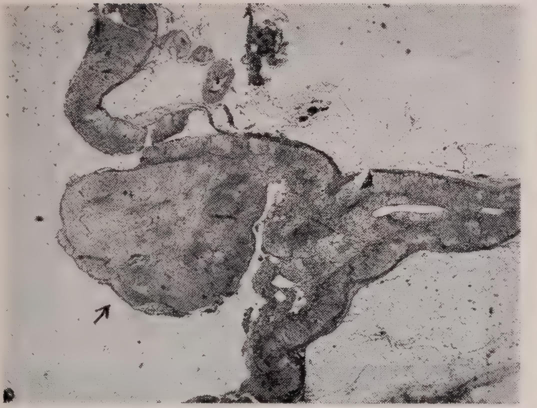

FIG. 9. *Case 12*—Low-power magnification of adenoma of adrenal.

FIG. 10. *Case 12*—Benign adenoma of adrenal. Note regularity of cellular structure.

may not be indicative of the extent of its hormonal production.

We have seen one case of benign cyst of the adrenal (Fig. 11). This man of fifty developed excessive belching. Abdominal palpation revealed a fullness in the abdomen. Gastrointestinal examination showed displacement of the colon. At operation a cyst with more than a gallon capacity was found and marsupialized. The postoperative result was satisfactory. It is believed that benign cysts of the adrenal are formed from previous hemorrhage and hematoma of the adrenal glands.

Carcinoma of Adrenal

Carcinoma of the adrenal cortex is a highly malignant and rapidly invasive tumor. We have seen 11 patients with this disorder, seven males and four females (Table IV). This more or less even sex distribution is in contradistinction to the preponderance of female patients seen with benign tumors of the adrenal.

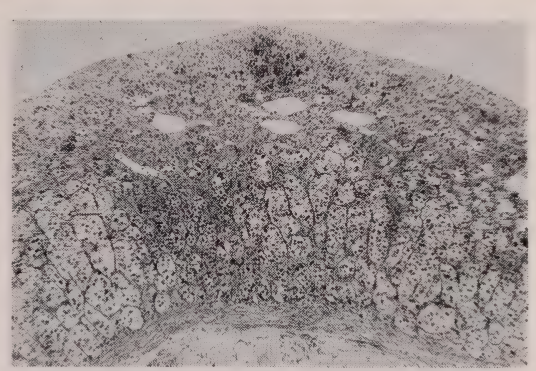

FIG. 11. Section of wall of cyst of adrenal origin.

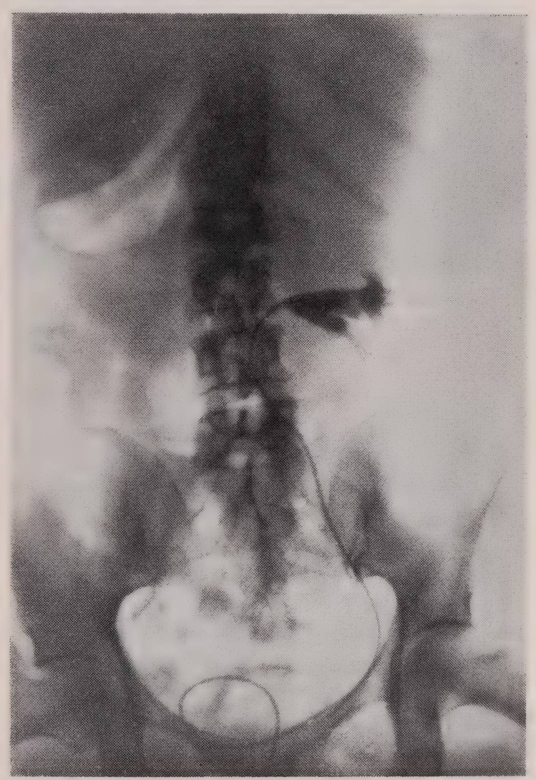

FIG. 12. *Case 27*—Depression of left kidney because of suprarenal mass.

There is difficulty in making an early diagnosis of this condition because there are no early symptoms unless hormonal changes are produced. However, hormonal changes are not usual in patients over forty years of age with this disorder (all of our patients were past forty). In only two patients were changes suggestive of hypersecretion of the adrenal cortical hormones

TABLE IV.—Cases of Carcinoma of Adrenal Gland

Case	Age	Sex	Hospital	Symptoms	Hormonal Changes	X-ray	Diagnosis
19	59	M	Kings County	Persistent hyperpyrexia, anorexia, weight loss, left flank pain, abdominal mass	None	Large left suprarenal mass	Carcinoma of adrenal surgical specimen
20	67	M	Kings County	Increase in size of abdomen, ascites	Diabetic glucose tolerance curve Cushing's syndrome in appearance. Ketosteroids normal	Right suprarenal mass with kidney displacement	Adenocarcinoma. Autopsy metastases to lung, brain, perirenal tumor
21	44	F	Kings County	Backache of two days duration	Obesity, severe hypertension, hirsutism	Metastases to D 8, 11, 12, L 1,2; left suprarenal mass noted with perirenal studies	Carcinoma, adrenal because of metastases
22	47	F	Kings County	Back pain with nausea, loss of 30 pounds in 3 months, fluid in chest	Voice deepening, baldness, hirsutism	Metastases to humerus, retrograde pyelograms normal	Carcinoma of adrenal. Lymph node biopsy diagnosed for carcinoma of adrenal. Patient died
23	65	M	Kings County	Weight loss, dysuria, flank pain, abdominal mass	None	Pyelogram shows downward displacement left kidney	Carcinoma of adrenal removed in surgery, well-encapsulated tumor
24	67	M	Kings County	Pain in chest, coughing, pleural effusion	None	Pleural effusion	Carcinoma of adrenal with metastases found at autopsy
25	59	F	Kings County	Left renal colic	None	Depression of left kidney	Carcinoma of adrenal cortex found at autopsy
26	43	M	Brooklyn	Symptoms of brain tumor	None	Space-occupying cranial lesion	Primary carcinoma of adrenal found at autopsy
27	54	F	Brooklyn	Palpable mass in left upper quadrant of abdomen, weight loss severe	None	Depression of left kidney	Carcinoma of left adrenal found at operation
28	50	M	Brooklyn	Chest signs	None	Bilateral pleural effusion	Carcinoma of right adrenal found at autopsy. Metastases to lungs, right kidney

present. These hormones produced symptoms similar to those seen in patients with benign lesions. However, in patients with adrenal carcinoma there is no diminution of urinary ketosteroid excretion after cortisone administration as there is in patients with hyperplasia. Symptoms are produced as the tumor grows and impingement on neighboring organs occurs or when metastatic lesions are present. There were gastrointestinal tract complaints in one third of the patients; these were anorexia resulting in severe weight loss or a palpable painful abdominal mass.

Local invasion of the renal area may occur. This results in colic, backache, or attacks of pyelonephritis. These symptoms were present in four patients. In five patients (nearly 50 per cent of the cases), there was definite renal displacement seen on roentgen examination because of the suprarenal tumor (Fig. 12).

The great majority of these tumors are adenocarcinomas, and their microscopic appearance is that of sheets and acini of large cells with foamy cytoplasm and pyknotic nuclei (Fig. 13).

The rapidity of growth of this tumor may be such that necrosis and hyperpyrexia may occur. This was illustrated by Case 19, a fifty-nine-year-old, white male, who was admitted to the hospital medical service because of hyperpyrexia, remittent in type, of two weeks duration. There was associated anorexia, occasional vomiting, urinary frequency, and pain in the left upper quadrant of the abdomen where a large palpable mass was found. Roentgen examination disclosed the mass to be suprarenal with depression of the kidney (Fig. 14). Through a thoracolumbar approach the mass was excised. On examination the specimen proved to be an encapsulated suprarenal tumor with necrosis and abscess formation in its center. The patient recovered from the surgical procedure and was discharged home. Eight months later he died of

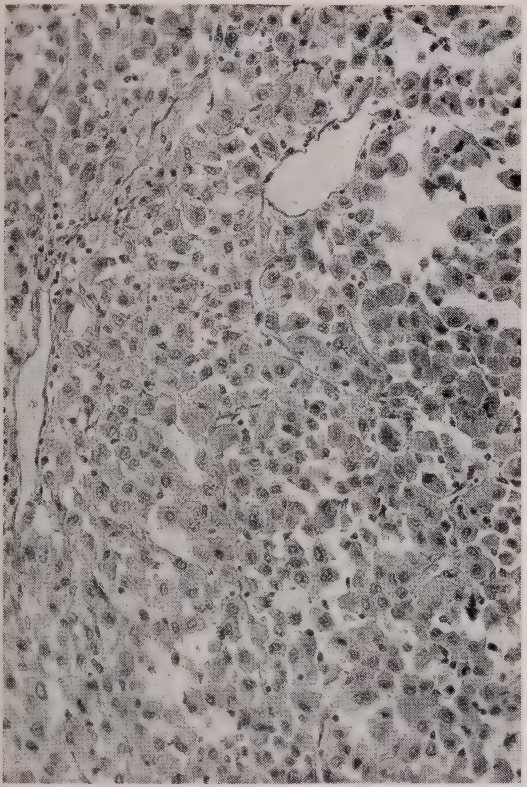

FIG. 13. *Case 27*—Adrenal carcinoma showing typical microscopic appearance; large cells with foamy cytoplasm and pyknotic nuclei.

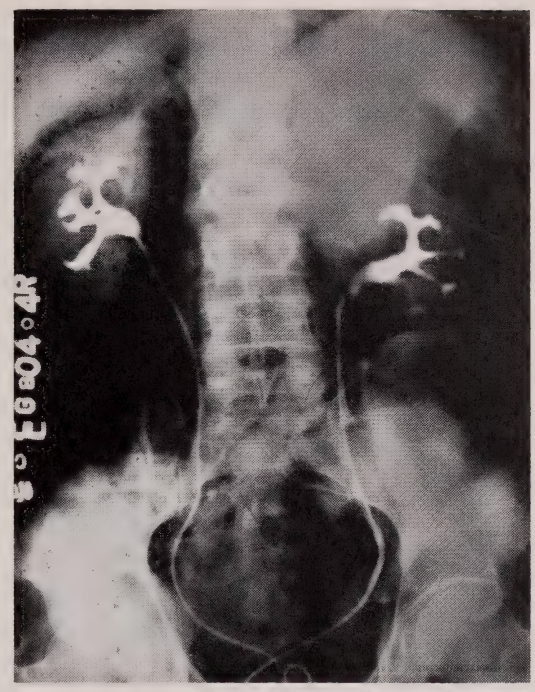

FIG. 14. *Case 19*—Large tumor of left adrenal gland displacing the left kidney inferiorly. Note inability of oxygen to infiltrate about the left kidney.

FIG. 15. *Case 27*—Excised nonhormonal carcinoma of adrenal. This tumor was well encapsulated.

metastatic disease. Ulm *et al.*[7] has reported a similar case history with prolonged hyperpyrexia until an infected adrenal tumor was removed.

In only four patients was tumor of the adrenal diagnosed without demonstrable metastatic lesions. These metastases were most commonly in the lungs (four patients). One patient had an operation for a solitary brain tumor, which proved to be of metastatic origin, and only at postmortem was the primary carcinoma of the adrenal found. Surgical extirpation of the tumor was done in these four cases (Fig. 15). There is only one five-year cure. The others died within the first year after operation.

In view of this gloomy prospect for patients with carcinoma of the adrenal glands, a plea must be made for consideration of this lesion in the differential diagnosis of patients with vague abdominal or back pain, unexplained gastrointestinal complaints, hyperpyrexia of unknown origin, and recent hormonal alterations. Perhaps if carcinoma of the adrenal could be diagnosed earlier, complete extirpation of the malignancy would be possible in a greater number of patients.

Our experience with neurocytoma and neuroblastoma of the adrenal parallels the reported experience of others. All our patients were under two years of age; the diagnosis was made by abdominal palpation of a mass and confirmed by urography. None of the patients survived more than six months after operation.

Summary

1. Review of our experience with surgery of adrenal glands in an attempt to create an unfavorable hormonal environment for carcinoma (breast and prostate) convinces us that at this time surgery is highly speculative.

2. The true indication for surgery of the adrenal is removal of space-occupying tumors and excision of adrenal tissue capable of hyperadrenalcorticism.

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County Medical Groups Have Wide Range of Activities

Activities of the nation's county medical societies ranged from cancer and tuberculosis control programs to sponsorship of Little League baseball teams during 1954–55, a recent American Medical Association survey showed. Nearly 64 per cent of the 1,931 county medical societies in the United States and its territories replied to a questionnaire on their professional, educational, and community programs, circulated by the A.M.A.'s council on medical service.

"There appeared to be a growing awareness by all societies—both large and small—of the need for them to become participants in community activities," a report in the February 18 *Journal of the American Medical Association* said.

Telephone-answering services and emergency call systems, which help patients reach physicians at all times, were maintained by many societies, especially in large cities.

Activities aimed at developing better relations between the medical profession and the public included grievance committees, which serve as "appeal boards" for patients with complaints; medical economic committees, which maintain business services for doctors and the public, and public relations committees, which help to promote better understanding by the public of the societies' aims and activities. In order to interpret their activities to the layman, societies maintained speakers' bureaus and sponsored state and county fair exhibits, health fairs, special community health days, radio and television programs, and newspaper health columns. They attempted to promote better health in their communities by participating in programs to provide medical care for the indigent and by activity in county or city health councils, which are voluntary associations of community agencies interested in various aspects of health.

Disease control programs included cancer, tuberculosis, diabetes, rheumatic fever, and venereal disease. Many societies had committees dealing with special medical problems, such as care of the aged and the chronically ill, rehabilitation, maternal and child care, mental health, public health, and alcoholism. In addition, they sponsored school health and safety programs, many running poster and essay contests in schools. Societies also participated in such diverse community projects as community chest drives, slum-clearance programs, vocational guidance, better government movements, mosquito control, and Little League baseball programs.

panel discussion

CAN THE CARDIAC WORK?

WILLIAM A. SAWYER, M.D., ROCHESTER, *Moderator*

When to Return the Cardiac to Work

RUFUS BAKER CRAIN, M.D., M.P.H., ROCHESTER, NEW YORK

(*From the Medical Department, Eastman Kodak Company*)

My remarks will be pertinent to the question this panel is attempting to answer, "Can the Cardiac Work?," but only in part to the topic assigned to me, "When to Return the Cardiac to Work." Obviously, no rule can be made. Each case must be individualized as to his fitness to return to work. In industry at least, the date of return, full time or part time, must be agreed upon by the family physician, the industrial physician, and the employe.

To affirm the ability of the cardiac to work, I thought it might be of interest to summarize a study[1] which Dr. Morris E. Missal, Miss Kathleen W. Wilson, and I made in 1947 and 1948 of 184 Eastman Kodak employes who had had one or more myocardial infarctions. Some of our findings which we feel are of importance are shown in Tables I to III.

TABLE I.—Status on December 31, 1948, of 184 Employes* with Myocardial Infarction[1]

Status	Number in Group	Per Cent of Total Number (184)	Per Cent of Group Living
Living	134	72.8	100.0
Working	95	51.6	70.9
Retired	32	17.4	23.9
Normal retirement	17	9.2	12.7
Total and permanent disability	15	8.2	11.2
Sick leave	5	2.7	4.1
Deceased	50	27.2	...
Status unknown	2	1.1	1.1

* This total includes 181 male and 3 female employes.

Table I gives the status of the 184 employes on December 31, 1948, the closing date of the study. It further shows that 134 or 72.8 per cent of the 184 employes were living, and 95 or 52 per cent of them were at work.

In Table II we have divided the patients into two groups, those without and those with high blood pressure. A small subgroup is included

TABLE II.—Ability of 184 Employes with Myocardial Infarction to Return to Work[1]

			Myocardial Infarction					
	All Diagnoses		Without Hypertension		With Hypertension		With Multiple Causes*	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Total number of employes in group studied	184	100.0	126	100.0	54	100.0	4	100.0
Number and percentage who did not resume work	39†	21.2	21†	16.7	16	29.6	2	50.0
Number and percentage who resumed work	**145****	**78.8**	**105**	**83.3**	**38**	**70.4**	**2**	**50.0**
Working Dec. 31, 1948	95	51.6	75	59.5	19	35.2	1	25.0
Normal retirement	17	9.2	11	8.7	5	9.3	1	25.0
Total and permanent disability retirement	11	6.0	6	4.8	5	9.3	..	...
Death	18	9.8	11	8.7	7	13.0	..	...
Absent for miscellaneous reasons††	4	2.2	2	1.6	2	3.6	..	...

* The additional etiologic factors were rheumatic and thyroid heart disease.
† Included in the group were 4 employes without arterial hypertension who were on sick leave.
** Two employes are included whose length of time worked is unknown.
†† This includes resignation and sick leave at the close of study.

Presented at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Section on General Practice, May 13, 1955.

TABLE III.—Age at First Infarction and Years Worked up to December 31, 1948, of 95 Employes Working on December 31, 1948[1]

Age at First Infarction (Years)	Employes Working		Number of Employes Who Had Worked the Indicated Years			
	Number	Per Cent	Up to 5	5 to 10	10 to 15	15 to 20
25 to 29	1	1.1	..	..	1	..
30 to 34	3	3.1	3	..	..	..
35 to 39	3	3.1	3	..	..	..
40 to 44	8	8.4	7	..	1	..
45 to 49	23	24.3	16	5	1	1
50 to 54	26	27.3	20	4	2	..
55 to 59	22	23.2	18	4	..	..
60 to 64	9	9.5	8	1	..	..
Total	95	100.0	75	14	5	1
Per Cent	100.0	...	78.9	14.7	5.3	1.1

with infarction but also having other etiologic factors.

First and most important are the number of employes who returned to work for varying periods, 145 or nearly 79 per cent. The presence of hypertension appears to have had an unfavorable effect on an employe's ability to return to work.

Table III deals with the 95 employes still at work at the close of the study (December 31, 1948) and represents 65 per cent of the total number (145) who resumed work. Age grouping at the time of the first infarction is given and also the period of years worked by each group. A further study or follow-up of this group is in progress and will be reported at a later date.

In our experience the period of convalescence following myocardial infarction varied from two to six months. With the value of early ambulation of surgical cases proved, we found that it was possible to return to work some employes who had suffered myocardial infarction at an earlier date than we had previously believed to be a safe procedure.

No compensation cases developed in the group studied.

Tables I, II, and III appear through the courtesy of the *Archives of Industrial Hygiene and Occupational Medicine.*

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The Experience in Industry

A Report of 896 Cardiac Employes

S. CHARLES FRANCO, M.D., F.A.C.P., NEW YORK CITY

(*From the Consolidated Edison Company of New York, Inc.*)

Actual industrial experience indicates that the key to safe productive employment of the cardiac depends on an adequate medical service coupled with proper selective placement. An adequate medical service does not necessarily imply a self-contained industrial medical department. In many instances the size and location of the industry may not permit this. Such a service can be rendered by other well-recognized means, and this most often will be by a private physician acting in an industrial capacity because the small industry consisting of less than 100 employes constitutes over 80 per cent of the industrial organizations in this country.

The chief procedure is to locate the employe with heart disease. Case-finding methods usually deal with the employe who already has cardiac symptoms and often has well-advanced heart disease. This gives special meaning to our ex-

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Presented at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Section on General Practice, May 13, 1955.

TABLE I.—Standard Physical Restrictions, Consolidated Edison Company

- Manual labor
  - A—Only occasional pushing, pulling, or lifting up to 10 to 15 pounds
  - B—Only occasional pushing, pulling, or lifting up to 40 to 60 pounds
- Climbing
  - C—No work requiring repeated or frequent stair or ladder climbing
- Driving
  - D—Not to operate motor vehicles
  - E—No truck driving
- Location of Work
  - F—No continuous inside work
  - G—No continuous outside work
- Safety of Others
  - H—No work involving the safety of others
- Elevation
  - I—No work above unprotected floor levels or about open excavations
- Live Equipment
  - J—No work around unprotected equipment carrying electricity, steam, or exposed moving parts
- Hours of Work
  - K—Work only between the hours of 6 A.M. and midnight
  - L—No overtime exceeding two hours per day, six days per week
- Atmosphere
  - M—No coal, coke, or ash handling or work in similar sustained dusty atmospheres
  - N—No work in predominantly wet or damp locations
- Temperature
  - O—No work in constantly changing temperatures
  - P—No prolonged work in sustained temperatures below 40 F.
  - Q—No work in artificially produced sustained temperatures above 100 F.
- Positions
  - R—No work requiring repeated stooping
  - S—No work in crawling, kneeling, or cramped positions
  - T—No continuous walking or standing and not to exceed 50% of total working hours
  - U—No work requiring talking for long periods
- Eyesight and Hearing
  - V—No work under conditions involving marked frequent light changes (going from light to dark and vice versa)
  - W—No work requiring acute (normal average) vision
  - X—No work requiring normal hearing (ability to hear ordinary spoken voice)
  - Y—Work requiring only the use of one arm or hand
  - Z—Special restriction, not covered by the foregoing; to be written out.

perience in the past five years with the periodic examination of apparently healthy persons over forty years of age. These people had no medical complaints and no apparent symptoms, yet in 15 per cent of those examined we found evidence of heart disease or conditions potentially capable of producing it. Discovery of the patient should be followed by careful re-examination at regular intervals. This is the greatest factor in keeping the cardiac worker on the job without harm to himself.

The medical profession has agreed that there is no one single means or test which can provide a precise measure of a cardiac's work capacity. Even the newer scientific aids, the exercise electrocardiogram test and the ballistocardiogram, while helpful, are by no means definite. The examining physician must take every clinical factor into account. Important considerations include (1) the type of heart disease, (2) the symptoms and signs of cardiac reserve, and (3) the presence of other ailments. It is well recognized that worry and concern about heart disease can be more disabling than the organic involvement itself. In making a recommendation for the patient's work assignment, good practical judgment on the part of the physician will avoid needless physical restrictions and will not only serve the patient's cause but also be of service to industry. A work recommendation based on the functional and therapeutic classification of the American Heart Association can serve as a guide for the practicing physician. It should be implemented by specific details on lifting, walking, stair climbing, etc. Any generalization such as "light work" is meaningless.

At the Consolidated Edison Company it has been our experience that many employes, although partially disabled because of physical or emotional ailments and unable to perform their full duties, are nevertheless capable of productive

TABLE II.—Analysis of 896 Cases of Heart Disease, 1952

	Totals	Arteriosclerotic Heart Disease	Hypertensive Vascular Disease	Rheumatic Heart Disease	Miscellaneous
Number of cases	896	528 (58.9%)	292 (32.5%)	65 (7.2%)	11 (1.4%)*
Females	55	24	26	5	0
Males	841	504	266	60	11
Full duty	256 (22 females)	126	122	8	0
Limited duty	640 (23 females)	402	170	57	11
Employes with absence	411 (32 females)	230	159	21	1
Disability retirement	30	17	7	6	
Deceased	36	20	11	4	1

* Luetic heart disease 7, paroxysmal auricular tachycardia 1, Lutembacher syndrome 1, pulmonary heart disease 1, chronic pericarditis 1.

TABLE III.—AGE AND HEART DISEASE

Length of Service (Years)	Age in Years (Active Employes)				
	20 to 29	30 to 39	40 to 49	50 to 59	60 to 65
Under 1	..	..	..	..	..
1 to 3	1	1	..	..	..
4 to 9	..	4	6	4	2
10 to 15	..	2	..	..	..
16 to 19	..	7	12	12	9
20 to 24	..	..	80	76	38
25 to 29	..	..	82	177	67
30 to 40	..	..	12	173	94
41 and over	..	..	..	5	32

TABLE IV.—ACUTE CORONARY THROMBOSIS, 1952

	Number
Total cases	66
Average duration of absence (days)	87.2
Deceased	15 (22%)
Died in acute attack	10
Died within 10 days	3
Died within 4 to 6 weeks	2
Retired for disability	5
Returned to work	46 (69%)

work. This situation may exist for a temporary period, or it may be permanent. In order to permit such employes to continue in gainful employment without risking their own health or the safety of fellow employes, the Medical Department imposes physical restrictions, but it does not make any decision as to the specific work assigned. Physical restrictions are recommended in accordance with the physical defect which is present. Under this system each standard restriction is designated by a letter of the alphabet from A to Y and the letter Z is reserved to cover any special situation and is carefully spelled out in each particular case (Table I). The decision as to whether these restrictions interfere with the assigned duties is the sole responsibility of the employe's supervisor. Naturally, such a system has to be implemented by a training program to acquaint the supervisor with this responsibility. In our company the industrial relations team was charged with this training, and the Medical Department acted in an advisory capacity. When there is a question in the supervisor's mind concerning assignment in a particular job situation, he can consult with the Medical Department to obtain a more detailed recommendation to fit the specific problem.

The survey covers 896 cardiacs with sick absence or a limited duty status among 24,473 employes of the Consolidated Edison Company of New York, Inc., for the year 1952, an incidence rate of 3.6 per cent. If all our known cardiacs, no matter how slight their heart involvement, were included, the incidence rate would reach 7 per cent. This is due to the relatively advanced age of our employes. Our statistics reveal that the average age of males is 45.9 years and of females 39.4 years. Females comprise 10 per cent of the working force. About one third of the males and one fifth of the females are over fifty years of age. It is estimated that 70 per cent of the employes do physical work, and 30 per cent are on the clerical staff.

Table II breaks down our 896 cases according to the kind of heart disease, the work and attendance record, and the present status with respect to employability. Arteriosclerotic heart disease accounted for 58.9 per cent of the total, hypertensive vascular disease for 32.5 per cent, and rheumatic heart disease for most of the remainder. Approximately 30 per cent were able to hold down their regular jobs. Of the remaining 70 per cent who were on limited duty, about half retained their regular work, while the others were transferred to lighter jobs. This summary actually covers almost 400 job classifications in which the cardiac is doing productive work. These include all types of clerical and mechanical assignments in a broad range of operating and engineering functions. It points up the fact that the cardiac who seeks gainful employment must have definite skills and must be able to do a productive job.

Table III classifies our cardiacs according to age and length of service. Heart disease strikes most frequently during the decades from forty to sixty. By that time the majority of workers have been on the job for over twenty-five years It is evident that heart disease affects the workers in their most productive years when their skill and experience are the greatest use to industry.

Table IV summarizes our experience with the cases of acute coronary thrombosis, which should more properly be called acute myocardial infarction. Out of the 66 cases with acute heart attacks among our employes in 1952, there were 15 deaths, a rate of 22 per cent. Ten of the 15 did not survive the immediate attack. It should be noted that eight of these ten cases had had no previous contact with our Medical Department, indicating an unawareness of their own condition. Most of them died while off duty and at home. This happens year after year and explains our conviction that the cardiac employe who is under regular medical supervision does not as a rule get into acute difficulty while on the job. The majority of the acute coronary attack cases returned to work, and only 7 per cent were retired for disability. The average duration of sick absence was 87.2 days. In fact, so many cases of previous coronary thrombosis are still at work that we feel there is adequate proof that a considerable proportion of such cases are able to resume a gainful occupational status.

In the seven years from 1945 to 1952, we had only seven claims in which an acute coronary attack was believed traceable to an unusual physical strain or to direct injury to the frontal chest. Five of these were accepted by the Workmen's Compensation Board, and in four of the five the causal relationship was first noted by our own Medical Department. This would indicate that an adequate medical coverage in industry can do much to reduce the liability factor in heart disease. Medical literature reports that only 2 per cent of coronary thrombosis attacks occur with severe exertion. More rarely, a severe nonpenetrating injury to the anterior chest or upper abdomen may cause an actual contusion of the heart. If there are no symptoms for forty-eight hours after unusual effort or trauma and a coronary thrombosis develops later, it was probably not caused by the effort or trauma. Competent medical authorities are on record that there is no proof that ordinary working activity causes heart disease.

The employment of the cardiac is not without problems. Our own experience indicates a major opposition of the worker to changes in pay and advancement when his medical condition necessitates transfer to a less productive job. However, fair treatment from the point of view of actual job performance can overcome this. Merit increases have been awarded for superior performance even in a limited work status. The protection of seniority rights also assures the employe with twenty-five years of service against any reduction in pay, even though he may not participate in progression increases. On the other hand, it should be realized that seniority may work against the younger cardiac and produce problems in the employment of other cardiacs.

Another major problem lies in the field of compensation medicine. The conflict of medical opinion sometimes makes the decision of the Workmen's Compensation Board very difficult. The Second Injury Law of New York State is only a partial solution to the liability risk of the cardiac because the employer must be aware of the employe's previous permanent physical impairment, and some find that the waiting period of two years places a burden on the smaller industry.

The medical profession should guard against the tendency to take alarmist attitudes in dealing with the cardiac patient. This includes the industrial physician as well as the employe's personal physician. A disability may be induced by undue anxiety even when the organic disease is well repaired. Unwarranted physical restrictions and sick absence that is unnecessarily prolonged are abuses that handicap the worker and penalize industry.

These problems are not insurmountable, and their solution can be achieved by teamwork between management and labor with the guidance of the medical profession.

4 Irving Place

Garment Workers with Coronary Disease Who Are Working

LEO PRICE, M.D., NEW YORK CITY

(*From the Union Health Center of the International Ladies' Garment Workers' Union*)

For more than twenty years we have been struck by the fact that many workers in the garment trades continue in employment in spite of evidence of coronary disease. In preparation for this symposium we reviewed numerous previous studies of such cases made in the past

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few years. We selected 739 current cases with electrocardiograms showing a pattern of myocardial infarction from 1952 to 1954 inclusive. About 12,000 electrocardiograms were done annually during this period. The information secured confirmed the point of view we had held, that cardiacs can and do work. Sixty-three per cent of this group are still working; 27 per cent returned to work after the infarction but in time retired; 10 per cent never returned to work after the infarction.

Twenty years ago cases of myocardial infarction were customarily associated with a poor prognosis. Such cases were cautiously hospitalized as a rule for more than six weeks with the utmost restriction on all forms of activity. Severe chest pain, shock, and tachycardia were usually recorded on the admission charts of the hospital.

In the ambulatory medical service offered to the ladies garment workers, older persons appear for medical care for symptoms of chest pain, painful shoulder, palpitations, and shortness of breath. They seldom volunteer a history of sudden cold sweats, weakness, or attacks of indigestion. Many in the old age groups have backgrounds of hypertension, diabetes, arteriosclerotic heart disease, and previous anginal episodes. Most of the patients in the cardiac service are over fifty years of age. In the group studied 63 per cent of the infarctions occurred between the ages of fifty and sixty-five. The infarction occurred in males in 85 per cent of the cases, although the working population of the garment trades is only 30 per cent men and 70 per cent women.

Between 1,200 and 2,000 garment workers attend this institution daily, mostly for treatment of chronic ailments or for checkup examinations. Many diagnostic examinations are done routinely in the practice of preventive medicine. It is not unusual for a patient to return for medical care and have an electrocardiogram which shows a pattern of myocardial infarction, sometimes quite recent in origin. The point of particular interest in such instances is that previously they may have had one or more normal electrocardiograms.

Unless the history was painstakingly taken, the patient would not have any recollection of experiencing the typical symptoms of myocardial infarction. Apparently many of these older workers are relatively insensitive to milder symptoms of coronary disease. Only through intensive questioning can the electrocardiographic findings of myocardial infarction be substantiated by the history.

It is our feeling that these cases of coronary thrombosis with myocardial infarction in older age persons exhibiting mild symptoms are not typical of the malignant type of myocardial infarction which is usually hospitalized. It is apparent that if our center did not follow a policy of doing routine electrocardiograms for older patients, this type of myocardial infarction would be overlooked.

The seasonal nature of the ladies garment industry, as well as the fact that many of the crafts are sedentary, plays a part in deterring workers from seeking medical care except for severe complaints during the two busy seasons of twelve to fifteen weeks. As a result many workers come in for medical attention long after the mild coronary episode may have occurred. The nature of the industry also provides a suitable atmosphere for workers to become so engrossed in producing enough in the short working season to secure income for the year that they tend to ignore mild symptoms of any disease, whether related to the heart or any other system. They are too tired to seek medical attention after work and cannot afford to take time off during the day and lose income being paid on a basis of piecework.

The accumulated evidence emphasizes that a large number of workers have a form of benign coronary thrombosis with myocardial infarction which evidently occurs mostly in older age groups and carries with it a not unfavorable outlook for continued employment. We find that 28 per cent of the patients reviewed were treated in hospitals; 72 per cent were treated at home. Fifteen per cent had no loss of time from work; 20 per cent lost from three to twelve weeks; 22 per cent lost from twelve to eighteen weeks; 20 per cent lost from eighteen to thirty-six weeks; and the balance lost up to a year of working time. Almost half the patients studied had had the infarction more than five years ago; 12 per cent had had infarcts between ten and twenty years ago.

Apparently we meet a type of myocardial infarction that either involves a small area or else the infarction develops slowly. Moreover, because of the age of the patient, he is likely to have good collateral circulation. Symptoms are vague and atypical, and the infarction is discovered only through special vigilance, quite different from the acute type of closure with shock or the subacute type with pain which results in closure after one or more attacks of pain. The following typical case brings out this point:

Mr. H. R., a sixty-five-year-old, male sewing machine operator, gave a one-year history of substernal tightening on exertion. In March, 1955, he sought medical care for a heavy cold because he also had weakness of the knees. He had had no medical attention since June, 1952, when he was under treatment at the center for hypertension. At that time the electrocardiogram showed chronic left ventricular strain.

At the March examination his pulse was 72 and regular, blood pressure was 200/110, and findings were negative as to the heart and lungs with no evidence of congestive failure. After the electrocardiogram was completed, the patient was sent home routinely and told he would receive a report at the next examination.

The following day the electrocardiogram was interpreted as showing a recent anterior septal myocardial infarction. A letter was sent recalling the patient, but he did not respond because he had just moved and did not receive the letter. A second follow-up reached him on April 19 when he returned for examination. He had continued to work without interruption.

He stated he had no special complaints and recalled no specific symptoms on repeated questioning. The examination on April 19 revealed a pulse of 110, blood pressure of 220/100, weight 152, heart enlarged 2 cm. outside midclavicular line, and diastolic gallop rhythm with occasional premature contractions. There was diminished resonance of the right base with a few, fine, crepitant rales. The liver was not palpable; there was no edema of the extremities, and neck veins were not engorged.

The patient was advised that he should rest at home and return in one week for re-examination. No medication was given. At his return on April 28 his pulse was 96, blood pressure 200/95, and weight 150. The patient felt better but was willing to discontinue work for the time being since the working season was coming to an end. The electrocardiographic findings indicated that the infarction occurred recently, but it was difficult to secure any specific information from him about symptoms which might date the incident accurately. Apparently it occurred during a heavy cold at the time when he had weakness of the knees.

This is a typical case we meet not infrequently among the older age group who work before, during, and after the infarction.

160 West 26th Street

Insurance Aspects

HARRY E. UNGERLEIDER, M.D., NEW YORK CITY

(*From the Equitable Life Assurance Society*)

The real crux of the problem of heart disease in industry is the question of liability and compensation, and here the fears of the employer have a substantial basis. This is now being recognized, and some attempt is being made to remedy the situation. We may address ourselves to a brief survey of the problem.

Industry's problem with the cardiac, similar to its other problems, is largely a financial one. Some idea of its scope is indicated by the report of Gafafer in *Public Health Reports* stating that industrial absenteeism as the result of cardiovascular disease in the first half of 1952 was preceded in incidence only by respiratory diseases. Goldwater and Weiss remark that in New York State workmen's compensation payments for heart disease amount to about two million dollars annually and account for nearly 4 per cent of all compensation costs.

What is industry doing in practice about employment of cardiacs? The Massachusetts Heart Association conducted a survey last year in an

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attempt to gather information on the problem of cardiac employment. This study covered 100 employers in the greater Boston area representing 176,000 employes in various types of business, companies ranging in size from 100 to 20,000 employes. Of the 100 companies 25 had a stated policy of exclusion of all cardiacs, but actually only 51 per cent of the companies were found in practice to hire cardiacs. The determinant factors in hiring policy and exclusion of cardiacs reveal that 45 per cent of the firms give workmen's compensation as their first or second motive, followed by effect on health and sickness insurance liability, and then low productivity, absenteeism, and limited inplant mobility in equal proportions. Although workmen's compensation claims were not of any great magnitude, it was the sense of threat of cardiac claims under workmen's compensation rather than actual experience with these which was the greatest deterrent to hiring cardiacs. Another similar study was conducted by Dr. Edward M. Kline of Cleveland. Kline obtained responses to questionnaires from 100 medical directors of industrial organizations throughout the United States representing some 20 states and companies that employed 1,340,000 workers. His summary indicates that only 10 per cent never employed cardiacs. Half of the employers occasionally employed cardiacs. Another 23 per cent regularly engaged cardiacs, that is, engaged them without prejudice. These figures pertain to new employment. It is of interest that 88 per cent of the 100 medical directors reporting remarked that their companies always retain patients with heart disease. The reason for failure to employ cardiacs, as revealed also in the Massachusetts study, was not because they are not good workers or because they are unsafe workers. Thirty-four of those responding to Kline's questionnaire explained their unwillingness or their hesitancy as being due to the threat of monetary loss rising out of compensation claims.

What are the facts of compensation insurance in regard to heart disease? Stated simply, they are as follows: Unwise legislation enacted without the benefit of sound medical knowledge has resulted in a disservice to industry and employes alike. In other words, physicians, cardiac patients, and industry have all become victims of a situation not of their own creation. Seriously enough, the pattern has been the same in various states throughout the country. Let us exemplify with a few illustrations. Dr. Richard J. Clark, chairman of the Sub-Committee on Workmen's Compensation of the American Heart Association, reports that in the past few years board and court decisions in Massachusetts have so liberalized the interpretation of the law that practically all cardiacs developing acute episodes or dying while on the job are assured of being awarded compensation. It has been stated by the Supreme Court of Massachusetts that occupational strain giving rise to injury need not be unusual or the result of heavy work, and it has also been stated that stress or strain brought on by worry, fear, or anxiety does not differ from that of physical exertion. Furthermore, it has been ruled that emotional factors need not be proved by direct evidence but may be established by reasonable inference. In other words, the floodgates of Massachusetts are opened wide for decisions in favor of the worker. Under these circumstances, says Dr. Clark, and in view of our knowledge that at least half of men over forty-five years of age have coronary disease, can we justly blame the employer who says he will have no part in hiring cardiacs or people in the older age group? Commenting on the situation in Massachusetts, Dr. Howard B. Sprague states that the decision of the Supreme Court of Massachusetts in 1951 has resulted essentially in closing the door of employment in that state to anyone known to have heart disease, no matter how minor or no matter what type.

Dr. Carlyle F. Stout, of Los Angeles, comments on another Supreme Court decision in the State of Washington, which has set a precedent in that area. A few years ago a night watchman for a Seattle Company had a heart attack while sitting at his desk and died shortly thereafter. The majority opinion of the Supreme Court of the State of Washington held that "the heart attack was due to the strain of the job—that no matter how small the strain, if it were too much for the patient in his existing condition at the time, it was compensable." In New York State the situation is not far different. Goldwater and Weiss report that in 80 per cent of 104 cases before the Workmen's Compensation Board in New York the onset of symptoms was stated to have occurred while the individual was at work. Among the controverted cases claims were allowed in 75 per cent in which the onset occurred while the claimant was at work. Forty per cent of these had knowledge of pre-existing heart disease. Although a second injury law was enacted in 1945 with the purpose of encouraging employers to hire persons previously partially disabled by placing only limited responsibility on the employer if further injury or disability occurred while at work, in respect to heart disease at least the second injury law has proved inadequate. In the cases studied by Goldwater and Weiss, although more than 40 per cent had knowledge of pre-existing heart disease, the second injury law was invoked in only one case. Goldwater and Weiss conclude that employers in New York State and elsewhere are becoming increasingly reluctant to hire cardiacs, partly because of the manner in which compensation claims for heart disease are adjudicated.

In California similarly, as a result of an Appellate Court decision, a serious problem has arisen. As stated by Howard J. Scott, of the Los Angeles Bar Association, for all practical purposes the requirement that the employment cause the heart injury has been eliminated, and the condition of compensation liability "arise out of the employment" has been eliminated. The cases are decided now purely on the basis of a requirement that the injury occur "in the course of the employment." This means simply that if a man has the onset of his acute symptoms while he is working, the claim is probably one that will be held to be compensable. Scott believes that the interpretation may be extended so that all that is required is that a man have heart disease and that he have a job. Thus a tremendous obstacle to the employment of any person who is known to have heart disease has been raised, Scott concludes, and the change in the law has had the effect of nullifying all of the efforts that have been made and are still being made to encourage industry to employ such handicapped people.

Compensation is the major bugbear. There are others, such as the question of group insurance. Persons who are uninsurable for life insurance automatically become eligible for insurance coverage when they are employed in industries having group insurance plans. Surprisingly, group insurance experience has not been particularly bad, and it is questionable whether any appreciable increased cost in coverage results from the employment of cardiacs.

The prime factor in clarifying the various aspects of heart disease in industry and in bringing about sound and just practices must come through knowledge. The American Heart Association has assumed a very active role in this function. Work classification units, of which about 34 or more are now functioning throughout the nation, exemplify what can be done. In addition, many of the affiliates of the American Heart Association have a special Cardiac in Industry Committee, composed of physicians, personnel men, union representatives, people in employment services, rehabilitation, and other social agencies. The American Heart Association Rehabilitation Committee, as already stated, has a subcommittee on workmen's compensation. Its chairman, Dr. Richard Clark, presented the survey of the problem of workmen's compensation in relation to heart disease before the Congress on Industrial Health in Washington in January, 1955. It appears worth while to state verbatim the resolution passed by this committee of the American Heart Association: "Be it resolved that this committee of the American Heart Association go on record as recognizing that certain compensation laws and decisions appear to operate as deterrents to full and proper rehabilitation and employment of cardiac patients and therefore urges that appropriate reforms be studied and instituted in this field. Because of the broad implications of this matter in relation to other disabling conditions as well as cardiovascular disease, it is our opinion that over-all medical details of such reforms should emanate from the American Medical Association."

393 SEVENTH AVENUE

Annual Meeting, May 7 to 11, 1956, Hotel Statler, New York City

Prevention Versus Cure in Some Crippling Diseases

LESLIE BLAU, M.D., BUFFALO, NEW YORK

(*From the Department of Physical Medicine and Rehabilitation, Buffalo Mercy and Kenmore Mercy Hospitals*)

The purpose of this presentation is to define our responsibility in enlightening the public regarding some of the disease entities which may result in the loss of a limb and/or crippling deformities, such as obliterative arterial diseases or rheumatoid spondylitis. Such conditions, even though they are widely different, have one characteristic in common; they are not curable. Yet application of preventive measures that are clearly available to us can maintain nearly normal function of affected limbs and thus forestall untold human suffering.

The reason that I selected such widely divergent entities is that during the past eight years as head of large departments of physical medicine and rehabilitation, I have had the opportunity to treat scores of such patients. Almost all of them display inadequate or no knowledge of the essentials and expected outcome of the disease which they have, and not infrequently they are ill-advised. For example, an oft-heard comment is "the doctor told me to soak my feet in water as hot as I can stand." This in spite of the fact that the patient has no palpable pedal pulses and has zero oscillations.

In regard to obliterative arterial diseases most authors who have written on the subject stress the importance of prevention. Nevertheless, in actual practice I find that patients who seek help in our clinics are not versed in the nature of their ailment. The patients' education is most important since prevention cannot be implemented without their cooperation.[1] Since these patients are first seen by private practitioners, it is their responsibility to institute a program of prevention. Such a program entails an understanding by the physician of the problems involved and a proper orientation of the patient.

Treatment of these conditions is utterly inadequate because we are unable to reverse the disease by influencing the pathologic process.[2] There is some hope in the fairly recently introduced homologous arterial grafts. However, this can be done successfully only in a few selected cases. Therapeutic efforts consist mainly of attempts to increase collateral circulation, to prevent or limit infection, and, when gangrene is present, frantic efforts to minimize its spread, waiting for a demarcation line, and amputation. Prevention should be started before the need for such therapeutic intervention exists and the limb is doomed to be lost.

It is my hope that I can stimulate your interest to the extent that you will set up a program in your office for the prevention of all those entities that fall into the category of obliterative arterial diseases.

Since the age of predilection for some of these disease entities, such as thromboangiitis obliterans, is early adult life and for others, such as arteriosclerosis obliterans, is the later years of life, age cannot be used as a criterion for being aware of these conditions. For that reason physical examination of adults should include an evaluation of peripheral arterial circulation. This should consist of inspection for trophic changes, e.g., dry skin and thickened, irregular toenails, and palpation for arterial pulsations. If suspicion arises that there is impairment of arterial flow, oscillometry should be done, a simple and not very time-consuming process. I find the Collens sphygmo-oscillometer very simple and economical to operate because it can be used also as a sphygmomanometer. When oscillometry substantiates your clinical findings of impaired circulation, more extensive studies will have to be made, such as skin temperature determination with and without distant heat or cold administration to determine the amount of vasospastic element.

With the increased longevity of our population we see more and more patients with arteriosclerosis obliterans. Onset is usually insidious. For that reason, one should routinely advise one's

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patients who are over fifty that when they develop pain in their feet, especially in the toes, they should refrain from the time-honored remedy of "hot foot soaks." I believe this custom precipitates more gangrene than we imagine. To illustrate this point, I shall describe one very recent case of my experience:

Case 1.—J. D., a sixty-two-year-old female, was referred for the treatment of arteriosclerosis obliterans on February 14, 1955. Her complaint was "burning pain in the soles of the feet." The physician whom she first consulted advised her to take "hot soaks" which increased her discomfort and caused the swelling and redness of the feet. Lack of improvement induced her to change to another physician who hospitalized her for proper care.

Examination revealed no palpable pedal pulses, zero oscillations of the feet, ankles, and legs, and $^1/_4$ to $^1/_2$ in the thighs. Her toes became vividly red in the pending position, and on elevation rapid blanching on the left side took place. Trophic status of the feet was quite normal except for thickened toenails. She received bed rest, application of distant heat for reflex vasodilatation, sympatholytic drugs such as Priscoline orally, and the feet were kept in neutral environmental temperature. Her condition improved symptomatically, and she is without frank gangrene today, which undoubtedly she would otherwise have had.

Every general practitioner, internist, and surgeon should have mimeographed instructions in his office for preventive foot care which should stress those basic elements which further impair the arterial circulation by disturbing the flow of blood that is already hardly sufficient to maintain viability of local tissues. These are smoking, environmental cold, situations that will place undue demand on the local circulation through increased local metabolism, such as heat and exercise and local mechanical trauma.

There is unanimity in the literature that these environmental influences should be avoided, and patients should be advised specifically in no uncertain terms. Willis[3] very well stated that spontaneous gangrene of the toe is extremely rare, if it ever occurs, and that in nearly every case of gangrene of the toe some history of trauma can be elicited.

Written instructions should contain the following statements: Circulation in your legs is not normal, and, therefore, you must give your feet extraordinary care. Healing is sluggish when circulation is poor, and consequently injury is more serious. You should abide strictly by the following rules in order to prevent aggravation of your condition or even risk the loss of your feet:

1. Stop smoking or using tobacco in any form. Nicotine in the tobacco shuts off the remaining open vessels in your extremities.

2. Do not walk quickly. Measure your ordinary walking rate, and if you walk faster than 100 steps per minute, reduce it to 70. By maintaining this rate you can cover much greater distance without cramps in your legs. When you walk quickly, your legs need more oxygen which the poor circulation cannot supply, and your legs will needlessly suffer further damage.

3. Never take hot foot soaks. Buy a water thermometer, and be sure that the water is not warmer than 98 F. When you take a hot bath, leave your feet out of the water. Dry your feet thoroughly by patting not rubbing. Apply cold cream or vaseline after soaking.

4. Wear white socks. Change them or wash them daily. Eliminate all creases in the socks, and if possible, do not wear darned socks. Cut your nails with sharp scissors, and be careful not to damage the skin.

5. Never wear new shoes long enough to allow your feet to blister. A blister may never heal when circulation is poor. Break your new shoes in gradually, wearing them for one hour to one-half day for a few days.

6. The following exercises will help the circulation in your legs.

(*a*) Lie in bed. Elevate your legs 45 to 60 degrees above the horizontal until your feet are blanched. (It takes about thirty seconds to three minutes.) The back of a chair can be used to maintain elevation of legs.

(*b*) Sit on the edge of your bed with feet hanging down until they turn red (about two minutes). While feet are dangling, exercise your ankle joints. Move feet up with toes pointing to the ceiling. Move feet down with toes pointing to the floor. Rotate your feet clockwise and counterclockwise.

(*c*) Lie flat on your back again, legs horizontal for about five minutes. This excercise is to be performed three times, once or twice a day.

Rheumatoid spondylitis is another condition for which specific cure does not exist. It brings about progressive changes that will invariably result in ankylosis of the spine and, by involvement of the costochondral and costovertebral articulations, gradual reduction of thoracic expansions. The usual therapeutic objectives are

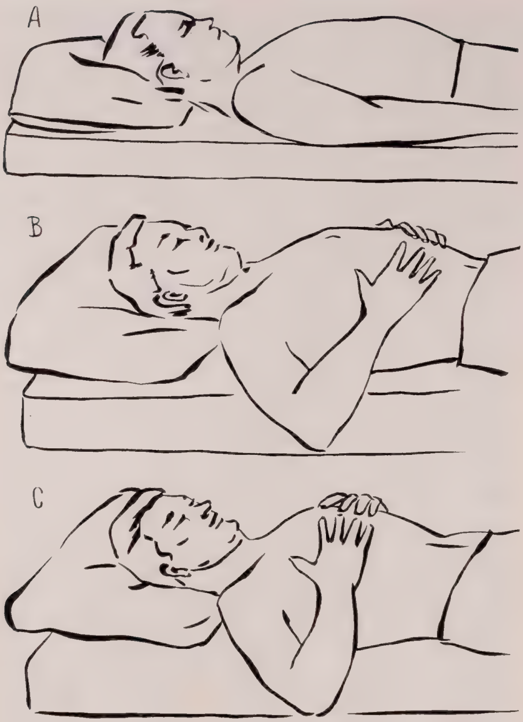

FIG. 1. (*A*) Patient is breathing in deeply, making concentrated effort in expanding chest. (*B*) Patient is breathing in deeply, making a concentrated effort to push the chest wall against his hands. (*C*) Same as (*B*), hands placed more cephalad for expansion of upper chest wall.

relief of pain and spasm, prevention of flexion deformities, and maintenance of chest excursions.

Since it takes many years for the spine to ankylose, a long-range program of prevention must be instituted. The first step should be thorough familiarization of the patient with the nature of his disease and its potentially crippling end result if he is neglectful during the years to come.[4]

I usually put it this way: You are suffering from a disease which eventually will stiffen your spine. This process usually takes many years, and, therefore, if you do not continue the exercises you have been shown, at least twice daily for years to come, you may not be able to convince yourself of the many benefits you derive from such a program before it is too late. You should know that self-neglect in your condition may result in the absence of chest expansions with poor ventilation of your lungs and bad effects on many of the bodily processes, as well as stiffening of your spine in a forward, curved position which will prevent you from carrying on many useful activities. The exercises you have to do are of two varieties:

1. Deep breathing exercises to maintain and/or increase the lung capacity and mobility of chest walls. Lie on your back, head elevated on one pillow and arms beside your body. Begin the exercise by breathing in deeply, making a concentrated effort to expand your chest as much as possible. Hold it for a few seconds, and then let all the air out of your lungs, opening your mouth slightly at the end (Fig. 1A). Repeat the exercise as before, but place your hands on the lower part of your chest with your fingers pointing toward the middle of the chest and the base of the hand about even with the armpit. Make a concentrated effort to push the chest wall against your hands (Fig. 1B). Repeat this exercise, placing your hands higher up toward the armpit (Fig. 1C).

2. Exercise to prevent slumping, by stretching your breast muscles and by strengthening your back muscles.

(*a*) Lie on your abdomen. Place hands at the side of your body. Do not use a pillow, and place your chin on the sheet, looking forward. Raise your trunk off the table as high up as possible without moving your head, and hold it to the count of five. Return to the original rest position, and repeat twice. Rest to the count of five between exercises (Fig. 2A). Rest period should be two minutes or more if you need it to recover from the exertion of exercises you have just carried out.

(*b*) Repeat exercise 2(*a*) with the exception of holding the arm outstretched sideways in the air and straight at the elbow. When you have your trunk raised, rhythmically swing your outstretched arms backwards three times (Fig. 2B). Rest period should be two minutes or more if you need it to recover from the exertion of exercises you have just performed.

(*c*) Repeat exercise 2(*a*) with the exception of holding the arms outstretched forward above your head (Fig. 2C).

(*d*) Repeat exercise 2(*a*) with the only exception of raising the arms by extending the shoulder joints (Fig. 2D).

Exercise to maintain joint range and muscle strength is being more and more neglected with the advent of modern pain-relieving drugs, such as phenylbutazone, the adrenal corticosteroids, and adrenocorticotropin, as well as the more in-

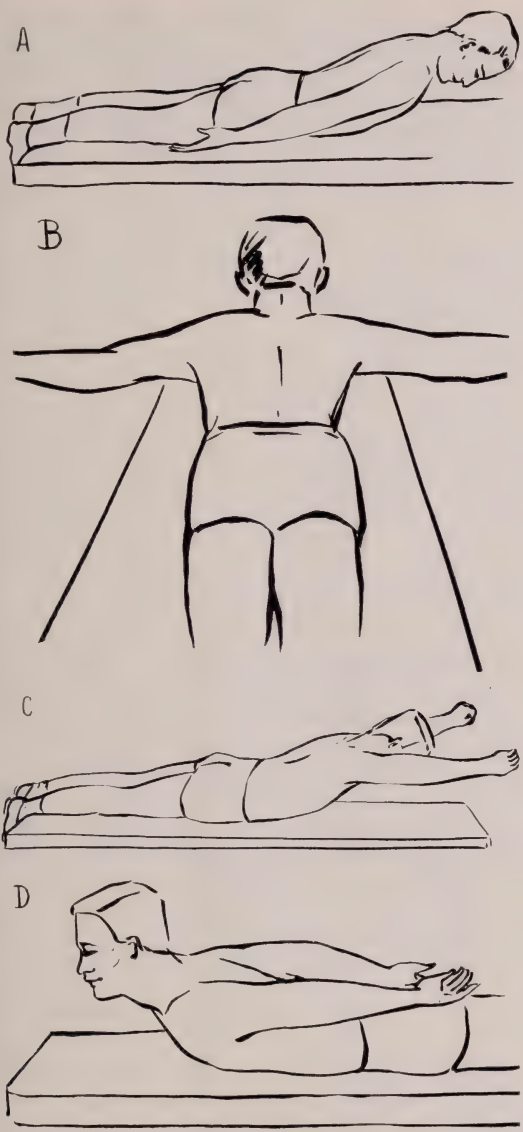

Fig. 2. (*A*) Exercise for the erector spinae. (*B*) Exercise for the middle trapezius. (*C*) Exercise for the lower trapezius. (*D*) Exercise for the rhomboid.

tensive use of x-ray therapy for acute joint and periarticular abnormalities.

Securing quick subsidence of symptoms by these means may be amazingly fast. However, supervised exercises are very important and are not to be neglected while the patient is getting the drug or x-ray therapy. Patients will not exercise while they have pain, and often they do not give themselves a chance to find out that the pain has ceased to be acute or has become so trivial that mobilization of the joint is in order. The attending physician should not wait with his referral to physical medicine until definitive treatments are terminated because by that time joints, especially shoulders, may be irreversibly fixed. The reason for this word of caution is that I see more and more patients with frozen shoulders in our clinics.

Conclusion

I have no intention of proving or disproving any controversial point statistically or otherwise in this paper. My only hope is that I have created enough interest in the prevention of obliterative arterial diseases, rheumatoid spondylitis, and other functionally destructive diseases, such as periarticular degenerative diseases, so that you will implement some of these measures in your offices.

It should be emphasized that the patient must be impressed with the importance and necessity of executing the program. Mimeographed instructions to be given to the patient for ready reference are just as important as the explanation and demonstration of how each exercise is to be executed.

409 Capen Boulevard

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Discussion

Roy J. Phillip, M.D., *Buffalo.*—In spite of contemporary usage of steroids and other anti-inflammatory agents in the treatment of deforming arthritides, physical therapy has a prominent place and should not be delayed or overlooked because the patient is having superficial symptomatic improvement with the newer drugs. In rheumatoid arthritis the acute phase is shortened or at least eased by steroids, but the consensus of several rheumatologists is that the chronic deforming disease continues its crippling process.

Regarding the discussion about obliterative arterial disease and the need for prevention in circulatory deficiency as well as the need for meticulous care of any skin trauma, I can only quote the French proverb, "Everything worth saying has been said before. However, since no one seems to listen we must say it again."

The discussion of frozen joints was brief but could be elaborated into a discussion of its own.

One finds frozen or contracted joints, not only in the acute joint and in the periarticular abnormalities as mentioned but in many bedridden patients with chronic diseases, such as myocardial infarctions followed by frozen shoulders, cerebral vascular accidents, and other neuromuscular diseases followed by flexor contractures of affected joints. In the care of the long-term bed patient, footboards are helpful. Instruction in proper bed posture and necessity for assuming the position for brief periods throughout the day is important, and early range of motion of all joints, either active or passive depending on the patient's disease, is imperative in preventing contracted, frozen joints.

The Doctor as a Witness

PAUL D. WILLIAMS, LL.B., BUFFALO, NEW YORK

(*From the Schools of Law, Medicine, and Pharmacy, University of Buffalo*)

The writer appreciates very much the opportunity to present this paper before the Medical Society of the State of New York. An effort has been made to avoid technical language, and it is hoped that from these remarks many physicians will be encouraged to lose their reluctance to appear as witnesses in litigated matters.

Much of the testimony of a physician in the courtroom relates to what is commonly called "opinion evidence." Will you please remember that what is herein reported is in some measure an opinion, gleaned from a generation of trial experience very largely with doctors as witnesses.

Judge J. M. Longenecker, of Chicago, sixty years ago wrote:

> This matter of opinion is a peculiar one, anyhow. First, the expert witness gets on the stand and gives his opinion that if such and such is the case, then such and such must be the result, that is his opinion; then the lawyer gives the jury the benefit of his opinion as to the opinion of the expert; and then the jury are called upon to give their opinions of the opinions of the lawyer and the expert, and it is only an opinion after all.

That statement is still true.

It is to this thing we call "evidence" that we address our thinking. What is evidence? We speak glibly of evidence, yet we ought to know something of its etiology.

> Evidence rests upon our faith in human testimony as sanctioned by experience, that is, upon our general experience of the truth of the statements of men of integrity, having capacity and opportunity for observation, and without apparent influence from passion, or interest to pervert the truth. This belief is strengthened by our previous knowledge of the narrator's reputation for veracity; by the absence of conflicting testimony; and the presence of that which is corroborative and cumulative. It is upon this faith in the credibility of human testimony that the court or jury in a trial are largely obliged to rely.—*Greenleaf*

When a doctor is a witness to an accident, the limits of his testimony are the same as the limits for any lay person. He would be permitted to testify only concerning what he observed or his perceptions.

It is to opinion evidence that we will confine our remarks from this point. *Opinions* of a witness are admissible in evidence as an exception to the ordinary rules of evidence on the theory that a specially trained person, whether a doctor, an artisan, or a scientist, should be in a position to guide the court or a jury to a just result in matters requiring peculiar knowledge. The doctor often qualifies in the courtroom as an expert witness and, as such, is classed with persons skilled in science, art, or specialized occupations; for this reason he may testify to facts within his knowledge and is permitted to give an

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opinion based on an assumed state of facts. The opinion of the expert is acceptable, therefore, because he possesses a peculiar skill and knowledge not common to men in general which enable him to draw an inference, when men of ordinary education and training considering the same state of facts would be left without an intelligently based conclusion.

Frequently, a doctor leaves a courtroom feeling that his testimony and evidence have been arbitrarily limited by the lawyers and the court. We must all remember that no witness is permitted to express an opinion as to an ultimate fact which must be decided by the jury. The doctor may not say that a litigant will not be able to pursue any gainful occupation, that a party was guilty of malpractice, or similar conclusions. These are matters which the jury must determine as an ultimate fact.

The doctor may properly state his opinion as to the kind of work the person could do at the time of his examination. Such an opinion is admissible because it does not call for an answer which would be an opinion on the ultimate issue as to whether the person was permanently disabled or otherwise. It will be seen that such an opinion relates to a fact, which, together with other evidence, the jury would consider in arriving at its conclusion in the determination of the ultimate issue. While a doctor may not say that a party will never be able to pursue a gainful occupation, he may, however, if properly qualified, testify concerning work ordinarily involved in the occupation. He may further testify concerning the physical requirements of the job which must be possessed by one doing that work, and he may say how much work the litigant is able to do.

If the doctor understands that his testimony and its total effect are not a substitute for a jury required to determine the case, the reasons for the aforesaid rules will become quite evident.

We turn next to the status of the doctor in a given case. He may be the attending physician, he may be a consulting specialist, or he may be purely an expert witness whose first identification with the patient or the litigant is in the courtroom.

The attending physician will ordinarily establish the early background of the litigated matter. He will testify to his findings and observations of the quality and quantity of injury; he may supplement other evidence as to how the accident occurred by relating the detailed history received from the patient and, if he has long known the patient, his total understanding of the patient and the effect of accident and injury to the patient. This will generally supply to the court and jury the basis of what they want to know about the accident and its effects upon the litigant. The consulting specialist, while he probably would take an independent history during his professional identification with the patient, will in all probability be particularly useful as a witness, only because within the field of his specialization he is likely to be more expert than the attending physician who called him. The additional information which such a consulting physician might give in evidence will depend largely on his experience and background and on the thoroughness with which he has applied himself to the problem. His effectiveness, so far as the court and jury are concerned, will depend largely on the fashion in which he translates into understandable lay language the various facts, observations, and inferences which to him are more or less commonplace or at least fall within the sphere of his experience and special interest or training.

The role of the *expert* witness is, of course, quite different. The expert witness we here consider need have had no personal association with the litigant; he must be absolutely honest and unbiased and able to understand the facts and to explain his opinion clearly. He must have real expert knowledge in the field in which he testifies, and he must study very thoroughly all of the facts and background material. He must be able not only to agree or disagree with others whose testimony has previously been taken, but his opinion should cut through and across all previously expressed opinions, keeping uppermost in mind the facts on which his opinion is predicated and demonstrating clearly on which of the facts he relies and why others may be discarded in the formation of his opinion.

The testimony of each of these three types of medical witnesses is not necessarily of equal value in court. All are equally valuable and important, and none has any legally superior value over the others. It is the understanding of the situation presented and the ability of the medical witness to explain his inferences and opinions clearly that most frequently prove the worth of one medical witness over another.

In this connection courts have held that the opinions of expert witnesses, although under oath, are somewhat akin to arguments in behalf of the side calling them and that such testimony is valuable only with regard to the proof of the facts and the validity of the reasons advanced for the conclusions given. It is generally accepted that expert witnesses are called into a case because they may be depended on to give an opinion favorable to the party calling the expert. It is unfortunate that this impression would seem to be founded in fact, but it does a grave injustice to those honest and sincere witnesses who are sometimes called as expert witnesses and whose principal concern is the scientific accuracy of a principle involved in the case.

It is my feeling that this practice of calling expert witnesses solely because of an anticipated favorable opinion, using doctors regularly seen in court, is something to be avoided if possible. All too frequently such witnesses express themselves in highly technical language, relying on their vast store of medical knowledge rather than on their eagerness to explain the matter clearly in understandable lay language.

The doctors who are employes of large corporations and engaged in what is currently referred to as "industrial medicine" are in a class apart from the usual medical witness. Such a doctor, with a large corporation as his employer and his coemployes as patients, is in a very precarious and vulnerable position in the eyes of both the court and jury. Members of a jury, generally speaking, have a rather well-defined tall pedestal on which they place their personal family doctor. In my experience it is a very rare industrial physician who can occupy a pedestal of the same height in the minds of the jury. It is only by the demonstration of the highest integrity and utmost fairness that the industrial physician can measure up alongside the doctor in private practice.

The courts of this State have indicated quite clearly that the law makes no distinction between expert testimony and evidence of another character. It seems that when there is a conflict between scientific testimony and testimony concerning the factual background of the case, the jury or the court must determine the relative weight of the evidence from whatever source it may come.

As lawyers, we recognize that doctors are human beings with the same emotional reactions possessed by nondoctors, so it does not surprise a lawyer to find a doctor injecting himself into a situation wherein his interest is far removed from the application of his medical skill. The doctor, if he is normal, will be expected to take sides in the litigation, perhaps even on an unconscious level. We must observe in this connection that education of the lawyer differs greatly from that of the doctor. Accordingly, in the experience of the writer we have yet to find a lawyer equipped educationally to argue and discuss fully, as an equal, any question of medicine which lies within the daily practice of the doctor. Similarly, we have yet to find a doctor who can effectively identify himself with the legal problems involved in the case and not become lost in a legalistic maze if sufficiently pressed.

The one cardinal error I would enjoin all doctors to avoid committing within the confines of a courtroom is in so conducting themselves within that forum as to make it clear that they have involved themselves in the justice or the morals of the claim. Such a medical witness not only hurts himself, but he hurts his patient or the litigant; moreover, such an identification with the cause of the patient-litigant may carry him far into a legal wilderness or jungle. Such a witness will almost universally come from the courtroom with feelings of resentment toward the lawyers and the court and is often determined never again to become involved in the litigation of his patients. The doctor may firmly believe in the position of his patient in the litigation. He does not exceed his responsibility to the patient in his attempt to assure a full measure of justice for that patient. He must not, however, take the part of the advocate, and he must not indulge in tactics which might simulate those of an attorney (and which may be perfectly proper for the attorney) for the reason that such tactics make him vulnerable in an area in which he need not be familiar. In the eyes of the court and jury the doctor must remain aloof from controversy and state facts, inferences, and his legitimate medical conclusions, and there his testimony must stop.

All too frequently the doctor, like the ordinary lay witness, is reluctant to admit that he does not know the answer to a question. The writer has never learned why the medical witness will not admit that he does not know the answer to a question. I am convinced that the court and jury, in an extremely involved situation where obviously the answer should be "I do not know," will feel a spirit of kinship with such a witness, and the effectiveness of his answer may be greater than had he hazarded a guess in formulating his answer. No one loves an "Olympian oracle."

Similarly, to have the medical witness argue the merits or demerits of the case with the pressing cross-examiner is equally disastrous. In such a situation no doctor can demonstrate to the jury both his skill as an advocate and at the same time maintain that position of unbiased honesty and reporting integrity that is demanded of him by the court and jury.

Mr. Justice Steinbrink of the Supreme Court of the State of New York in a lecture given many years ago before the Medical Society of the State of New York, in commenting on the conduct of a doctor in court, had this to say:

> Before coming into court insist upon the fullest details concerning the subject upon which you are called to testify. Refresh your recollection concerning names, dates, and places that may be pertinent. Bring with you whatever memoranda you may have to fortify your memory. Refamiliarize yourself with the general subject and come prepared to submit to a searching cross-examination. In delivering your testimony, express only those opinions which you honestly believe and which you are prepared to defend to the last ditch. Do not play the part of an advocate. Forget for the time being the party by whom you were called, and make every effort to rid yourself of any bias or prejudice that may unconsciously have crept into your thinking. Weigh the questions put to you with care, and do not answer until you are certain that you understand them. Do not permit yourself to become embroiled in a dispute with the examining attorney nor to become flustered by the tactics employed by him, for this very often is the very result he is seeking to achieve when no other method of attack is available. Act modestly and speak in a conversational tone, addressing your remarks so that every member of the jury can hear what you have to say. Do not try to overawe the jury with your importance. Rather, let the jury be impressed by the quality of your testimony and the manner in which it is delivered. Do not indulge in pedantry. Do not speak down to the jury nor over their heads.
>
> Consider what is almost insistence of medical witnesses in indulging in the use of such terms as hemiplegia or aneurysm, which jurors do not understand and frequently judges do not understand, and how much further the doctor would ingratiate himself with the court and jury if, when he feels that he must use these terms, he were to translate them promptly into understandable English so that a jury would know that he was speaking either of paralysis of one side of the body or a tumor formed by an artery.

The writer could hardly say more on this subject than has been said by this distinguished jurist, and it is repeated at this time only to be read and reread as the code of conduct of the doctor as a witness.

It would improve the administration of justice immeasurably if every doctor who testifies would assume at that time that the court and each of the 12 jurors was a doctor whose training and experience was substantially identical to his own. Were this to be adopted as standard practice, much of the nonsense and absurd opinions we have heard over the years would not have been said or given.

The improvement of the quality and effectiveness of medical testimony does not lie with the court or the lawmakers; it lies within the exercise of good sense and the conscience of the doctor as a witness.

Ellicott Square

Discussion

Stuart A. Good, M.D., *Buffalo.*—It is a rare opportunity to have the privilege of questioning a lawyer's point of view and to a degree to turn the tables and put him on the stand. Seriously, however, I would like to express some frank opinions regarding the doctor at court, and let the chips fall where they may.

I conclude from Mr. Williams' remarks that his verdict is, "The doctor makes a poor witness." While we can all be certain of the interpretation cast upon Mr. Williams' poor witness, nevertheless, we have all heard from the mouths of prominent claims attorneys of excellent physicians who are called poor witnesses and less competent doctors who are extolled as good witnesses. It is only too true that the medical facts behind medical testimony change like a chameleon when the environment changes from the classroom to the courtroom.

The speaker states it is unfortunate that courts have held that medical opinions are akin to arguments in behalf of the side calling them and, by inference, that both opinions cannot be right. In many cases there can be honest difference of medical opinion, but the variance should be of degree, rarely absolute. It is here that the quality of medical opinion should be given greater consideration by the courts, which they have largely failed to do. The writer, I note, classifies physician witnesses into three groups: first, the attending or family doctor; second, the consulting specialist, and last, the expert. This interpretation by the legal profession is, I believe, archaic. The expert and the qualified specialist are today the same. The medical profession comprises two large groups, general practitioners who are trained to know something of all the branches of medicine and specialists who know a great deal about a chosen branch or even part of a branch of medicine. It is obvious that the specialist is able to give a more accurate scientific opinion. If the courts were to accept this concept of the quality of medical opinion, better decisions would be reached. (I gather from the paper that the expert is the doctor who knows his way around court.) I feel very strongly that the cause of truth and justice would be much better served by accepting qualified specialist testimony as the highest level of medical opinion and weighing it accordingly.

And now I will say a few words about the greatest travesty of justice in the courts, the compensation court. The speaker states that a plant physician occupies a very precarious and vulnerable position in the eyes of both court and jury. This statement appears to be an admission of an inimical attitude on the part of the court rather than a representation of an impartial atmosphere. From many years of personal experience the court and jury in compensation court consists of a referee who is usually an appointed attorney who acts as judge, jury, and advocate. I ask Mr. Williams, "How can a referee act as judge and jury and still at the same time counsel the claimant during the hearing?" This paradoxic responsibility would put even the wisdom of Solomon to shame. Many a physician testifies at compensation court totally ignorant of the legal stratagems employed to discredit his testimony. We all know the classic question, "Are you still beating your wife? Answer yes or no." This clearly points out that many questions cannot be answered simply in the positive or negative, nor is the physician required to if he feels he cannot. I would like to elaborate further on these legal stratagems. The use of the wordy double negative by attorneys is only to confuse the physician and have him unwittingly agree with something with which he does not agree or with a point with which he has already disagreed. Never answer a long, involved question if there is the slightest doubt in your mind about its meaning. Another favorite question asked after the doctor has given his opinion is, "But, doctor, there are two schools of thought about this, aren't there?" The referee frequently asks two other questions that can be damaging to the doctor's testimony. They are, "Doctor, is there any possibility that the accident could have aggravated this pre-existing condition?," and the popular hypothetic question, which is actually based on the case under consideration.

I have noticed that these methods of discrediting medical testimony are most effective with ethical physicians and the uninitiated. Where the testimony of four or five well-qualified specialists is in general accord, and one physician, the least qualified present, gives an opposite point of view, it has been very difficult to understand why the court accepts his opinion in making the decision. These are some of the reasons that reputable physicians are growing more and more reluctant to testify in compensation court.

In conclusion, I would like to repeat Mr. Williams' closing sentence, "Improvement of the quality and effectiveness of medical testimony does not lie with the court or the law makers; it lies within the exercise of good sense and the conscience of the doctor." I believe this statement to be substantially true but incomplete. Not only must the intellectual honesty of the medical witness be improved, but equally so must the compensation courts be divorced from politics and pressure groups. Also the courts in general must accept the concept of quality of medical opinion if the frailties of human nature, including both the legal and medical professions, are to be overcome.

Solon J. Stone, LL.B., *Buffalo* (*By invitation*).—As far as I am able to determine, there is no criticism to be made of Mr. Williams' paper on "The Doctor as a Witness." On the contrary, it seems to me that he has made an excellent presentation concerning the subject. Nevertheless, since the topic is one of considerable interest to me, I am not at all hesitant about offering additions to what Mr. Williams has told you.

It is my personal feeling that you doctors should approach every trial in which you act as witness with the full realization of the possible effects of your testimony. Only through such an understanding can you appreciate the importance of your act and gain the delightful satisfaction which accompanies a good deed. Did you know you do a good deed when you testify well and truthfully in a judicial proceeding? You do. You thereby assist in the orderly administration of justice. The orderly administration of justice is the principal reason we have this free and happy homeland of ours.

Good testimony is not only important to you and to the general public, however. The courts and administrative tribunals, which at times act as courts, will not hear matters which are not of importance, either in the sense that they involve money or property, or the freedom of individuals, or the public welfare. There is a maxim, "De minimus non curat lex," which, very freely translated, means, "The law will not stoop to pick up pins."

You doctors will never find yourselves in court in a case which is not of pressing importance to the litigants. There are at least two possible effects every time you testify. Either you will cost the plaintiff money, property, or inconvenience, or you will cost the defendant money, property, or inconvenience. In some cases there are other possibilities too, but one of the foregoing will always result from your testimony. Obviously, therefore, whenever you act as a witness, you shoulder serious responsibility.

Because of the fact that every judicial or quasi-judicial proceeding in which testimony is taken involves a matter of importance, rules of evidence have been made for the protection of the interests of the parties and the public. Early in the evolution of trial procedures it was recognized that justice could not be obtained through the simple means of securing a report of an investigation. To learn the truth it is necessary that witnesses with knowledge—not speculators or people who have talked to witnesses, but witnesses—testify in the presence of the trier of fact. As John Henry Wigmore has stated in his treatise on the Anglo-American system of evidence,[a] the founders of our system early recognized "...that the witness must speak as a knower, not merely as a guesser...."

The orderly administration of justice reasonably dictates that there be some exceptions to the principal that the witness should only be permitted to testify to what he knows. One of these exceptions is that persons with special knowledge and training are entitled to give opinions concerning the effect of a given set of circumstances. When you are called into court, it is usually because of your special training as doctors and to secure your opinion concerning a particular hypothesis. Opinion evidence is evidence which the courts treat as fact, even though it is recognized to be merely the best guess of an expert. Inasmuch as opinion evidence is in a sense a guess, the courts have hedged opinion evidence around with rules designed to make sure that the opinion of the expert is as close to fact as possible.

Mr. Williams has hinted that some of you doctors are inclined to be impatient with these rules when you are required to testify. My own experience leads me to agree with him in this observation. I think perhaps you will be far more philosophic about them if you will bear in mind the things I have just told you. They are rules evolved through the ages for the protection of litigants and the public. Like all the results of evolution they are somewhat complicated, but each rule has a purpose, and each purpose is aimed at securing justice.

Put yourself in the position of a litigant. I am sure that if you are ever in that unfortunate situation, you will be glad to see the witnesses confined to facts and proper opinion. Similarly, when you act as a witness, you should not only expect but should be pleased to be confined to facts and proper opinion.

Brief and uncomplicated as this explanation of the importance of the doctor's testimony to the doctor, the litigants, and the public has been, I hope, nevertheless, that it has given some of you, who may have been either mystified or provoked by courtroom procedure, a fuller understanding and appreciation of your role as witnesses.

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[a] Wigmore on Evidence, Boston, Little, Brown & Co., 3rd ed. 1940, vol. 7, sect. 1917, p. 2.

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Decubitus Ulcers Treated With Papain-Urea-Chlorophyllin Ointment

EDWARD W. MILLER, JR., M.D., LINCOLNDALE, NEW YORK

(*From the Harlem Valley State Hospital, Wingdale*)

The objective of conservative treatment of decubitus ulcers, as with all resistant skin lesions, is to foster the natural healing process. Ordinarily this first requires elimination of local factors which retard healing; necrotic tissue and debris must be removed, infection eradicated, and the clean wound kept clean. It is ironic, however, that the measures used to accomplish this frequently impair rather than enhance the reparative powers of the tissues themselves. In decubitus ulcers the capacity for regeneration of healthy tissue is characteristically weak, and it is easily submerged by strenuous local therapy, antibacterial or enzymatic, for example, which leaves the tissues irritated or inflamed. Without some means of assuring protection of the viable tissue cells while débridement and antisepsis are accomplished, the physician is faced with a narrow and uncertain course between therapy that is too harsh and that which is not thorough enough.

There is clearly a place for a topical preparation which, in ordinary usage, can both clean out the resistant lesion and foster the natural healing process. This report describes use of a new preparation, combining gentle, self-limiting débriding action with tissue repair properties, which gives promise of fulfilling these therapeutic requirements.

Materials and Methods

The ointment used in this study contained papain 10 per cent, urea 10 per cent, and water-soluble chlorophyll derivatives 0.5 per cent in a hydrophilic base.* Papain, a proteolytic enzyme prepared from the fruit of Carica papaya, has been successfully employed as a débriding agent in ulcerations, burns, and other lesions where necrotic tissue is a deterrent to healing.[1-3] It has no apparent effect on viable tissue. Urea has the property of dissolving protein[4] and has been reported to have minor bactericidal properties.[5] The water-soluble chlorophyll derivatives have been extensively employed to promote healthy granulation in resistant skin lesions and to deodorize malodorous wounds.[6] This combination represents a new approach to the wound healing problem and one which in our opinion bears a sound relationship to the physiologic processes. The removal of necrotic tissue and debris is a prerequisite to the healing of wounds; the enzymatic débridement by papain and the solvent action of urea fulfill this important function. But the breakdown products of this slough removal process may themselves be irritating to the tissue cells and retard granulation. Chlorophyll derivatives appear to neutralize such retarding factors and to promote early formation of healthy granulations. In addition, the chlorophyll derivatives reduce wound malodors which would otherwise be heightened by the enzymatic digestion of necrotic matter.

The papain-urea-chlorophyllin ointment was applied topically and covered with standard gauze dressings. In most cases where incontinence was not a problem, daily changes of dressings proved quite satisfactory. In certain of the more resistant cases, however, it was found that a schedule of two dressing changes per day produced optimum results. Before each redressing the lesions were irrigated with mild solutions of normal saline to remove the accumulation of liquefied necrotic material.

Supplementary measures other than surgical were in all cases consistent with treatment given similar cases prior to the clinical trial. For example, the decubitus ulcers were protected from pressures as much as possible, and in the longstanding decubiti heat treatment with a 60-watt lamp was employed simultaneously with the ointment therapy. In a few cases where there was an excessive amount of necrotic material, conservative surgical débridement was performed, and then the papain-urea-chlorophyllin ointment was utilized to complete the removal of slough and debris. In most of the cases, however, surgical débridement was omitted.

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* Panafil Ointment, generously supplied by the Rystan Company, Mount Vernon, New York.

In order to study the interrelationship of ingredients, a separate series of cases was treated with an ointment identical to the test ointment except that the chlorophyllin was omitted.

Subjects

Twenty-four cases of decubitus ulcers were treated with the papain-urea-chlorophyllin ointment. All had resisted previous therapy for periods of from one month to more than a year, one case being of fifteen years duration.

The average age of the patients was seventy, several being over eighty years of age. It is pertinent to note also that these were mental patients whose cooperation with topical treatment was uniformly poor.

The 15 cases treated with the ointment from which the chlorophyllin ingredient was omitted were generally similar to the test group as regards duration of the lesions prior to this study, age of patients, and level of patient cooperation.

Results

Of the 24 cases of decubitus ulcers treated with papain-urea-chlorophyllin ointment, 23 progressed to complete healing. One of these cases healed within three weeks, 12 healed in three to four weeks, five healed in four to five weeks, and five required from two to three months for complete healing. In the one case still unhealed at the end of three months treatment, the lesion was markedly reduced in size, but healing progress had noticeably slowed.

In cases where slough was present, application of the papain-urea-chlorophyllin removed it within two to four days. Granulation was ordinarily noted by the second or third day of treatment, even though débridement might be incomplete, and it continued to fill in the defect during and after the débriding period. The character of the granulations was uniformly healthy and highly vascular, and subsequent epithelium was soft and supple. With few exceptions, where odor from the lesion was strong or very strong before treatment, it was effectively controlled or entirely eliminated within twenty-four to forty-eight hours.

The papain-urea-chlorophyllin ointment was well tolerated. In none of the decubitus ulcer cases was irritation or other untoward reaction noted. The nonirritating character of this ointment was confirmed in an additional 36 cases of miscellaneous skin lesions, including 12 cases of highly inflamed "urine rash." One patient with a resistant varicose ulcer with erythema experienced a local allergic reaction. This patient had a long history of allergy to various topical preparations.

Results with the ointment from which the chlorophyllin content was omitted were in sharp contrast to the results summarized above. In this group of 15 resistant ulcerations, enzymatic débridement was prompt and efficient, but all patients experienced inflammatory reactions. Treatment with this ointment had to be stopped within one to three days, but it was apparent by then that granulation would not be encouraged by its further use.

Conclusions

On the basis of results in 24 cases of decubitus ulcers in elderly mental patients, it is concluded that the new papain-urea-chlorophyllin ointment is superior to any agent previously used for the management of these lesions. It is an efficient débriding agent, ordinarily removing all necrotic tissue and debris in from two to four days depending on the severity of the case. What is of more significance is the fact that this preparation encourages early formation of healthy granulations, even during the period when débridement is incomplete, and continued application results in prompt, complete healing of previously resistant lesions. The new skin is relatively soft and supple with good blood supply in contrast to the contracted scar tissue ordinarily associated with slow-healing wounds. The papain-urea-chlorophyllin ointment also reduces malodors of wounds rather uniformly within twenty-four to forty-eight hours. The ointment was generally well tolerated, even in highly inflammatory conditions.

Use of this same ointment minus the chlorophyllin content in 15 cases demonstrated that the chlorophyllin is essential in the combination for the purpose of neutralizing inflammatory products of the enzymatic process. We are not able to define precisely the nature of these protein breakdown products or the role they may play in retarding wound healing, but the inflammatory reaction produced by enzymatic débridement in the absence of chlorophyllin was sufficient to convince us that chlorophyllin in some way provides a necessary protection to the tissue cells.

Enzymatic débridement of resistant lesions with this new preparation has certain advantages over surgical débridement, both practical and therapeutic. The ointment is easy to apply and is entirely safe, whether treatment is supervised by the physician or by an experienced nurse. The gentle enzymatic débridement removes slough and debris which are detrimental to healing progress but does not disturb the viable tissue at the periphery of the wound where the natural reparative forces are mobilized. When an excessive amount of necrotic tissue is present, however, conservative surgical débridement followed by application of the ointment speeds up the slough removal and seems to retain the physiologic advantages of enzymatic débridement.

Further studies on the papain-urea-chlorophyllin ointment by others concerned with the problem of resistant skin lesions, particularly in elderly patients, seem to be more than justified.

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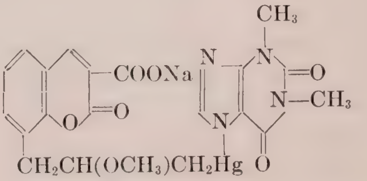
Report of a Three-Year Clinical Experience with Mercumatilin

SIDNEY DANN, M.D., LEONARD B. GUTNER, M.D., ADOLPH R. BERGER, M.D., AND HERBERT S. KUPPERMAN, M.D., NEW YORK CITY

(From the Departments of Therapeutics and Medicine, the New York University College of Medicine; the Adult Cardiac Clinic, Third Medical Division, Bellevue Hospital; and the Cardiac Clinic, New York University College of Medicine, New York University-Bellevue Medical Center)

MERCUMATILIN (Cumertilin) was introduced as a new mercurial diuretic in 1950 by the pharmacologic investigations of Blumberg and associates[1] and the clinical studies of Shapiro and Weiner[2] and Rose and his coworkers.[3] Mercumatilin is a coumarin-mercury compound with the formula 8-(2′-methoxy-3′-hydroxy mercuripropyl)-coumarin-3-carboxylic acid-theophylline. Its chemical structure is as follows:



It differs from other currently available mercurial diuretics in that the usual mercuriated allylamide grouping is replaced by an allyl group attached directly to the ring carbon atom of the heterocyclic ring structure. The compound is stable in solution. Shapiro[2] has reported that the coumarin radical has no effect on the prothrombin activity of the blood.

Various studies published since the introduction of mercumatilin have amply established its diuretic properties. Urinary output measurements[2-4] have indicated that the diuresis induced by mercumatilin is equivalent to that achieved by other currently used mercurial diuretics. It is the purpose of this paper to report our experience with mercumatilin over an extended period with particular reference to tolerance, side-effects, development of idiosyncrasy, and comparison with other available mercurial diuretics.

Method

Nineteen patients were observed over periods ranging from a few weeks to three years. Nine patients of the group were treated parenterally for periods of more than four months; four of these were treated from one to three years. Eight patients of the group were on oral therapy for periods of more than four months; seven of these were treated for periods of seven months to three years. Ages ranged from thirty to eighty-six, but most of the patients were in the older age group since the majority of them suffered with hypertensive and/or arteriosclerotic heart disease. There were several rheumatics included in this series, but there were no patients with congenital or luetic heart disease. Most of the patients were in far-advanced congestive failure as indicated by the cardiac classification (criteria of the New York Heart Association). All of the patients were concurrently maintained on one or another digitalis product. Some patients were on a low-salt diet, but the general low economic status of the group precluded the successful maintenance of such dietary restrictions in most cases. A few patients were given ammonium chloride, 3 Gm. daily in divided doses. Most of the patients did not have adjuvant therapy.

Mercumatilin* was administered in doses of 1 to 2 cc. intramuscularly (containing 39 to 78 mg. of mercury) and/or two tablets orally daily (containing 40 mg. of mercury). The drug was administered parenterally in all but one case. Twelve of the patients also received the oral preparation. All of them but one also received the drug parenterally either concurrently or separately. Urinary output measurements were not determined in this series. The clinical response was assessed by the maintenance or lowering of the patient's weight, the improvement in the physical findings associated with congestive failure, and a careful résumé of the patient's complaints, particularly regarding his ability to carry on with his usual activities. Side-effects were determined by questioning the patients regarding immediate and delayed reactions, particularly nausea, vomiting, diarrhea, and muscle cramps. Patients were examined at each clinic visit for stomatitis, gingivitis, skin rashes, and areas of induration and tenderness at previous injection sites. Urine specimens were examined at regular intervals for red blood cells and albumin.

Results

The results of our three-year experience with mercumatilin are summarized in Table I. It is noted that only two of the 18 patients to whom the drug was administered parenterally failed to show a satisfactory response to the drug, an over-all effectiveness of 88.8 per cent. One patient showed no improvement on oral therapy alone. The failure, however, may be more apparent than real. None of these patients had gross signs of congestive failure at the time of treatment, and all three appeared to be well maintained on digitalis alone; the mercurial was added to their regimens in an effort to attain an additional modicum of improvement of symptoms questionably attributed to minimal failure. Sixteen patients showed adequate responses as judged by the criteria set forth above. Control of symptoms and signs of failure was well maintained, and no evidence of tolerance to the drug appeared during the period of observation.

Only five of the 19 patients were given ammonium chloride in an effort to enhance the activity of the mercurial diuretic. Although actual measurements of urinary output were not carried out, it was our impression that this group did not show an increased responsiveness to the mercurial. Rose and his group[3] reported that when meralluride was administered parenterally, the predictability of response (as measured by a 3-pound weight loss in a forty-eight-hour period)

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* The mercumatilin used in this study was supplied through the courtesy of Dr. Samuel M. Gordon of Endo Products, Inc., Richmond Hill, New York.

TABLE I.—CLINICAL

						Mercumatilin				
						Oral		Intramuscular		
Case	Age	Sex	Type of Heart Disease	Class*	Digitalis Dose†	Dose	Period of Administration	Dose	Frequency of Administration	Period of Administration
1	68	F	Arteriosclerotic and hypertensive	III D	0.1 and 0.2	2 tablets daily	4 months	. . .	. . . . .	. . . . .
2	60	M	Arteriosclerotic	III C	0.1 and 0.2	. . . .	. . . .	1 to 2 cc.	Twice weekly to once monthly	1 year
3	65	F	Arteriosclerotic and hypertensive	III C	0.1	2 tablets daily	3 years	1 to 2 cc.	Twice weekly to once every 2 to 3 weeks	3 years
4	62	F	Rheumatic	III D	0.1 and 0.2	2 tablets daily	2 months	1 cc.	Once weekly to once monthly	2 months
5	70	F	Rheumatic	III C	0.05 every 2 days to 0.1 daily	2 tablets daily	9 months	1 to 2 cc.	Once weekly	2 months
6	60	F	Rheumatic	IV D	0.1	2 tablets daily	1 month	2 cc.	Once weekly	1 month
7	86	M	Arteriosclerotic and hypertensive	IV D	Gitaligin 0.25 daily	. . . .	. . . .	2 cc.	Once weekly	1 month
8	68	M	Arteriosclerotic and hypertensive	III C	0.1 to 0.0	. . . .	. . . .	2 cc.	Once every 2 weeks	2 months
9	62	M	Arteriosclerotic	III D	0.1	2 tablets daily	3 months	2 cc.	Twice weekly to once weekly	5 months
10	60	M	Arteriosclerotic	III C	0.1 and 0.2	. . . .	. . . .	2 cc.	Once weekly	1 month
11	81	F	Arteriosclerotic	III C	0.1	2 tablets daily	9 months	1 cc.	Once every 2 to 4 weeks	6 months
12	64	F	Rheumatic and hypertensive	III C	0.1 and 0.2	2 tablets daily	2 years intermittent	1 to 2 cc.	Once every 1 to 3 weeks	2 years intermittent
13	72	F	Arteriosclerotic and hypertensive	III C	Gitaligin 0.5 to 1	2 tablets daily	7 months	2 cc.	Once every 1 to 2 weeks	4 months
14	70	M	Arteriosclerotic and hypertensive	III C	Acetyl Digitoxin 0.1 and 0.2	. . . .	. . . .	2 cc.	3 injections only	. . . . .
15	70	F	Arteriosclerotic, hypertensive, hyperthyroid	III C	Acetyl Digitoxin 0.1	. . . .	. . . .	1 cc.	4 injections only	1½ years
16	38	M	Rheumatic	IV D	Gitaligin 0.5	. . . .	. . . .	1 cc.	1 injection	. . . . .
17	30	F	Rheumatic	III C	0.1 and 0.1; 0.1 to 0.0	2 tablets daily	7½ months	1 to 2 cc.	5 injections	11 months
18	77	M	Arteriosclerotic	IV D	0.1 daily	2 tablets daily	9 months	2 cc.	Once every 1 to 2 weeks	2 years
19	82	F	Arteriosclerotic	III C	Gitaligin, 0.1 daily	. . . .	. . . .	2 cc.	4 injections	. . . . .

* Functional and therapeutic class according to the classification of the New York Heart Association.

† Digitalis dose in Gm.; glycoside dosages in mg.

** As determined by weight, clinical evidence of fluid retention, and subjective complaints.

Adjuvant Therapy	Therapeutic Effect**	Comparison with Mercuhydrin or Other Mercurial	Side-effects	Case
None	No obvious effect; no change in status during period of administration	Not done	None. Known case of gastric ulcer. No apparent gastrointestinal irritation	1
None	Well maintained; satisfactory diuresis on regime and kept edema free	No difference noted comparing occasional intramuscular Mercuhydrin regarding weight maintenance and subjective comfort	None	2
Occasionally ammonium chloride; 1 Gm. 3 times a day	Failure well controlled	Diuresis (weight) equivalent. Preferred mercumatilin tablets to meralluride as less irritating	None. No renal or gastrointestinal toxicity noted over 3-year period	3
None	Status maintained	No difference	None	4
Ammonium chloride 1 Gm., three times a day	Good. Weight and comfort maintained for 6 months on oral therapy following 2 months of intramuscular administration	Same	None	5
None	Status maintained	Same	None	6
None	No further improvement on mercurial regarding weight and comfort	Not helped by weekly Mercuhydrin either	None	7
None	Maintained as previously	Same	None	8
None	Marked improvement; last $2^{1}/_{2}$ months improvement maintained on oral drug alone. Possibly due to spontaneous improvement and amelioration of emotional problem	Not done	None	9
None	Moderate improvement. Maintained weight loss of 4 pounds	Not done	None	10
None	Well maintained. Intermittently appeared controlled by oral therapy alone for $2^{1}/_{2}$ months	Equivalent to Thiomerin used previously	Rare cramps of fingers and toes day after injection similar to Thiomerin	11
Ammonium chloride 1 Gm., three times a day occasionally (no obvious effect)	Well maintained	Equivalent to Thiomerin used previously	Early in treatment given 2 cc. intravenously; episode of chest constriction, faintness, feelings of generalized warmth. Lasted 10 minutes. Attributed to psychogenic factors	12
Ammonium chloride 1 Gm., three times a day	Excellent initially; lost 10 pounds in 2 weeks while ambulatory; went into increasing nonresponsive failure last 6 weeks after $5^{1}/_{2}$ months of good control. Unable to follow-up. Maintained on oral drug alone for as long as 2 months	Appeared superior to Thiomerin	None	13
None	Lost $3^{1}/_{4}$ pounds after first injection. Maintained	No previous mercurial	Slight local soreness and redness after injection only	14
None	Weight loss on each occasion satisfactory (1 to 5 pounds)	Comparable with Salyrgan-Theophylline during same period	None	15
None	Loss of 5 pounds. Markedly improved	Not done	None	16
None	Good response to intramuscular therapy. Oral therapy appeared as adequate substitute for several months at a time. Evaluated by symptomatic relief (dyspnea, exertional and paroxysmal); weight change minimal	Not done	Diarrhea for 1 week after 4 months of oral therapy relieved by cessation of therapy for 4 days. Did not recur after resumption of drug	17
Ammonium chloride Gm. three times a day	Maintained	Equivalent to previous mercaptomerin sodium	None	18
None	No obvious effect	Not done	None	19

dropped from 77.7 to 21.4 per cent when ammonium chloride was omitted, whereas when mercumatilin was administered, the response dropped from 66.6 to only 50 per cent when adjuvant therapy was omitted. They concluded that ammonium chloride was not necessary for the action of mercumatilin. Batterman[5] has more recently observed a large group of patients and has again demonstrated that ammonium chloride was not needed for enhancement of the diuretic activity of mercumatilin.

Twelve patients were given oral mercumatilin at some period, either concurrently with intramuscular therapy or alone. Patients uniformly received two tablets daily, taken together in the morning. In Pollock's series[6] as many as five tablets daily were given without significant untoward effects. An attempt was made to determine whether oral therapy alone could maintain the patient free of symptoms, particularly after he had been "primed" by a series of injections of mercumatilin. This is obviously a difficult evaluation when one takes into account the vagaries of congestive failure, particularly the obscuring factor of acute setbacks of one type or another. Pollock and Pruitt[6] reported that 15 of 20 patients in their series could be maintained free of complaints without the use of parenteral therapy. In our series in four cases or 33 per cent (Cases 5, 9, 11, and 17) it appeared that oral therapy could serve as an adequate substitute for the parenteral administration of the drug for periods of time ranging up to six months.

An opportunity for comparison with other mercurial diuretics was present in 12 of the 19 cases. In seven cases meralluride (Mercuhydrin) was the drug of comparison. In six of these there was no obvious difference in therapeutic response to the parenteral form as judged by subjective complaints and physical examination, although one patient expressed a preference for the oral form of mercumatilin to that of chloromerodin (Neohydrin) as "being less irritating to the stomach." The seventh patient, Case 7, showed no response to either drug. In four patients mercaptomerin sodium (Thiomerin) was the drug of comparison. In one patient mercumatilin appeared slightly superior to mercaptomerin, although the trial was too brief to be conclusive; in the other three instances the therapeutic responses appeared to be comparable. In one patient the comparison drug was mersalyl-sodium (Salyrgan-Theophylline); no therapeutic difference was noted.

Toxic effects were infrequent and mild in character. Only four patients demonstrated side-effects which could be attributed to the medication. Despite the fact that hundreds of intramuscular injections were administered during the three-year period covered in this study, only one patient exhibited a local reaction, which consisted of soreness and redness lasting a few days. On subsequent injections in the same patient no reactions were experienced. Another patient complained occasionally of cramps in the fingers and toes the day after an injection; this occurred also after mercaptomerin sodium injections and was attributed to the rapid changes in the water and electrolyte balance resulting from the profound diuresis.

Case 17 developed diarrhea lasting for one week after four months of continuous oral therapy; this was relieved by the cessation of therapy for four days. Following this the drug was resumed, and no further symptoms were experienced. One patient, a known case of gastric ulcer was inadvertently given oral mercumatilin; she experienced no ill effects.

Urinary studies were done at regular intervals. No significant abnormal findings were noted which had not been present prior to the institution of mercurial therapy.

Case 12 was given 2 cc. of mercumatilin intravenously early in the study; shortly thereafter she developed a sensation of severe chest constriction, faintness, and a feeling of generalized warmth. The episode lasted ten minutes and subsided spontaneously. The drug was subsequently administered over a two-year period (intramuscularly) without unusual responses. At the time the reaction was attributed to psychogenic factors, and in view of the subsequent period of untoward administration by the intramuscular route this impression may have been correct. Nonetheless, it is well to point out that therapy with the mercurial should have been discontinued since reactions of the type described have on rare occasions been the prelude to fatal accidents on subsequent administration of the mercurial. While the intravenous route has usually been the modality involved in such fatal reactions, the intramuscular route must not be considered as entirely without hazard.

Comment

The criteria for judging the value of a mercurial diuretic includes (1) its efficacy, (2) the lack of untoward side-effects, particularly those on the circulation, the kidneys, and the gastrointestinal tract, (3) the development of tolerance, and (4) the development of idiosyncrasy. This report confirms the diuretic efficiency of mercumatilin already established by other investigators. The primary purpose of this study, however, has been to supply data regarding the last three criteria mentioned above.

The lack of cumulative toxicity is well documented by the patients followed in this clinic. The drug was well tolerated, and prolonged use of the oral form caused no significant renal or gastrointestinal difficulties. No skin or muscle irritation was noted after repeated injection therapy. Aside from the questionable anaphylactic-like reaction of one patient, no cardiovascular side-effects were noted. Batterman[5,7] has made a notable contribution to mercurial diuretic therapy by his observation that following the introduction of a new mercurial compound into clinical use, no reports of idiosyncrasy are in evidence until three to five years after the drug has achieved common usage when reports of idiosyncrasy and even fatalities begin to appear as if in epidemic form. Apparently a period of several years of usage of a mercurial diuretic are necessary before a sufficient number of patients become sensitized enough to develop alarming reactions. Even the mildest form of respiratory or shocklike anaphylactoid reaction should be adequate warning to desist from further usage of the drug by any route. If there are symptoms suggestive of developing sensitivity and if mercurial therapy is definitely indicated, the patient should be switched to another drug. To date no reports of idiosyncrasy have been reported with mercumatilin unless Case 12 in our series might be considered as a possible instance; however, the follow-up observations make this unlikely. It should be noted that the "incubation period" for such reactions is just about drawing to a close, and further experience with the drug will be necessary to determine whether or not mercumatilin may be one of the exceptions to the rule. The only other exception is mercaptomerin; to our knowledge no fatal results have been reported with the use of this drug, but again this medication has been in common usage for a relatively short period of time. On the other hand, because of the occasional development of idiosyncrasy, the availability of other well-tolerated mercurial drugs is highly desirable. On the basis of considerable experience already accumulated, it appears that mercumatilin can serve as an adequate replacement for other mercurial drugs to which the patient has developed sensitivity.

There is no evidence from the data in our series or those of others to indicate that tolerance to the diuretic action of mercumatilin occurs with long usage. The drug may be used over long periods of time without diminution of therapeutic effect, provided that the cardiovascular status and electrolyte equilibrium remain unchanged.

Summary

1. Mercumatilin is a safe, effective mercurial diuretic with a high predictability of response. Clinical effectiveness was noted in 88.8 per cent of patients treated parenterally. In a group of patients who no longer could be maintained in compensation by digitalis products alone, adequate control of the signs and symptoms of failure could be achieved by oral medication alone for periods up to six months in 30 per cent of the patients.

2. Oral and parenteral administration of mercumatilin to a series of 19 patients for periods ranging from a few weeks to three years indicated that there were no instances of tolerance to the activity of the drug, cumulative toxicity, or the development of idiosyncrasy.

3. There is evidence that ammonium chloride may not be required to potentiate the diuretic action of mercumatilin.

4. Further observation is necessary to determine whether mercumatilin will eventually produce any anaphylactic reactions such as have been reported with other older mercurial diuretics.

5. Mercumatilin can effectively substitute for other mercurial diuretics presently used.

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The Cytology of Respiratory Secretions in the Management of Allergy

HARRY MARKOW, M.D., BROOKLYN, NEW YORK

(*From the Department of Allergy, Beth-El Hospital*)

EOSINOPHILIA is a characteristic finding in the peripheral blood in allergic diseases and in secretions as well as tissues and organs undergoing allergic reactions. Much of the literature on the cytology of nasal and bronchial secretions consists of reports of the presence or absence of eosinophils, with little attention being paid to the presence in such smears of other cellular elements. In this report the cytology of the nasal and bronchial secretions of a large group of allergic patients was studied as a diagnostic aid as well as a therapeutic guide, with particular attention to the presence of neutrophils as a criterion of the presence of infection.

If we agree that a smear which yields eosinophils is indicative of an allergic reaction and that a neutrophilic smear indicates the presence of infection, and it is generally so agreed, then the cytologic study of nasal or bronchial smears is instrumental in the diagnosis of allergy or infection or both. However, the present method of reporting the results of a cytologic study of secretions leaves much to be desired. For instance, a report of 20 per cent eosinophilia means that 20 cells of each 100 cells observed are eosinophils; yet the fact that 80 cells are not eosinophils indicates the presence of other cellular elements and other pathology in the tissue in addition to the allergic reaction. In our experience these other cells usually are neutrophils.

If the cytology of nasal or bronchial secretions in allergic patients shows the presence of eosinophils or neutrophils or both, there should be a common ground for the interpretation of such findings. In the case of an eosinophilic responses, there is no general agreement as to what degree of eosinophilia constitutes an allergic tissue reaction. Cowie and Jimenez[1] state that a 20 to 25 per cent eosinophilic smear favors allergy. Feinberg[2] states that in allergic rhinitis the nasal secretion may contain eosinophils from 5 to 10 per cent to as high as 100 per cent of all cellular elements. Sobel[3] states that repeated smears showing an excess of 10 per cent eosinophils suggests an allergic tissue reaction. Other authors regard 20 per cent of eosinophils as a criterion for the diagnosis of nasal allergy, although Feinberg[2] feels that a much smaller percentage may be diagnostic of allergy. It is my frank opinion that the presence of eosinophils in smears in any number is a criterion of an allergic reaction in that tissue.

What about the neutrophils which appear in a smear which was originally studied for allergy? An occasional neutrophil may be a normal finding in nasal secretions, especially in older patients. The presence of neutrophils beyond an occasional one suggests the presence of infection. It must be remembered that the neutrophilic response is always greater in number than the eosinophilic response by a margin of about ten to one. Hansel[4] believes that the eosinophil-neutrophil proportion in a smear is an index of the stage of infection and that acute and chronic infections may be differentiated by repeated cytologic examinations of the nasal secretion. To him should go the credit for simplifying the staining of smears and for interpreting the cytologic findings in a new manner. The Hansel stain* is excellent in such a study, requiring about one minute for staining and less than five minutes for the interpretation of the smear by an experienced examiner. Especially valuable has been his method of reporting the cellular elements in a smear as 1 to 4 plus of each element, depending on their concentration in a given smear. By this method none of the elements is ignored.

While Cooke[5] believes that eosinophilia may represent a bacterial sensitization and that such a cellular response may occur in allergic individuals, there are some who are not in accord with this theory. The importance of infection in the production of atopic manifestations and the role played by bacterial allergy in such reactions are still questioned. It cannot be denied that clinically infection is closely related to the appearance of various manifestations of allergy, no matter how distant the manifestations are from the site of infection. Be that as it may, the neutrophils represent a tissue reaction to infection, and when infection complicates allergy, it must be recognized and treated as such.

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* Hansel stain obtained from Lide Laboratories, St. Louis, Missouri.

Cytologic examination of nasal and bronchial secretions is now recognized by the allergist as an important diagnostic procedure. Sobel[3] notes that the presence of eosinophils suggests that allergic treatment should be used, warning that adenotonsillectomies done for the relief of what turns out to be an allergic condition will end in failure. Shuey and Grater[6] find nasal smears a diagnostic aid in asthma with infection since bacterial cultures do not give consistent results. Anderson and Rubin[7] have found cytologic examination of nasal secretions a helpful differentiating measure for the otolaryngologist. On the other hand, Hosen and Carabelle[8] depend on the presence of bacteria in respiratory secretions in association with eosinophils for the determination of infection with allergy as a factor. Other recent reports[9,10] emphasize the difficulty of differentiating or diagnosing infection in the upper respiratory tract but make no mention of cytology of secretions as a diagnostic aid.

It is important to note that the nasal examination alone may not tell the entire story, that the gross appearance of secretions is no indication of the character of the pathologic process, and that in the presence of infection there may be an absence or sparsity of clinical symptoms. For these and other reasons the cytologic study of secretions has been very helpful as a diagnostic and therapeutic aid and should be done in all cases of allergy. Indeed, Ratner[11] is of the opinion that the study of nasal cytology is one of the great advances in the practice of allergy.

Procedure

Primary nasal smears were made in 200 consecutive cases of allergy which were under treatment or being studied prior to treatment. Secretion was usually obtained by blowing the nose into wax paper and transferring this secretion onto a glass slide. When no secretion could thus be obtained, a dry cotton tampon was inserted into each nasal chamber for from five to twenty minutes to stimulate the flow of secretion. When this method was objected to or found painful, sufficient secretion was obtained by inserting a platinum loop into the nasal chambers. This proved to be the method of choice in many cases, and in these smears the cellular elements were unbroken and not distorted. Secretion from sinuses may be obtained by suction, by puncture and irrigation, or by irrigation through the natural sinus orifice.

Sputum smears were made from specimens collected for several hours prior to the examination. All smears were stained with the Hansel stain and examined first under low power and then under oil immersion for the identification of all cellular elements as well as bacteria and epithelial cells.

As a result of the study of the cytology of the smears, the patients were given medications, both oral and nasal. In addition, all patients under treatment continued to receive specific allergic treatment, including dust, vaccine, pollens, and food elimination. Smears were repeated at intervals, depending on the existing symptoms and the result of the previous cytologic study and the therapy.

In the presence of acute or chronic infection, as indicated by the cytology, the patient was instructed to use Biomydrin* nasal spray. Prior to this study clinical trials had proved that this spray gave rapid and satisfactory relief of symptoms. Where there was also a bronchial involvement with cough, expectoration, and wheezing respiration, nasal instillation or a nasal tampon of silver protein solution was used at bedtime in addition to the Biomydrin spray during the day. Where the nasal cytology signified an allergic reaction and the symptoms were limited to the upper respiratory tract, an antihistaminic nasal spray was used; when the lower respiratory tract was involved, Hydryllin was prescribed. When the smear showed a mixed eosinophil-neutrophil response, both Biomydrin and antihistaminic sprays were used.

Oral broad-spectrum antibiotics were prescribed when acute infection was present and especially when the lower respiratory tract was secondarily involved, as evidenced by a neutrophilic response in the sputum. This antibiotic therapy was continued for long intervals in chronic cases with repeated neutrophilic responses in the bronchial smears.

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* Biomydrin supplied by the Nepera Chemical Company, Yonkers, New York.

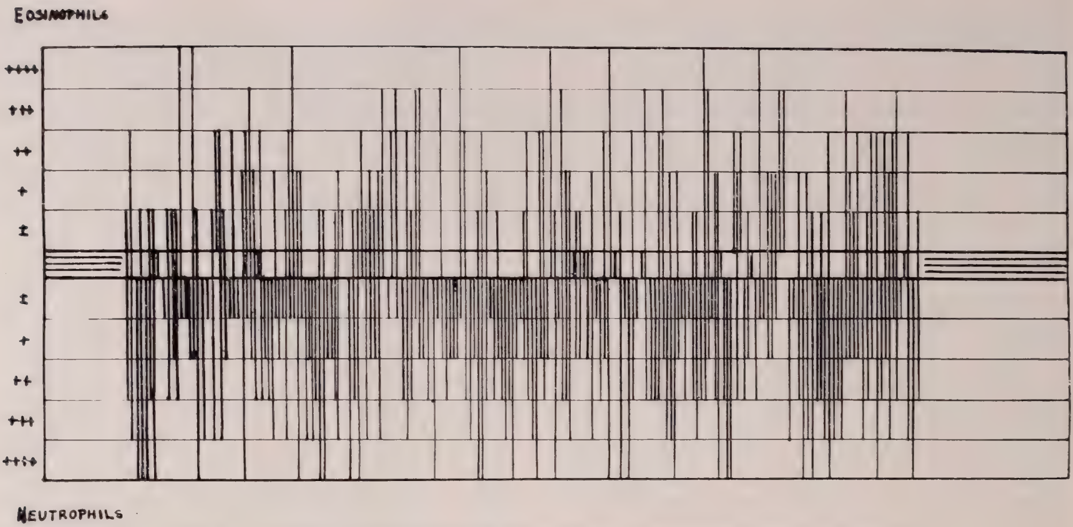

FIG. 1. Cytology of initial nasal smears in 200 consecutive cases of allergy.

Results and Comment

From Fig. 1 it is noted that 88 per cent of these 200 allergic patients showed a neutrophilic response in the nasal secretion which we interpreted as an infective process, although many gave no evidence of this infection either clinically, or on examination, or from the character of the nasal secretion. This indicates that during infections neutrophils may completely replace eosinophils in tissue secretions, and from repeated smears it was noted that as resolution takes place, there is a tendency for the eosinophils to replace the neutrophils. In many cases such infections are not always confirmed by clinical history, and these findings were unexpected, especially in the cutaneous allergies. Pennypacker[12] recently reported a high incidence of neutrophils in nasal smears in a small group of hay fever patients before and after therapy but emphasized only the changes in eosinophils in the smears. In many cases the character of the nasal secretion was not a reliable index of the pathologic process, watery mucoid secretion containing many neutrophils and thick, purulent-like secretion containing many eosinophils.

In Fig. 2 the results of the cytologic study of smears taken during the entire year of 1954 are tabulated monthly. They show that the greatest incidence of neutrophilic responses occurs in the months in which infections are most prevalent and that the eosinophilic responses are more prevalent during the summer months when acute infections are at their lowest ebb. The apparent increase in negative smears is the result of repeated smears taken during the period of continued therapy.

From this study it is obvious that infection is far more prevalent in allergic patients than had hitherto been suspected. This is especially true in the group of cutaneous allergies including the urticarias, eczemas, and angioedemas. In many cases the diagnosis of the presence of infection was determined by the cytologic study, without which such a diagnosis is often difficult even for the experienced otolaryngologist or by x-rays alone. Previously poor results in allergy have been attributed to complicating infections in the tonsils, teeth, or sinuses. Surgery in these complications has met with limited results, and when successful, it was considered proof that infection played a role in the etiology and the chronicity of the allergic manifestation.

From Fig. 1 it will again be noted that in 53 per cent of the 200 cases there was an eosinophilic response either alone or in combination with a neutrophilic response. It is merely necessary to emphasize that such a response has long been accepted as an indication of an allergic tissue reaction and that in such reactions the tissue becomes fertile soil for bacterial invasion with resultant infection. The fact that in only 5 per cent of the cases was there a purely eosinophilic response is a definite indication of the infrequency of uncomplicated allergy, and the report of eo-

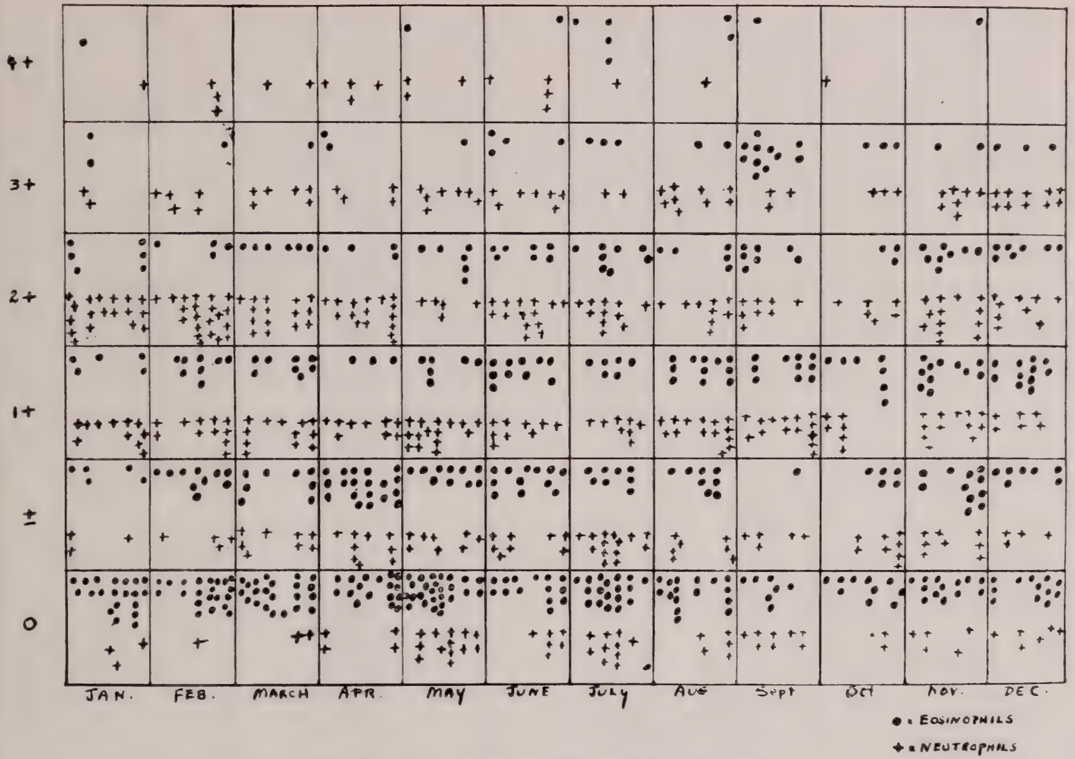

FIG. 2. Results of nasal cytology during 1954.

sinophils alone in a given smear without reporting other cellular elements may lead to a failure in noting the presence of infection. It is important to note that in the past little attention was paid to the presence of cellular elements in nasal smear other than eosinophils, and the presence of the latter was hailed as a criterion for the diagnosis of allergy; yet the success in the treatment of allergic patients may depend on the recognition and treatment of the complicating infection.

Of particular interest is the fact that in only 3 per cent of the 200 cases was the smear negative. This is further evidence of the frequency with which infection complicates allergy. It is also one of the main reasons why the cytology of secretions should be studied in every case of allergy as an aid not only in diagnosis, but also in outlining and evaluating therapy. This is especially true in patients seen for the first time and in those cases of allergy with essentially negative skin tests.

Local nasal therapy with Biomydrin was effective in the treatment of the acute as well as the chronic infections, as measured by clinical reports and by the results of the cytology of the secretion. After such local therapy further smears showed a reduction or disappearance of the neutrophilic response. It was not unusual for neutrophils to be replaced by eosinophils and eosinophils to be replaced by neutrophils repeatedly as a result of using both the Biomydrin spray and an antihistaminic spray, but eventually the situation became stabilized, and the smears became negative, as seen in Fig. 2. Clinically, after the use of Biomydrin spray, the nasal symptoms cleared rapidly with improved nasal ventilation and drainage and often with relief of bronchial symptoms. In asthma with upper respiratory or bronchial infections, antibiotic therapy in addition to local Biomydrin nasal therapy over a long period gave consistent relief. In purely allergic cases iodides and Hydryllin were the drugs of choice.

Of this group of 200 cases the most interesting were the cutaneous allergies, such as urticaria, angioedema, and atopic eczema. It has generally been conceded that these conditions resisted allergic therapy over long periods of treatment and were characterized by chronicity. In studying the cytology of nasal secretions in these cases, it was found that many showed the presence of infection, often without clinical symptoms. In such cases after local nasal treatment with Biomydrin there was a lessening of the itch, an absence of the desire to scratch, and a gradual healing of the lesions. These cases gave a history of resistance to previous long-term therapy. The method by which infection causes dermatologic allergies is not clearly understood.

Cytologic examination of respiratory secretions has been useful to the allergist in the management of the various manifestations of allergy. It should be of decided benefit to the otolaryngologist, particularly where surgery is contemplated. It is most important to diagnose and treat infection in allergy in order to obtain maximum benefits, and in my experience the management of allergic diseases has become less difficult as a result of the cytologic studies because of the high incidence of infection in allergy.

Case Reports

The following cases are reported to illustrate the use of cytologic study in the diagnosis and treatment of allergy. All patients remained under specific therapy, and pharmacotherapy was maintained. The improvement noted was attributed to the added therapy as determined by the cytologic study.

Case 1.—J. H., age six, was asthmatic for four years and treated at the clinic for four years with only fair results. Recently, following a visit to the zoo, he developed daily and nightly asthma attacks which resisted all types of medication. The otolaryngologic report was negative. Nasal secretion following the insertion of dry nasal tampons for twenty minutes was profuse and purulent, and the cytology was 4 plus neutrophils. Argyrol drops for one week gave only partial relief, but prompt and complete relief of asthma followed the use of Biomydrin spray and an oral antibiotic. The spray was continued nightly, and he has been asymptomatic during the past six months.

Case 2.—L. U., age eight, had been treated at the clinic for atopic dermatitis of five years duration. In addition, there was nasal clogging for which she was receiving dust and vaccine therapy. Lamb reacted markedly by direct and indirect skin testing, but she did not respond to the elimination of lamb from the diet. Cytology of nasal secretion revealed 1 plus neutrophils and no eosinophils. Following intensive Biomydrin nasal therapy the skin itch subsided, and the eczema gradually cleared. At present the skin has cleared completely and has been clear for the past year.

Case 3.—D. C., age fifty-nine, applied to the allergy clinic in 1948 for treatment of asthma of short duration. Before completion of the workup he went to Florida for three weeks without any climatic relief. After treatment by a private doctor for five years with little success, he again returned to the clinic with severe, constant asthma of several months duration. Skin tests were essentially negative, and nasal tampons returned thick purulent secretion, the cytology of which was 4 plus neutrophils. In addition to his usual medications, Argyrol nasal drops were instilled three times daily, and the asthmatic symptoms cleared rapidly. He has remained asymptomatic up to the present time with dust and vaccine therapy, as well as oral iodides.

Case 4.—A. K., female, age forty-five, was successfully treated for fifteen years. In the past year swellings of eyes, lips, feet, and other parts of the body did not respond to any therapy. There was no history of penicillin medication. Nasal cytology revealed 2 plus neutrophils with an occasional eosinophil. Daily nasal instillation of Argyrol controlled the swellings except at menstrual period. On April 26 nasal cytology revealed 3 plus neutrophils, and the swellings were more pronounced. With Biomydrin nasal spray the swellings gradually disappeared, and patient has remained asymptomatic to the present time. She still uses Biomydrin spray once daily.

Case 5.—B. B., female, age twenty-four, complained of hand dermatitis of two years duration which failed to respond to dermatologic therapy Skin tests were essentially negative, although the ingestion of delicatessen, fish, and cola drinks aggravated the dermatitis. Patch tests with all household contactants revealed a slight reaction to pine water in a floor wash, but avoidance gave only slight temporary relief. At first cortisone ointment cleared the skin, but gradually she developed a tolerance to this remedy. Although she did not have any nasal complaints, the cytology of the nasal secretion revealed 4 plus neutrophils which was reduced to 2 plus neutrophils by a course of oral antibiotics but with little effect on the dermatitis. Biomydrin spray therapy was started when the smear showed 3 plus neutrophils and was continued several times daily. The lesions gradually cleared, and on April 27 the nasal smear showed that the eosinophils increased while the neutrophils decreased to 1 plus of each element. All medication was then suspended, and there was a recurrence of the skin lesions. On further treatment with Biomydrin and oral antibiotics there was a progressive improvement, and on December 1, 1954, she was free of dermatitis and has remained so to the present time. There were two brief exacerbations following the ingestion of chocolate and the use of an odor spray in the bathroom. During the entire period she was treated with dust and an autogenous nasal vaccine.

CASE 6.—C. O., female, age twenty-five, was successfully treated for hay fever over a period of eight years, during which time she recovered from a severe attack of purpura hemorrhagica. In the past winter she suspended pollen therapy to await the termination of a pregnancy. In November, 1954, she returned with a history of nasal clogging, rhinorrhea, and sneezing of two weeks duration. Because of her allergic background she was treated with antihistamines, without relief, however. Nasal smear cytology showed 3 plus neutrophils and 2 plus eosinophils, and she was treated for nasal infection. On intensive Biomydrin nasal therapy together with Argyrol nose drops at night, symptoms cleared in forty-eight hours without recurrence. The history of allergy in this case does not rule out the presence of infection, and the cytologic study of nasal secretion directed the therapy into the proper channel.

Summary and Conclusions

The cytology of nasal and bronchial secretions in 200 cases of various manifestations of allergy revealed a high incidence of infection, 88 per cent, as evidenced by a neutrophilic response in the nasal smears. In only 3 per cent of these cases was the cytology negative, indicating the frequency of complicating infection.

The cutaneous allergies, urticarial, eczematous, and edematous, generally conceded to be unusually resistant to allergic therapy, responded to treatment as indicated by the cytologic studies of nasal secretions.

Biomydrin nasal spray proved efficacious in the relief of nasal, bronchial, as well as dermatologic allergies, and its prolonged use was followed in many cases by the reduction of the neutrophilic response and clinical improvement.

Nasal cytology should be studied in all cases of allergy, not only for the diagnosis of infection, but also as a guide to therapy.

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Experiment with Isoniazid as a Preventive Measure Against Tuberculosis

After experimental work demonstrating the power of isoniazid to prevent tuberculosis in guinea pigs, investigation of its preventive potential in human beings is being planned through controlled trials in large population groups. A daily dose of isoniazid of a maximum of 5 mg. per K. of body weight, given in the drinking water, is enough to protect guinea pigs completely against a large intraperitoneal dose of tubercle bacilli. Given for a period of ten weeks after a virulent challenge of this type proved sufficient to prevent infection after the drug was discontinued.

During the course of such an isoniazid treated challenge resistance to later virulent infection develops in the animal. This resistance is estimated to be at least the equal of that produced by vaccination with BCG. Since 1952 clinical experience with isoniazid in treating active tuberculous infections of human beings has demonstrated its effectiveness and harmlessness. The question of whether or not its uses can be extended to prevention must be answered by results of the mass studies under consideration. If they indicate the drug's usefulness in this direction, whole populations probably could be treated for as little as a penny a day per person.—*Carroll E. Palmer and Shirley H. Ferebee, Public Health Reports, August, 1955*

Evaluation of N-Methyl-A,A-Methylphenyl Succinimide in the Treatment of Petit Mal Epilepsy

FREDERIC T. ZIMMERMAN, M.D., NEW YORK CITY

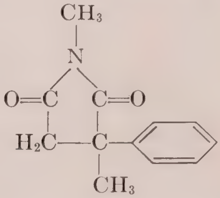
(From the College of Physicians and Surgeons, Columbia University, and the Division of Child Neurology, Neurological Institute of New York)

The present study presents more definitive findings on N-methyl-a,a-methylphenyl succinimide in the treatment of petit mal epilepsy. In a previous preliminary report[1] it was stated that this compound appeared to have a high degree of effectiveness, especially in intractable cases, and was prompt and dramatic in its action. Since then the series of cases under study has grown to 100, and with this expanded series the results have revealed an even higher degree of anticonvulsant activity and much less toxicity than originally reported. This latter factor is no doubt the result of greater experience in administering the drug.

Pharmacology

N-methyl-a,a-methylphenyl succinimide (laboratory number PM 396) was synthesized in the laboratories of Parke, Davis and Company. As was previously reported,[2,3] of all of the experimental drugs tested over a period of years, that group of chemical compounds known as the succinimides has offered the most promise, and one of these compounds, N-methyl-a-phenylsuccinimide (Milontin, PM 334), has already been introduced to the medical profession as an effective drug for the treatment of petit mal attacks.

The chemical structure of N-methyl-a,a-methylphenyl succinimide (PM 396) is as follows:



As reported previously,[1] in animal experiment* a dose of 65 mg. of PM 396 per Kg. of body weight was effective in protecting rats against convulsions induced by pentylenetetrazol (Metrazol), in contrast to a dose of 125 mg. of Milontin and a dose of 500 mg. of trimethadione (Tridione) per Kg. This indicates an effectiveness, gram for gram, approximately twice that of Milontin and eight times that of trimethadione. In animal experimentation, biochemical, hematologic, and urinary findings remained within the normal range on large doses over prolonged periods of time.

Classification of Attacks

In our work to date an empiric classification of petit mal attacks based on direct clinical observation has been used. Petit mal cases were differentiated clinically as follows:

1. Pure petit mal (pyknolepsy)—manifested by transient loss of consciousness only, without loss of postural tone or the presence of concomitant motor phenomena.
2. Mixed petit mal—that form of epilepsy which manifests itself predominantly in transient loss of consciousness and minor motor phenomena, such as clonic movements of the upper extremities.
3. Petit mal combined with other types of seizures.

Electroencephalographic recordings were taken on most of our patients, and in many instances sleep records as well as waking records were obtained.

According to contemporary electroencephalographic interpretation, the classic petit mal attack is reflected in the electroencephalographic recording as a 3 per second spike-and-wave pattern of high voltage and tendency toward paroxysmal burst. Gibbs[4] reports the absence of this classic pattern in only 11 per cent

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* Studies by Dr. Graham Chen, Parke, Davis & Company Laboratories.

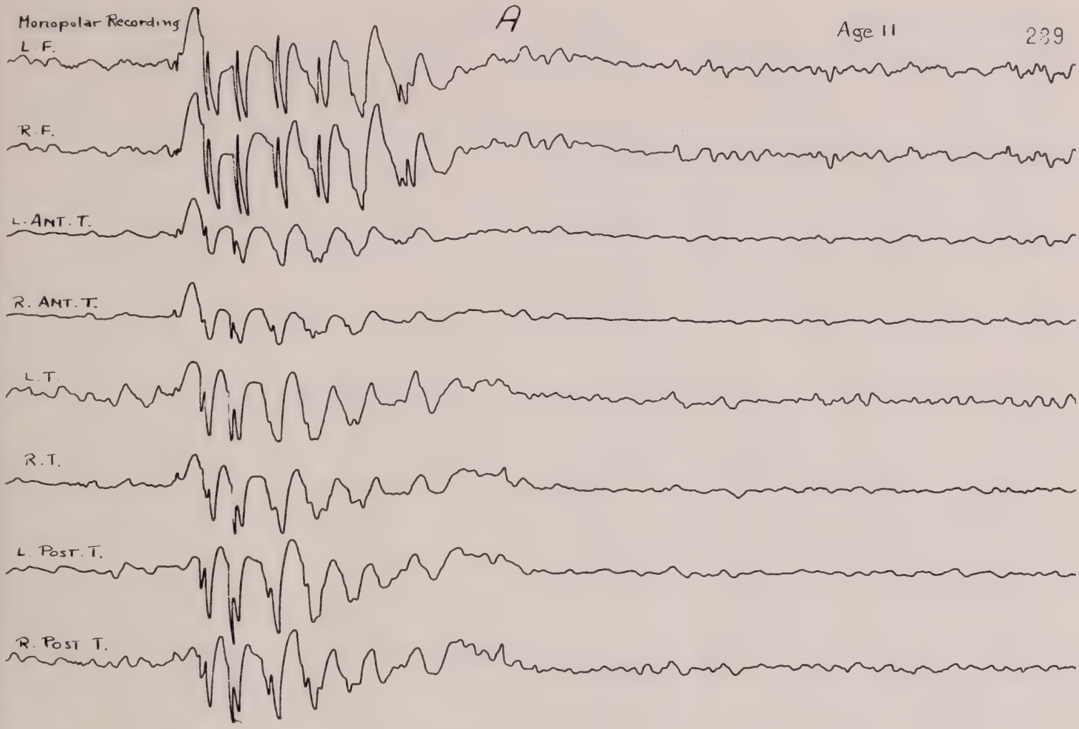

Fig. 1. Recordings from three patients with clinical history of frank petit mal seizures over a period of years. (*A*) Classic 3 per second spike-and-wave, high voltage, synchronous burst pattern. (*B and C on following page*)

of petit mal cases studied. Failure to obtain this spike-and-wave syndrome in 11 per cent of the total caseload is accounted for by Gibbs "by assuming that these are either not true cases of petit mal or cases in which the petit mal discharge occurs so rarely, or is precipitated with such difficulty, that it cannot be obtained readily during an electroencephalographic study."

In our experience a high percentage of spike-and-wave patterns occur in the electroencephalographic recordings. Figure 1 shows samples of recordings taken from three of our patients with a clinical history of frank petit mal seizures over a period of years. Figure 1A shows clearly the classic 3 per second spike-and-wave, high voltage, synchronous burst, characteristic of petit mal electroencephalographic findings, from which a diagnosis of petit mal attacks may be made with some certainty. Figures 1B and 1C, however, do not reveal such clear-cut petit mal signs and serve to demonstrate differences which sometimes exist between electroencephalographic patterns and clinical observation of attack. In this study, when an impression was gained clinically that an attack observed was definitely petit mal, a case was not discarded because of lack of electroencephalographic confirmation, and we continued to use our original empiric classification.

Materials and Methods

All of the 100 cases reported in this study had been treated for several years with a variety of drugs and were considered refractory at the time PM 396 was administered. The number of attacks was recorded by the patient on a daily calendar sheet, the results being transferred to a duplicate sheet for statistical analysis and permanent record each time the patient was examined.

One of the important factors in estimating the effectiveness of anticonvulsant medication is the choice of a standard or baseline with which to compare results. One method for evaluating is to compare the record of convulsive activity of the drug given immediately preceding the experimental drug with the number of seizures remaining at the end of treatment with the experimental drug. Another approach is to use a placebo baseline as the criterion of comparison,[5]

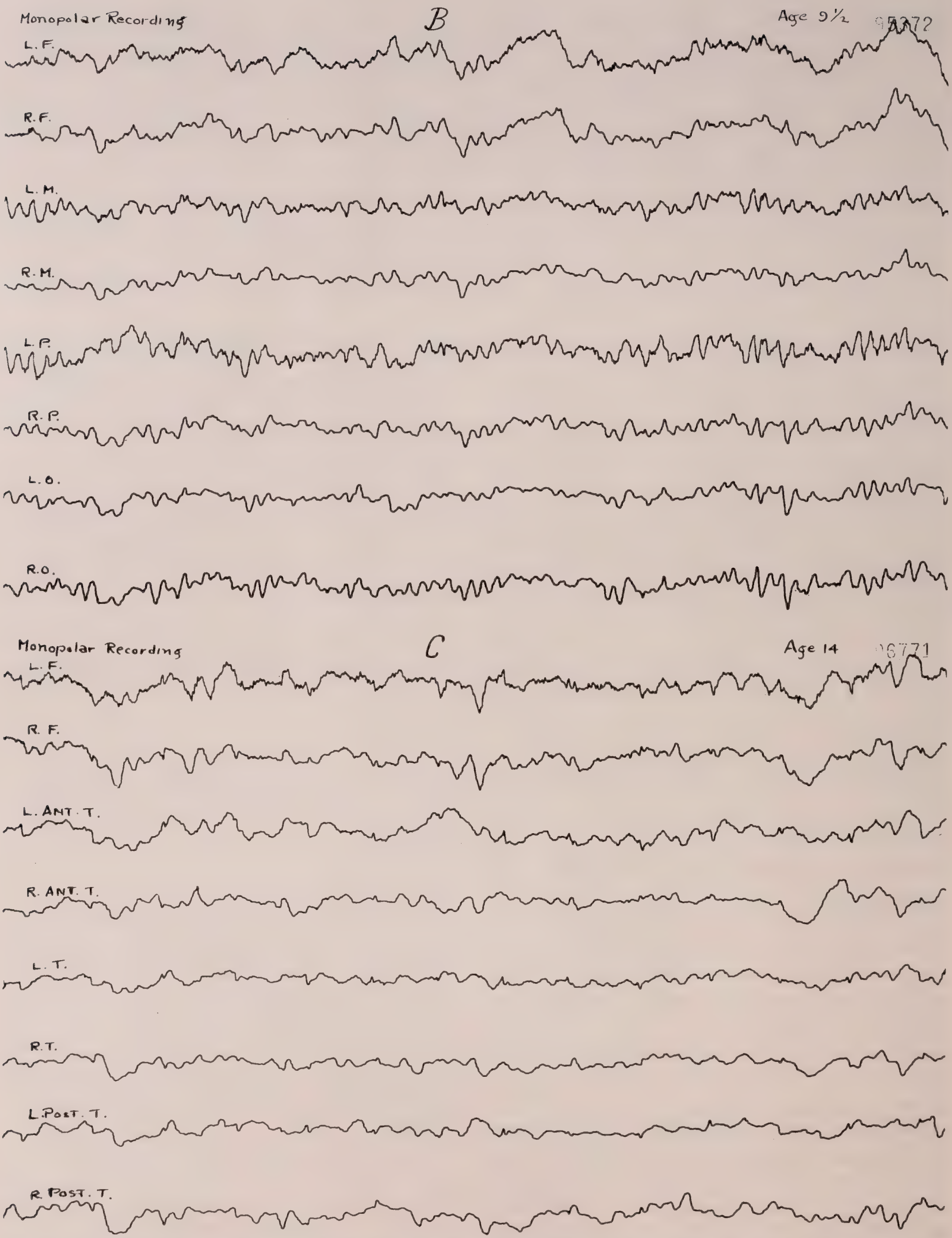
Monopolar Recording
B
Age 9½
95372
L. F.
R. F.
L. M.
R. M.
L. P.
R. P.
L. O.
R. O.
Monopolar Recording
C
Age 14
96771
L. F.
R. F.
L. ANT. T.
R. ANT. T.
L. T.
R. T.
L. POST. T.
R. POST. T.

FIG. 1. (*Continued*) (*B and C*) Recordings do not demonstrate clear-cut petit mal signs but demonstrate differences which may exist between electroencephalographic patterns and clinical observation of attacks.

and a third method is to use a long-term baseline, such as the number of attacks recorded during the first few weeks after a patient initially presented himself for treatment. In some

TABLE I.—EFFECTIVENESS OF PM 396 IN TREATMENT OF INTRACTABLE PETIT MAL CASES USING THE DRUG IMMEDIATELY PRECEDING PM 396 AS A BASELINE

Number of cases	100
Average weekly attacks on previous medication	49
Average weekly attacks on PM 396	28
Per cent reduction in attacks	43
Average duration of treatment (weeks)	22
Average daily dose (Gm.)	1.0
Per cent complete control	31
Per cent practical control (80 to 99% reduction)	13
Per cent partial control (5 to 79% reduction)	38
Per cent no effect (0 to 4% reduction)	13
Per cent worse	5
Per cent toxic	11

TABLE II.—EFFECTIVENESS OF PM 396 IN TREATMENT OF INTRACTABLE PETIT MAL CASES USING PREVIOUSLY ADMINISTERED DRUG AND PLACEBO AS A BASELINE ON IDENTICAL CASES

	Previous Drug	Placebo
Number of cases	41	41
Average weekly attacks before PM 396	53	90
Average weekly attacks on PM 396	29	33
Per cent reduction in attacks	45	63
Average duration of treatment (weeks)	16	8
Average daily dose (Gm.)	1.0	1.1
Per cent complete control	27	32
Per cent practical control (80 to 99%)	10	17
Per cent partial control (5 to 79%)	38	34
Per cent no effect (0 to 4%)	19	7
Per cent worse	6	10
Per cent toxic	12	10

cases this third baseline may be several years removed from the experimental drug being tested.

Results

The results with PM 396 in this study were assessed by using each of the above baselines as a criterion of success. Table I shows the effectiveness of PM 396 in intractable cases of petit mal epilepsy when the record of convulsive activity of the drug immediately preceding PM 396 is used as a baseline. Since it has been our experience that regardless of the type of medication given, patients seem to improve if treatment is extended over a period of years, we are aware that by using so recent a baseline following years of therapy, there is a tendency to minimize results obtained with PM 396. To some extent, data are also vitiated by eliminating from the PM 396 study all cases completely controlled by previous drugs and by including intractable cases only. It is proposed, therefore, that findings presented herein constitute a conservative appraisal of the drug.

Table I indicates that the average number of weekly attacks was reduced from 49 to 28 following treatment with PM 396 or a reduction in attacks of 43 per cent over the previous treatment rate. Complete control (absence of attacks for at least four consecutive weeks) was obtained in 31 per cent of the patients treated. Practical control (80 to 99 per cent reduction in attacks) was secured in 13 per cent. If the categories of complete control and practical control are combined, i.e., where at least 80 per cent control was recorded, it may be seen from Table I that 44 per cent of the patients in our series reached this high level of success. Partial control (5 to 79 per cent reduction in attacks) was reached in 38 per cent of the cases.

If the broad category of partial control (5 to 79 per cent reduction in seizures) is broken down further, results show that 58 per cent of patients in this classification had a reduction in attacks of at least 50 per cent beyond that of the previously administered drug following treatment with PM 396, and 83 per cent had a reduction of more than 30 per cent beyond that of the previously given medication. Eighty-two per cent of the entire caseload received some help from PM 396 therapy, and 18 per cent were unchanged or worse at the end of the treatment period.

Forty-one of the patients in this series have been under treatment between three and four years with a variety of drugs since their initial visit. One and one-half years ago they were taken off all medication and given a placebo in order to establish a new baseline after treatment had been given for some time. We also considered the present results with PM 396 using this placebo baseline for these particular patients, as well as in terms of the drug previously administered immediately before PM 396 was given. Results of this aspect of our study are shown in Table II.

It is apparent from Table II that the number of attacks per week (90) using a placebo baseline of one and one-half years ago is much higher than when the drug immediately preceding PM 396 is used as a basis for comparison (53). With a placebo baseline 32 per cent of the patients were completely controlled, whereas 17 per cent reached the level of practical control and 34 per cent received some help from PM 396 therapy, ranging from 5 to 79 per cent reduction in attacks.

When the drug administered previous to PM 396 is used as a criterion of success, the results are very similar to those obtained for our larger group of 100 patients. Complete control was reached by 27 per cent of the patients, practical

TABLE III.—EFFECTIVENESS OF PM 396 IN TREATMENT OF INTRACTABLE PETIT MAL CASES USING LONG-RANGE BASELINE

Number of cases	41
Average weekly attacks before PM 396	89
Average weekly attacks on PM 396	31
Per cent reduction in attacks	65
Average duration of treatment (weeks)	16
Average daily dose (Gm.)	1.0
Per cent complete control	31
Per cent practical control (80 to 99%)	19
Per cent partial control (5 to 79%)	36
Per cent no effect (0 to 4%)	8
Per cent worse	6
Per cent toxic	10

TABLE IV.—CASES REACHING LEVELS OF PRACTICAL CONTROL AND COMPLETE CONTROL ON PM 396 MEDICATION USING DIFFERENT BASELINES

	Drug Immediately Preceding PM 396		Placebo Baseline		Original Baseline	
Complete control	31%	44%	32%	49%	31%	50%
Practical control	13%		17%		19%	

TABLE V.—RESULTS OF TREATMENT WITH PM 396 FOR 3 PATIENTS IN FIG. 1

	Fig. 1A	Fig. 1B	Fig. 1C
Average weekly attacks on previous medication	158	7	11
Average weekly attacks on PM 396	40	2	5
Per cent reduction in attacks	74%	71%	55%
Classification	Partial control	Partial control	Partial control
Average daily dose (Gm.)	1.8	0.9	1.2
Average duration of treatment (weeks)	9	4	4

control by 10 per cent, and partial control by 38 per cent. This shows a total effectiveness of 75 per cent for the group as a whole and leaves 25 per cent of the caseload unchanged or worse.

We also used as a baseline the record of convulsive activity during the first month after the patients had presented themselves initially for treatment, which was between three and four years ago. Table III gives results of PM 396 when this long-range baseline is introduced.

Thirty-one per cent of the patients treated with PM 396 fall into the category of complete control following therapy when a long-term baseline is used; 19 per cent appear in the classification of practical control, and 36 per cent had partial control of attacks. This gives a total of 86 per cent of the group who received some benefit from PM 396. No change was noted in 8 per cent of the patients, and in 6 per cent the number of attacks increased under PM 396 medication.

It is of interest that with an increase in time more patients in our series achieve the levels of practical control (80 to 99 per cent reduction in attacks) and complete control (absence of attacks for at least four consecutive weeks). Table IV shows results of medication for these two classifications using different baselines.

Table IV indicates that as the interval between baseline and treatment with PM 396 becomes wider, percentages of practical control and complete control rise. An increase of 6 per cent is reflected in the combined categories of complete and practical control, i.e., the number of patients increased from 44 to 50 per cent over the three to four-year period.

We have included three baselines in estimating the effectiveness of PM 396 in the treatment of petit mal attacks so that investigators may be aware of their importance in judging the results of convulsive medication. In our own work we prefer to use the most recent baseline, namely, comparison with the drug given immediately before the administration of the experimental drug being tested, because it is the most rigid criterion which can be introduced. When this most rigid criterion is applied in the case of PM 396 (Table I), this drug still makes an excellent showing, and we believe, therefore, that it is a valuable addition to the growing armamentarium of petit mal compounds.

Results of PM 396 medication for the three patients whose electroencephalographic recordings are included in Fig. 1 are given in Table V.

All of these cases in Fig. 1 were partially controlled on PM 396, attacks being reduced from 55 to 74 per cent of the previous rate. In Case A the electroencephalographic pattern clearly revealed the 3 per second spike-and-wave pattern of petit mal, but Cases B and C did not reflect it. Nevertheless, PM 396 benefited all of these cases, regardless of the presence or absence of the spike-and-wave pattern in the electroencephalogram.

Dosage

Table I shows that the average daily dose in the series of 100 intractable petit mal cases was 1 Gm. in units of 0.3 Gm. or from three to four capsules per day. The range of effective dosage was wide, varying from 0.3 to 2.7 Gm. per day or from one to nine capsules a day. In general, however, a dosage level much nearer to the average of 1 Gm. per day produced optimal results.

Medication was administered by giving an initial dose of 0.3 Gm. daily for one week and

TABLE VI.—INCIDENCE AND NATURE OF TOXIC SIGNS DURING TREATMENT WITH PM 396

Toxic Sign	Number of Cases
Rash	4
Ataxia, dizziness	4
Drowsiness	4
Vomiting	3
Loss of appetite	2
Loss of weight	1
Periorbital hyperemia	1

increasing the dosage 0.3 Gm. each week until an optimal dose was reached or until attacks were controlled. As was reported previously,[1] with the exception of drug rash all toxic signs could usually be eliminated by reducing the dose to a lower level. In the case of drug rash the medication was discontinued entirely.

Toxic Signs

Table I indicates that toxic signs appeared in 11 per cent of the patients treated with PM 396. This figure is considerably lower than that published one year ago when 20 per cent of the initial cases showed toxicity following treatment with the drug. The lower figure at present is accounted for by greater experience with PM 396 in adjusting the individual dosage level and in determining the optimal dose for each patient.

Table VI gives the incidence and nature of toxic signs during treatment with PM 396.

Rash, ataxia, dizziness, and drowsiness are each seen in four cases, although they were sometimes combined in the same patient. The remaining signs, especially vomiting, were more apt to occur on relatively high doses and could be reduced or eliminated entirely by a reduction in dosage level.

To date no blood dyscrasias have been noted, and all urines have remained within normal limits.

Summary

N-methyl-a,a-methylphenyl succinimide (PM 396) has been found to be an excellent drug in the treatment of intractable cases of petit mal epilepsy. It is the drug of choice to be used when milder drugs fail. The toxic side-effects are greater than with Milontin, but the differences are essentially quantitative rather than qualitative, and to date the therapeutic gain far exceeds the therapeutic price.

11 EAST 68TH STREET

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An Evaluation of Results in 71 Transorbital Lobotomy Cases Five Years Postoperative

After a five-year controlled study to evaluate results of transorbital lobotomy in 71 patients (83 per cent with schizophrenia) Dr. Charles W. Powell, Weston State Hospital, Weston, West Virginia, concludes that while this type of operation may produce good results in selected cases it should be undertaken only after the most careful consideration. Apparently there is a crucial period in the course of the disease when the operation should be performed. This period, admittedly difficult to determine, occurs when the stage of chronicity has become such that the operation appears justified but before the deterioration has progressed to such an extent that the procedure is valueless. On the basis of the five-year study in which the TOL cases were compared with 71 controls, those operated on have cost both patients and institution more than those conservatively treated, both on the basis of outlay and results. More of the controls reached extramural status than the TOL cases.—*West Virginia Medical Journal, September, 1955*

The Use of Autogenous Acellular Bacterial Antigen Complex in the Treatment of Recurrent Respiratory Infections and Asthma in Infants and Children

MAURICE A. SHINEFIELD, M.D., F.A.A.P., PATERSON, NEW JERSEY

PEDIATRICIANS and allergists are more and more impressed with the incidence of respiratory infections in infancy and early childhood and the serious consequences of such repeated infections in children.[1] Other observers have documented the impression that chronic upper respiratory infections are an important cause of the development of serious asthma in children. Chobot and his colleagues[2] point out that infection was associated with other causes in 87 per cent of 400 asthmatic children they studied. In these same 400 asthmatic children they point out that the most frequent single cause of asthma was infection; they also noted that in 30 per cent of the children it was the sole cause, whereas inhalant allergy was the sole cause in only 10 per cent. They state that "infection as a cause of asthma in infancy has been underestimated."

Stevens[3] also has emphasized that bacterial infection is an important and common cause of asthma in children. He has treated many children who gave a history of chronic recurrent respiratory infections preceding the onset of severe typical asthmatic attacks after the age of three years. He reports favorable results in the treatment of these children with autogenous bacterial filtrates.

In view of the increasing number of reports that chronic recurrent upper respiratory infections in infants and children are in themselves seriously disabling and that many acute specific infections of infancy and young children, such as pertussis, measles, scarlatina, pneumonia, influenza, and acute pyogenic infections of the respiratory tract and ears, are factors promoting bacterial allergy, it was felt that a new acellular bacterial antigen complex prepared according to the method of Hoffmann[4] should prove more effective in the treatment of these children than vaccines or bacterial filtrates.

Previous to 1946 the children with chronic recurrent respiratory infections and asthma seen in the private pediatric practice of the author were treated with commercial respiratory vaccines, antibiotics, sulfonamides, antihistaminic drugs, and other available medication. The results were not satisfactory, and a decision was reached to treat these children with autogenous antigens.

A new acellular bacterial antigen complex which had given favorable results in preliminary trials was used. Since the author had no personal experience with the use of this new antigen, a compromise was reached by commencing a preliminary study in which autogenous vaccines and autogenous bacterial antigen complex should be used. Both antigens were to be prepared from the identical organisms as those isolated from foci of infection in the respective children to be treated.

For the evaluation of the effectiveness of the new acellular bacterial antigen complex it was decided to treat three groups of children: (1) one group with commercial respiratory vaccines, (2) another group with alternate injections of autogenous vaccines and the new autogenous bacterial antigen complex, and (3) a third group treated solely with the new autogenous acellular bacterial antigen complex. In 1946 this preliminary study was commenced.

Preliminary Study and Comparison of Results with Different Bacterial Antigens

MATERIALS.—The commercial respiratory vaccines used were as follows:

1. Combined bacterial vaccine (Van Cott), Parke, Davis & Co., Detroit, Michigan.
2. Influenza (Serobacterin Vaccine Mixed), Sharp & Dohme, Philadelphia, Pennsylvania.
3. Catarrhalis influenza vaccine, Lederle Laboratories, Inc., Pearl River, New York.

The autogenous vaccines were prepared in the routine manner.

TABLE I.—Preliminary Evaluation and Comparative Results in 77 Children

Antigen	Number of Cases	Average Treatment (Months)	Results: No Improvement (Per Cent)	Results: Improved (Per Cent)	Results: Symptom-free (Per Cent)
Commercial respiratory vaccines	37	16.6	68	13	19
Autogenous vaccines and autogenous bacterial antigen complex	24	7.0	50	21	29
Autogenous bacterial antigen complex	16	3.5	19	25	56

The autogenous acellular bacterial antigen complex was prepared according to the method of Hoffmann.[4] The new bacterial antigen complex differs from a vaccine in that it is an acellular, crystal clear solution of essential antigenic substances. As the name implies, the antigens produced by this method are complex in nature. They combine the soluble specific and protective substances with such antibody-producing factors as erythrogenic toxin, hemolysin, leukocidin, fibrinolysin, dermonecrotic, and such other toxins as may be produced by individual organisms in vitro and in vivo.

The process of producing the new bacterial antigen complex prevents denaturization, deterioration, and subsequent loss of valuable antigenic properties, which may occur in the production of vaccines from the use of heat or chemicals. The Hoffmann process eliminates the bacterial cells entirely and retains the essential specific and protective substances of the bacterial cell, such as polysaccharides in pneumococci, proteins such as the M substance in hemolytic streptococci, and the Boivin antigens present in gram-negative bacteria.

This method, involving coprecipitation of polysaccharides, proteins, and toxins of bacterial filtrates, permits the separation of these combined substances as a dry tan or light brown powder, which, suspended in a phosphate buffer containing 1:10,000 thimerosal (Merthiolate, Lilly), results in a crystal clear solution of antigenic substances adjusted to a concentration of 120 micrograms of total nitrogen per ml. and to a pH of 7.0. After sterility tests this acellular bacterial antigen complex is ready for use. Standardization and reproduction of stable, uniform antigenic material is possible. The dry powder may be stocked, and autogenous or stock antigens can be easily reproduced if necessary.

Results.—In the group of children treated with commercial respiratory vaccines, improvement followed in 32 per cent of the cases treated over an average period of 16.6 months. One, two, or all three of the commercial mixed vaccines previously listed were used.

In the group treated with alternate injections of autogenous vaccines and the new autogenous acellular bacterial antigen complex, both prepared from the same cultures, improvement followed in 50 per cent of the cases treated for an average period of seven months, while in the group in whom the new autogenous acellular bacterial antigen complex was used alone for only a period of three and one-half months, improvement was noted in 81 per cent of the cases (Table I).

Scope of Present Report

Encouraged by the above data indicating the superiority of the new acellular autogenous bacterial antigen complex, it was decided to continue this study with the object of enlarging on the number of cases treated with the new bacterial antigen complex, extending the period of observation, and considering seasonal influence.

The following report of the treatment of 110 children with chronic persistent upper respiratory infections serves to emphasize the complications and serious consequences of repeated infections in children. Of this group 33 or 30 per cent developed severe bronchial asthma. Often, observations on children are not sufficient to allow one observer to follow these effects. This report is the more valuable for the reason of its length of observation of these children, which extends over a period of nine years. The fact that 75 per cent of these children were between the ages of birth and five years of age when first seen, a period which represents a notably critical stage in the acquisition of immunity or hypersensitiveness, makes this investigation interesting from the point of view of desensitization and of protective immunization.

Of the 110 children treated with the new autogenous bacterial antigen complex, 44 were females and 66 males. The ages at which treatment with the new autogenous bacterial antigen complex

TABLE II.—AGE INCIDENCE OF 110 CHILDREN TREATED WITH AUTOGENOUS BACTERIAL ANTIGEN COMPLEX

Age	Number
Age when first seen	
1 week to 1 year	48
1 year to 3 years	22
3 years to 5 years	13
5 years to 12 years	27
Total	110
Age when autogenous bacterial antigen complex therapy commenced	
13 months to 2 years	8
2 years to 5 years	25
5 years to 7 years	42
7 years to 15 years	35
Total	110
Age when 33 of 110 children with asthma commenced autogenous bacterial antigen complex therapy	
15 months to 2 years	4
2 years to 5 years	5
5 years to 7 years	11
7 years to 15 years	13
Total	33

was begun in this group varied from thirteen months to fifteen years. The individual age groupings are given in Table II.

The conditions existing in these children were classified as "severe" in 82 instances and "moderately severe" in 28. Thirty-three or 30 per cent were asthmatic. The pathology present in 67 of the entire group was believed to be due to infection alone, and in 43 cases infection was complicated by nonbacterial allergies, such as pollens, grasses, food, etc. Seventy of these children had been unsuccessfully treated with commercial respiratory vaccines.

Technic of Treatment with Autogenous Bacterial Antigen Complex

The new autogenous bacterial antigen complex was prepared according to the method of Hoffmann[4] from organisms isolated from various foci of infection and exudates in the respective children, such as nose, throat, tonsils, and sputum. The organisms isolated, in the order of frequency, were as follows: pneumococci 71, hemolytic streptococci 67, Staphylococcus aureus (coagulase positive) 36, Neisseria catarrhalis 30, Streptococcus viridans 23, coliform bacilli 23, Hemophilus influenzae 3, and nonhemolytic streptococci 3. It is interesting to note that Stevens[3] reports the bacteria he commonly found in his cultures of such children to be similar in occurrence.

TABLE III.—RESULTS OF TREATMENT WITH AUTOGENOUS BACTERIAL ANTIGEN COMPLEX (COMPARISON OF RESULTS IN "INFECTIOUS" AND "INFECTIOUS PLUS OTHER ALLERGIES" GROUPS)

	Infectious	Infectious plus Other Allergies
Number of cases	67	43
Results		
No improvement		
Number	4	5
Per cent	6	11.6
Improved		
Number	9	11
Per cent	13.4	25.6
Symptom-free		
Number	54	27
Per cent	80.6	62.8

The routine of treatment consisted of subcutaneous injections twice weekly for four weeks, once a week for six weeks, every two weeks for one month, then once monthly if necessary. The dosage commenced at 0.025 ml. and was increased gradually in some instances to 0.15 ml. In the majority of the children the maximum dose was 0.035 ml.

Results of Treatment with Autogenous Bacterial Antigen Complex

The term "improved," as used in the following tables, indicates abatement of acute conditions, such as dyspnea, wheezing, coughing, sneezing, and a greatly reduced incidence of respiratory infections, which, if they occurred, were of less intensity and shorter duration.

No improvement was noted in nine cases or 8.2 per cent; 20 or 18.2 per cent showed improvement, and 81 or 73.6 per cent became symptom-free.

When consideration is given to the etiology of the disease conditions existing in these children, they may be grouped as "infectious" or "infectious plus other allergies." The percentage of symptom-free patients in the infectious group was 80.6 per cent and in the infectious plus other allergies group 62.8 per cent (Table III). As may be expected, the percentage of cases showing no improvement is nearly twice as great in the group of children in which infection was complicated by nonbacterial allergies.

As previously mentioned, 33 of the 110 children had developed severe bronchial asthma. Table IV considers the etiology present in the asthmatic children and shows that a larger percentage, 81.2 per cent of those classified as "infectious," became symptom-free as compared to only 64.7 per cent of the group in which infection

TABLE IV.—Results of Treatment with Autogenous Bacterial Antigen Complex in 33 Asthmatic Children in "Infectious" and "Infectious plus Other Allergies" Group

	Infectious	Infectious plus Other Allergies
Number of cases	16	17
Results		
No improvement		
Number	1	1
Per cent	6.3	5.9
Improved		
Number	2	5
Per cent	12.5	29.4
Symptom-free		
Number	13	11
Per cent	81.2	64.7

was complicated by other allergies.

The high percentage of improvement obtained in the 33 asthmatic children after treatment with autogenous bacterial antigen complex indicates that infection represented the major etiologic factor. This is further substantiated by the fact that the severity of the symptoms existing in the entire group of 110 children previous to treatment with the new autogenous bacterial antigen complex had been greatly aggravated during the fall and winter months when respiratory infections are more frequent and more severe.

Eighty-six children or 78 per cent were started on autogenous bacterial antigen complex therapy during the fall and winter months, while only 24 or 21.9 per cent commenced during the spring and summer months (Table V). That seasonal influences are not responsible for spontaneous recovery is indicated by these facts. Sixty-five or 59 per cent of the cases commenced during the fall and winter successfully terminated their treatment with autogenous bacterial antigen complex before the arrival of the spring or summer months. The majority of the 110 children received injections for from three to four months. A few of the patients continued with monthly injections even though symptom-free. These were cases where a history of longstanding, severe conditions indicated monthly injections as a precautionary measure. The average period of treatment with autogenous bacterial antigen complex was 7.8 months. This includes the patients who continued with monthly injections.

Seventy of the 110 children had been previously unsuccessfully treated with commercial mixed vaccines for prolonged periods of time, some of them for over three years. This also eliminates the factor of spontaneous recovery due to seasonal influence.

Case Reports

Case 1.—When first seen in 1943, this four-year-old male had a history of severe recurrent respiratory infections since infancy. He also had had ear infections, bronchitis, scarlet fever, and rheumatic fever. Electrocardiograms taken at three years of age showed sinus tachycardia and sinus arrhythmia (respiratory). He was also sensitive to numerous pollens, inhalants, and foods.

He had his tonsils and adenoids removed when he was three and one-half years old and again at age seven. He was hospitalized three times before the age of five with severe respiratory infections and asthma.

At the age of four he was started on commercial respiratory vaccines and received 12 injections over a period of three months. This therapy was discontinued because of exacerbation of symptoms following each injection. He also received pollen injections and was placed on an elimination diet. After three months of such treatment no improvement resulted.

In January, 1946, the child was placed on autogenous bacterial antigen complex therapy. The organisms isolated from nose and throat were pneumococci, hemolytic streptococci, and Str. viridans. On this autogenous preparation the patient improved rapidly. Treatment was continued for twenty-one months, and during the last seven months his inoculations were given once monthly.

This child is now sixteen years old and has been in excellent health for the past nine years. During this period he has been seen periodically for routine check. The incidence of respiratory infections is rare. Any colds contracted are of very short

TABLE V.—Evaluation of Results with Autogenous Bacterial Antigen Complex, Relation to Seasonal Influence

		Treatment Commenced		Treatment Terminated	
Season	Months	Number	Per Cent	Number	Per Cent
Fall	Oct., Nov., Dec.	48	43.7	31	28.1
Winter	Jan., Feb., Mar.	38	34.4	34	30.9
Spring.	Apr., May, June	19	16.4	30	27.3
Summer	July, Aug., Sept.	5	5.5	15	13.7
Fall and winter months combined		86	78.1	65	58.0
Spring and summer months combined		24	21.9	45	41.0

duration with no resultant asthma. He is still on a restricted diet, and seasonally he receives injections of pollen extracts.

CASE 2.—This patient developed severe upper respiratory infections at the age of eight months. She was hospitalized in a critical condition at the age of eleven months for acute laryngotracheitis and was placed on antibiotic therapy. She continued to have constant colds, tonsillitis, and pharyngitis.

At the age of one year she was placed on commercial respiratory vaccines (numbers 1, 2, and 3, previously mentioned, were used). She received 22 injections over a period of six months without any improvement.

At the age of one and one-half years (October, 1947) an autogenous bacterial antigen complex preparation was made from cultures taken from her nose and throat. These cultures contained virulent pneumococci and Str. viridans. She received 15 injections over a period of eight months. Following the first injection of her autogenous bacterial antigen complex, the child showed rapid, steady improvement. She had no recurrence of her respiratory infections and soon became symptom-free. She has appeared for routine check periodically until the present time. She is now nine and one-half years old.

CASE 3.—At the age of five, when this female child was first seen, she had a longstanding history of recurrent severe colds, tonsillitis, and sinusitis. She had lobar pneumonia at age seven. Commercial respiratory vaccine therapy was not attempted.

When she was eight years old (1946), an autogenous bacterial antigen complex was prepared. The organisms isolated were pneumococci and hemolytic streptococci. She received 39 injections of her autogenous preparation over a period of eight months. During this therapy there was rapid, steady improvement. The child had a marked reduction in her recurrent respiratory infections. As treatment progressed, she became symptom-free and has remained essentially symptom-free since 1947 when she received her last injection of autogenous bacterial antigen complex. In 1951 when she appeared for a routine check, her mother commented that the child had been in "wonderful health" and that if she picks up a cold, it is of short duration and intensity and not accompanied by a rise in temperature. At this time the patient was thirteen years old. A recent follow-up reveals that she is still symptom-free.

CASE 4.—This four-year-old male child gave a longstanding history of respiratory infections, ear infections, tonsillitis, and bronchitis. He had been hospitalized at the age of three because of severe bronchitis. He was treated over a period of three years with commercial respiratory vaccines (numbers 1, 2, and 3 mentioned above). During these years severe upper respiratory infections continued unabated. He had a secondary tonsillectomy and adenoidectomy done, and radium was applied to his posterior nasopharynx; these treatments did not produce any improvement. This child was also allergic to ragweed and grasses.

At the age of seven (1946) autogenous bacterial antigen complex preparations were made from cultures taken from nose and throat. The organisms isolated were pneumococci, Str. viridans, and staphylococci (coagulase positive). He was treated over the next two years with these autogenous bacterial antigen complex preparations. During this period he also received injections for his nonbacterial allergies. He rapidly became symptom-free and remained so after the injections were stopped.

CASE 5.—This child began to have severe upper respiratory infections at the age of three months. He was born prematurely one month. He had a history of constant colds, cough, and tonsillitis. He was hospitalized for a severe sore throat and given antibiotics. Because he continued to have severe respiratory infections at the age of nineteen months, he was started on commercial respiratory vaccines (numbers 1, 2, and 3). These were continued for five months without any improvement.

When he was two years of age (1947), autogenous bacterial antigen complex preparations were made. Organisms isolated from cultures were hemolytic streptococci, pneumococci, and Staph. aureus (coagulase positive). He received 26 injections over a seven-month period and became symptom-free. At the age of three and one-half years the patient's tonsils and adenoids were removed.

This child is seen routinely. He has not had any injections since 1948 and has remained symptom-free.

CASE 6.—This two-year-old male had a history of severe respiratory infections since infancy. He had had pneumonia and had frequent attacks of bronchitis and tonsillitis, severe asthma with his bronchitis, and nonbacterial allergies such as ragweed, dust, and foods.

He was placed on commercial respiratory vaccines (numbers 1 and 2) for three months, and his tonsils and adenoids were removed. There was some improvement following this therapy. This vaccine treatment was again given at the age of three and one-half because of his recurrent upper respiratory infections and wheezing. He was also given ragweed and dust extracts and placed on a restricted diet. In spite of this treatment his asthma became worse, and he was hospitalized at the age of four years and nine months.

At the age of five autogenous bacterial antigen complex preparations were made from nose and throat cultures. These cultures contained hemolytic streptococci, Staph. aureus (coagulase positive), and also N. catarrhalis. This patient received 13 injections over a period of two months. He had a severe asthmatic attack during this period, two weeks after an injection with his autogenous preparations.

This child came from a family with histories of asthma, and his sister had bronchial asthma.

No benefit was derived from autogenous bacterial antigen complex therapy.

The family moved to Arizona. On their return (during July) to Paterson, New Jersey, which is about 16 miles from New York City, he had another severe attack of asthma. On his return to Arizona he recovered, and a follow-up reveals that his asthma is kept under control in that climate.

Case 7.—When first seen, this male child was four years old and gave a history of infantile eczema and recurrent upper respiratory infections. At age of two years he developed bronchial asthma. On skin testing he was found to be allergic to pollens, inhalants, and foods. There was a positive family history of allergy.

At age four he was started on commercial respiratory vaccines (numbers 1 and 2), and this was continued for nineteen months along with pollen and inhalant desensitization and food restrictions. There was no improvement as a result of these treatments.

When he was five and one-half years old, autogenous bacterial antigen complex preparations were made from cultures of nose and throat. Organisms isolated were pneumococci and Staph. aureus (coagulase positive). He was started on these preparations, and treatment was kept up for one year. He received 24 injections of his autogenous bacterial antigen complex.

The child became symptom-free during treatment with his autogenous preparation and has remained so for the past six years. It has not been necessary to administer injections for this child's nonbacterial allergies since commencement of therapy with autogenous bacterial antigen complex.

Case 8.—This female child was first seen when she was four and one-half years old. She had had eczema since birth. Soon after birth she developed severe upper respiratory infections with frequent tonsillitis and bronchitis. She had pneumonia three times, at age one, three, and four years. She was markedly allergic to inhalants and to foods and had numerous attacks of asthma. There was a family history of asthma in both branches.

At the age of four and one-half years she was started on commercial respiratory vaccines (numbers 1, 2, and 3). These were stopped after three months because of exacerbation of her asthma following injection of any one of the commercial respiratory vaccines.

At age five an autogenous bacterial antigen complex preparation was made. The organisms found in cultures of nose and throat were predominately hemolytic streptococci.

Treatment for a period of three and one-half months with this autogenous preparation resulted in no improvement.

At the age of seven cultures of nose and throat were taken, and another bacterial antigen complex was prepared. The organisms found were pneumococci, coliform bacillus, and hemolytic streptococci. Treatments were given for twenty months with this preparation with only moderate improvement in the upper respiratory infections and with no improvement in the child's asthma.

When last seen at age ten, this child's asthma was still very severe.

Case 9.—This ten-year-old male child presented himself with bronchial asthma of a severe type with pigeon chest deformity. He gave a longstanding history of frequent colds, sore throats, asthmatic attacks, and cough with severe wheezing. He was placed on injections of commercial respiratory vaccines (numbers 1 and 2) for two and one-half months (July 11 to September 23, 1949). He was also placed on pollen and inhalant desensitization therapy. Following injections of either of the commercial respiratory vaccines exacerbation of symptoms was apparent. There was no improvement.

He was then placed on autogenous bacterial antigen complex preparations. The organisms isolated from nose and throat cultures were hemolytic streptococci, pneumococci, and N. catarrhalis. The autogenous bacterial antigen complex was prepared in dilutions of 1:5 and 1:10. Treatment was commenced with the weakest dilution. He received 91 injections over a period of two years and three months. During the two summer seasons, he did not receive injections of autogenous bacterial antigen complex. The first summer he received eight injections of pollen extract and dust extract. During the second summer only three injections.

This child has not received any bacterial antigen therapy, nor has it been necessary to administer injections for his nonbacterial antigens since December, 1951. Following his first injection of this new autogenous preparation in September, 1949, this child showed steady improvement and has remained essentially symptom-free.

Comment

The results reported here are in accord with other investigations on the use of acellular bacterial antigen complex preparations, stock and autogenous, in the field of bacterial allergy.[5-13] Prolonged and repeated use of antibiotic agents failed to resolve disease conditions which, while clearly initiated and greatly aggravated by repeated infection, remained unabated after such antibiotic treatment. Allergic symptoms and a greatly lowered resistance to infection persisted after use of antibiotics. Commercial respiratory vaccines, also used for years, failed to increase appreciably the immune state of these children or to lessen their hypersensitivity to bacteria.

In contrast, treatment with autogenous bacterial antigen complex preparations was followed immediately by a reduction in the number of acute respiratory infections, which, if they occurred, were of a lessened intensity and duration. The relief obtained with autogenous bacterial antigen complex is prompt and quite frequently follows the first or second injection. The duration of treatment is comparatively short.

No side-effects were noted in any of the children treated with this new acellular bacterial antigen, and there were no instances in which treatment had to be discontinued except for a few cases where symptoms were aggravated by its use.

The period of observation of these 110 children was in no instance less than two years following treatment with autogenous bacterial antigen complex.

In the 43 children in whom recurrent respiratory infections were complicated by nonbacterial allergies, such as pollens, grasses, and food, these nonbacterial allergies assumed an insignificant role when the bacterial allergy was controlled by treatment with autogenous bacterial antigen complex.

Summary

A report is given of results following the use of a new autogenous bacterial antigen complex, prepared according to the method of Hoffmann,[4] in the treatment of 110 children suffering from chronic, persistent upper respiratory infections. Thirty-three of the children were asthmatic. Seventy of the 110 children had previously been unsuccessfully treated with commercial respiratory vaccines.

The investigation covers observations extending over a period of nine years on children seen in the private pediatric practice of the author.

The average duration of treatment with the new acellular bacterial antigen complex preparations was 7.8 months.

Nine or 8.2 per cent showed no improvement, 20 or 18.2 per cent improved, and 81 or 73.6 per cent became symptom-free.

Bacterial antigen complex differs from a vaccine in that it is an acellular, crystal clear solution of essential antigenic substances. These substances are derived not only from the bacterial cell itself, i.e., the essential specific proteins and polysaccharides, but also from the very important metabolic products produced by organisms multiplying in fluid culture media.

In most instances the relief obtained with autogenous bacterial antigen complex was prompt, quite frequently following the first or second injection. It may be assumed from this investigation, therefore, that the method of preparation of the acellular bacterial antigen complex which permits the retention of unaltered specific substances, as well as the important antigenic qualities of the various toxins previously mentioned, is responsible for the apparently immediate desensitization and the greater immunizing qualities of this bacterial antigen.

This nine-year study emphasizes the serious consequences of chronic respiratory infection and its relationship to the etiology of asthma in children.

It definitely indicates that no side-effects are experienced in children treated with this new bacterial antigen.

Addendum

Spain and Fontana,[14] in an article published in the New York State Journal of Medicine, November 1, 1955, report on the effectiveness of autogenous respiratory vaccines prepared from infective respiratory tissues. However, in marked contrast to the use of the acellular autogenous bacterial antigen complex described in our paper, they report that the autogenous antigens they used "must be employed with extreme caution and in high dilutions since it is usually quite possible to throw the patient into a severe, prolonged, and prostrating asthmatic condition or status asthmaticus with the injection of as minute an amount as $^1/_{20}$ ml. of a

1:100,000 dilution of a 1 per cent heat-killed autogenous bacterial suspension."

Many years ago Cooke[15] stated, "Vaccine therapy is a two-edged sword to be used with caution in any allergy and especially in asthma. . ." and that he "has seen patients kept in status asthmaticus merely by vaccine injections."

As far back as 1929 Hektoen and Irons[16] in a survey of 1,261 physicians found that only 17 physicians considered vaccine therapy to be generally useful. Other physicians reported having observed 17 cases of asthma to have followed courses of bacterial vaccines administered to patients who previously were not known to have suffered from asthma.

The acellular autogenous bacterial antigens used in this study have not given any untoward reactions, even in the most hypersensitive patient and even in doses many times higher than those recommended for treatment. This is in accord with other investigations on the use of bacterial antigen complex, stock and autogenous, in the field of bacterial allergy.[5-13]

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MEDICAL SOCIETY OF THE STATE OF NEW YORK

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The Rise and Fall of Retrolental Fibroplasia in New York State

Preliminary Report

ALFRED YANKAUER, M.D., ALBANY, NEW YORK, HAROLD JACOBZINER, M.D., NEW YORK CITY, AND DAVID M. SCHNEIDER, PH.D., ALBANY, NEW YORK

(*From the New York State Department of Health, the New York City Department of Health, and the New York State Department of Social Welfare*)

In 1942 retrolental fibroplasia was established on the medical horizon as a new disease of premature infants.[1] By 1949 it had become the leading cause of blindness in children under five years of age in New York State.[2] Until quite recently attempts to explain its etiology were unsuccessful. During the early 1950's a series of reports in the British and American literature, culminating in the report of an 18-hospital cooperative study in January, 1955,[3] established clearly the etiologic relationship between exposure of premature infants to concentrations of oxygen in excess of 40 per cent and the development of this disease. In the United States the prophylactic use of high concentrations of oxygen in the care of premature infants was considered good pediatric practice as late as 1952. Only an unusually rapid shift in nursery practice could have affected the incidence of this disease in 1954 and 1955. It is gratifying to report that such a shift has occurred in New York State.

This is the first report in the American literature which documents the effect of changing practice on the community incidence of retrolental fibroplasia severe enough to cause blindness. Documentation of this effect is facilitated by the State requirement, effective since April 1, 1946, that all cases of blindness be reported to the State Commission for the Blind of the New York State Department of Social Welfare. Reporting of blindness and the ophthalmologic diagnosis of its etiology are considered to be fairly complete because of the active interest of physicians and ophthalmologists in the work of the commission. In the case of blindness due to retrolental fibroplasia, there is added reason to feel that reporting is fairly complete. To determine the incidence of blindness due to retrolental fibroplasia, Schlesinger and McCaffrey[4] followed up the 3,667 infants born in 1948–1949 in upstate New York who weighed less than 2,000 Gm. at birth and who survived to four months of age. It was later found that 90 per cent of the blind infants in this group were known to the State Commission for the Blind through its routine reporting system.[5]

It should be emphasized that only severe degrees of retrolental fibroplasia are being referred to in the present report, since reporting is mandatory only for individuals who are blind according to the legal definition of blindness in New York State.*

Plan of Action

In the fall of 1953, as evidence that retrolental fibroplasia is linked to oxygen administration became fairly conclusive, the Maternity and Newborn Division staff of the New York City Department of Health during their routine visits to hospitals recommended reduction of oxygen concentrations to newborn infants.

The New York City Department of Health, Pediatric Advisory Committee, at a special meeting in March, 1954, unanimously approved recommendations to this effect. Copies of the committee's statement were distributed to all maternity and newborn services and published in the county medical society bulletins. Oxygen concentration was also limited in the Department of Health's premature transport service ambulance, and a careful check of hospital policies was made by the staff of the Maternity and Newborn Division in its periodic surveys.

In spite of the above efforts it was found that a considerable number of hospitals were still using high concentrations of oxygen. A joint subcommittee representing obstetrics, pediatrics, and ophthalmology was requested later in 1954 to

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* ". . .one who is totally blind or has impaired vision of not more than 20/200 visual acuity in the better eye and for whom a diagnosis and medical findings show that vision cannot be improved to better than 20/200; or who has loss of vision due wholly or in part to impairment of field vision or to other factors which affect the usefulness of vision to a like degree."—Chap. 654, Laws of New York, 1945

TABLE I.—Number of Cases of Retrolental Fibroplasia in New York State by Year of Birth and Year Classified Blind (Based on Reports Classified by State Commission for the Blind During 1946–1955)

Year of Birth	Year Classified Blind										Total Cases
	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	
1938–1945	12	9	7	9	3	4	3	..	5	2	54
1946	4	13	3	..	4	2	2	..	2	3	33
1947	..	2	10	14	6	2	5	3	1	1	44
1948	..	..	4	21	14	5	8	2	3	3	60
1949	..	..	..	17	28	18	3	1	6	2	75
1950	..	..	..	..	19	61	20	4	3	3	110
1951	..	..	..	..	..	32	84	27	12	8	163
1952	..	..	..	..	..	..	30	92	33	13	168
1953	..	..	..	..	..	..	..	52	87	28	167
1954	..	..	..	..	..	..	..	..	18	27	45
1955	..	..	..	..	..	..	..	..	..	3	3
Total	16	24	24	61	74	124	155	181	170	93	922

study this subject further and unanimously approved the following recommendations:

1. Oxygen therapy for premature infants whether in *delivery rooms, during transport*, or in premature nurseries should be used only when indicated and in concentrations *below* 40 volumes per cent, except in emergency situations. Oxygen should not be administered unless ordered by a physician. Higher concentrations than 40 per cent may be used only for resuscitation of apneic infants for short intervals.

2. Oxygen concentrations in incubators should be checked periodically with an oxygen analyzer.

3. An ophthalmologist should examine all premature infants upon discharge from the nursery and at three months of age.

A copy of these recommendations was also circulated immediately to all hospitals and published in medical society bulletins.

In the fall of 1954, the Bureau of Maternal and Child Health of the New York State Department of Health made plans to distribute comparable recommendations to all hospitals in upstate New York. At the same time a system of following up all cases of retrolental fibroplasia reported to the State Commission for the Blind was inaugurated by both the New York City and New York State Health Departments. After locating the birth certificate of the reported case, a visit was made to the hospital of birth. In New York City the visit was made by a pediatrician on the staff of the Division of Maternity and Newborn Services. In upstate New York the visit was made by the county or city health commissioner or district State health officer in whose jurisdiction the hospital was located.

The purpose of this visit was twofold: to gather information on the concentration and duration of oxygen administered to the reported case and to advise the medical, nursing, and administrative staff on policies and practices that are effective in controlling oxygen administration to premature infants.

During these visits the points already outlined were discussed. In addition, three methods for maintaining safe concentrations of oxygen in incubators were reviewed, if indicated. These methods, none of which is entirely foolproof, were described by Lanman in an issue of *Health News*, a publication of the New York State Department of Health:[6]

1. The use of special mixing devices which mix air with 100 per cent oxygen so as to deliver a constant concentration of less than 40 per cent to the incubator.

2. The use of specially prepared tanks containing 40 per cent oxygen and 60 per cent nitrogen.

3. Reduction of flow of 100 per cent oxygen by use of a special flowmeter.

Results

In 1954 Schlesinger, analyzing the incidence of retrolental fibroplasia in New York State by year of report and age at time of report, showed how this condition had reached a peak in 1953.[5] Table I brings the data to 1955. It illustrates the sharp rise, followed by an even sharper decline, in cases of retrolental fibroplasia reported to the New York State Commission for the Blind from 1946 through 1955. A definitive diagnosis of disability due to this disease can be made by the age of six months. However, experience indicates that the heaviest "report year" is the year following the infant's birth year. For this reason the number of cases have been tabulated according to year in which the infant was classified

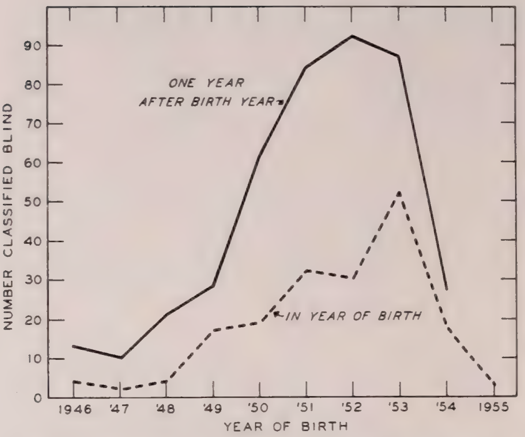

FIG. 1. Number of cases of retrolental fibroplasia in New York State by year of birth and year classified blind, 1946–1955.

TABLE II.—NUMBER OF CASES OF BLINDNESS DUE TO RETROLENTAL FIBROPLASIA, CLASSIFIED BY NEW YORK STATE COMMISSION FOR THE BLIND IN 1955 AND NUMBER FOLLOWED UP* BY YEAR OF BIRTH

Year of Birth	Classified Blind in 1955	Follow-up	No Follow-up
1946–1952	35	24	11
1953	27	16	11
1954	28	26	2
1955	3	3	0
Total	93	69	24

* Follow-up visit to hospital of birth by pediatrician on staff of Maternity and Newborn Division of New York City Department of Health or by upstate New York county or city health commissioner or district State health officer. Cases born in New York City were followed up regardless of birth year. In upstate New York cases were followed up only if report was received within one year of infant's birth. A few cases could not be followed up because birth certificate could not be located.

blind by the commission and year in which the infant was born.

It will be observed from Table I that the number of infants classified as blind during their birth year increased from four in 1946 (when reporting was first made mandatory) to 52 in 1953 and declined to three in 1955. The number of infants classified as blind during the year following their birth year increased from three in 1946 to 92 in 1953 and then declined to 27 in 1955. The decrease in cases classified as blind during their birth year was 65 per cent between 1953 and 1954 and 83 per cent between 1954 and 1955. The over-all reduction from 1953 to 1955 was 94 per cent. This striking story is illustrated graphically in Fig. 1.

The pattern observed cannot be attributed to the change in the number of premature births under 2,000 Gm. in New York State since 1946. As a matter of fact, in contrast to the sudden drop in cases of retrolental fibroplasia in infants born in 1954 and 1955, the number of premature births in New York State has continued to rise slightly.[7]

Comment

During 1955, 69 reported cases of retrolental fibroplasia were followed up under the program previously described (Table II). More than half of these cases were born prior to 1954. These follow-up visits were welcomed by hospital administrators and members of the medical staff of every hospital visited. In some instances hospital policies had been modified, and efforts to control the concentration of oxygen administered to premature infants were being rigorously followed. In a number of instances, however, the medical and administrative staff had not adopted well-defined written policies or had relied on inadequate measures to control oxygen administration, although aware of its dangers. When their attention was called to these matters, immediate measures were taken to remedy this situation.

In all but one of the cases investigated, it was fairly clear that the infant had actually been exposed to high concentrations of oxygen during the first ten days or more of its life. With one exception this exposure was apparently inadvertent, having occurred before clear hospital policies for controlling oxygen concentrations had been developed and put into effect. In a number of instances concentrations of oxygen were not actually measured, but the nature of the incubator used and the liter flow recorded on charts made it fairly certain that high concentrations of oxygen had been delivered.

The two cases which proved exceptions to these general findings will be described in more detail:

CASE 1.—The infant not exposed to oxygen was born in New York City late in 1954. He was a full-term male weighing 7 pounds, 4 ounces, and was delivered spontaneously after an uncomplicated labor of six hours and fifteen minutes. His hospital course was normal, and he was discharged five days after birth. He received no oxygen at any time prior to the development of retrolental fibroplasia. When he was two months of age, his mother noticed that he did not see well and had the child examined by an ophthalmologist who made a diagnosis of retrolental fibroplasia. Because of this unusual story the diagnosis is being investigated more thoroughly as this report is being written.

CASE 2.—The infant whose exposure to high concentrations of oxygen was not "inadvertent" was born in a small hospital in western New York early in 1955. She was a prematurely born female weighing 2 pounds, 10 ounces. Delivery was complicated by premature separation of the placenta. She was in poor condition at birth and, when forty-eight hours old, was transferred to a hospital with a large premature service.

On admission the baby weighed 2 pounds, 5 ounces, and was in great respiratory difficulty. The premature service at this hospital was acutely aware of the dangers of high oxygen concentration. During the past two years only one case of stage I-II retrolental fibroplasia had been observed in this hospital, and no stage III-V cases had occurred. During the first ten days of the baby's hospital stay she had frequent episodes of apnea and cyanosis, requiring rocking to stimulate breathing. Oxygen was needed continuously during this time. Three liters per minute were administered in an Isolette incubator. This gave concentrations up to 40 per cent. However, during the night there were many times when cyanosis occurred even with concentrations at 40 per cent; on these occasions the liter flow was frequently raised to 5 L. per minute in order to clear up the cyanosis. Unfortunately, no concentrations of oxygen were taken during these night periods. On the twelfth day of life, the tenth hospital day, the infant was able to maintain herself without cyanosis or apnea outside of the incubator and was therefore removed. She was discharged at the age of fifty-eight days weighing 2,180 Gm.

Her condition was good at this time with the exception of the eye findings. Stage I retrolental fibroplasia was noted on the twenty-ninth day of life, stage II at the forty-fourth day of life, and stage III on the day prior to hospital discharge. Stage IV was noted on a visit to follow-up clinic at eighty-eight days and stage V at six months of age. It seems quite evident in this case that prolonged oxygen administration and high oxygen concentrations were essential to the preservation of the infant's life and that blindness was unavoidable in the present state of our knowledge.

These cases have been reported in some detail because they were the exceptions rather than the rule. The follow-up experience as a whole clearly indicates that blindness need not have occurred in the other 67 cases. This experience serves to emphasize the importance of the points already discussed in the control of oxygen concentrations. Certain amplifications of these points seem warranted:

1. Policies dealing with oxygen administration to premature infants must be thoroughly understood and followed by all nursery personnel from attending physicians down to nurse's aids and cleaning personnel. Such policies should be in writing.

2. Oxygen is dangerous to premature infants. It should be ordered by physicians only for medical emergencies, only for short duration, and only in concentrations below 40 per cent.

3. Detailed attention to controlling oxygen concentrations is essential if it is to be administered to premature infants. Because of differences in individual incubator performance, liter-flow regulation cannot be depended upon to control oxygen concentrations, and the use of an oxygen analyzer is essential if this method is being used. An oxygen analyzer is highly desirable if either of the two other suggested control methods are utilized since no mechanical method of control can be expected to be perfect.

Summary and Conclusions

1. Data are presented on the incidence of blindness due to retrolental fibroplasia as reported to the New York State Commission for the Blind, 1946–1955.

2. There was a sharp decline in the reported incidence of this disease when the use of oxygen in the care of premature infants was limited and its concentration controlled.

3. On investigation of cases reported in 1955, it was determined that all affected children except one, a full-term infant, received oxygen in high concentrations and for prolonged duration. The use of oxygen was a causative factor in the development of retrolental fibroplasia in these cases.

4. Continued vigilance is essential for the control of this disease.

Grateful acknowledgments are expressed to Dr. Jean Pakter and Dr. Yvette Brown of the New York City Department of Health and to the county and city health commissioners and district State health officers of upstate New York for their services in following up reported cases.

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CLINICOPATHOLOGIC CONFERENCE

STATE UNIVERSITY OF NEW YORK COLLEGE OF MEDICINE AT
NEW YORK CITY AND THE UNIVERSITY DIVISION-MEDICAL
SERVICE, KINGS COUNTY HOSPITAL, BROOKLYN, NEW YORK

Conducted by PERRIN H. LONG, M.D.

JANUARY 13, 1955

Clinical History

The patient was a thirty-nine-year-old, Negro male leather chopper, admitted to Kings County Hospital because of swelling of the face, scrotum, and ankles for three weeks prior to admission. He claimed to have been in excellent health until six months prior to admission at which time he developed anorexia, nausea, and daily vomiting. This he attributed to heavy drinking during the previous six months (20 to 40 whiskies and 20 beers per day). These symptoms persisted until three weeks prior to admission at which time he noted the onset of facial, scrotal, and ankle edema, which became progressively worse. In addition, he noted a marked increase in urinary output, and the color of his urine became dark brown. He consulted a private physician who had a urinalysis performed and referred him to the hospital.

Past medical history was negative except for positive serology two years prior to admission which was treated with penicillin. Family history was positive for diabetes and alcoholism. Review of systems was noncontributory.

PHYSICAL EXAMINATION.—Physical examination revealed a well-developed, well-nourished, Negro male of approximately stated age in no acute or chronic distress. Blood pressure was 160/100, pulse 72 and regular, respirations 20, and temperature 97.8 F. There was periorbital and facial edema. Fundi were normal with no hemorrhages or exudates; margins of the eyes were well outlined. There was no venous distention of the neck. Lungs were clear to percussion and auscultation, and the heart showed regular sinus rhythm, was not enlarged, and had no murmurs. The second pulmonic sound was accentuated. Abdomen was soft with no tenderness, palpable masses, or enlarged organs. The scrotum and penis were swollen and edematous. The extremities showed 3 plus pitting edema; pulsations were intact. Neurologic examination was negative.

TABLE I.—LABORATORY DATA

A. BLOOD COUNT

	Hospital Day 1	Hospital Day 8
Hemoglobin (Gm.)	11	7
White blood cells	5,400	19,400
Polymorphonuclears	68	80
Immatures	2	10
Lymphocytes	24	8
Monocytes	2	2
Eosinophils	4	..

B. URINALYSIS*

	5 Days Before Admission	Hospital Day 1	Hospital Day 6	Hospital Day 7
Albumin	4+	3+	4+	4+
Sugar	Negative	Negative	...	...
Acetone	Negative	Negative	...	...
Red blood cells	50 to 75	40	2	50
White blood cells	10 to 12	8	12	12
Casts	Granular, waxy	Granular, waxy	Granular, waxy	...

* Specific gravity of one specimen was reported at 1.002.

C. BLOOD CHEMISTRIES*

	Hospital Day 2	Hospital Day 6
Blood urea nitrogen	150	180
Creatinine	24.5	...
Sugar	115	...
Total protein	7.0	...
Albumin-globulin ratio	3.4:3.6	...
Sodium	149	...
Potassium	5.4	...
Chloride	113	108
Carbon dioxide	22	24

* On third hospital day bromsulfalein retention was 1 per cent in forty-five minutes.

Laboratory Data.—Blood counts, urinalyses, and blood chemistries are given in Table I. Mazzini test was negative, as were blood, nose, and throat cultures. On the second hospital day venous pressure was 150 mm. water and rose to 190 with right upper quadrant pressure. Circulation time was thirteen seconds Decholin.

Hospital Course.—The patient was placed on bed rest, a limited fluid intake (1,000 cc. plus urinary output), and an 1,800-calorie low-protein, low-sodium diet and was given thorazine to control nausea and vomiting. His urine output during his first two days of hospitalization was low but adequate (500 to 600 cc. per day). The third and fourth hospital days, however, his output dropped abruptly to less than 50 cc., and he began to complain of headache. All oral feedings and oral medications were discontinued, and he received 1,000 cc. of 5 per cent glucose per day for nutrition and hydration. On the sixth hospital day, with the patient anuric, moist rales were noted at the left base, and he was digitalized. His blood pressure began to rise (to 190/105), and on the seventh hospital day he became somewhat confused. He developed epistaxis; temperature rose to 101.2 F. He developed moist rales at both lung bases and both axillae, and the liver was now palpable 5 cm. below the costal margin. He developed gallop heart rhythm and was given extra digitalis, and penicillin therapy was instituted. The following morning he expired quietly.

Discussion

Chairman Perrin H. Long: The clinical protocol will be given by Sir Lionel Whitby. Sir Lionel.

Sir Lionel E. H. Whitby: The first striking feature about this patient's story is that he presented obvious signs of hepatic insufficiency. He developed anorexia, nausea, and daily vomiting we are told. This he attributed to heavy drinking during the previous six months. The serious features of the later signs in the past history are edema and oliguria which even the patient himself noticed. This was eventually followed by complete anuria. These last features point very clearly to a terminal renal disaster which itself is confirmed by the laboratory findings, his gross proteinuria, and grave disturbances in nitrogen excretion and acid-base equilibrium. In general, the terminal disturbance in renal function and the alterations in the body chemistry closely resemble those which I had some small opportunity to observe in Britain during the war in the victims of crush injuries from bombing disasters. In those cases and in this patient I think the lesion may be called a lower nephron nephrosis or an acute tubular necrosis. It is on the basis of this diagnosis, in association with cirrhosis of the liver, that I shall discuss this case.

Let us first look for the possible cause of lower nephron nephrosis in the history of this case. We can recall that a lower nephron nephrosis arises from a gross kidney insult: from ischemia, anoxia, or toxemia, for example; from gross blood loss; gross loss of fluid as with burns or crush injuries; salt and water depletion, as with diabetic coma, excessive diarrhea, or excessive vomiting. We note in this patient's story that he has been vomiting every day for at least six months before he came into the hospital. I have said that toxemia may provide the necessary insult to the kidney; crush injuries, for example, are cases in that class. Such an injury to the kidney may also occur with severe hepatic inefficiency when the protective detoxicating power of the liver is lost. That is the so-called hepatorenal syndrome in which, with gross liver insufficiency, the kidney can become involved in the same process which has caused the degeneration of the liver. We have here, in other words, terminally, the hepatorenal syndrome of nephrosis which could be accentuated by the vomiting with which this patient had been afflicted for such a long time.

I suppose we shall not argue about hepatic inefficiency in this case. He acknowledged to a year, at least, of drinking what, with the British tendency to understatement, one might call a moderate amount of alcohol. I don't know what the standards are in this country, but 20 to 40 whiskies a day plus 20 beers seems to me to be at least a moderate amount. How much had he drunk before the story which we have before us here, which only goes back a year, and how long had be been drinking to this degree? More important still, I suppose, is what was the quality of the liquor? Twenty to 40 whiskies a day would be quite expensive for someone who was even reasonably well endowed. I have never tasted "Sneaky Pete." I don't know what is in it. I don't know what toxins it contains, but I would suspect that it was concerned in this particular case. At any rate he appears to me to have consumed enough to have induced hepatic inefficiency with a terminal hepatorenal syndrome.

In passing, I think one should note that he had positive serology two years before, which was treated and presumably controlled because his Mazzini test was negative on admission. I only mention it because syphilitic nephrosis is a recognized clinical condition. I don't bring it into this case. Apparently the condition was cured.

I should expect to find in this case a cirrhotic and fatty liver, sclerotic kidneys, with an acute tubular nephrosis, those being the fundamental essential lesions causing this man's death.

I might perhaps try my hand at commenting on the laboratory data. The urine on admission had a high content of albumin with red cells and pigment. One occasion on which it was examined for the sample had a low specific gravity, a very low one of 1.002. Casts were present, and one adjective used is "waxy." Well, sometimes in the very rare condition, nowadays, of amyloidosis one finds waxy casts, but I don't really suggest that this is a case of amyloidosis on that simple finding. But the findings in the urine—high albumin, red cells or pigment, low specific gravity, and casts—are fairly characteristic of a lower nephron nephrosis.

As to the blood findings you will note that there is a low albumin content, 3.4 Gm., and a relatively high globulin content. The lower nephron nephrosis usually has hypoalbuminemia. The nitrogen retention, blood urea nitrogen, and creatinine were more than tenfold and were increasing up to the time of the patient's death. Acidosis was very well marked, carbon dioxide combining power 22 volumes per cent, which is undoubtedly due to the uremia and contributed to, probably, by the vomiting the patient had. The electrolytes, sodium, chloride, potassium, on the day on which they were examined, that is the second day of his admission, were all within normal limits. But one should note from the hospital course that during the first two days of hospitalization the urinary output was low but adequate, that is 500 to 600 cc. a day, and the patient was, therefore, not then in the terminal phase of complete anuria and/or, if you will, uremia. It would have been instructive, I am sure, to have had those same figures two or three days later—shall we say the sixth day—when complete anuria occurred, at which time I should have expected to have found the usual terminal change of a rise in potassium with which one could then explain the terminal symptoms and the cardiac failure as at least partly due to potassium intoxication.

The other points in the story are, we note, that on the first day of admission the hemoglobin was 11 Gm. and fell in the course of a week to 7 Gm. That is a fairly considerable drop. I don't really believe it can be accounted for by the simple record of epistaxis because if the bleeding had been of that order, that is the loss of 4 Gm. in a week, which implies a loss of something like 2 L. of blood, it would certainly have been noted with more emphasis in the account which we are given here. But uremics invariably develop anemia, and that is the explanation which I would give for the major portion at any rate of this reduction in hemoglobin, which might to some extent have been contributed to by the epistaxis which is recorded. The epistaxis itself possibly is worthy of comment. What is the cause of epistaxis in this man? One can give quite a number of facile explanations, all of which may have contributed to such an occurrence. I have suggested that this man had gross hepatic inefficiency, which would probably involve his prothrombin, and that may be the reason why, with the rising blood pressure, he may readily have manifested this symptom of bleeding. Well, those are my comments from the clinical aspect.

From the laboratory aspect one can never stand up to a clinicopathologic conference with complete confidence. One has to look around to see where the red herrings have been laid and where the important features are being deleted. But reading this case, it seems to me to be a reasonably straightforward story such as I have given. Therefore, I do not propose to try and hedge. I will stand or fall on the diagnosis I have made. I don't want to drag in such things as amyloid disease or some obscure tumor which may have caused the appropriate obstruction to give rise to the bilateral edema of the legs and the scrotum. We know that scrotal and ankle edema are quite common features of cirrhosis alone, much less of acute tubular necrosis. I think those two features will perhaps adequately explain the death of this patient.

Chairman Long: Before we take up the report from the laboratory pathology, I would like to cite the diagnoses made by the students after reviewing this protocol. Fourteen of our students made a diagnosis of acute glomerular nephritis, five chronic glomerular nephritis, five heart failure, one lower nephron nephrosis, one renal vein thrombosis, one polycystic kidneys, and one pneumonia.

Dr. Gutstein, will you continue with the discussion from the point of view of the laboratory of the pathology?

Pathologic Report

Dr. W. Gutstein: I am afraid, Sir Lionel, despite the somewhat moderate ration in whiskey, the quality of this poor chap's liquor was pretty good after all because this man did not have a cirrhosis. In fact, the main pathology, the gross anatomic findings were limited to the cardiovascular and renal system, and I would like to give briefly these pertinent findings.

The most obvious lesions grossly were in the kidneys. Each kidney weighed approximately 260 Gm., was large, appeared tense and somewhat pale in color, and the capsule was studded by minute hemorrhages. On cut section the kidney parenchyma bulged, the surfaces appeared moist, they were somewhat streaky, and in the medullary portion these streaks were rather bluish. Both kidneys appeared identical. The other pertinent findings were in the heart. The heart was quite large, weighing 500 Gm., and was large for the man's body weight. The lungs were edematous. Only a small amount of pleural fluid was found in each pleural cavity. Hardly any fluid was found in the peritoneal cavity. It was noticed, however, that all subcutaneous tissues were edematous cutting through the various layers.

Now I think I would like to go right to the microscopic findings. There was in this kidney ischemia (*slide*). We see that anatomically there also is some tubular disease. However, we will have to conclude on the basis of our anatomic findings that both the ischemia to the kidney and the tubular disease were due to what the pathologist calls the late stage of acute glomerular nephritis or early stage of subacute glomerular nephritis, the diffuse type, or, if you wish, the transitional stage between the two of them. Here is demonstrated anatomically a typical glomerulus showing the central portion of the tuft with some endothelial proliferation and also the capsule of proliferation forming the crescent structure which is so typical of the late stage of acute glomerular nephritis or early stage of the subacute form. I would like to emphasize that I am using these terms in the pathologic sense and not at all in the clinical sense.

This is a somewhat more detailed view of the same field containing the proliferation (*slide*). We can see the fusion of the capillary loops and around them the crescent structure produced by proliferation of the endothelial cells.

Here is tubular degeneration (*slide*). This tubular degeneration, if you will recall, has a specific anatomic cause in glomerular nephritis. It is due to interruption of efferent arteriole from the tissue within the glomeruli themselves.

Here is our typical vascular supply through the glomerulus: Leaving the glomeruli, the efferent arteriole forms a network around the rest of the nephron, the proximal convoluted tubules especially receiving their blood supply early in the course of this efferent arteriole (*slide*). When the blood supply is interrupted, as it must be in the space, there is ischemia to the tubules it serves, and when it is severe, the tubule degenerates, as we have seen.

We have one of these tubules under high power (*slide*). You notice that the lumen of the tubule contains some crystals. The appearance is that of one of either two or three different types of such crystals found in the urine. Either they represent the dicalcium salts of phosphate or calcium sulfate or possibly hippuric acid. It would take physical and chemical methods to distinguish between them. You may notice the evidence of regeneration of these tubules; in the lower left field here is a cell in mitosis.

Now again we notice two glomeruli, and they show proliferation (*slide*). Again one must observe also in the detailed study of these glomeruli that one not only finds glomerular nephritis but also a complicating lesion. The complicating lesion appears to be at first that of necrosis of some portion of the tuft.

A more detailed view showing what at first sight appears to be coagulation necrosis (*slide*). Here there is nuclear debris. We have karyolysis, karyorrhexis, etc., but examined under the microscope this necrosis is not the common variety of coagulation necrosis. At this point it stains in hematoxylin-eosin sections rather brilliantly, vividly. Therefore, for the time being we will refer to it as fibrinoid and come back to it again.

I want to give the diagnosis immediately, which is subacute diffuse glomerular nephritis (*slide*). We have to rule out anatomically at least two other conditions. One is the Lohlein type of nephritis which was described as focal embolic, focal nephritis.

The second type of lesion which must be distinguished anatomically—and immediately we can also discard it—is that called focal, necrotizing glomerulonephritis and diffuse hypersensitivity angiitis (*slide*). This was studied by Bell who at the time thought this was a variation of the type of endocarditis. Allen reinterpreted this and assumed it was a vascular disease on a hypersensitivity basis localizing in a focal fashion in the glomerulus; thus, it got the term of necrotizing glomerulonephritis.

But it can be eliminated, for even though it may be diffuse, the frequency of glomeruli involved is rather limited (*slide*). When it occurs, the necrosis takes the characteristics of fibrinoid.

This is hyaline (*slide*). That is not a fibrinoid type of hyaline. This is a hyaline arteriole occurring in any case where there is protracted diastolic hypertension. This is the normal staining quality. It stains deep green. The hyaline material is brittle material. This is the anatomic histologic picture of arteriolar sclerosis.

Now in the tubules there is the appearance of droplets which we call hyaline droplets (*slide*). This is the largest one. This is the tubule. The epithelium is studded with small droplets which cannot be made out too clearly, but the large one does stand out. These are called hyaline droplets.

About the fibrinoid—The concept of the fibrinoid was introduced by Neumann in 1880, who also introduced the term "fibrinoid degeneration." He observed a homogenization of the intercellular substance but believed this to be secondary to changes in the fibers themselves. It was soon recognized that there was a similarity between fibrinoid substance and actual fibrin.

Askanazy studied the chronic peptic ulcer and anticipated that the much debated fibrinoid change of connective tissue fibers was after all due to a colloidal alteration of the ground substance.

In 1903 Arthus and Breton called attention to the concept of local anaphylactic changes in a biologic organism and thereby stimulated investigation into the histologic or morphologic nature of the allergic response.

It remained for Klinge not only to confirm the presence of fibrinoid changes in allergic conditions and rheumatic diseases but to elaborate these studies further. It also was Klinge who first recognized that the primary disturbance of fibrinoid change was in ground substance between the fibers.

More recent evidence de-emphasized the collagen fibers themselves as the locus of the primary disturbance. X-ray diffraction studies undertaken by Feitleberg failed to identify fibrinoid substances in rheumatoid nodules and valvular nodules of lupus with the diffraction pattern of collagen itself. Collagen and fibrinoid give different diffraction patterns. Ziff and Bien, in chemical investigation of the fibrinoid substance in rheumatoid skin nodules, failed to identify either prolin or hydroxyprolin, amino acids normally found in collagen. Altschuler and Angevine expressed the belief that the fibrinoid substance was the result of a precipitation of the mucopolysaccharides in the ground substance, brought about through a basic protein. In other words, pathologic aspects of protein metabolism are now to be anticipated.

In summary, then, I should like to say our case is one of subacute glomerular nephritis, showing evidence of an acute preceding episode, in which renal pathology is distinguished by certain histologic changes, often resulting in the appellation "necrotizing type of glomerulonephritis."

Chairman Long: Before you get away from there, what was the matter with his heart? You said the two major areas were the heart and kidneys. We heard nothing about the heart.

Dr. Gutstein: The heart showed hypertrophy. It weighed 500 Gm.

Chairman Long: Sir Lionel, would you like to make any further comment?

Sir Lionel: I would ask, first: This, I take it, we must now add to the list of collagen diseases?

Dr. Gutstein: I had anticipated being asked that question, but since time is getting short, I don't think I can say very much about it, other than in view of what has formerly been called the collagen disease, this particular type of renal lesion might come under the classification of collagen disease. We must realize the more recent emphasis is that in collagen diseases the disease is not in the collagen fiber but in the ground substance between the collagen fibers.

Sir Lionel: I have very little to add, Dr. Long. Clearly, I think no clinician in estimating this case could neglect the previous story of alcohol. He must take that into account and try to build up a concrete story, all of which would run together. It is notable in the clinical account there is no mention of the large heart and no mention of the kidneys which were extremely large and not palpable. The abdomen was palpated without effect. Otherwise this is an extremely difficult exercise in the various types of nephritis and nephrosis. I have nothing else to say.

CHAIRMAN LONG: In closing, I would like to add that I was puzzled, having known of the diagnosis in this patient, as to how the clinical record could be presented with no enlargement of the heart and with no changes in the eyegrounds. It would be extremely rare, I think, in anyone's experience to find the fundi normal at this stage of uremia in a patient with subacute glomerular nephritis and, as Sir Lionel has pointed out, with the heart not being enlarged. That, again, I think, made it very difficult to come to the diagnosis which was made in the laboratory of pathology.

Health Examination Form Available

At a recent meeting of the Subcommittee on General Practice of the Council Committee on Public Health and Education of the Medical Society of the State of New York, it was voted to call to the attention of all county medical societies the availability of the Health Examination Form.

Some apparent advantages, especially to general physicians, in the use of this form in daily practice are as follows:

1. Time-consuming features of routine office examinations are simplified and shortened.
2. Cancer detection in the doctor's office, including the obtaining of cytologic smears and other simple office procedures, is emphasized.
3. A comprehensive record is readily available when a doctor must appear in court.
4. This record of an orderly and systematic examination makes a physician's services more valuable to his patient.
5. Complete and thorough physical examinations by family doctors will counteract arguments for the mass screening approach to detection put forth by certain agencies.
6. The cost is only one cent for each form.

Physicians may order these forms from their County Medical Society Secretary.

CASE REPORTS

Thyrotoxicosis

JOSEPH BELLAMY, M.D., AND ALGIRD WHITE, M.D., HUDSON, NEW YORK

(*From the Columbia Memorial Hospital*)

In the course of rural medical practice the road toward adequate care is often very difficult. Local prejudices, fears, lack of understanding, distorted economic values, fatalistic attitudes—all may contribute to difficulties the doctor will encounter. The few pennies saved in hoarding or stretching out of prescribed medication, the evasion of necessary studies, the fear of these procedures through comparison with unrelated cases, the fear of hospitalization—all enter into consideration of the rural case.

In this case suggestions for studies and/or hospitalization met with delay from two days to two weeks.

Case Report

This sixty-three-year-old, white, farmer's wife was first seen in June, 1951, when she presented with nervousness, dyspnea, and recurrent right upper abdominal distress associated with fatty food intake. The patient recalled measles, mumps, and jaundice as a child. In 1946 an operation was performed for a painful tic of the left side of the face, and this left a residual facial palsy. Menopause occurred at age fifty-two.

The physical findings at this time were obesity, tenderness in right upper quadrant, cystocele, chronic cervicitis, and bilateral varicose veins. There was apprehension, tachycardia of 104, and mild exophthalmos. A 2-cm. nodule was felt in the right lobe of the thyroid.

Urinalysis revealed glycosuria, and a glucose tolerance test showed a lag type curve. Fasting blood sugar was 153 mg. per cent with peak at 270 mg. per cent. Gallbladder x-rays were reported as nonvisualization.

Further hospitalization and studies were refused. Lugol's iodine was prescribed, and the patient was not seen for three years. Repeated contacts with the family reaffirmed this refusal.

In November, 1954, she was admitted complaining of increasing nervousness, fatigability, polydipsia, polyuria, and severe dyspnea. She stated that she had taken Lugol's iodine from time to time according to how she felt. Her abdomen protruded, but her arms and legs were thinner. Physical examination revealed slight enlargement of the thyroid nodule. Blood pressure was 130/80, pulse 96 and regular, temperature rectally 100 F. The heart appeared enlarged to the anterior axillary line. A few moist rales were in the right base. The abdomen was large and protuberant. The liver extended to the umbilicus and was nontender and nonpulsating. The spleen extended 6 cm. below the costal margin.

Laboratory findings were as follows: Hemoglobin was 100 per cent; white blood cells 4,500 with polymorphonuclears 65, nonsegmenteds 5, eosinophils 6, lymphocytes 24. Urine showed 4 plus sugar, 2 plus acetone, and no albumin. Sedimentation rate was 8 mm. per hour (Wintrobe). Glucose tolerance test results were fasting 265, half hour 315, one hour 375, two hours 385, and three hours 330 mg. per cent. Nonprotein nitrogen was 28 mg. per cent; Hanger test negative in two hours, 2 plus in twenty-four hours; cholesterol 228 mg. per cent; basal metabolic rate plus 78 per cent; Brucella agglutination negative. X-ray of the chest was normal, and electrocardiogram showed slurring of QRS and left axis deviation.

Therapy was 30 units of protamine zinc insulin daily and propylthiouracil 100 mg. three times a day. She was followed as an outpatient, and the white blood cells remained approximately 4,800. She lost 10 pounds in weight and was readmitted at the end of December, 1954.

On this admission her physical findings had changed very little. Laboratory studies showed hemoglobin 12 Gm.; red blood cells 4,840,000; white blood cells 5,100 with polymorphonuclears 59, nonsegmenteds 6, eosinophils 1, monocytes 6, and lymphocytes 28; basal metabolic rate plus 105 per cent and plus 73 per cent in forty-eight hours cholesterol 99 mg. per cent.

Surgical consultant was of the opinion that she was not in good condition for surgical intervention at this time and suggested further medical therapy. The patient was discharged on propylthiouracil

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Presented as a Clinicopathologic Conference at the 49th Annual Meeting of the Third District Branch of the Medical Society of the State of New York, Hudson, New York, September 15, 1955.

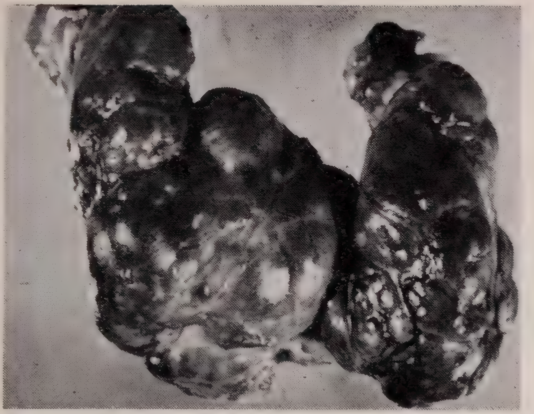

Fig. 1. Thyroid gland showing multiple nodules and the large nodule in the right lobe felt clinically.

therapy and was observed as an outpatient. There was no variation in blood counts.

In February, 1955, Lugol's iodine was given in place of propylthiouracil in anticipation of radioiodine studies. These were done in March, and the report showed normal uptake. A return visit was requested in order to study the uptake of the nodule.

On March 23, 1955, the patient developed a fever, sore throat, and cough. She appeared very ill and was restless, pale, and irrational. She was dyspneic and coughed considerably. Her weight had dropped to 160 pounds; oral temperature was 103.8 F., pulse 110 and regular, respirations 32 and shallow, blood pressure 122/80. Eyes were mildly exophthalmic. Her breath was foul, and there were several mottled white patches throughout the posterior pharynx and palate. The jugular veins were engorged. There was impairment of breath sounds and bronchial breathing at both bases with coarse and fine rales throughout the entire chest. There was a suggestion of a soft mitral systolic murmur. The liver was 4 cm. below the right costal margin and the spleen 8 cm. below the left. There was 2 plus pitting edema of both feet. There were no rashes or petechiae in the skin. Rectal examination revealed dark black stool.

Laboratory work showed hemoglobin 12 Gm.; red blood cells 4,300,000; white blood cells 2,200 with polymorphonuclears 2, eosinophils 1, lymphocytes 94, and monocytes 3; blood sugar 265 mg. per cent; cholesterol 80 mg. per cent. Blood culture revealed an isolated Escherichia coli. Smears and culture of throat swabs and sputum were reported as gram-negative diplococcus (Neisseria flavus) and a staphylococcus which was coagulase negative.

On March 30 white blood cell count was 1,800, and there were 100 per cent lymphocytes on differential count. A subcutaneous abscess developed in her abdomen. She was transfused with 1,000 cc. of whole blood. Her course was fulminating and downhill, and she died on the sixth day after admission with signs of left and right heart failure.

Therapy consisted of Lugol's iodine, Purodigin, ACTH, and large doses of Terramycin and penicillin.

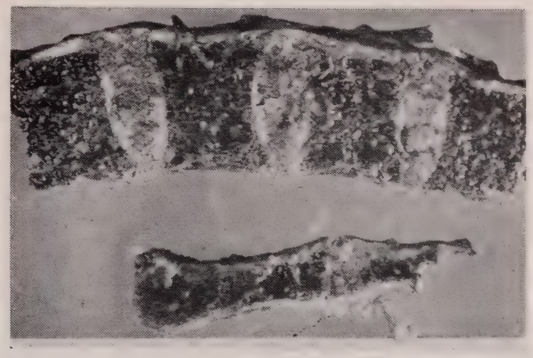

Fig. 2. Vertebrae and sternum showing thick, red, gelatinous marrow.

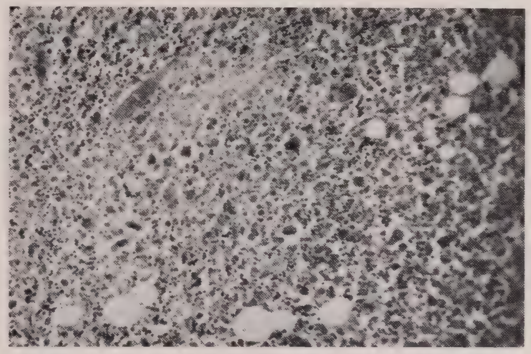

Fig. 3. Histology of the marrow showing the good cellularity and the plentiful megakaryocytes. No granulocytes could be seen under higher powers.

Pathologic Report.—At autopsy loss of weight was not obvious. The abdomen was obese, and there was a large fold of skin beneath the umbilicus which on elevation revealed a deep ulceration of the skin extending into the subcutaneous tissues. A moderate sacral cushion was present. In the abdominal cavity there were 500 ml. of yellowish, clear fluid. The liver extended 7 cm. below the costal margin.

The thyroid gland was enlarged and weighed 110 Gm. There was diffuse nodularity with a larger nodule in the right lobe (Fig. 1). Microscopically there was a picture of acini distended with colloid which is the expected effect of Lugol's iodine. There was no sign of residual toxicity.

The bone marrow, as shown by the vertebrae and sternum, was red and gelatinous, and there was no sign of depletion of marrow (Fig. 2). Osteoporosis was quite marked. Microscopically the marrow showed marked cellularity with numerous prominent megakaryocytes (Fig. 3). The cellular components were all erythroid cells, and scrutiny of numerous fields did not reveal any granulocytic cells.

The spleen was greatly enlarged and weighed 1,350 Gm. The capsule was tense, and the cut surface showed a prominent mottled pattern of gray

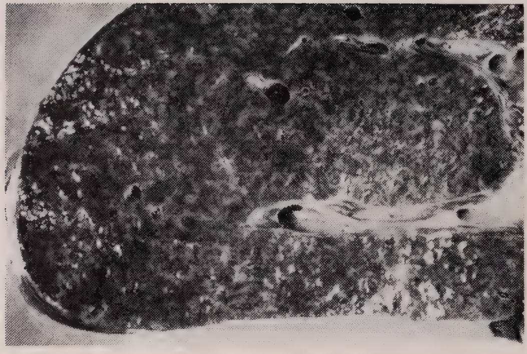

Fig. 4. Liver showing the excess fibrous tissue and early cirrhosis.

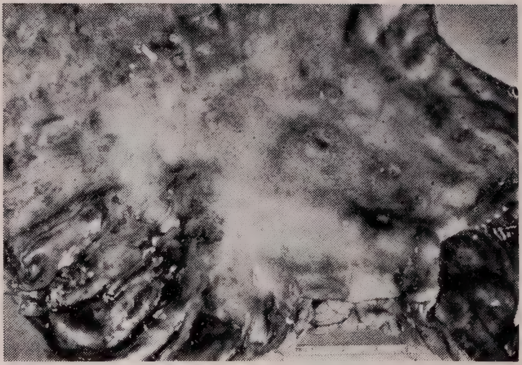

Fig. 5. Multiple shallow mucosal ulcers in the stomach.

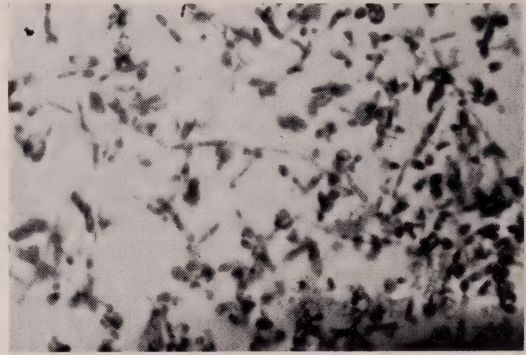

Fig. 6. Fungi seen in the floor of the stomach ulcers.

and red, which on closer inspection showed small grayish islands in a red background. These islands were made up of megakaryocytes and erythroid cells indicating myeloid metaplasia of the spleen in an attempt to make up for the lack of granulocytes in the bone marrow. Here again there were no granulocytes. This effect on the marrow and the extramedullary islands in the spleen was caused by the propylthiouracil therapy which she received for thyrotoxicosis. It is interesting to see the selective action of this drug on the marrow and the attempted correction by the spleen.

The liver was enlarged and weighed 3,200 Gm. and showed a mottled yellow and red granular surface. The cut surface showed firm tissue with fine lobulation. There was diffuse fatty change with a very definite increase of fibrous tissue in the portal areas which accentuated lobulation. Remember that thyrotoxicosis can cause cirrhosis of the liver, and this liver most certainly shows early cirrhotic change (Fig. 4). The smallest liver that I have seen was from a case of longstanding thyrotoxicosis, and that liver weighed only 440 Gm. Here there is very definite fatty degeneration leading to cirrhosis. The etiology of this cirrhotic change may be due to the prolonged depletion of the liver which is caused by the increased metabolism of thyrotoxicosis or may have a vascular origin according to the theory of Moschcowitz.

The stomach was greatly distended with whitish fluid, and the mucosa showed numerous shallow ulcers (Fig. 5). There was no sign of hemorrhage from these ulcers. Microscopically these ulcers were very interesting. They showed masses of fungal mycelia in the floor with surrounding reaction of lymphocytes, plasma cells, a few giant cells, and a rare polymorphonuclear (Fig. 6). In the mesenteric fat there was an area of fat necrosis not associated with any intestinal lesions. Microscopically there was no inflammatory reaction at all. The tongue was coated with thick, white exudate and microscopically showed superficial ulceration of the epidermis with invasion by bacteria and large masses of branching fungi. The fungi were identified as Candida albicans which is a not uncommon invader following massive antibiotic therapy, which this patient had received.

The lungs showed edema and congestion, and there were numerous intra-alveolar vacuolated macrophages but no evidence of polymorphonuclear infiltrations. The kidneys were swollen and showed cloudy swelling of the tubules. There was no sign of fungous infection. The adrenals showed grayish cortical tissue with little fat, as evidenced grossly by a yellow color or microscopically by Sudan IV. This patient had not received sufficient ACTH to cause hyperactivity of the adrenal and no cortisone to cause hypoactivity. The heart was soft and flabby.

This case then resolves itself into thyrotoxicosis and its effects and therapy and its effects. The thyrotoxicosis caused the typical clinical picture of exophthalmos, nervousness, tachycardia, and increase of metabolism and the anatomic picture of fatty degeneration and cirrhosis of the liver. The effects of therapy were agranulocytosis due to propylthiouracil and a terminal fungous infection due to massive doses of antibiotics. In addition, she had diabetes mellitus for which no anatomic cause was demonstrated, the pancreas being normal. It is true that diabetes may cause fatty degeneration of the liver, but her diabetes was not severe and was well controlled, and the thyrotoxicosis dominated the clinical course. The final insult that caused her death was the supervention of right and left heart failure.

Desmoid Tumors

J. W. FIELDING, M.D., NEW YORK CITY

(*From the Orthopedic Services of St. Luke's and Polyclinic Hospitals*)

Desmoid tumors are locally invasive, reputedly benign neoplasms of fibrous tissue origin. These growths are generally conceded to be distinct tumor entities. There may be some question of this in view of the differences of opinion that exist as to their cause, morphology, and pathologic implications. Difficulty frequently arises in separating them histologically from fibrosarcomas. In borderline cases a clinical course seems to afford the only definite answer.

The tumors were first described by Macfarlane[1] in 1832 and were named "desmoid" in 1838 by Mueller,[2] who formulated the term from two Greek words meaning "band or tendon-like." Desmoid tumors were once considered to occur only in the wall of the abdomen, but it is now well established that they can occur elsewhere.

These lesions have been reported as arising in association with fascia, muscles, tendons, aponeuroses, and related structures. They are usually found in the abdominal wall of young parous females and are infrequent elsewhere. Although considered benign, they are without a capsule. They invade locally and compress and destroy adjacent muscular and fibrous tissue. Wide excision is the treatment of choice.

Since they are fibrous and invade and involve adjacent fibrous tissues and other similar structures, their limits are difficult to establish at operation, and remnants may be left in situ—hence, their marked tendency to recur. Occasionally their extent is so great that complete removal is impossible. Irradiation and hormone therapy have been used for such cases. No reports of unqualified success from such therapy are at hand.

The gross picture of these lesions is that of a whitish, rubbery, hard mass. Growth follows the long axis of the muscles. The tumor grossly involves the surrounding parts.

Microscopically, the lesions are without a capsule. They are composed of whorls of mature fibrous tissue invading, splitting up, and destroying the adjacent muscle. At the periphery of the tumor the lesion is more cellular, and in these regions it contains inclusions of dead and degenerating skeletal muscle. In these peripheral regions many so-called "muscle giant cells" are seen. These must not be confused with foreign body or other giant cells. They merely represent the castoff nuclei of the dead and degenerating muscle fibers grouped in the remaining fragments of muscle protoplasm. These inclusions and "muscle giant cells" are characteristic of the desmoid tumor and are seen infrequently in other lesions.

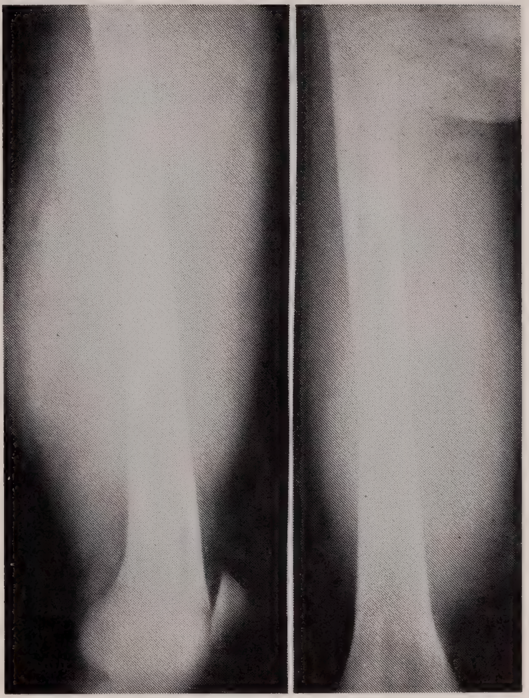

Fig. 1. *Case 1*—Preoperative roentgenogram of left thigh showing marked enlargement of the soft tissues with increased density and no bony involvement.

Desmoid tumors should be differentiated from fibromas, which are usually more superficial, smaller, encapsulated, not invasive, and do not recur after removal. Their differentiation from fibrosarcoma may be extremely difficult. Musgrove and McDonald[3] have stated that a fibrosarcoma is more apt to be encapsulated or well circumscribed, rounder, larger, and softer and to have a homogeneous salmon-pink appearance on cut surface. Microscopically a fibrosarcoma is more cellular, has more mitoses, and, in addition, shows abnormal mitotic figures. The cells show more variability in size, shape, staining, and nucleoli. In fibrosarcoma, muscle inclusions are frequently absent. Furthermore, metastatic masses may be seen in patients with fibrosarcoma but never in those with desmoids.

Several theories have been advanced regarding the origin of desmoid tumors. The most prevalent is that they represent the overgrowth of organizing hematomas that have occurred as a result of indi-

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Presented at a meeting of the Orthopedic Section, New York Academy of Medicine, New York City, March 19, 1954.

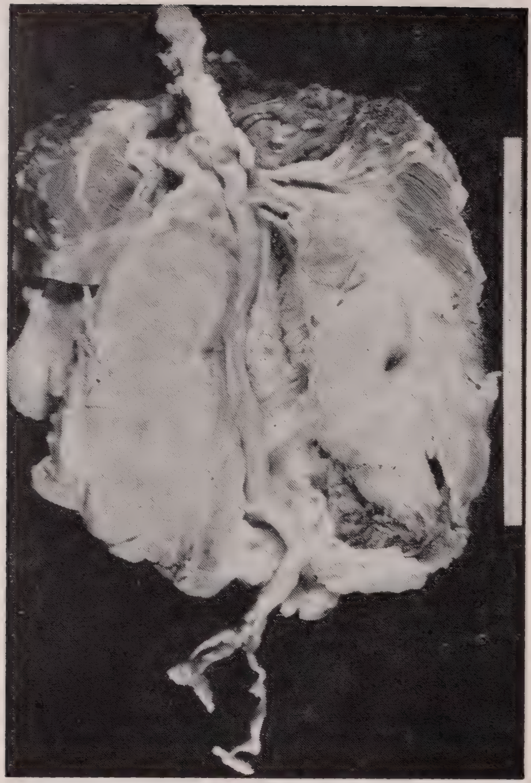

FIG. 2. *Case 1*—Gross specimen removed from amputated limb. Sciatic nerve is completely surrounded by tumor. The growth is whitish and firm and grossly invades the muscle tissue at its periphery.

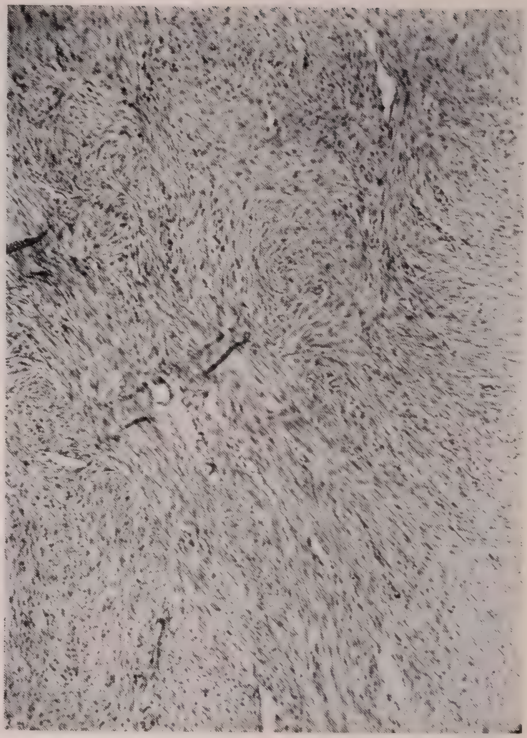

FIG. 3. *Case 1*—Low-power photomicrograph of the central area of the specimen showing the typical appearance of interlacing bands of fibrous tissue of mature type.

rect trauma (muscle rupture during intense physiologic contraction, such as in labor, etc.). Some authors have related their appearance to direct trauma. Geschickter and Lewis[4] claim to have found a large amount of gonadotropic substance in these lesions and suggest a connection with endocrine gland function.

Case Reports

CASE 1.—J. S., a fifteen-year-old boy, was admitted on August 18, 1952, with a large mass in the back of the left thigh that had been progressively increasing in size for one year. Although the mass involved most of the soft tissues on the posterior aspect of the thigh, it was not tender and caused no pain. It interfered but little with motion. The size of the mass was the annoying factor. No injury or known cause could be elicited. Except for the usual childhood diseases the past history was negative. Physical examination revealed a nontender, smooth, firm mass which occupied the whole back of the left thigh. There was no increased warmth, pulsation, or bruit present. The mass appeared to involve and invade the deeper structures. It was not attached to the skin.

The roentgenogram showed marked enlargement of the soft tissues in the thigh, with considerable increase in density (Fig. 1). No bone involvement or periosteal productive change was seen. The margins of the tumor were not well demarcated but blended into the adjacent structures. Fat shadows within the involved area were obliterated, and the lesion appeared homogeneous.

The urine, complete blood count, and alkaline phosphatase were normal. A biopsy was done August 18, 1952, with a preoperative diagnosis of fibrosarcoma. Biopsy revealed a whitish, firm, rubbery tumor extensively invading all the muscles and other structures of the posterior thigh. Its extent precluded conservative removal. Tissue sections were reported by one pathologist as a desmoid-like tumor. Another pathologist made a diagnosis of low-grade fibrosarcoma, malignant in that it was locally invasive and destructive. Yet another reported a fibrosarcoma of neurogenic origin. A fourth pathologist called it a desmoid. On August 26, 1952, a hip joint disarticulation was done. On dissection of the amputated limb the tumor was found to measure 8 by 5 by 5 inches (Fig. 2). It had the typical gross appearance of a desmoid tumor and was composed of whorls of interlacing fibrous tissue invading all the muscles on the back of the thigh. The sciatic nerve was completely surrounded but otherwise grossly uninvolved.

On further study one pathologist classes the histopathology as fibrosarcoma, and another pathologist

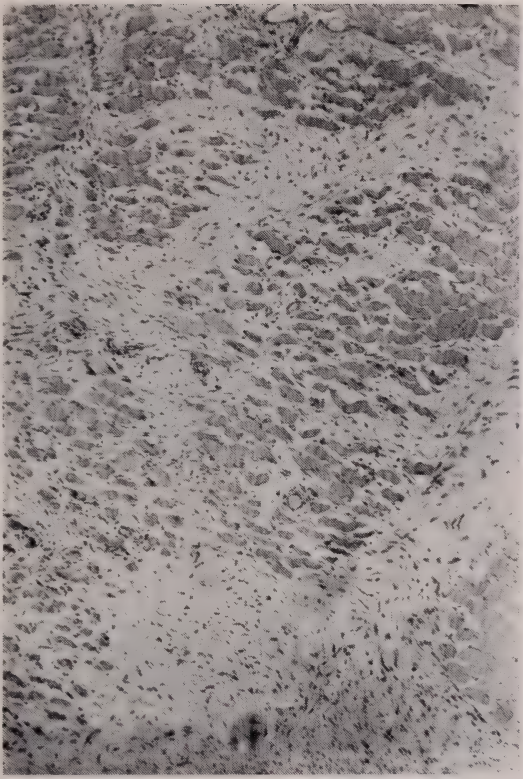

FIG. 4. *Case 1*—The tumor tissue actively invades and splits up the muscle fibers at the periphery.

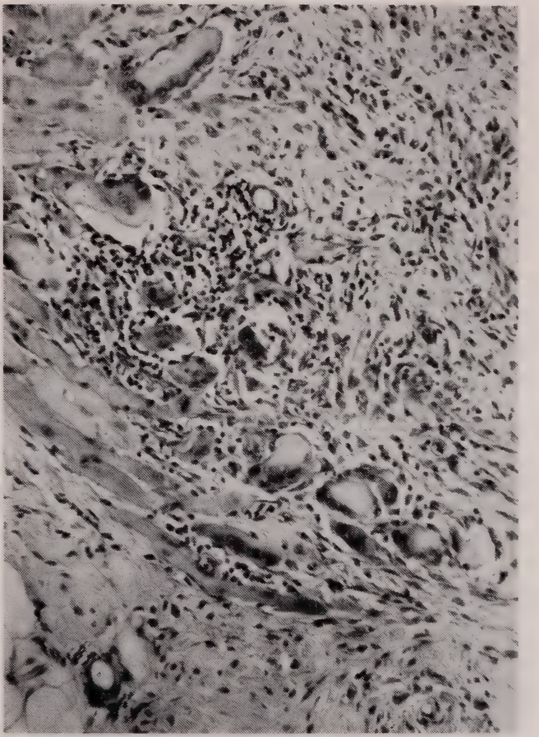

FIG. 5. *Case 1*—In the peripheral areas muscle "giant cells" are seen. These are not giant cells but merely represent the nuclei of the dead and degenerating muscle fibers grouped in the remaining muscle protoplasm.

still holds that it is a desmoid tumor. Sections of the central part of this tumor reveal it to be composed of a fairly mature fibrous tissue running in interlacing bundles (Fig. 3). The cells are elongated and regular. Mitotic figures are rarely seen. At the periphery of the lesion the cells are larger, the tumor itself appears cellular, and there is less collagen between the nuclei. A certain degree of regularity exists. In the peripheral area, where this tumor contacts the muscle, it is seen to invade actively, split up, and destroy the fibers (Fig. 4). These areas reveal the muscle inclusions so constantly reported with the desmoid tumor (Fig. 5). The appearance of "muscle giant cells" in these areas should not be confused with true foreign body giant cells (Fig. 6).

This patient is now two years and five months postoperative and shows no clinical sign of recurrence. He is ambulatory with a prosthesis and is well adjusted to this, both emotionally and physically.

CASE 2.—J. P., a twenty-five-year-old, white female, was admitted October 27, 1952, complaining of asymmetry of the buttock of six months duration. Otherwise, there were no symptoms. Her past history was negative for injury or related facts.

A firm, apparently discrete, nontender mass approximately 2 inches in diameter was palpated in the back, superior to the left buttock. It appeared to be attached as by a pedicle to the left posterior ilium. The skin was freely movable over it, and the mass itself could be mobilized through a considerable extent.

Roentgenogram disclosed an enlargement of the soft tissues with increased density and diffuse borders lying above the posterior iliac crest in the left lower lumbar region.

Laboratory tests, including blood count and urine analysis, were negative. Biopsy on October 28, 1952, with a preoperative diagnosis of fibrosarcoma, revealed a whitish, hard, elongated mass whose central portion measured 3 by 2 by 2 inches (Fig. 7). It was composed of whorls of fibrous tissue invading the muscles and aponeurosis of the dorsolumbar fascia.

The extent and invasive nature of the lesion was so great that we retreated with incomplete excision, expecting a histologic diagnosis of sarcoma. We were amazed, therefore, to receive an unequivocal pathologic report of desmoid tumor. Two weeks after biopsy, a radical excision was done with removal of all adjacent fascia from the left posterior lumbar region, buttock, and upper posterior thigh. Most of the quadratus lumborum and much of the gluteus maximus muscles were also excised as well as the left posterior iliac crest. The resulting defect in the posterior abdominal wall was covered by dissecting up the erector spinae muscles from the

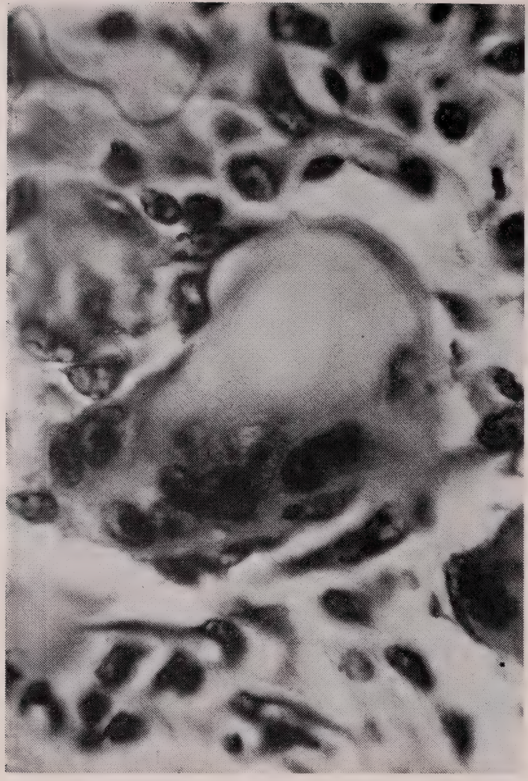

FIG. 6. *Case 1*—A higher power photomicrograph of the clumped muscle nuclei.

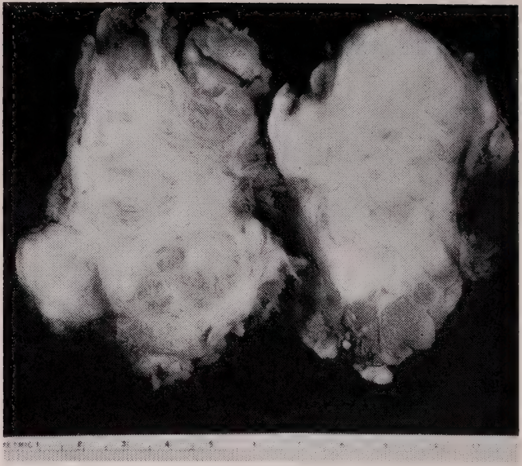

FIG. 7. *Case 2*—Split specimen from the first operation. It is composed of whorls of firm white fibrous tissue invading the surrounding tissues. (*Formalin fixation*)

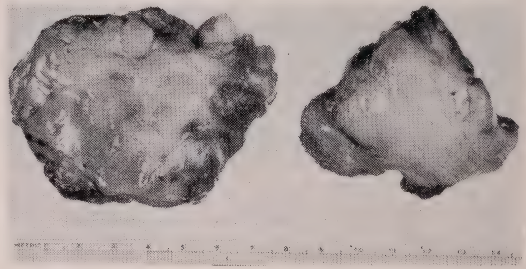

FIG. 8. *Case 2*—Split specimen removed at third operation. This had the same gross appearance after formalin fixation as the specimen from the first procedure. (*Fresh section*)

left sacral gutter and suturing them fanwise across the opening.

Dissections of this tumor have now been reviewed by a second pathologist who makes a diagnosis of low-grade fibrosarcoma. The pathologist who originally studied the biopsy material, on further review of the excised mass, still holds to his diagnosis of desmoid tumor.

Sections of this tumor from the central and peripheral regions reveal a picture identical with that of the first case. The fibrous tissue is of a mature type, running in interlacing bundles, more cellular at the periphery. Muscle inclusions and "muscle giant cells" are also in evidence in these peripheral regions.

Approximately one year and four months after the original excision a small fibrous mass could be palpated at the midpoint of the original excision area. This mass very slowly increased in size. On June 1, 1954, it was radically excised. Its gross appearance was similar to that of the tissue originally removed (Fig. 8). The microscopic study was identical.

Comment

From the two cases reported, the following questions arise:

1. Are desmoid tumors truly a separate entity?
2. Is it possible to differentiate between desmoid tumor and fibrosarcoma in borderline cases?
3. Were these tumors in fact desmoid and not fibrosarcoma?
4. Have they been adequately resected?

Only by stimulating interest in the gathering of a large group of similar lesions for a long-term study, along with development of further histopathologic technics and knowledge, can answers to these questions be given.

742 PARK AVENUE

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Intra-abdominal Hemorrhage in Late Pregnancy Due to a Ruptured Utero-ovarian Vein

JOSEPH MILLETT, M.D., CARL J. McKENNA, M.D., AND
JOHN N. SHELL, M.D., F.A.C.S., HEMPSTEAD, NEW YORK

(From the Mercy Hospital, Rockville Centre)

An unusual cause of maternal morbidity or sudden maternal death is massive intra-abdominal hemorrhage complicating pregnancy due to a ruptured utero-ovarian vein. This type of hemorrhage presents a confusing diagnostic problem because of its rarity. It also presents a highly dramatic clinical picture because of its association with pregnancy and the rapidity of the events which ensue.

Hodgkinson and Christensen[1] have reviewed this subject extensively. They reported three cases of their own and culled 72 additional cases from the literature. Instances were found where hemorrhage occurred from as early as ten weeks gestation to twenty-one days postpartum. In 44 cases symptoms came on in relation to labor. Twenty-eight cases were not related to labor. Fourteen of these were directly related to effort such as a rough ride in a wagon, sudden movements, eating, housecleaning, lifting small children, defecation, arising from bed, severe cough, and coitus.

In 14 of these cases the symptoms came on spontaneously for no known reason. Hugenberger *et al.*[2] reported on their case of a seven-months pregnant woman who experienced sudden, severe abdominal pain while quietly sewing, while Hodgkinson[3] later reported another patient, thirty-six weeks pregnant, who was sitting quietly at home and was suddenly struck with a severe pain in the left lower quadrant. Both of these cases were admitted to the hospital within a matter of five hours in acute surgical shock.

It is their belief that a sudden rise in the venous pressure in the uterine-ovarian veins—high enough to rupture a normal vein or, on a lower level of pressure, high enough to rupture an inherently weak-walled vein—causes bleeding into the peritoneal cavity and the resulting train of events.

The following case report in which the hemorrhage came on apparently spontaneously had some interesting prodromal and postpartum features which were unusual and which merit discussion.

Case Report

On September 29, 1946, V. F., a thirty-year-old, white female, gravida 3, para 2, with a previously entirely uneventful obstetric, medical, or surgical history, was admitted to the private obstetric pavilion at Mercy Hospital (J.M.), complaining of pain of approximately twelve hours duration in the right side of her back in the costovertebral angle, radiating to her right shoulder, anteriorly over the abdomen, and down the course of the right ureter to the bladder region. She was thirty weeks pregnant; the fetus was intact, and the fetal heart sounds were normal and in the left lower quadrant. She had no temperature, the blood pressure was normal, the chest was clear, there was no right costovertebral tenderness, the abdomen was entirely negative, and a catheterized specimen of urine was clear of pus or blood. The tentative diagnosis of right renal colic or right diaphragmatic pleurisy was not borne out, and the patient improved rapidly. She was discharged on October 1, 1946, well but undiagnosed. Seen at the office two weeks later, she was entirely normal and had no complaints.

On November 10, 1946, practically at term, she was again admitted to the hospital, this time with a diagnosis of left renal colic of approximately six hours duration. The patient appeared obviously distressed because of her pain. There was tenderness on fist percussion over the left flank. The pain radiated to the left lower quadrant. There was a complaint of urinary difficulty at this time. The catheterized urine specimen was entirely negative. The uterus was negative, and the fetal heart was heard to be normal in the left lower quadrant. There was no evidence of labor. The blood pressure was normal. The patient again rapidly improved and was sent home symptom-free on November 11, 1946, after one day in the hospital.

The next day, November 12, 1946, at 7 P.M. there was an urgent call to see the patient at home as "she was very sick." When seen at 7:30 P.M., she was the picture of marked acute surgical shock, pale, cold, clammy, but conscious and oriented. The pillow and the sheets of the bed were soaked with her sweat. The blood pressure was 70/40, the pulse rapid but of good quality; the uterus was rigid and tender, but she was not in labor, and no fetal sounds could be heard. She stated that at about 4 P.M., after sitting for about an hour at a P.T.A. meeting at school on a low bench, she arose to leave. As she did so, she had a severe pain in the lower abdomen, broke into a sweat, and fainted. She was quickly revived and, after resting a while, walked two blocks to her home. She rapidly became weaker and finally sought help three hours later.

On admission to the hospital at about 8:30 P.M. she was given plasma and blood. Further examination revealed no vaginal bleeding. She was not in labor. Because of the unusual sequence of events an obstetric consultation was held. The obstetrician (C.J.M.) stated that in his opinion the clinical picture resembled a premature separation of the placenta with concealed hemorrhage. Intraperitoneal hemorrhage of uterine origin could not be ruled out, but in view of her slowly improving condition, watchful waiting was in order. A catheterized specimen of urine revealed 50 to 60 white blood cells with clumps but was otherwise negative. Hemoglobin was 46 per cent and red blood cells 2,400,000.

The patient began to rally in a couple of hours. The blood pressure rose to 130/70. About 10 A.M. on November 13, 1946, her membranes were ruptured artificially (C.J.M.). She went into labor gradually, and at 2 P.M. a stillborn full-term normal baby was delivered spontaneously, followed by the spontaneous delivery of a normal placenta.

The patient did so well that she was shortly allowed up and about, and a diagnostic program to account for her bleeding and shock was instituted. Her stool studies were negative for blood. Her upper gastrointestinal series was normal. An intravenous pyelogram revealed a moderate hydronephrosis on the right. No blood dyscrasias were noted, and urine studies were essentially normal. About the first of December the patient began to run a low-grade temperature which gradually became higher, and by December 6, 1946, a cystic, tender mass in the left lower quadrant extending almost to the unbilicus was noted. It was felt that this mass must be either a hematoma, abscess, or infected hematoma. The surgical consultant (J.N.S.) agreed, and he entered the abdomen on the left side, coming down on the mass retroperitoneally. The bluish-appearing mass was incised, and a drain was inserted followed by the discharge of a serosanguineous fluid containing pus. The temperature subsided, the mass gradually disappeared, and the patient was discharged on December 22, 1946, in excellent condition. She agreed to return to the hospital in the near future for an exploratory operation.

She returned on January 29, 1947, and was discharged on February 10, 1947. Exploration revealed a cordlike structure running from the left side of the abdominal wall at the original point of drainage to the left broad ligament attachment to the left side of the dome of the uterus. This was removed, and pathologic microscopic examination revealed "active subacute organizing inflammation."

The patient was last seen in October, 1955. She was in excellent health, and the pelvic examination and the history subsequent to discharge from the hospital eight years ago was entirely negative (J.M.).

Comment

Rupture of a uterine-ovarian vein complicating pregnancy is an extremely rare condition. The literature on this subject is relatively sparse.[1-4] It is a most serious condition, however, since it carries a maternal mortality rate of 49.3 per cent.[1] Etiology of the rupture is difficult to determine since it can occur with either marked or slight antepartum or postpartum exertion, during labor, or spontaneously without apparent cause. The most that can be said is that a rise in the local venous pressure can be sufficient to rupture a normal or a predisposed weak-walled vein in already dilated uterine veins at the time of the pregnancy.

Early diagnosis of this type of hemorrhage can be lifesaving for the mother and for the fetus if it is still viable at the time of intervention. The first presenting sign is sudden acute lower abdominal pain followed by signs of acute shock. The further management of the case will depend on the clinical awareness of the area of bleeding. If the hemorrhage occurs within the broad ligament, the pain is limited to the flank on the side of the hemorrhage with secondary signs of bladder irritation and uterine rigidity. This type of hemorrhage may be suspected to be a renal colic type of pain and shock, particularly if these symptoms are limited to some extent and if the patient tends to recover rather rapidly. The urine, however, is negative. If this type of hemorrhage, limited by the folds of the broad ligament, is suspected and the fetus is still alive, emergency cesarean section should be performed and the bleeding point ligated. If the baby is dead and the mother is apparently recovering from shock by the time she reaches the hospital, perhaps conservative treatment and delivery of the fetus from below is the method of choice, as in the case herein reported, with close observation as to the eventual fate of the blood in the broad ligament.

If the patient is brought into the hospital with apparently rapid, free bleeding into the peritoneal cavity and with persistent, profound surgical shock, the patient should be operated on immediately or as soon as her condition warrants after appropriate treatment for shock. The bleeding vein should be isolated and ligated and the abdomen closed. If the baby is alive, immediate delivery by cesarean section is indicated. If it is dead, delivery by cesarean section will only increase the operative burden on an already shocked and anesthetized patient. All things being equal, the interest of the patient would best be served by spontaneous delivery from below after the bleeding is ligated. If a bleeding point cannot be found, hysterectomy may have to be resorted to in order to save the patient's life.

Differential dignosis must include rupture of the uterus and premature separation of the placenta with concealed hemorrhage. So-called "obstetric shock of unknown origin" during or shortly after delivery, sometimes ascribed to the anesthesia, may have been caused by sudden massive intraperitoneal bleeding followed rapidly by death.

Summary

A case of spontaneous rupture of a uterine vein

into the left broad ligament with prodromal symptoms simulating left renal colic is described.

The differential diagnosis and treatment are reviewed.

Spontaneous rupture of a uterine vein in late pregnancy with massive intra-abdominal hemorrhage either into the broad ligament or peritoneal cavity is a rare condition, seldom seen, and rarely diagnosed as such.

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Cryptococcosis Associated with Hodgkin's Disease

HERBERT L. GOODMAN, M.D.,* BROOKLYN, NEW YORK

(*From the Department of Pathology, Veterans Administration Hospital*)

THE coincidence of cryptococcosis as a complicating infection in Hodgkin's disease was first described in 1923 by Freeman and Weidman.[1] Since that time the numerous similar cases reported in the literature make the dual occurrence of these diseases less rare than would be expected by chance alone. The present case is presented as another example of this association, as well as for the interesting history and prodromata leading to the diagnosis of Hodgkin's disease.

Case Report

The illness of this fifty-seven-year-old, white, male minister apparently first began in December, 1952, when he noted the onset of swollen cervical glands. The peripheral blood smear revealed some "atypical lymphocytes," and a heterophil serum titer was positive in dilution of 1:7. The patient was told he had infectious mononucleosis.

FIRST ADMISSION.—He was first admitted to the Brooklyn Veterans Hospital two weeks later because of low-grade fever and cervical adenopathy. The past history revealed mild diabetes for twenty years, controlled by diet and small amounts of insulin. Family history was noncontributory. On admission the temperature was 99 F. and the blood pressure 150/90 mm. Hg. Moderate generalized lymphadenopathy was noted; all nodes were firm, discrete, movable, and nontender. The liver was palpated 1 cm. below the right costal margin. The spleen was not enlarged. Laboratory examination revealed a red count of 4,700,000 with 13 Gm. of hemoglobin. The white count was 7,500 with normal differential, except for some "atypical lymphocytes" which were not further described. Heterophil tests were negative on two occasions. Two additional titers were positive in dilutions of 1:14 and negative after guinea pig kidney absorption. Serologic test for syphilis was negative. The remainder of the laboratory workup was not remarkable. Chest x-ray was within normal limits. During twenty-five days of hospitalization the lymphadenopathy subsided without specific therapy. Sternal marrow examination and lymph node biopsy were not performed. The patient was discharged with a presumptive diagnosis of infectious mononucleosis.

SECOND ADMISSION.—In January, 1953, one month after discharge, the patient was readmitted because of an upper respiratory infection and cough. On admission he appeared flushed and toxic with a temperature of 102.4 F. There was a nasal discharge, and the pharynx was injected. Both tonsils were hyperemic and enlarged with an area of ulceration on the left tonsil. Cervical glands were enlarged, matted, and tender on palpation. The heart and lungs were within normal limits. No abdominal viscera were palpated. The white blood count was 9,600 with a normal differential. Two heterophil agglutination tests were negative. Throat cultures revealed a hemolytic micrococcus. The temperature returned to normal by the fourth day under penicillin therapy. On the sixth hospital day the patient had an episode of dark urine. A bromsulfaein test showed 34 per cent retention in one hour; the alkaline phosphatase was 65 King-Armstrong units. Two weeks later all liver chemistries were within normal limits. This episode was interpreted as mild recurrent hepatitis, probably on the basis of recent infectious mononucleosis. The persistence of cervical lymphadenopathy was thought to lend support to this diagnosis. Repeat heterophil tests were negative. The patient was discharged after five weeks of hospitalization. Bone marrow study and lymph node biopsy were not performed.

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* Present address: Bryn Mawr Hospital, Bryn Mawr, Pennsylvania.

Third Admission.—The patient was again admitted five months later, in September, 1953, because of pain in the right groin and swelling of the right lower extremity. This apparently took place after a period of excessive walking. The patient had been well during the interval. On examination the temperature was 100 F. and blood pressure 156/90 mm. Hg. There was slight swelling of the right leg and thigh without redness or tenderness. Generalized lymphadenopathy was present with the most prominent nodes in the right submandibular, right posterior cervical, and both axillary regions. The largest nodes measured 2 by 1 cm.; all nodes were firm, movable, and nontender. Chest x-ray showed no enlargement of mediastinal glands. All laboratory examinations and blood chemistries were within normal limits. A diagnosis of thrombophlebitis was made, and the patient showed good response to anticoagulants, penicillin, and supportive measures. Because of the persistent lymphadenopathy for a period of nine months, a biopsy of a left axillary node was performed. This showed unequivocal Hodgkin's disease on microscopic examination. It was felt that in view of the mild, generalized, and rather stationary gland involvement, no specific therapy was warranted at the time.

Fourth Admission.—Six weeks later, in December, 1953, the patient came to the hospital for reevaluation of his Hodgkin's disease. He had received a course of x-ray therapy under the care of his physician for recurrent swelling in the right groin. Examination showed a generalized increase in the enlargement of lymph nodes in all areas. The liver and spleen were not palpable. All laboratory examinations were within normal limits. Chest x-ray was negative. Since the patient was asymptomatic, it was decided to withhold further treatment.

Fifth Admission.—In April, 1954, three months later, the patient was readmitted because of weakness and severe frontal headaches. Blood pressure was 148/48 mm. Hg. There was a generalized enlargement of lymph nodes in the neck, axillae, and groins. The liver was questionably palpable. The spleen was noted to be 2 cm. below the left costal margin. Neurologic examination was entirely within normal limits. The red blood count was 3,900,000 with 11 Gm. of hemoglobin, and the white count 5,000 with normal differential. Urinalysis, blood chemistries, and chest x-ray were within normal limits. During the first few days of hospitalization the patient had episodes of vomiting and periods of mild disorientation. Headaches were partially relieved by aspirin. After ten days, blurring of the temporal margins of both disks was seen on ophthalmoscopic examination. The patient now had a staggering gait. Skull x-rays were within normal limits.

A lumbar puncture tap showed an initial spinal fluid pressure of 200 mm. of water with normal dynamics. The fluid was clear and colorless; the total cell count was 78 with lymphocytes predominating. The spinal fluid protein was 84 mg. per 100 cc., chlorides 123 mEq. per L., and sugar 78 mg. per 100 cc. Kolmer and VDRL were negative; the colloidal gold curve was 0001221000. Cultures of the fluid were not taken.

Electroencephalogram showed a grossly abnormal record of diffuse nature. It was felt that the patient's symptoms and abnormal physical findings were due to Hodgkin's involvement of the central nervous system. Accordingly, a four-day course of nitrogen mustard was given, 0.1 mg. per Kg. The patient experienced no relief from his headaches, weakness, or vomiting. Repeat spinal tap now showed a marked diminution in the number of cells to 2 neutrophils and 5 lymphocytes. The fluid was clear with normal pressures. The spinal fluid protein was 112 mg. per 100 cc. Cultures were not taken at this time. The patient was discharged essentially unimproved after eight weeks of hospitalization.

Sixth and Final Admission.—The final admission of the patient was in June, 1954, two weeks after previous discharge, because of dragging of the right leg and falling to the floor. Visual and auditory hallucinations were also noted by the family. At this time physical examination showed bilateral nystagmus and inability to rotate the right eye. Deep tendon reflexes were hyperactive. Babinski signs were negative. The liver and spleen were not palpable. Generalized lymphadenopathy was present with matted nodes in the axillae. Chest and skull x-rays were normal. Electroencephalogram showed a similar diffuse abnormal pattern over both hemispheres as noted previously. In view of the past diagnosis of Hodgkin's disease of the central nervous system and the failure of nitrogen mustard therapy, the patient was now given a course of x-ray therapy to the skull. Following this there was no clinical improvement whatsoever. A lumbar puncture showed normal dynamics. The fluid was clear, and 17 cells were noted, interpreted as neutrophils. Spinal fluid protein was 108 mg. per 100 cc. Direct smear of the fluid showed no bacteria or fungi. The specimen was cultured on brain-heart infusion broth and blood agar plates. After eight days, growth of an uncontaminated encapsulated budding yeast was noted, consistent with Cryptococcus neoformans (Fig. 1). Three mice were injected intraperitoneally with 0.1 cc. of 1:10 dilution of this culture, and organisms were recovered in large numbers from the groins and spinal fluids after three weeks. A repeat spinal tap on the patient again revealed cryptococcus organisms. Sensitivity tests on the fungus showed it to be resistant to penicillin, streptomycin, Aureomycin, Terramycin, bacitracin, erythromycin, and Magnamycin.

On September 3, 1954, the patient was started on hydroxy-stilbamidine, 150 mg. daily. Marked

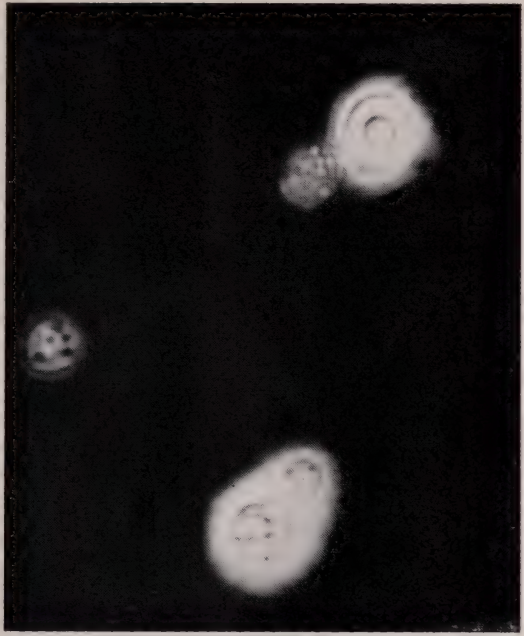

FIG. 1. India ink preparation of spinal fluid showing encapsulated cryptococci.

nausea and vomiting developed after one week, and the therapy was discontinued in favor of Diodoquin, 0.2 Gm. three times daily for ten days. During this time the patient was almost completely afebrile but continued to show altered reflexes, visual disturbances, and mental confusion. Numerous spinal cultures after stilbamidine and Diodoquin persistently showed cryptococcus organisms when cultured on Sabouraud's media. On one occasion organisms were seen on direct smear with an india ink preparation. The patient's course was one of continued mental deterioration and finally stupor. He expired on October 22, 1954.

POSTMORTEM EXAMINATION.—External examination of the body showed shotty lymph nodes in the right anterior cervical triangle, a single right submandibular node measuring 2 by 1 cm., four enlarged nodes in the right axilla, and two small nodes in the left axilla. None were found in the groins or epitrochlear regions. The skin and mucous membranes were very pale. A large decubitus ulceration was present over the sacrum. The peritoneal surfaces were smooth and glistening. No free fluid was present in the abdomen. The spleen and liver were not grossly enlarged. There was focal fibrous thickening of the pleura.

The heart weighed 240 Gm. and was normal in contour. There was no gross abnormality of the valves or myocardium. The coronary arteries contained focal arteriosclerotic plaques with no evidence of occlusion. Microscopic examination of the heart was not remarkable.

The right lung weighed 580 Gm. and the left 520 Gm. Both lungs were moist and congested with focal, gray, granular patches in both lower lobes. The mucosa of the tracheobronchial tree was congested. Microscopic examination revealed areas of polymorphonuclear exudate in the alveoli of the lower lobes. The lungs showed no evidence of Hodgkin's disease or cryptococcus infection.

The spleen weighed 520 Gm. with fibrous adhesions between the capsule and the diaphragm. Cut section showed a firm, dark red, homogeneous parenchyma. Microscopic examination showed diffuse sinusoidal congestion and a moderate, diffuse increase in fibrous connective tissue. Throughout the sinusoids there were large numbers of pleomorphic reticulum cells, many with multilobed and mirror nuclei, typical of Reed-Sternberg cells. Eosinophils were scant. No fungi or areas of necrosis were noted.

The liver weighed 1,440 Gm. The capsule was smooth, brown, and glistening. The cut surface presented the usual fine, lobular architecture with normal consistency. On histologic examination numerous focal cellular infiltrates were seen, containing lymphocytes, mononuclear cells, and large Reed-Sternberg cells similar to those noted in the spleen. Eosinophils were present in small numbers. No fungi or areas of necrosis were present.

The kidneys each weighed 135 Gm. and presented a barely visible, fine granularity over all surfaces. A single, firm, yellow, wedge-shaped area measuring 1 by 0.5 cm. was noted in the cortex of the right kidney. Microscopic examination revealed small subcapsular scars in both kidneys. Occasional tubules contained eosinophilic, amorphous, and brown granular casts. One larger zone of dense, hyalinized connective tissue was seen in the cortex of the right kidney. No fungi or abnormal cellular infiltrates were noted.

The gallbladder, bile ducts, gastrointestinal tract, pancreas, adrenals, urinary bladder, prostate, testes, and thyroid gland were not unusual. Bone marrow from the sternum, ribs, and lumbodorsal spine was red and soft. Histologic examination showed some increase in general cellularity of all marrow elements with no abnormal cellular infiltrates, fungi, or areas of necrosis.

Lymph nodes from the neck and axillary regions were pink, fleshy, and rubbery on the cut surfaces. The largest node measured 3 cm. in length. Many of the nodes in these regions were minimally enlarged and firm and gray on the cut surface. Three enlarged paratracheal nodes were present. All the mediastinal lymph glands were soft and deeply anthracotic. Numerous pink, fleshy nodes were present about the porta hepatis and head of the pancreas. The mesentery of the small bowel contained small shotty nodes measuring not over 0.7 cm. and not grossly remarkable on cut section. A thickened chain of matted, pink, rubbery nodes was found along the abdominal aorta. Microscopic sections of lymph nodes were studied from all areas. These showed loss of normal architecture with a very pleomorphic cellular infiltrate replacing the parenchyma. Typical Reed-Sternberg cells were seen in large numbers. Eosinophils were scant. A generalized increase in fibrous tissue was present. No fungi were seen with periodic acid and toluidine

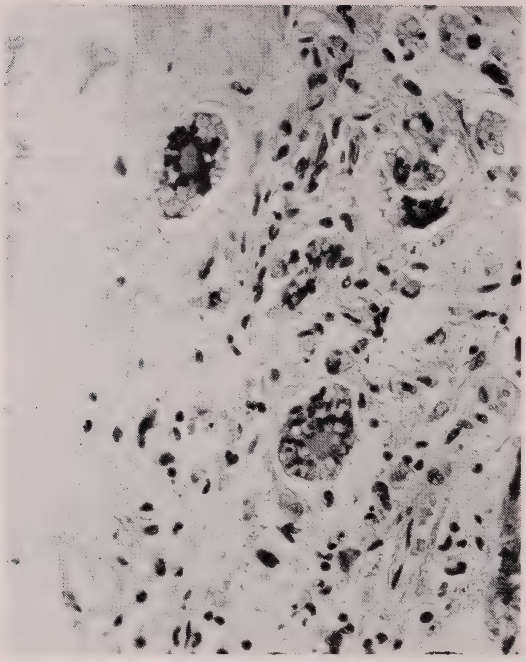

Fig. 2. Cerebellum. Granulomatous meningitis with giant cells and cryptococci. (*Hematoxylin-eosin*)

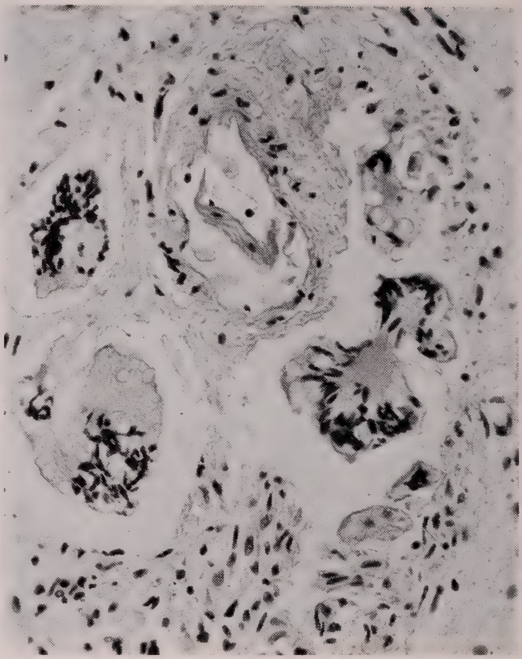

Fig. 3. Thalamus. Cystic and granulomatous reaction with phagocytized cryptococci. (*Hematoxylin-eosin*)

blue stains. No areas of necrosis were seen in the lymph nodes.

The brain weighed 1,210 Gm. The dura overlying the cerebral hemispheres was gray and more opaque than usual but not unduly tense. The dural sinuses were not unusual. The cerebral hemispheres were symmetric and boggy. The gyri and sulci were normal in configuration except for slight focal atrophy of the frontal and inferior temporal gyri. The leptomeninges appeared opalescent with areas of edema and an increase in cloudy, slightly viscid fluid between the gyri and along the vascular spaces, greatest in the region of both Sylvian fissures. A few pinpoint to pinhead-size, grayish nodules were noted in the leptomeninges over both parietal regions. The cortical vessels were not congested. The cerebellum and brain stem were softer than normal but not otherwise remarkable. A few arteriosclerotic plaques were present in the basilar vessels. The pituitary was grossly normal. Cut sections of the brain showed no gross abnormalities other than generalized softening. Examination of the spinal cord, cauda equina, and spinal meninges showed no visible abnormality.

On microscopic examination the cerebellum and cerebral cortex showed numerous areas of focal fibrous thickening of the meninges in which were scattered many foreign body type giant cells, foamy macrophages, and epithelioid cells. Lymphocytes and plasma cells were present throughout the meninges. In the interstices of the meningeal connective tissue were many small, round, faintly basophilic, clear refractile bodies resembling yeast cells. Large numbers of these were present in the cytoplasm of giant cells and on routine and special staining appeared to be surrounded by a clear capsular zone (Fig. 2). Sudan red stains showed marked fatty degeneration of the dentate nucleus and mild fatty degeneration of the cortical neurons. Holzer stain revealed gliosis of the dentate nucleus and surrounding white matter. Sections of the thalamus showed a small cystic and granulomatous area containing numerous giant cells, epithelioid cells, lymphocytes, and large numbers of free and phagocytized yeast-like organisms (Fig. 3). Section from the choroid plexus of the fourth ventricle contained an area of granulomatous reaction with giant cells and cryptococci. The spinal cord in the lumbar region showed a small similar granulomatous reaction in one location at the emergence of an anterior root.

Postmortem cultures were taken from the heart, spleen, liver, lungs, spinal cord, and brain. A cervical lymph node was also cultured. All specimens were placed in Sabouraud's broth and slants. After six days C. neoformans was recovered from the brain cultures. All other specimens were negative after thirty days.

The final pathologic diagnoses were Hodgkin's disease involving liver, spleen, and lymph nodes; chronic granulomatous meningoencephalitis due to C. neoformans; pulmonary congestion and bronchopneumonia; coronary arteriosclerosis, moderate; old infarction, right kidney; decubitus ulceration, sacral region.

Comment

At the present time there are very close to 220 cases of cryptococcal infections in the literature. A total of 18 cases, including the present report, have been associated with Hodgkin's disease, making the over-all incidence of cryptococcosis with Hodgkin's disease approximately 8 per cent. Although this incidence seems to point to some relationship between the two diseases, no specific explanation has yet been found. It is generally well known, as pointed out by Dubin,[2] that patients with Hodgkin's disease show a poor immunologic response to many infectious diseases, such as the failure to react to tuberculin, weak serologic reactions for syphilis, and the common association of Hodgkin's disease with numerous and sundry types of secondary infectious agents. It would appear that the secondary infecting agent in many instances is a fungus, with no apparent specific relationship of any one organism to Hodgkin's disease. The coexistence of cryptococcosis with diseases of the reticuloendothelial and lymphatic systems in general was pointed out by Collins, Gellhorn, and Trimble,[3] and they found the over-all incidence of cryptococcal infection with such diseases as lymphosarcoma, leukemia, Hodgkin's disease, sarcoid, and nonspecific lymphadenitis, as a group, was 20 per cent. The majority of these cases were in Hodgkin's disease. It has been suggested that cryptococcus may be one of the specific etiologic agents in Hodgkin's disease, but this postulation seems quite unlikely in view of the absence of the organism in the vast number of Hodgkin's cases. The cryptococcal granuloma, of its own nature, may simulate the lesions of Hodgkin's disease in many instances.

By far the most common association of C. neoformans, also known as Torula histolytica, with Hodgkin's disease is a central nervous system infection in the form of a granulomatous meningoencephalitis, as was presented in this case report. In a review of 14 cases by Gendel, Ende, and Norman in 1950,[4] the diagnosis of cryptococcal meningitis was made by lumbar puncture in eight cases while the patients were alive. In four cases the infection was diagnosed only after necropsy. Of the remaining two, one case failed to show central nervous system involvement, and in the other postmortem examination was not performed. These figures stress the importance of spinal fluid examination *with culture for fungi* in any case of Hodgkin's disease with central nervous system disorder. It is highly probable that a number of cryptococcal infections have been missed in instances where autopsy was not performed. Lymph nodes and lungs are second most commonly involved by cryptococcosis, with generalized visceral involvement occurring in approximately half of the cases. The case reported at this time showed no evidence of lymph node or visceral cryptococcosis outside of the central nervous system.

The prognosis in cases of Hodgkin's disease with cryptococcal infection is very grave. The outcome is invariably fatal within a short period of time in cases of generalized cryptococcosis and somewhat better in the localized form, provided there is no spread to the central nervous system. The treatment, be it for generalized or localized disease, is as yet unsolved. Penicillin, streptomycin, and numerous newer antibiotics have given uniformly poor results in almost all instances. A new antibiotic, actidione, derived from the Streptomyces griseus, has been tried with some success in a few instances.[5] In the case reported herein, x-ray therapy to the skull, nitrogen mustard, hydroxy-stilbamidine, Diodoquin, and multiple antibiotics were used without any demonstrable effect on the patient's symptomatology or on the positive spinal fluid cultures.

Summary

An interesting case of Hodgkin's disease with cryptococcal infection of the central nervous system is reported with autopsy findings. The diagnosis of cryptococcosis was made by spinal fluid culture during the life of the patient. Treatment with hydroxy-stilbamidine and Diodoquin failed to show any reversal of the spinal fluid cultures.

A review of the literature reveals a total of 18 cases, including the present report, of cryptococcosis associated with Hodgkin's disease. The importance of spinal fluid cultures and careful histologic examination for C. neoformans is stressed. The inadequacy of present-day therapy is mentioned.

Appreciation for the microphotographs is extended to the Medical Illustrations Laboratory, Veterans Administration Hospital, Brooklyn, New York.

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TREATMENT OF CANCER

IRWIN E. SIRIS, M.D., *Editor*

Subcommittee on Cancer
Council Committee on Public Health and Education
Medical Society of the State of New York

with the cooperation of

Bureau of Cancer Control
New York State Department of Health

Conclusion

IRWIN E. SIRIS, M.D., NEW YORK CITY

(*From the Department of Surgery, New York University College of Medicine; Editor of series on Treatment of Cancer*)

This is the final article in the series on "Treatment of Cancer." The subcommittee is extremely grateful to the contributors. We believe a worthy symposium has been created, and it is our hope that the articles will be gathered into a small pamphlet for distribution.

These contributors have stressed the importance of early detection of cancer by thorough and periodic searches with the readily available diagnostic procedures. Also they have emphasized that early employment of recognized selective methods of treatment will cure many types of cancer, that the prognosis is dependent on the site, the pathologic variations, and the biologic environments, and that therapeutic measures have been developed for treatment of advanced stages of disease in hormone-dependent cancers.

The hopelessness which many of the laity attach to cancer is attributed to the discouraging experiences of relatives and friends and often is a reflection of the attitude of the family physician's experience. This defeatist and pessimistic attitude is to be condemned. Because it causes delay, such thinking is the greatest deterrent to early and effective treatment.

Early detection is not synonymous with early control of *all* cancers. The gratifying results of early treatment of many types of local cancer have more than justified the intensive campaign to educate the laity and alert the physician, because early detection will permit treatment which may successfully alter the course of the disease. Cancer education should be continued unrelentingly so that local disease may be detected (1) before its "invasiveness" and other biologic variations become apparent and (2) before symptomless visceral cancer has disseminated and limited the effectiveness of therapeutic measures.

Detection Clinics

The publicity about detection clinics has resulted in more people seeking periodic physical examinations to allay unfounded fears of cancer and to have ferreted out insidious diseases. While the cost of maintaining these clinics might seem high for the comparatively few precancerous and symptomless cancers which are recognized, the cost is more than offset by the successful outcome in salvaging these patients, training physicians, developing special technics, and gathering of the statistics for educational purposes. The office of the family physician has rightfully become the clinic where cancer is first detected and where successful outcome as a result of early diagnosis is fostered. By education and training he is competent to search for and recognize the disease. By the confidence that he inspires, he can dispel fear, instill an optimistic attitude, and combat delay in treatment.

Statistical studies indicate that much valuable time of the busy physician is saved by routine radiographic examination of the chest, indirect laryngoscopy, examination of accessible sites, as the neck, breast, skin, and cervix, and by digital rectal examination. Further investigation is indicated if there is bleeding from any of the external orifices or persistence of vague unexplained symptoms. The detection of symptomless cancer before its insidious inroads are manifested will justify the efforts entailed in periodic examinations.

Choice of Treatment

Treatment is predicated on many factors. Significant information is derived (1) by assessing the morphologic appearance, the extent of invasion, and the grading of tumors, (2) by estimating the potential biologic behavior, and (3) by evaluating the results in specific instances of various modalities of treatment—surgery, irradiation, and chemotherapy.

Pathologic observations which must be correlated and evaluated in treating cancer include the site; the size; the appearance of the surface area involved; intrinsic, intramural, or extrinsic invasion; proximity to pathways of spread; extension to vital structures; variations in the gross architectural pattern, such as sessile, pedunculated, papillary, polypoid, protuberant, ulcerative, infiltrating, or stenosing. One must take into account the behavior of various tumors: small tumors of high-grade malignancy which metastasize early and large, protuberant, low-grade tumors which are slow growing and metastasize late; the explosive nature of melanomas and the potentially highly malignant tumors of the posterior half of the tongue, the tonsil, the nasopharynx, the esophagus, and the stomach, as well as some tumors of the breast, lung, and cervix. These may be contrasted with rather slow-growing tumors, such as basal cell epithelioma; carcinoma of the cheek, lips, and anterior half of the tongue; mixed tumors of the parotid; papillary type thyroid carcinoma; cystosarcoma phyllodes of the breast; and adenocarcinoma of the large intestine.

Histologic variations may afford prognostic criteria which indicate whether treatment will alter the course of the disease. Some of these microscopic details include pre-existing adenoma or papilloma, predominance of epidermoid or glandular elements in bronchogenic carcinoma, the highly malignant mucus-secreting "signet ring" cell, and the highly aggressive anaplastic carcinoma made up of completely undifferentiated cells.

Inability to correlate these varying architectural patterns with their specific biologic behavior and the unpredictable resistance of the host add to the complexity of choice of treatment.

Advances in Treatment Technics

Promising developments in treatment are being directed toward eradication or control of the neoplastic cell. Technical advances in radiation therapy, rapid strides in the development and selective indications in the use of hormones and chemical compounds, and improvements in surgical management have favorably influenced the course of many cases of cancer.

RADIATION THERAPY.—The supervoltage x-ray generators with multimillion-volt x-rays, the electron beam with selective concentration on small areas with minimum normal tissue damage, the development of rotation therapy, the employment of cobalt radiation, and the use of radioactive isotopes, as well as other byproducts of research in atomic energy—all have been used successfully and have yielded results as good as surgery in selected radiosensitive tumors. Yet in many instances these methods have had no appreciable effect, and in still others the results are equivocal. With more discerning case selection and improvement in technic, significant contributions in treatment should be forthcoming.

HORMONES AND CHEMICAL COMPOUNDS.—The development and use of hormones and chemical compounds have brought about appreciable regression of the disease in selected cases. While chemotherapy is beneficial, the narrow range of benefit without toxic side-effects limits restraining properties of the drugs to lymphomas, such as Hodgkin's disease, and lymphosarcoma, as well as leukemia and multiple myeloma. Transitory palliation has been afforded in some cases of anaplastic oat cell bronchogenic carcinoma.

The partial regression of cancer in sex-dependent organs by hormones is an encouraging development. Some success has resulted from attempting to eliminate the impact of the estrogens on the growth of the cancer cell in premenopausal patients with metastasis or recurrence of tumors. Castration by surgery or irradiation, followed by androgens, may effect a restraining influence for months or years. With the persistence or recurrence after regression further efforts to deprive the cancer of the estrogenic stimulus have been attempted by adrenalectomy and by surgery or irradiation of the hypophysis. The criteria for these formidable procedures are based on clinical, metabolic, and histologic studies defined by Huggins, Pearson, West, Treves, and others. These operations have not been uniformly productive of favorable results. The high morbidity necessitates further clarification of criteria to justify these procedures for the selected group of patients which is temporarily benefited.

Surgical Management.—Technical advances in surgical management and reconstructive surgery have been developed by an increasing number of well-trained surgeons. Their extended training in physiology, pathology, and biochemistry make them equally competent in evaluating the altered physical, chemical, and nutritional deficiencies of patients and in administering the necessary supportive nutritional and rehabilitative modalities. The utilization of antibiotics and the development of highly trained anesthetists enable the surgeon to complete radical surgery successfully with low mortality. The extent of the surgery performed in cancer of certain regions of the body has evoked some controversy. The basic principle of treatment, which has emerged as a result of experience, is the removal of the primary disease with all contiguous lymphatic structures en masse. There are regions in the body where this can be adequately effected, as in lesions of the proximal ascending and sigmoid colon. In viscera where multilymphatic and venous ramifications are contiguous with the disease, successful outcome is dependent on limitation of the intrinsic disease. Extrinsic invasion with fixation and permeation of lymphatics and venous channels indicate dissemination and a poor prognosis. Extensive radical surgery well beyond the disease, frequently involving contiguous organs, has many proponents. Nevertheless, the disability, distress from loss of function, loss of weight, weakness, economic loss from crippling, mental anguish, and failure to rehabilitate may more than offset the temporary local control of cancer. Unfortunately these heroic procedures rarely influence the continued dissemination. These are valid contraindications which should be evaluated in determining the extent of surgery.

The wisdom of more than palliative resection when the disease has extended beyond the involved viscera into multicentric ramifications of lymphatic and hematogenous pathways must be judiciously reserved for those investigators upon whom the profession has been dependent for much of its initiative.

Summary

Yet optimism must prevail in the treatment of cancer. Encouragement in scientific and technical research will ultimately be rewarded with a specific anticancer agent which will control or cure cancer without injury to normal tissue. Until such time we must weigh the therapeutic limitations of surgery, radiation, and chemical agents in our efforts to eradicate a disease whose perplexing biologic characteristics are so obscure.

785 Park Avenue

(This is the twenty-second and final article of a series on Treatment of Cancer)

Business? It's quite simple. It's other people's money.—Alexandre Dumas, the Younger

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Allergic Factors in Infantile Eczema

BRET RATNER, M.D., NEW YORK CITY

(From the Department of Pediatrics and Pediatric Allergy, New York Medical College and Flower and Fifth Avenue Hospitals)

THERE is a greater susceptibility to allergy in children born of highly allergic families. The actual relation of this to genetic factors remains to be evaluated, however. In allergic infants under one year of age we found that eczema was the presenting syndrome in 90 per cent of the cases.[1] The average age of onset of eczema in infants under a year was 1.9 months, and the average age at the time of observation was 6.5 months. It is of further interest to note that of all the allergic syndromes, the period between the age of onset and the time that medical attention is sought is shortest for eczema. In this study of 250 allergic children we found that 45 per cent suffered from eczema, whereas in the adult allergic antecedents of these patients the number of cases with eczema was only about 10 per cent, showing that this disease is particularly related to childhood. From these figures it is apparent that eczema is the prevailing allergic condition in infancy and that it starts considerably earlier than any other allergic syndrome.

Before making a diagnosis of allergic eczema in infants one must rule out many other dermal conditions, such as seborrheic dermatitis, impetigo contagiosa, sudamina, skin irritations due to mechanical factors or excessive use of skin oils, and others.

A dermatitis due to allergic sensitization is variously known as eczema, infantile eczema, atopic eczema, atopic dermatitis, allergic dermatitis, or disseminated neurodermatitis. This should be distinguished from the irritative dermatitis or contact dermatitis which signifies a skin condition due to a primary irritant which in a given concentration or under given circumstances will affect practically all human skins. Thus, a nonallergic contact dermatitis can be caused in the normal skin by contact with a physical or chemical agent. Examples are the typical diaper rash seen in early infancy or the dermatitis resulting from mechanical pressure or irritation. It is characterized by inflammation, of varying degrees of intensity, which may cause the destruction of the percutaneous layers and even the subjacent tissue. The localization and relation to the causative factors makes these conditions readily recognizable, and elimination of the offending factors affords relief.

Typically, infantile eczema presents an erythematous and oozing appearance which involves the face and scattered areas on the body and extremities. It may be localized, or it may affect practically the entire body. The condition is highly pruritic, which is perhaps the outstanding feature. Evidence of bleeding and scratch marks and crusts of congealed blood and serum are the rule.

Most infantile eczemas clear up by the end of the first year. However, if the dermal manifestations persist beyond the second year, they may be succeeded by allergic respiratory symptoms.[2] This syndrome, which we have designated as the "dermal-respiratory syndrome," is significant. A number of years ago it was thought that the eczema of early childhood was due largely, if not entirely, to sensitization to foods. Since more comprehensive testing has been done in children with allergic disorders, we have learned that even young infants with eczema are sensitive, not only to foods but also to inhalants and contactants. The allergic dermal-respiratory syndrome may be defined as a symptom complex in which both dermal manifestations (urticaria or eczema) and respiratory (perennial rhinitis, hay fever, asthma) may occur in the same patient either synchronously or at different periods.

We showed that of all allergic children 35 per cent present this symptom complex. We further showed that of those cases of allergic eczema in which there were positive reactions to inhalant substances, 59 per cent subsequently developed respiratory allergy. It is evident, therefore, that eczema in childhood should not be regarded solely as a dermatologic condition for a substantial proportion of these patients develop either asthma or hay fever.

The dermal-respiratory syndrome may be divided into several categories:

1. Those cases, mostly in infants, which have dermal manifestations alone, with negative skin tests to inhalants.
2. Those cases which have dermal manifestations with positive skin tests to inhalants but which have not yet developed respiratory allergy.
3. Those which present both dermal and respiratory allergy with negative tests to inhalants.
4. Patients who have both dermal and respiratory manifestations and react to inhalants.

The latter group usually is comprised of older children, whereas the former groups are largely made up of infants. This dispersion of cases suggests the manner of the evolution of the development of the dermal-respiratory syndrome.

An interesting parallel to our study was reported by Vowles, Warin, and Apley of London.[3] They studied 84 cases with follow-up visits to the home from thirteen to twenty-two years after admission to the hospital with infantile eczema. Asthma, recurrent bronchitis, and seasonal hay fever were present in 73 per cent of their patients, as compared with 5 to 7 per cent of a control group.

The chronic form of eczema, which is best designated as allergic disseminated neurodermatitis, is perhaps the most difficult form of eczema to eradicate. It tends to become localized in the neck, the flexures of the arms and legs, and the dorsa of the hands. The lesions assume chronic characteristics in the form of papules, fissures, excoriations, lichenifications, and dark, grayish plaques. They are very pruritic, and the skin shows evidence of injury from scratching.

Positive allergic reactions are the rule. The offending allergens are multiple, most important of which are the inhalants and contactants. It should be borne in mind that pollens can definitely be a causative factor in seasonal eczema.

In all chronic eczemas psychogenic factors play an important role.

Perhaps the most difficult problem to combat in chronic eczema is the inevitable presence of secondary dermal infections usually due to staphylococci and fungi. Even in the presence of a truly allergic dermatitis there may be superimposed other dermal conditions such as seborrhea, Kaposi's varicelliform eruption, impetigo contagiosa, moniliasis, trichophytosis, epidermophytosis, pyogenic infections, scabies, pityriasis rosea, molluscum contagiosum, dermatitis venenata, dermatitis resulting from overmedication, and sudamina.

These secondary and concomitant conditions must be treated specifically. The importance of careful differential diagnosis is stressed, for specific treatment may eradicate a condition which has been mistakenly diagnosed as an allergic eczema. This is particularly important when dealing with widespread sudamina, scabies, trichophytosis, and secondarily infected dermatitides of various origins.

The immediate treatment of infantile eczema can be undertaken without elaborate allergy testing. However, if the eczema does not yield to these simple medications, the child should be studied intensively to determine the specific offending allergens responsible for the continuation of symptoms. These diagnostic studies and the institution of antiallergic therapy are important, not only to eradicate the eczema but also to prevent the development of respiratory allergy.

Progress has been made in the specific diagnosis and treatment of eczema since the advent of the allergic skin test. In our studies we found that 85 per cent of infants under one year of age gave positive dermal reactions. Of these, 41 per cent reacted to foods alone and 59 per cent to a combination of foods, inhalants, and contactants.

The passive transfer test, i.e., the testing for antibodies in the child's serum by transferring it to the recipient's skin, is of value in only limited instances in our experience. Humoral antibodies to the offending substances are not always found in the blood of sensitive infants. The direct test in my experience gives much more positive results.

While the child is being treated with wet dressings, lotions, or ointments, the body should be completely covered. At times complete restraint may be essential, the hands and legs being secured to the crib slats. In my experience I have found that bathing with a bland soap and water is not contraindicated.

If secondary infection is present, antibiotics can be used orally.

Because of the absorption and toxicity of boric acid and crude tar, it is best not to use these medicaments for young infants with wet oozing eczemas.

Under no circumstance should an eczematous infant or child be vaccinated against smallpox, nor should such patients be permitted to come in contact with a freshly vaccinated case. Eczema vaccinatum may develop, and this condition may be serious at times since fatalities have resulted.

There are a number of infants who have a dry skin with a sandpaper-like appearance. They appear to be suffering from eczema. Such infants may actually have a thyroid deficiency. A study of the hand bones by x-ray may disclose a retardation in bone maturation. In such instances the judicious use of thyroid is indicated and may result in a correction of the basic skin disturbance.

The present paper is offered to the practitioner and pediatrician as a tentative working basis for the management of the case of allergic eczema which he so frequently encounters.

Summary

Eczema is the prevailing allergic condition in infancy, and it starts considerably earlier than any other allergic symptom. It is relatively infrequent in the allergic adult.

True allergic eczema must be carefully differentiated from a number of other dermal conditions.

Most infantile eczemas clear up by the end of the first year. If the dermal manifestations persist beyond the second year, they are followed by hay fever or asthma in the majority of cases. This we have termed the dermal-respiratory syndrome.

The chronic form of eczema is a very difficult therapeutic problem.

The positive allergic skin reactions are the rule, and the offending allergens are multiple and usually are inhalants and contactants rather than foods.

Secondary infections are very common and should be treated with antibiotics orally.

No infant suffering from eczema should be vaccinated against smallpox.

In a certain number of cases an eczema may be due to hypothyroidism and is often helped by the use of desiccated thyroid.

50 East 78th Street

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(*Number twelve of a series on Fundamentals of Modern Allergy*)

What people say behind your back is your standing in the community.—Edgar Watson Howe

CLINICAL ANESTHESIA CONFERENCE

A series of conferences on medical emergencies
in the operating room including causes of death
during anesthesia

Prepared by the Anesthesia Study Committee of the
New York State Society of Anesthesiologists

BARNETT A. GREENE, M.D., *Chairman*

Death from Local Anesthesia

This typical fatality from local anesthesia provides an opportunity for discussion of the safeguards in the administration and supervision of local anesthesia. Their importance is much greater than generally realized as revealed by the report that five of the six anesthetic deaths in one large hospital in one year were caused by local anesthesia.

Case Report

A thirty-four-year-old, white, healthy female was to undergo rhinoplasty and submucous resection. Oral pentobarbital sodium, 100 mg., was given one hour preoperatively, and 10 mg. of morphine sulfate and 0.4 mg. of atropine sulfate were subcutaneously injected one-half hour later. The effect of the medication was judged to be satisfactory; nevertheless, the patient became quite apprehensive after the beginning of the local anesthesia. Intranasal packing with a mixture of 10 per cent cocaine and 1:1,000 epinephrine and submucous injection of 2 per cent procaine hydrochloride and 1:50,000 epinephrine were administered by the surgeon. The exact amount of each drug was not recorded. Meperidine hydrochloride, 100 mg., was injected subcutaneously to control her marked excitement.

The patient lay flat on the operating table. She was very restless and attempted to vomit during the beginning of the operation. Immediately afterward she suddenly became completely still. The radial pulse and heart sounds were absent. The blood pressure was then taken and found to be unobtainable. Epinephrine and an ampul of nikethamide were injected subcutaneously. Breathing ceased, and artificial respiration was administered with oxygen and a face mask. The chest wall was incised and cardiac massage performed; the heart started and stopped a few times. Several doses of epinephrine and finally digitoxin were injected into the heart. It gradually lost its tone and dilated so that resuscitation was discontinued. The cause of death listed on the hospital chart was "cardiac arrest." Postmortem examination failed to reveal any significant findings.

Comment

From the viewpoint of anesthesiologists rhinoplastic operations under local anesthesia suffer from the "familiarity (that) breeds neglect." This case report should remind everyone that a minor operation may have a catastrophic anesthetic complication. There is no "minor" anesthesia.

In the past such an accident would have been classified under "status thymolymphaticus," "idiosyncrasy," or "hypersensitivity." Today, "cardiac arrest" is the new shibboleth. Whichever scientific pseudonym is chosen, the fact remains that an apparently normal person died as a result of drugs applied, presumably in the usual manner and quantity, by a surgeon experienced with this form of anesthesia. If no change is made in the routine management of this type of local anesthesia, similar fatalities should be expected. Since death due to local anesthesia has never marred the long and varied experience of many anesthesiologists using larger quantities of cocaine, procaine, and epinephrine than are commonly exhibited in rhinoplasty, this type of anesthetic death appears to be preventable. Consistently safe local anesthesia depends on appreciating and scrupulously applying the following facts:

1. Preanesthetic medication with a barbiturate is of no value in the prevention of the "shock-type" of reaction to local anesthetic drugs.

2. Local anesthetics and epinephrine are highly potent drugs which should be as carefully measured and timed during administration as are spinal anesthetic agents.

3. Cocaine is a potent vasoconstrictor, provided time is permitted for its full effect. The addition of epinephrine to cocaine is not only unnecessary but synergizes the adrenergic effects of each.

4. Demerol is a poor choice to control excitement caused by emotion, cocaine, procaine, or epinephrine. In the absence of severe pain a narcotic is never urgently required, particularly before determining the cause and diagnosing the condition, of which excitement is only one sign. Furthermore, the subcutaneous route is too slow for prompt and effective control of any state of excitement in the operating room.

5. Death from local anesthesia is preceded by warning signs unless a massive dose is inadvertently injected intravenously. In most cases, as in this one, untoward effects precede cardiac arrest by several minutes, provided the patient is carefully observed. The earliest and most frequent sign is a fall in blood pressure. If hypotension is detected early and corrected immediately, shock is readily aborted by intravenous ephedrine sulfate, 10 to 25 mg., when the pulse rate is 60 or less or by an infusion of dilute phenylephrine (Neo-Synephrine), mephentermine (Wyamine), or l-norepinephrine (Levophed) when the pulse rate is faster than 60. The warning value of pallor and restlessness is generally ignored because these signs are often caused by epinephrine, pain, or fear and are common, transient accompaniments of surgery with local anesthesia. A vasovagal episode of emotional origin cannot always be differentiated from a "procaine shock" reaction since both may cause hypotension and bradycardia. Treatment should be the same and must be instituted as early as if one were certain that "procaine shock" is present. Furthermore, even the common vasovagal faint can be fatal, even with the patient in the horizontal position.

6. If cardiac arrest in this patient were the climax of ventricular fibrillation, based on adrenergic addition or synergism by epinephrine, cocaine, pain, and fear, then again the careful observation of blood pressure might have detected premonitory signs. The earliest sign of an adrenergic reaction is hypertension; eventually hypotension would appear. Either or both might be heralded or accompanied by an arrhythmia of the pulse. When the cessation of anesthetic administration or operation does not suffice to halt an adrenergic reaction, intravenous injection of an adrenolytic agent, e.g., chlorpromazine or Regitine, is indicated.

Conclusion

The universal assumption, "local anesthesia is the safest method," is not categorically true. To make it so requires more than preventing injections that are inadvertently intravenous or too rapid or avoiding too large quantities or concentrations of drugs. Drug tolerance is unpredictably variable; reactions cannot be eliminated simply by rules of dosage or choice of other agents. The additional requisite and the one usually disregarded is the careful observation of pulse and blood pressure before and during the period of induction and absorption of local anesthesia, especially when the patient exhibits excitement, restlessness, pallor, or vomiting. Otherwise, death from local anesthesia will continue to appear, incorrectly labeled as unpredictable, sudden, and nonpreventable "idiosyncrasy," "hypersensitivity," or "cardiac arrest."

(*Number eight of a series of Clinical Anesthesia Conferences*)

SPECIAL ARTICLE

Prepaid Dental Care

GEORGE R. METCALF, AUBURN, NEW YORK

(*Senator, State of New York, Albany, and Chairman, Committee on Public Health*)

During the 1955 session of the New York State Legislature the sum of $35,000 was appropriated for the purpose of initiating a study into the extent of health insurance coverage. There was the certain feeling that in this vital field of social welfare, great gaps existed in the ability of New York families to pay their medical bills. Where health insurance was lacking, the need for medical treatment often led to a choice between inadequate treatment or crossing the line from solvency to indigence.

It was the assigned duty of the Joint Legislative Committee created by resolution of the State Senate and Assembly to study the problem. As a first step this Committee on Health Insurance Plans contracted with the Columbia University School of Public Health and Administrative Medicine to investigate conditions.

One field which proved of immediate interest to members of the committee was study of prepayment plans for dental services. Statistics showed that Americans receive far less dental care than they need, that 90 per cent of the people need dental attention at some time during their lives, and that less than 30 per cent receive adequate care.

President Truman's Commission on Health Needs referred to this situation as "a staggering volume of accumulated need" and added that, "Sufficient dental care either is not available or is not utilized by the American people to a degree even approaching an adequate level." It was the advice of this Federal commission that dental care be considered a necessary part of any comprehensive health service.

Of course, surveys by several organizations have demonstrated the need. The average family in the middle and lower income groups cannot afford the high cost of dental service.

In 1953 the Health Information Survey, an independent study group, showed that 56 per cent of families earning more than $7,500 a year had seen their dentist in the previous year, only 21 per cent in the class below $3,500, and 17 per cent in the group under $2,000.

Moreover, dental bills bore a direct relationship to the family income. For those in the $6,000 to $7,500 income group, the average cost was $67.84, while in the $2,000 to $3,000 classification, the expenditure fell to $6.62 for dental care. Particularly noteworthy was the fact that for all families with an income under $10,000, the average dental expenditure was $22.73.

This lack of proper dental care for the nation's youth cost Uncle Sam the service of hundreds of thousands of draftees in World War II. One sixth of all rejections from the armed forces was due to defective dentation.

For several years the advocates of health insurance coverage have devoted considerable thought to the possibility of including dental care in comprehensive health insurance programs. Here lay a unique opportunity to improve the health quotient of the American people. Dentists claim that the average American has at least two cavities which need filling.

Failure to initiate prepayment dental plans is largely due to actuarial inexperience. How can one determine the necessary annual premium unless there is some way of forecasting the need for dental care? Without an established pattern setting forth the balanced responsibility between patient and dentist, a plan could topple from exorbitant initial costs of correcting accumulated dental defects. Clearly, as Miss Lee Bamberger, a member of the Joint Committee's project staff, points out, it would be thoroughly unrealistic not to throw up ramparts against "ready access to services long needed but previously not obtained"—at least until more adequate actuarial experience points the way.

This lack of know-how, so to speak, accounts for the relatively small number of prepayment dental programs now in operation; however, the committee found small shoots are springing up in various sections of America, sponsored by insurance, consumer, and labor groups.

One of these which seems to hold tremendous promise for New Yorkers is known as Group Health Dental Insurance, Inc., of New York City. It is set up as a nonprofit corporation, "the first community-wide prepaid dental insurance plan in the United States."

GHDI is a combination of service benefits and paid cash indemnities. For wage earners and their dependents whose family income is less than $5,000, there is full coverage provided the member is in the category of "maintenance care" for prophylaxis, x-rays, fillings, extractions, dentures, fixed or removable bridges, periodontia, oral surgery and orthodontia for children, provided they join the plan under six years of age.

The subscriber must belong to an employe group of 40 or more in which at least three-fourths are members of the plan. He pays an annual premium of $19.80; if married, the charge is $39.60, and for a family of three or more the annual levy is $72.

If the family income is greater than $5,000 a year, the dentist renders his customary charge; GHDI pays an indemnity benefit based on its fee schedule, and the patient makes up the difference.

The "backlog" of dental care is handled in this way: Each subscriber is given an initial x-ray examination to determine the extent of his dental needs. He then pays for one half of all required fillings and extractions, the charges being based on the GHDI schedule of fees. For an additional premium of $10 for an individual or $20 for a family, paid the first year only, GHDI pays the entire cost of these accumulated needs. Once the repair work is completed, the patient is placed in the category of "maintenance care," and his monthly premium covers the cost of dental care.

This represents an upward revision in coverage announced February 8, 1956. Under the original plan, which had been in effect since August, 1954, subscribers were responsible for the first $150 of the cost of accumulated defects.

It is perhaps too soon to determine the ultimate fiscal soundness of the program after only eighteen months of operation, but the direction is unmistakable. Moreover, the response of New York City dentists is enthusiastic. Already about 3,700 practicing dentists, constituting more than one third of the total membership in the area, have joined the plan.

The committee found an older prepaid dental program which is a part of the services provided by the St. Louis Labor Health Institute. Organized in 1945 as a nonprofit corporation by Local 688 of the Teamsters Union, LHI gives comprehensive medical care to all its members. Included is complete dental service with the exception of orthodontic treatments and laboratory charges for bridges and dentures. No charge is levied for the repair of accumulated defects, a fact of great importance to this low income group, whose average weekly wage ranges from $40 to $60. Dr. McNeel, director of the Dental Department, found they had "neglected" their teeth, and "in many cases the mouths . . . were in deplorable condition."

Housed in an excellently equipped office building in downtown St. Louis, the Dental Department takes up two thirds of one floor in the medical center. Says its director, "The planners and organizers of this medical care plan held that dentistry is as much a part of a good health program as any specialty of medicine. . . . In fact, good medical care means good dental care; the two cannot be divorced."

According to LHI figures dental treatment accounts for about 20 per cent of all visits to the medical center by its 15,000 members. Equipment is adequate. There are seven dental chairs and a complete x-ray facility. There are ten dentists, all working part-time. For the year 1952 the equivalent of five full-time dentists, each receiving $10,300 (ten part-time dentists receiving varying amounts), cared for the 9,389 LHI members who received dental care.

Operation costs are met primarily from an employer-paid levy of 5 per cent on gross payrolls, which covers 85 per cent of the total cost of the dental program (as well as prepayment of complete medical, surgical, and hospital care in the medical center, in the patient's home, and in the hospital). The remaining 15 per cent of dental costs is paid by the patient. In 1952 the total dental cost (to employer and employe) per eligible family was $2.35 per month. Of this the individual patient's 15 per cent amounted to $2.03 for the year or 17 cents per month.

The experience of LHI argues down those who contend "prepayment comprehensive dental care cannot be supplied to such segments of the population."

Out on the West Coast the committee discovered that another pilot dental program is under way, this one the handiwork of the International Longshoremen's and Warehousemen's Union and the Pacific Maritime Association. The ILWU serves as a collective bargaining agent for dock workers who live in 21 California, Oregon, and Washington ports, while PMA speaks for the majority of shipping companies along the Pacific.

Five years ago the two groups organized a welfare fund to provide social services for the longshoremen and their families; included was a hospital and medical program. In May, 1954, at the suggestion of the dock workers, $750,000 of the fund's reserves were set aside to initiate a pilot prepaid dental program in four of the major ports. This has now been extended to all the ports. Goldie Krantz, fund secretary, says, "The aim is not just to get a few cavities filled, but to make a lasting contribution to the families' health, to make the fund's health program a progressive one."

Children are the ones to benefit most. Sponsors feel there is "where the money will do the most good." As of October, 1955, there were 10,725 children up to fifteen years of age who received prepaid dental care—7,230 in service plans and 3,495 on a cash indemnity setup.

In each of the three states families have a choice between service and indemnity plans, although in a few small ports only indemnification coverage is available. The California Indemnification Plan is the result of an agreement worked out among the California and Southern California State Dental Associations, the Continental Casualty, and the ILWU-PMA. Payments up to $75 per child are annually made to the dentists by Continental. In Oregon and Washington the plans were developed in similar fashion with state dental societies and insurance companies. Service benefits, as paid in all three states, give the child the care he needs "without dollar limit."

It would appear from our study of these three prepaid dental programs that a plan is feasible provided it rests on a sound financial basis: if the premium is low enough to come within the range of the family's ability to pay, yet high enough to compensate the dentist for his time and effort.

Much depends on the condition of the subscriber's teeth when he joins the plan.

If the mouth is healthy and if there are few carious teeth to fill, programs based on fees that are not prohibitive but which are actuarially sound can be devised.

This is one of the strongest arguments for water fluoridation with its proved reduction by 60 per cent of the incidence of tooth decay. Dr. Wesley O. Young and Dr. Walter J. Pelton, of the Division of Dental Resources, U.S. Public Health Service, maintain, "The reduction in premiums made possible by the lower caries attack rate in a fluoride community would have obvious advantages in organizing a dental prepayment program." The cost of dental care for children in a fluoride-deficient area on a prepaid basis, they indicate, can be almost 300 per cent more than where fluoride is added in the usual quantity of one part to a million.

From its investigation into the progress of these few prepayment dental programs, the New York State Joint Legislative Committee on Health Insurance Plans is confident we stand on the threshold of a new era in dental care. Tools must be shaped to perform the task, and to that end the committee will direct its energies.

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Medical Society of the State of New York

Department of

MEDICAL CARE INSURANCE

Conducted by GEORGE P. FARRELL, *Director*

Tenth Annual Progress Report on New York State Blue Shield Plans

The Bureau of Medical Care Insurance operates under the direction of the Society's Council Committee on Economics and its Subcommittee on Medical Expense Insurance. The statements in this report reflect the operation of the plans for the year ending December 31, 1955, and comparisons with previous years.

Membership.—At December 31, 1955, membership totaled 5,492,871, an increase of 625,578.

Earned Premium Income and Benefits to

TABLE I.—Comparison of Total Surplus (per Contract and per Member) and Reserve for Deferred Maternity Benefits (per Family Contract) for Years Ending December 31, 1955, 1954, 1953, and 1952

Location	Total Surplus	Per Contract	Per Member	Maternity Reserve	Per Family Contract
New York					
1955	$22,600,804	$12.65	$5.72	$4,540,000	$6.26
1954	17,630,817	11.07	5.07	4,090,000	6.49
1953	12,047,367	8.49	3.94	3,700,000	6.72
1952	7,337,585	5.75	2.70	3,555,000	7.40
Buffalo					
1955	$ 2,750,417	$11.94	$4.87	$ 602,500	$3.93
1954	1,919,168	9.58	3.93	580,000	4.35
1953	1,187,163	6.39	2.63	525,000	4.27
1952	861,672	5.51	2.25	445,000	4.22
Rochester					
1955	$ 2,310,389	$15.30	$6.22	$ 432,738	$4.20
1954	1,680,038	12.11	4.92	393,497	4.15
1953	1,107,709	8.77	3.58	333,254	3.89
1952	608,831	5.73	2.35	328,099	4.58
Syracuse					
1955	$ 525,948	$ 7.62	$3.11	$ 168,946	$4.08
1954	437,744	7.55	3.05	125,123	3.56
1953	323,214	7.92	3.15	98,868	3.86
1952	197,327	6.64	2.63	86,007	4.51
Utica					
1955	$ 967,258	$12.21	$5.09	$ 229,207	$5.19
1954	806,414	10.26	4.41	229,207	5.49
1953	705,795	9.26	3.99	229,207	5.69
1952	570,522	7.52	3.37	229,207	5.44
Albany					
1955	$ 960,985	$ 9.76	$4.19	$ 152,000	$3.78
1954	745,076	8.03	3.46	138,000	3.67
1953	508,336	5.96	2.53	137,000	3.85
1952	275,616	4.24	1.82	104,000	3.88
Jamestown					
1955	$ 50,136	$ 6.01	$2.55	$ 29,667	$8.78
1954	40,251	5.36	2.32	20,979	7.36
1953	20,285	3.30	1.46	13,944	6.21
1952	3,271	1.05	4.75	6,634	6.10
Totals					
1955	$30,165,937	...	...	$6,155,058	...
1954	23,281,494	...	...	5,576,806	...
1953	15,899,869	...	...	5,037,273	...
1952	9,854,824	...	...	4,753,947	...

Note: Maternity Benefits are also included on Husband and Wife contracts in the Utica Plan. Allowances for normal obstetric delivery are as follows: New York $75, Jamestown $90, Buffalo $65, Rochester, Syracuse, and Utica $60, Albany $50.

Members.—Net earned income on premiums received amounted to $56,387,909, an increase of $7,173,410, and incurred benefits to members were $42,263,615, an increase of $7,220,609.

Payments to Doctors.—Claim payments to doctors amounted to $40,866,690, an increase of $6,076,055.

Surplus and Maternity Reserves.—Total surplus at December 31, 1955, amounted to $30,165,937, an increase of $6,884,443. Reserves for deferred maternity benefits amounted to $6,155,058, an increase of $578,252.

The Western New York Medical Plan, Buffalo, transferred $140,000 from Net Gain from Underwriting and Investments to Reserve for Special Security Valuation to cover catastrophic and other contingencies and is reflected in Total Surplus.

Additional information has been compiled and is available upon request.

This report covers Blue Shield Plans approved by the Medical Society of the State of New York.

TABLE II.—Comparative Membership (Subscribers and Dependents) for Years Ending December 31, 1955 and 1954

Location	1955	1954	Increase	Per Cent of Increase
New York				
Subscribers	1,787,070	1,592,905	194,165	12.19
Dependents	2,162,108	1,886,578	275,530	14.60
Total	3,949,178	3,479,483	469,695	13.50
Buffalo				
Subscribers	230,420	200,383	30,037	14.99
Dependents	334,408	287,402	47,006	16.35
Total	564,828	487,785	77,043	15.79
Rochester				
Subscribers	151,017	138,696	12,321	8.88
Dependents	220,149	202,630	17,519	8.64
Total	371,166	341,326	29,840	8.74
Syracuse				
Subscribers	69,047	58,001	11,046	19.04
Dependents	100,017	85,271	14,746	17.29
Total	169,064	143,272	25,792	18.00
Utica				
Subscribers	79,199	78,617	582	0.74
Dependents	110,706	104,192	6,514	6.25
Total	189,905	182,809	7,096	3.88
Albany				
Subscribers	98,416	92,838	5,578	6.01
Dependents	130,633	122,457	8,176	6.67
Total	229,049	215,295	13,754	6.39
Jamestown				
Subscribers	8,337	7,514	823	10.95
Dependents	11,344	9,809	1,535	15.65
Total	19,681	17,323	2,358	13.61
Grand Totals				
Subscribers	2,423,506	2,168,954	254,552	11.74
Dependents	3,069,365	2,698,339	371,026	13.75
Total	5,492,871	4,867,293	625,578	12.85

TABLE III.—Comparison of Earned Premium Income, Incurred Claim and Administrative Expenses, and Claim and Expense Ratios to Earned Premium Income for Years Ending December 31, 1955 and 1954

	New York	Buffalo	Rochester	Syracuse	Utica	Albany	Jamestown	Totals
Earned Premium Income								
1955	$40,154,310	$5,579,449	$4,494,427	$1,862,197	$1,755,061	$2,334,365	$208,100	$56,387,909
1954	34,980,730	4,817,297	4,118,329	1,447,432	1,499,506	2,174,397	176,808	49,214,499
Increase	$ 5,173,589	$ 762,152	$ 376,098	$ 414,765	$ 255,555	$ 159,968	$ 31,292	$ 7,173,410
Incurred Claim Expense								
1955	$29,808,989	$4,144,802	$3,472,860	$1,511,823	$1,330,329	$1,837,018	$157,794	$42,263,615
1954	24,342,837	3,519,519	3,111,933	1,112,582	1,161,588	1,673,358	121,189	35,043,006
Increase	$ 5,466,152	$ 625,283	$ 360,927	$ 399,241	$ 168,741	$ 163,660	$ 36,605	$ 7,220,609
Administrative Expense								
1955	$ 5,972,561	$ 655,626	$ 433,711	$ 223,934	$ 266,650	$ 287,952	$ 31,584	$ 7,872,018
1954	5,517,988	548,757	398,128	191,802	262,497	241,325	25,433	7,185,930
Increase	$ 454,573	$ 106,869	$ 35,583	$ 32,132	$ 4,153	$ 46,627	$ 6,151	$ 686,088
Claim Expense Ratio to Earned Premium								
1955	74.24	74.29	77.27	81.18	75.80	78.69	75.83	74.95
1954	69.59	73.06	75.56	76.87	77.46	76.97	68.54	71.20
Administrative Expense Ratio to Earned Premium								
1955	14.87	11.75	9.65	12.03	15.19	12.34	15.18	13.96
1954	15.77	11.39	9.67	13.25	17.51	11.10	14.38	14.60

TABLE IV.—Income, Gain, and Loss for Year Ending December 31, 1955

	New York	Buffalo	Rochester	Syracuse	Utica	Albany	Jamestown
Earned Premium Income	$40,154,310	$5,579,449	$4,494,427	$1,862,197	$1,755,061	$2,334,365	$208,100
Claims and Expenses Incurred	35,781,550	4,800,428	3,906,571	1,735,757	1,596,979	2,124,970	189,378
Gain from Underwriting	$ 4,372,760	$ 779,021	$ 587,856	$ 126,440	$ 158,082	$ 209,395	$ 18,722
Underwriting Adjustments:							
Deferred Maternity Benefits	–$ 450,000	–$ 22,500	–$ 39,240	–$ 43,823	$ ...	–$ 14,000	–$ 8,688
Provision for Special Contingent Surplus	– 1,629,056	– 225,521	– 182,107	– 75,745	– 65,059	– 93,693	– 8,412
Increase in Reserve for Unreported Claims	...	...	...	– 7,830	...	...	– 2,062
Profit and Loss Items	48,107	4,092	7,990	...	– 23,373	– 9,882	...
Total	–$ 2,030,949	–$ 243,929	–$ 213,357	–$ 127,398	–$ 88,432	–$ 117,575	–$ 19,162
Net Gain from Underwriting	$ 2,341,811	$ 535,092	$ 374,499	–$ 958	$ 69,650	$ 91,820	–$ 440
Gain from Investments	657,260*	70,636	61,951	13,417	26,134	30,395	1,913
Gain from Underwriting and Investments	$ 2,999,071	$ 605,728	$ 436,450	$ 12,459	$ 95,784	$ 122,215	$ 1,473
Surplus Adjustments:							
Provision Special Security Valuation	...	–$ 140,000	...	...	...	...	...
Decrease in Reserve for Epidemics and Other Contingencies	$ 4,666	...	...	...	...	...	...
Other Income to Surplus	...	...	$ 11,794	...	...	...	...
Increase in Unassigned Surplus	$ 3,003,737	$ 465,728	$ 448,244	$ 12,459	$ 95,784	$ 122,215	$ 1,473

* $140,580, provision for additional Special Security Valuation Reserve, not included in Investment Gain.

TABLE V.—Distribution of Earned Premium Income, and Amounts Available for Unassigned Surplus for Year Ending December 31, 1955

	New York	Buffalo	Rochester	Syracuse	Utica	Albany	Jamestown
Earned Premium Income	$40,154,310 100.00%	$5,579,449 100.00%	$4,494,427 100.00%	$1,862,197 100.00%	$1,755,061 100.00%	$2,334,365 100.00%	$208,100 100.00%
Incurred Claim Expense	$29,808,989 74.24%	$4,144,802 74.29%	$3,472,860 77.27%	$1,511,823 81.18%	$1,330,329 75.80%	$1,837,018 78.69%	$157,794 75.83%
Administrative Expense	$ 5,972,561 14.87%	$ 655,626 11.75%	$ 433,711 9.65%	$ 223,934 12.03%	$ 266,650 15.19%	$ 287,952 12.34%	$ 31,584 15.18%
Provision for Future Maternity Benefits	$ 450,000 1.12%	$ 22,500 0.40%	$ 39,240 0.87%	$ 43,823 2.35%	....	$ 14,000 0.61%	$ 8,688 4.17%
Provision for Special Contingent Surplus	$ 1,629,056 4.06%	$ 225,521 4.04%	$ 182,107 4.05%	$ 75,745 4.07%	$ 65,059 3.71%	$ 93,693 4.01%	$ 8,412 4.04%
Increase in Reserve for Unreported Claims	....	....	....	$ 7,830 0.42%	....	....	$ 2,062 0.99%
Profit and Loss Items	−$ 48,107 −0.12%	−$ 4,092 −0.07%	−$ 7,990 −0.18%	....	$ 23,373 1.33%	$ 9,882 0.42%	....
Available for Unassigned Surplus	$ 2,341,811 5.83%	$ 535,092 9.59%	$ 374,499 8.34%	−$ 958 −0.05%	$ 69,650 3.97%	$ 91,820 3.93%	−$ 440 −0.21%

TABLE VI.—Comparative Number of Paid Claims (By Contract) for Years Ending December 31, 1955 and 1954

Location	Surgical	Surgical and In-Hospital Medical	Surgical-Medical (Home, Office, Hospital)	Total Claims
New York				
1955	155,276	313,227	254,572	723,075
1954	149,917	230,009	183,995	563,921
Increase	5,359	83,218	70,577	159,154
Buffalo				
1955	84,473	69,742	...	154,215
1954	89,502	44,082	...	133,584
Increase	−5,029	25,660	...	20,631
Rochester				
1955	76,874	...	...	76,874
1954	69,131	...	...	69,131
Increase	7,743	...	...	7,743
Syracuse				
1955	1,448	35,176	19,335	55,959
1954	1,606	21,376	19,858	42,840
Increase	−158	13,800	−523	13,119
Utica				
1955	7,397	39,458	...	46,855
1954	11,501	34,557	...	46,058
Increase	−4,104	4,901	...	797
Albany				
1955	...	41,519	...	41,519
1954	...	38,667	...	38,667
Increase	...	2,852	...	2,852
Jamestown				
1955	3,304	...	...	3,304
1954	2,558	...	...	2,558
Increase	746	...	...	746
Totals				
1955	328,772	499,122	273,907	1,101,801
1954	324,215	368,691	203,853	896,759
Increase	4,557	130,431	70,054	205,042

TABLE VII.—SURPLUS ACCOUNTS FOR YEAR ENDING DECEMBER 31, 1955

	New York	Buffalo	Rochester	Syracuse	Utica	Albany	Jamestown
Surplus, December 31, 1954							
Special Contingent Surplus	$ 6,158,073	$ 857,923	$ 559,285	$199,952	$377,318	$336,058	$12,498
Epidemics, Other Contingencies	1,865,318	...	...	...	...	...	...
Special Security Valuation	357,430	...	...	...	24,000	...	...
Potential Future Claims—Older Age Subscribers	6,000,000	...	...	...	...	...	...
Additional Claims—Minor Surgery	1,000,000	...	...	...	...	...	...
Total Segregated Surplus	$15,380,821	$ 857,923	$ 559,285	$199,952	$401,318	$336,058	$12,498
Unassigned Surplus	2,249,996	1,061,245	1,120,753	237,792	405,096	409,018	27,753
Total Surplus	$17,630,817	$1,919,168	$1,680,038	$437,744	$806,414	$745,076	$40,251
Credits:							
Other Income to Surplus	$ 201,279†	...	$ 11,794	...	...	...	...
Gain from Underwriting*	3,970,868	$ 760,613	556,606	$ 74,787	$134,710	$185,494	$ 7,972
Net Gain from Investments	797,840	70,636	61,951	13,417	26,134	30,395	1,913
Total Credits	$ 4,969,987	$ 831,249	$ 630,351	$ 88,204	$160,844	$215,889	$ 9,885
Surplus, December 31, 1955							
Special Contingent Surplus	$ 7,787,129	$1,083,444	$ 741,392	$275,697	$442,378	$429,752	$20,910
Epidemics, Other Contingencies	1,860,652	140,000	...	...	...	...	...
Special Security Valuation	699,289	...	...	...	24,000	...	...
Potential Future Claims—Older Age Subscribers	6,000,000	...	...	...	...	...	...
Additional Claims—Minor Surgery	1,000,000	...	...	...	...	...	...
Total Segregated Surplus	$17,347,070	$1,223,444	$ 741,392	$275,697	$466,378	$429,752	$20,910
Unassigned Surplus	5,253,734	1,526,973	1,568,997	250,251	500,880	531,233	29,226
Total Surplus	$22,600,804	$2,750,417	$2,310,389	$525,948	$967,258	$960,985	$50,136

* Includes Provision for Special Contingent Surplus.

† Realized and Unrealized Capital Gains on Investments.

TABLE VIII.—COMPARATIVE MEMBERSHIP AND INCREASES (BLUE SHIELD AND BLUE CROSS) AND PER CENT OF BLUE SHIELD MEMBERS TO BLUE CROSS MEMBERS FOR YEARS ENDING DECEMBER 31, 1955, 1954, AND 1953

	1955		1954		1953	
Location	Members	Increase	Members	Increase	Members	Increase
New York						
Blue Shield	3,949,178	469,695	3,479,483	421,684	3,057,799	337,917
Blue Cross	6,170,068	411,311	5,758,757	348,258	5,410,499	230,061
Per Cent	64.00	...	60.42	...	56.52	...
Buffalo						
Blue Shield	564,828	77,043	487,785	36,833	450,952	67,167
Blue Cross	700,490	10,694	689,796	11,805	677,991	49,493
Per Cent	80.63	...	70.71	...	66.51	...
Rochester						
Blue Shield	371,166	29,840	341,326	32,162	309,164	49,907
Blue Cross	467,886	12,443	455,443	26,925	428,518	19,503
Per Cent	79.33	...	74.94	...	72.15	...
Syracuse						
Blue Shield	169,064	25,792	143,272	40,755	102,517	27,407
Blue Cross	370,841	−47	370,888	9,925	360,963	7,247
Per Cent	45.59	...	38.63	...	28.40	...
Utica						
Blue Shield	189,905	7,096	182,809	6,039	176,770	5,780
Blue Cross	200,828	−325	201,153	2,072	199,081	874
Per Cent	94.56	...	90.88	...	88.79	...
Albany						
Blue Shield	229,049	13,754	215,295	14,878	200,417	49,120
Blue Cross	323,082	669	322,413	−6,166	328,579	26,435
Per Cent	70.89	...	66.78	...	60.99	...
Jamestown						
Blue Shield	19,681	2,358	17,323	3,478	13,845	7,085
Blue Cross	51,359	2,779	48,580	3,550	45,030	1,804
Per Cent	38.32	...	35.66	...	30.75	...
Watertown						
Blue Cross	24,688	944	23,744	229	23,415	−408
Totals						
Blue Shield	5,492,871	625,578	4,867,293	555,829	4,311,464	544,383
Blue Cross	8,309,242	438,468	7,870,774	396,698	7,474,076	335,009
Per Cent	66.10	...	61.84	...	57.68	...

TABLE IX.—Claim Cost (Paid Basis) for Year Ending December 31, 1955

Plan Location and Type of Contract	Earned Premium Income	Claim Cost	Per Cent of Claim Cost to Earned Premium	Number of Claims	verage Cost per Claim	Claim Incidence per 1,000 Members per Annum	
						1955	1954
New York							
Surgical	$12,128,643	$ 8,931,367	73.64	155,276	$57.52	110.8	105.2
Surgical, In-Hospital Medical	23,941,643	16,592,883	69.30	313,227	52.97	145.9	134.9
General Medical	4,084,024	3,186,989	78.03	254,572	12.52	1624.6	1456.7
Total	$40,154,310	$28,711,239	71.50	723,075	$39.71	...	...
Buffalo							
Surgical	$ 2,744,781	$ 2,078,847	75.74	84,473	$24,61	280.4	274.5
Surgical, In-Hospital Medical	2,834,668	2,005,955	70.77	69,742	28.76	333.2	313.8
Total	$ 5,579,449	$ 4,084,802	73.21	154,215	$26.49	...	...
Rochester							
Surgical	$ 4,494,427	$ 3,346,588	74.46	76,874	$43.53	215.2	212.8
Syracuse							
Surgical*	$ 44,144	$ 42,009	95.16	1,448	$29.01	345.3	313.3
Surgical, In-Hospital Medical	1,336,917	1,099,224	82.22	35,176	31.25	294.5	257.7
Surgical-Medical*	481,136	363,984	75.65	19,335	18.83	550.4	521.1
Total	$ 1,862,197	$ 1,505,217	80.83	55,959	$26.90	...	...
Utica							
Surgical	$ 210,681	$ 176,859	83.95	7,397	$23.91	161.2	210.9
Surgical, In-Hospital Medical	1,544,380	1,086,002	70.32	39,458	27.52	279.9	278.3
Total	$ 1,755,061	$ 1,262,861	71.95	46,855	$26.95	...	...
Albany							
Surgical, In-Hospital Medical	$ 2,334,365	$ 1,801,973	77.19	41,519	$43.40	187.0	184.0
Jamestown							
Surgical	$ 208,100	$ 154,010	74.01	3,304	$46.61	178.6	164.1
Totals	$56,387,909	$40,866,690	...	1,101,801	...	...	...

* Contracts on an indemnity basis and not offered to new groups.

Note: The variation of Claim Incidence per 1,000 members per annum in Plans offering the same type of contract is generally due to additional benefits such as x-ray and anesthesia.

Antibiotics Double as Deodorants

Antibiotics have been used for lots of things and now physicians are using them as deodorants. This really isn't as strange as it seems. Researchers have found that it is not the perspiration which causes odor, but the action of bacteria on the perspiration. Antibiotics kill the bacteria.

Two Philadelphia physicians studied ten men who normally did not use deodorants or antiperspirants and found that repeated application of antibiotics completely stopped underarm perspiration odor for as long as eighteen hours after the last application.

Neomycin-based creams proved to be most effective in stopping the odor, they said in the December 31 *Journal of the American Medical Association.*

Antibiotics may be the solution for "those few" persons who cannot tolerate the standard aluminum salt deodorants, which usually are "highly effective," they said. A cream containing neomycin sulfate was used once by 25 men. No further washing or application was permitted. Nineteen of the men were without any odor on the first day, seven the second, and four the fourth. In another part of the study, a cream containing the antibiotic, chloramphenicol, prevented odor in 18 of 25 men the first day, six the second day, and four the fourth.

The study, which was supported by a contract from the Army, was made by Walter B. Shelley, M.D., Ph.D., and Milton M. Cahn, M.D., of the Department of Dermatology, University of Pennsylvania School of Medicine.

THE MONTH IN WASHINGTON

A LITTLE-PUBLICIZED study group of eight physicians and scientists has submitted a report to the Secretary of Health, Education, and Welfare that promises to stimulate considerable debate by all interested in medical research, including members of Congress. The committee was appointed by the National Science Foundation a year ago at the request of former HEW Secretary Hobby for "a critical review" of the scope and distribution of all phases of medical research where U.S. funds are used. Heading the committee was Dr. C. N. H. Long of the Yale School of Medicine. Three basic proposals were made by the committee.

1. That research within the National Institutes of Health research be leveled off, and policy and personnel matters there be brought under the scrutiny of an advisory board of nongovernmental medical scientists.
2. That other research under the Public Health Service, including teaching grants to institutions and fellowships, be put under a new Office of Medical Research and Training reporting directly to the HEW Secretary and outside the control of the Public Health Service.
3. That emphasis be placed on general research rather than the present trend of specific grants for specific disease studies, the so-called categoric approach.

On receipt of the report Secretary Folsom promised it would be studied "intensively" both by HEW and PHS officials, but he set no time deadlines.

The Long Committee noted the tremendous growth in Federal medical research during and since World War II and the increasing role played by PHS. While conceding that PHS has done its job effectively, the committee felt that the time has come to re-examine the concentration of activities under one agency.

On its first point the committee said NIH is making a major contribution in medical research and that senior appointments there should actually become "the most sought after in the country." It suggested legislation that would permit employment of research scientists at the Institute without regard to commissioning in the PHS Corps or salary limitations imposed by civil service.

On its second basic proposal the committee recommended that the new agency have authority over (*a*) unrestricted, long-term institutional grants, (*b*) grants for research, both categoric and noncategoric, (*c*) fellowships and traineeships in medical and related areas, and (*d*) grants for construction of research and teaching facilities.

Commenting on the categoric approach to research, the committee said the public has been "led to believe, consciously or unconsciously, that the donation of sufficient sums of money is all that is needed to eradicate diseases which have plagued mankind for centuries."

In Congress any move away from categoric grants in medical research is certain to produce fireworks. Some Senators and Representatives believe it's Congress' responsibility to pinpoint where money it appropriates is to be spent, and they are not inclined to make an exception for research money. Two bills on military medical legislation went through the House without change, after detailed hearings and study by a subcommittee. The expectation is that action on them will not be long delayed in the Senate.

One is designed to make military medical careers more attractive by allowing credit for time spent in medical school and internship and setting up a series of three $50 per month raises after three, six, and ten years service. These would be in addition to the present $100 per month special pay for medical officers. Public Health Service medical officers would benefit, as well as those in Army, Navy, and Air Force. The other bill well on its way to becoming a law allows dependents of servicemen to receive private hospital and medical care, with the government paying the costs of the insurance or health plan coverage and the dependent the first $25 of the hospital bill. The Secretary of Defense, however, could limit or deny such private care in areas where he determines that military medical facilities are adequate to handle the service families.

Notes

Some of the pharmaceutical houses have told Secretary Folsom that they plan to use more personnel and equipment to step up production of Salk vaccine, but his expectation still is that it will be "many months" before there will be enough vaccine for three shots for "all who need them."

Almost all medical programs handled by U.S. Public Health service are virtually assured of comfortable increases in money for next fiscal year. The House approved recommendations of its Appropriations Committee without change. The only large reduction was 19 million dollars in money for the Hill-Burton hospital construction program, the committee explaining this action was taken because the "new" HB program (for clinics, chronically ill hospitals, nursing homes, rehabilitation centers) is getting off to a slow start. A new suggestion for helping to pay for medical care comes from Rep. Charles S. Gubser (R., Calif.). He is proposing that full income tax deductions be allowed for all medical expenses of children under six years of age.

Prepared by the Washington Office of the American Medical Association, Washington, D.C.

CORRESPONDENCE

Statement on "Citroid Compound" Advertising

To the Editor:

In mid-1954 and early 1955, the undersigned published two papers reporting ameliorative effects of a soluble citrus bioflavonoid complex in certain respiratory infections, including the common cold and influenza.[1,2] The product used by us was developed by Sokoloff, Eddy, and Redd[3] and prior to our publications had been the subject of investigations by many workers over a period of six or seven years. Its efficacy in promoting normal capillary permeability and fragility had been well established, and the manufacturer of this product (C.V.P.) has shown a commendably critical attitude in its therapeutic evaluation and even a healthy skepticism toward the new therapeutic applications proposed by us (since confirmed by others). This particular product is, of course, promoted only to physicians and those in allied professions.

There are, according to Willaman,[4] 137 known natural flavonoids. Of these only a few are biologically active ("bioflavonoids"). The chemistry of these compounds is intricate and difficult, and the practical preparation of flavonoid complexes that are consistently active biologically partakes of these difficulties. For this reason the entire subject of application of bioflavonoids in clinical medicine had been in considerable flux from the time that Szent-Györgyi and his associates demonstrated the effects of a citrus flavonoid complex on capillary permeability in 1936, until Sokoloff *et al.* developed a feasible method for the preparation of a consistently active water-soluble product.

During the last three months a proprietary manufacturer, Clayton Laboratories of St. Louis, has introduced to the public a new citrus flavonoid product ("Citroid Compound") as a remedy for colds. This product is being promoted with an intensive advertising campaign which has probably had no equal. The campaign began with full-page advertisements in newspapers beginning, for example, "An Open Letter to the Physicians of New York." Advertisements similarly addressed appeared, to our knowledge, also in newspapers of Cleveland, Chicago, and Kansas City and probably elsewhere. To our consternation we found that the texts of these and other advertisements for the product consist almost entirely of rewrites of our two published papers, which, as indicated, concerned the use of another product of established efficacy. And our concept of the physiologic mode of action of the bioflavonoids in infections, as presented in these articles, we found had been adapted in toto to the promotion of "Citroid." Claims are even made by Clayton Laboratories in these advertisements that "Citroid" is superior in efficacy to any similar product; yet not only is the flavonoid component of "Citroid" described in the vaguest possible terms, but we have been unable to find in the literature, or to obtain elsewhere, any information whatever pertaining to chemical composition or to biologic tests in animals or clinical trials with this product.

Together with Dr. Boris Sokoloff, of Florida Southern College, we have twice protested to Clayton Laboratories the use of our names in publicity releases and the use of material from our publications in newspaper advertising for "Citroid." Disregarding our protests, the advertising campaign for "Citroid" has been renewed with another fervent "Open Letter to the Physicians of New York City" in certain newspapers (Jan. 24, 1956).

The technic of addressing to physicians newspaper advertisements intended for the public (thus conveying implied approval by the medical profession) has, so far as we know, no previous counterpart in the history of promotion of proprietary remedies. Clayton Laboratories' "Open Letter to the Physicians..." advertisements contain in addition a cynical "Notice to the Public": "If your family doctor has not yet received detailed information on Citroid, the registered pharmacist at any good drugstore has a supply of Citroid on hand and will be more than pleased to answer any questions."

Obviously, practices of this sort require governmental restraint, and unquestionably there are precedents for exercising this function. Clayton Laboratories is reported to be a subsidiary of Grove Laboratories, purveyors of a better-known cold remedy "Bromo-Quinine." The latter product also has recently acquired a flavonoid ingredient, yet the promotion for the new "Bromo-Quinine" is in remarkably staid contrast to the flamboyance of the "Citroid" advertising.

That the record may be clear, we append the text of our letter (in which we were joined by Dr. Sokoloff) to Clayton Laboratories, dated November 10, 1955:

> Clayton Laboratories, Inc.
> 8877 Ladue Road
> St. Louis 24, Missouri
>
> Gentlemen:
>
> Advertisements in the *Cleveland Plain Dealer* and *Chicago Sun-Times* of October 31, 1955, and *Chicago Daily Tribune* of November 4, 1955, as well as news releases of October 29 and October 30, 1955, for your product "Citroid Compound," have been brought to our attention.
>
> The foregoing, concerning a new product of vague description, all draw liberally from and upon our published work on another preparation entirely, without our prior knowledge and certainly without our consent. Our published investigations in this respect concerned a particular preparation of established physiologic efficacy, previously described by one of us in the medical literature. We must protest vigorously against the citation of our work with a known active preparation in the promotion of "Citroid Compound," a product bearing a vague description as to its flavonoid component and on which, so far as we can ascertain, no published data whatever are available as to efficacy. Not only are our names mentioned in your publicity and actual quotations made from our articles, but in addition, our published original concept of the mechanism of action of certain bioflavonoids in infections is used both in publicity releases and advertisements for your "Citroid Compound." Since this concept, taken from our published, copyrighted articles, is identified with us in the medical literature, it serves further to create the impression that we are involved in or approve of "Citroid Compound" and the publicity for it.
>
> We therefore request that you cease forthwith any mention of our names or the use of excerpts from our published articles in the promotion of "Citroid Compound" or the fostering of any implication or impression, directly or indirectly, that any or all of the undersigned may in any way be involved in the promotion of "Citroid Compound."

Morton S. Biskind, M.D.
Westport, Connecticut

William Coda Martin, M.D.
New York City

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[1] Biskind, M. S., and Martin, W. C.: Am. J. Digest Dis. 21: 177 (1954).

[2] *Ibid.* 22: 41 (1955).

[3] Sokoloff, B., Eddy, W. H., and Redd, J. B.: J. Clin. Investigation 30: 395 (1951).

[4] Willaman, J. J.: J. Am. Pharm. A. (Scient. Ed.) 44: 404 (1955).

Status of the Negro Physician in New York State

To the Editor:

I just received a reprint of an article which appeared in the New York State Journal of Medicine, volume 55, number 20, October 15, 1955, page 2980, entitled "The Status of the Negro Physician in New York State." In looking over Table I, dealing with population statistics of New York State by counties, I was somewhat disturbed to find that Albany County was listed as having no Negro physicians. Although I am not sure of the total number, I would like to comment that there are two very competent Negro physicians in practice in Albany, namely, Dr. James Spencer and Dr. Joseph Robinson.

It would please me very much if some credit were given in a future edition of the Journal indicating the error in that previous article and mentioning the fact that there are at least two in this area. I am sending a copy of this letter to Dr. Murray because I am sure he would like to stand corrected in this regard.

Harold C. Wiggers, M.D.
Dean

Albany Medical College of Union University
Albany, New York

Comment by Dr. Murray

To the Editor:

I wish to thank Dr. Wiggers for his correction of my article as regards the number of Negro physicians in Albany County. Also I wish to add a correction of my own. Instead of there being one Negro physician in Richmond County, as stated in my paper, there are no Negro physicians in this county.

Peter Marshall Murray, M.D

2588 Seventh Avenue
New York City

Woman's Auxiliary
to the MEDICAL SOCIETY OF THE STATE OF NEW YORK

Twenty Years of Organized State Auxiliary 1936–1956

The Woman's Auxiliary to the Medical Society of the State of New York was organized on March 11, 1936, at the Waldorf-Astoria Hotel, New York City. Representatives of the six organized county auxiliaries—Queens, Albany, Kings, Cayuga, Nassau, and Onondaga—were present and Mrs. John L. Bauer, president of the Kings County Auxiliary, was appointed as the organizing chairman by Dr. Arthur J. Bedell. On this day the first State constitution was adopted and signed by 28 delegates. The objectives decided upon were: To merge into one organization all organized county organizations which look to the advancement of health and education, to promote harmony and good fellowship among physicians' families, to assist in the entertainment at conventions of the Medical Society of the State of New York, and to do such work as may be approved by the Medical Society of the State of New York. Although revisions have been made and amendments added, the constitution as adopted at this first meeting is still the guide of the State Auxiliary.

The first annual State convention was held in April, 1936, and was attended by a delegation of 40 members. It was reported that there were 600 paid up members of the State Auxiliary at that time. The same year the Woman's Auxiliary to the Medical Society of the State of New York was represented by six delegates at the national Auxiliary convention.

So great was the enthusiasm of the founders of the Auxiliary that it not only lasted but the same spirit has continued to prevail in the now 47 organized counties and in each of their approximately 5,000 members.

World War II found Auxiliary members taking an active part in every health program in their respective communities. This participation eventually necessitated the appointment in 1946 of more State chairmen to head newly created committees when the peacetime schedule was resumed. Among those appointed were the chairman of press and publicity, public relations through which messages of medicine are publicized via the press, radio, television, and civic organizations, and the State Auxiliary historian and archives chairman who keeps a record of all the Auxiliary's activities and vital statistics.

The known shortage of nurses brought about the appointment of a nurse recruitment and scholarship chairman in 1947. Primarily she seeks out the young women who are interested in nursing but who might be unable to choose the profession due to financial problems. Since the formation of the committee, 35 county auxiliaries have participated in the program and some $62,000 has been raised to provide 360 nursing scholarships, some as loans and most as gifts. In 1953 this committee became interested in the establishment of future nurses clubs. The first club was formed in Allegany County and there are now a total of 55.

Voluntary medical care plans was another important committee started in 1947. The aim of this committee is to educate the people on the merits of voluntary care plans as opposed to compulsory or government-sponsored plans. Also adopted the same year was the councillor system.

The *Distaff* was first published in 1947 and is now one of the country's most outstanding auxiliary publications. Its importance and interest to the Auxiliary members continues to grow. The first Statewide Health Poster Contest was sponsored by the State and county auxiliaries in 1951. This same year the Auxiliary participated in the Statewide civil defense program and was the first state auxiliary to become a member of the World Medical Association. In 1953 the Auxiliary joined the American Medical Education Foundation and contributed approximately $2,500. In 1954 the Auxiliary participated in the first pilot blood banks program in Genesee County and appointed the first chairman to head the newly created committee on mental health.

During all this period the Auxiliary also helped to promote the circulation of authentic health education magazines such as *Today's Health* and took an active interest in medical legislation by promoting the Metcalf-Hatch Bill and focusing public attention on the shortcomings of government medicine and chiropractic. In cooperation with the State Medical Society, the Auxiliary has sponsored exhibits at the State fair since 1950.

Outstanding in the Auxiliary are the number of members who have served and are still representing the State in the national group. Mrs. Luther H. Kice was elected president of the Woman's Auxiliary to the American Medical Association in 1948; Mrs. Emerson Noll served as national constitutional secretary in 1950; Mrs. Thomas M. d'Angelo was vice-president in 1954; Mrs. Albert Biglan is currently serving as the first chairman on mental health for the eastern region on the national level, and Mrs. Harold Johnson is now in her second year as a director of the A.M.A. Auxiliary.

Twenty years of Auxiliary effort have been reflected in the State, national, and county programs. Almost 200 delegates attended the State convention in 1955 while 38 state delegates attended the national conclave.

The recognition given to the Auxiliary by the Medical Society of the State of New York has been necessary encouragement, and the accomplishments of the Auxiliary were made possible by the few women who twenty years ago set down the principles for the Auxiliary's continued growth.

Mrs. Leonard C. Evander
State Historian

Lockport, New York

NEWS FROM THE MEDICAL SCHOOLS

Albany Medical College of Union University

Internships—Internship appointments for 48 senior students at Albany Medical College were announced recently by Dean Harold C. Wiggers. Of the appointments, 17 were for Albany Hospital. The appointees, candidates for a Doctor of Medicine degree at the Medical College's June commencement, will begin their intern service on July 1. Most of the appointments are for one year. The majority of the assignments are for rotating internships, consisting of training in medicine, surgery, pediatrics, neurology, psychiatry, obstetrics, and gynecology. The remaining internships are for specialization in medicine, surgery, or pediatrics.

The University, Sheffield, England exchange internship, an annual award, went to John H. Bowker, Jr., of Horseheads, New York.

Receiving appointments to Albany Hospital were: Robert G. Chaloner, Coxsackie; Kenneth A. Deitcher, Cohoes; Dennis R. Filippone, Newark, New Jersey; Bernhardt W. Hausheer, Staten Island; Henry F. Hosley, Sherburne; William V. Kinnard, Jr., Albany; Gerald M. Kotzin, Albany; Peter C. Linton, Ridgewood, New Jersey; John J. O'Brien, Jr., Schuylerville; William A. Petersen, Kingston; Fred A. Phillips, Jr., Troy; Robert H. Randles, Albany; George E. Reardon, Hartford, Connecticut; Judson D. Speer, Bridgeport, Connecticut; Andrew H. P. Swift, East Nassau; H. Peter Wintrich, Rye, and Robert F. Yates, Newburgh.

Other appointments were: Bellevue Hospital, New York City: David Corn, West Hartford, Connecticut, Anthony G. Gristina, New York City, Lawrence B. Tilis, New York City; Naval Hospitals: Boris M. Astrachan, Lawrence, New York, Charles A. Ellis, Jr., Laconia, New Hampshire; Jefferson Medical College Hospital, Philadelphia: Paul Davidson, Wilmington, Delaware, Robert P. Newhouse, New York City; Philadelphia General Hospital: Jean A. Guay, Woonsocket, Rhode Island, Catherine J. Peffer, Greenfield, Massachusetts; Henry Ford Hospital, Detroit, Michigan: James T. Maher, Jamaica, and Robert A. Stoller, Poughkeepsie, New York; Temple University Hospital, Philadelphia: Arnold A. Bank, New York City; Genesee Hospital, Rochester: Frederick R. Brandlin, Rochester; Hartford (Conn.) Hospital: Harry H. Browne, Jr., Hartford; U.S. Public Health Service: Paul P. Carbone, White Plains; Kings County Hospital, Brooklyn: T. Donald Eisenstein, Brooklyn.

Also, Deaconess Hospital, Buffalo: William H. Harvey, Jr., Staten Island; St. Vincent's Hospital, New York City: Thomas J. Kiernan, Albany; St. Lawrence Hospital, Lansing, Michigan: Frederick W. Knapp, Utica; Akron (Ohio) General Hospital: William E. McMahon, Albany; Bronx Municipal Hospital: Lawrence H. Rockland, Bronx; St. Mary's Hospital, Rochester: David M. Rosenthal, Kingston; State University of Iowa Hospital, Iowa City, Iowa: Richard O. Schultz, Racine, Wisconsin; Medical Center, Jersey City, New Jersey: John H. Seaman, Short Hills, New Jersey; Grasslands Hospital, Valhalla: Elias R. Shemin, Peekskill; Millard Fillmore Hospital, Buffalo: William C. Sleight, Rhinebeck; Memorial Hospital, Pawtucket, Rhode Island: Vincent E. Slomin, Pawtucket; Rochester General Hospital: James F. Strazzeri, Rochester; Beverly Hospital, Beverly, Massachusetts: Arthur J. Wendth, Jr., McKownville; and St. Peter's Hospital, Albany: Orazio R. Zumbo, Albany.

Vander Veer Memorial Lecture—"Endocrine Effects on Mammary Cancer" was the topic of the Albert Vander Veer Memorial Lecture which was delivered by Dr. Charles Huggins on March 21. This annual lecture is sponsored by the Albany Medical College chapter of Nu Sigma Nu medical fraternity and was established in memory of the late Dr. Alfred Vander Veer, professor of surgery and dean at the College at the turn of the century.

Eugene Barrera Memorial Lecture—Dr. S. Bernard Wortis, professor and chairman, Department of Psychiatry and Neurology, and attached to the psychiatric and third neurologic division of Bellevue Hospital, delivered the annual Eugene Barrera Memorial Lecture on April 10. Dr. Wortis talked on "The Toxic-Organic Psychoses."

Two-Way Radio Medical Conference—The two-way radio medical conference for the first week in April was on "Management of Hypertension" and the instructors were Dr. John F. Filippone, associate professor of medicine, and head, Subdepartment of Cardiovascular Diseases, and Dr. Joseph C. Pender, research fellow in medicine. The series was inaugurated December 5, 1955 with seven member hospitals and has grown to 19 participating hospitals with an estimated 200 listening physicians.

New York University College of Medicine

Sigmund Pollitzer Lecture—Dr. Walter B. Shelly, associate professor of dermatology, University of Pennsylvania School of Medicine, gave the 1956 annual Sigmund Pollitzer Lecture at New York University Post-Graduate Medical School on March 19.

Promoted—Dr. John C. McCauley, from associate professor to professor of orthopedic surgery at the Post-Graduate Medical School; Dr. Abel Alfred Lazzarini, Jr., from assistant to associate professor of research surgery at the Post-Graduate Medical School.

State University of New York College of Medicine at New York City

Professor of Radiology—Dr. Harry Zachary Mellins, clinical assistant professor of radiology at Wayne University College of Medicine and head of the Department of Radiology at Sinai Hospital, Detroit, has been appointed professor and chairman, Department of Radiology at the College and director of radiology at Kings County Hospital. Dr. Mellins, who is an alumnus of the College, will assume his new duties sometime in June.

Annual Lectures—Dr. Homer W. Smith, professor and chairman, Department of Physiology at New York University College of Medicine, delivered the annual Jean Redman Oliver Lecture at the College on March 15. His topic was "The Development of Modern Renal Physiology."

On April 10, Dr. Isidore Snapper, of the Beth El Hospital in Brooklyn, delivered the annual Murray B. Gordon Lecture on the subject "Newer Aspects of Lupus Erythematosis."

Graduate Educational Program—A graduate educational program in the biologic sciences basic to medicine will admit candidates for the Ph.D. degree in anatomy, biochemistry, pharmacology, and physiology beginning in September. Courses under the graduate program will be taught by faculty members of the College of Medicine who are specialists in the basic science fields covered. Students cannot be enrolled in the medical and graduate programs at the same time.

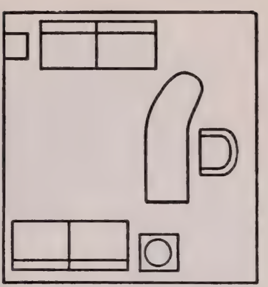
Offices for the graduate program will be in the College of Medicine's new Basic Sciences Building, 450 Clarkson Avenue, Brooklyn, which is expected to open sometime this spring.

Inaugural exercises for the graduate program will take place on October 26 but work will begin September 15. Tuition is $200 a year and several teaching assistantships are available for those seeking financial aid.

State University of New York College of Medicine at Syracuse

Lectures—Dr. William T. Kennedy, New York City, gave the annual George Birney Broad Lecture at the College on March 13. Dr. Kennedy spoke on "Stress Incontinence in the Female: Theories as to Its Causes and Methods of Management."

Dr. Charles W. Lloyd, associate professor of obstetrics and medicine, delivered a paper which he coauthored with Dr. Robert Gaunt, director of endocrinologic research, Ciba Pharmaceutical Corporation, and Dr. J. J. Chart, also of Ciba, at the Colston Symposium on the Neurohypophysis which was sponsored by the University of Bristol, Bristol, England. Dr. Lloyd proceeded to Nuremberg, Germany, where he conducted a clinic on endocrinologic diseases and was the guest of Dr. Erich Loewy. Dr. Lloyd also visited medical schools in Switzerland, Paris, and the Universities of London and Edinburgh.



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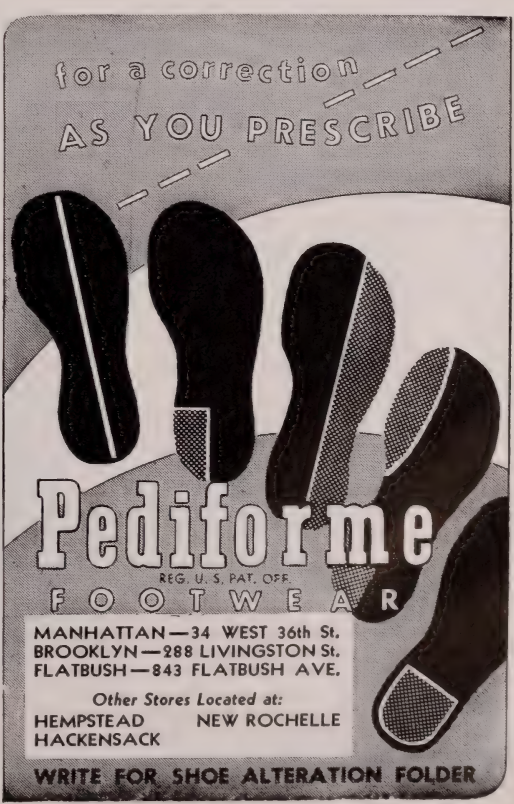

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NECROLOGY

David Membery Allison, M.D., of Camden, died on March 29 at his home after a four-month illness at the age of seventy-seven. Dr. Allison graduated in 1900 from Queens University Faculty of Medicine, Kingston, Ontario, Canada. He served for about twenty-five years as health officer for the Town of Camden, was school physician for many years, and also served as physician for the New York Central Railroad for some time. Dr. Allison retired from practice in 1947.

George Lay Branch, M.D., of Catskill, died on March 6 in the Albany Hospital at the age of eighty. Dr. Branch was graduated from Albany Medical College in 1904. The first president of the medical staff of the Greene County Memorial Hospital where he was chief of the medical service, he was honored by the Medical Society of the State of New York for fifty years of practice in 1954. He was a former president of the County Public Health Nursing Committee. Dr. Branch was a member of the Greene County Medical Society of which he was a past president and the Medical Society of the State of New York.

E. Leslie Burwell, M.D., of New Rochelle, died in the New Rochelle Hospital on March 27 at the age of sixty-six. Dr. Burwell graduated in 1913 from New York Homeopathic Medical College and Flower Hospital. A former chief anesthetist, he was consulting anesthetist at New Rochelle Hospital. Dr. Burwell was a member of the American Society of Anesthesiologists, the American Geriatrics Society, an honorary member of the Westchester County Medical Society, and a member of the Medical Society of the State of New York and the American Medical Association.

Edward Joseph Buxbaum, M.D., of Jamaica, died in the Long Island Jewish Hospital on March 30 at the age of sixty-two. Dr. Buxbaum graduated from Albany Medical College in 1914. Since 1927 he had been director of laboratories and pathologist at Jamaica Hospital. During World War II he served in the Reserve of the United States Public Health Service as an assistant surgeon. A Fellow of the American College of Physicians, Dr. Buxbaum was a member of the American Society of Clinical Pathologists, the Queens County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Ladislaus Joseph Czirer, M.D., of Albany, died on March 10 at the age of sixty-seven. Dr. Czirer received his medical degree from the University of Budapest in 1912.

Aaron Feldman, M.D., of New York City, died on March 22 at the age of sixty-four. Dr. Feldman graduated from Rush Medical College in 1927. He was an associate attending physician at Montefiore Hospital and a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Clair Edwin Folsome, M.D., of New York City and Plainfield, New Jersey, died on March 19 at the age of fifty-three. Dr. Folsome graduated in 1933 from the University of Michigan Medical School. Since 1951 he had been director of obstetrics and gynecology at New York Medical College, Flower and Fifth Avenue Hospitals, and professor of obstetrics and gynecology at the medical college. From 1944 to 1951 he was vice-president and executive director of the Ortho Research Foundation, Raritan. From 1938 to 1941 he was in charge of postgraduate study of obstetrics and gynecology for the Michigan State Medical School and the University of Michigan Graduate School and during this time served as a consultant to the Children's Bureau, United States Department of Labor. 1941 to 1942 he served as executive director of the National Committee on Maternal Health, from 1942 to 1943 was commanding officer in charge of venereal disease control in the Greater Atlanta Area of the United States Public Health Service, in 1944 he helped set up maternity and child health clinics in Puerto Rico, Haiti, Singapore, Tokyo, Bombay, and Taiwan.

Dr. Folsome had served as assistant professor of clinical obstetrics and gynecology at the New York University-Bellevue Medical Center, was director of obstetrics and gynecology at Metropolitan Hospital and of gynecology at the Bird S. Coler Memorial Hospital and Home. He had edited textbooks, prepared motion pictures on the causes and early detection of cancer, had served as a consultant to the New York City Health Department, and was president of the New York Fertility Society. Dr. Folsome was a Diplomate of the American Board of Obstetrics and Gynecology, a Fellow of the American College of Surgeons, a member as well as a founder of the American Academy of Obstetrics and Gynecology, the New York Obstetrical Society, the Union County (New Jersey) Medical Society, the New Jersey State Medical Society, and the American Medical Association.

George Eugene Hayunga, Sr., M.D., of New York City, died on March 20 at the age of ninety-one.

[Continued on page 1524]

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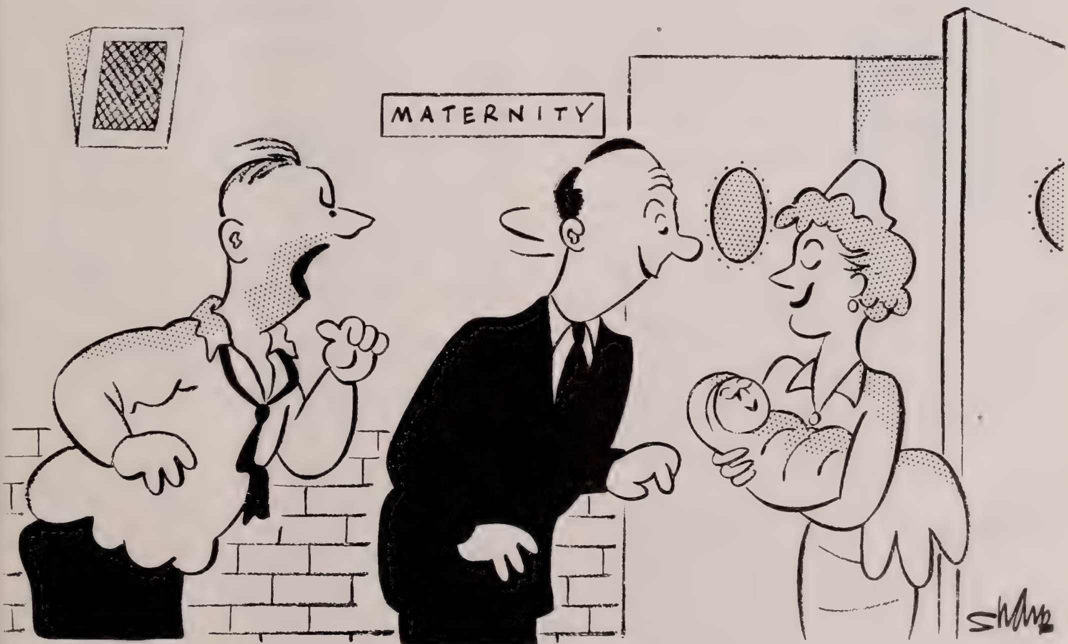

"What's the big idea? I was here first!"

[Continued from page 1522]

Dr. Hayunga graduated in 1890 from Queens University Faculty of Medicine, Kingston, Ontario, Canada. A senior physician in medicine at the Lutheran Hospital of Manahattan, of which he was a founder and first president of the hospital, Dr. Hayunga was also a later president of its board of directors and the medical board. He continued to practice until a year ago. He was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

James E. Howell, M.D., of Mount Vernon, died on March 23 in the Mount Vernon Hospital at the age of sixty-four. Dr. Howell graduated from Tulane University of Louisiana School of Medicine in 1921.

Max Kunreuther, M.D., of the Bronx, died on March 19 at the age of sixty. Dr. Kunreuther received his medical degree in 1909 from the University of Heidelberg. He was a member of the Bronx County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Charles C. Lieb, M.D., of New York City, died on April 6 at the age of seventy-five. Dr. Lieb graduated from Columbia University College of Physicians and Surgeons in 1906. In 1909 he became an instructor at the College of Physicians and Surgeons, an assistant professor in 1910, and in 1921 an associate professor. In 1929 he was made Hosack Professor. He retired in 1944. Dr. Lieb was a member of the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

John Joseph Loughlen, M.D., of Olean, died on February 8 at the age of forty-four. Dr. Loughlen graduated in 1939 from Middlesex University School of Medicine, Waltham, Massachusetts. He was a member of the staff of the Olean General Hospital and an associate staff member at St. Francis Hospital. Dr. Loughlen was a member of the Cattaraugus County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Edward McDonnell Mangan, M.D., of Forest Hills, died on April 1 at the age of thirty-three. Dr. Mangan graduated from Columbia University College of Physicians and Surgeons in 1947 and interned at Mary Immaculate Hospital, Queens. He was an assistant attending physician at Triboro Hospital and a clinical assistant in pathology at Mary Immaculate Hospital. He was a member of the American Trudeau Society, the Queens County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Karl Meyer, M.D., of New York City, died on June 27, 1955, at the age of fifty-eight. Dr. Meyer received his medical degree in 1923 from the University of Munich. He was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

George A. Newton, M.D., of Freeport, died on March 20 at the age of eighty-one. Dr. Newton graduated from Cornell University Medical College in 1905. He was surgeon emeritus at the South Nassau Communities Hospital, Oceanside. Dr. Newton was a member of the Nassau County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

George Merriman Price, M.D., of Central Square, died on March 20 at the age of ninety-one. Dr. Price graduated in 1886 from Syracuse University College of Medicine. He was a consultant in surgery at University Hospital, Syracuse, a surgeon and professor emeritus at Syracuse University. A Fellow of the American College of Surgeons, Dr. Price was a member of the Syracuse Academy of Medicine, the Onondaga County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Henry Allen Reisman, M.D., of Jamaica, died on March 30 at the age of fifty-seven. Dr. Reisman graduated from Jefferson Medical College in 1922. Retired, Dr. Reisman was attending pediatrician and director of pediatrics at Jamaica Hospital, director of pediatrics at Queens General Hospital, and consultant in pediatrics at Rockaway Beach and Triboro Hospitals. He had been a professor of pediatrics at New York Post-Graduate Hospital at one time and was a founder and a past president of the Queens Pediatric Society. Dr. Reisman was a Licentiate of the American Board of Pediatrics, a Fellow of the American College of Physicians, and a member of the American Academy of Pediatrics, the Queens Pediatric Society, the Queens County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Emanuel L. Stammer, M.D., of Plainview, died on November 21, 1955, at the age of sixty. Dr. Stammer graduated in 1919 from Long Island College Hospital Medical School.

Hobart Hare Todd, M.D., of Skokie, Illinois, formerly of New York City, died on March 26 at the age of forty-three. Dr. Todd graduated from Loyola University School of Medicine in 1939 and interned at Post-Graduate Hospital, now University Hospital. He was an assistant attending physician at University and clinical assistant physician at St. Clare's Hospital. He was a member of the Association of Military Surgeons of the United States.

[Continued on page 1526]

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[Continued from page 1524]

Sydney Weintraub, M.D., of New York City, died on March 24 at the age of sixty-one. Dr. Weintraub graduated from Columbia University College of Physicians and Surgeons in 1918 and interned at New York Hospital. He was a professor of clinical radiology at the Cornell University Medical College and an attending radiologist at New York Hospital. During World War I he served as resident physician at the Naval Base Hospital and during World War II he served in the Army with the Ninth General Hospital (New York Hospital unit) in the Southwest Pacific. The author of many scientific articles in the fields of gastroenterology and radiology, he was a member of the New York Academy of Medicine, the New York Gastroenterological Society, the New York Roentgen Society, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

John Edgar Welch, M.D., of Ithaca, died on March 26 at the age of eighty-three. Dr. Welch graduated in 1900 from Columbia University College of Physicians and Surgeons. A former pathologist at Lying-In, Knickerbocker, and Fordham Hospitals, New York City, he was a consultant in otolaryngology at Queens General and Knickerbocker Hospitals. Dr. Welch retired in 1947. He was a former president of the Society of Medical Jurisprudence, New York, a Diplomate of the American Board of Otolaryngology, and a member of the New York Academy of Medicine, the New York Otolaryngological Society, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

William Zide, M.D., of Brooklyn, died on March 27 at the age of fifty-seven. Dr. Zide was graduated from New York Homeopathic Medical College and Flower Hospital in 1923. He was an assistant attending obstetrician and gynecologist at Maimonides Hospital and Maimonides Hospital Outpatient Department, Brooklyn. Dr. Zide was a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Ludwig Zweig, M.D., of Olean, retired, died on December 13, 1955, at the age of seventy-two. Dr. Zweig received his medical degree in 1909 from the University of Bonn. He was a consultant on the staff of St. Francis Hospital, Olean. Dr. Zweig was a member of the Cattaraugus County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

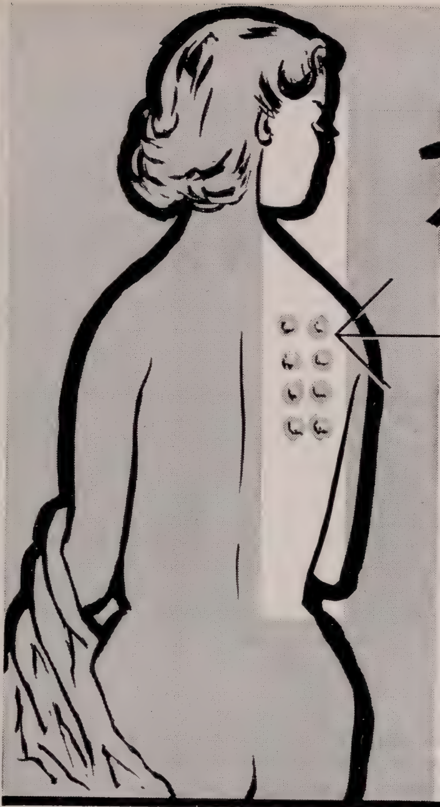
Nitrogen Mustard Helps Cancer-Caused Disorder

Nitrogen mustard, a chemical compound related to poisonous mustard gas, has been used by three Cleveland physicians to treat a cancer-caused disorder. Metastatic cancer sometimes causes fluid to accumulate in the cavities of the chest, abdomen, and sac surrounding the heart. The instillation of nitrogen mustard into these cavities decreased or eliminated reaccumulation of fluid in 28 (65 per cent) of 43 patients treated by the physicians.

In 20 of the 28 patients there was no reaccumulation of fluid and in the other eight there was a marked reduction in the amount of fluid reaccumulating, they said. These results compare favorably with those obtained with radioactive colloidal gold, which is more commonly used, they said. However, nitrogen mustard has several advantages over radioactive gold; it is easier to administer, more universally available, less expensive, and presents no radiation hazard. It can provide "long periods of survival with good health" in fluid retention cases.

Combined use of radioactive gold and nitrogen mustard may give even better results than either alone, they said. While nitrogen mustard caused nausea, vomiting, and cramps in some cases, these symptoms subsided within two or three days and there were no complications or after-effects, they said.

Making the report in the December 31 *Journal of the American Medical Association* were Drs. Austin S. Weisberger and John P. Storaasli from the Departments of Medicine and Radiology, University Hospital, Cleveland, and Dr. Bennett Levine of Mount Sinai Hospitals. Their investigation was aided by the Price-McKinney Fund.



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*Silbert, N. E., Ciba Clinical Symposia; 6: 86; May 1954
Mechaneck, I., Annals of Allergy; 12: 164: March 1954
Rosen, F. L., J. Med. Soc. N. J.; 51: 110: March 1954
Mueller, H. L., & Hill, L. W.: N. E. J. of Med; 249: 726, 1953

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MEDICAL NEWS

Finger Lakes Neuropsychiatric Society—A meeting of the Finger Lakes Neuropsychiatric Society was held on March 29, at the Rochester State Hospital. The Hon. Thomas J. Meagher addressed the group on his experiences as a judge of a children's court and findings of the State Youth Commission in facing the problems of juvenile delinquency.

Drs. Benjamin Pollack, Daniel Davis, and Charles Greenberg, of the Society, will attend the annual convention of the American Psychiatric Association as representatives of the Society. The Society has made application to the American Psychiatric Association to organize a district branch under the name of the Central New York Psychiatric Association. It is expected that this application will be favorably acted upon at the Chicago meeting of the American Psychiatric Association.

Jewish Chronic Disease Hospital—The Rheumatic Fever and Congenital Cardiac Service of the Jewish Chronic Disease Hospital, Brooklyn, is now in its sixth year. Complete diagnostic study of congenital and rheumatic heart disease, including angiocardiography, cardiac catheterization and vectorcardiography is available. The Cardiac Clinic is approved by the New York Heart Association.

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Ira I. Kaplan Lecture—The annual Ira I. Kaplan lecture was given by the Radiation Therapy Alumni at Bellevue Hospital, New York City, April 26. Dr. Jacob R. Freid, Montefiore Hospital, Bronx, discussed "The Place of Supervoltage Therapy, Including Cobalt, in Private Offices and Small Hospitals."

Society of Medical Jurisprudence—The 697th regular meeting of the Society of Medical Jurisprudence was held at the New York Academy of Medicine Building, 2 East 103rd Street, New York City, on April 9. Dr. Thomas S. Cusack, consulting neuropsychiatrist to Central Islip State Hospital, spoke on "Forensic Aspects of the Problem from the Psychiatric Standpoint."

Northport Veterans Administration Hospital—A meeting of the hospital staff of the Veterans Administration Hospital at Northport was held on March 8 at the hospital. Dr. John A. Evans, area radiology consultant, Veterans Administration, Boston, Massachusetts, spoke on "Newer Technics in Roentgenographic Diagnosis."

Personalities

Elected

Dr. Samuel Z. Freedman, president-elect of the New York County Medical Society, to the board of United Medical Service, New York's Blue Shield . . . Dr. Guy Philbrick, Niagara Falls, Dr. Victor Pellicano, Niagara Falls, Dr. Joseph D'Errico, Niagara Falls, Dr. Forrest Barry, Lockport, Dr. William Pierce, Lockport, Dr. Harry Bylebyl, North Tonawanda, and Dr. Robert Rose, North Tonawanda, to membership on the Hospital and Professional Relations Committee of the Niagara County Medical Society.

Appointed

Dr. Michael M. Dacso, New York City, to the North American Committee of Cooperation of the First Pan American Gerontologic Congress in Mexico City in September . . . Dr. Charles Friedman, Beacon, as assistant attending surgeon at Vassar Hospital in Poughkeepsie . . . Dr. George A. Glenn, as a resident psychiatrist at the St. Lawrence State Hospital . . . Drs. Irving Mond, James Breed, Charles Friedman, and Eugene Lusardi, to the Highland Hospital medical staff in Beacon . . . Dr. Jeffrey Wiersum, general practice, and Dr. Werner M. Cohn, psychiatrist, to the staff of the Benedictine Hospital in Kingston.

Awarded

Dr. George N. Papanicolaou, professor emeritus of clinical anatomy, Cornell University Medical College, the $5,000 Passano Foundation Award for 1956 for research in exfoliative cytology, to be presented June 13, during the week of the American Medical Association convention in Chicago.

Speakers

Dr. James A. Brussel, assistant commissioner of the New York State Department of Mental Hygiene, at the annual convention of the American Psychiatric Association in Chicago, May 4, on "The Interstate Mental Health Compact" . . . Dr. Theodore J. Curphey, Garden City, before a joint meeting of the Suffolk County Medical Society and the Suffolk County Bar Association on March 28 at the Central Islip State Hospital, on "Medicolegal Investigations" . . . Dr. Joseph J. Eller, New York City, before the Rockaway Medical Society on April 19 on "Improved Abrading of Acne Scars and Other Skin Blemishes by New Rotary Abrasive Serrated Steel Wheels Powered by Vibration-Free Apparatus" . . . Dr. A. Allen Goldbloom, New York City, over radio station WEVD, on "Medical and Mental

[Contiuued on page 1530]

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[Continued from page 1529]

Problems of Older People" and before the Tucson Chapter of the Arizona Medical Laboratory Association in Tucson, Arizona on March 9, on "Newer Laboratory Technics" . . . Dr. Richard H. Lyons, professor of medicine, State University of New York College of Medicine at Syracuse, before the Binghamton Academy of Medicine on April 17, on "Changing Attitudes on Hypertension" . . . Dr. Valentino D. V. Mazzia, assistant attending anesthetist at New York Hospital before the Fulton County Medical Society on April 19, at the Hotel Johnstown, Johnstown, on "Anesthesia for the Elderly Patient and the Cardiac Patient," and "Anesthetic Problems in the Surgical Emergency" . . . Dr. George T. Pack, New York City, before the 8th annual convention of the Pennsylvania Academy of General Practice in Bedford Springs, May 18 through 20, on "The Surgical Management of Primary and Metastatic Tumors of the Liver" . . . Dr. S. Bernard Wortis, professor and chairman of the Department of Psychiatry and Neurology at New York University Medical School, before the Mohawk Valley Neuropsychiatric Society on April 9, on "Recent Advances in Psychiatry."

Honored

Dr. Philip Moen Stimson, consultant in pediatrics and professor of clinical pediatrics, at New York Hospital-Cornell Medical Center, for "four decades of unceasing labor to help children conquer the afflictions of poliomyelitis and other diseases" by his associates at a dinner on April 3 in the Columbia University Faculty Club, New York City.

New Offices

Dr. John DelCampo, general practice and practice of surgery in Carmel . . . Dr. James H. Gray, Jr., on the staff of the Harrison Medical Department, Lockport . . . Dr. Elbert Loughran, practice of diseases and surgery of the ear, nose, and throat, in Kingston.

Resigns

Dr. Harry S. Fish, Waverly, from his position as chief of the surgical staff at the Tioga County General Hospital, Waverly.

MEDICAL MEETINGS

Resuscitation Panel

The Department of Anesthesiology of the Long Island Jewish Hospital, 270–05 76th Avenue, New Hyde Park, will hold a discussion on "Resuscitation for Cardiorespiratory Arrest in the Newborn" at 8:30 P.M. on May 24. Discussants will be Drs. Virginia Apgar, Richard L. Day, and Alan F. Guttmacher. Dr. Sylvan N. Surks will serve as moderator.

Histopathology of the Eye

A refresher course in histopathology of the eye will be given at the New York Eye and Ear Infirmary, Second Avenue and 13th Street, New York City, June 4 through 9. It will be conducted by Drs. B. F. Payne, E. Burchell, B. Roberts, and S. L. Samuels. Information and applications may be obtained from Mabel R. Stewart, Registrar, 218 Second Avenue, New York City.

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BOOKS RECEIVED

(The following books were received during the month of March, 1956)

Tuberculosis in the Army of the United States in World War II. An Epidemiological Study with an Evaluation of X-ray Screening. By Esmond R. Long, M.D., and Seymour Jablon, A.M. Octavo of 88 pages, illustrated. Washington, D.C., U.S. Government Printing Office, [1955]. Cloth, $1.50.

Principles of Renal Physiology. By Homer W. Smith, Sc.D. Octavo of 237 pages, illustrated. New York, Oxford University Press, 1956. Cloth, $5.00.

Preparing for Motherhood. A Manual for Expectant Parents. By Samuel R. Meaker, M.D. Octavo of 196 pages, illustrated. Chicago, Year Book Publishers, 1956. Board, $2.00.

Obstetric Practice. By Harold Speert, M.D., and Alan F. Guttmacher, M.D. Octavo of 478 pages. New York, Landsberger Medical Books, distributed solely by the Blakiston Division of the McGraw-Hill Book Co., 1956. Cloth, $7.00.

Practice in Radiotherapy. Under the general editorship of Sir Ernest Rock Carling, F.R.C.S., B. W. Windeyer, F.R.C.S., and D. W. Smithers, F.F.R. Octavo of 516 pages, illustrated. London, Butterworth & Co. (St. Louis, The C. V. Mosby Company), 1955. Cloth, $20.

Operative Technic in Specialty Surgery. Edited by Warren H. Cole, M.D. With 67 contributing authors. Second edition. Octavo of 967 pages, illustrated. New York, Appleton-Century-Crofts, 1956. Cloth, $20. With Operative Technic in General Surgery, set of 2 volumes, $37.50.

Urology. By B. G. Clarke, M.D., and Louis R. M. Del Guercio, M.D. Octavo of 245 pages, illustrated. New York, The Blakiston Division, McGraw-Hill Book Company, 1956. Cloth, $6.50.

Doctor and Patient and the Law. By Louis J. Regan, M.D. Third edition. Octavo of 716 pages. St. Louis, C. V. Mosby Company, 1956. Cloth, $12.50.

Skin Surgery. By Ervin Epstein, M.D. Octavo of 228 pages. 242 illustrations on 101 figures. Philadelphia, Lea & Febiger, 1956. Cloth, $7.50.

The Neuroses in Clinical Practice. By Henry P. Laughlin, M.D. Octavo of 802 pages. Philadelphia, W. B. Saunders Company, 1956. Cloth, $12.50.

The Medical Clinics of North America. Nationwide Number. March, 1956. Octavo. Philadelphia, W. B. Saunders Company, 1956. Published Bimonthly (six numbers a year). Cloth, $18 net; paper, $15 net.

Clinical Electrocardiography. Part I. The Arrhythmias. With an Atlas of Electrocardiograms. By Louis N. Katz, M.D., and Alfred Pick, M.D. Quarto of 737 pages, illustrated. Philadelphia, Lea & Febiger, 1956. Cloth, $17.50.

The Diagnosis and Management of Urological Cases. A Handbook for Students, Residents and General Practitioners. By Bruce W. T. Pender, M.B., and James O. Robinson, M. Chir. Octavo of 170 pages, illustrated. London, Baillière, Tindall & Cox (Baltimore, The Williams & Wilkins Company), 1955. Cloth, $5.00.

Diagnosis and Treatment of Vascular Disorders (Angiology). Edited by Saul S. Samuels, M.D. Quarto of 621 pages, illustrated. Baltimore, The Williams and Wilkins Company, 1956. Cloth, $16.

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn 16, New York. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selections for review will be based on merit and interest to our readers.

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Smithwick group	4	3	4	3	3	3	4
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	↓	↓	↓	↓	↓	↓	↓
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(from Cohen, Cross & Johnson: Am. Pract. 6: 1030, 1955.)

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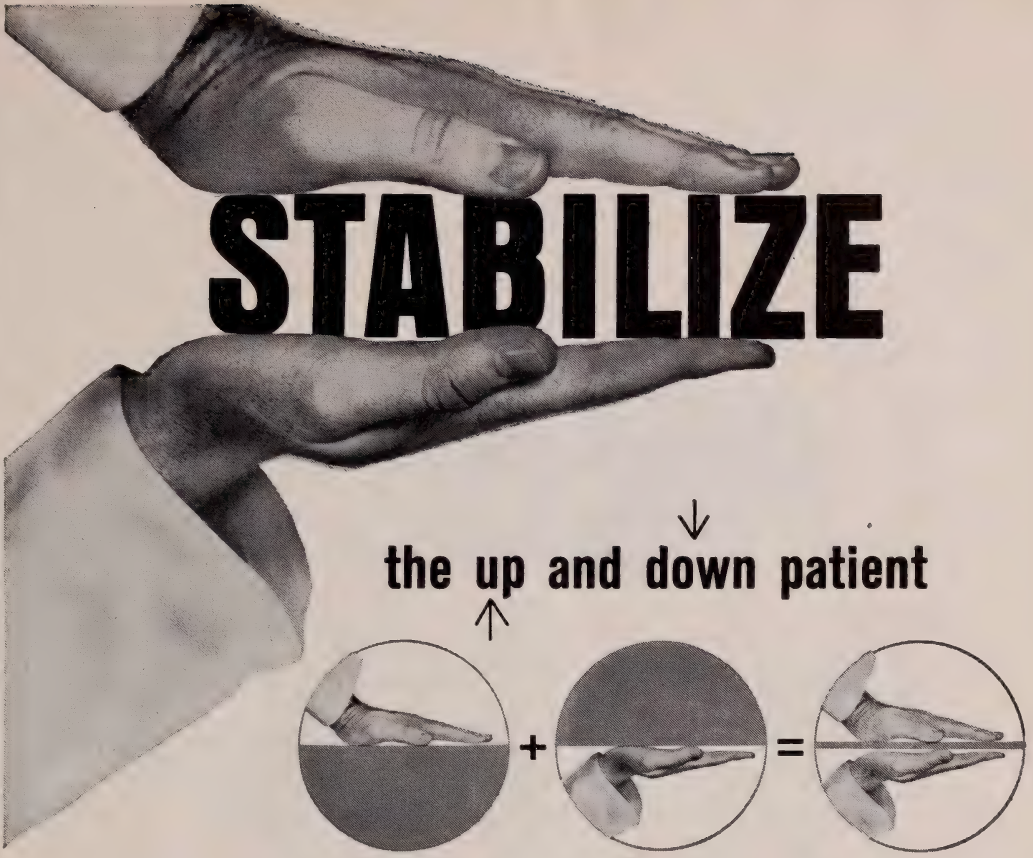
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1. Arnoff, B.: Personal communication. 2. Lazarte, J. A., and Petersen, M. C.: Personal communication.
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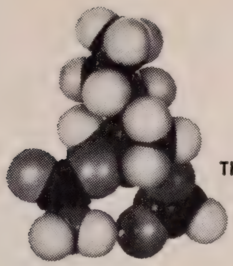

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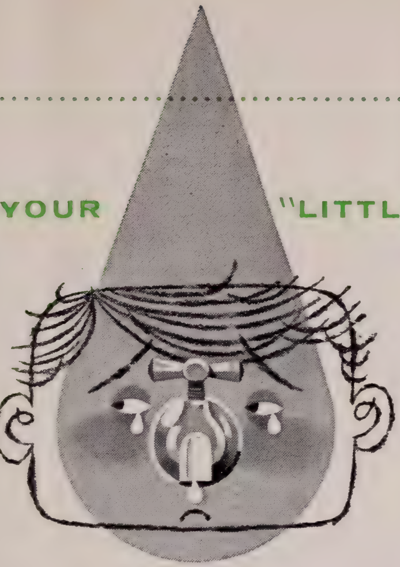

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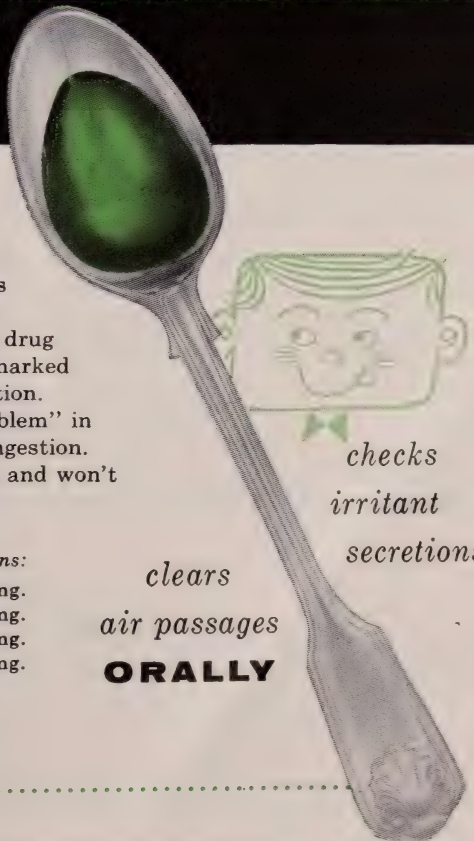

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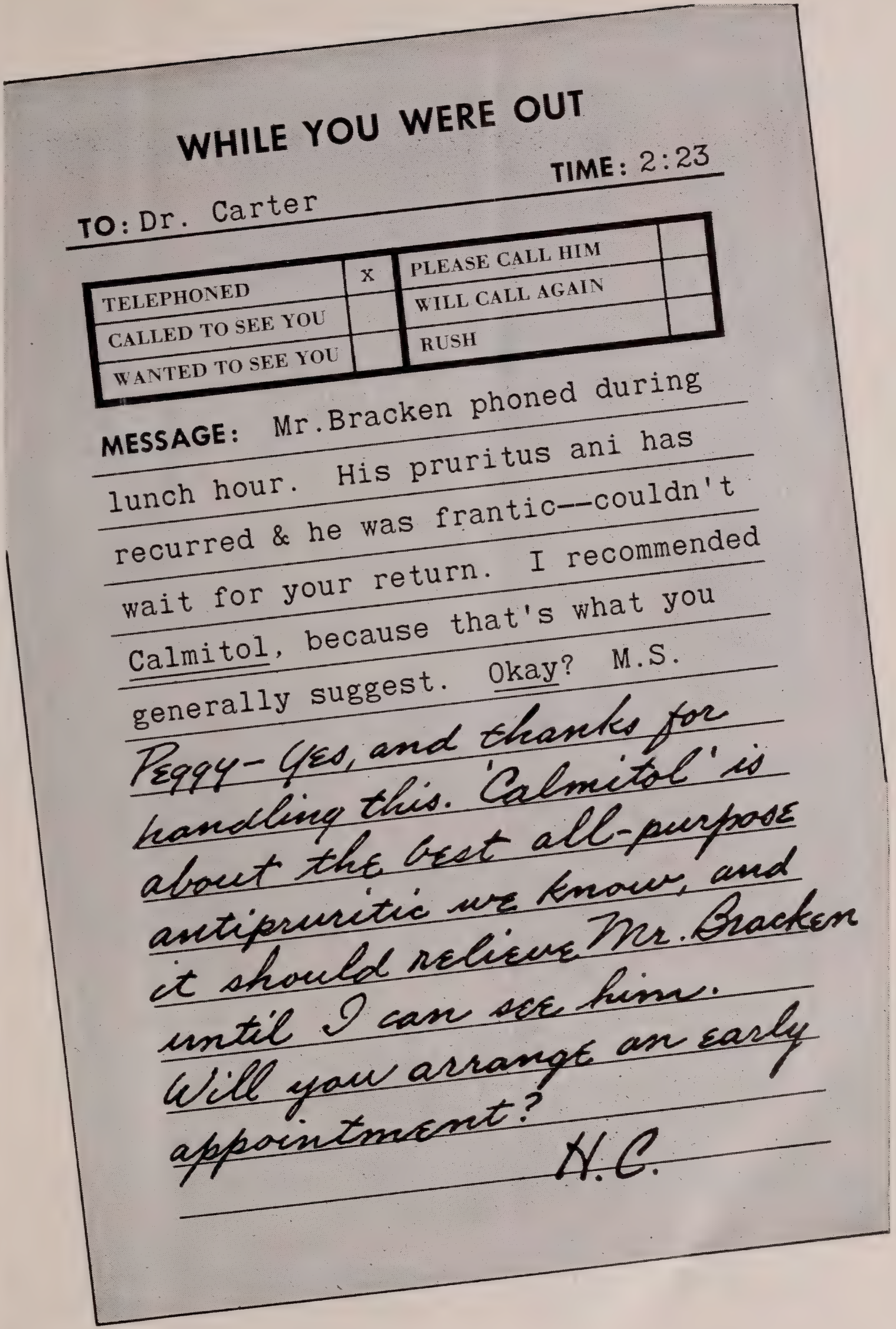

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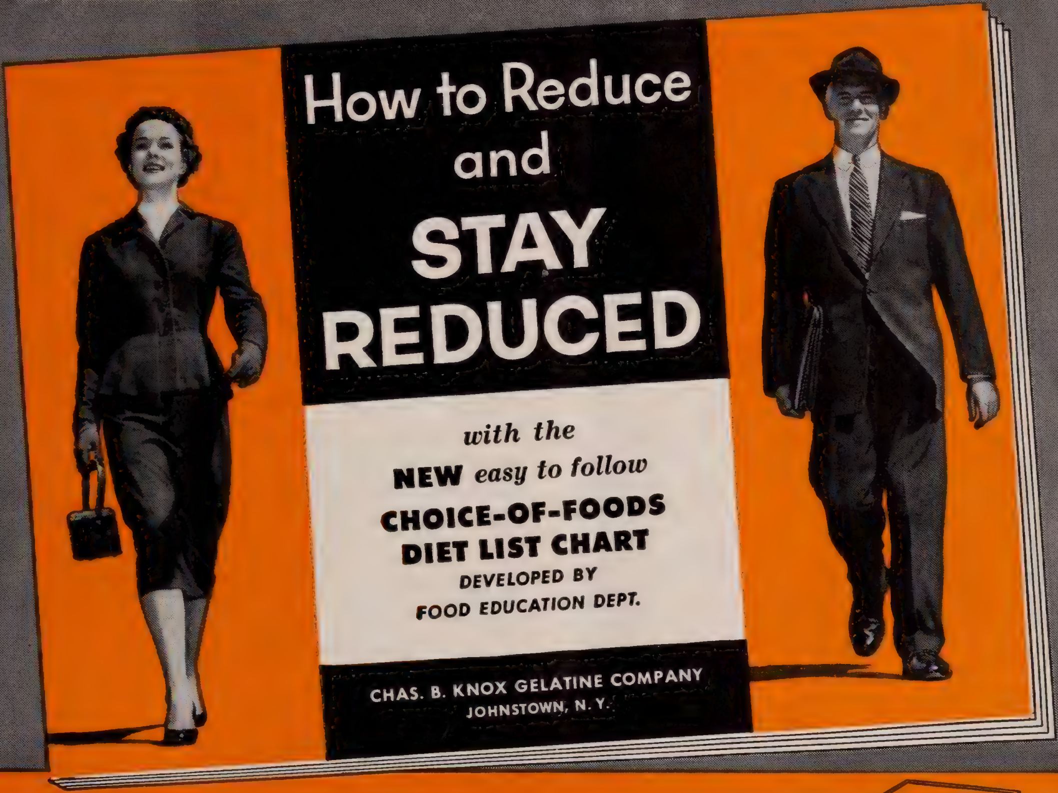

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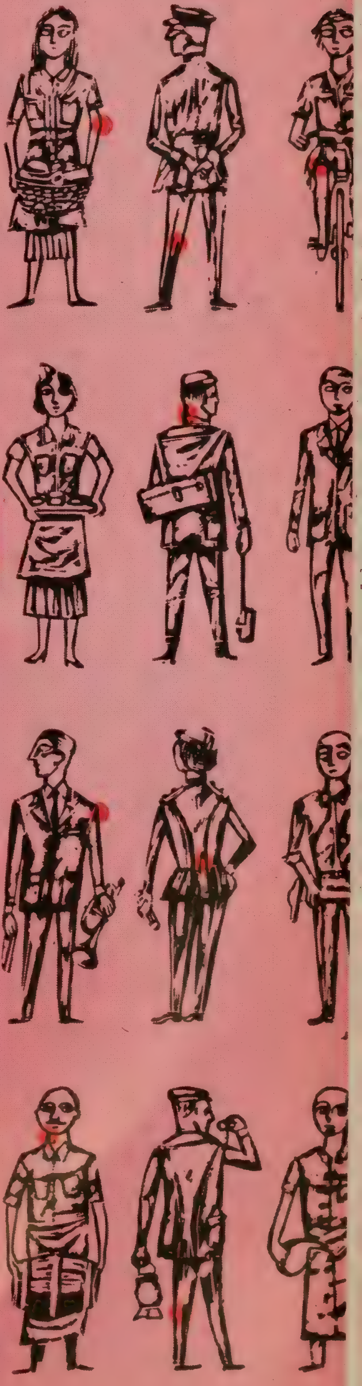

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1. Eisfelder, H.W.: Am. Pract. & Dig. Treat., 5:778 (Oct.) 1954).
2. Sebrell, W.H., Jr.: J.A.M.A., 152:42 (May, 1953).
3. Sherman, R.J.: Medical Times, 82:107 (Feb., 1954).

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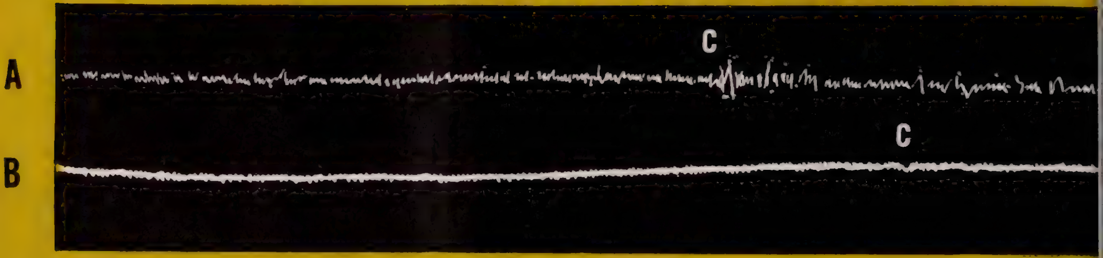

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1. Dickel, H.A., et al.: West. J. Surg. *64*:197 (April) 1956

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Lockwood, James H., Cmdr., MC, USN
U.S. Naval Hospital, San Diego, Cal.
Bulletin of the Association of Military Dermatologists, June 1955, p. 2

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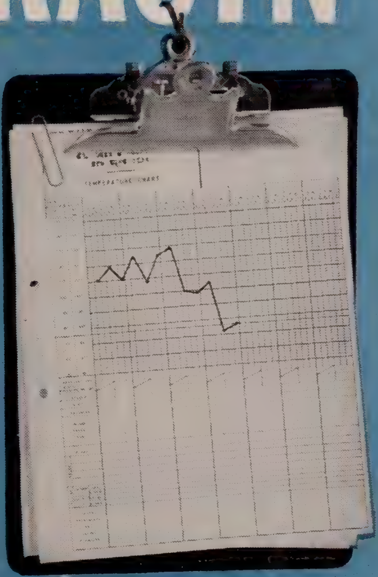

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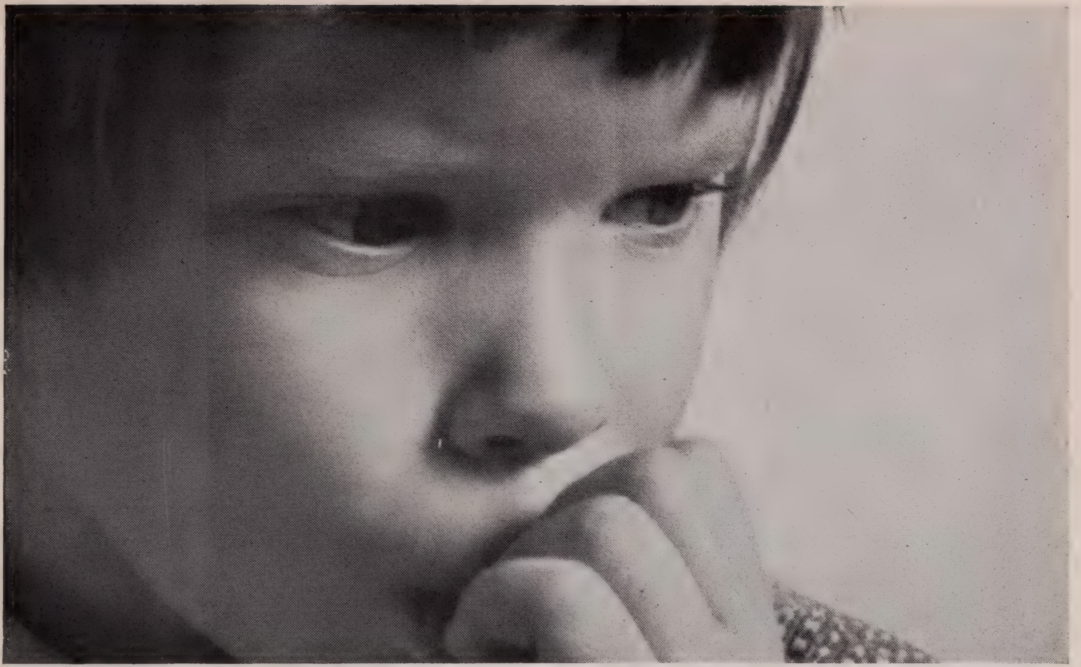

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1. Wikler: The Use of Chlorpromazine as an Anti-emetic in Children, Arch. Pediat. *72*:197 (June) 1955.
2. Daeschner et al.: Chlorpromazine in the Control of Vomiting in Children, Am. J. Dis. Child. *89*:525 (May) 1955.
3. Steigman and Vallbona: Chlorpromazine, A Useful Antiemetic in Pediatric Practice, J. Pediat. *46*:296 (March) 1955.
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5. Moyer et al.: Clinical Studies of an Anti-emetic Agent, Chlorpromazine, Am. J. M. Sc. *228*:174 (Aug.) 1954.

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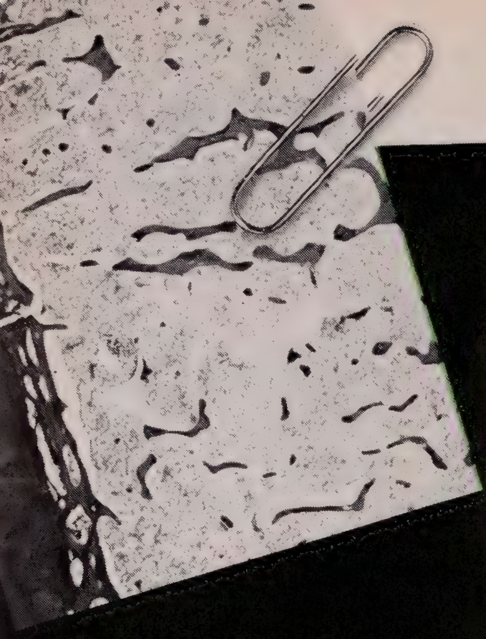

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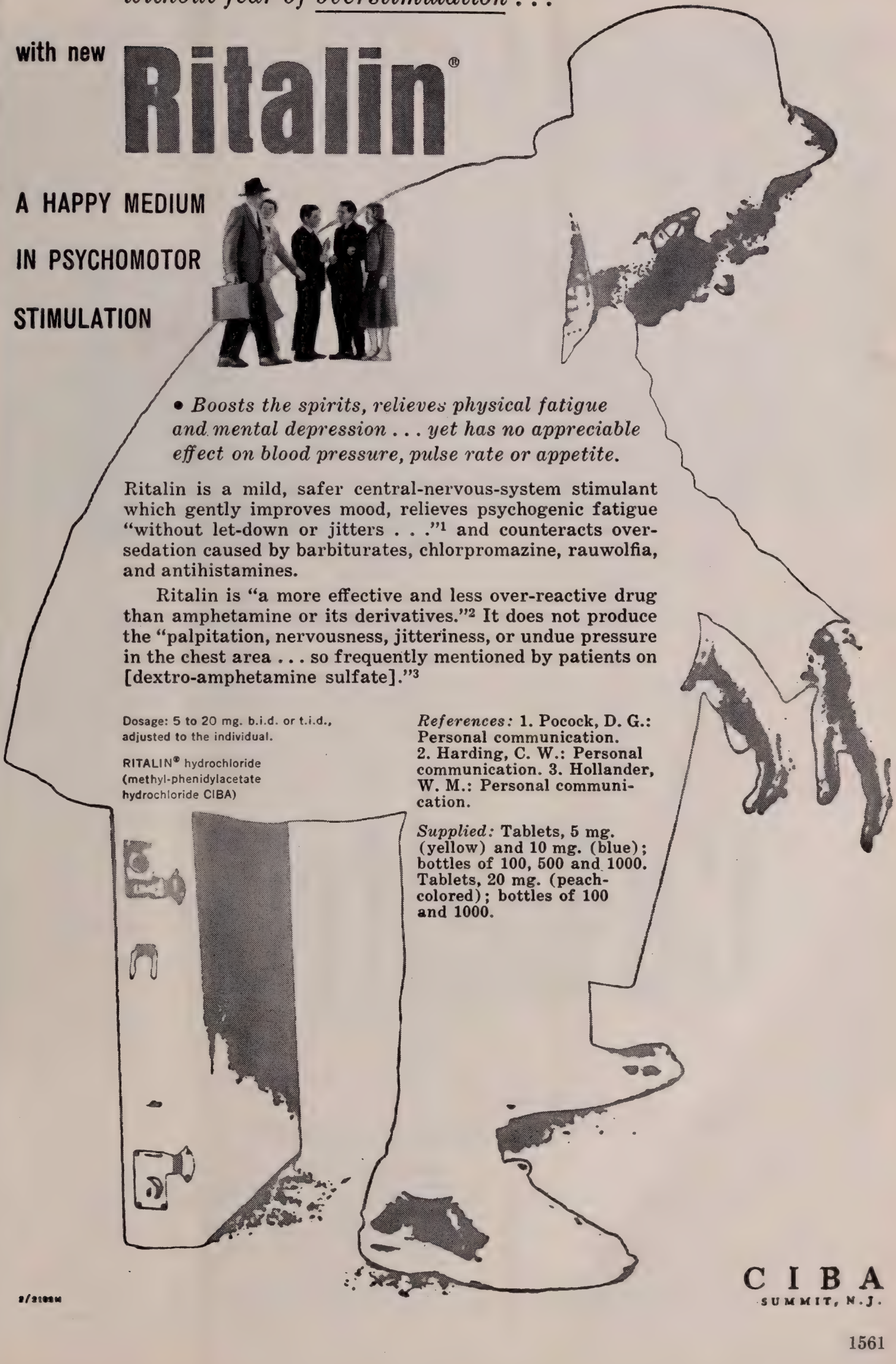

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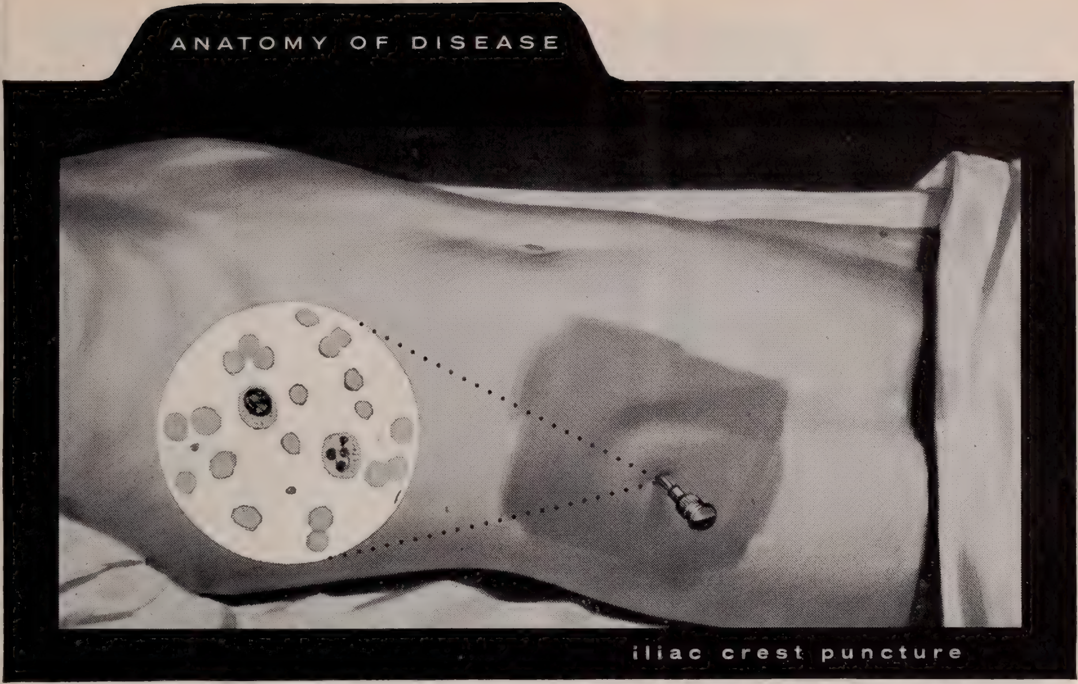
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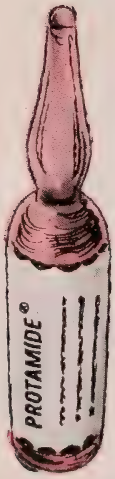

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Riboflavin (B_2)	5 mg.	Rutin	25 mg.	Fluorine (as CaF_2)	0.1 mg.
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Folic Acid	1 mg.	Purified Intrinsic Factor Concentrate	0.5 mg.	Magnesium (as MgO)	1 mg.
Pyridoxine HCl (B_6)	0.5 mg.	Iron (as $FeSO_4$)	10 mg.	Potassium (as K_2SO_4)	5 mg.
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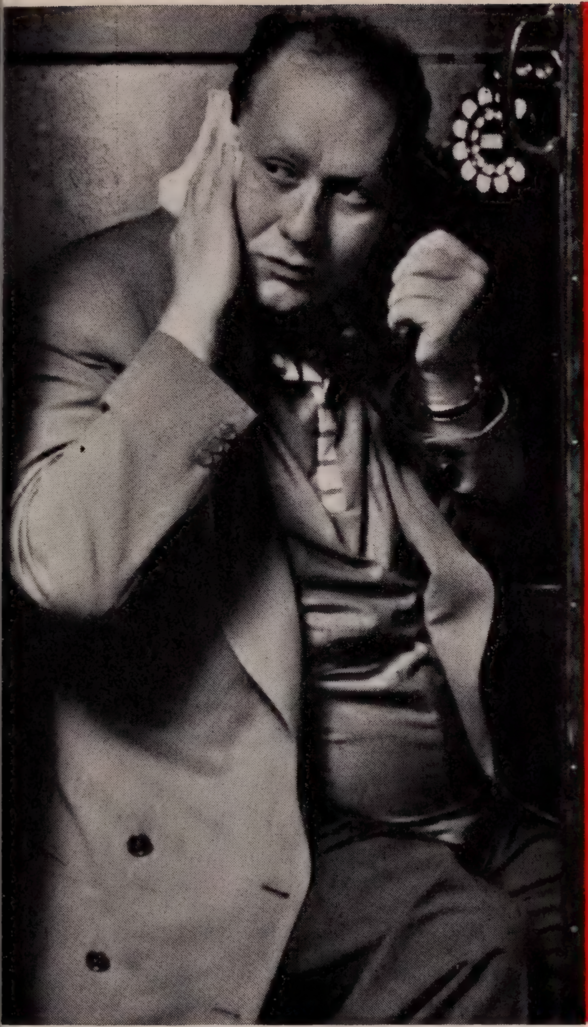

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---

1. Moyer, J. H., in discussion of Galen, W. P., and Duke, J. E.: Outpatient Treatment of Hypertension with Hexamethonium and Hydralazine, South, M. J. *47*:858 (Sept.) 1954.
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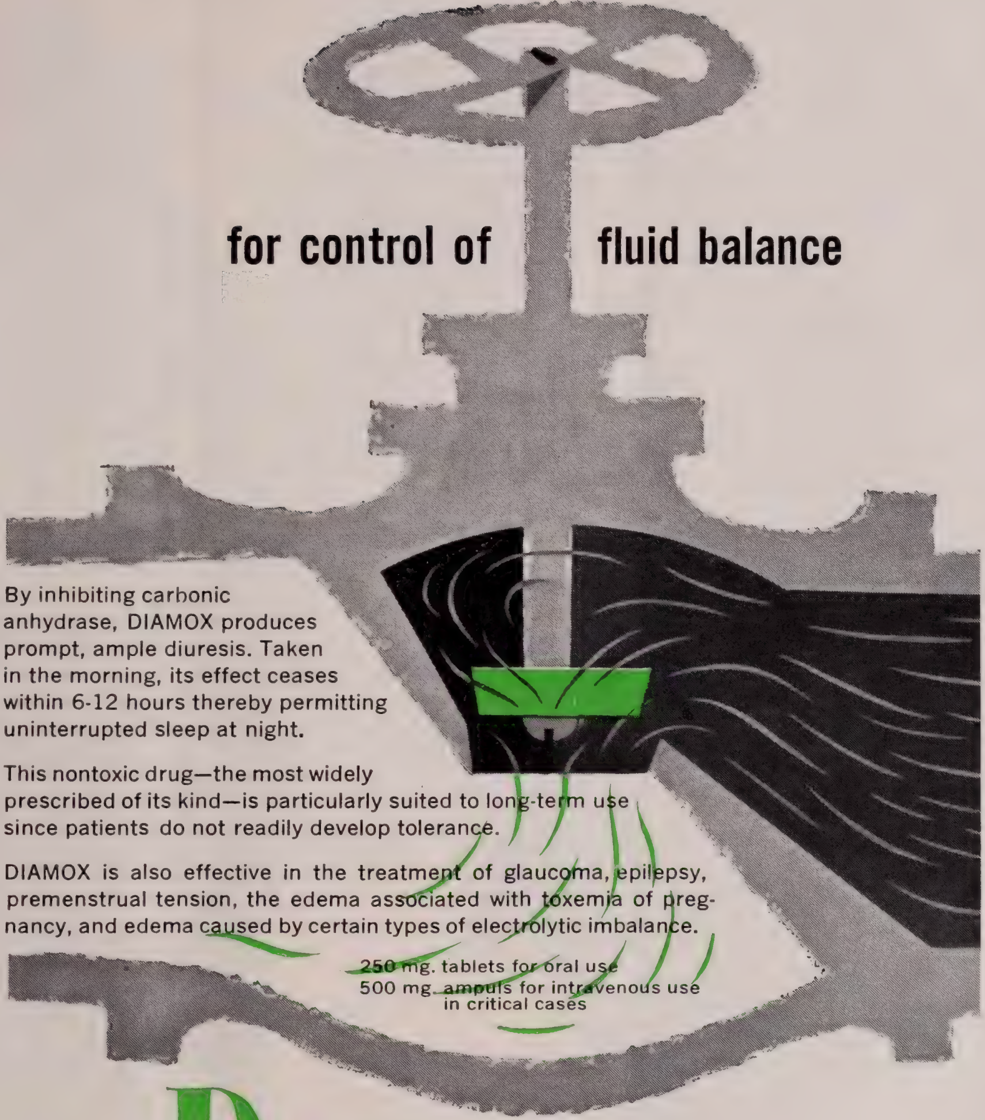

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1. Smith, R. T.; Kron, K. M.; Peak, W. P., and Hermann, I. F.: J.A.M.A. *160:745 (Mar. 3) 1956.*
2. Rodriguez-Gomez, M.; Valdes-Rodriguez, A., and Drew, A. L.: J.A.M.A. *160:752 (Mar. 3) 1956.*

*T.M.

†U.S. PATENT PENDING

‡**Lissive:** Relief of skeletal muscle spasm without interference with normal function.

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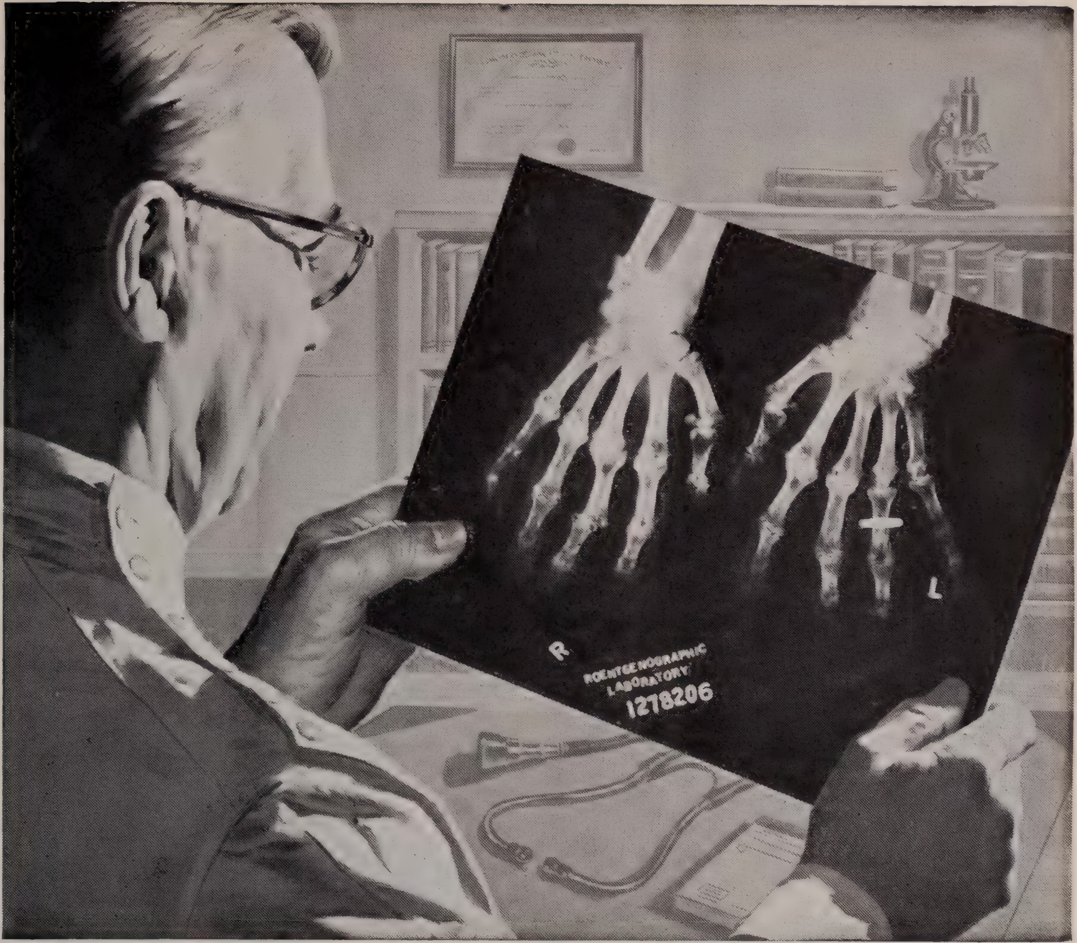

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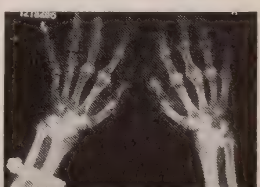

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2. J.A.M.A. 158:386 (June 4) 1955.

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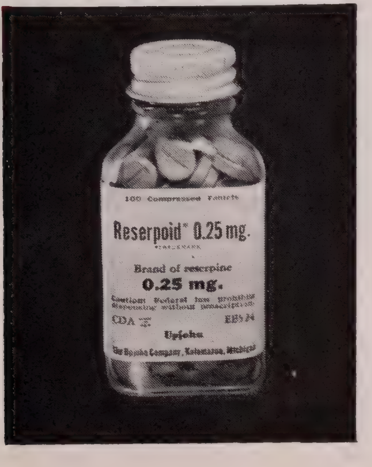
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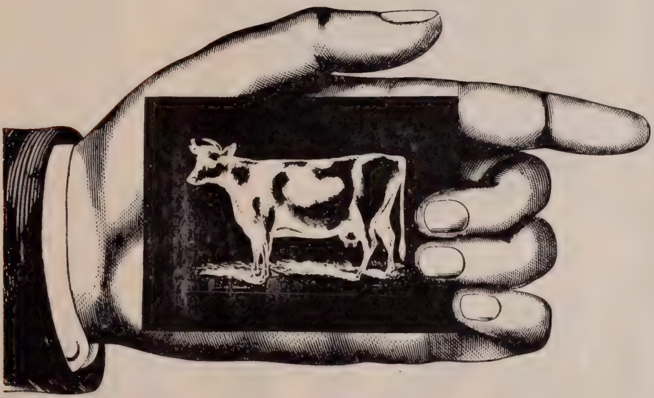

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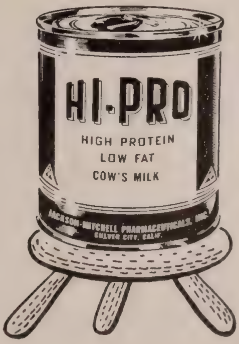

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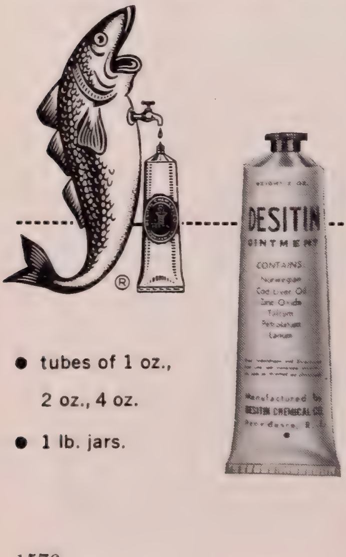
1. Grayzel, H. G., Heimer, C. B., and Grayzel, R. W.: New York St. J. Med. 53:2233, 1953. **2.** Heimer, C. B., Grayzel, H. G., and Kramer, B.: Archives of Pediatrics 68:382, 1951. **3.** Behrman, H. T., Combes, F. C., Bobroff, A., and Leviticus, R.: Ind. Med. & Surgery 18:512, 1949. **4.** Turell, R.: New York St. J. Med. 50:2282, 1950. **5.** Marks, M. M.: Missouri Med. 52:187, 1955.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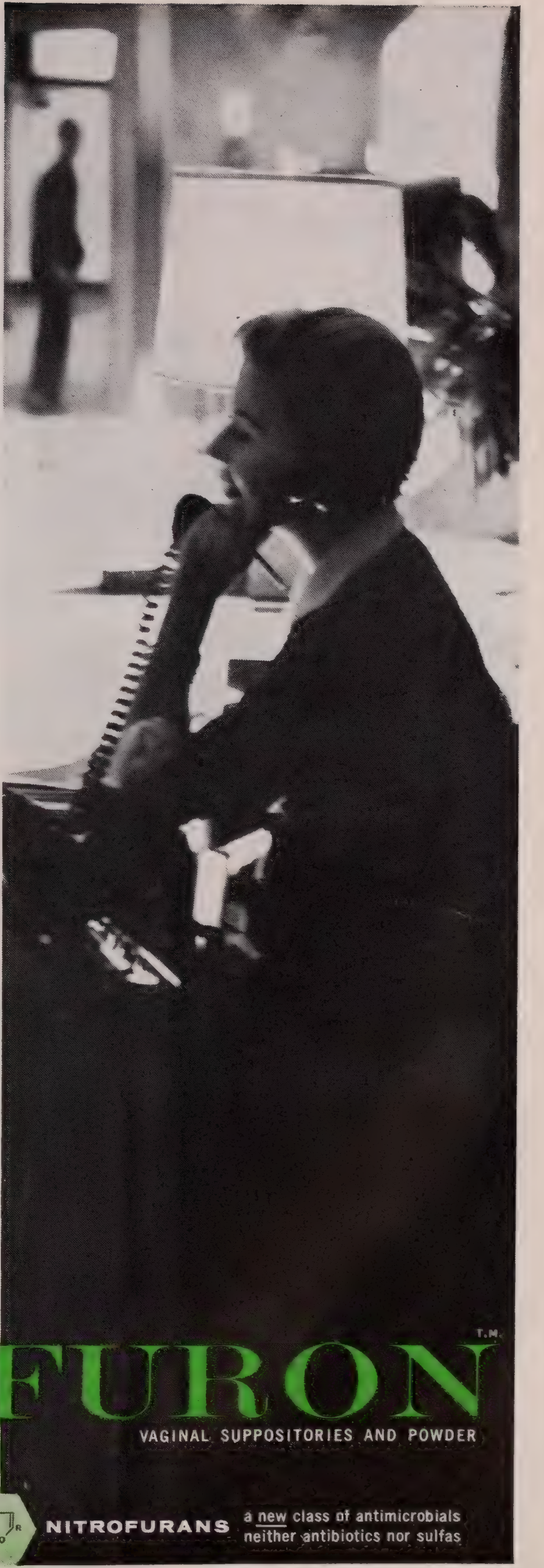

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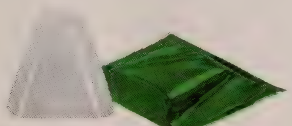
*Personal Communications to Medical Department, Eaton Laboratories. Detailed information available on request.



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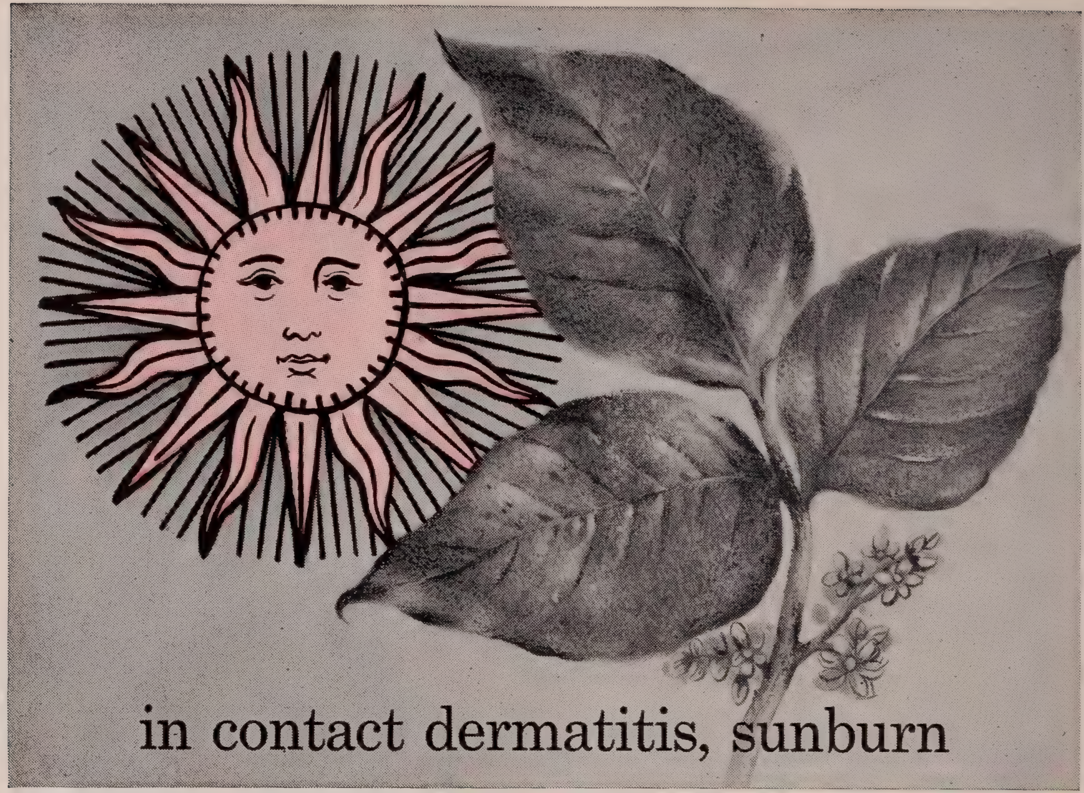

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EDITORIALS

Medical Malpractice Insurance

The Malpractice Insurance and Defense Board of the Medical Society of the State of New York calls attention to the very excellent article, "What Price Medical Malpractice Insurance?," which appeared recently in *California Medicine.*[1] Its author, Dr. Joseph Sadusk, Jr., is chairman of the Medical Review and Advisory Board of the California Medical Association, which has been established as a committee of the California Medical Association "to make studies and recommendations toward solution of the growing problems of professional liability insurance and malpractice actions in California."

Because of the increasing gravity of this problem, not only in New York State but elsewhere, the JOURNAL is reprinting the article in full on page 1677 of this issue. It is timely and sound in its conclusions, a thought-provoking guide for members of the Medical Society of the State of New York. We urge all to study it carefully. The problem is with us whether we like it or not. It cannot be ignored or wished away. But it can be studied intelligently with the purpose of developing all the facts first and then endeavoring to arrive at sound conclusions from them.

As *California Medicine* says, editorially, "The medical profession . . . cannot withdraw from the problem of professional liability. Physicians will have to continue to live with it. Medical malpractice is therefore a problem of medicine. It is not something the profession can leave to the insurance companies. It demands the interest and cooperation of every physician. It demands the study and effective, intelligent action of every medical organization."

---

[1] California Med. 83: 389 (Nov.) 1955.

Our Senior Citizens

By proclamation, the Governor of the Empire State and the Mayor of New York City have designated the month of May as "Senior Citizens Month." The primary purpose of this proclamation is to impress upon the people of the State "an awareness of the present as well as past contributions of our Senior Citizens to New York's cultural and economic life."[1] Many of these men and women continue to be active in the home, in science and industry, and in the spiritual and political life of the city and State.

For those of our membership who are interested, we call attention to the excellent report dated October, 1955, on the Conference on Problems of the Aging held in Albany and entitled "Charter for the Aging." This is a unique one-volume report containing important papers by Governor Averell Harriman and Senator Thomas C. Desmond, chairman of the Joint Legislative Committee on Problems of the Aging. "Charter for the Aging" provides the basic information indispensable to policy- and decision-making in this increasingly important area of social concern. It also outlines a series of recommendations drawn up by the outstanding professional and lay leaders in the fields of health, medical care, and rehabilitation; mental health; group care of the aged; education and recreation; housing; employment; retirement policy; maintenance of income and the prevention of indigency; university research, teaching and training;

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[1] Letter, Mayor's Advisory Committee for the Aged.

community organization, and the role of religion.

Since doctors will have to deal increasingly with the health problems of this age group it would seem only logical that they should have as wide a comprehension as possible of related conditions. Those desiring to do so may obtain copies of the "Charter for the Aging" from the Office of the Special Assistant, Problems of the Aging, Room 147, State Capitol, Albany, New York. In this publication, to quote Governor Harriman, "For the first time in the history of this State, and to the best of my knowledge, *only* in this State, do we have a clear picture of government payments to the aged or for their public care."

We feel certain that the medical profession will join with public authorities in honoring our Senior Citizens for their magnificent accomplishments and endeavor in every way to assist with their health problems.

Editorial Comment

Public's Opinion of Doctors. A recent study was sponsored by the American Medical Association and conducted by Ben Gaffin and Associates of Chicago with interviews by 289 surveyors from United Interviewing Company, an associated group," in order to find out what might be needed to improve doctors' services."[1]

From it emerged a picture of what people like about and expect from their doctors: sympathy, patience, and understanding, rather than guaranteed cures and "wonder drugs." What they criticize is a matter of time and economics, not of personality or ability.

Major items shown by the survey are as follows: (1) Most Americans have their own family doctors; (2) most of them like him and like doctors as a group; (3) people's opinions gained from their own experience differ from those based on hearsay or other sources; (4) doctors are more critical of themselves than are other people; (5) when people criticize physicians, it is largely for the cost of care; they do not, however, think doctors are trying to "get rich quick"; and (6) they are evenly split for and against "sliding scales" of fees.

The report on a public opinion survey has appeared in three parts: (1) views about physicians, (2) views about organized medicine and medical economics, and (3) doctors' views about organized medicine. Three articles have covered the survey in the *Journal of the American Medical Association*, starting in the February 11 issue for those who are interested in the complete report. Summaries of the survey are available from the public relations department of the A.M.A., 535 North Dearborn Street, Chicago 10, Illinois.

It is always interesting and frequently valuable to ascertain what others think of us and of our profession. Tom Browne (1663–1704) is said to be responsible for the quatrain:

I do not love thee, Doctor Fell,
The reason why I cannot tell;
But this alone I know full well,
I do not love thee, Doctor Fell.

Apparently things have changed for the better since those days. Now, according to the report, many people do like Doctor Fell. They should. Largely due to his work, research, and his constant questioning of himself, he has lengthened the public life span and improved its comfort to such an extent that most people have now a longer period of time at their disposal in which to be critical of him, were they disposed to be so.

The public's disposition to be critical of the costs of medical care should be considered in the light of the costs of everything else in our modern economy. In few instances is something obtained for nothing in this life.

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[1] News Release, A.M.A., February 8 and 15, 1956.

Good medical care is usually worth what it costs in relation to the price of goods and services in general.

The A.M.A. is to be congratulated, in our view, on the new public relations study, and our membership is urged to become familiar with it. An excellent, brief summary can be found in *Medical Economics*[2] for those who are pressed for time to read the full report.

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[2] M. Economics, Feb., 1956, p. 141.

Recent Pneumonia Mortality. Striking gains have been made in the last two decades in the control of pneumonia mortality, according to the *Statistical Bulletin.*[1] In 1955, says this source, the age-adjusted death rate from this disease was about 85 per cent below that in 1935 among persons aged one to seventy-four years insured under industrial policies. It appears that in 1935, before sulfa therapy, the pneumonia death rate among those insured was 55.4 per 100,000; by 1945, when penicillin began to be used in civilian medical practice, the rate dropped to 19.4; with the subsequent use of other antibiotics, the death rate dropped to 7.8 in 1955.

The *Bulletin* comments further:

> The shift in age distribution of pneumonia deaths is reflected in the changing proportion of deaths from the various forms of the disease. Whereas in 1933 deaths from lobar pneumonia outnumbered those from bronchopneumonia by nearly one fourth, in 1953 the number of deaths from bronchopneumonia was the greater by three fourths. The fact is that mortality from lobar pneumonia has become relatively rare among children and young adults.

Although outstanding progress has been made in reducing the mortality from pneumonia, the disease still accounts for more than 45,000 deaths a year in the United States. This figure, moreover, does not include the large number of deaths ascribed to other causes in which pneumonia is a contributory cause. Further reductions in pneumonia mortality may be expected, but it is not likely that the disease will soon become a minor cause of death, as have so many other infectious diseases. Exerting a retarding effect on future progress is the concentration of the mortality at the extreme ages; there the disease is least amenable to control. A special circumstance which keeps the pneumonia death rate high in infancy is the excessive frequency of the disease among premature babies; there appears to be no immediate prospect of appreciably reducing the incidence of prematurity. At the older ages the treatment of pneumonia is often complicated by the presence of cardiovascular disease or other chronic conditions. Another factor which retards further decline in pneumonia mortality is the appreciable frequency of cases caused by organisms which do not respond to chemotherapy.

It now appears that additional gains in the control of pneumonia mortality are contingent largely upon further reductions in the case fatality rate of the disease. Accordingly, increased emphasis needs to be placed on early recognition and prompt and adequate treatment. Particular attention should be paid to early signs of pneumonia in infants and children, in whom the disease may progress very rapidly. Recent studies show that many sudden deaths among infants which appear to be due to accidental suffocation prove on careful investigation to have resulted from unrecognized respiratory disease.

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[1] Metropolitan Life Insurance Company, Statistical Bulletin, Feb., 1956, p. 6.

Fishing Winds

When the wind is in the North, the skillfull fisher goes not forth; when the wind is in the East, it's good for neither man nor beast; when the wind is in the South, it blows flies into fish's mouth; but when it is in the West, there it is the very best (Isaak Walton)—The Old Farmer's Almanac, 1956, Dublin, New Hampshire, Robert B. Thomas

IMPORTANT RESEARCH CONTRIBUTION

Searle Introduces:

A Practical New Steroid for Protein Anabolism

Nilevar*

(BRAND OF NORETHANDROLONE)

PROTEOGENIC EFFECTIVENESS • The newest Searle Research development, Nilevar, exerts a potent force in protein anabolism. Yet it is without appreciable androgenic effect (approximately one-sixteenth of that exerted by the androgens).

Investigations with Nilevar show that nitrogen, potassium and phosphorus are retained in ratios indicating protein anabolism. Nilevar is thus the first steroid which is primarily anabolic and which provides a practical means of meeting the numerous demands for protein synthesis.

NILEVAR IS ORALLY EFFECTIVE • Clinical response to Nilevar is characterized not only by protein anabolism but also by an increase in appetite and an improved sense of well-being.

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DOSAGE • The daily *adult* dose is three to five Nilevar tablets (30 to 50 mg.) but up to 100 mg. may be administered. For *children* the daily dose is 1 to 1.5 mg. per kilogram of body weight. Individual dosages depend on need and response to therapy. Nilevar is available in 10 mg. tablets. G. D. Searle & Co., Research in the Service of Medicine.

INDICATIONS:

Nilevar is indicated in the vast area of surgical, traumatic and disease states in which protein anabolism is desirable for hastening recovery. The specific indications are:

1. **Preparation for elective surgery.**
2. **Recovery from surgery.**
3. **Recovery from illness: pneumonia, poliomyelitis and the like.**
4. **Recovery from severe trauma or burns.**
5. **Nutritional care in wasting diseases such as carcinomatosis and tuberculosis.**
6. **Domiciliary care of decubitus ulcers.**
7. **Care of premature infants.**

*Trademark of G. D. Searle & Co.

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LAKESIDE

SCIENTIFIC ARTICLES

Management of Dyspnea in Emphysema

HOWARD G. DAYMAN, M.D., BUFFALO, NEW YORK

(From the Department of Respiratory Disease, Chronic Disease Research Institute)

From ancient times the breathing process has been subjected to a perplexing variety of manipulations for one or another reason of health. They range from mouth-to-mouth resuscitation used by the prophet Elisha[1] to the practice of Yogi. Similarly, in the treatment of emphysema there are physical measures which are obviously salutary, such as the restriction of exercise, whereas others are of less certain or even disputed value.[2,3] Since breathing is essentially mechanical, a rational approach to physical therapy in emphysema requires a precise knowledge of the forces involved and the effects they produce. Studies of this nature led to the conclusion that during expiratory airflow the intrathoracic airways act as check valves.[4] The phenomenon can be directly observed under the fluoroscope as momentary narrowing of the tracheobronchial silhouette immediately after the glottis opens during cough, and in Fig. 1 it is illustrated from moving pictures of the fluoroscopic screen. By this means Ross was able to plot the cross-sectional area of the compressed trachea, while volume rate of airflow was recorded simultaneously on the pneumotachygraph. Calculation of linear velocity for airflow in such a trachea gave astonishing values measurable in hundreds of miles per hour, quite possibly reaching the speed of sound.[5] This is a dramatic example of the dynamic aspect of ventilation, quite at variance with the notion that it is a passive or at most a relatively effortless process.

Airflow in emphysema is confined by mechanical forces which cannot be overcome by the most violent muscular effort of which the human body is capable. It is the purpose of physical therapy to circumvent these obstacles or, failing this, to teach the patient how to live within the handicap in the interest of energy economy.

Basic Principles

Pressure is usually described in relation to that outside the body, called ambient pressure, and expressed in terms of the height of a column of water or mercury it can support. This is a permissible artifice if it be remembered that each centimeter of water equals 1 Gm. per square centimeter, and each ml. of mercury 1.3 Gm. per square centimeter. Total force equals pressure times the area over which it is applied. One must employ the proper sign for so-called "positive" or "negative" pressure. "Higher" pressure means either "less negative" or "more positive."

Flow occurs only in response to pressure. There is a decline of pressure along the path of flow. The drop between any two points varies with the rate of flow and with resistance to flow. Linear velocity is distinct from volume rate of flow.

Resistance to flow varies inversely with the rate and in the present context varies inversely with the caliber of the airways.

Check valves embody the signal principle that pressure which would ordinarily cause flow in one direction preferentially closes the valve and stops flow. Pressure applied in the opposite direction opens the valve and enhances flow. The propelling pressure at entrance to a tube, and common as well to a space surrounding it, compresses the tube at a given point in the amount of that pres-

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Presented at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Session on Physical Medicine, May 11, 1955.

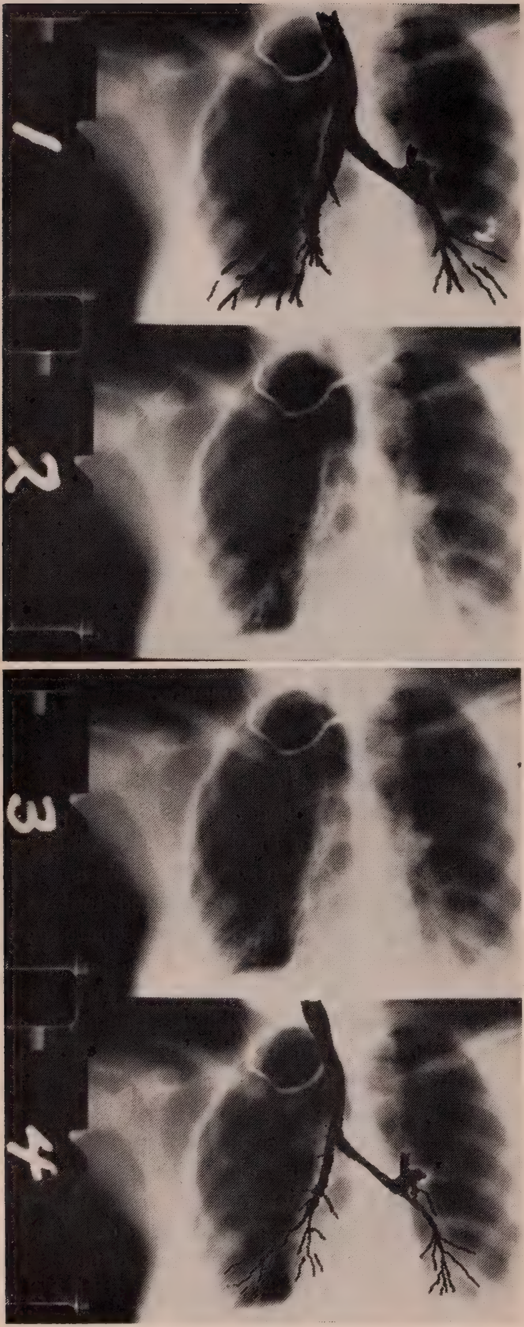


FIG. 1. Enlargements of four serial motion picture frames of the fluoroscopic screen. A normal patient fluoroscoped in the left anterior oblique projection during cough, 32 frames per second.

Events preceding frame 1 were inspiration, glottic closure, contraction of muscles of thoracoabdominal wall, mounting of high pressure therein. Events transpiring between frames 1 and 4, a time interval of 0.1 second, were sudden opening of the glottis and outflow of air at high volume flow; concurrent development of a high pressure gradient along the path of flow and equally high gradient between the lumina of intrathoracic airways and the terminal spaces which surround them; crushing of tracheobronchial tree with partial obliteration of lumina since they are protected by cartilage along downstream points where compressing force is greatest; consequent decrease in volume flow and marked increase of linear velocity.

Frames 1 and 4 retouched to simulate the continuity and caliber of airways observable in the moving sequence. (*Courtesy of Dr. Herman Rahn, University of Rochester*)

sure minus the canalicular pressure at the point in question. A tube of flexible material can thus be made to collapse, thereby increasing resistance, decreasing canalicular pressure downstream, and thus increasing the tendency to further collapse for downstream points within the enclosing space. The soft part of the nose is an inspiratory check valve. Collapse of the nostrils during sniff should be studied in relation to the effort of the subject, the relative size of the nasal passages bilaterally, and the amount and location of resistance afforded by a cotton pledget to demonstrate the above principles.

Lung Tension is the counterpressure of the lung in response to inflation, in health reaching 20 to 30 Gm. per square centimeter at maximum inspiration.[4,6,7] In advanced anatomic emphysema Lung Tension is present only when the lungs approach full inflation and then to a maximum of 10 Gm. per square centimeter or less. Airways and parenchyma alike are parts of a continuous elastic system and share the same tension.

Thus in health bronchiolar caliber varies with Lung Tension and with lung inflation. In anatomic emphysema protective distention of bronchioles is lacking. They collapse even under slight expiratory pressure in surrounding airspaces. Due to high resistance in the collapsed bronchioles the remainder of the respiratory tract is compressed downstream as far as the exit of the trachea from the thorax. The major airways are armored by cartilage but appreciably narrow under pressure of 40 Gm. per square centimeter. Far greater pressures are attainable, on the order of 80 to 160 Gm. per square centimeter, if the patient tries to exhale forcefully. In such instance the upward thrust of the abdominal contents against the lung bases can be 120 pounds or more. Like all check valves the airways open widely enough when the pressure gradient is reversed on inspiration.

The diaphragm pulls with equal force at its origin and insertion. It originates at the costal margin, in part fixed to the distal ends of impor-

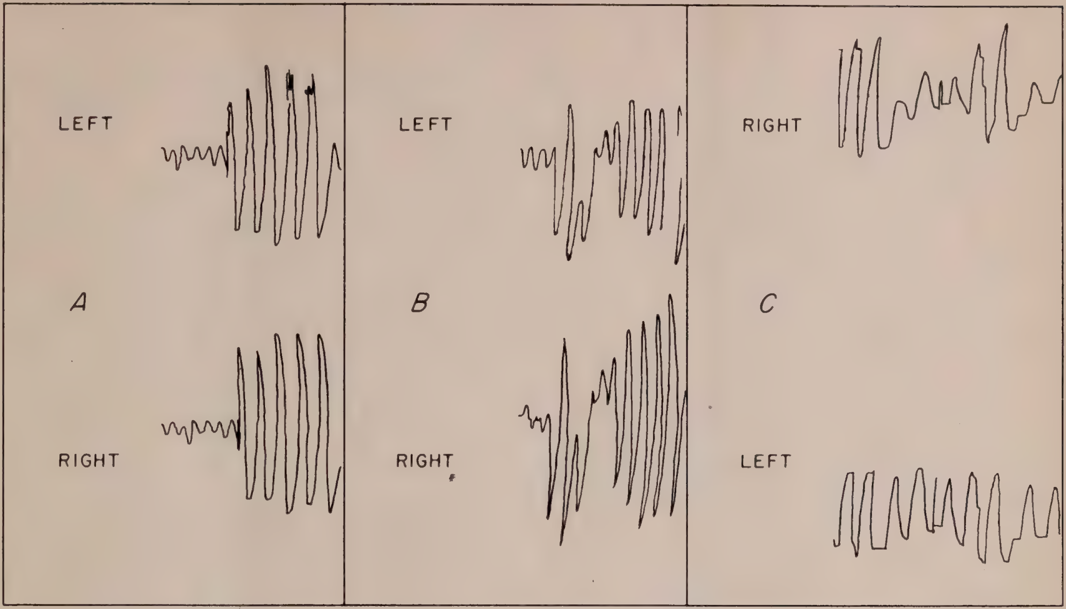


FIG. 2. (*A*) *Case 1*—Preoperative movement of lower ribs approximately equal bilaterally with both quiet and deep breathing. (*B*) *Case 1*—After paralysis of left hemidiaphragm effected by crushing the phrenic nerve. Left costal margin moves less than the opposite side with quiet breathing, but more widely than the right side with deep breathing. (*C*) *Case 2*—Right hemidiaphragm paralyzed. Movement of right costal margin less than that of opposite side with quiet breathing but more than that of left side with deep breathing.

tant breathing ribs, six through nine. Each rib has two attachments at the spine which impose an oblique axis of rotation for the rib, passing from a point anterior to the transverse process to the lateral caudal edge of the next higher vertebral body. The acute angle between the axis of rotation and that of the spine obliges the rib to evert if it is pulled cephalad. If the angle of pull is rotated caudally, a point is reached where traction deflects the rib downward and medially. Thus if the central tendon were high, diaphragmatic pull should at first assist the inspiratory movement of the ribs. As contraction continues, it should finally restrict the inspiratory movement of the ribs in question. The "Hoover signs" are based on the resulting deflection of the costal margin.

Since these effects have been disputed[8] and have seldom been measured,[9] it seemed wise to put them to the test. Our findings in 12 subjects are here reported. Thighs and upper arms were strapped to a vertical fluoroscope table. Wands were hinged on an encircling frame and spring-weighted to give light equal contact to the anterolateral aspect of each costal margin. Movement of each wand was recorded within a sensitivity limit of 1 mm. on a smoked drum. Subjects were tuberculous patients with uncomplicated slight lesions unlikely to interfere with the test. Two subjects with straight spines showed equal movement bilaterally. Four with slight scoliosis at the spinal level to which the ribs under test were attached showed greater movement on the convex side of the scoliosis. Two subjects had small, uncomplicated, unilateral pneumothorax which depresses the diaphragm somewhat, and in one of these, costal movement was restricted on the affected side. In the second subject movement was equal bilaterally, and the further injection of 400 cc. of air into the pleural space did not elicit a disparity, probably due to the small size of the pneumothorax. As the patient fainted, mean thoracic diameter became smaller, but tidal excursion was increased and equal bilaterally. In each of four patients one phrenic nerve had been surgically crushed and paralysis of the affected leaf confirmed by sniff test. In each instance the homolateral costal margin moved more widely on deep breathing. In two patients with unilateral phrenic paralysis the affected side moved less than the unaffected side with quiet breathing (Fig. 2C). In one of these the costal movements had been recorded preoperatively and found equal bilaterally (Fig. 2A and B). One patient with phrenic paralysis was taught to breathe thoracically which, in effect, inactivates

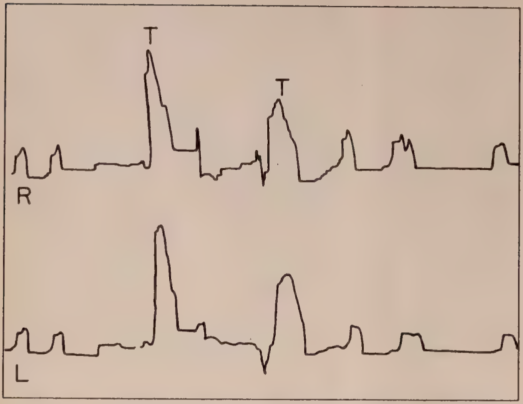
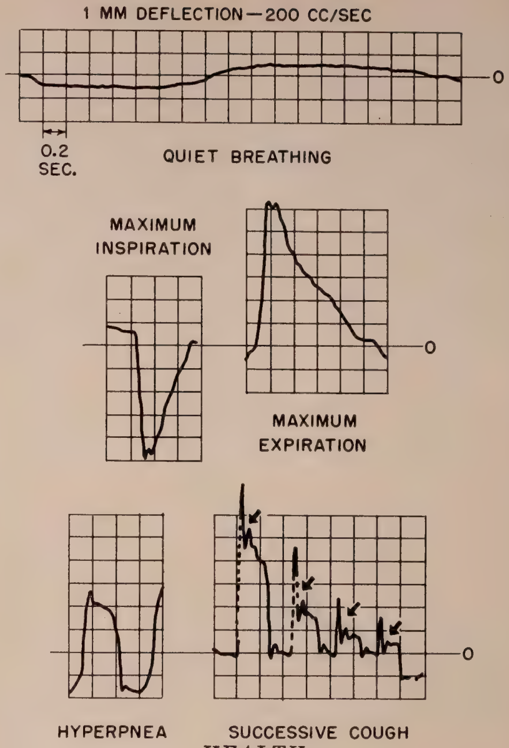


FIG. 3. *Case 3*—Right hemidiaphragm paralyzed. Right costal margin moves more widely with deep thoracoabdominal breathing. Movement equal bilaterally when patient inhales thoracically without diaphragmatic contraction. Thoracic efforts labeled T.

both diaphragmatic leaves. Costal excursion then became wider but equal bilaterally (Fig. 3). The effect of the unparalyzed diaphragmatic leaf was abolished.

Even within physiologic range a "high" diaphragm assists rib movement; a "low" one, even though not actually "flat," restricts costal movement. In advanced anatomic emphysema the diaphragm is depressed even more, and portions of it are often inverted. Paradoxic movement of the costal margin is invariably present and can be reduced, even abolished at times, by measures which increase intra-abdominal pressure independent of that resulting from contraction of abdominal muscles. The effect on the costal margin need not derive solely from restoring diaphragmatic arch which may be slight or lacking. Increased abdominal pressure has a dilating action on the costal margin itself, thereby assisting inspiratory movement of the ribs.

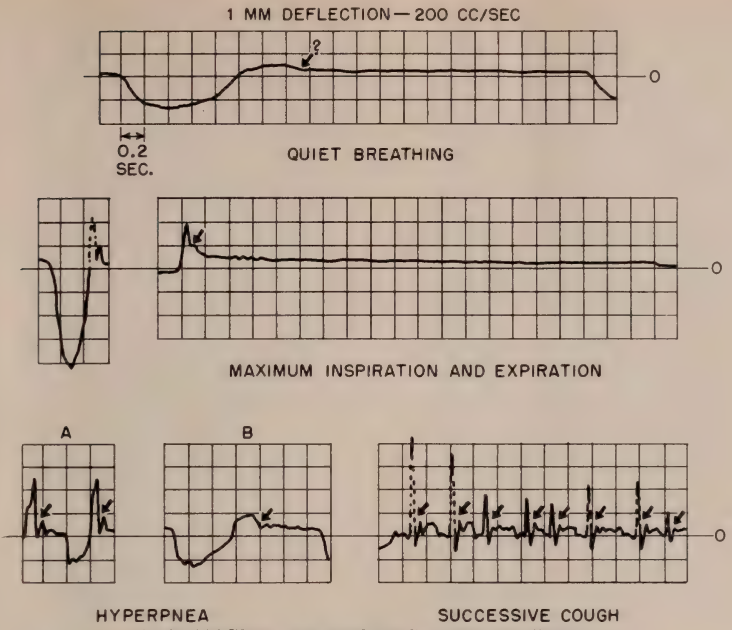
Abdominal pressure of 10 Gm. per square centimeter or less resulting from pneumoperitoneum, belts, or the head-down position is to be compared with that of a maximal expiratory effort, a Valsalva pressure of 80 to 160 Gm. per square centimeter. These remedies cannot substantially improve the patient's capacity to perform an isolated exhalation. The effects of limited increase in abdominal pressure are complex, which probably accounts for the divergent therapeutic responses. Theoretically it should improve the ability to inhale, and we have repeatedly observed higher maximum airflow in this phase following pneumoperitoneum. The inspiratory restriction of breathing in emphysema



HEALTH

Fig. 4. *Case 4*—A twenty-seven-year-old woman, height 5 feet, 3 inches, weight 112 pounds. Each millimeter deflection of the pneumotachygraph tracing above or below the zero line equals 200 cc. per second of airflow for expiration and inspiration, respectively. The subject is seated during the tests. Maximum inspiratory airflow occurred in a breath of relatively small volume which accounts for the small area beneath the curve. Hyperpnea is voluntary, simulating that of a maximum breathing capacity test which in this patient measured 111 L. per minute. Successive coughs are initiated with the lungs at full inflation and continued without inspiratory interruption. Tracings reflect the pressure differential across a Monel metal screen of a Rahn pneumotachygraph tube measured by a Statham strain gauge, P 97, and a Sanborn amplifier-recorder unit. Calibration is rectilinear at the rates encountered. Points of Closure (POC) of intrathoracic airways due to the check valve mechanism are marked by arrows.[4]

is an indication that one phase cannot be altered without ultimately affecting the other. It is from the immutable nature of the check valve mechanism that the most violent muscular effort cannot surmount the handicap but rather makes it worse. Functional disassociation of ribs, diaphragm, and belly wall further aggravates disastrous situations where the effort to breathe can itself produce dyspnea. A remedy which promotes the economy of breathing energy can elicit unmistakable subjective improvement when unchanging objective measurements reflect the fixed impediment to airflow.[2]



ADVANCED ANATOMIC EMPHYSEMA

FIG. 5. *Case 5*—A male, age thirty-three, with advanced anatomic emphysema, height 6 feet, three inches, weight 165 pounds. Maximum minute ventilation, range 30 to 40 L. per minute depending on the type of breathing effort employed. In hyperpnea, curve A results when violent acceleration of expiratory pressure causes immediate check valve closure and restricted volume flow. Restrained effort gives greater flow for equivalent time periods, 0.3 second, curve B. Good inspiratory flow indicates that the airways are not intrinsically obstructed, a point of difference from bronchial asthma. Expiratory closure occurs in emphysema because the protective distending effect of lung tension on the bronchioles is lacking. Compare terminal coughs in health (Fig. 4) when lung tension is physiologically reduced by deflation. Nomenclature same as in Fig. 4.

Clinical Manifestations

The above principles are brought out by comparing the normal airflow of a young woman, Case 4 (Fig. 4), with that of a powerful but emphysematous man, Case 5 (Fig. 5). They illustrate the distinctive findings in 28 normal subjects and in 33 patients with advanced anatomic emphysema, part of a series of 230 patients in whom the mechanics of ventilation have been investigated. Disorders of the larynx, bronchi, parenchyma, pleura, and neuromuscular system are represented in the remainder. Pneumotachygraph analysis has been a basic method of study in all breathing disorders since airflow and its variation are the ultimate resultant of all the factors governing ventilation. In addition to the usual respiratory measurements, the dynamic effects on the airways, intrabody pressures, and neuromuscular action were evaluated in selected instances depending on the nature of the disease. The following interpretations are derived from this body of data.

Quiet breathing provides a frame of reference. Airflow in health is usually erratic, but in the instance of emphysema even at rest there is a suggestion that adequate expiratory airflow is confined to a brief initial period. This might be considered erratic flow were it not uniformly present in each of 300 expirations of equivalent or greater force recorded for this patient over a period of four years. Termination of the initial period of relatively unrestricted flow is more abrupt, the greater the applied effort. It is marked by darts and referred to as Point of Closure (POC) in both Figs. 4 and 5. Analysis of the forces involved[4] indicates that POC occurs when the expiratory intrathoracic pressure overwhelms the protective bronchiolar distention of Lung Tension and thereby converts the intrathoracic airways into check valves. In health the effort must be violent. In advanced anatomic emphysema closure occurs at rest. Continuation of positive pressure after Point of Closure gives leakage flow—in emphysema at a uniform, functionally useless rate of 300 cc. per second or less. Greater expiratory effort in the patient with emphysema does not appreciably improve leakage flow and may retard it. Thus in hypernea the patient made spasmodic expiratory efforts and by so doing could lower his maximum

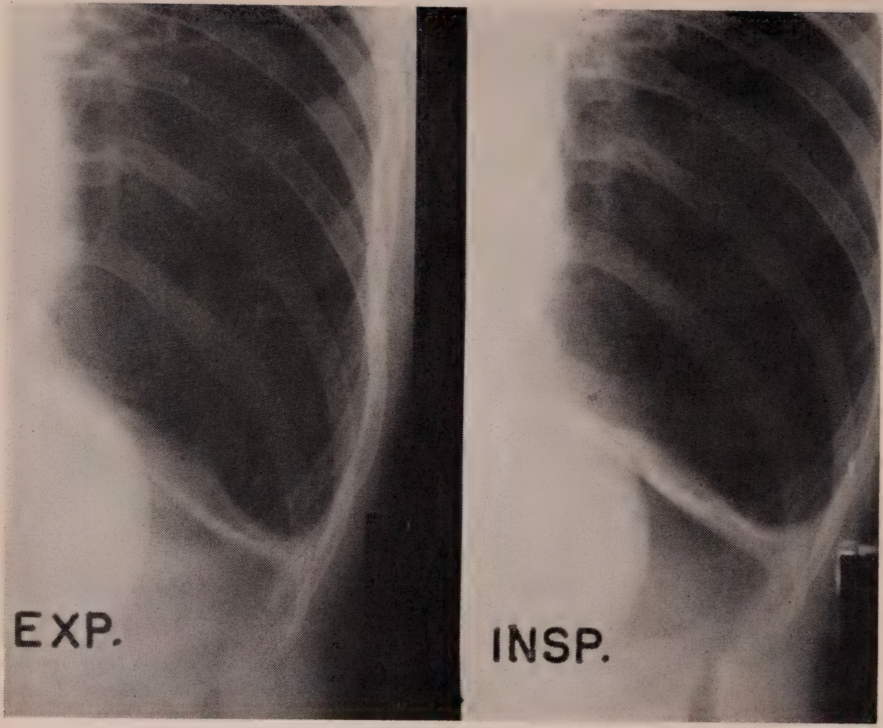


Fig. 6. *Case 5*—Spot films centered at diaphragmatic level with the patient in left anterior oblique projection to cast in silhouette the posterolateral quadrant of the left diaphragmatic leaf. Pneumoperitoneum treatments had been discontinued, but a small amount of remaining air outlines the undersurface of the diaphragm. Note the inversion more pronounced on expiration. Inspiratory contraction makes it shorter, straighter, and thicker. The diaphragm in emphysema is not atrophied. It may be greatly hypertrophied. Traction is at right angles to the costal plane.

minute ventilation to 27 L. from the usual range of about 40 L. (Fig. 5, tracing A.) Cautioned to be less violent, he improved expiratory flow except for the initial peak shown in tracing B. Pressures attainable by the patient are in part related to the rate of acceleration since outflow of air is concurrently dissipating it. In cough the pressure is mounted behind a closed glottis, and the most disastrous effect of the check valve mechanism is elicited (Fig. 5). The wracking violence of cough in emphysema seldom moves more than 150 cc. of air before closure and in the present instance 30 to 60 cc. Expiratory airflow in anatomic emphysema is rigidly fixed and unresponsive to greater effort on the part of the patient. It is likewise unresponsive or poorly responsive to adrenalin and unremitting in the subsequent natural history of the disease.

A striking contrast is afforded by normal breathing (Fig. 4). Greater expiratory effort gives an ample response in flow and volume, but even here the deceleration of flow is controlled by factors other than decline of pressure, since in successive coughs, with the higher pressures derived from glottic closure, the same general pattern emerges. It should be noted that in health, check valve collapse of the airways is partial (Fig. 1). The well-dilated bronchioles permit rapid outflow and rapid dissipation of pressure. However, observe that cough initiated when the healthy lungs are deflated and Lung Tension is physiologically depleted gives the same airflow response as in emphysema. Inspiratory flow rates can be nearly normal in uncomplicated anatomic emphysema. Such reduction in flow as does occur, together with the reduction in volume, results from the inspiratory range at which it is carried out and the ensuing functional dissociation of the thoracoabdominal bellows (Fig. 6). Diaphragmatic inversion can produce striking reduction of inspiratory flow, but maximum expiratory flow is invariably even lower in any given case of emphysema.

Differential Diagnosis

The form of emphysema designated *anatomic* is characterized by fragmentation of the parenchyma and coalescence of air spaces. Partly torn from its moorings, such parenchyma remains slack unless hyperinflated. In the uncomplicated form considered here, there is very little cough or expectoration, none at all in Case 5. Expiratory wheezing is a high-pitched hiss, not rasping or bubbling. Except for occasional areas breath sounds are absent. These are the silent chests.

Under the stethoscope the only sound to be heard is muscle roar.

In the majority of cases at one time or another there are components which add intrinsic obstruction to the pre-existing check valve obstruction: bronchial asthma, bronchitis, mucous plugs, and pus, for example. These complications together with the imbalance of body electrolytes are principally, although not exclusively, a problem for chemotherapy. Successfully treated, the syndrome of uncomplicated anatomic emphysema again emerges. Intrinsic bronchial lesions by themselves cause expiratory check valve obstruction but with quantitative differences attributable to intact Lung Tension. The hand pump draws water from the well better if its check valve is tight and primed with water. The airways in allergic asthma are tightened by spasm and primed by mucus.

Focal or localized fibrosis deflects ventilation elsewhere. Shoe leather cannot be stretched. Conglomerate silicosis provides a typical example. Parenchyma spared from fibrosis sustains the full burden of inflation. Fragmentation and anatomic emphysema result. There are differences attributable to the nature of the fibrosis, to infection, and to the pulmonary circulation, but the ventilatory situation is much the same, clinically, functionally, anatomically, and therapeutically.

Universal continuous fibrosis is rare. It is observed in so-called interstitial fibrosis of unknown etiology, beryllium poisoning, and rarely in sarcoid. In one case of the present series the pressure increment required to distend the lungs by one unit of volume was seven times the normal value. The lungs are literally stiff, the breathing tachypneic, the chest shrunken, the vesicular breath sounds loud, the crepitant rales numerous. Physical measures outlined for emphysema do not apply to universal continuous pulmonary fibrosis.

Physical Therapy

Many patients with emphysema voluntarily exhale through pursed lips; others purse the larynx. Theoretically this is effective but unwise. In practice we have found it unnecessary. Controllable resistance above the inlet of the thorax simply reduces the expiratory flow, thereby minimizing the intrathoracic pressure gradients tending to cause check valve closure. Greater pressure derived from contraction of voluntary muscles is thus required to produce equivalent flow. The same favorable effect on intrathoracic airways without the additional expenditure of energy can be obtained by restraining the expiratory effort.

We call this "pacing the patient." Voluntary breathing control is enhanced by more forceful but shorter inspiratory effort, thus permitting longer expiration without sacrificing minute ventilation. Excitement normally causes hyperventilation. If breathing reserve is low, it produces dyspnea. In the trained patient conscious control is possible, and provocative situations can be avoided. Hyperventilation without recognizable physiologic purpose is common in asthma, but in advanced anatomic emphysema the apparent need is for more rather than less ventilation. Since the check valve mechanism fixes the breathing limit, a primary purpose is to attain this limit with an absolute minimum of effort. This principle is applied to the regulation of physical activity. Usually the patient seriously undertakes treatment when maximum breathing capacity falls below 50 L. a minute, the precise range at which walking on the level produces dyspnea and work capacity is thereby threatened. From the first visit and always thereafter the patient is cautioned against physical excesses which incite him to pit a futile muscular violence against a valvular obstruction. The advanced case must always extend expiration beyond point of closure to supplement tidal volume but should do so gently. Apart from visible distress the signs of excessive physical endeavor are abrupt interruption of expiratory excursion at point of closure followed by boardlike contraction of abdominal muscles, protrusion of hernias, pooling of blood in the veins of extremities and neck at entrance to the thoracoabdominal space, expiratory rise of systolic blood pressure, bulging of lung apices into the neck, cyanosis. Because he is disarmingly comfortable at rest and perhaps as a psychologic attempt to compensate for a handicap, the emphysematous patient is given to sudden but necessarily brief outbursts of effort, which leave him gasping. These are forbidden. It is wiser to wait for the next bus than to run for the one on the corner.

It is in the interest of efficient breathing to restore the function of the diaphragm. The emphysematous patient, lying supine, can readily be taught to re-employ synchronous diaphragmatic contraction. By so doing he invariably imposes diaphragmatic constriction of the lowermost portion of the thorax. Even the lower portion of the sternum may retract. The seriousness of this handicap can be judged from the fact that thoracic volume varies as the square of the radius of cross section, whereas volume varies only as the first power of longitudinal diaphragmatic movement. At this point in treatment the therapist should fasten the ends of rulers to the table with adhesive, one on either side at the level of the costal margin. These rest against the chest wall and the upper ends reflect its movement, magnified and visible to patient and therapist alike. Then by pressure of the hand on the abdomen, the patient is again asked to coordinate diaphragmatic contraction. This maneuver, by shifting the resting level of the diaphragm and by directly supporting the lower chest, minimizes paradoxic costal movement and may re-establish normal inspiratory flare. Manual pressure and the indicators of chest wall movement facilitate training of the patient and demonstrate to him the need for diaphragmatic support. If there is no reason to the contrary, we prefer to start with pneumoperitoneum largely because access to the abdominal cavity suits investigative needs. Belts have much the same therapeutic effect. They should not constrict the abdomen as a whole but should displace the viscera upward, thereby distending the subdiaphragmatic space. In the balloons with which some belts are provided we have found much the same pressure as in the peritoneal cavity when both treatments were concurrent.

Comfort of the patient is not to be judged while he is supine in bed. It is only in the erect position, preferably after resuming work, that the benefits of abdominal support can be appraised. It should again be emphasized that *in this disease expiration is fixed by the check valve mechanism and inspiration by the hyperinflated condition of the thorax. The purpose of therapy is to enhance the efficiency of breathing within these fixed limits.*

The commonly encountered course of events is illustrated in Case 5 (Figs. 5, 6, and 7). In 1951 the patient, a semiskilled factory hand, was threatened with unemployment because of dyspnea. Pneumoperitoneum was started and carried at a pressure of 10 Gm. per square centimeter without materially affecting amplitude or position of the diaphragm. It did abolish paradoxic movement. This and other measures abetted by work adjustment through the good offices of the plant physician enabled him to remain at work with a maximum minute ventilation of 40 L. After eight months pneumoperitoneum was replaced by a belt. At present, four years later, days of sick leave average less than they did before treatment despite infectious complications

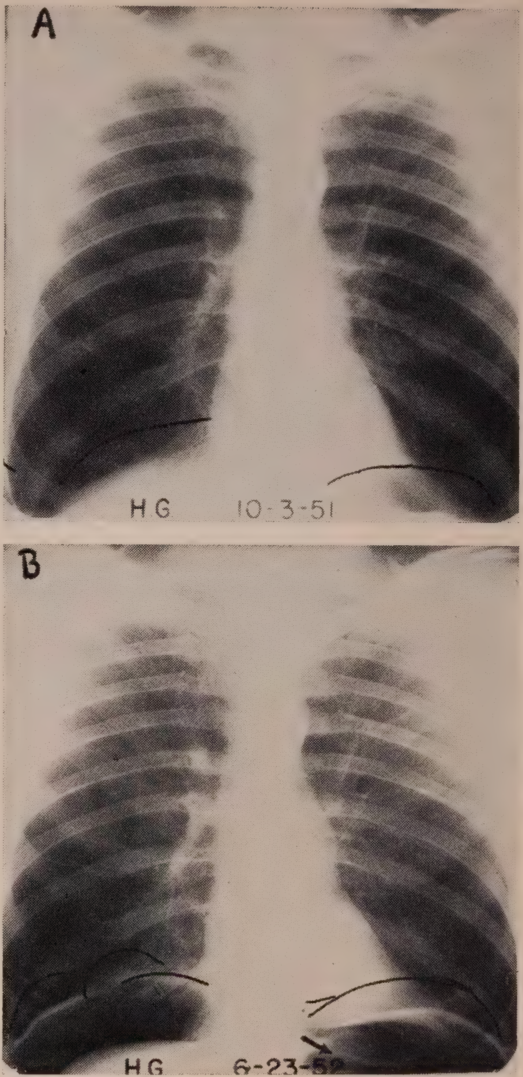


Fig. 7. *Case 5*—(*A*) Chest roentgenogram taken on inspiration. Traced on it in black is the roentgenographic contour of the diaphragm taken on expiration using the juncture of the eleventh rib with the transverse process as a point of reference.

(*B*) Same technic after pneumoperitoneum. Note the arcuate contours which may assist coordinate activity of ribs and diaphragm. Position and excursion are essentially unchanged despite subjective betterment. The arrow marks the silhouette of the posterior ligamentous attachment of the diaphragm which bridges from the spine, to the twelfth rib, thence to the eleventh rib. This structure moves in opposite direction to the central tendon, an indicator of peripheral traction.

of bronchiectasis. In the interval the patient built an extension on his house and has in a limited way enjoyed the pleasures of rod and gun, but all this at a conspicuously slow, steady pace. Breathing capacity has probably dropped somewhat (Fig. 5, hyperpnea).

Conclusions

Ventilatory airflow is restricted in anatomic emphysema by the expiratory check valve mechanism. Flow cannot be improved by greater expiratory effort. Greater effort is futile, wasteful of energy, and produces dyspnea. It is contraindicated in therapy. Restrained expiratory effort serves the body economy better than pursed-lip breathing.

Inspiratory rate of flow is often surprisingly good in uncomplicated anatomic emphysema. Volume is reduced, and the impairment of flow which occurs is related to the hyperinflated state of the thorax and the disorganized function of the diaphragm. Therapeutic measures which increase pressure in the subdiaphragmatic space cannot appreciably augment that derived from contraction of abdominal muscles, but diaphragmatic arc is improved, and function is better coordinated with that of the ribs. Breathing limits are still fixed by forces beyond the control of the patient. The aim of physical therapy is economy of breathing effort, not increased ventilation.

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The author wishes to acknowledge the courtesy of Dr. Herman Rahn of the University of Rochester for permission to reproduce the four serial motion picture frames in Fig. 1. These frames are taken from Dr. Rahn's film, "Motion Pictures of the Fluoroscopic Screen During Cough."

We are grateful to the Editor of the NEW YORK STATE JOURNAL OF MEDICINE for allowing us to use some of this material for the section on Mechanics of Breathing in the forthcoming volume on *Emphysema* compiled under the editorship of Dr. Alvan L. Barach.

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Total Laryngectomy and Speech Rehabilitation

Although total laryngectomy patients are still sometimes discharged without being told that there is such a thing as esophageal speech, most surgeons who perform this operation now assume the responsibility of initiating the speech rehabilitation program. This is becoming increasingly important, since the reduction of morbidity and mortality incidental to total laryngectomy is steadily increasing the number of these people in the population. The central content of this paper is the outline of a speech rehabilitation program, but Dr. Nathaniel M. Levin also discusses, in some detail and with suitable illustrations, the postoperative anatomy that makes speech rehabilitation a practical possibility, the emotional and psychologic readjustments required, and certain aspects of the surgical problems involved. The author says that larynegectomized patients can now be given reasonable assurance of practical speech development after removal of the normal speech mechanism. He is of the opinion that mechanical aids are largely outmoded and should be reserved only for the minority of patients who, because of certain physical or psychologic limitations, cannot master esophageal speech.—*Eye, Ear, Nose and Throat Monthly, September, 1955*

Expert Testimony Is Clinical Medicine

LEOPOLD BRAHDY, M.D., NEW YORK CITY

Last summer, in a museum in Istanbul, I saw clay tablets four thousand years old on which was written the code of injury indemnities enacted by the King of Sumeria. There is a list of injuries and the amount of the indemnity for each one. Much of the list, unfortunately, is too worn for the archeologists to decipher.[1] This Sumerian code is three hundred years older than the more extensive Semitic code of Hammurabi, carved on stone, which is now in the Louvre.[2] Both codes established the king as arbiter in place of the traditional obligation of the victim's family to avenge an injury.

These clay and stone documents enact that if a man is injured, the assailant must pay him a specific indemnity varying with the severity of his injury. For example, if the injury caused the loss of sight of one eye, he must pay him so many shekels. Then, as now, a trial before a judge was often necessary for only occasionally did the accused confess guilt and pay voluntarily, and sometimes the accusation was false. The judge had to consider whether to modify the wording of the code from "*if* you injured" to "*because* you injured" for then, as now, the usual first response of the accused to a claim, the first line of defense, was, "Who? Me? No, sir."

Beyond the amazing find of this oldest Sumerian code we have little data on which to reconstruct the court procedure of four thousand years ago. Let's leave archeologic facts and permit the imagination freely to reconstruct (very freely) the judicial scenes. After listening to much fact, fiction, and foolishness, the Sumerian judge in some cases decided the accused was not the responsible party and that he may go his way in peace. In other cases he decided that payment must be made in an amount to be determined. Up to this point, although there had been much hot argument, it was all in plain Sumerian, and everyone understood everything including the subtle innuendos and the broad epithets. Up to this point no medical problems were involved. Now, however, the accused uses his second line of defense. He alleges that the claim of the injured that he has lost sight of one eye is not true; he merely has homologous hemianopsia. No one in that Sumerian court understood these strange words derived from an alien tongue still unknown to the world. As soon as the judge recovered from his bewilderment, he realized he was faced with a problem in medical diagnosis. He no longer could make a decision on what the neighbors saw, heard, and knew. He had to have information from someone experienced in medicine. The man he required did not need to know anything about the legal case or about the king's code or judicial procedure. He did need the ability to determine what, if anything, was the matter with the plaintiff's eyes.

I have juxtaposed archeologic facts and pseudohistorical fiction in order to emphasize three concepts:

1. At the dawn of history the principles of injury indemnification were sufficiently developed to be codified. Today similar principles of indemnity are universally practiced; this indicates they are fundamentals of human relations and of the administration of justice.

2. The basic *legal* questions in personal injury controversies are "Who is responsible?" and "Who should pay?" These are outside of medical competence.

3. The basic *medical* question always is diagnosis. On this subject personal injury adjudication requires expert testimony. A schedule of indemnities may be desirable, but it cannot replace medical testimony even in simple cases.

Indemnities Are Preventive

Justice is the primary consideration of indemnification, but here let us consider indemnities from the medical viewpoint. The first concern of the physician is prevention. Our death toll from injuries is large; the pain, suffering, and lifelong handicaps are appalling. Indemnity has some of the attributes of punishment, especially its deterrent effect. The more certain, prompt, and equitable the indemnities, the greater the deterrent effect and the fewer will be the injuries. Injury indemnity, therefore, has public health

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aspects. Modern insurance has lessened this deterrent effect for individuals but has substituted the promotion of education in injury prevention. The principle remains the same—probability of indemnity lowers the incidence of injury by making prevention profitable.

Litigation Causes Disease

Once an injury has occurred, the physician's function is to minimize the effects. Among these the psychoemotional reactions are important. They are sometimes produced, sometimes prolonged, and sometimes made irreversible by the expert testimony in the ensuing litigation. For our purpose here, expert testimony includes all information a physician prepares for an attorney or gives in court. The desirability, actual or imagined, of recording every pain and every groan; the patient's recital and demonstration of the disabilities to physicians who examine for the two sides; the anticipation of again reciting all the woeful tale to the judge or jury, all this is the best fertilizer for neurosis in anyone, present company included. Whatever shortens the time between injury and settlement prevents some psychoemotional reactions. For effective prevention the patient must have the conviction that he will receive just indemnity and, equally important, that he will not be able to wangle easy money for disabilities he does not have. Exaggeration by the patient's expert combined with minimization by the defendant's expert are the common obstacles to settlement.

A tentative diagnosis of injury may become a fixed dogma because to recognize that the patient has an unrelated disease would interfere with projected testimony in his claim.[3,4] Patients have died because of delay in revision of diagnosis—or shall we say they died of planned testimony. It is a medical fact, not only an ethical hypothesis, that patients suffer as a result of their own exaggeration and malingering. The denial by the physician for the defendant of symptoms from which the patient has suffered for months can have a devastating effect. Some patients undergo needless surgery because they are influenced by the testimony to be used in their claim.[5] Surgery or later rehabilitation is often emotionally rejected because a good result would be inconsistent with the bad prognosis that has been alleged. At times the patient is befuddled by the conflicting statements. On the one hand, the defendant's expert alleges that a specified treatment involves but little risk and can produce recovery. On the other hand, the patient's own doctor informs him that such treatment is hazardous and the result unpredictable. Too often litigation is a battle in which the medical welfare of the injured is expendable.

In daily clinical practice differences on diagnosis occur in only a small fraction of cases, whereas in court trials it is made to appear that it is the usual thing for doctors to disagree on diagnosis. Medical prestige has been seriously damaged by testimony in injury cases. We must confess, "It is probable that juries are more prone to distrust the testimony of the medical expert witness than the testimony of any other witness."[6] Obviously medicine has a direct interest in raising the quality of medical testimony to the ethical and scientific level of clinical practice.

One desired effect of scientific testimony and equitable decisions in court is that they ultimately decrease the number of cases that will later come to trial. Where there is little chance of profit by medical exaggeration, unwarranted claims melt away faster than spring snows. Where minimization of injuries does not help the defendants, just and early settlements are made. If fewer unwarranted claims were made and more legitimate claims properly settled, then the number of cases that come to trial would be enormously reduced. Sound medical testimony thus achieves the highest objective of all medicine, namely, to eliminate in many cases the need for its own continuation.

Let no one assume that all indemnity litigation is corrupt. There are cases in which the expert testimony is competent scientific medicine, but here at a medical meeting we ignore the part that is competent and normal in order to concentrate on the part that is diseased. The abnormal, the dishonest testimony, comes in large part, although not entirely, from a small number of physicians who testify frequently, having made court testimony a major part of their vocation. However, the expert witness must be judged by the quality of his testimony and never by the number of his court appearances. There are physicians whose work involves frequent testimony, for example, traumatic surgeons, medical examiners for the states or cities or industry, and roentgenologists of hospitals with active emergency services.

The Profession's Attitude

Toward the effects of shady testimony the medical profession has assumed an attitude of injured innocence—an attitude that it is unfortunate that the profession has come into disrepute because of the few who traffic in testimony. This self-righteous attitude is not justified. The culpability of the few does not mitigate the neglect of this problem by the profession. This neglect is responsible for the conditions under which the few flourish. Some trial lawyers, too, must share the onus. Many of them cannot devise any better way to meet the misrepresentation of their opponent's expert than to hire another physician who can outdo the other in fabrication.

In one city, not in our State, evidence is being collected to prove that several expert witnesses are either incompetents or quacks.[7] When this evidence is presented to their medical societies, it is hoped that they will be forced to discontinue misusing their medical knowledge. That is all to the good, but on long range what will be achieved? Their places will be taken by other professional testifiers who are more subtle or are indifferent to the opinion of the medical societies. Exposure and condemnation of purveyors of shoddy services are not enough. Someone must testify, and, therefore, responsible physicians must be willing to provide this necessary medical service.

By saying the profession has neglected this problem, I mean that many physicians evade testifying in cases involving their own patients and never examine either for the plaintiff or for the defendant for the purpose of giving an expert opinion.

I have heard a surgeon, whose practice included considerable traumatic work, boast that no one had gotten him to testify for the last fifteen years, whereupon his colleagues expressed admiration for his skillful evasion. The inevitable effect of widespread evasions is to increase the number of professional testifiers.

One excuse is that physicians cannot spare the time for court appearance. The law accords physicians the privilege of exemption from jury duty so that the community may have the uninterrupted benefit of their special knowledge. Because of this privilege, if for no other reason, they should willingly accept the less time-consuming duty of giving testimony for it can be given only by those who have that specialized knowledge.

Improvement in Testimony

A splendid advance in raising the quality of expert testimony is being made by the project of appointment by the court of physicians to examine the plaintiff and the medical data and then to testify.[8–10] Both sides to the controversy, as heretofore, will use their own expert witness, but the fact that there will be (or even that there may be) testimony by a physician with no partisanship has a most salutary effect. Reports of the usefulness of this procedure are most encouraging; both sides shun false statements and restrain their imaginations. It is now used in two counties of New York City. It is planned only for selected cases in which there is a sharp divergence of opinion. One aspect of decreased biased testimony is that physicians not addicted to misrepresentation may testify with confidence that they will be rendering service by accurate statements. It eliminates an important reason for the professional testifier, namely, the expectation that the other side will have a physician so color his statements that a simple accurate opinion by contrast will seem weak to the judge or the jury. This system of court-appointed physicians is not a substitute for the service of the general profession, but it creates the opportunity for the profession to step forward and take its rightful place in expert testimony.

Entirely Medical

Frequently the reason given for avoiding testimony in court is, "I do not know anything about legal matters and have no experience with courts." The fact is that the medical witness requires no legal knowledge. Ignorance of legal procedure and of the law is no handicap; sometimes it is an advantage. Is court experience essential for the expert witness? The expert witness must speak clearly and as simply as his technical subject permits and never manifest impatience with questions.[11] There is such a thing as a courtroom manner, analogous to a bedside manner in daily practice, which improves with experience, but it is not the essential qualification for an expert witness to have.

The Medical Components

What the witness should have is knowledge of four sectors of clinical medicine: diagnosis, prognosis, causal relation, and disability evaluation. On diagnosis, by the time a case is in court, the physician has the advantage of knowing the course in retrospect. He knows the outcome of the acute stage, and he may review examinations, x-rays, and tests at various periods. Differences in diagnosis may and do occur in the acute stages of injury or illness, but by the time a case comes to trial the conclusion usually should be unanimous.

Prognosis is a less exact science, but much is well known of the outcome of most traumatic conditions. Here too the witness has the advantage of knowing the course over some months. This is not to be compared to the difficulty in making an accurate prognosis in the first hours or weeks after an injury.

The third sector in expert testimony is disability evaluation. This is actually a problem in functional diagnosis. It is part of everyday practice, even though in practice we may not give it that name. In some diseases the physician compares different modes of therapy according to the mortality, but more often his choice of treatment depends on comparison of disability evaluations or, as we more often call it in clinical practice, functional end results. Every physician periodically evaluates the functional results of treatment on each patient in order to determine whether his treatment is producing the desired effects. The examination for the degree of mobility in a joint, the power of a muscle, the improvement in skilled movements, the elaborate exercise tests for cardiac function, spirometer tests, estimates on how long before the patient resumes normal activities are all disability evaluations. Advice to the patient on what he may or may not do are based on disability evaluation by whatever name it may be called. All this is ordinary clinical medicine. Every physician may confidentially answer affirmatively a question of whether he is experienced in disability evaluation; he does it every day. Of course, the industrial physician or anyone who examines many injury cases and follows the literature acquires greater facility and judgment, but this does not make it an esoteric specialty.

In litigation and in industrial practice the physician is often pressed to state the disability evaluation in percentages. Such quantification is an illusion unless related to a specific vocation. Percentage disabilities, whether of the individual or of an arm or of an eye, are conventional standards used by industrial boards and often are confusing to the clinician. A witness may properly decline to give an arithmetic summation without impairing the value of his description of the loss of various functions.

The fourth and last sector in expert testimony is causal relation—in medical terms, whether the injury is a factor in the etiology of the patient's condition. Did the injury produce or aggravate or otherwise influence the disability? This problem arises when the patient has a disease which usually develops without injury, for example, diabetes or tuberculosis or myocarditis. Often one hears physicians ask, "Didn't the courts long ago decide that this disease is or is not related to such an injury?" This question indicates misunderstanding of legal precedent. No court makes a decision on questions of expert opinion which is binding or influences later cases even if they are identical. Legal precedent applies solely to the law and not to the facts. Each case is decided on the basis of the facts and expert opinions in that individual case. Physicians should not be influenced by previous court verdicts. It is one place where ignorance of court records may be an advantage.

The physician must base his opinion of causal relation on the usual etiology and course of the disease, on physiology and pathology, on clinical experience and experimental science. The literature on the role of injury in various diseases is growing. Important aspects of the relation of disease and injury have been clarified in the last few decades, but there are many uncertainties. Compared to diagnosis and disability evaluation, there will be more divergence of opinion. These divergencies are not a justification for baseless hypotheses that injury could have caused any abnormality which the patient may have immediately after an injury or which may develop later. Neither does the incomplete knowledge warrant the excessive skepticism which some physicians profess toward injury as a factor in the etiology of some diseases. There are many problems in this sector, but they are purely medical problems.

Conclusion

We must conclude then that all of the expert testimony in injury cases is clinical medicine. Every competent physician is a competent expert witness within his field. The project of court-appointed physicians in selected cases will improve the atmosphere of injury litigation. This is the opportune time, therefore, for physicians to accept their obligation of providing our courts with the expert testimony needed for the administration of justice. This will promote community health and insure the rightful prestige of the medical profession.

301 East 66th Street

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Discussion

Theodore T. Jacobs, M.D., *Buffalo.*—The conclusion that expert medical testimony is clinical medicine is a clear-cut and sensible statement, and if more physicians would grasp this idea, I am sure that the distaste or even fear of testifying in liability cases would be dispelled. It seems to me that in the past we have had two types of expert medical testimony, that based on the actual experience of the testifying physician and testimony based on information and the experience of others as recorded in medical literature. In my opinion the testimony based on actual experience is the more desirable and usually the more valuable. It is true that every physician called upon to testify as a medical witness cannot possibly have adequate experience in all phases of medical practice and that reference to literature related to the subject at hand is necessary. However, as Dr. Brahdy pointed out, medical testimony should not depend on precedent, which of course has a bearing in legal matters. By this I mean that the testifying physician should emphasize the clinical situation in relation to the case being discussed and that he should not allow conclusions reached in other cases to influence his clinical judgment in the particular case being discussed.

Being the physician for the claimant sometimes influences us to shade our opinions and clinical judgment, and I am sure that we do harm, not only to the patient and the defendant, but also to our own reputations, to say nothing of our conscience. If we would project ourselves into an examination for board certification and attempt to answer questions during an injury trial in the same manner, I am confident that many of the glaring differences in testimony would be noticeably reduced.

I have heard many physicians state that their distaste or fear of medical testimony stems from the fact that attorneys tend to ask long, involved, hypothetic questions that are difficult to answer with any degree of certainty. There is no reason to be disturbed because it is your privilege to ask that the question be rephrased until it is stated in such a manner that you feel you will be able to give an honest and reasonable answer. Many of the so-called unpleasant moments in the courtroom can be avoided if this is kept in mind.

I would like to conclude by saying that if we all heed Dr. Brahdy's timely suggestions and treat medical testimony as we would any clinical problem, many phases would be benefited, with the resulting establishment of greater respect for medical testimony.

Army

All First Lieutenant Physicians and Dentists to Be Promoted to Captain.—All Army physicians and dentists in the grade of first lieutenant who have at least one year of professional experience will be advanced to the temporary grade of captain within the next two months, the Army surgeon general announced February 7. The advancements, which will affect an estimated 1,100 medical and 500 dental first lieutenants, are the result of a revised personnel policy that makes doctors and dentists eligible for the grade of captain after one year or more of professional experience. The new policy will not impede the promotion of nonmedical officers.

Starting in April, young doctors and dentists entering the Army will receive initial grades of captain if they have a year or more of professional experience. Thus, with the exception of military interns—who serve as first lieutenants—the lowest grade in the Army Medical Corps will be that of captain. The new policy recognizes that doctors must have at least nine years of training beyond the high school level in contrast to the four years of formal education beyond high school required of most other officers at the time they are initially commissioned.—*Journal of the American Medical Association, February 25, 1956*

Rapid Intravenous Cholecystography and Cholangiography

RICHARD C. BATT, M.D., GLENS FALLS, NEW YORK

(*From the Department of Radiology of the Glens Falls Hospital*)

THE value of Cholografin in biliary tract diagnosis has been established by reports from large teaching hospitals and research centers.[1-5] This paper, a critical evaluation of the first 100 cases selected for examination with the chemical in an upstate New York community, presents the role of the new intravenous method in a community hospital and private radiologic office.

Pharmacology

Cholografin,* otherwise known by the European trade name, Biligrafin, was originally developed and tested in the Schering Laboratories of West Berlin.[6] It is a clear, colorless, isotonic solution having a relatively high iodine content and sometimes showing on transillumination tiny particles in suspension, the decahydrate crystals of the compound. These dissolve readily at body temperature and seem to have no practical clinical importance. The chemical is a powerful choleretic. In animal experiments the bile has been found to contain 30 to 100 times more Cholografin than the blood. It is excreted directly by the feces without reabsorption into the enterohepatic system. A small amount is eliminated by the kidneys, and in patients with liver damage the degree of renal excretion is increased. Contraindications to the use of the chemical include uremia, hyperthyroidism, and iodine sensitivity.

Method of Study

Originally the limited available supply of Cholografin restricted its use to cholecystectomized patients, to those in whom nausea or vomiting precluded the use of oral dye, and to those in whom diagnosis by the routine oral method was equivocal. Later, as the material became available, its use was extended to certain cases at the special request of the surgeon or internist. Forty of the group had had cholecystectomy, and in 60 the gallbladder was present.

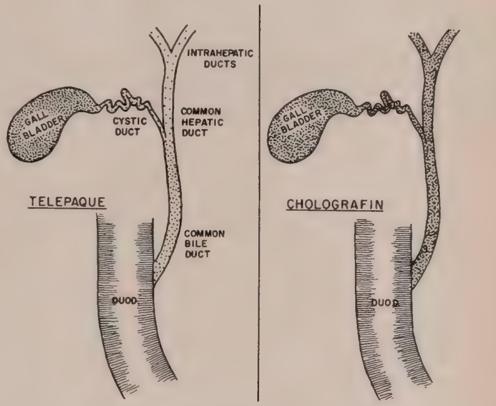

FIG. 1. Sketch showing a difference between oral cholecystography and the so-called rapid intravenous method. The dots illustrate the concentration of the contrast medium. Oral media ingested by the usual method cannot be detected until concentrated by the gallbladder mucosa; then a fatty meal causes the gallbladder to empty its dye concentration into the ducts, thereby rendering them opaque. With intravenous Cholografin, however, the liver excretes such a heavy concentration of the iodide that the ducts may be visualized as early as ten minutes after injection.

The manufacturer's instructions were followed closely in regard to preparing the patient, testing for sensitivity, rate of injection, and timing of the radiographic exposures. A dose of 20 cc. of the 20 per cent solution intravenously was found sufficient for routine work. In obese and in cholecystectomized patients, however, twice that amount was employed. Each radiograph was viewed as soon as possible after its development in order that the technic could be adapted to the variations of the individual case. Special views, such as the vertical and lateral recumbent, were employed when indicated. The use of a small focus tube, the smallest possible cone, a Bucky diaphragm, clean intensifying screens, and standard time-temperature development were found to be of paramount importance.

Presented at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Section on Radiology, May 13, 1955.

* Supplied by Squibb Institute for Medical Research, United States, and by Schering, A.G., of West Germany.

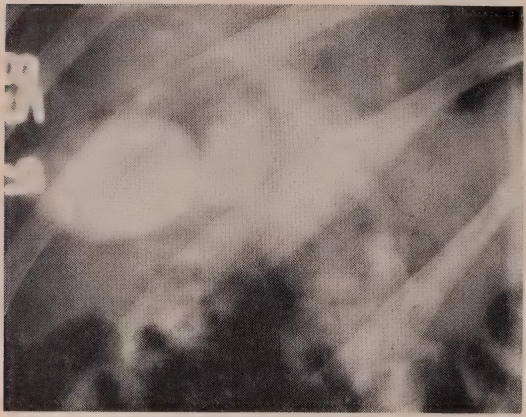

FIG. 2. Opacification of diseased gallbladder containing stones, proved surgically. Oral cholecystography unsuccessful. Five years ago, due to cholelithiasis and gangrenous cholecystitis, a cholecystostomy had been performed.

Roentgenologic Interpretation

Radiographic manifestations of Cholografin differ enough from those of the usual oral cholecystographic media to warrant a brief discussion concerning their interpretation. Normally, with Cholografin the bile ducts are first visualized between ten and twenty minutes after ending the injection of contrast material. They are best seen, however, thirty to sixty minutes after. Gradually the dye-laden bile passing up the cystic duct mixes with bile already in the gallbladder (Fig. 1). At this stage bizarre transient shadows due to incomplete mixing or layering of bile often develop and may be misinterpreted on the wet film as gallstones. Later the gallbladder may become homogeneously opaque and obviously normal appearing. Other workers stress this diagnostic pitfall.[2–4,7,8] Before a diagnosis of nonopaque stone or tumor can be made, the constancy of a filling defect must be established, and to accomplish this, multiple views taken from varying angles may be required. Opaque biliary stones, on the other hand, are more easily identified before and during the filling phase than later when they may be obscured by the denser accumulations of contrast media.

Increasing opacification of the gallbladder during the examination is due to mere accumulation of Cholografin and not necessarily to its actual concentration by the gallbladder. Attempts should be made to differentiate between accumulation and concentration because Cholografin can opacify a diseased, nonfunctioning gallbladder if the cystic duct is patent (Fig. 2). A helpful sign, present in approximately 10 per cent of all cases, is a delicate white line demarcating the gallbladder mucosa during the filling phase (Fig. 3), the line often being denser in the fundus. This sign, seen most frequently in thin patients dehydrated by vomiting, is probably caused by an intense absorbing and concentrating activity of the mucosa of the gallbladder.[9,10]

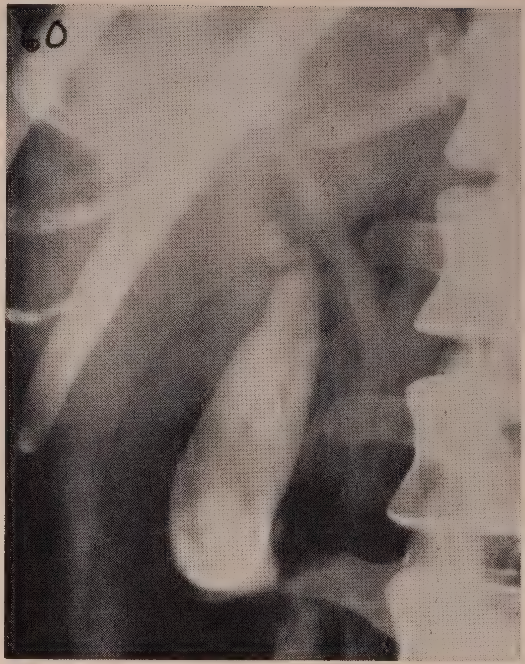

FIG. 3. Good opacification of the bile ducts with Cholografin. Uneven mixing of dye and bile in gallbladder. Note the delicate white line accentuating the gallbladder mucosa due to dye concentration.

Misinterpretation and unnecessary speculation may be evoked by minor changes in the caliber of the bile ducts. Although one might not expect that with this intravenous technic a common bile duct would be as distensible as in operative cholangiography, nevertheless, it was discovered that transient expansions of normal ducts to diameters exceeding 10 mm. are not uncommon.[2] This suggested increase in intrabiliary pressure could be due to the powerful choleretic effect of Cholografin.[7] On the other hand, as with all tubular viscera, the duct caliber varies with a number of factors, such as peristalsis of the ducts, tonus of the duct walls, tonus of the sphincter distally, medication, and food. Furthermore, the caliber varies with the individual patient. When interpreting minor changes in the caliber of the

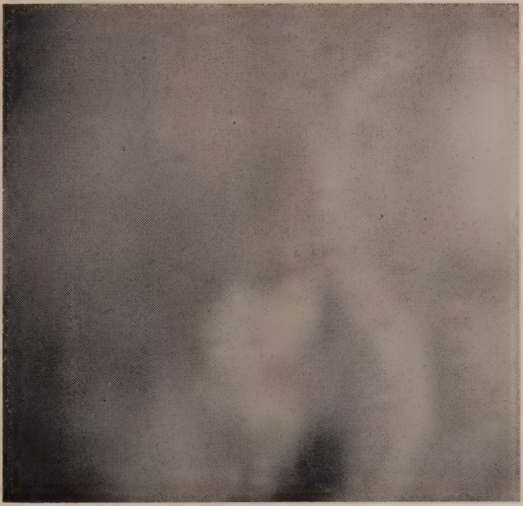

FIG. 4. Biliary colic recurring six years after cholecystectomy. Tomogram shows sac formation at end of cystic duct. Confirmed surgically.

TABLE I.—FINDINGS IN 40 CHOLECYSTECTOMIZED PATIENTS

	Number
Normal bile ducts	26
Stones in common bile duct	4
Long cystic duct stump, other ducts dilated	2
Cystic duct with "sac"	4
Dilated ducts only	1
No visualization	2
No films taken	1

duct, therefore, care and conservatism are necessary.

Uncertain and confusing configurations of the ducts sometimes result from superimposed calyceal and pelvic shadows. These are not seen with the average Graham test. With Cholografin, however, it behooves one to look for both the biliary and renal patterns when the wet films are studied, so that if necessary, they may be dissociated by proper positioning of the patient. Most troublesome, of course, are the superimposed intestinal shadows which sometimes necessitate the use of body section roentgenography for the clarification of duct details (Fig. 4).

Results

The 40 cholecystectomized patients listed in Table I had symptoms varying from mild indigestion to agonizing attacks of biliary colic. Cholecystectomy in this group had been performed up to twenty-five years prior to examination, and in none had the ducts previously been demonstrable, even with double and triple doses of the oral dye. With Cholografin there were only three failures out of the 40; in 26 the ducts were normal, and in 11 out of the 40 some abnormality was found (Figs. 4 and 5).

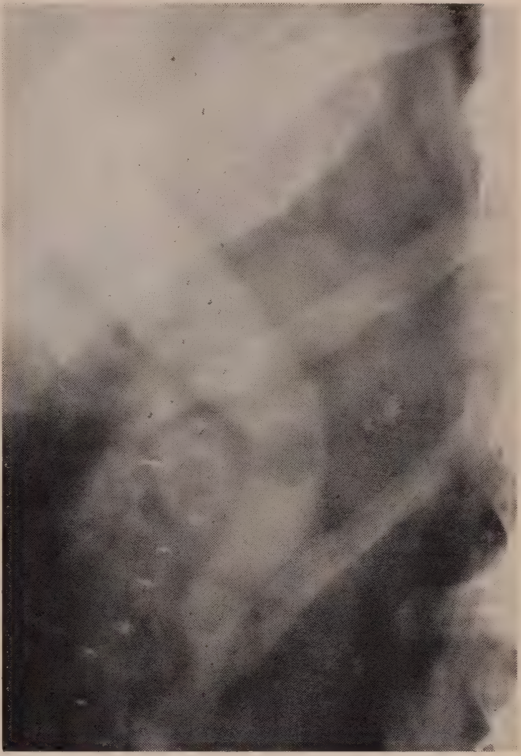

FIG. 5. Attacks of biliary colic for three years after cholecystectomy. Cholografin shows nonopaque stones in a dilated common bile duct. Confirmed surgically.

In over half of the 60 patients with gallbladders, the oral method of examination was impossible, equivocal, unsatisfactory, or in need of confirmation (Table II). The 11 vomiting patients who could not take the oral medium and the three patients showing a faint gallbladder image with the oral method showed excellent diagnostic visualization of the biliary tree with Cholografin. In the ten cases with nonfunctioning gallbladders (oral method), the intravenous method opacified the larger bile ducts in seven, while in one case the ducts and gallbladder appeared normal. At operation the diagnosis for the seven were cystic duct obstruction, cholecystitis, and cholelithiasis. One patient with a palpable gallbladder was suspected of having pancreatic carcinoma until intravenous cholangiography demonstrated a normal common duct with nonfilling of the cystic duct and gallbladder. Surgical exploration

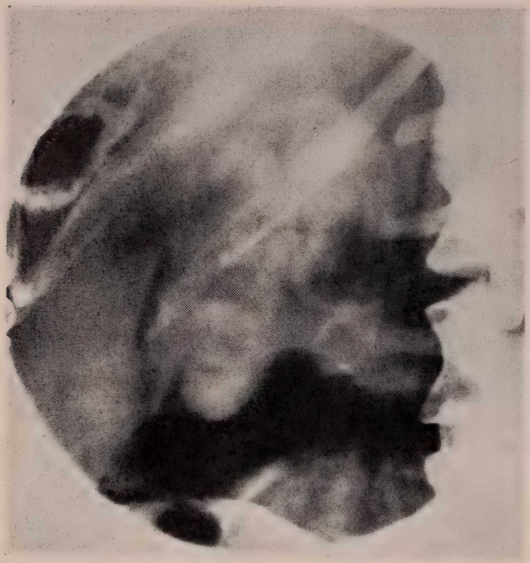

Fig. 6. Painless jaundice. Intravenous Cholografin reveals nonopaque stone dilating common bile duct. Other obstructing stones were found surgically in gallbladder and cystic duct.

proved this to be another case of cystic duct obstruction with cholecystitis.

In five of 11 cases with recent or subsiding jaundice there was satisfactory duct opacification with Cholografin (Fig. 6). While jaundice per se did not contraindicate the chemical, it was a common cause for nonvisualization of the biliary tree. Therefore, the examination was postponed in jaundiced patients until the icterus had nearly or completely subsided.

The 20 miscellaneous patients were under observation or treatment in the hospital for a variety of conditions (Table II). Eight were solicited from the medical department for purposes of studying the new chemical. Suspicious pressure defects on the duodenum during barium studies called for the examination in two patients. In another instance intravenous cholangiography was done to accomodate the physician and to save the patient time in the hospital because through error the oral preparation had not been given the night before. In still another case there was reasonable doubt that the patient had actually ingested the oral preparation. In none of this particular group could it be proved that the cholecystograms were superior diagnostically to those obtained by the oral method. Moreover, certain disadvantages of the intravenous method became acutely obvious in these routine gallbladder studies: The basic cost was higher than that of the oral method, it possessed the inconveniences and potential hazards of intravenous methods in general, it was the most time-consuming examination done in the department, and the uneven mixing of dye and bile in the gallbladder was conducive to errors in diagnosis.

Clinical Toxicity of Cholografin

Symptoms due to Cholografin injection in this series are listed in Table III. In 71 of the 100 patients no untoward reaction of any kind was experienced. Noteworthy, too, were the low incidence of nausea and vomiting and the absence of diarrhea, griping, and dysuria which sometimes occur with some of the oral media. The duration of the symptoms, when present, was very brief.

With few exceptions there were no significant changes in blood pressure, pulse, or respiratory rate after injection. Routine urinalyses were done on 38 patients immediately before and within forty-eight hours after Cholografin injection, and no changes due to Cholografin were detected. Cephalin flocculation reactions before and within forty-eight hours after injection showed no definite evidence of liver damage.

The two patients developing severe shock

TABLE II.—Results in 60 Patients with Gallbladders

Indications for Cholografin	Cases	Structures Visualized with Cholografin			Surgical Confirmation
		Ducts	Gallbladder	Stones	
Oral method impossible (vomiting)	11	11	11	2	1
Oral method equivocal or unsatisfactory	4	4	4	1	1
Obvious biliary tract disease					
Nonvisualization with Telepaque	10	7	1	0	7
Palpable gallbladder	1	1	0	0	1
Recent or subsiding jaundice	11	5	1	3	3
Healed cholecystostomy	3	1	1	0	3
Miscellaneous	20	14	14	5	0
Totals	60	43	32	11	16

TABLE III.—Reactions to Cholografin in 100 Consecutive Cases

	Number
No reaction	71
Nausea only	10
Nausea and vomiting	10
Metallic taste in mouth	9
Arm pain (at site of injection)	4
Collapse	2
Diarrhea	0
Griping	0
Dysuria	0
Urticaria	0

reactions are reported elsewhere.[11] Although both had had negative conjunctival and intravenous tests with Cholografin prior to injection, both went into collapse within ten minutes after injection. Successful therapeutic measures were employed within a very short space of time, thanks to an alert department where reactions with every intravenous injection are anticipated and prepared for in advance.

Comment

Since oral cholecystography has such a high degree of diagnostic accuracy and safety,[12] most writers[2,7,8] agree that the new intravenous method serves not as a substitute, but as a valuable supplement "beyond the range of currently available oral preparations."[3] The present study independently led to the same impression.

When oral cholecystography fails to make the gallbladder visible, the immediate question arises as to whether this is due to technical causes or to disease. Certain clues, such as the evidence on the radiography of undissolved tablets or a stomach filled with radiopaque material, may indicate that the dye was not absorbed. Careful questioning of the patient or nurse may elicit information to confirm this supposition or even to indicate that the dye was never ingested. In such cases the immediate administration of Cholografin usually delineates the biliary tree promptly and accurately and often results in the saving of hospital days.

When faulty dye absorption is excluded as the cause of nonvisualized oral cholecystograms, the usual diagnosis is cholecystitis with or without stones. Occasionally, however, if the clinical findings are atypical, a more specific test of biliary tract disease may be desirable. In such instances visualization of the bile ducts with Cholografin and nonfilling of the gallbladder is pathognomonic of gallbladder disease. When Cholografin demonstrates neither the bile ducts nor the gallbladder, biliary tract disease of a more serious nature may or may not be present.

When the oral cholecystogram is equivocal due to obesity, to faint dye concentration, or to superimposed gas shadows, Cholografin may demonstrate a lesion more clearly by increased opacification of the biliary tree.

When emergency or expediency demands that intravenous cholecystography be employed, it must be remembered that good filling of the bile ducts and gallbladder does not necessarily exclude cholecystitis because a patent cystic duct may allow Cholografin to fill the lumen of a diseased, nonfunctioning gallbladder (Fig. 2). Since differentiation of mere accumulation from actual concentration of the chemical within the gallbladder is not always possible, it is conceded that oral cholecystography is preferred as the test for gallbladder function. The oral method will remain the method of choice for routine cholecystography, not only because of its high diagnostic accuracy[12] but also because it is simpler, less hazardous, more convenient, cheaper, and less time-consuming than the intravenous method.

The outstanding indication for intravenous cholangiography is the so-called postcholecystectomy syndrome. Surgically curable conditions, such as gallbladder remnants, abnormal cystic duct stumps, and duct stones, now can be demonstrated roentgenologically. The small but significant incidence of such lesions in this series would seem to justify intravenous cholangiography routinely in all cholecystectomized patients who continue to have symptoms of biliary disease.

Summary

A critical study of 100 examinations of the biliary tract with intravenous Cholografin is made. The greatest value of the new method is its ability to show lesions of the biliary tree in cholecystectomized patients. It also plays a valuable role in the examination of the patient whose gallbladder and bile ducts are not satisfactorily visualized by the routine oral method.

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Discussion

John McClenahan, M.D., *New York City.*—Intravenous cholangiography is a laborious and expensive procedure, giving specific but meager results. If each patient receives the individual attention he deserves, we must recognize definite indications for the examination. At the New York Hospital we recognize the following:

1. Recurrent biliary tract symptoms after cholecystectomy when jaundice is absent or subsiding.

2. Before cholecystectomy in a poor-risk patient with a nonfunctioning gallbladder and a common duct, the surgeon does not want to explore if he can avoid it.

3. When there is a need to rule out gallbladder disease rapidly in a patient with acute abdominal distress.

4. As a means of demonstrating patency of a repaired or reconstructed common bile duct.

5. As an occasionally successful method of demonstrating calculi in a nonfunctioning gallbladder.

I was interested to learn that both of the severe reactions observed by Dr. Batt occurred in patients with negative skin tests. This was also true in four of the five severe reactions we have encountered. We have come to regard skin testing as a futile means and conjunctival testing as a dangerous means of predicting whether or not systemic reaction will occur. A negative test may create an unwarranted sense of security when the patient may, in fact, react violently, and a positive test can deprive a patient who may not react at all of a crucial examination.

A.M.A. Board Commends President on Message

The Board of Trustees of the American Medical Association, meeting in Chicago recently, drafted a letter to President Eisenhower, commending him on the health and medical care programs set forth in his health message to Congress. The letter, a copy of which was sent to Marion B. Folsom, Secretary of Health, Education, and Welfare, follows:

> The Board of Trustees of the American Medical Association, at its meeting on February 11, unanimously voiced its approval of the principal health and medical care programs set forth in your recent Health Message to the Congress.
>
> Your recognition of the tremendous growth of voluntary health insurance and the recommended removal of existing legal restrictions to pooling efforts were most encouraging to us.
>
> Your recommendation with respect to medical research and medical education as embodied in H. R. 9013, 84th Congress, has been approved by the Board of Trustees. We are grateful that the objections which we raised to similar legislation last year have been considered in drafting the present bill.
>
> On your recommendation for a sickness survey we concur in your view that a survey should be made but recommend that it should be made at reasonable periodic intervals rather than as a continuing survey as suggested in H. R. 9014, 84th Congress.
>
> In our opinion the administration's health program is in general a sound approach to a solution of the problems in the health field. We pledge to you and the Congress our continued cooperation.

The A. M. A. letter was sent to the President over the signature of Dr. George F. Lull, Chicago, Secretary and General Manager of the Association.—*Journal of the American Medical Association, February 25, 1956*

Legal Aspects of Termination of Pregnancy on Psychiatric Grounds

ROBERT B. MCGRAW, M.D., NEW YORK CITY

(*From the Departments of Psychiatry of Columbia-Presbyterian Medical Center and the College of Physicians and Surgeons of Columbia University*)

THE title and the subject matter of this paper have been chosen because I have observed a most appalling lack of knowledge of the law relating to termination of pregnancy among all walks of life.

I have had a rather long and extensive experience in connection with consultations having to do with the question of termination of pregnancy on psychiatric grounds. Lay people, social workers, lawyers, physicians, gynecologists, obstetricians, and psychiatrists all display a lack of effective knowledge of the laws, and this is reflected in their attitude toward the question of termination of pregnancy. At one end are those who believe that all that is needed is a physician who will agree, and at the other end are those who believe that there are no legal grounds for termination.

Because of this observation and conviction and because of my own feelings, I addressed a letter (as a private citizen and practitioner of medicine) to Governor Dewey in May, 1952, and sent copies to the Commissioners of Mental Hygiene, Social Welfare, and Health. This letter read as follows:

> The problem of abortion is one which merits the attention of all people. In my practice—in dispensary and in private practice—I have been appalled by the lack of knowledge among the people of all ages and of all professions, including medical and social service and even the legal, that in the State of New York the *termination of pregnancy* is specifically *forbidden* by statute *except to preserve the life of the mother* or the child (the latter is subject to no particular abuse, inasmuch as it is done in the later months of pregnancy). The opinion is often held that all that is necessary is a good medical or psychiatric or even social reason.
>
> It is obvious to me that some form of public education is necessary. In my opinion, two of the simplest methods would be:
>
> 1. To state this law every time a newspaper report on a case of abortion has been brought to the attention of the authorities. This the newspapers might agree to do.
> 2. On every marriage license, or accompanying every marriage license, this item of the law should be printed and available. This might be made a law or a regulation.
>
> I have discussed these plans with a number of people over the past two years, but I am sending this to you as a physician.

I received acknowledgments of this communication and was led to believe that a discussion or conference would be held, but I have had no direct information since 1953 when I repeated my letter.

I have seen no evidence of increased knowledge of the law generally, but in cases brought to my attention since that time, I have rather forcefully, by word, or by giving out a copy of the New York State statute, or by placing it in the chart of the patient, made the other responsible parties aware of the law, and I have many times been told that they did not know what the law really said. Magazine articles have from time to time attempted to give the true legal picture,[1,2] but the professional and lay public remains, I believe, untutored and, therefore, misguided.

I am also not unmindful of the mental mechanisms of suppression and repression, which, I believe, are operative. This abortion business is unpleasant, and it is suppressed and repressed and may be distorted. For example, I have seen an article written by a leading gynecologist, a teacher, in which it was said, "The legality of therapeutic abortion is duly recognized under most codes of law. That of New York grants permission to terminate a pregnancy whose continuation may affect the health of the mother or child." The New York law does *not* grant such permission.

Section 80 of the New York Penal Law reads as follows:

Presented at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Session on Legal Medicine, May 11, 1955.

> DEFINITION AND PUNISHMENT OF ABORTION. A person who, with intent thereby to procure the miscarriage of a woman, unless the same is necessary to *preserve the life* of the woman, or of the child with which she is pregnant, either:
>
> 1. Prescribes, supplies, or administers to a woman, whether pregnant or not, or advises or causes a woman to take any medicine, drug, or substance: or,
>
> 2. Uses, or causes to be used, any instrument or other means, is guilty of abortion, and is punishable by imprisonment in a state prison for not more than four years, or in a county jail for not more than one year.

Section 81 reads:

> KILLING OF CHILD IN ATTEMPTING MISCARRIAGE. A pregnant woman who takes any medicine, drug or substance, or uses or submits to the use of any instrument or other means with intent thereby to produce her own miscarriage, unless the same is necessary to preserve her life, or that of the child whereof she is pregnant, is punishable by imprisonment for not less than one year nor more than four years.

The law then clearly states that termination of pregnancy must be to preserve life.

Psychiatric reasons for termination of pregnancy must, therefore, be reasons of preserving life. It is not enough that the person be inconvenienced, annoyed, or depressed, or that it is believed she will become psychotic or dangerous to others, or that she suffers from a psychosis, but only if a continuance of the pregnancy is considered to be a danger to her life. For further background I believe we should discuss the general problem of termination of pregnancy—therapeutic, of course.

The most recent medical article pertaining to this topic is the one by Alan F. Guttmacher, chief of the Department of Obstetrics at Mount Sinai Hospital, New York City.[3] The anthology edited by Rosen, entitled *Therapeutic Abortion*,[4] has been invaluable, and the paper by Mr. Holman[5] of the Legal Department of the American Medical Association gave important leads. Indications for abortion change, laws change, fashions change, and methods of arriving at a decision vary. Heart disease of a degree believed to be sufficient to warrant abortion in 1920 is not now so considered. Women are carried through pregnancy with hypertension, whereas a few years ago it would have been terminated.

In a given locality the statistics vary from time to time. There were fewer therapeutic abortions in Charlottesville, Virginia, in 1952 than in 1941: one in 337 in 1951–1952 and one in 85 from 1941 to 1945. At Los Angeles County Hospital from 1931 to 1940 there was one in 136 and, from 1946 to 1950, one in 2,864.[6]

There is enormous variation between hospital and hospital. A private hospital in California reported one in 52 deliveries, but at the same time Los Angeles County reported one in 8,000 deliveries. That was in the year 1950.

In New York City in 1946 there was one in 192 and in 1953 one in 345. The California and Virginia laws are similar to the New York law.

Japan, in 1948, passed a radical abortion law,[7] permitting abortions for the following: (1) in case the person in question or the spouse has mental disease or mental weakness; (2) in case the continuance of pregnancy or the delivery seems remarkably injurious to the health of the mother, owing to her physical or financial condition; (3) if a female has conceived by violence or threats or by adultery, while she was unable to resist or refuse. Official figures of legal abortion in Japan in 1949 were 246,104. For six months in 1953 they were 532,975, an increase of 217 per cent. The birth rate fell from 33.1 to 23.6, and the death rate fell from 11.6 to 9.1 in the same years.

Four jurisdictions in the United States are said to legalize abortion if it is necessary to safeguard the health of the mother: Colorado, Maryland, New Mexico, and the District of Columbia.[7] I will read the *District of Columbia Code*, 1951 edition:

> Sec. 22-201 (6:33). DEFINITION AND PENALTY. Whoever, with intent to procure the miscarriage of any woman, prescribes or administers to her any medicine, drug, or substance whatever, or with like intent uses any instrument or means, unless when necessary to preserve her life *or health* and under the direction of a competent licensed practitioner of medicine; shall be imprisoned for not more than five years; or if the woman or her child dies in consequence of such act, by imprisonment for not less than three nor more than twenty years. (Mar. 3, 1901, 31 Stat. 1322, ch. 854, Section 809)

It appears to me that psychiatry has become a fashionable "out" in some quarters, for the practitioner or for the gynecologist. Cases are referred to the psychiatrist "in the hope that" termination will be advised, rather than for counsel in respect to the problem, and women are often *urged* to have termination by a physician, as well as by relatives and friends, in the sometimes mistaken belief that it will be easily obtained. The refusal or the complexity of the method of arriving at the final decision to terminate adds doubt and perplexity to anxiety and apprehension.

All should know more clearly and definitely what the law is, and in view of the existing law in New York, the blandly reassuring attitude must not be retained.

The only legally valid psychiatric reason for terminating pregnancy in this State is, I believe, danger of suicide.

Hirst,[7] quoted by Cheney,[8] says, "If in the course of pregnancy some disease arises as a direct consequence of gestation, or if a woman suffering from disease is made much worse by the existence of pregnancy, and if her life is distinctly endangered in consequence, it is not only justifiable, but it is the physician's duty to terminate gestation." In the Obstetrical Foreword to Rosen's *Anthology of Therapeutic Abortion*,[4] Professor Eastman of Johns Hopkins writes as follows: "By and large obstetricians have performed therapeutic abortions on psychiatric indications begrudgingly. They have been inclined to regard the indications which their psychiatric colleagues bring to them as too esoteric and intangible to be convincing, and the thought has not infrequently crossed their minds that a clever, scheming woman is simply trying to hoodwink the psychiatrist and the obstetrician. The psychiatrist must endeavor to avoid such criticism."

Postabortal morbid reactions have not received a great deal of attention but are cited in Rosen,[4] by Cheney,[8] and in a German study[9]; also in a thesis by Miss Kathryn Hubbard, a social worker, submitted to the New York School of Social Work in 1937, and in this I participated as chief of clinic. Miss Hubbard took 20 cases for study, and in nine she stated, "Terminating the pregnancy does not result in a clearing up of the symptoms presented." Two cases studied were not terminated.

The physician and psychiatrist, therefore, also have to ask themselves whether or not termination of pregnancy will produce or accentuate a morbid reaction. This requires an appraisal of the patient's conscience or superego and includes a consideration of the religious training and status. The Roman Catholic attitude is that any direct attack on the fetus is murder, even though it is carried out with the best of intention.[4]

Now, how about this danger of suicide? First of all, pregnant women do commit suicide, and so do women who believe themselves to be pregnant and are not. However, it would appear that a simple threat is not to be regarded as a sufficient reason to terminate. There should be confirmatory evidence. Dr. Milton Helpern, Chief Medical Examiner of New York City, gave me the following statistics from his office for 1953: 231 women reported suicides; 119 were between fourteen and fifty years of age; 60 were autopsied; one was pregnant. He says, "It has been my experience that very few of the women suicide cases which have come to autopsy were found pregnant. It is much more common to find that they were menstruating at the time." In Sweden, where they have had provisions since 1938 for legalized abortions on medical, humanitarian, eugenic, and social grounds, observations made at a psychiatric clinic in Gottenberg showed that of 344 women refused legal abortion, 62 had threatened to commit suicide. Not one of them actually did so.[10]

There are no hard and fast rules which can be laid down for the suicidal risk, but threats are not to be taken lightly, although they may be made for effect. Threats made to others, obvious mental anguish, constant weeping, sleeplessness or terrifying dreams, loss of appetite and weight, history of previous attacks or suicidal attempts, and history of suicide of siblings and relatives are all significant.

It is in appraising the danger of suicide that it is proper to consider social and economic factors in the total picture, but it must be always remembered that we are living in New York State and not in Scandinavia or in Japan where social and economic factors may legally be considered as adequate reasons for terminating pregnancy.

The important thing is to make a considered decision, write it clearly, and, if in New York State, be sure to state that it is a lifesaving measure in your opinion.

The question of the legality of abortion because of pregnancy as the result of rape or incest must be answered in the negative in this State, although in England the famous case of *Rex* vs. *Bourne* can be cited. Should a physician wish deliberately to place himself in jeopardy as Dr. Bourne did, the English decision might be used in his defense and have advisory value. This case did not decide clearly for abortion in all cases of rape, but it did decide in England that impairment of health might reach a stage where it was a danger to life, and "If pregnancy is likely to make a woman a physical and mental wreck," the Judge said, in his charge to the jury, that a doctor who operated in that belief did so "for the purpose of preserving the life of the mother." In this case a girl just under fifteen "was raped with great violence on April 27, 1938, in circumstances which would have been most terrifying to any woman, let alone a child of fourteen, by a man who was in due course convicted of the crime. In consequence of the rape the girl became pregnant and her case was brought to the defendant who, after examination of the girl, performed the operation with the consent of the parents." These are the words of the indictment. Dr. Bourne was acquitted.

Rex vs. *Bergmann and Fergusson* is another English case decided in 1948. Dr. Bergmann was a gynecologist, and Dr. Fergusson was a psychiatrist to whom Dr. Bergmann sent a number of women for examination. Dr. Fergusson was of the opinion that in two cases (the subjects of the prosecution) the women concerned would have mental breakdowns should pregnancy be allowed to continue, and she advised accordingly. The decision upheld the doctors. This information was sent to me in March, 1955, by Mr. Martineau of the firm of Le Brasseur and Oakley, Lincoln's Inn, London, who were concerned with the defenses of both the case *Rex* vs. *Bourne* and *Rex* vs. *Bergmann and Fergusson.* In this letter to me, Mr. Martineau goes on to say:

> The effect of the decisions in the cases of *Rex* v. *Bourne* 1939 and *Rex* v. *Bergmann and Fergusson* 1948 is that termination of pregnancy is justified when it is carried out by a doctor in the honest belief on reasonable grounds that the continuance of the pregnancy will endanger the life or cause serious injury to the physical or mental health of the mother. Any doctor performing such an operation must, of course, be prepared to justify his action and is well advised for his own protection to have his opinion corroborated by at least two independent practitioners. It will be seen, therefore, that broadly speaking the law is the same in New York State as it is in England save for the principle decided in the cases of *Rex* v. *Bourne* 1939 and *Rex* v. *Bergmann and Fergusson* 1948.
>
> The English law on the subject is contained in Sections 58 and 59 of the Offences against the Person Act 1861 and Section 1 of the Infant Life (Preservation) Act 1929, since when there has been no further legislation on the subject. The relevant extracts of these Sections are as follows:
>
> "*Section 56. Administering drugs or using instruments to procure abortion.* Every woman, being with child, who, with intent to procure her own miscarriage, shall unlawfully administer to herself any poison or other noxious thing, or shall unlawfully use any instrument or other means whatsoever with the like intent, and whosoever, with intent to procure the miscarriage of any woman, whether she be or be not with child, shall unlawfully administer to her or cause to be taken by her any poison or other noxious thing, or shall unlawfully use any instrument or other means whatsoever with the like intent, shall be guilty of felony, and being convicted thereof shall be liable . . . to be kept in penal servitude for life . . .
>
> "*Section 59. Procuring drugs, etc., to cause abortion.* Whosoever shall unlawfully supply or procure any poison or other noxious thing, or any instrument or thing whatsoever, knowing that the same is intended to be unlawfully used or employed with intent to procure the miscarriage of any woman, whether she be or be not with child, shall be guilty of a misdemeanor, and being convicted thereof shall be liable . . . to be kept in penal servitude . . .
>
> "*Section 1. Punishment for child destruction.* (1) Subject as hereinafter in this subsection provided, any person who, with intent to destroy the life of a child capable of being born alive, by any wilful act causes a child to die before it has an existence independent of its mother, shall be guilty of felony, to wit, of child destruction, and shall be liable on conviction thereof or indictment to penal servitude for life;
>
> "Provided that no person shall be found guilty of an offence under this section unless it is proved that the act which caused the death of the child was not done in good faith for the purpose only of preserving the life of the mother.
>
> "(2) For the purposes of this Act, evidence that a woman had at any material time been pregnant for a period of twenty-eight weeks or more shall be prima facie proof that she was at that time pregnant of a child capable of being born alive."

It is to be noted that these English laws are dated 1861 and 1929. The District of Columbia statute was 1951. The New York statute date is about 1881. There have been no changes since, as far as I can determine, and there have been no modifications in New York State because of judicial decisions as in England. On the other hand, no physician who has proceeded openly after proper consultation has been punished.

The methods of hospital staffs in regulating the procedure of termination of pregnancy vary. Often there must be at least three concurring opinions, with the assent of the head of the department of gynecology and obstetrics or a board or committee for therapeutic abortions.[3] Adequate consultation and open procedure must be the rule.

Summary

The law of the State of New York in respect to termination of pregnancy is quite definite and specific. It has remained the same for the past seventy years, and there have been no modifications by statute or by judicial decision. It clearly states that abortion is not lawful except to "*preserve the life of the woman.*"

Ignorance of the law is widespread, and erroneous advice is often given.

Psychiatric grounds for termination are scanty and not always convincing.

Practitioners advising and operating must have clear indications and adequate consultation and must be prepared to defend their decisions.

A plea is made for more medical and public education in respect to the law.

2 EAST 85TH STREET

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Discussion

Harry G. LaForge, M.D., *Buffalo.*—This paper has produced mixed feelings in me, and I arrived at two different conclusions, one at the beginning of the paper and another near its end. My first reaction was that almost no therapeutic abortions would be done if Dr. McGraw were the only consultant available.

Our speaker begins by pointing out the lack of knowledge of the law among not only lay people but also by physicians. Then he quotes his letter to Governor Dewey and reminds him that New York State prohibits the termination of pregnancy except to save the life of the mother, and he recommends that some form of public education is necessary and suggests two methods to achieve this end:

1. To state the law against abortion every time a newspaper reports a case of abortion (but I have never met anyone who didn't know that abortion was illegal).
2. The law on this subject should be printed on the marriage license (but who carries this about for repeated perusal?).

The Governor, however, took no action so Dr. McGraw states that he carries on a one-man campaign by word of mouth, or handing out copies of the statute, or slipping them into the patient's chart. Then he quotes the New York Penal Law, and it clearly states "Abortion . . . only when necessary to preserve the life," etc. I looked up the definition of the word preserve—"to save, to keep safe or secure from injury, loss or destruction. To defend or guard from harm, evil or hurt, to protect." The word preserve, then, is a little broader than just "save the life." The section continues "anyone who supplies a means of producing abortion can be jailed for four years." This section, of course, would include druggists. The next section of the law states, "a woman can go to prison if she takes any medicine or uses any means to produce her own miscarriage"— foot bath, quinine, etc.?

Now we get to the title of the paper, i.e., "Psychiatric Grounds for Terminating Pregnancy," and these, therefore, must be reasons of preserving life. He states that it is not enough that the person be inconvenienced, annoyed, or depressed, or that it is believed she will become psychotic or dangerous to others, or that she suffers from a psychosis, but only if the continuing of the pregnancy is considered to be a danger to her life. Our diagnoses are always what we believe; therefore, the presumption is that this psychotic would become dangerous to herself.

Dr. McGraw states that indications for abortion change through the years and that heart disease of a degree believed sufficient to warrant abortion in 1920 is not now so considered. If it were truly sufficient in 1920, it probably still is, and to quote him further, "women are carried through pregnancy with hypertension, whereas a few years ago they would have been terminated." But the woman with a blood pressure of 210/140 and a 3 plus albumin at four months was a problem last year and is a problem today, and continuation of her pregnancy certainly is dangerous to her life.

Statistics are quoted from the Los Angeles County Hospital that from 1931 to 1940 one in 136 pregnancies were terminated by therapeutic abortion, whereas from 1946 to 1950 one in 2,864 were terminated, and in 1950 in this hospital only one in 8,000 deliveries was so treated. Therefore, I venture to say they are being done in other hospitals because in 8,000 cases there are bound to be a number of cases of Grade 3 or 4 heart disease, severe hypertension, etc. Figures from Japan are quoted where a law permitting abortions on meager grounds was passed in 1948, but still the birth rate is quoted at 23 per 1,000 and the death rate nine per 1,000. Therefore, this population is in no danger of annihilation even with relaxed abortion indications.

In the past five years at the Buffalo General Hospital and Children's Hospital there have been a total of 20,071 deliveries and 102 therapeutic abortions, a percentage of 0.51. During the same period spontaneous abortions have been admitted which made up 7.4 per cent of the deliveries, so it seems that nature is terminating 15 times as many pregnancies as the doctors, and, of course, this does not include complete abortions at home. Of our 102 abortions 43 per cent were on psychiatric grounds which varied from "anxiety state" to "severe depression." On most of these consultation notes a suicidal tendency was observed. Abortions done to save the life of the mother constituted 33 per cent of our cases, and the diagnoses were varied from arrested tuberculosis to malignant hypertension. Other reasons constituted 23 per cent, these from German measles to Rh incompatibility with two hydropic infants. Most of the psychiatric cases were not really consultations by a psychiatrist, but rather they were the psychiatrist's cases that had been referred to the obstetricians and had already been under psychiatric care. Suicidal tendencies varied from threats to actual attempts.

Dr. McGraw states that the only legally valid psychiatric reason is the danger of suicide and quotes Hirst to say that if the woman's life is endangered by the pregnancy, termination is not only justifiable but it is the physician's duty to terminate gestation. At this point, I began to arrive at my second conclusion, for Dr. McGraw now quotes another physician and tells us that it is our duty to terminate gestation under certain circumstances. He states that the psychiatrist has to ask himself whether the termination of pregnancy will produce or accentuate a morbid reaction, and to use psychiatric lingo he says this requires an appraisal of the patient's conscience or superego and includes a consideration of her religious training and status. He then quotes the Roman Catholic attitude which we all know.

I quote Dr. McGraw's paragraph a little later on, "There are no hard and fast rules which can be laid down for the suicidal risk, but threats are not to be taken lightly, although they may be made for effect. Threats made to others, obvious mental anguish, constant weeping, sleeplessness or terrifying dreams, loss of appetite and weight, and history of previous attacks or suicidal attempts are all significant." In this list one can find, I am sure, symptoms that any patient might have who is at all psychotic and not anxious to have a baby. He goes on to say, "It is in appraising the danger of suicide that it is proper to consider social and economic factors in the total picture. The important thing is to make a considered decision, write it clearly, and, if in New York State, be sure to state that it is a lifesaving measure."

He next quotes two cases from England and says they might be used in his defense if a physician deliberately places himself in jeopardy by doing an abortion on somewhat psychiatrically vague grounds. He next states that no physician who has proceeded openly after proper consultation has been punished in New York State, and the usual procedure of having two concurring opinions other than the operator is noted. This I believe is standard procedure in most hospitals.

My final conclusion about Dr. McGraw and his paper is that he says one should have a real psychiatric reason for recommending an abortion, and with this I think we all agree.

Diverticulitis of the Colon

Since the introduction of chemical and antibiotic therapy most cases of diverticulitis of the colon can be managed adequately with these agents plus appropriate supportive measures including diet, antispasmodics, and good medical regimens. It is important, however, that the implications of antibiotic therapy should not be overlooked in relation to surgery. Addition of these agents to improvements in surgical technics in resection of the colon have reduced mortality to a point where they approach in safety any other major abdominal procedures. As a result, elective surgery in selected cases is being urged in place of prolonged medical management. While no detailed discussion of operative technics is presented, Dr. Joseph L. Butler, Birmingham, Alabama, lists indications for surgical intervention, general surgical trends, and offers four case histories.

—*Journal of the Medical Association of the State of Alabama, November, 1955*

symposium

TREATMENT OF BURNS

Introductory Remarks

JOHN BURKE, M.D., F.A.C.S., BUFFALO, NEW YORK

(*Chairman, Section on Surgery, Medical Society of the State of New York*)

A LITTLE more than a year ago an explosion followed by fire swept through a classroom in one of our primary schools. Within a period of perhaps a half hour, 20 burn casualties were brought to the Edward J. Meyer Memorial Hospital where their immediate as well as their definitive treatment was carried out. An alert school nurse prevented meddlesome attempts at first aid until the children were hospitalized so that we were able to follow their course from the initial examination until their wounds were completely closed or death intervened. In addition, one of the members of the staff has been carrying out such reconstructive plastic procedures as have been necessary.

There has been nothing new or worldshaking in our methods of treatment, nor can we claim a phenomenal mortality or morbidity rate. We do feel that some of the observations which were made, both of failures as well as successes in treatment, may be of value to others who may be faced with a similar situation. As a later speaker will mention, we were somewhat amazed at the fluid intake required or perhaps tolerated in some instances. We were disappointed in the apparent failure of antibiotics in the control of pyrexia presumably due to bacterial invasion. The need for early tracheostomy became evident in patients with severe face and neck burns where the probability of inhalation of superheated air and trauma to larynx, trachea, and bronchi was great.

A fascinating, although disturbing, complication of osseous metaplasia was observed in two instances, a complication which we have been unable to parallel in the literature.

As a result of far-sighted planning the admissions department of the hospital was almost ideally suited to the immediate screening and emergency treatment of the casualties. A senior surgical resident was available for examination upon admission, and as a result it was possible to send nine of the patients with less than 20 per cent body burns directly to the wards, making more space and manpower available for the urgent immediate needs of the critically burned. Sufficient trained personnel were at hand to permit assignment of one doctor and one nurse to each of the 11 most severely burned, and they remained with the patients in separate rooms in admissions until their response to antishock therapy permitted their transfer to the operating rooms for débridement and dressing.

Subsequent speakers will cover the various phases of treatment and the immediate and late results thereof. In the meantime I would like to return to the complication of osseous metaplasia mentioned earlier. One of the children, who had suffered severe burns of the face and head (requiring tracheostomy), back, forearms, and lower legs, was observed to have a peculiar gait about three months after injury and, somewhat later, limitation of motion in the right shoulder, which had not been burned. X-rays showed deposition of radiopaque material about both hips (also unburned), shoulders, and elbows. Serial x-ray studies demonstrated a gradual transition of this radiopaque substance into adult bone. Extensive biochemical studies indicated at the time of the first x-rays a slight degree of calcium retention, probably due to some depression of kidney function during the early months of recovery. Currently the calcium and phosphorus values are normal. We are at a loss to explain the localization of the bone growth in areas presumably not traumatized.

537 DELAWARE AVENUE

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Initial Treatment of Burn Casualties

WORTHINGTON G. SCHENK, JR., M.D., BUFFALO, NEW YORK

(*From the Department of Surgery, University of Buffalo School of Medicine, and the Edward J. Meyer Memorial Hospital*)

Proper treatment of burn casualties must start at the scene of the thermal injury. In general terms this means that we as physicians must see to it that both lay first-aid personnel and professional personnel are instructed in proper first-aid care of burn wounds.

If we consider the nature of the wound produced by thermal injury, be it flame, scald, contact, or flash burn, the principles of first aid become obvious. First, the burn wound is a very large open wound. Frequently, it is from ten to twenty times the size of a laparotomy wound. Second, the burn wound is initially sterile, organisms in the immediate area of the burn wound having been killed by heat.

If we think of the burn wound in these terms, how can we justify rubbing large quantities of unsterile ointment or other greasy material into the wound as a first-aid measure? Obviously we cannot justify this unsound practice, and it is our responsibility to see it condemned.

The most rational first-aid measure which can be recommended at this time is protection of the burn wound with the most easily available sterile or clean covering. A dry sterile dressing is ideal. Most of the time sufficiently large sterile dressings are not immediately available, but laundered linens, such as sheets and pillow cases, are easily available, carry few pathogenic organisms, and afford a great deal of protection.

Disaster planning by civilian defense first-aid teams, physicians, and hospital administrators is essential to proper handling of more than a very few burn casualties. Attempts to make plans for handling atomic blast casualties in a metropolitan area where 100,000 victims might be anticipated leads to such overwhelming problems that, as Kendrick points out,[1] the tendency is to throw up one's hands. A more feasible approach is to set up in advance the administrative machinery to care for five, 25, or 125 casualties. Every community and every hospital might be called upon to handle this number of injured from a variety of civilian disasters. The editorial by Churchill, entitled "Panic in Disaster,"[2] should be required reading for any physician concerned with civilian defense planning. The way in which such advance planning paid dividends is apparent in Faxon's[3] report in regard to the Coconut Grove casualties and our report[4] in regard to the Cleveland Hill School cases.

Perhaps the most important single factor in preparedness is provision for rapid screening and sorting of cases as they arrive at the place of definitive treatment. A few well-established facts form the basis for screening technic of mass burn casualties:

1. Few patients die with less than 20 per cent body area burn, even with little or no treatment with the exception of respiratory tract burns.
2. Few patients survive with over 50 per cent body area burns in spite of the best possible treatment.
3. As a conclusion from the two previous statements, cases having between 20 and 50 per cent body area burn should get 90 per cent of the care in terms of utilization of professional personnel, supplies, and intravenous fluids.

The rigidity of such screening must obviously depend on the total number of cases. If only five cases are received, most general hospitals could give almost ideal care to each patient. If 1,000 cases are received or expected, no case with less than 20 per cent body area burn could be admitted. Such cases would either have dressings applied and be sent home or have a simple protective covering applied to the burn wound and be sent immediately to another hospital further from the disaster area. Cases in excess of 50 per cent body area burn could not be given any definitive treatment. They would be kept under cover and given sedation but would not be permitted to occupy beds or other auxiliary space which might be required to care for casualties falling into the 20 to 50 per cent burn classification. Transportation facilities could not be used for transport of such irreparably burned cases to more distant hospitals until the demands

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for transport of the less severely burned had been met.

The initial definitive care of the burn wound, when reduced to basic principles, is to protect it and forget it! No time can be expended initially in applying complex dressings. Our practice is to employ full aseptic technic in handling burn cases from the outset. This means that all personnel coming in contact with the patients wear caps, masks, gowns, and gloves. With these precautions the patients are placed on sterile drapes, all clothing removed, and sterile drapes placed over the entire body with the exception of the head and extremities used for infusions. No further attention can be given to the burn wounds at this time.

Any patient with a burn in excess of 20 per cent body area and a child with burn in excess of 15 per cent body area can be expected to develop oligemic shock from loss of plasma-like fluid into the burned tissues unless vigorous antishock measures are instituted early.

One or more infusions must be started immediately by the easiest reliable route. In many patients this will mean "cut-down" procedures. There is no general agreement as to what intravenous infusion or what quantity is most effective in this early period. The basic principles again are generally agreed upon. The first three postburn hours are utilized in administration of fluids in such quantities and of such composition that blood pressure is maintained, evidence of peripheral vasoconstriction does not appear, and hematocrits begin to fall toward normal.

Human plasma most closely approximates the fluid lost into the burned area, but the hazard of transmission of serum hepatitis is of sufficient magnitude that human plasma is unobtainable in many areas. Human serum albumin diluted with normal saline to make a type of "reconstituted plasma" was used successfully in the Cleveland Hill School fire casualties.

The indications for use of whole blood early in the postburn period remain in dispute. The clinical impression of the men caring for the school fire victims was that the administration of the relatively large quantities of whole blood recommended by Evans[5] supplied many more red cells than were destroyed in the early period and, as plasma was lost, increased the hemoconcentration rather than relieved it.

40 Gates Circle

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Parenteral Fluid Therapy of Burns During the First Forty-eight Hours

J. FREDERICK EAGLE, M.D., BUFFALO,* NEW YORK

(From the Department of Pediatrics, University of Buffalo School of Medicine, and the Edward J. Meyer Memorial Hospital)

IT HAS been well demonstrated that the most important lifesaving factor in the therapy of severe burns during the first twenty-four hours after the burn is proper parenteral fluid therapy, and my remarks will be devoted to a consideration of the type and amount of fluid to be administered.

I should like to report that we have used the regime which I am about to propose on several hundred children and that as a result our mor-

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* Present address: St. Luke's Hospital, Amsterdam Ave. and 113th Street, New York City.

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TABLE I.—PARENTERAL FLUID THERAPY FOR BURNS

1. *Composition of Fluid:* A two-thirds-normal saline solution with 5% glucose and 2% protein. This may be prepared by mixing 2 parts of 5% glucose in normal saline with one part of 5% glucose in water, and adding 2 Gm. of concentrated serum albumin to each 100 cc. of solution.

After being assured of adequate urine output, 1.5 Gm. of potassium chloride should be added to each liter of fluid. This can be most easily done by adding the contents of a 10-cc. ampul of 15% potassium chloride to each liter of fluid.

2. *Rate of Administration:*

(*a*) 30 cc. per % body burn per square meter in first 48 hours to replace loss through the burn, plus

(*b*) 10% of the body weight in Kg. in the first 48 hours to replace loss from the blood volume into the interstitial tissues, plus

(*c*) 2,000 cc. per square meter in 48 hours for insensible water loss, plus

(*d*) 2,000 cc. per square meter in 48 hours for urine production.

3. Subtract from the above figures any blood that is given, and do not give more than 3 to 4 cc. per Kg. of body weight.

4. In burns greater than 50%, assume a burn of only 50%. In burns of less than 15%, do not administer the fluid equivalent to 10% of the body weight in Kg.

5. Give one third of this calculated amount of fluid in the first 8 hours after the burn, one third in the following 16 hours, and one third on the second day.

Example: Assume a 30-Kg. boy with a surface area of 1 square meter has incurred a 50% body burn.

Then 30 × 50 × 1 = 1,500 cc. in first 48 hours to replace loss through the burn
30 × 0.1 = 3,000 cc. in first 48 hours to replace loss into tissues
2,000 × 1 = 2,000 cc. in first 48 hours for insensible water loss
2,000 × 1 = 2,000 cc. in the first 48 hours for urine production
8,500 cc. total

One third of this total, or 2,833 cc. should be given in the first 8 hours after the burn, 2,833 cc. in the next 16 hours, and one-third during the second 24 hours.

7. Follow the urine output carefully, and adjust the rate of infusion so that the patient voids between 10 and 40 cc. per square meter per hour.

8. If hourly hematocrit determinations are done, a 1% increase in hematocrit above 45 indicates a 2% decrease of blood volume. In the following hour this diminished volume must be restored by speeding up the infusion by an amount equal to 2% of the blood volume (which is 0.14% of the body weight) plus an equal amount to take care of this increased continuing rate of loss. A 1% fall in the hematocrit below 45 represents a 3% increase in blood volume (which is 0.2% of the body weight in Kg.), and the infusion must be slowed in a similar manner.

tality has been considerably reduced. Unfortunately I cannot do so. This program was devised after our experience with 20 severely burned children who were admitted to our hospital within half an hour. Some of our problems arose from the fact that it is very difficult to decide at any given moment whether a patient needs more saline, more glucose and water, more albumin or plasma, or more blood. The situation is further complicated by the fact that these decisions have to be made hourly around the clock and, therefore, necessarily by different physicians. Consequently, it seemed desirable to devise a single solution which would take care of most clinical situations where only the rate of infusion needed to be varied in accordance with the needs of a specific patient (Table I). Such a solution has been devised, chiefly from the work of Cope[1] and Evans,[2] which we feel should be satisfactory for most situations. However, it should be emphasized that this solution is not offered as a substitute for close clinical and laboratory appraisal of the individual patient.

Being a pediatrician, I am naturally concerned about the quantity of fluid and electrolyte which must be given to individuals of widely differing body size, and since most of the accepted formulas have been worked out and tested on adults, one of the problems facing the physician who must care for a burned child involves the adaptation of these formulas to a small individual. An important point to emphasize here is that water, electrolyte, and caloric requirements, urine output, and even the dosage of many drugs are not proportional to body weight.

Surface area is the body measurement which best correlates with these requirements. The newborn infant has a surface area of 0.2 square meters, and the average adult has a surface area of 1.5 to 1.8 square meters. In other words, the surface area increases during the growing period from birth to adulthood by a factor of eight or nine. Similarly urine output increases from about 200 ml. per day in the newborn to about 1,800 ml. per day in the adult, a ninefold increase. Basal caloric requirements in the newborn are about 200 calories a day and in the adult about 1,800, again a ninefold increase. Insensible water loss through the skin and lungs increases from 100 ml. per day in the newborn to 900 ml. per day in the average adult, again a ninefold increase. It is not surprising that in the burned individual, where the severity of the burn is obviously a function of surface area, proper parenteral fluid therapy should also be a function of surface area.

One of the major difficulties encountered in

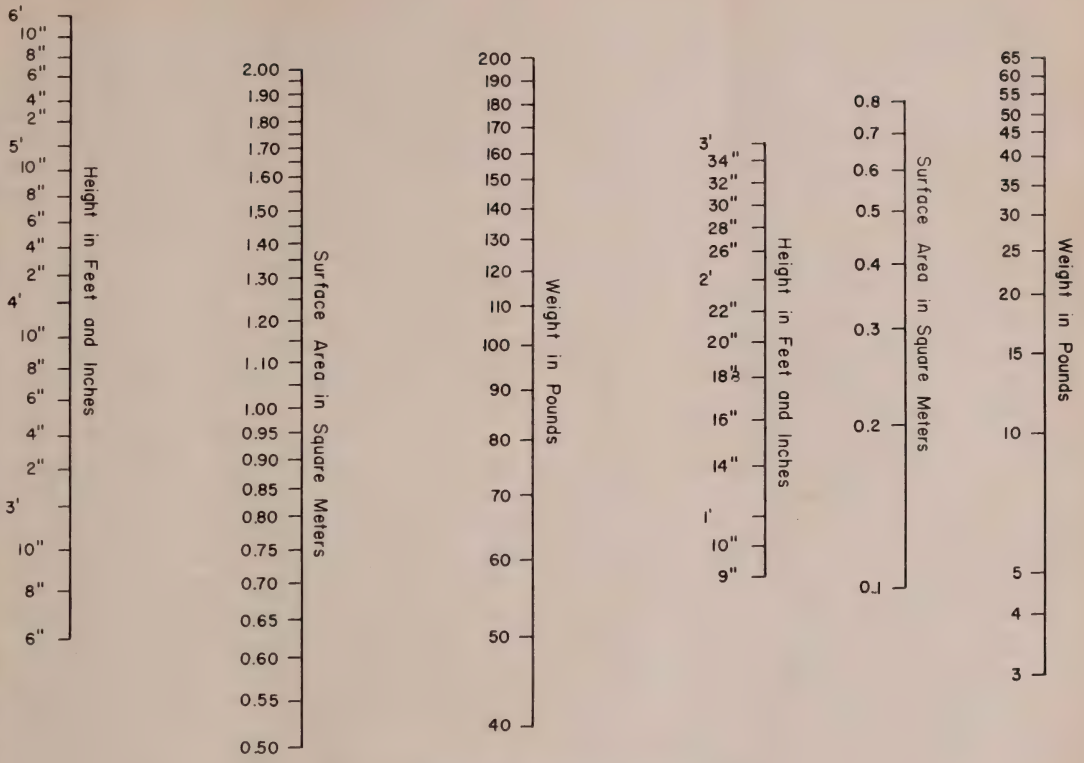

FIG. 1. Surface area nomograms (Du Bois[3]).

making use of surface area measurements arises from the difficulty of calculating it and from the absence of appropriate tables for the conversion of inches and pounds into square meters. One method of calculation, based simply on the weight, which gives an estimate of surface area accurate enough for most clinical situations is given by the formula:

$$\text{Surface area (in square meters)} = \frac{\sqrt[3]{(\text{Weight in Kg.})^2}}{10}$$

A better solution lies in the use of tables or a simple nomogram, illustrated in Fig. 1. I earnestly advocate the use of these nomograms in all pediatric wards, emergency rooms, and operating rooms.

A consideration of the disturbed fluid and electrolyte physiology of the burned patient reveals that five factors must be considered: (1) red cell destruction; (2) loss of serum from the burned surface into the dressing; (3) loss of serum or plasma from the circulating blood volume into the interstitial spaces, i.e., edema about the burned areas; (4) insensible water loss from the skin and lungs; (5) the daily loss of water and electrolytes from the urine.

Experimental studies using radioactive chromium-tagged red cells have shown that red cell destruction in the first forty-eight hours after a burn varies between 10 and 40 per cent. The higher figures are found in patients with extensive, deep, charred burns. In burns without charring the loss is nearer the lower figure. Since the total red cell mass in the normal individual comprises between 3 and 4 per cent of the body weight in Kg. and since only 10 per cent of this has been lost, the need for whole blood transfusion should be limited to 0.3 to 0.4 per cent of body weight or between 3 and 4 cc. per Kg. or 1.5 to 2 cc. per pound. Even in the extensive charred burn, the use of blood should be limited to the actual red cell loss, which in maximum situations will not exceed 10 cc. per Kg. or 5 cc. per pound. This means that even for a large patient with extensive charred burns there is very rarely need for more than 500 cc. of whole blood in the first twenty-four hours. The administration of whole blood in the presence of persistent and continuing loss of plasma can only lead to an increase in the hematocrit, increased viscosity of the blood, and less effective and efficient circulation. I believe that the members of this symposium will agree with me that one of the major difficulties which we encountered with these children followed the injudicious use of excessive amounts of whole blood.

Cope[1] has calculated that the loss of serum from the burn into the dressings and elsewhere outside of the body is about 50 cc. per per cent body burn during the first forty-eight hours in burns up to 50 per cent of the body surface. In burns that are greater than 50 per cent of the body surface, the loss does not increase with an increase in the burned area. Assuming that adults have a surface area of 1.7 square meters, this figure becomes 30 cc. per square meter per per cent body burn. The fluid thus lost has a protein concentration about half that of plasma and an electrolyte concentration the same as plasma. Therefore, this fluid has an electrolyte content equivalent to normal saline containing 3.5 per cent protein.

The amount of plasma lost into the interstitial fluids as edema in the wound areas has been determined by Cope to be equal to one-half the normal extracellular fluid space, provided the burn involves more than 25 per cent of the body surface. When the extracellular fluid space expanded more than this, his patients infrequently recovered, and many of them died in pulmonary edema about fifty hours after the burn as the interstitial fluid rapidly returned to the circulating blood. Extracellular fluid space is a function of body weight rather than of surface area. Normally it is equal to 20 per cent of the body weight, and since it will expand to half again this volume, it will become necessary to administer this fluid in an amount equal to 10 per cent of the body weight. This fluid has the same composition as the fluid lost in the dressings and, therefore, is essentially a normal saline solution containing 3.5 per cent protein.

The loss of plasma into the dressings and into the interstitial tissues occurs at a very rapid rate during the first eight hours after a burn. The loss then continues, but less rapidly, until some time between the forty-sixth and fifty-fourth hour after the burn. At this time, as the capillaries regain their normal permeability and function, fluid returns from the interstitial spaces into the circulating bloodstream. The rapid return of this great quantity of fluid from the interstitial space into the bloodstream may cause pulmonary edema. This is particularly true in the absence of good kidney function. If the kidneys are functioning well, a brisk diuresis will occur, and pulmonary edema will be avoided unless the cardiovascular system is overloaded beyond its capacity to expand or at a rate more rapid than the ability of the kidneys to excrete water.

Therefore, one third of this calculated loss should be administered in the first eight hours, one-third in the next sixteen hours, and the remaining third during the second day, and extreme caution should be exercised as the forty-sixth hour is approached.

In addition to the above losses, the daily metabolic requirements of water and salt must also be met in order to supply enough water for urinary excretion and insensible water loss. A desirable urine output is 1,000 cc. per square meter per day. If we aim at producing a urine with a specific gravity of 1.015, any mistakes we have made in our calculations can be easily compensated for by the kidney's ability to dilute or concentrate. If we have given too much water, the kidney will be able to dilute to 1.003 and get rid of this excess water. If we have given too little water or too much salt, the kidney will be able to concentrate up to 1.030 and thus conserve water and excrete salt.

In normal individuals it has been calculated from numerous metabolic studies that the intravenous administration of a third-normal electrolyte solution at the rate of 2,000 cc. per twenty-four hours will supply the water necessary for insensible loss through the lungs and skin and, in addition, will supply enough water and electrolytes to provide for a urine output of 1,000 cc. per square meter per day which has a specific gravity of approximately 1.015.

All of these losses in daily requirements are going on simultaneously, and the logical way to treat a patient who needs intravenous therapy is to replace in the same manner in which the fluid and electrolytes are being lost. In other words, if the composition of fluid lost through the wound has half the protein concentration of plasma and the electrolyte concentration of normal saline, it would be better to mix plasma and saline in equal parts and replace the fluid at the same rate and at the same concentration at which it is being lost.

For instance, let us take a 30-Kg. individual with a surface area of 1 square meter who has

TABLE II.—Water, Protein, and Electrolyte Losses in Burned Patients in the First 48 Hours

Type	Amount in 48 Hours	Composition
Loss of serum through burn	30 cc. per square meter per % body burn	1% sodium, 3.5% protein
Loss of plasma as edema	10% body weight in Kg.	1% sodium, 3.5% protein
Insensible water loss	2,000 cc. per square meter	Plain water
Urine water loss	2,000 cc. per square meter	0.6% sodium

Water, Protein, and Electrolyte Losses Calculated for a 30-Kg., 1 Square Meter Patient with a 50% Body Burn

			Water (Cc.)	Sodium (Gm.)	Protein (Gm.)
Loss of serum through burn	30 × 1 × 50	=	1,500	15 (1%)	52.5 (3.5%)
Loss of plasma as edema	30,000 × 0.1	=	3,000	30 (1%)	105 (3.5%)
Insensible water loss	2,000 × 1	=	2,000	0 (0.3%)	0
Urine water loss	2,000 × 1	=	2,000	13	0
Totals to be replaced			8,500	58 (0.6%)	157.5(1.85%)

This is essentially a two-third-normal saline solution with 2% protein. Similar calculations on patients of varying sizes and with burns of varying extent demonstrate that the range of saline concentration varies between 0.54 and 0.71%, and the range of protein concentration varies between 1 and 2%.

incurred a 50 per cent body burn (Table II). We find that in the first forty-eight hours we must administer 30 cc. per per cent body burn per square meter or 30 × 50 × 1 = 1,500 cc. of fluid with 15 Gm. of sodium chloride and 52.5 Gm. of protein in order to replace what is lost through the burn. We must administer 10 per cent of the body weight or 30 × $^1/_{10}$ = 3 Kg. or 3,000 cc. of fluid containing 30 Gm. of sodium chloride and 105 Gm. of protein in order to account for the loss of fluid into the interstitial spaces as edema. We must administer 1,000 cc. of fluid per day to account for insensible loss and 1,000 cc. of fluid with which to make urine or 4,000 cc. in two days of a solution which is one-third normal and, therefore, contains 13 Gm. of sodium chloride. Adding all this up, we come up with 8,500 cc. of fluid containing 58 Gm. of sodium chloride (essentially a two-thirds-normal salt solution) and 157.5 Gm. of protein (essentially a 2 per cent protein solution).

Similar calculations on patients weighing from 2 to 80 Kg. with surface areas from 0.2 to 2 square meters and with body burns from 15 to 50 per cent reveal that the salt content would vary from 0.54 per cent in the very small with 15 per cent body burn to 0.71 per cent in the very large with 50 per cent body burn or greater. The protein concentration varies from 1 to 2 per cent. Therefore, it seems reasonable to assume that proper amounts of a 0.66 per cent saline solution with 2 per cent protein will satisfy the requirements of a burned individual of any size and at the same time not exceed the homeostatic mechanisms controlling the distribution and excretion of water, salt, and protein.

Since at the present time the use of pooled plasma is thought by many to be contraindicated because of the dangers of hepatitis, concentrated serum albumin is frequently substituted, and this can be added to the two-thirds-normal saline solution, i.e., 2 Gm. for every 100 cc. of fluid. In addition, calories must be supplied, and a 5 per cent glucose mixture will supply adequate calories in this particular situation where large amounts of fluid must be given. The use of potassium is certainly contraindicated until one can be sure that there is good renal function, and its use during the first twenty-four hours is still controversial, but it is my personal feeling that potassium in a concentration of 20 mEq. per L. is indicated as soon as it has been established that there is adequate renal function. This concentration of potassium can be most easily obtained by adding the contents of a 10-cc. ampul of 15 per cent potassium chloride to each liter of fluid.

To summarize then, I would recommend the use of a single solution containing two-thirds-normal saline, 5 per cent glucose, and 2 per cent serum albumin in amounts equal to 30 cc. per square meter per per cent body burn plus an amount equal to 10 per cent of the body weight in kilograms plus 4,000 cc. per square meter for the first forty-eight hours. One third of this quantity should be administered in the first eight hours, one-third in the next sixteen hours, and the last third during the second day. Extreme caution should be used toward the end of the second day. The amount of any whole blood that is used should be subtracted from the above calculated figure.

The use of any formula is only an approximation at best and is also dependent on other approximations, the most variable of which is probably the estimation of the extent of burn.

Therefore, it is necessary to follow any patient very closely and be prepared to modify the program depending on the clinical situation. One of the best ways of following a patient is by measuring the urine output, preferably hourly and preferably with a catheter in place. Normal urine output will be at the rate of 40 cc. per square meter per hour. Minimal urine output required to excrete normal amounts of solute under conditions of distress is 10 cc. per hour per square meter. We should aim for a normal rate of urine flow or possibly somewhat less than normal, between 25 and 40 cc. per hour, because as the capillary bed recovers at the end of the second day, the kidneys will be called upon to excrete tremendous amounts of water and electrolytes, and if the load is too large or the kidney function inadequate at this time, pulmonary edema may be a cause of death.

A second laboratory technic is the use of hourly hematocrits. One of the chief pitfalls of this technic is a decision as to what constitutes a normal hematocrit, particularly if a large amount of blood is given or if there have been extensive charring burns with concomitant blood destruction. In any event let us assume for the moment that we are aiming at a hematocrit of 45. A change in hematocrit of 1 per cent in the range between 45 and 60 represents an approximate decrease of 2 per cent of the blood volume. Since the blood volume is normally 7 per cent of the body weight, in our 30-Kg. patient the blood volume would be 2,100 cc., and a 1 per cent increase in hematocrit would represent a loss of plasma of 42 cc. For the next hour we should increase our rate of infusion by 84 cc. in order to keep up with the increased rate of loss and also to restore the loss that has occurred during the previous hour. Should the hematocrit fall below 45, indicating hemodilution, the infusion must be slowed. Below a hematocrit of 45, a fall of 1 per cent represents a 3 per cent increase in blood volume.

In summary, a single parenteral fluid has been devised to replace fluid lost through the burned site, to replace fluid lost in the interstitial tissues, and to supply fluid for adequate urine flow and insensible water loss. This fluid is a two-thirds-normal saline solution with 5 per cent glucose and 2 per cent protein. It should be administered in amounts equal to 30 cc. per square meter per per cent body burn plus 10 per cent of the body weight plus 4,000 cc. per square meter for the first forty-eight hours. One third of this solution should be administered during the first eight hours, one-third during the second sixteen hours, and one-third during the second day. In addition to clinical signs and symptoms, this fluid administration must be checked by following urine output and/or hourly hematocrits.

ST LUKE'S HOSPITAL

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Treatment of the Burn Wound

HARRY W. HALE, M.D., F.A.C.S., BUFFALO, NEW YORK

(From the Edward J. Meyer Memorial Hospital and the Department of Surgery, University of Buffalo School of Medicine)

THE methods and materials for treating the burn wound are legion and seem to multiply with the years. At the moment most discussion focuses on the choice between the so-called "open" and "closed" methods. It is the purpose of this paper to describe the technic in use at our hospital, particularly as it was used in caring for the victims of the Cleveland Hill School fire.

It is our feeling that the fresh burn, presenting a large open wound highly vulnerable to invasion

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by infective organisms, is best protected by the barrier of sterile dressings applied with the best possible aseptic technic. After seven to ten days, as healing progresses, these wounds are lined by a wall of granulation tissue which forms a bulwark highly resistant to bacterial invasion. Therefore, in burns not requiring antishock therapy, i.e., those involving less than 20 per cent of the body surface area, dressings are applied immediately in the operating room with personnel scrubbed, masked, gowned, and gloved as for any other surgical procedure. The dressing consists of a layer of sterile petrolatum gauze reinforced by a bulky absorbent cotton mass, all held in place by elastic bandage.

In the more severely burned the same type dressing is applied but only after antishock therapy is instituted and the patient's general condition is well stabilized. During this period the patient is protected by sterile sheets. In general, the dressing can be carried out without anesthesia, although intravenous opiates may be desirable for analgesia.

No débridement is carried out at this stage except in cases where it is felt necessary to remove grossly contaminating dirt or grease applied to the wound after injury, either accidentally or in ill-advised first-aid measures. Under these circumstances anesthesia is necessary.

At the time of the application of the dressing an estimate of the extent and depth of the burn should be made and recorded, even though it is appreciated that such estimates may be grossly inaccurate as to depth and repeated revisions are necessary throughout the course of the first few weeks.

Burns about the face are best left uncovered since dressings promote contamination and infection by catching and holding secretions from the eyes, nose, and mouth. Such dressings can be most uncomfortable to the patient.

I know of no present-day local treatment for respiratory tract burns, but I do urge early tracheostomy in cases of severe burns about the face. If the procedure is delayed until the patient has developed acute respiratory embarrassment from edema about the mouth, nose, and pharynx or inability to raise secretions properly, then it may be necessary to operate through immensely edematous tissue, and the procedure can be extremely difficult and time-consuming.

In extensive burns the use of antibiotics prophylactically and therapeutically for apparent or obvious infection seems strongly indicated. However, in judging their effects by temperature response, the results are discouraging. Of the Cleveland Hill School fire victims the 11 more seriously burned were started on large doses of crystalline penicillin immediately. Nevertheless, all of them developed fevers within a few hours which persisted for weeks or months. Chloramphenicol was used orally and parenterally, and in those patients from whose wounds organisms apparently susceptible to streptomycin and erythromycin were cultured, these antibiotics were also used. None of these drugs produced any noticeable effect on the fevers. Peak temperatures of 105.8, 105.2, and 107.6 F., respectively, were recorded during the first ten days in three children who eventually survived. These fevers were moderated only by physical measures such as ice packs, ice water enemas, and fans. The fevers gradually declined but persisted for many weeks in each of these patients.

The original dressings are removed about one week after injury. In first-degree and superficial second-degree burns, healing may be complete or well advanced. In deep second-degree and third-degree burns a wall of granulation tissue is forming in the depth of the wound, and some of the necrotic tissue is beginning to separate. The dressings are soaked off in a bath of tepid water, and from this point on no dressings are used except for pressure dressings applied to each grafted area for a period of eight days after grafting.

After the dressings are removed, the patient is placed on a sterile sheet and covered by a sterile sheet supported on a cradle. The patient is bathed daily in a tepid tub of water to promote separation of slough and exudate. The only other débridement done is that which can be done without anesthesia, as well as the removal of well-delineated slough at the time of grafting. For the first two weeks after the dressings are removed, all personnel handling the patient observe a program of strict asepsis.

The most striking advantage of this method is the complete absence of the disagreeable odor often associated with extensive burns and accompanied by inability of the patient to eat. Furthermore, the patient becomes accustomed to seeing his burns and watching the progress of healing. An additional advantage is the opportunity to start early active motion in disabled joints, and as early as possible the daily baths are taken in the Hubbard tanks in the physical medicine department where exercise is carried out under trained supervision.

When all necrotic tissue has declared itself, grafting is begun. The recognition of areas needing grafting may take up to three weeks from the time of injury. Thin (0.012 to 0.014 inch) split-thickness grafts removed with the electric dermatome are applied to the granulating wounds, sutured with fine silk, and held firmly by pressure dressings left in place eight days. Wounds about joints and the face take priority in grafting so that deformity will be minimized.

Application of topical antibiotics for a few days before grafting may help to reduce surface infection, and the character of the granulating bed may be made more receptive to grafting by the pressure application of a fine mesh silk or nylon dressing for twenty-four to thirty-six hours before the grafting is done. In areas of irregular contour or where considerable surface exudate interferes with grafting, small "postage-stamp," thin, split grafts may enhance the rate of "takes." We do not use so-called pinch grafts.

The whole program is designed to accomplish early healing of open wounds with rehabilitation of the patient as a whole carried out concomitantly.

Hydrotherapy in Severe Burn Cases

HENRY V. MORELEWICZ, M.D., BUFFALO, NEW YORK

(From the Department of Physical Medicine, Edward J. Meyer Memorial Hospital, and the Department of Physical Medicine and Rehabilitation, University of Buffalo School of Medicine)

IN THE complex care of burns, especially extensive and severe burns, proper timing of various procedures is most essential to attain maximum benefit for the individual who has to undergo this form of treatment.

Neutral water and salt water has been used early in burn cases successfully when shock was the primary concern. Water has also been initiated in therapy of severe burns when scar formation and contractures began to occur to help stretch the contractures and/or reduce pain. There are many pros and cons as to why and when one should use hydrotherapy. I do not wish to enter into this phase of the discussion, but rather I shall limit my remarks to the use of hydrotherapy in the postshock phase as it was carried out at the E. J. Meyer Memorial Hospital on children who were burned by a flash fire at their school. This group of patients was treated by a team. This team, together with a chairman, outlined therapy procedures so that it would be possible to coordinate all medical staff ideas and facilities of the hospital in such a way as to obtain maximum benefit for the patient in as short a time as possible.

It was decided that sterile technic be used to insure better healing of wounds. Thus it was necessary to place patients on wards near bathtubs or in small rooms where bathtubs were available so that they could be put into water with the least amount of handling, which caused pain. The tubs were filled with water heated to a temperature of 102 F. Temperatures above this point caused side-effects, such as nausea, vomiting, tachycardia, apprehension, and periods of giddiness. The heat of the water was never lowered under 98 F. since below this point patients would chill and thus become susceptible to pulmonary or upper respiratory infections. If respiratory infection occurred, hydrotherapy had to be discontinued to allow the patient to recover, and valuable time was lost in treatment of progressing contractures.

The patients enjoyed hydrotherapy treatment periods to the point of complete relaxation, provided they stayed in the warm water between twenty and thirty minutes. Physiologically, heat acts as a sedative, reducing not only muscle

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tension but also pain.

On the other hand, warm water soaks off bandages which become adherent to the eschars of the burned areas. It cleanses infected areas and softens the crust formation over the burn areas. Thus, clean wounds are ready more quickly for skin grafting. In cases where skin grafts are necessary, water therapy is resumed as soon as the grafts take in order to stimulate blood supply and lymphatic flow to the area. In this way healing takes place more rapidly.

As soon as the team members decided that patients could be moved from the wards, the physiatrist requested that they be put into Hubbard tanks twice a day in the Department of Physical Medicine and Rehabilitation. The advantage of the Hubbard tank over the bathtub is that the patients can move more freely and voluntarily, not only their extremities but other parts of their body as well. The buoyancy of the water helps support weak, painful limbs. Thus, in many cases where a patient would not or could not move his limbs in the air, he did do so easily in water. The use of the Hubbard tank has another advantage which is not usually appreciated. The change from a sick room to a hydrotherapy room has definite psychologic benefits. As an example, several of the patients who had experienced nightmares in the early part of hospitalization following the fire quieted down after starting Hubbard tank therapy and were able to sleep peacefully without the use of narcotics or sedatives.

Just as soon as these children began to feel less pain and gained strength in their limbs, activities of daily living, such as toilet care, eating, dressing, sitting, walking, and climbing, no longer presented problems. In order to build up muscle power, underwater progressive resistive exercises were introduced into the program. There are three ways to do these exercises:

1. The patient uses his foot or hand as a paddle to exercise his extremities and build up muscles either in the shoulder or pelvic girdle area.

2. Physical therapists give resistive exercises manually or apply aluminum paddles or lead weights to the hands or feet of the patient, and then instruct the patient in exercising muscles of the shoulders and/or pelvic girdle to gain strength and increase range of motion in any contracted joints.

3. Electrically powered agitators attached to the tank are used to give resistive exercises to the limbs of patients in water the desired amount of resistance to a part. The agitators can be regulated to give resistance to several parts of the body as desired.

In this way not only do the muscles remain elastic, but also the subcutaneous tissue and skin remains pliable. Thus, severe contractures and body disfigurements are either prevented or greatly reduced.

Despite all efforts several of the patients who were burned severely developed limitations in range of motion in various joints of the upper as well as lower extremities. It was necessary to utilize occupational therapy technics in all of these cases prior to surgery in order to maintain as good muscle tone as possible, prevent further joint contractures, and psychologically prepare the patients for the next phase of training, that of substitution movements. Some had to learn to use the left hand in eating and writing, while others had to relearn walking, standing, and climbing activities.

In summary, we can say that water heated to proper temperature in proper amounts with frequent use can help prevent deformities and limitations in joints where other forms of therapy have little effect. In addition, the patient's wounds are cleaner and thus heal more quickly. On the patient's part there is satisfaction in seeing and feeling limbs moving easier and sooner than possible by other means. With pain alleviation reduction of anxiety follows.

Late Reconstructive Problems of Burn Scar Deformities

LESLIE H. BACKUS, M.D., BUFFALO, NEW YORK

(From the Edward J. Meyer Memorial Hospital and the Department of Surgery, University of Buffalo School of Medicine)

PRESENT surgical methods of treating severe burns have greatly reduced the incidence of serious scar contracture deformity. With the advent of antibiotics in the control of infection and early skin grafting, residual impairment is less than in former years. It must be accepted that early treatment is not always effective, and it is obvious that in deep burns which destroy anatomic structure, some degree of scar deformity is inevitable.

The degree of scar deformity is relative to the severity and location of the burn. A first-degree burn involves only the epidermis and should heal without scarring. In a second-degree burn there is a partial destruction of the dermis, and a variable amount of disfigurement due to superficial scar will result. It usually depends on the thickness of the skin and the area affected, as well as on the complications of bacterial infection. In a third-degree burn the full-thickness skin is destroyed along with varying amounts of underlying tissue, which heal only by scar formation. With extensive loss of deep tissues subsequent deep scar contracture deformity will develop.

The nature of the scar deformity will depend primarily on the depth of destruction and the location and extent of the burn. Burn scar contractures result from the shortening of the soft tissues during the healing process. The healing characteristics of the patient further influence the type of scar formation.

Many categories have been proposed to include the different types of burn scars. The simplest classification lists the *flat, depressed, contracted scars, hypertrophic scars,* and *true keloid* with varying degrees of each. Further breakdown of the types includes *unstable, poorly healed,* and *chronically ulcerated* scars which may become malignant.

Optimum Time for Surgical Correction

Theoretically, the optimum time to begin reconstructive surgery is when the scar tissue is mature but before serious contractures may develop. This may vary from six months to a year after healing. An extended waiting period may be justified when the scar deformity continues to show signs of improvement. When extensive reparative work is indicated, it may be necessary to spread the surgical program over a period of time in order to maintain the good health of the patient. With children particularly, the repair work should parallel the growth curve. Areas where anatomic development may be retarded or deformed are given primary consideration. This factor should determine the chronologic order of surgical procedures. The number of reparative measures required and the healing powers of the patient will further influence the elected time of surgery.

Basic Types of Deformities and Plans for Reconstruction

The most common and most disabling burn scar deformities are those involving areas of motion. They include the regions about the eyelid, mouth, neck, and between the trunk and the extremities. Likewise, the extremities may develop contractures with severe functional impairment at any or all flexor surfaces. Areas about the face, neck, and hands also produce serious problems from the standpoint of appearance as well as function. Disfiguring burn scars of these regions may be of particular concern to the patient because of the accompanying psychologic stigma.

Over-all planning for reconstruction of existing deformities is imperative. In a case involving multiple procedures the plan should indicate the problems to be corrected first, with the correction of the contractures which retard growth of primary importance. In the female child burn scars involving the anterior chest wall will need scar revision as the breast development occurs. Long-time planning will aid in meeting these problems which are not evident in the early

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stages of the cicatricial deformity. In this connection the preservation of valuable donor sites for later skin grafting procedures is often advisable.

The plan for reconstruction of specific deformities narrows down to the selection of the technics to be used. There is no one standard procedure which can always be described for any one type of deformity. The choice is based on many factors. Consideration must be given to the amount and type of scar to be replaced as well as the individual healing characteristics of the patient. Function impairment may often dictate the use of pedicle flaps to restore subcutaneous tissue and epithelium coverage. This applies particularly in regions where tendon transplants are contemplated. Likewise, pedicle flaps to weight-bearing surfaces will best accommodate functional replacement. Considerations in choosing a technic should include the color match and the texture of skin transplant as well as availability of suitable donor sites. *Complete excision of scar tissue is advisable whenever possible.* The wound then may be closed with adjacent, normal tissue or with application of split or full-thickness skin grafts to the defect. In more severe deformities which require reconstruction of contour as well as surface defect, the transposing of local or distant pedicle flaps may be indicated. Where existing tissue is adequate, as in the binding webs, the Z-plasty operation is the method of choice. The Z-maneuver is also used in combination with other methods.

Split-Skin Graft

Split-skin grafts of varying degrees of thickness constitute the simplest method of repairing large superficial scar defects. These grafts give satisfactory results as to appearance, stability, and take. Many disfiguring neck deformities can be corrected with the use of intermediate split-thickness grafts. Adjacent as well as distant pedicle flaps have also been advocated as the proper technic for the repair of neck contractures. The reasons given include the off-color appearance of free-graft and the tendency to subsequent shrinkage and wrinkling. When all the scar tissue has been excised and the proper graft thickness has been used, results are generally satisfactory. The utmost care must be observed, however, in the application of proper dressings and immobilization of the graft to assure complete take.

In burn scars about the chest, free split-skin grafts frequently serve a useful purpose. The scar pull can be relieved by simple incision and intermediate thickness graft applied to the defect. This is especially effective in the relief of female breast contractures. The relief of the constricting scar lines will allow the return of normal anatomic configuration. Restoration of contour can then be accomplished in one procedure. Any depression of the grafted area is usually overcome by the deposition of subcutaneous fat within six months to one year.

Another use of the split-thickness graft of intermediate thickness is in the correction of the contractures on the flap surfaces of the extremities. These are most commonly found in the antecubital and popliteal spaces. The real factor in restoration of normal function is the prevention of the vertical line scar across the flexor crease. *Complete dissection of all scar tissue is of utmost importance.*

The use of split-thickness graft of thin calibration should be limited to coverage of the granulating wounds in the initial treatment of thermal injuries; there is more assurance of donor site healing and greater probability of complete take. However, thin split grafts are prone to wrinkling and shrinkage and for this reason are not advisable in the secondary repair of cicatricial deformities. The selection of a donor site is significant in any skin-grafting procedure, and an unwise choice may produce further disfiguring, visible scars. It must be stressed that the donor sites can be ruined for future use by improper cutting of skin grafts, using either free-hand or dermatome technic. This includes grafts which are cut too deep through the full thickness of the skin, resulting in donor areas which heal with difficulty. The conservation of donor sites for possible reuse is of primary importance where multiple procedures are necessary.

Full-Thickness Grafts

Full-thickness skin graft transplants, when properly selected, have the advantage of improved texture and, in comparison with split-thickness grafts, are less likely to contract and wrinkle. It is generally agreed that full-thickness grafts should not be used on primary, granulated wounds. The disadvantage of incomplete take is always present in the use of a full-thickness graft, and complications following the lack of complete take will counteract the cosmetic and functional advantages of a full-thickness graft. Fundamental principles to be observed in assuring successful take of a full-thickness graft include absolute asepsis, dry field, accurately cut graft, proper pressure, and immobilization in dressing.

The full-thickness skin graft finds its greatest value in the reconstruction of relatively small defects of the face and hands. The cases in point are ectropion of the eyelids, defects of the lips and the nasolabial folds, and in surface deformities of the palmar and dorsal aspects of the hands. It may be noted that tactile sensitivity and discrimination in full-thickness grafts to the hands have been found to be uniform despite the use of different donor sites.

Local and Distant Pedicle Flaps

Pedicle-flap transfer of a solid mass of skin, subcutaneous fat, and fibrous tissue from one area of the body to another is a third mechanism and, in the repair of many deep deformities, has a decided advantage over the split and full-thickness skin grafts which do not include any of the subcutaneous tissue. This applies principally to the contractures involving bony prominences or large areas of motion. It is obvious that a pedicle flap should be used whenever the defect involves the oral or nasal cavity or in any other situation where a large fistulous communication exists. Local flaps may be designed to have a permanent blood-carrying pedicle which is never severed at the base. In contrast with other transplants the local flap actually supplies blood to the recipient areas which are depending on the new site for nourishment. On severance of its pedicle, the distant flap must depend on local tissue vascularity. Rotation of contiguous flaps is effectively utilized in the repair of many facial deformities.

Z-Plasty Procedure

The Z-plasty operation embraces the principle of local transposition of triangular flaps of skin to release abnormal scar contractures. The Z-technic finds its best application in those instances in which the surrounding skin is of essentially normal texture and in which a web of scar contracture exists. The presence of pliable tissue on each side of the web is an important factor. In scar contractures resulting from severe burns, the area may be partially or completely infiltrated with fibrous tissue. Excision of these contracting bands can often be combined with simple transposition of triangular flaps. When local tissue is adequate, the Z-plasty alone will relieve the deformity contracture and restore normal contour and function. Scar deformities in select areas about the face are especially amenable to the Z-plasty correction. Moderate contractures of the eyelid and of the nasolabial folds can be released effectively with a simple or multiple Z-plasty procedure. Deep contracting scars about the neck and axilla respond well to correction of simple or multiple Z-incisions, and intermediate-thickness split grafts may be used here to cover any remaining raw surface. In reconstruction of axillary web contractures, the excess scar resulting may be utilized in some instances. If the triangular incisions are not too large, successful relaxation can be obtained by using a minimal amount of scar tissue along with the adjacent normal skin. It must be emphasized that cautious handling and suturing without tension will also aid satisfactory healing. If viability is maintained and the transposed flap includes a minimum amount of scar tissue, it will eventually stretch and become pliable. The careful observation of this basic principle will result in the prevention of secondary contractures.

In summary, utilization of the Z-plasty may obviate the necessity for extensive skin grafting or the delayed transfer of pedicle tubes.

Adjuncts to the Control of Secondary Scar Formation

After the repair of the region of cicatricial deformity, the utmost care should be exercised to prevent formation of secondary contractures. If this part of the procedure is neglected, a good result may be vitiated by the development of a subsequent scar hypertrophy. For the majority of cases prophylactic measures against secondary scar formation consist of the local application of pressure dressings and lubricants. If the patient has an active hypertrophic scar or keloid, it may be well to apply radiation therapy prior to surgical correction. After surgery, therapy should be reinstituted following removal of the sutures. We prefer the method of divided dosage.

Functional rehabilitation after surgical correction is important in completing any program for reconstruction. Physical and occupational therapy can produce immeasurable improvement in the surgical result. When it is evident that the wounds are completely healed, passive and active motion is effective in restoring normal function.

Summary

Early reconstruction of burn scar contracture is imperative if complications involving underlying muscular and bony structures are to be averted. Unnecessary postponement of reconstruction may often increase functional impairment as well as disfigurement.

A deformity resulting from a contracture usually will not improve with time. Therefore, surgical intervention is the only recourse in restoring maximum function. The restoration of an acceptable appearance is of equal psychologic importance. Consciousness of abnormal appearance will often induce morbid sensitivity and compensating defense mechanism. Correction of the appearance, therefore, as well as the function of a deformed part, is advisable to complete the rehabilitation of the patient to a useful happy life.

In the reconstruction of the burn scar deformities, four fundamental procedures are followed: (1) split-thickness skin grafts of varying thicknesses, (2) full-thickness skin grafts, (3) pedicle flaps, and (4) Z-plasty technics.

In addition to these four basic procedures it may sometimes be advisable to attempt further improvement by simple excision and revision of unsightly scar lines.

Every person suffering from crippling effects of burn scar contractures can be helped to some extent.

217 Linwood Avenue

Tom Thumb's Alphabet (England, 1788)

A was an Archer
and shot a frog
B was a Butcher
and had a great dog
C was a Captain
all covered with lace
D was a Drunkard
and had a red face
E was Esquire
with Pride on his bow
F was a Farmer
and followed the plow
G was a Gamester and
he had ill luck
H was a Hunter
and hunted a buck
I was a Joyner
and built up a house
K was a King
and governed a mouse
L was a Lady
and had a white hand
M was a Merchant
to some foreign land
N was a Nobleman
gallant and bold
O was an Oyster Wench
one what would scold
P was a Parson
and wore a black gown
Q was a Quaker and
would not bow down
R was a Robber
and wanted a whip
S was a Sailor
and lived in a ship
T was a Tinker
and mended a pot
V was a Vintner
and a very great sot
W was a Watchman
and guarded a door
X was expensive
and so became poor
Y was a youth that
did not love school
Z was a Zany and
looked like a Fool.

—The Old Farmer's Almanac, 1956
Dublin, New Hampshire,
Robert B. Thomas,

RECENT ADVANCES IN MEDICINE AND SURGERY

A series of review articles dealing with medical progress

ROBERT TURELL, M.D., *Editor*

Industrial Deafness

C. STEWART NASH, M.D., ROCHESTER, NEW YORK

(Otolaryngological Consultant to the Faculty of the University of Rochester School of Medicine and Dentistry; Member of the Committee on Hearing Aids and Audiometers of the American Medical Association, the Sub-Committee on Noise in Industry of the American Academy of Ophthalmology and Otolaryngology, and the Committee of Consultants on the Occupational Loss of Hearing of the Workmen's Compensation Board of the State of New York)

During the past decade more and more people have become concerned with the problems of noise. Manufacturers of home appliances have found that a noisy product meets sales resistance. Fabricators of large industrial equipment (which must be located in residential areas) have learned that care must be taken in the construction and installation of such apparatus so that "unwanted noise" may not become a neighborhood disturbance.

Occasionally a worker becomes fatigued or irritable if the ambient noise in which he works is too great; similarly he may become hard of hearing if exposed to a clatter that is too intense, or too severe, or too confined for the ear to withstand.

The problem of noise in industry is a matter of serious consequence. In the worker it has created a physical disablement; in industry it has caused an economic contingency; in compensation courts it has effected an adjudicational snarl.

Industrial Deafness and the Doctor

The doctor would like to limit his participation in the problems of industrial deafness to the conservation of hearing, but he has not been able to do so. The worker with an alleged industrial deafness requests the physician to testify that he *has* loss of hearing, that his loss of hearing is the result of the noise in the plant where he works, and that the loss is permanent in character.

Industry wants the employe compensated for any bona fide deafness that the noise in its factories may have produced, but it solicits the help of the otologist in devising some workable formula by which a nonincapacitating disablement that was incurred years ago—and against which no management was required nor expected to set up compensation reserves—can be met.

This circumstance of "unpreparedness" involves the principle of "accrued liability" which, if not moderated or compromised, can and probably will drive many of the smaller plants to close their doors or to move into areas where the problem of "accrued liability" is less acute.

The underwriters of compensation insurance urge the doctor to explain just what type of noise and what duration of exposure are necessary to produce an industrial deafness. They insist that the doctor differentiate between acoustic fatigue (a temporary hearing loss) and acoustic degeneration (a permanent hearing loss) and to designate the ratio of these elements as they exist in the case of a particular claimant.

Definitions

The doctor who deals with industrial deafness must understand the importance of having at his command a glossary of terms presently used in courts of law and accepted by workmen's compensation boards. Here are a few of the essential ones:

Industrial deafness is a loss of hearing which is produced by the hazards of industry and which manifests itself in one of two forms, either (1) as acoustic trauma or (2) as occupational deafness.

Acoustic trauma is a loss of hearing that comes on suddenly (or relatively suddenly) as the result of a violent impact against the head or ears, or as the result of the projection or instillation into the ears of some damaging material, or as the effect of a shrill blast in proximity to the ears.

Occupational deafness is a loss of hearing that comes on gradually as the result of long-continued exposure to a damaging noise which because of its relative moderateness produces an *early* auditory nerve fatigue and a *late* auditory nerve degeneration that expresses itself as a permanent (and irreversible) nerve deafness.

An *industrial hazard* is a peril or risk to which an employe is exposed by virtue of the type of work he performs and/or the surroundings in which he performs it.

Medical Implications of the Definitions

In industrial deafness something happens to the ear from the outside. If that something occurs without warning and is violent in its reaction, there is an accidental injury in which the ear and its adjacent structures may become cut, bruised, torn, mutilated, or fractured, but only if and when there is an associated loss of hearing do we have an acoustic trauma (because the term acoustic trauma connotes a deafness due to accident).

Acoustic trauma can affect any part of the ear or any part of the head or brain and as a sequence can produce any type of deafness: either (1) a *conduction loss of hearing* in which there is an interference with the transmission of sound through the external or middle ear, or (2) a *nerve or perceptive loss* of hearing in which there is an interference with transmission of sound from the middle ear to the hearing center in the brain or in which there is a failure of the brain center properly to perceive the stimulus coming to it, or (3) a *mixed deafness* in which both the receptive and perceptive mechanisms of hearing are involved.

Important too is the fact that acoustic trauma can occur in anybody's factory or anybody's home or any other place for its cause is not the persistent, long-continued, moderately damaging, industrial noise that leads to *occupational deafness.*

Unlike acoustic trauma, occupational deafness is *never* associated with cuts, bruises, tears, mutilations, or fractures, for if it presented any of these associated, unexpected, or unforeseen conditions, it would by definition be an industrial accident and not an industrial disease which the courts of New York have asserted that it is. Occupational deafness is the result of a long-continued bombardment of moderately harmful sound waves against the ear drum but under conditions that are expected, foreseen, and understood. Such a long-continued bombardment of sound waves from industrial noise affects only the terminal nerve endings of the internal ear. As one might expect, it injures early the nerve endings close to the source of the noise (those in the large turn of the cochlea which contain the high frequency tones), and it injures late the nerve endings more removed from the source of the noise (those in the small turn of the cochlea which contain the low frequency tones).

Important again is the fact that occupational deafness is produced only by long-continued exposure to a damaging noise, the moderateness of which excludes it from the classification of acoustic trauma, the cause of which is always spontaneous, unexpected, and violent.

Legal Implications of the Definitions

In a claim for industrial deafness an experienced lawyer will attempt, whenever possible, to establish causal relationship on the basis of an acoustic trauma rather than on the basis of an occupational deafness. There are two reasons for this procedure:

1. An acoustic trauma is legally construed "as accidental injury arising out of or in the course of employment and such diseases or infections as may naturally and unavoidably result therefrom." This section of the Workmen's

Compensation enactment of the State of New York (Section 2, Paragraph 7) has been interpreted by the case law to include an event which has some element of suddenness or some factor of catastrophe or some incident immediately noticeable which is assignable to a single act identified in space or time. A claim for acoustic trauma is a claim for an industrial accident and, therefore, is processed with all the acceleration possible in an admitted claim in which the cause of the disablement, the degree of loss of hearing, and the question of permanency have been established and confirmed.

2. Occupational deafness is classified as an industrial disease. Specific jobs exposing an employe to a damaging noise level are a part of the list of hazardous employments covered by the New York State Workmen's Compensation Law. Section 3, Paragraph 2, of the New York State Workmen's Compensation Manual pertaining to occupational deafness has been construed by the case law as being applicable when arising from a condition to which all employes as a class are subject and which produces the disease as a natural incident of a particular occupation as distinguished from and exceeding the hazards and risks of ordinary employment.

Claims for occupational deafness rest on the proof or admission of special data not required in a claim for acoustic trauma. In making a claim for occupational deafness the following questions will be asked and must be answered:

(*a*) Is the noisy environment in which the claimant works sufficiently damaging to produce an occupational deafness and yet sufficiently moderate not to produce an acoustic trauma?

(*b*) Has the length of exposure been sufficiently long to produce a permanent rather than a temporary hearing loss?

(*c*) If the claimant continues to work in a noisy environment can his permanent hearing loss be differentiated from his temporary loss (that is, while he keeps working)? The present answer to this question in the States of New York and Wisconsin is "no."

Background Information

WAGE LOSS CONCEPT.—Historically the wage loss concept was the foundation stone upon which our whole compensation edifice was erected. Stemming mainly from the English system, it grew out of what was equivalent to a compromise between labor and industry under which the employe gave up his right to sue for "damages" and the employer gave up his defense of the workman's contributory negligence, the negligence of a fellow worker, and the assumption of risk. In place of this old hit-and-miss procedure there was adopted a legal system of empolyers' liability based on partial replacement of *income or wage loss* resulting from any work-connected injury. Later it was expanded to include occupational diseases, and this system was adopted regardless of who might have been at fault.

Succinctly an old English law paraphrased the principle of compensation awards in this way: "The basis of compensation is the inability to earn wages. A man is not paid for his loss of limb; he is not paid for the pain he has endured; he is not paid for any of the domestic stresses that arise from what happened to him. He is paid on the basis of the wages he has lost through being unable to continue his work."

Because occupational deafness involves no loss of members, no loss of time from work, and no loss of wages, industry has maintained that in accordance with the letter of law, occupational deafness is not a compensable matter. The Supreme Courts of New York and Wisconsin, however, have not concurred in this opinion. Presently the Workmen's Compensation Board of the State of New York and the Industrial Commission of the State of Wisconsin are empowered to recognize and to adjudicate claims for occupational deafness as compensable diseases.

THE ISSUE OF PERMANENCY.—Claims for occupational deafness are based on the following points: (1) the presence of an acknowledged hearing loss, (2) the establishment of casual relationship between that hearing loss and the noisy environment in which the claimant has worked, (3) the exclusion of concomitant nonindustrial losses of hearing elements, and (4) the differentiation and separation of the temporary from the permanent components in a claimant's loss of hearing. Obviously such a differentiation must also be extended to include the differentiation and separation of these component elements into occupational and nonoccupational causes.

Because repeated examinations properly spaced are required to establish the accuracy of losses of hearing, and because the length of time required to arrive at such accuracy may differ among various claimants tested, and because the routine processing of claims requires a uniformity in this regard, an arbitrary waiting period of six months has been accepted by such medical bodies as the American Medical Association, the American Academy of Ophthalmology and Otolaryngology, and their various committees dealing with the deaf and the hard-of-hearing. In Wisconsin the waiting period has been officially designated as six months; in New York the waiting period has unofficially been designated as six months.

Excerpts from Report of Committee of Consultants on Occupational Loss of Hearing

May we suggest that doctors interested in current ideas and thoughts pertaining to industrial noise and occupational deafness send for the "Report of the Committee of Consultants on Occupational Loss of Hearing," a pamphlet which may be obtained by addressing the New York State Workmen's Compensation Board, State Office Building, Albany 1, New York.

Here are a few samples of the type of information it contains:

Question 1: Under what circumstances does a noisy industrial environment present an occupational loss of hearing hazard?

Answer: "1. Most persons exposed for several hours daily to noises at intensity levels about 120 decibels, whatever the 'composition' of the noise, will in a matter of months suffer permanent damage to hearing.

"2. Most industrial noises at 'over-all' levels of 100 to 120 decibels exposure for several hours daily for a long period of time will cause permanent damage to hearing in a considerable proportion of persons, the proportion being higher the more closely the noise approaches the intensity level of 120 decibels and the more the noise is dominated by high-pitched components.

"3. The hearing of a few very susceptible persons may be permanently damaged by exposure for many years to certain noises at levels between 90 and 100 decibels."

Question 1 (d): Which test is most suitable, for workmen's compensation purposes, to measure noise hazard in the work environments?

Answer: "The only practical method by which industrial noise can be measured with a degree of accuracy sufficient for workmen's compensation purposes is a sound level meter.

"Sound level meters yield reliable measurements only when they are properly used by persons specially trained.

"For workmen's compensation purposes, your committee regards it as extremely important that the 'composition' of each industrial noise, as well as the 'over-all' level of intensity, be determined. In other words, a so-called band analysis should be made to determine the intensities of each of the several components of the noise."

Question 2: What period of time away from noisy environment is necessary before accurate appraisal of permanent hearing loss can be made?

Answer: "Until the time that research evidence is available on which to base a precise answer, your committee is of the opinion that the present policy of the Board in this matter should be continued, namely, that appraisal of permanency of an occupational hearing loss be made after an interval of not less than six months after the cessation of exposure to the injurious noise.

"The committee further recommends that no settlement of a claim be made unless the hearing loss has become stabilized and believes that if hearing has changed since cessation of exposure to noise, determination of stabilization should be based on a minimum of three examinations made at least one month apart."

Question 4: What is compensable hearing loss, i.e., hearing loss as to high frequency sounds or ordinary speech sounds, etc.?

Answer: "The ability to understand speech is, for almost all persons, the aspect of the hearing function of most importance in everyday social and economic activities, and therefore it should be the basis for compensation awards in cases of occupational deafness. Losses of hearing for the tones of high frequency that do not affect the understanding of speech should be given consideration in the making of awards only in those rare instances in which the claimant has customarily worked at tasks for which good hearing for tones of these high frequencies is a prerequisite for employment."

Question 3(b): Should evaluation be given to the age factor in fixing percentage loss of hearing due to work hazards?

Answer: "A proper allowance for 'normal' aging effect on hearing is one-half of one per cent (0.5%) for each year that a person is older than fifty years; below that age no allowance is made.

"Because for any given individual the recommended allowance is only an approximation, the committee believes that if the Board so desires, it would be fair to everyone concerned, except for those at the extremes of the age groupings, to make a flat allowance of five per cent (5%) for all persons between the ages of fifty-one years and sixty years inclusive, and of ten per cent (10%) for all persons more than sixty years of age."

Present Status of Problem of Industrial Noise and Occupational Deafness

Issues in the problem of industrial noise and occupational deafness remain acute and critical. In their efforts to make the best of a bad situation, labor, industry, workmen's compensation boards, industrial commissions, and compensation underwriters are constantly jockeying for positions advantageous to their own points of view.

In the meantime management, acoustic engineers, physicists, research workers, and others are studying the types and intensities of noise that can and do produce an occupational deafness. They are working (and succeeding) in their efforts to reduce damaging noise in the steel plants where it exists, and more important, they are forcing the manufacturers of noisy machinery to meet exacting noise-control specifications, a requirement heretofore considered impossible.

277 ALEXANDER STREET

(*Number four of a series on Recent Advances in Medicine and Surgery*)

M.D.'s Urged to Keep Detailed Records as Protection Against Malpractice Judgments

William F. Martin, chief legal counsel of the Medical Society of the State of New York, warned in the January issue of *Medical Economics* that "Failure to keep adequate, detailed records" is costing some doctors a pretty penny in adverse malpractice judgments. So serious is the failure, he asserted, that while "only one in eight malpractice suits reveals actual negligence on the doctor's part . . . the doctor loses one case in four." If physicians want to change these figures, he emphasizes, they must have "carefully-kept files of legible, logical and complete medical records."

What he considers to be adequate record-keeping—

"It pays to record every basic fact in every case, with particular attention to names and dates. No jury believes that a busy physician can possibly remember the history, examination, and treatment of all his patients," so a doctor should keep "written records of the patient's complaint, the physical findings, and the treatment prescribed, plus copies of laboratory, x-ray, and consultants' reports."

"It pays to write out complicated instructions, or any instructions to balky patients." Doctors should remember "that oral evidence alone has led juries to some wild conclusions."

"It sometimes pays to make clear to the patient in writing that you're not guaranteeing the result . . . Without something in writing, alleged-guarantee cases are hard to defend."

"It sometimes pays to keep records permanently." Statutes of limitations, for instance, don't protect defendants "in cases involving concealment, fraud, or a minor."

Therefore, "it's best to retain case records of active patients indefinitely."

Familial Leptocytosis

PHILIP R. CASESA, M.D., BROOKLYN, NEW YORK

(*From the Veterans Administration Regional Office, Brooklyn*)

IT IS the purpose of this report to describe a study made on 53 patients with familial leptocytosis in the Outpatient Clinic of the Brooklyn Regional Office.

Familial leptocytosis is one form of congenital hemolytic anemia which is frequently overlooked in diagnosis or is incorrectly treated, usually as an iron deficiency anemia, with no effective results. The routine blood studies performed in the examination of veterans in this clinic have resulted in the detection of 53 such cases within a relatively short period of time. This seems to indicate that the phenomenon has a greater morbidity in varying degrees than is currently appreciated and that a keener awareness of the condition is necessary in accurate diagnosis of the anemias. The absence of sickling, the presence of a negative Coombs test, and the demonstration of alkali-resistant hemoglobin in the blood of patients give strong evidence supporting the diagnosis of familial leptocytosis.

Familial leptocytosis, thalassemia, or Cooley's anemia is apparently an ancient disease. Anthropologic studies indicate it may have been present in Sicily in paleolithic times.[1-3] However, it was first identified as a separate entity by Cooley and Lee[4] in 1925 and again by Cooley, Witwer, and Lee[5] in 1927. They described a series of cases of anemia with splenomegaly and peculiar bone changes occurring in children of Greek, Italian, Syrian, or Armenian descent. The cases presented the following similar findings: (1) chronic, progressive anemia of early life, (2) hepatosplenomegaly, (3) muddy, yellowish discoloration of the skin, (4) thickening of the cranial bones and malar eminences with mongoloid facies, (5) changes in the bones due to bone marrow hyperplasia, (6) leukocytosis of varying degrees, (7) peripheral normoblastosis, (8) hypochromic anemia. This condition was called Cooley's anemia or erythroblastic anemia. The clinical picture in some of the cases resembled that of Von Jaksch's anemia.

In 1925 Rietti[6] described a milder form of hemolytic jaundice with decreased osmotic fragility, which was later shown to be familial in character.

In 1932 Cooley and Lee[7] indicated their firmer belief that erythroblastic anemia was a definite clinical entity. In their experience and from reports (verbal and published) from various clinics, the disease was not rare in children of Mediterranean ancestry, especially the Greeks. Their position was fortified by the careful studies of later investigators[8-11] who recognized a mild form of the same disease that was at times asymptomatic in adolescents and adults in several Italian families.

Several names have been applied to this disease, i.e., target cell anemia and thalassemia. This disorder is probably a hereditary anomaly of erythroblast formation, a possibility mentioned by several students of Cooley's anemia. Although there is evidence of blood destruction in the circulation, it is not so striking as the signs of greatly exaggerated erythropoiesis. Leptocytosis can be placed in the same category as familial hemolytic icterus and sickle cell anemia, two conditions with which it has much in common. Leptocytosis is encountered for the most part in people of Italian, Greek, Syrian, and Armenian ancestry who originally lived in the areas of the Mediterranean shores; hence the name "thalassemia," from a Greek word meaning "the sea"[12] and the older term "Mediterranean disease." However, it has been reported from many other nations of the world, such as in children of Chinese,[13-16] Egyptian,[17] Spanish,[18] Filipino-French,[15] German,[15,19] Mexican,[15] Negro,[20,21] Indian,[22] Swiss,[23] and Australian[24] parents.

In 1944 Valentine and Neel[25] reviewed the genetic problem and pointed out that the data tend to favor the concept that Cooley's anemia and Cooley's trait are related as homozygote and heterozygote. Neel and Valentine,[26] in their 1945 study done in Rochester, New York, estimated that the mild form of the disorder occurs in one of 25 Italians and the severe form of the disorder in one of 2,368 births in the Italian population of that city.

Classification

Astaldi, Tolentino, and Sacchetti[1] in the Italian literature described three forms of this disease, which I have used as the basis of the following classification:

1. *Major form:* childhood type, formerly described as thalassemia major, or Cooley's anemia, or erythroblastic anemia; homozygotic condition; fatal disease.

2. *Minor type:* adult type, formerly described as thalassemia minor, target cell anemia, Cooley's traits, or Rietti-Greppi-Micheli disease; heterozygotic condition; disease compatible with the continuance of life.

3. *Minima type:* formerly described as thalassemia minima or microcytemia of Silvestroni and Bianco; heterozygotic condition; hematologic condition without illness; carrier condition.

The bone marrow in all three forms is hyperplastic with an increase in erythroid elements.

FAMILIAL LEPTOCYTOSIS MAJOR.—Also called the childhood type, thalassemia major, Cooley's anemia, or erythroblastic anemia, this is a homozygotic fatal condition. It occurs with an insidious onset, chiefly in children. The full-blown clinical picture is characteristic. The child is small but has a large head. There may be stunted physical development with pallor, which may be present from birth or may develop soon after the first two years of life. Hepatosplenomegaly occurs during this time and may be especially prominent. The spleen may reach enormous size and often can be seen reaching the crest of the ilium. There may be periodic attacks of fever. Symptoms of chronic progressive anemia of early life may occur from two months on with peripheral normoblastosis, hypochromic anemia, and leukocytosis of varying degrees. Muddy discoloration of the skin occurs quite frequently.

Thickening of the cranial bones and malar eminences with resulting mongoloid facies is also seen quite frequently. Changes in the bones, such as thickening of the diploë of the skull to several times the thickness of the normal, are due to bone marrow hyperplasia and may be quite striking.[27,28] The outer and inner tables of the skull are thinned out, and perpendicular striations appear between the tables, displaying hair standing erect on the scalp picture. In the long bones there is decreased density of the medulla, thinning of the compact bone of the cortex, and widening of the bones due to increase in the medullary portion. In the short bones, trabeculation of the medulla occurs, which gives the bones a mosaic pattern. These peculiar changes of the bone structure have been observed in children at the early age of four and one-half months.[28] In spite of the changes pathologic fractures are uncommon.

Blood changes show the presence of a pronounced anemia, the red cell count varying from 1,000,000 to 4,000,000. The hemoglobin and hematocrit (volume of packed red cells) may be even greater, thus bringing the anemia into the hypochromic, microcytic type. The appearance of the red blood corpuscles in blood smears is characteristic. Anisocytosis and poikilocytosis are present. Target cells are considered one of the features of this disease and are found abundantly in the major type, as compared to the few found in the minor and minima types. The coloring matter present may outline only the periphery or may form a circular area in the center, the so-called "target." There may be a bridge joining the central and peripheral areas. Sometimes the cells appear rigid or folded. Few fully colored cells are seen. The distortions are even more evident in wet preparations. Another characteristic finding is the presence of nucleated blood cells, the majority of which are typical normoblasts and microblasts. In addition to these signs of active red blood regeneration, many polychromatophilic cells, a large number of stippled cells, and occasional corpuscles with Howell-Jolly bodies are found. Reticulocytes are present, often in concentrations varying from 5 to 15 per cent. Fragility of the red blood cell is not increased, but there seems to be an increase in hypotonic resistance. Leukocytes are often increased and are found in values from 10,000 to 50,000. A few or many myelocytes and myeloblasts may appear in the peripheral blood. The platelet count is not remarkable.

The icteric index may be slightly to moderately increased and has been reported in values as high as 30 to 40. The van den Bergh reaction is positive, indirect. The urine may contain moderately increased quantities of urobilinogen. The feces contain large amounts of coproporphyrin. Jaundice may or may not be present.[7]

In the major form of leptocytosis we can distinguish three subgroups, based more or less on the time of inception and the severity of the condition:

1. The first subgroup, which is more serious, begins at a very early age, in two to three-month-old infants. The clinical course is rapid and fatal, and it takes a few months for the characteristic lesions of the bones to appear.
2. The second subgroup is a more chronic form, occurring in preschool and school-age children. Its signs and symptoms usually begin in the second half of the first year, but its characteristics are less well known.
3. The third subgroup is the adult form, which is less severe than the first two, and begins after the first or second year of life. The blood changes can be very intense in this form, and the bone lesions may or may not appear.

The course of the disease is steadily downhill and often results in death before puberty, usually due to intercurrent disease. Some cases survive to adulthood.

FAMILIAL LEPTOCYTOSIS MINOR.—Thalassemia minor, target cell anemia, Rietti-Greppi-Micheli disease, or Mediterranean disorder, as it is also named, is seen frequently in adolescents and adults and is compatible with long life. It is a heterozygotic condition. While the disease shows many characteristics of the major type, the course is relatively mild. Patients show good physical development; slight pallor; slight jaundice; hepatosplenomegaly; bone changes such as slight osteoporosis; moderate hypochromic, microcytic anemia; slight reticulocytosis, and stippling of red blood cells. The disease is refractory to iron and liver therapy. In compensation for the hypochromia and microcytosis the red cell count may actually be higher than normal. Target cells are present. There is a striking increase in resistance to hemolysis by hypotonic saline solutions. Fatigue, dyspnea on exertion, digestive disturbances, and erythroblastic hyperplasia of the bone marrow are more intense than in the minima type.

FAMILIAL LEPTOCYTOSIS MINIMA.—Familial leptocytosis minima or microcytemia of Silvestroni and Bianco is a heterozygotic, hematologic condition without illness. Slight osteoporosis may be present. This condition is not serious for the patients since they are free of symptoms, but inasmuch as they are considered carriers of the disease, they represent a risk for their children. When these patients are mated with healthy individuals, their children may be afflicted with leptocytosis minima or minor; when these patients are mated with individuals with the same condition, their children may be afflicted with Cooley's anemia or thalassemia major. Patients afflicted with leptocytosis minima are carriers of the hematologic anomaly.

Pathogenesis

A review of the existing Italian literature indicates the following pathogenesis of leptocytosis.[1,29] A spontaneous mutation of the red cells occurred in the ancient race about the Mediterranean Sea, which inserted itself in the ethnic structures of some countries (mainly, Italy and Greece). The inherited defect consists of a morphologic alteration of the red blood corpuscles. The cell is formed with an adequate or excessive membrane, which contains little hemoglobin substance, so that the cell appears to be thinner (leptocyte) and of a smaller volume (microcyte) than the standard normal red blood corpuscle.[1,30] As a result such a red blood corpuscle shows an increased resistance to hypotonic saline solution. It also possesses a life span of shorter duration than the normal cell which in vivo results in corpuscle losses.[1,31] This condition causes a chronic stimulation of the bone marrow with medullary hyperplasia of the erythroblastic series. Immature cells showing stippling, polychromatophilia, and erythroblastosis appear in the blood. The bone marrow becomes hyperactive (erythroblastosis), and osteoporosis occurs (x-ray observation), as well as splenomegaly. Erythrocytes, together with leptocytes and microcytes, and the increased resistance to hypotonic saline solution make up the features of the peripheral blood picture.

Studies of spleen[1] activity and observations after splenectomy do not substantiate the existence of a hypersplenism in leptocytosis. Some authors feel that there may possibly be a hyposplenic condition. The Italian writers suggest that the medullary erythroblastosis of leptocytosis is a result of increased peripheral destruction of these cells. Osteoporosis demonstrable by x-ray observation may occur despite the presence of little or no anemia and even in the face of an actual increase in the red cell count above normal (polycythemia). In vitro the red blood cells possess increased resistance to destruction with hypotonic solution of sodium chloride, yet in vivo there is evidence of increased red blood cell fragility.

Familial leptocytosis is today included in the same category as familial spherocytosis or hemolytic anemia and sickle cell anemia. Sickling is generally not present, but chronic hemolytic anemia due to thalassemia and sicklemia was found by Powell, Rodarte, and Neel[32] in the United States in 1950. They demonstrated that in their patient's pedigree the gene responsible for sickling was inherited through one side of the family and that for thalassemia through the other, resulting in an individual who possessed both of these genes in the heterozygous state. Eight similar cases have been reported from Italy.[33] Sturgeon, Itano, and Valentine[34] in March, 1952, described a family of Sicilian ancestry displaying sickle cell traits and leptocytosis minor. Silvestroni and Bianco[35] described five families exhibiting the same phenomena. Wasserman, Phelps, and Hertzog[36] in 1952 described a case of chronic hemolytic anemia in a white child due to thalassemia and sicklemia.

Ulceration of the skin of the legs may occur in Mediterranean disease. Such ulceration cannot be distinguished grossly from that occurring in sickle cell anemia and congenital hemolytic icterus. The outstanding histologic feature (noted at biopsy of one of these ulcers) is the prominent deposition of iron in the cutis.[37]

Biliary calculi[38-41] may occur as a complication of mild or severe familial leptocytosis, as in spherocytosis or sickle cell anemia, probably due to marked precipitation of bilirubin resulting from excessive destruction of red blood cells. Exogenous hemochromatosis[42] in Mediterranean anemia[9,28] has been reported as a result of many blood transfusions given over a period of years. Schwartz and Blumenthal,[43] who had collected five such cases and added eight more from the medical literature, first described this disease and suggested the term "exogenous" hemochromatosis. Other writers have noted that the histologic pictures show a simple hemosiderosis in the organs of the reticuloendothelial system[44] and that it is improbable that multiple blood transfusions may lead to "genuine" hemochromatosis with fibrocirrhosis of the glandular organs.[44-46] Cottier[44] believes that the rare cases of genuine post-transfusion hemochromatosis in Cooley's anemia described in the literature are not really the result of blood transfusions but must have existed previously.

Course and Prognosis

Familial leptocytosis is a progressive disease without crises or remissions. In this respect it is unlike general hemolytic anemia and sickle cell anemia. The classic disease is fatal. In general, the earlier the disease appears, the more rapidly fatal it is. Death usually occurs because of an intercurrent infection. In contrast to the major form, in the minor and minima types, in which the clinical picture is less severe, there may be little or no impairment of health or longevity.

Treatment

There is presently no effective treatment for familial leptocytosis. Iron, with or without copper and with or without vitamin B_{12}, liver, spleen extract, adrenal cortical extract, plasma, cell extracts, hormones, etc., have been of no avail. This is the only form of hypochromic, microcytic anemia which is not affected by iron therapy, a fact which has been used by hematologists as a diagnostic test. In cases which were doubtful, splenectomy has been performed, but the results have proved of no great value. Splenectomy has also been done on patients who developed other complications of splenomegaly and has not been found particularly effective, a not unexpected result in view of the evidence that the disease is primarily an abnormality of blood formation rather than of blood destruction. Blood transfusions are of great value but only of temporary benefit. At times these must be given over a long period in order to maintain levels compatible with normal life. Some children, with the aid of rapid transfusions, have been able to live to and beyond the adolescent stage.

Recently observations have been made on the favorable response of leptocytosis to cobalt.[19,47,48] In a report of 14 cases Muratore[48] found that the red cell count responded more quickly than did the hemoglobin. Occasionally, several weeks were required for maximal results which in some cases amounted to an increase of 2,000,000 in red cell count and 30 per cent in hemoglobin. The values for mean corpuscular volume, fragility, and plasma bilirubin were not affected. The element is given as cobaltous chloride ($CoCl_2 6H_2O$). The usual dose is 100 mg. (4 cc. of a 2.5 per cent solution) taken by mouth, three times daily after meals, well diluted with water. It is possible to give cobaltous chloride by intramuscular or intravenous injection, 5 to 10 mg. daily. For the intravenous route a

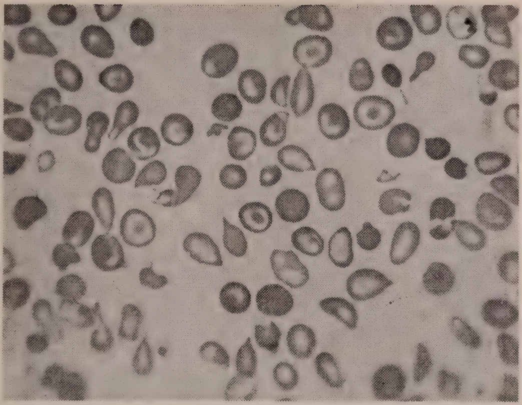

FIG. 1. *Case 1*—Blood smear in a case of familial leptocytosis. Note hypochromia, target cells, poikilocytosis, and anisocytosis.

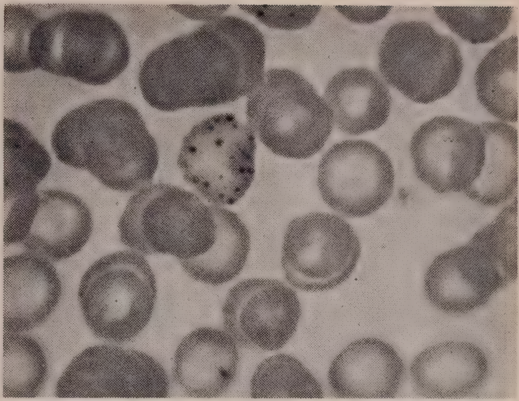

FIG. 2. *Case 2*—Note basophilic stippling and hypochromia.

0.5 or 1 per cent solution in 5 per cent dextrose may be employed. Some patients may suffer nausea and vomiting on cobalt therapy; others may experience anorexia or mild gastrointestinal symptoms, particularly after several weeks of therapy, and others may have no side-effects. Berk, Burchenal, and Castle[47] suggest that until more is known of the action of cobalt, its use should be cautious and should be restricted to the treatment of anemias resistant to accepted forms of therapy.

Prophylaxis is based on the fact that the danger deriving from the union of two individuals affected by thalassemia minima must be divulged.

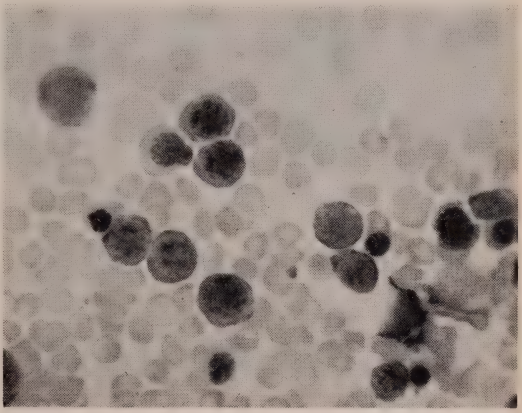

FIG. 3. *Case 27*—Marked hyperplasia of erythroid series in bone marrow.

Observations Establishing the Diagnosis

CLINICAL MANIFESTATIONS.—All of the veteran patients studied were male adults ranging from the ages of twenty-two to sixty-three, the average age being thirty-seven. Of the 53 patients studied, 49 were Italians, one Negro, one Greek, and two Chinese. The physical examination revealed hepatomegaly in varying degrees in four cases and splenomegaly in seven cases. Leg ulcers were not observed in any of the patients. Cholelithiasis was observed in four cases. One patient (Case 2), whose brother is a known case of leptocytosis, had a splenectomy done at the age of twelve for an injury and not because of the anemia. His present condition is excellent.

HEMATOLOGIC CHANGES.—The hematologic values varied as follows: red blood cell counts from 3,300,000 to 6,100,000 per cu. mm., the average being 4,800,000. Many of these patients had received adequate iron therapy without definite improvement of the anemia. Hemoglobin varied from 6.2 to 14.4 Gm. per 100 ml. of blood, the average being 12.4; number of leukocytes from 2,900 to 12,100, an average of 7,370; platelets from 6,200 to 755,800, an average of 251,436; reticulocytes, 0 to 2.5 per cent, an average of 0.7 per cent; hematocrit from 31.9 to 59, an average of 43.8; mean corpuscular hemoglobin concentration from 19.4 to 32.5, an average of 25.7; icterus index from 4.0 to 31.3, an average of 9.16; and the total bilirubin, from less than 0.25 to 9.13 mg. per 100 ml. of blood. The red cells showed hypochromia, microcytosis, anisocytosis, poikilocytosis, leptocytosis, polychromasia, and basophilic stippling (Figs. 1 and 2). The osmotic fragility was decreased in all instances, ranging from 0.3 to 0.46, the average being 0.22/0.42. Target cells were present in 77

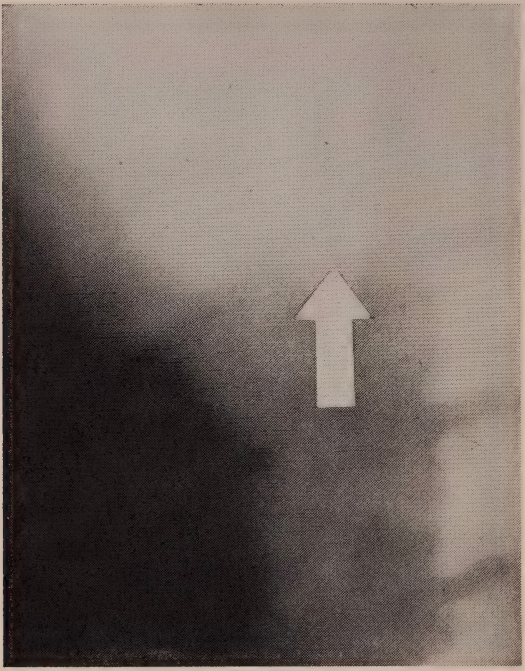

FIG. 4. *Case 27*—Gallbladder containing biliary calculi. Note arrows.

TABLE I.—ROENTGEN FINDINGS IN 53 CASES

	Number of Cases with Positive Findings	Per Cent of Total
Cranial vault		
Thickening of diploic space	0	0
Stippling	1	2
Radial striations	0	0
Osteoporosis	1	2
Tubular bones		
Thinning of cortex	0	0
Increased trabeculation	11	21
Osteoporosis	5	9
No evidence of bone changes	37	69
Gallbladder (cholelithiasis)	4	7

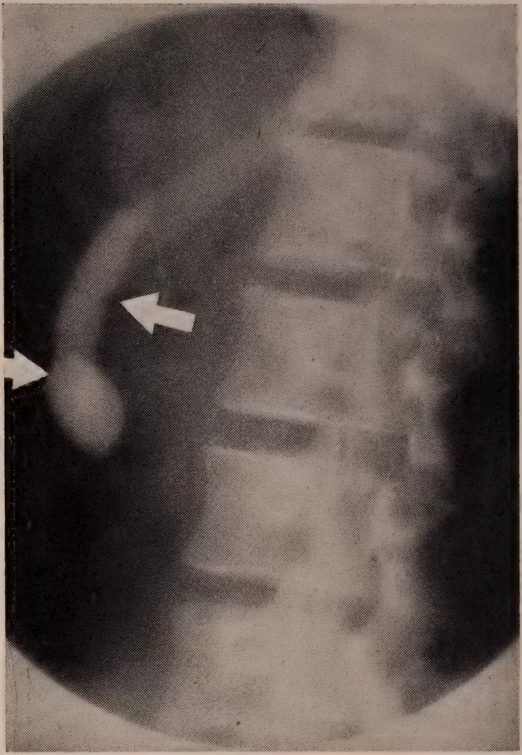

FIG. 5. *Case 34*—Gallbladder containing biliary calculi. Note arrows.

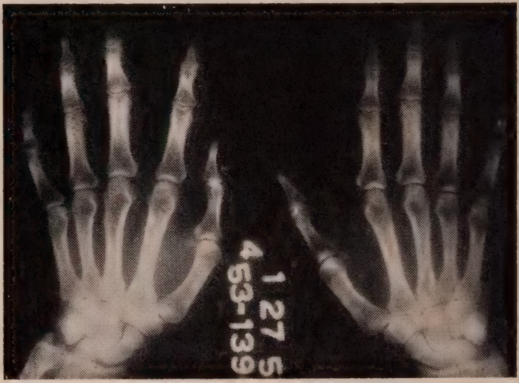

FIG. 6. *Case 27*—Hands of a patient, age thirty-five. Note osteoporosis of hands.

per cent of the cases (Fig. 1). Coombs test was negative in 100 per cent of the cases.

BONE MARROW CHANGES.—Bone marrow aspirated from the sternum was extremely cellular (Fig. 3). The myeloid-erythroid ratio varied from 1:0.12 to 1:4.7.

ROENTGENOGRAPHIC STUDIES.—The findings of the roentgenographic studies made on the 53 patients are summarized in Table I. The tubular bones showed increased trabeculation in 21 per cent of the cases and osteoporosis in 9 per cent of the cases. In 37 cases no bone abnormalities could be demonstrated. In 5 per cent of the cases gallstones were found (Figs. 4 and 5). Representative films demonstrating the stippling, the osteoporosis of the skull, the increased trabeculation and osteoporosis of the bones of the hand and spine are illustrated in Figs. 6, 7, and 8. Changes in the skull were shown in one case of stippling and in one case of osteoporosis. The roentgenographic abnormalities found in patients in this series are similar to those described in other studies.[27,28,49-51]

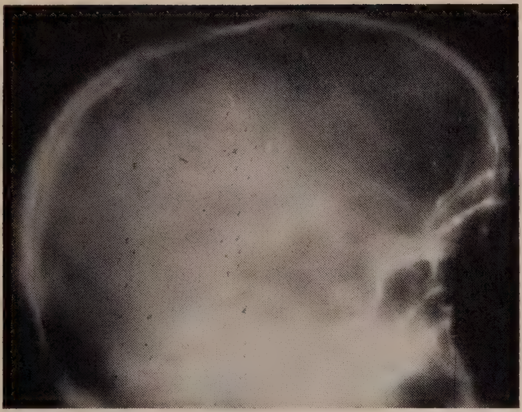

Fig. 7. *Case 29*—Skull of a patient, age forty-two. Note the granular texture of the diploë.

Urinary Changes.—The urine urobilinogen was increased in all cases with positive tests being obtained on dilutions of 1:30 and 1:1,000.

Hepatic Function Tests.—Hepatic function tests were done on 48 cases. There were eight cases in which the serum bilirubin was elevated. These elevations ranged between 1.13 and 2.3. Twelve cases had elevations of the serum globulin ranging from 3.25 to 3.83. One case had a bromsulfalein retention (thirty minutes) of 30 per cent. Nine cases had an increase of cephalin flocculation in forty-eight hours, five showing 2 plus, one 3 plus, and three 4 plus.

Alkali-Resistant Hemoglobin

It has long been known that the hemoglobin of the red cell of the fetus is different chemically from that of adult red blood cells. It is possible by electrophoresis to demonstrate differing mobilities for these two types of hemoglobin, but a more common method of differentiation is that based on resistance to alkali denaturation.[52] Fetal hemoglobin shows a greater resistance to alkali denaturation. It has been demonstrated[53] that about midway in gestation approximately 6 to 7 per cent of the hemoglobin is of the normal adult variety, while the remainder (93 to 94 per cent) is of the fetal type. At birth 55 to 98 per cent is still of the fetal type, but by two months of age this amount drops to approximately 46 per cent and at four months to about 10 to 12 per cent. At the end of the first year of life virtually all of the hemoglobin is of the adult variety. Small amounts (1 to 2 per cent) of fetal hemoglobin have been found to be present later in life in a variety of chronic anemias. The exact significance of this observation is not known at present.

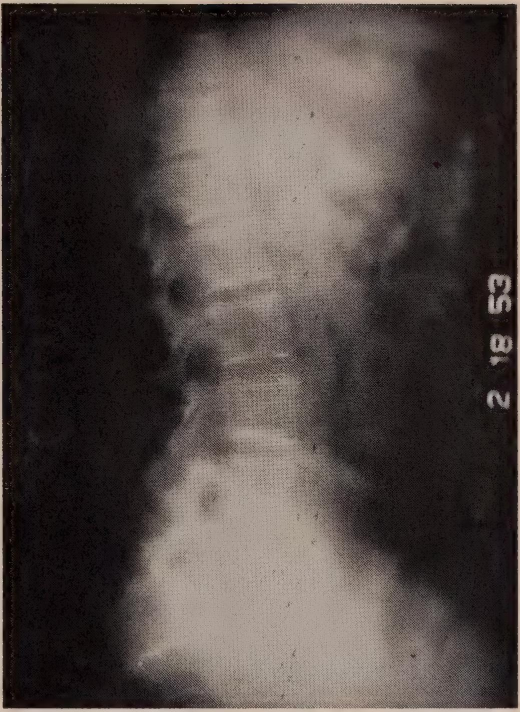

Fig. 8. *Case 27*—Spine of a patient, age thirty-five. Osseous structures show slight osteoporosis.

Alkali-resistant or fetal hemoglobin has frequently been demonstrated in the blood of patients with Mediterranean anemia.[54–60] Singer, Chernoff, and Singer[61] found this fraction in sickle cell anemia, Mediterranean anemia, and in some cases of hereditary spherocytosis. Of great interest is the observation that 40 to 60 per cent of the hemoglobin in thalassemia major is of the fetal type,[57,61] a high proportion, looked upon as a compensatory continuation of an embryonic or fetal mechanism.

The absence of sickling, the presence of a negative Coombs test, and the demonstration of alkali-resistant hemoglobin in the blood of the patients included in this report present strong evidence supporting the diagnosis of familial leptocytosis. Fetal hemoglobin determinations were performed on 40 of the 53 patients. Twenty-seven specimens contained definitely abnormal amounts; 1.8 to 2.0 per cent, nine cases; 2.0 to 3.0 per cent, 12 cases; 3.0 to 6.0 per cent, three cases; 6.0 to 8.0 per cent, two cases; 12.1 per cent, 1 case.

Fetal Hemoglobin Procedure.—Essentially, the alkali-denaturation method employed consists of exposing a measured quantity of hemoglobin to the action of an alkaline reagent for an exact period of time. The denaturation process is then interrupted by means of a solution which simultaneously lowers the pH and precipitates the nonhemoglobin chromogens. After filtration the unaltered hemoglobin is determined in a Beckman spectrophotometer at 540 millimicrons, expressed as a percentage of the initial amount of hemoglobin.

Comment

Familial leptocytosis apparently is the most common hemolytic anemia seen in this clinic. Many male veterans were found to have a mild form of the disease, but no attempt was made to determine the frequency of the trait among the population. It is a condition which is frequently overlooked and placed in the category of iron-deficiency anemia. The mechanism responsible for the anemia in leptocytosis is not too well understood.

Summary

1. Fifty-three adult male patients with familial leptocytosis were studied in the Outpatient Clinic of the Brooklyn Regional Office. A review of the literature and diagnostic criteria are presented. All cases fulfilled these requirements.

2. In addition to the classic blood findings, the following observations are presented: (*a*) fetal hemoglobin, (*b*) x-rays of long bones, skull, hands, and gallbladder, and (*c*) liver function tests.

3. Fifty-one per cent of the patients studied were found to have abnormally high amounts of fetal hemoglobin.

4. Tests for liver function, plasma protein fractions, cephalin cholesterol flocculation, bromsulfalein retention, and bilirubin are reported for 91 per cent of the cases.

5. A short résumé on hemoglobinopathy is presented relating to familial leptocytosis.

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Parkinson's Disease Therapy Outlined

Two advances in the treatment of Parkinson's disease (paralysis agitans) were reported in the February 8 *Journal of the American Medical Association.* The drug ethopropazine (Parsidol) hydrochloride was called by a group of New York researchers "an outstanding addition" to the treatment available for Parkinson's disease, sometimes called "shaking palsy." Reported in another article was the development of electronic apparatuses which measure the effectiveness of medicine by checking the amount of tremor and muscle rigidity (both major manifestations of the disease) present in a patient. Lack of such a method has deterred the development of satisfactory treatment for the disease.

Ethopropazine was given to 147 patients with Parkinson's disease, which is a progressive nervous disease of later life. It also is characterized by a mask-like expression, weakness, a slowing of voluntary movements due to muscle rigidity, and a peculiar gait and posture. The researchers said that ethopropazine in the proper dosage is a highly potent but safe remedy for the control of tremor and rigidity.

Against the more severe types of tremor, ethopropazine was more effective than any other drug in current use, they said. However, its effectiveness is limited in neurotic and emotionally unstable patients. Improvement in tremor and rigidity was noted in 66 patients given the drug. It helped control major tremor in 29 of 42 patients and minor tremor in 36 of 67 patients with that symptom. Uncontrolled major tremor so affects the nervous system that patients do not have "a moment of relaxation or peace of mind during the waking hours," they said.

Ethopropazine proved valuable in 11 of 17 patients with insomnia. Pronounced improvement in muscular rigidity was achieved in 38 of 92 patients, and the drug helped gait, posture, and speech in 26 of 41 patients. No serious side effects were observed, with 49 patients entirely free of them. Over half of the patients reported reactions which they called "drowsiness," "fogginess," "dizziness," "inability to think" or "lassitude." Also mentioned were blurring of vision, numbness of arms and feet, and dryness of mouth.

Thirteen patients were tested with the various electronic apparatuses during ethopropazine treatment and while taking placebos, preparations given in place of real medicine. The measurements showed that ethopropazine caused a 20 to 70 per cent reduction in tremor in nine of the 13 patients. Improvement in rigidity was noted in about half of the patients.

The report on the ethopropazine treatment was made by Lewis J. Doshay, M.D., Kate Constable, M.D., and Frederic J. Agate, Jr., Ph.D., of the Neurological Institute of the Presbyterian Hospital and the Departments of Neurology and Anatomy, College of Physicians and Surgeons, Columbia University, New York City. F. Kingsbury Curtis, B.A., assisted Drs. Agate and Doshay in preparing the paper on measurements.

Treatment of Angina Pectoris with Mercurial Diuretics

IRA L. RUBIN, M.D., NEW YORK CITY, AND JULIAN FRIEDEN, M.D., NEW ROCHELLE, NEW YORK

THE evaluation of any therapy for the anginal syndrome is very treacherous. The effectiveness of such therapy is determined by the response of the patient, a subjective phenomenon. Depending solely on the patient's response is not a good criterion, but in dealing with angina there are no objective criteria that can be used for better evaluation. Further difficulties lie in our scant knowledge of the mechanism of anginal pain and in the variation in symptomatology with emotional and environmental factors which are beyond control of the observer.

Of the many forms of therapy which have been tried in angina, the most effective over the years has been nitroglycerin. Other medications have been of less clinical value. Paul[1] recently described the use of mercurial diuretics in the treatment of angina decubitus and had excellent results in five cases. Prior to this report and subsequently, little mention has been made of this therapeutic agent.

A group of patients has been followed in the private practice of one of us (I.L.R.). These were selected from a large group of ambulant patients with anginal syndrome. All had clinical and electrocardiographic evidence of arteriosclerotic heart disease, were severely afflicted with angina, and were poorly controlled with nitroglycerin. In all cases following mercurial injection there was marked diminution of the frequency and severity of angina with improved exercise tolerance.

Case Reports

CASE 1.—B. P., a fifty-eight-year-old, white accountant, was essentially asymptomatic until 1945 when he had an acute myocardial infarction. When the patient was first seen in 1948, an electrocardiogram revealed a healed anteroseptal infarct. Mild precordial pressure with exertion was promptly relieved with nitroglycerin. A second myocardial infarction occurred in July, 1949. This was followed by severe, persistent angina, characterized as "vise"-like precordial oppression. The patient has required as many as several hundred nitroglycerin tablets monthly. There has never been evidence of congestive heart failure, and mild dyspnea has been noted only during moderate exertion.

Treatment with mercurials was started in 1952. Following mercurial injections there was a consistent relief of symptoms. There was a marked diuresis, and for several days he was able to increase activity and greatly reduce the use of nitroglycerin. In April, 1953, another myocardial infarction occurred, followed by improvement and then worsening of his angina. For almost three years he required two injections weekly in order to have sufficient relief from his angina to enable him to work. Recently, his angina has eased, and he requires injections at one to two-week intervals only. Physical examination at present reveals blood pressure 120/80 mm. Hg. The sole finding is the liver edge, palpable one or two fingerbreadths below the costal margin. The residual electrocardiographic changes are deep Q waves in leads II, III, and aVF.

CASE 2.—J. S., a fifty-two-year-old, white plumbing foreman, had an anterior wall myocardial infarction in 1944, followed by mild angina controllable with nitroglycerin therapy. A second infarction occurred in 1951. Since then precordial pain radiating into both arms has persisted. The pain follows mild exertion and is usually associated with dyspnea.

In the past the patient had evidence of mild congestive failure, manifested by slight ankle edema and weight gain. He was placed on a low-salt diet and digitalis. Without additional mercurial diuretics he was unable to work because of angina and dyspnea. Following mercurial-induced diuresis he had marked relief of angina and dyspnea. He is now able to work without great difficulty and requires considerably less nitroglycerin. When a low-salt diet is not followed, severe angina and dyspnea recur, preventing even mild exertion (walking one block). At such times a mercurial injection restores his ability to work. Physical examination at present is unremarkable except for occasional peripheral edema. Blood pressure is 126/80 mm. Hg and always within normal limits. Residual electrocardiographic changes are deep Q waves with inverted T in II, III, and aVF; low diphasic T in aVL and V_6, and inverted T in V_4 and V_5.

Case 3.—S. K., a fifty-nine-year-old manufacturer, was well until 1941 when he suffered his first myocardial infarction. He had an uneventful recovery, and until June, 1953, he required only occasional nitroglycerin tablets for mild angina. At this time he had an attack of severe precordial pain which was treated with bed rest, although there was no definite electrocardiographic evidence of a recent infarction. Since then he had had frequently recurring episodes of angina, described as "pressure," with pain in upper back and both arms, usually relieved with nitroglycerin. The attacks came frequently during sleep and were relieved by sitting up and taking a nitroglycerin tablet. Despite mild exertional dyspnea there were no objective manifestations of congestive heart failure.

He was placed on a low-salt diet and bimonthly mercurial injections. Following these injections he was considerably relieved for several days, required no nitroglycerin, and had no dyspnea. There was usually a slight diuresis following the injections. Any increase in salt intake caused an exacerbation of the angina. In the past few months, because of increasing frequency of anginal attacks and need for weekly mercurial injections, he has been digitalized. Since the use of digitalis he has had less angina decubitus. Physical examination reveals multiple neurofibromas, a liver palpable one or two fingerbreadths below the costal margin, and blood pressure 136/80 mm. Hg. There is no objective evidence of heart failure. Electrocardiogram reveals depressed ST segments with diphasic T in I, aVL, and V_4, V_5, and V_6.

Case 4.—L. F., a forty-nine-year-old, white accountant, was well until August, 1950, when he sustained a myocardial infarct, confirmed by electrocardiograms and clinical course. After recovery he had mild angina which was relieved adequately by nitroglycerin. In July, 1952, he was hospitalized for severe persistent precordial pain. Serial electrocardiograms revealed no definite evidence of myocardial infarction. Since that time angina has been severe and is manifested by pressing precordial pain radiating into the left or right arm and often associated with dyspnea. He has been receiving digitalis and has been maintained on a low-salt diet, supplemented by one or two mercurial injections each week. Following a mercurial injection he loses 2 to 3 pounds and notes urinary frequency, and for a variable number of days the angina is less severe. An increased intake of salt causes a fairly prompt increase in the number of anginal attacks. In the past six months 250-mg. Diamox tablets taken one or two times per week have given him relief of angina similar to that noted following the mercurial diuretics. Physical examination reveals a harsh apical systolic murmur, no cardiac enlargement, blood pressure 110/70 mm. Hg. Liver is occasionally one or two fingerbreadths below the costal margin, and occasional slight ankle edema is noted. Two electrocardiograms show a Q in V_1, V_2, and V_3 with small r in these leads and elevated ST segments. There is a deep Q in V_4, V_5, and V_6 and a diphasic T in aVL.

Comment

Both Harrison[2] and Levine[3] discuss the occasional correlation of angina with congestive failure. Levine states, "In fact there are instances in which. . .disappearance of the evidences of congestion is accompanied by the disappearance of anginal attacks."[2] Harrison mentions that "congestive failure may be accompanied by an increase in the frequency and in the severity of the (anginal) attacks."[2] He reasons that the mechanism may well be the increased oxygen need of the myocardium in congestive failure since the oxygen consumption of the heart is dependent in part on diastolic volume. Paul,[1] in his series of patients, observed considerable relief of angina decubitus with mercurial therapy despite little or no evidence of congestive heart failure. Paul suggested that the combination of the mercurial with theophylline might lead to increased cardiac output with improved coronary flow and consequent diminution of pain.

Of the four patients in our series all had definite myocardial damage. All had at least slight exertional dyspnea associated with their angina, and all were on salt-poor diets. Three of the patients spontaneously noted increased angina when salt intake was increased. Only two had objective evidence of failure. All had a great deal of relief from angina following the mercurial injection for one to three days with lesser relief for a few more days. All noted a slight to moderate diuresis. In three patients strict adherence to a low-salt diet and full digitalization decreased their need for mercurial injections. Despite incapacitating angina, with mercurial injections angina was greatly alleviated, and they were all able to return to work. It should be pointed out that these patients were selected from a large group of patients with angina, many of whom received no significant benefit from mercurial therapy.

In our patients we were impressed with the association of exertional dyspnea and angina. This combination of angina and dyspnea we considered to be a manifestation of mild left ventricular failure with diminished cardiac output, increased pulmonary congestion, and increased myocardial oxygen requirements. All of these factors would contribute to and aggravate angina. Following the use of diuretic therapy the patient is less likely to go into left ventricular failure on exertion with lessening of angina.

It is evident that these presentations are based on uncontrolled subjective observations in a disease obviously difficult to evaluate. No objective studies were possible in this type of clinical study, and control injections were impossible since all patients noted a diuresis following the injections. Nevertheless, the fact remains that these four patients were able to carry on active and useful lives with mercurial injections, whereas without them they had crippling angina. It would appear that patients with severe angina and associated dyspnea might well warrant a trial of mercurial injections, even though obvious signs of congestive failure are not evident.

Conclusions

1. The case histories of four patients with angina are presented. Each had definite but temporary relief of angina with mercurial injections.

2. In some patients with angina and associated dyspnea, mild left ventricular failure may increase the frequency and intensity of the angina.

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The Challenge of Obesity

WILFRED DORFMAN, M.D., F.A.C.P., BROOKLYN, NEW YORK

THERE are approximately 30 million overweight persons in the United States today. The excess weight accumulated can be estimated at no less than 125,000 tons or well over 100 billion calories. These figures become meaningful when one realizes the dire effects on longevity and on the general health of the victims. It becomes a challenge with the further realization that these facts are common knowledge.

The only logical cause for overweight is overeating. There is no longer any question about this; the dilemma is to find the causes for the increased appetite. Anyone can lose weight if he eats less. This was proved in the concentration camps during the last war and by placing people in hospitals on measured caloric intake. There may be other factors involved, but the basic one is food.

Racial influences may be present. Witness the stocky build of certain nationalities: the Dutch, the Magyars, the Southern Italians, the Jews, and the Eskimos. Others have a tendency to be lean: the Prussians, the Norwegians, the Scotch, and the Zulus. This is something that one acquires through birth, along with tallness or shortness, blue eyes, or blond hair. It may provide a predisposition to obesity but nothing else. Only the total caloric intake will determine whether overweight will be the result.

Direct parental heredity may also play a role. Almost 90 per cent of all overweight patients have at least one overweight parent.[1] But is it in the genes, or is it the constant environmental exposure to certain high-caloried delicacies?

Preseuted as part of a Symposium on Obesity, Ridgeboro Medical Society, Brooklyn, New York, December 9, 1954.

Animal evidence also points to the possible role of heredity: certain breeds of cattle are fatter; some breeds of dogs are lean (greyhound), while others (chow) are heavier. Identical twins, when reared together, frequently show a similarity in weights, but when they are reared separately, there is a wider weight variation.[2] Heredity also shows its influences in the frequent similarity in the areas of fat distribution in mother and daughter and in the characteristic posterior bulge of Hottentot women.

The Glands

The most important glands, unquestionably, are the salivary glands.

The pituitary gland, formerly considered to be the main culprit, has finally been exonerated. The Fröhlich syndrome in boys is hypothalamic in origin and not due to anterior pituitary deficiency or insufficiency. It is usually functional in etiology but on occasion may be caused by tumor. Simmond's disease, Sheehan's syndrome, and other instances of clinical hypopituitarism are usually accompanied by leanness and emaciation rather than overweight.

The thyroid gland was also frequently indicted. A minus metabolism could "explain everything," and both the patient and the physician were quick to accept it since no attempt was made to implicate the appetite. The truth of the matter is that hypothyroids can be either lean or fat depending on their food consumption and caloric intake.

The adrenal glands may play a role in obesity, especially in the matter of distribution of the fat. In overactivity of the adrenal cortex (Cushing's syndrome), it produces a "buffalo" type of obesity, limited to the upper portion of the body and trunk but sparing the extremities. This cortisone effect is also seen during the last months of pregnancy.

The gonads too may be implicated in the matter of fat distribution, accounting for the fat pads on the hips and breasts of the hypogonad male. Similarly, there are changes in the body contour of many menopausal women. One factor here may be overactivity of the anterior pituitary with secondary stimulation of the adrenal cortex. This results from removal of the normal estrogenic brake, but the major effects are unquestionably produced by overactivity of the appetite. Emotional factors, acting through the hypothalamus, may remove the normal brake supplied by cortical control.

The pancreas is also related to the problem in that diabetes mellitus frequently has its onset in overweight persons. This is especially true in those sensitized by a family history of diabetes, producing a deficient pancreatic reserve. Hypoglycemia is also related to the problem since frequent carbohydrate feedings are part of the clinical picture. In most instances the hypoglycemia is functional, due to autonomic imbalance. The hypoglycemia is postprandial and is related to the excess outpouring of insulin. Rarely it may be associated with islet cell tumor of the pancreas.

The Central Nervous System

In rare instances obesity may follow brain trauma, either accidental or by lobotomy. Encephalitis and tumors of the frontal lobe may similarly serve as provocative agents. The hypothalamus plays an important role both in experimental obesity in animals and in clinical obesity in the human.

Anand and Brobeck[3] caused hypothalamic lesions in rats and produced obesity by destroying the medial hypothalamic nuclei. The animal could then become fatally anorexic by destroying the lateral nuclei. This train of circumstances is reminiscent of the emotionally disturbed fat girl who diets too severely and ends up with anorexia nervosa.

Rats with hypothalamic damage can be trained to eat their daily food ration in three hours or less. This produces a high respiratory quotient and rapid conversion of carbohydrate to fat.[4] Their littermate colleagues who are permitted to take their food intake over the entire day in divided doses do not show this rapid turnover. This has some superficial resemblance to the many overweight patients who starve all day and then gorge themselves during the late evening hours.

Animals with hypothalamic damages are characterized not by an increased urge to eat but by an inability to stop eating.[5,6] This too is a familiar pattern in the human.

The role of stress in the production of obesity is considerable, the hypothalamus linking the emotions and the endocrine system. Stress increases the secretion of ACTH from the anterior pituitary, which in turn stimulates the adrenal cortex to produce cortical steroids. Increased appetite, therefore, may have a chemical basis in addition to a psychologic one.

In considering the hypothalamic effects of anorexigenic drugs, such as Dexedrine, it is noteworthy that although the drug frequently cuts the appetite of the depressed overweight patient, in thin patients who are depressed it can often produce a spurt in appetite. Fat and thin people similarly differ in their appetite response to stress, similar stresses producing a need to overeat in one instance and an inability to eat in the other. The kind of hypothalamus a person inherits may thus determine his or her constitutional tendency to be lean or obese.[7]

Metabolic Derangements

Metabolic quirks are still considered to be possible factors in the pathogenesis of obesity. Mayer[8] has described a glucostatic theory where hypothalamic glucoreceptors are said to be sensitive to fluctuations in blood sugar. Hunger was correlated with a lowering of available blood sugar rather than the actual height, accounting for the hyperphagia of the diabetic. In his studies of hereditary obese hyperglycemia in mice, he found that there was a hexokinase block in the oxidation of carbohydrate. He related this to the hyperglycemic hormone from the alpha cells of the pancreas, and this in turn to the growth hormone from the anterior pituitary.

Pennington[9] treats obesity with unrestricted calories but limits the carbohydrate intake to 60 Gm. a day. By cutting down on carbohydrate there is a reduction in the formation of pyruvic acid, which is considered to be the seat of the block. The high-protein, high-fat diet is then ketogenic, helping, theoretically at least, to burn body fat. Attractive though this may be, it fails to explain the obesity of the Eskimo.

Psychologic and Emotional Factors

Psychologic and emotional factors are unquestionably of prime importance. Since all obese victims cannot, will not, and need not seek psychiatric help, it is necessary for the doctor to be aware of some of these emotional needs.[10–13]

Oral gratification plays a part, but one can be emotionally stable and still enjoy the pleasures of eating. The emotional ramifications appear only when food is abused and becomes the major and constant means of soothing bruised sensitivities. Nagging sensations in the epigastrium may be symbolic of emptiness in the patient's life.[14] Eating is the most common method of combating anxiety in the obese. Reaching for a sweet instead of a solution to the many dilemmas of daily living can become a conditioned reflex. It has been traced to infancy and to the anxiety relief obtained by the maternal breast or bottle. To the infant, being fed is tied up with the warmth of mother love. To the adult, food may still carry the same emotional charge.

Food may also serve as a symbol of friendship. Hostesses take it as a personal insult when their guests fail to gorge themselves at their groaning buffet tables. Luncheon and dinner engagements are not merely means of adding protein, minerals, and vitamins to one's skeleton. The expression, "Food is the way to a man's heart," exemplifies this emotional and non-nutritional use of food.

Food and the resultant obesity may symbolize strength and security. It may give the person a feeling of being "big" or "bigger" than others. Consciously he may desire to cut his portions and become thinner, but there may be an unconscious need to maintain bulk to satisfy this fantasy. Similar reasoning may help explain the difficulties in getting many patients to cut their intake of bread since this item is cloaked with symbolic value. If the patient recalls the many times he went hungry for bread in his early life, this item may be tinged with too much importance to be given up without sufficient insight and support.

Food may also symbolize hostility. In this way one can devour a good meal instead of one's minor enemies. The expression, "dog eat dog," exemplifies this extranutritional use of food. Repressed hostility, the core of all psychosomatic illness, can be a prominent factor in provoking the appetite if one responds to stress by overeating.

Obesity may also serve other purposes. It may very well be a wall of defense. A young, unmarried girl may wish for male companionship, marriage, a home, and children but unconsciously may fear sexuality and the transition from her sheltered family existence. Her obesity may thus be a wall of defense.[13] Its penetration without adequate emotional support and gradual insight may be dangerous.

Obesity may be a means of self-punishment. It may mask a depression, and here again the wall should be penetrated with caution. It might be better to poke away at it slowly rather than attempt weight reduction at any cost.

The Treatment of Obesity

The diet must be individualized. Strictness for some is obviously necessary. More leniency may be required for others because of their emotional needs. Despite a full knowledge of the caloric values of every food from alfalfa to zwieback, there may still be an inability to curb the appetite for sweets. "Small eaters" can be quite steady. Some may state quite honestly that they eat "like a bird" but fail to mention the species. Vultures and pelicans differ considerably from canaries and pigeons, both in food habits and capacity. Patients may be truthful when they say they don't eat much—they may be mislabeling their greater capacity for food.

A double-entry bookkeeping system may be helpful. What is eaten is recorded on one side of the page and "what is eating you" on the other. In this way the doctor can quickly spot the difficulties that prod the patient to overeat. He can also quickly check caloric totals when the patient insists he is starving and the scales are jammed.

No treatment for obesity is adequate if reeducation of the appetite fails to occur. Permanency is obviously of greater importance than the speed of reduction. Slower methods may provide a better opportunity to break existing feeding reflexes.

In the use of drugs, thyroid extract should not be used unless there is clinical and laboratory evidence of hypothyroidism. Dexedrine and its derivatives are quite helpful but should be used only in reasonable dosage of 5 to 10 mg. three times a day. Their value is only as a crutch during the difficult period of appetite re-education.

Most important is the patient's motivation. Why does he or she want to reduce? Are the goals real, or are they cloaked in fantasy? Is she anxious to lose to become a movie star? If this is her goal, she may be doomed to failure for even with an adequate weight loss she may never reach this objective. Failure to reach an imaginary goal may then become the stimulus to resume past patterns of eating.

One must be careful in treating the middle-aged overweight male. If you take away sexual activities to protect his coronaries, whiskey to preserve his liver and gastric mucosa, cigarets to salvage his lungs and bronchial tree, and now try to take food away to keep alive, he may begin to question his very motivation and need to stay alive.

The attitude of the doctor should be one of tolerance to the inherent difficulties in following a reducing regime. If the doctor becomes hostile, either directly or by innuendo, due to the threat of impending therapeutic failure, the patient will then have an excellent excuse to quit and once again resort to his favorite pacifier.

Goals should be short-term and realistic. A maintenance regime after a reasonable weight reduction has been accomplished is necessary so that losses can be consolidated and not reconverted to capital gains with accrued dividends.

The essence of the treatment of obesity is the patient-doctor relationship. This means small doses of drugs, but large doses of emotional support, guidance, reassurance, and tolerance.

1921 Newkirk Avenue

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He that would live in peace and ease must not speak all he knows nor judge all he sees.—Benjamin Franklin

Newer Experiences with Aqueous Dionosil

HYMAN TETEWSKY, M.D., AND ELLIOTT C. LASSER, M.D., BUFFALO, NEW YORK

(*From the Department of Diagnostic Radiology, Roswell Park Memorial Institute*)

SINCE the early days of bronchography approximately thirty years ago, iodized oils have remained high on the list of choice materials for this procedure. An iodized oil, however, is not the ideal bronchographic contrast material. Despite its high contrast properties and excellent ability to coat the bronchial tree, iodized oil has several shortcomings. The principal disadvantages lie in the degree of alveolar filling and slow rate of absorption which results, tending to obscure bronchographic detail, hindering future serial chest examination, postponing operative intervention, and occasionally resulting in pulmonary granulomas[1] and lipoid pneumonia. Even with the best of technics the bronchograms obtained often showed lack of filling of various segments and overfilling (alveolar filling) of other segments. At times the viscosity is so great that it will not flow past a portion of mucus in a small bronchus, creating the illusion of an obstruction in that bronchus.

Because iodized oil is not miscible with the secretions, the production of an excessive secretion of mucus in the tracheobronchial tree may seriously hamper diagnostic interpretations. For many years, therefore, a great deal of work has been devoted to testing new water-soluble bronchographic material.

Among the early water-soluble bronchographic preparations were Umbradil Viscous B and Ioduron B[2,3] consisting of a 50 per cent solution of iodopyracet to which had been added sodium carboxymethylcellulose sufficient to provide the desired viscosity. Several investigators found these media so irritating that adequate examinations were difficult. In an attempt to overcome this disadvantage, the properties of the n-propyl ester of 3:5-diiodo-4-pyridone-N-acetic acid, whose diethanolamine salt is known in this country as Diodrast and in England as Diodone, were investigated. The propyl ester, because of its low solubility in water, allows the preparation of a 50 per cent aqueous suspension. This is isotonic and, thus, is probably less irritating than the previous hypertonic water-soluble bronchographic media. The present report will be concerned with this preparation, known as Aqueous Dionosil.

Dionosil aqueous is a 50 per cent suspension of 3:5 diiodo-4-pyridone-N acetic acid in water, combined with sodium carboxymethylcellulose as a viscosifying agent, sodium citrate as a buffer, sodium chloride to render the suspension isotonic, and a small amount of polyethylene glycol 600 monoleate and benzyl alcohol as a bacteriostatic. The iodine content of the preparation is about 30 per cent. This is in firm organic combination so that its pharmacologic activity is suppressed, and there is no liberation of any free iodine or inorganic iodide. Most of the Aqueous Dionosil preparation can be eliminated by expectoration, the remainder by hydrolysis. The product of hydrolysis, a sodium salt of 3:5-diiodo-4-pyridone-N-acetic acid, is excreted by the kidney without further decomposition, so that iodism due to liberation of free iodine or inorganic iodides does not occur, and unfavorable effects due to iodine or iodide absorption in active tuberculosis need not be anticipated.

The clinical experience with Aqueous Dionosil as reported in the literature[4-7] has been somewhat as follows:

1. The pulmonary fields are almost clear in three to four days and often sooner. However, in gross bronchiectatic cavities Dionosil has occasionally persisted for as long as fourteen days.
2. Only rarely does Dionosil produce a troublesome degree of alveolar filling. It has been stated that alveolar filling does *not* delay absorption.
3. Dionosil outlines rather than fills the bronchi, improving visualization of bronchial detail.
4. The medium is less viscous than iodized oil and is easier to inject.
5. Because the iodine remains in firm organic combination, there is no risk of iodism. It has been demonstrated repeatedly that patients sensitive to iodized oil may safely be given Dionosil.

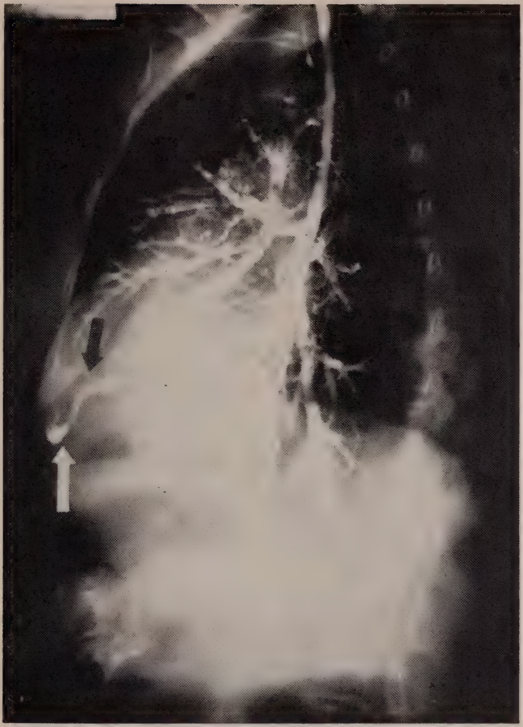

FIG. 1. *Case 1*—Bronchiectatic changes limited to the inferior lingular segment of the left upper lobe.

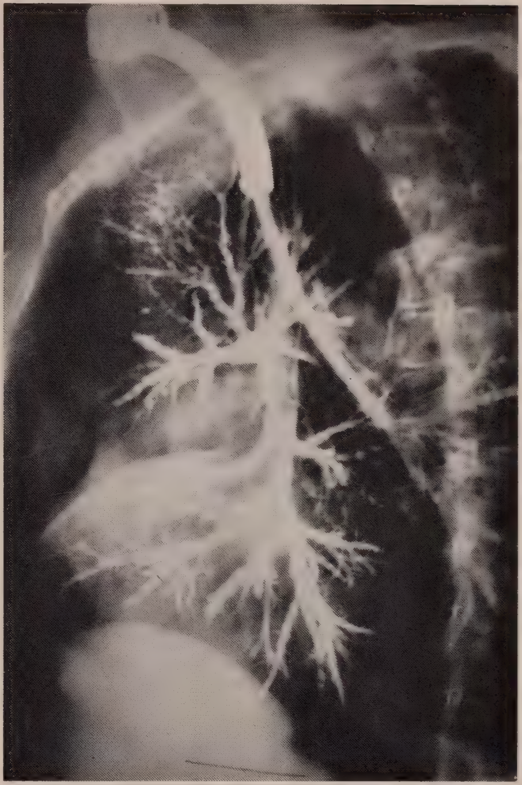

FIG. 2. *Case 2*—Changes in so-called "middle lobe syndrome." Note alveolar filling in right upper lobe.

In one or two recorded cases of minor and possibly allergic reactions, it has been suggested that the patient was sensitive to iodopyracet or to its parent acid which is liberated when the propyliodine is hydrolyzed. The only side-effects reported in the literature were occasional febrile episodes. These usually last twenty-four to thirty-six hours and may be accompanied by cough and symptoms resembling influenza. There have been no associated harmful or lasting effects, and no treatment is necessary.

Our experience with Aqueous Dionosil, in general, has followed that reported in the literature and will be dealt with below.

Technic of Bronchography

The technic of bronchography as performed in this institute is as follows: Premedication with atropine sulfate, $^{1}/_{150}$ grain, and Nembutal, $^{3}/_{4}$ grain, is given one-half hour prior to examination. The patient is anesthetized with 5 per cent cocaine by spraying the oropharynx approximately four times and saturating the valleculae and epiglottic area at least twice. A number 16 F. urinary catheter is then passed via the nose into the tracheobronchial tree, and 2 cc. of 5 per cent cocaine are further injected into the bronchi. The usual plan is to do one side at one sitting. The catheter is placed under fluoroscopy in the right or left main stem bronchus. Aqueous Dionosil is warmed prior to the examination in a glass of hot water. The upper lobe bronchi are filled first, either in supine or mild Trendelenburg position, and the patient is rotated from anteroposterior to lateral decubitus to posteroanterior position to outline the entire bronchial anatomy. Usually this rotation will fill the right middle lobe or lingula.

The entire procedure is carried out under fluoroscopic control, and the patient is encouraged to breathe deeply while slow injections of Dionosil are being carried out in order to spread the medium to the periphery. Spot films are made in the oblique and lateral positions. The patient is then slowly tilted to the upright position to fill the lower lobes. Again, spot films in oblique and lateral positions are made. After this high penetration upright films are made with

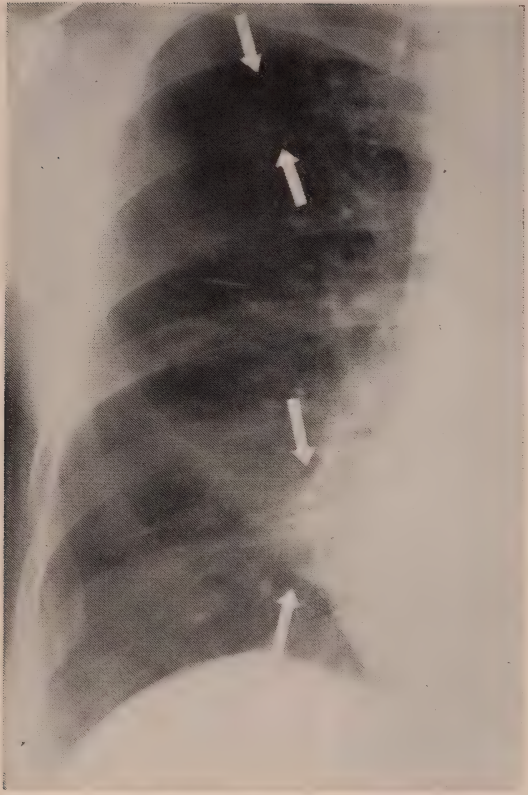

FIG. 3. *Case 2*—Residual Dionosil five days after bronchography. Note characteristic triangular wedge of collapsed middle lobe (*arrows*).

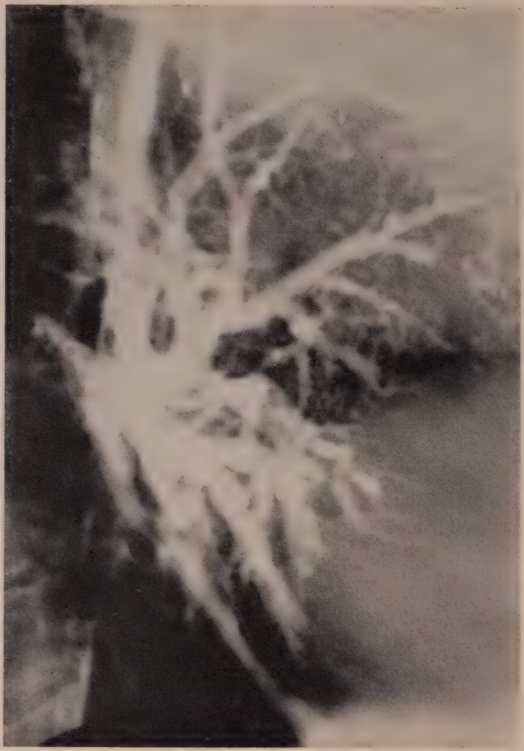

FIG. 4. *Case 3*—Bronchiectasis of lingular segments and lower lobe bronchi.

the radiographic tube. The films are viewed, and if a particular segment is inadequately filled, more Dionosil is injected.

Particular emphasis is placed on good oblique and lateral films. We have not hesitated to inject 10 to 25 cc. of additional Dionosil to fill a particular segment more adequately.

Case Reports

CASE 1.—Initial screening of films showed only partial filling of the inferior lingular segment. Additional Dionosil was instilled under fluoroscopic control and further films taken. Figure 1 shows the marked distortion, stretching, and dilatation characteristic of bronchiectasis limited to the peripheral portion of the inferior lingular segment of the left upper lobe.

In studying reports on Aqueous Dionosil, the rarity of alveolar filling is stressed. Our experience indicates that alveolar filling does occur in a small percentage of cases. This is more apt to occur when more than 20 cc. of Dionosil are used to fill one lung.

CASE 2.—Illustrated are the bronchographic findings in so-called "middle lobe syndrome" (Fig. 2). The right middle lobe bronchus shows no narrowing or evidence of extrinsic pressure. The medial and lateral stem branches are crowded and dilated, indicating evidence of bronchiectasis. Note the lacy pattern characteristic of alveolar filling in the right upper lobe. Figure 3 shows the appearance of the right upper lobe five days after bronchography; only a faint amount of residual Dionosil in the alveoli is noted, certainly not enough to hinder diagnostic interpretation.

CASE 3.—Difficulty was encountered in filling the lingular segmental bronchi and the lower lobe bronchi. Hence, after 25 cc. of Dionosil had been instilled, 40 cc. of air were injected in an attempt to fill these segments better. These films show compressive atelectasis with bronchiectasis of the lingular segments and lower lobe bronchi (Fig. 4). This is the so-called "naked bronchiectasis" which Huizinga[8] has described. In addition, there is evidence of alveolar filling. Once again serial films fail to show any progressive alveolar filling, only a slow progressive absorption, so that after fourteen days only a very faint collection of dye is noted (Fig. 5). Dionosil can be rapidly coughed out of

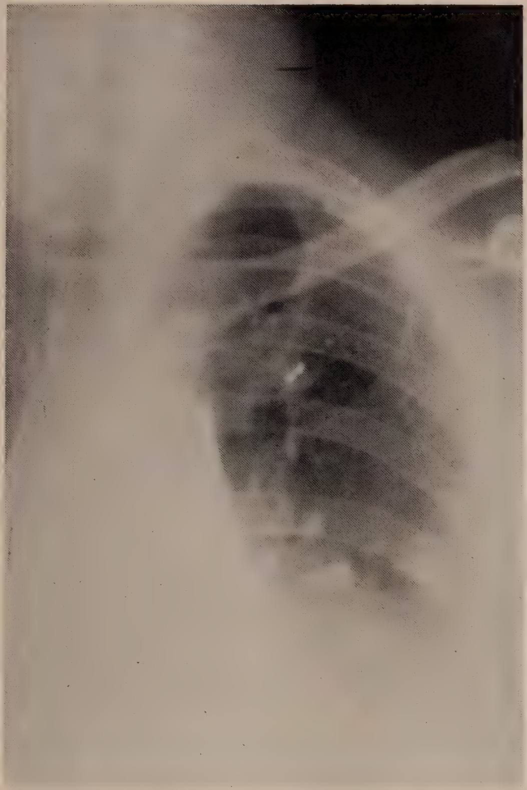

FIG. 5. *Case 3*—Residual Dionosil fourteen days after bronchography.

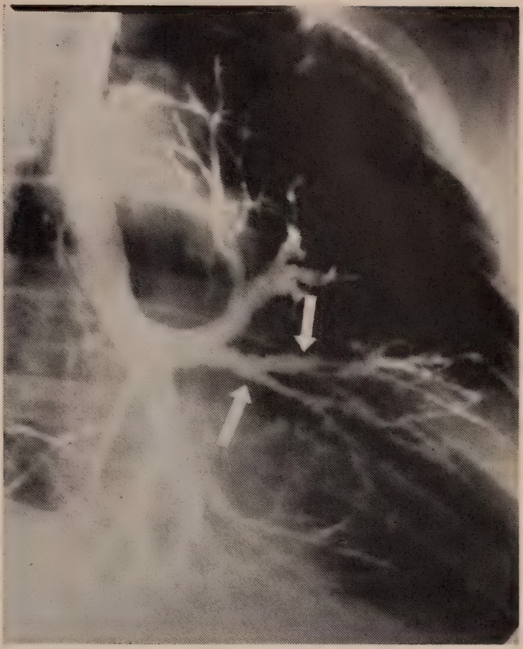

FIG. 6. *Case 4*—Fine serrations said to be pathognomonic of chronic bronchitis (*arrows*).

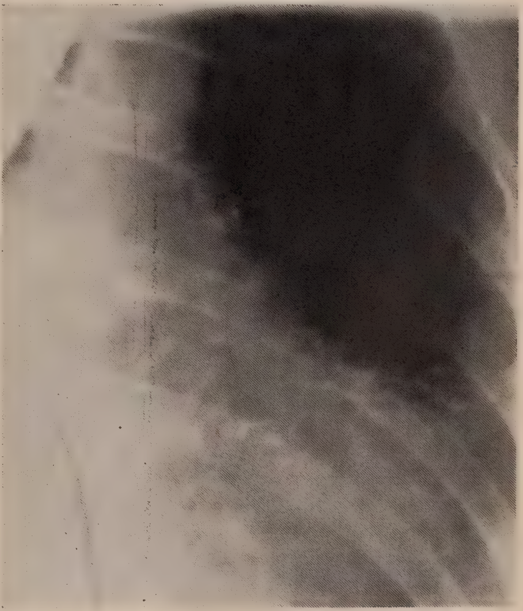

FIG. 7. *Case 4*—Amount of Dionosil remaining after expectoration (one hour postbronchography).

the bronchial tree; so much so that a new bronchogram can often be performed the next day.

CASE 4.—Figure 6 shows multiple serrations and diverticular outpocketings with filling of bronchial glands, pathognomonic of chronic bronchitis. Figure 7 shows the dye remaining after the patient was encouraged to cough. Note the almost complete disappearance of opaque contrast material in the bronchi within one hour.

CASE 5.—A fifty-five-year-old, white male, a known asthmatic for many years, developed increasing cough and wheezing. Chest films revealed a right upper lobe mass, proved by bronchoscopy, which was felt to be an inoperable carcinoma of the lung. The mass was heavily irradiated and showed considerable regression. In spite of low pulmonary reserve a right upper and middle lobectomy was performed. He developed an empyema which required several drainages, and he continued to have febrile episodes with cough and expectoration.

It was felt that this patient had marked bronchiectasis in the remaining right lower lobe. The patient was, therefore, sent to the x-ray department for bronchography. He was chronically ill with mild to moderate dyspnea, even at rest. He was anesthetized with 5 cc. of 5 per cent cocaine. No difficulty was encountered in inserting the catheter. About 12 cc. of Aqueous Dionosil were used to fill

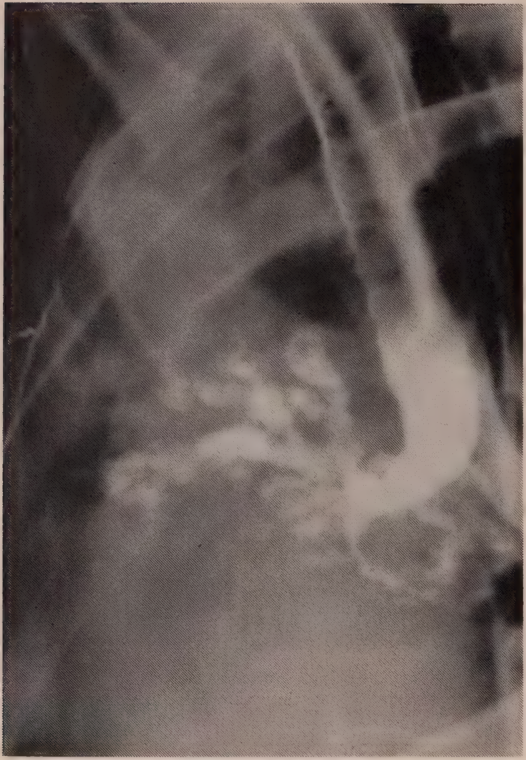

FIG. 8. *Case 5*—Saccular bronchiectasis.

the right lobe bronchus. Saccular bronchiectasis was demonstrated (Fig. 8). Shortly after the instillation of the Dionosil the patient became more dyspneic, and the procedure was temporarily suspended. The dyspnea resolved, and shortly after the films had been made, the patient was sent back to the floor. About an hour later he became more dyspneic, cyanotic, and irrational and developed a shocklike picture.

Films made about five hours after bronchography showed residual Dionosil in saccular bronchiectasis on the right, a small amount of Dionosil in the left lower bronchi, but none in the alveoli. He continued to be dyspneic and irrational despite phenobarbital, intravenous Demerol, and aminophylline. The patient slowly went downhill, expiring five days after bronchography. The immediate cause of death was an aspiration pneumonitis. It was felt that the Aqueous Dionosil per se did not contribute to this patient's death, but the procedure of bronchography in a chronically ill individual with low pulmonary reserve probably diminished this reserve sufficiently that irreversible shock resulted and eventually led to the patient's demise.

Comment

Numerous case reports have dealt with granuloma formation subsequent to oily bronchography. Tomich *et al.*[9] experimented with both aqueous and oily Dionosil in rabbit lungs. Microscopic studies on these "Dionosil lungs" were carried out at intervals of sixteen hours, three days, five days, two weeks, and monthly intervals up to five months. No significant granulomas were encountered. Small quantities of carboxymethylcellulose could be detected during the first three or four days following the instillation of the aqueous preparation, but in none of the animals could this substance be seen after the fifth day. In human lungs excised after Aqueous Dionosil, no significant granuloma formation has been reported.

Cummins and Silver[4] reported that following surgical removal of human lungs after bronchography with Dionosil, alveolar septal thickening due to edema and hyperemia and enlarged histiocytes with vesicular cytoplasm were present. In the report of Norris and Stauffer,[5] five surgical specimens were examined from one to eleven days after instillation of Aqueous Dionosil; the histologic changes in portions of the lung shown on the bronchogram to have been well filled were thought to be of minor degree, the peribronchial cellular response consisting chiefly of lymphocytes, plasma cells, and macrophages.

Conclusion

Our experiences to date indicate that Aqueous Dionosil is a valuable bronchographic contrast agent. We have found that the rate of absorption is not always so rapid as is described in the literature. If alveolar filling occurs, small amounts of residual Dionosil may remain for as long as two weeks after initial bronchography. Alveolar filling, however, occurred in only a minority of the cases investigated and did not seriously interfere with further chest examinations.

In general, the bronchographic visualization has been excellent, and when alveolar filling has occurred on the date of examination, there has been no alveolar progression on subsequent follow-up. From a roentgen standpoint Aqueous Dionosil gives excellent contrast. Provided the patient is well anesthetized, it is not unduly irritating. A leisurely study can easily be carried out, and the peripheral bronchi are readily filled with little or no alveolar filling. Dionosil in our hands has proved thus far to be a very satisfactory bronchographic contrast material.

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Permanent Diabetes Mellitus Following Myocardial Infarction

LEON M. LEVITT, M.D., MILTON B. HANDELSMAN, M.D., AND NICHOLAS J. DI GREGORIO, M.D.,
BROOKLYN, NEW YORK

(*From the Department of Internal Medicine, the Long Island College Hospital and the State University of New York College of Medicine at New York City*)

THE association of hyperglycemia and glycosuria with acute myocardial infarction has been recognized since Levine and Brown's[1] classic publication on coronary thrombosis more than two decades ago. To the authors it seems that at least two problems exist and that the two have oftentimes been confused by the students of this phenomenon. First, many studies have appeared concerning the mechanism causing the temporary hyperglycemia and glycosuria occurring with myocardial infarction. These may or may not be related to the second problem, namely, the relationship between the myocardial infarction and true diabetes mellitus. It is the latter problem which concerns us in this report.

The following is a summary of the many theories proposed to explain the hyperglycemia with or without glycosuria first occurring during the acute phase of a myocardial infarction:

1. *Secondary to shock and pain.*[1]
2. *Pancreatic dysfunction* attributed to degenerative pancreatic changes secondary to arteriosclerotic vascular disease[2,3] or caused by reflex circulatory changes in the pancreas.[4,5]

TABLE I.—Age and Sex Distribution of 64 Cases with Hyperglycemia Who Survived Initial Infarction

Age (Years)	Males	Females
40 to 49	5	1
50 to 59	25	4
60 to 69	15	8
70 to 79	4	2

TABLE II.—Status of 64 Cases with Hyperglycemia Who Survived Initial Infarction

	Number of Cases
Known to be living	39
Known to be dead	10
Status unknown	10
Questionnaires not returned	5
Follow-up studies	
Diabetic	7
Not diabetic	40
No follow-up	11

TABLE III.—Study of 7 Cases with Diabetes Mellitus

Case	Sex	Age at Infarction	Family History of Diabetes	Present Status
1	M	59	0	Living $1^1/_2$ years after infarction. Diabetes controlled on diet. Recent urinary sugar negative, recent blood sugar 108. Has glycosuria when off strict diet.
2	M	55	0	Living 5 years after infarction. Recent blood sugar 200; recent urine sugar 3%.
3	M	41	0	Living 3 plus years after infarction. No recent blood or urine sugar.
4	F	77	0	Living 4 years after infarction. No recent blood or urinary sugar.
5	M	72	0	Dead.
6	M	42	0	Died after recurrent infarction. 14 months after first.
7	M	57	0	Dead.

3. *Central nervous system influences* resulting from edema of the medulla and pons,[6] due to disturbances in the cranial vegetative nervous centers[7] or to stimulation of the sympathetic nervous system by a prolonged allergic reaction.[8]

4. *Complex changes in body homeostasis* such as accumulation of carbonic acid in the blood associated with the outpouring of adrenalin and central nervous system dysfunction[9] or the same factors associated with the breakdown of myocardial protein.[10,11]

5. *Stimulation of the adrenal gland* affecting the medulla and causing the outpouring of adrenalin[12] or, after the initial outpouring of adrenalin, the maintenance by adrenal cortical stimulation[13] or the simultaneous stimulation of the entire adrenal gland.[14,15] The alarm reaction with "adaptation" to trauma has been proposed by Kauvar and Goldner[16] and by Goldner.[17]

6. *Precipitation of latent diabetes.*[18,19]

It can be seen that most of the above theories explain the *transitory* hyperglycemia and glycosuria, but only the latter two theories have any significant bearing on the possibility of *permanent* diabetes following myocardial infarction. Few clinical reports have been concerned with the incidence of permanent diabetes mellitus precipitated by coronary thrombosis. Goldberger *et al.*[19] studied 14 supposedly nondiabetic patients for a period of eleven months after heart attacks. Five patients with normal glucose tolerance tests during the acute period demonstrated diabetic type curves subsequently. Goldner[17] has collected three cases with persistent diabetes following myocardial infarction. In two of these, preinfarction urine examinations were negative for sugar. Eckerström[20] noted that one of seven nondiabetic patients who had hyperglycemia during the acute infarction demonstrated an abnormal sugar tolerance curve when re-examined five and eleven years later. Yater *et al.*[21] reported that but one of 400 supposedly nondiabetic soldier survivors of an acute myocardial infarction was found to have diabetes during the period of hospitalization. However, further follow-up studies were not available.[22]

These sporadic reports shed scant light on the important problem of vascular disease in diabetes so aptly stated by Ricketts: "One of the major questions is whether disorders of the blood vessels are the result of hereditary or constitutional influences, transmitted along with the tendency towards diabetes, or whether they are the result of diabetes itself."[23] Should genetic or constitutional factors accompanying diabetes be the cause of vascular disease, it would seem likely that as many people with myocardial infarction might subsequently develop diabetes as the reverse.

Methods and Results

To explore this problem, we studied the records of the 405 patients admitted to the private medical service of the Long Island College Hospital from January 1, 1942, to December 31, 1951, who had had an acute myocardial infarction and in whom blood sugar determinations were recorded. Of these, 67 were known diabetics (16.5 per cent).

Of the 338 nondiabetics 101 or 30 per cent were discovered to have hyperglycemia with a fasting venous blood sugar of 130 mg. per 100 cc. or greater. A total of 37 patients with hyperglycemia died in severe shock shortly after admission and were eliminated from the study. Follow-up studies by means of a questionnaire to the private physicians were made on the remaining 64 cases (Tables I and II). An adequate follow-up was obtained on only 47 patients. This study disclosed that seven patients, 15 per cent, developed permanent diabetes mellitus (Table III). In none was there a family history of diabetes recorded.

Comment

Starting with a large group of well-documented nondiabetic cases with acute myocardial infarction, it was found that 30 per cent had hyperglycemia during the acute episode. It was hoped that a sufficient number could be followed through the records of their private physicians to determine how many eventually developed permanent diabetes mellitus. Of the original group 47 could be satisfactorily traced with adequate medical checkup. This number is entirely unsatisfactory statistically to formulate a definite answer to the aforementioned problem. However, the percentage of patients who developed diabetes mellitus subsequent to the myocardial infarction, 15 per cent, was so much higher than that expected to be found in the general population (2 per cent) that it was deemed worth while to report these results in order to stimulate further studies. Considering the fact that patients with the most severe myocardial infarctions who died are not included, it would seem likely that our statistical findings err on the conservative side.

Summary

In making a survey of patients with acute myocardial infarction, the percentage of diabetics who developed myocardial infarction was similar to the percentage of patients with acute myocardial infarction who subsequently developed diabetes. This suggests that diabetes is not the cause of the vascular complication but that both are the result of a common etiologic factor.

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Principles of Fluoroscopic Protection

Radiation injuries among physicians continue to be reported despite warnings about dangers to the operator in the use of roentgen methods of diagnosis, particularly fluoroscopy. Apparently such injuries occur with greater frequency among general practitioners who use fluoroscopes than among radiologists. In this paper Drs. William H. Sprunt, III, and Charles A. Bream, University of North Carolina, Chapel Hill, give pointers on structurally safe equipment, protective devices, and safe operating methods.—*Mississippi Valley Medical Journal, November, 1955*

CASE REPORTS

Sacrococcygeal Teratomas

RALPH C. DISCH, M.D., AND C. DOUGLAS SAWYER, M.D.,* BROOKLYN, NEW YORK

(*From the Department of Surgery of the Methodist Hospital of Brooklyn*)

SACROCOCCYGEAL teratomas are solid, cystic, nodular, congenital tumors situated at the lower end of the spinal column in front of the sacrum and coccyx. It has been calculated that sacrococcygeal tumors occur once in 34,500 births.[1] One third of the subjects are born dead, and 90 per cent die in the first few days of life.[2] Teratomas of the sacrococcygeal area are the most common of the more important teratomas occurring in infants and children. Three out of four are found in females.[3]

It is beyond the scope of this paper to discuss the embryology of these tumors. The many theories of origin which have been advanced vary with the investigators.[3-5] Familial twinning in these cases is statistically significant in comparison with the occurrence of twins in the general population.[4]

Sacrococcygeal teratomas, lying as they do behind the rectum, can enlarge in three directions. First, following the path of least resistance, they can grow inferiorly and posteriorly into the buttocks and may extend even further so as to become a sessile or pedunculated mass hanging between the legs. Second, they can extend anteriorly into the pelvis and surround the rectum and ureters, causing obstruction. Third, a sacrococcygeal teratoma may dissect upward retroperitoneally and present itself as a large abdominal tumor.

The incidence of malignancy in sacrococcygeal teratoma has been increasing as more series of cases are reported. A paper presented in 1939 listed it as 9 per cent.[1] In another series in 1951 it was 17 per cent.[6] A report in 1954 gave the incidence as 20 per cent.[4]

Fifteen years ago complete excision of sacrococcygeal teratomas was advocated mainly as a means to eliminate a source of future discomfort and embarrassment.[1] The danger of malignancy was minimized, whereas it should constitute one of the chief reasons for removal of these tumors in early infancy.

Hickey and Layton[4] believe that complete surgical excision of sacrococcygeal teratomas should be done before the age of four months, because infants so operated showed only 5 per cent biologic malignant disease within two years. If a policy of watchful waiting is carried out and surgery is performed after four months of age, the incidence of biologic malignant disease within two years is 64 per cent. The increased occurrence of cancer associated with delayed therapy is obvious. If the tumor has remained occult and is discovered after the age of five years, the danger of malignant transformation almost vanishes.

Surgery is indicated as soon as the diagnosis is made. Preoperative irradiation is unwise because of the usual resistance of teratomas and the problems concurrent with pelvic irradiation.[6]

Two case histories will be presented, both females, one an adult and one an infant. Both cases warrant reporting because they are unusual. Sacrococcygeal teratomas in adults are rare. If associated with pregnancy, the possibility of obstruction to delivery must be considered. Sacrococcygeal teratoma causing abdominal enlargement in an infant is not the rule. Only three cases have been reported where such a tumor was approached through an anterior abdominal incision.[7,8]

Case Reports

CASE 1.*—A twenty-two-year-old housewife was admitted to Methodist Hospital in October, 1953, for excision of a presacral mass which had been discovered in January, 1953, on pelvic examination during the fourth month of pregnancy. There was some concern when the tumor was noted to enlarge gradually toward the end of the last trimester. It

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* Deceased.

Presented as part of the Residents Program for the Section on Surgery at the New York Academy of Medicine, January 18, 1955.

* From the private service of Dr. Raymond K. J. Luomanen.

remained soft and cystic, and delivery of the baby was attended without difficulty. There had never been any symptoms of constipation or rectal pain. There was no history of familial twinning.

Surgery was performed with the patient in the prone position. The distal half of the coccyx was resected, and a cystic mass, approximately 3 by 2 by 1.5 cm., was delivered by sharp dissection from the rectum. The cystic tumor contained a thick, mustard-like material.

Microscopic sections of the pathologic specimen showed elements of all three germ layers. The lining epithelium of irregular, cystlike spaces varied from cuboid to columnar, to stratified columnar, to transitional and stratified squamous epithelium. The walls consisted of dense, fibrous connective tissue with bundles of smooth muscle. Some mucous glands were present. No complex tissue such as brain or thyroid was found. There was no evidence of malignancy. The diagnosis was sacrococcygeal teratoma. Postoperatively the patient has done well with no recurrence up to one year and two months later.

Case 2.—A three and one-half-month-old baby girl was referred to the Methodist Hospital on June 2, 1954, because of a chronically distended abdomen. The infant was born on February 22, 1954, of healthy white parents, and weighed 8 pounds, 11 ounces. There was no difficulty with a routine forceps delivery. It was noted at birth that the infant's abdomen was predominant.

In the first weeks of life the infant was admitted to another hospital for study and observation, but the findings were inconclusive. In the subsequent weeks the abdomen became more and more distended. The baby's appetite had always been good, and weight gain had been steady. Bowel movements were regular and of normal consistency. There had been no apparent disturbance in urination. The infant was playful and cheery. There were no siblings, and there was no history of familial twinning.

On admission examination the patient was well developed and well nourished. The fontanelles were open and not bulging. The chest revealed somewhat elevated diaphragms bilaterally. The abdomen was markedly protuberant, measuring 50 cm. in its widest girth. The usual circumference in a baby of this age is 35 cm. The abdominal distention was due mainly to a soft, cystic mass, percussing dully over the entire right abdomen and extending just beyond the midline to the left. A fluid wave could be elicited through the mass. Rectal examination was normal. No bulging membrane was noted over or in the vagina. There were no abnormalities of the extremities.

The blood picture was normal. Urinalysis was not remarkable. Blood chemistries revealed no evidence of renal insufficiency.

Plain film of the abdomen showed a large, homogeneous density overlying the right half of the abdominal cavity, displacing the intestinal contents to the left. On erect posture the density appeared to change its position and was seen to shift downwards and to the left, displacing the intestinal contents upwards. No heart, lung, or mediastinal pathology was noted.

The pelves and calyces on both sides were well outlined on intravenous pyelogram. The right ureter was not visualized, and the left ureter was deviated laterally. On cystoscopic examination there was great difficulty in passing the ureteral catheter because of elevation of the floor of the bladder and trigone. What was assumed to be the left ureteral orifice turned out to be the right with the retrograde pyeloureterogram showing marked lateral displacement of the right ureter.

On June 15 under endotracheal ether-oxygen anesthesia a transverse supraumbilical incision was made. On opening the peritoneal cavity a cyst, 20 cm. in diameter, approximately the size of a large grapefruit, was present in the mesentery of the sigmoid colon. At one point in the mesentery the cyst was 2 cm. from the bowel wall. The peritoneal leaves were carefully dissected away and the cyst freed in all planes except inferiorly. Posterior to the tumor was the inferior pole of the right kidney with the right ureter coursing along the right lateral surface of the cyst. The cyst extended across the midline, and the left ureter was freed from its left lateral border. The cystic tumor was opened to see how far it extended into the pelvis. It contained a clear yellow fluid and was found to reach to the sacrococcygeal region. Deep in the base of the tumor were found two smaller cysts, approximately 0.5 cm. in diameter. Frozen section of a soft, gray-blue substance in this area showed it to be brain and skinlike tissue. The sacroccocygeal teratoma was dissected free from surrounding structures and a thick fibrous attachment to the coccyx cut across. There is a possibility that some tissue was left behind.

During the operation the patient received 170 cc. of whole blood and withstood the three and a quarter hour procedure well. Cyanosis the first eighteen hours postoperative was combated by means of a croup tent, oxygen, and Alevaire. The remainder of the postoperative period was uneventful.

Microscopically the specimen showed elements of all three germ layers: sebaceous and sweat glands, hair, sympathetic ganglion, nerve fibers, and the aforementioned skin and brain, representing the ectodermal portions; meninges, fatty fibroconnective tissue, and collagen tissue of mesodermal origin; and large bowel mucosa and bronchial mucosa being endodermal elements. Minute deposits of calcium were present throughout the tissue. The pathologic diagnosis was sacroccocygeal teratoma. There was no evidence of malignancy in the numerous sections studied. At the end of six months there is no recurrence of tumor in this baby.

The differential diagnosis posed a very interesting problem in this case. Hydronephrosis, omental cyst, Hirschsprung's disease, and anterior meningocele were real possibilities that were soon ruled out. The first three present definite radiologic pictures which were not found on x-ray examination of the infant. Anterior meningocele shows bulging of the fontanelles on abdominal pressure. Neurologic defects in the lower extremities are also usually present.[6] Neither of these findings was elicited. Ovarian cyst, hydrometrocolpos, embryoma, and neuroblastoma were only briefly considered. Ovarian cysts tend to occur in the latter part of the first decade of life. Lower abdominal pain with cramps is the usual symptom. Hydrometrocolpos was eliminated on inspection of the perineum. Embryomas and neuroblastomas are firm tumors occurring for the most part in the two to three-year age group. In analyzing the possibilities carefully, it can be seen that all but mesenteric cyst or retroperitoneal teratoma could have been ruled out preoperatively.

Summary

1. A short discussion of sacrococcygeal teratomas in general is given. Their malignant tendencies in the very young are stressed, and the indication for early surgery is pointed up.

2. Two unusual cases are reported, one in an adult and one in an infant.

3. The pathologic findings and brief differential diagnoses are presented.

Addendum

Examination of both patients in November, 1955, revealed no recurrence thirty-seven and eighteen months, respectively, following surgery.

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Chordoma of the Sacrum

SOL GLOTZER, M.D., F.C.C.P., ANL MILTON H. STAPEN, M.D., F.A.C.R., BROOKLYN, NEW YORK

CHORDOMA is a rare type of tumor which was first described in this country in 1913 by Wood. It is believed to arise as a remnant of the original notochord which begins as a tiny rudimentary structure in the embryo, becomes a solid cord of undifferentiated epithelial cells extending from the buccopharyngeal membrane to the coccyx, and forms the primitive central skeleton of all vertebrae. Mesodermal tissue then surrounds it to form the vertebral column and the intervertebral disks. The intravertebral portion disintegrates and is reabsorbed by the fourth month of fetal life, but the intervertebral portion remains as the nucleus pulposus of the intervertebral disk. Unabsorbed ectopic tissue may persist in the cranial, vertebral, and sacrococcygeal regions and has been observed in about 2 per cent of all adults.

In the cephalic region it is usually found in the basal plate of the skull, in the sella turcica, and in retropharyngeal tissue. In the spine it can be seen in the vertebrae. Further caudally, it occurs in the sacrum and coccyx, and this is the location in which we are at present interested.

The incidence in these various locations in the relatively small groups of cases reported is 48 per cent for the sacrococcygeal group, 37 per cent for the cranial, and 15 per cent for the vertebral. Up to 1944 of the 252 cases accumulated, 123 were in the sacrococcygeal group, and with recent reports included, this group numbers not more than 200 cases.[1] Chordoma has been reported at all ages, the cranial type occurring at a much younger age than the sacrococcygeal. It is more common in the male.

Classification into benign and malignant types is difficult since the tumor is slow growing and is usually encapsulated at first. The tumor can be considered benign until it breaks through the capsule to spread locally and, occasionally, to metastasize to distant sites.

Microscopically, the tumor consists of large polyhedral cells with small cytoplasm, distended with glycogen and a mucin-like material, which makes the mass almost liquid in consistency. The cells are arranged in cords with irregular columns and clusters separated by connective tissue trabeculae.

Calcific and hemorrhagic areas may be seen. Mitotic figures are occasionally found, indicating metaplasia.

The most common presenting symptom is localized pain, usually dull, which may take the form of a low backache or may extend along the course of one or both sciatic nerves. Constipation is the second most common symptom, and at this time careful examination might reveal a presacral mass. There may be invasion of the conus terminalis or cauda equina, producing saddle anesthesia and changes in sphincter control, and it may even invade along the nerve roots to produce pyramidal tract signs and disturbances in vibratory sensation.

The diagnosis often depends on finding a mass which projects from the sacrum. This mass may project posteriorly but is most usually found in the hollow of the sacrum. Metastases spread only from the sacrococcygeal tumor, almost never from the cranial or vertebral sites, and may invade the regional lymph nodes, liver, lungs, pleura, and peritoneum.

The duration of symptoms for most of the groups studied is approximately two years before the tumor is discovered. The diagnosis rests almost entirely on x-ray findings and on biopsy. Hsieh[2] in 1936 laid down the x-ray criteria for such a diagnosis: (1) evidence of expansion of the sacrum with a hollowed-out appearance of the bone, best seen in the lateral projection, (2) rarification and destruction of the bone with areas of translucency, loculation, or complete bone destruction, (3) trabeculation of the undestroyed bone, and (4) areas of calcification in and around the tumor.

The prognosis is uniformly bad with an average life expectancy of about four years. The treatment of choice is excision, even though this carries with it a high mortality rate, a high recurrence rate, and severe postoperative pain. The tumor is relatively radioresistant, although remissions lasting as long as six years have been reported following radiation therapy in inoperable cases.[3] In the main, however, treatment should be surgical, and a cure depends on the complete removal of the coccyx and most of the sacrum. Death is usually due to massive local recurrence with obstruction of the colon and urinary tract or to generalized metastases.

Surgical methods have been carefully considered by the Mayo group[4] who at first attempted to approach the tumor posteriorly with a curettement, which was usually incomplete, and x-ray therapy postoperatively. They could not accomplish adequate resection through the anterior approach and have successfully done block resection of the tumor with a prior colostomy and preservation of the first and second sacral roots. It has been shown that removal of the fourth and fifth sacral nerves bilaterally does not disturb vesical or rectal function, and no perianal anesthesia appears. If the third nerve on one side is also destroyed, normal function persists, but unilateral perianal anesthesia is seen; this also occurs if the pudendal nerve is destroyed on one side. If the third, fourth, and fifth sacral nerves and the pudendal nerves are destroyed bilaterally, rectal and vesical dysfunction occurs. It is important to preserve this group of nerves and, therefore, it is suggested that operation by a team, consisting of an abdominal surgeon who mobilizes the rectum and bladder, an orthopedic surgeon who removes the sacrum, and a neurosurgeon whose function it is to preserve the upper three sacral nerves on each side, is the method of choice.[4]

Case Report

F. H., a Negro female, age forty-two, was first seen by us in November, 1948, for thyrotoxic symptoms which recurred after two partial thyroidectomies in 1939 and 1944. Treatment with antithyroid drugs was effective.

In December, 1950, slight backache first appeared. At that time rectal and pelvic examinations were negative, and no tenderness was noted over the spine. Transient pain in the rectum and coccyx recurred on March 29, 1951, aggravated by coitus. Examination was again negative except for tenderness over the right sacroiliac joint. In March, 1952, the pain persisted for two weeks and did not recur until October 2, 1952, at which time tenderness was found over the coccyx but no masses were felt. On two subsequent visits no mention of backache was made, but on September 17, 1953, she returned with pain in the lower abdomen and back. It was then that a mass was felt on the anterior surface of the sacrum, smooth, rounded, tender, about the size of an egg, not attached to the rectum, but firmly attached to the sacrum. X-ray reported an irregular osteolytic defect involving the third, fourth, and fifth sacral vertebrae with a convex impression on the inner surface (Fig. 1). Chordoma was considered. The pain subsided, and the patient did not return until January 19, 1954, when the pain had extended along the course of the right sciatic nerve. The mass seemed to be larger and to have spread laterally. A biopsy verified the diagnosis, and x-ray therapy was decided upon because of the extent of the lesion (Fig. 2).

A total tumor dose of 4,000 r was given through five portals over the sacrum between February 6 and April 14, 1954. Pain subsided, and the patient was able to continue her work as a beauty operator. However, on palpation, the mass did not seem to have decreased in size. At the present time, almost one and one-half years after treatment, no sedation has been required, and no disability has recurred.

Comment

The diagnosis of chordoma is relatively simple when x-ray findings and presence of a mass are definite. By that time, however, therapy is very unsatisfactory, and even surgery offers little hope of cure. Whether a better result would follow earlier

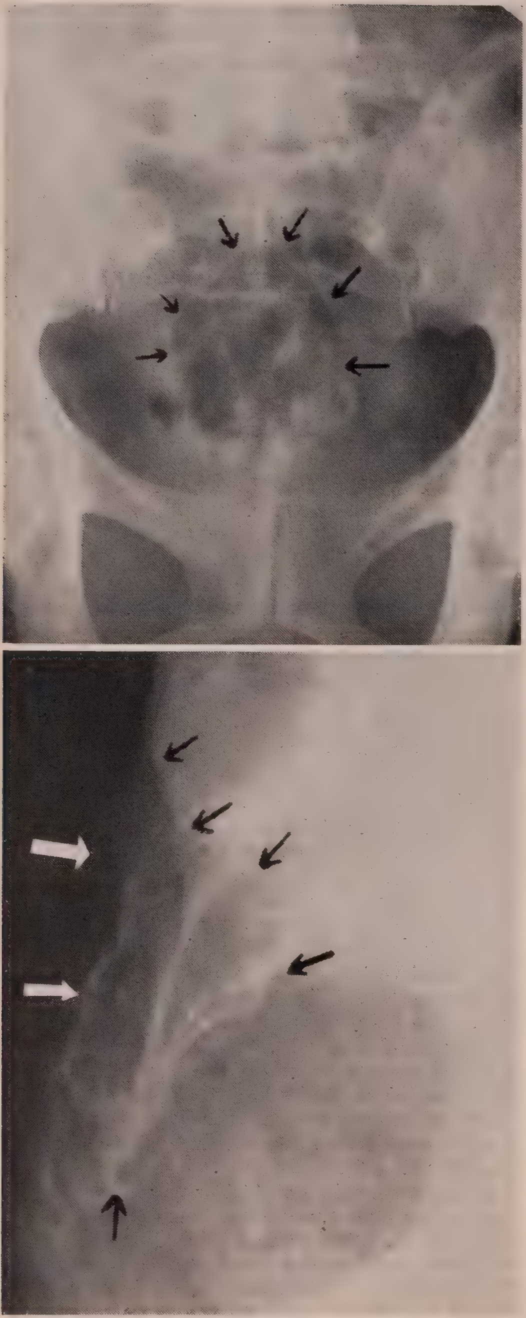

Fig. 1. X-rays showing irregular osteolytic defect involving the third, fourth, and fifth sacral vertebrae with a convex impression on the inner surface.

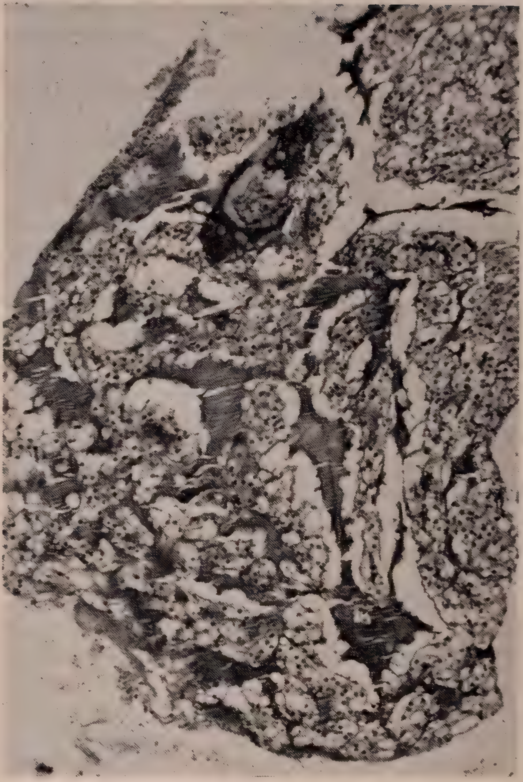

Fig. 2. Biopsy of chordoma.

surgery is speculative, but the problem of early diagnosis is very real since backache is extremely common and has myriad causes. Although a rectal examination in every patient complaining of this symptom would not be amiss and might reveal a tumor, it is likely that nothing would be felt in the early stages. Careful palpation of the hollow of the sacrum might be more rewarding. Finally, x-ray of the sacrum and coccyx for the cause of unexplained backache may demonstrate the typical lesion.

Surgery offers the only cure and only if undertaken before the tumor has broken through its capsule and has extended too widely. Beyond that point only palliation can be expected, and in such cases, as in ours, x-ray therapy may be given with a prayer and a hope. At any rate the prognosis in nonsurgical cases must be guarded, and the length of remission of symptoms cannot be estimated in advance.

87 Winthrop Street
760 Bushwick Avenue

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Response of Chronic Nonspecific Urticaria to Plasma Cholinesterase

ORMAN GREGERSEN, M.D., HOLLIS, NEW YORK, AND ROBERT D. BARNARD, M.D., LAURELTON, NEW YORK

A TYPE of recurrent urticaria unrelated to definitive allergy but evoked by a variety of stress situations has long been recognized as a clinical entity. Autonomic imbalance with parasympathetic ("vagal") predominance has been invoked in its explanation, and it has consequently been designated as "cholinergic" urticaria. Lobitz[1] has recently reviewed its import, but almost ten years ago Peters and Silverman[2] suggested a diminished cholinesterase level as its basis, while Barnard *et al.*[3] similarly suggested estrapenia for all atopic exudative syndromes. Direct test for the validity of these hypotheses was delayed pending concomitant advances in clinical enzymology. Within the last few years clinical measurements of the blood cholinesterase level and partition have become popular in this area as a result of Marchand's[4] investigations of estrapenia in the insecticide toxicology of humans, while Greig and her coworkers[5] have shown the cholinesterases to be involved in all cellular level permeability equilibria. Substitutive increase in body cholinesterase levels is now possible because of the availability of the concentrated plasma enzyme,* while the exhaustive data of Borders, Stephen, Newill, and Martin[6] permit calculation of dosage to predetermine any rise of blood or plasma cholinesterase level desired from its injection.

Cholinesterase therapy in dermatologic practice has been the subject of a previous report.[7] From that report no relationship between induced enzyme level rise and clinical response could be drawn. The latter was held to be satisfactory in several conditions, but the therapy was hardly one of election since definitive adrenocorticotherapy was not tried in comparison. A single case of urticaria was detailed as responsive; this, however, was of the penicillin-induced type and, therefore, an allergic urticaria. It may have abated spontaneously. Interest in cholinergic urticaria was revived by two synchronous reports (that of Morgan,[8] who found the blood cholinesterase level reduced in two patients, and that of Magnus and Thompson,[9] who found the *skin* cholinesterase to be diminished), as well as by the availability of two patients in whom some comparison with the efficacy of cortisone was effected. This report deals only with cholinesterase as a therapeutic modality in cholinergic urticaria; it has not been possible to add to our knowledge about its mode of action.

Case Reports

CASE 1.—A twenty-nine-year-old male had had recurrent giant urticaria with almost daily exacerbation over the past six years. No conclusive relationship between this and possible penicillin or sulfonamide sensitization could be established. The face was affected, but elicitation could be made anywhere and was most pronounced on the back, even chair contact bringing out large wheals. Moving picture theater seats were particular offenders, and attendance at films was all but proscribed. The patient had courses of antihistamines and of cortisone which might have modified but certainly did not abrogate the response. He had had a severe reaction to an intravenous injection of calcium gluconates so that this therapy was not prosecuted.

A single intravenous injection of 2 cc. of Cholase given slowly as a trial for possible untoward reaction (in view of the previous reaction to the gluconate) was uneventful except that the facial lesions were definitely improved the following day. A second injection of 4 cc. was given twenty-four hours later. This resulted in practical clearing of all lesions, and during the next week the patient was able to attend and sit through a movie without incident. The therapeutic response in this instance has persisted for one month and is adjudged more satisfactory than that obtained from corticotherapy.

In this patient blood cholinesterase levels were not determined at any time. The data of Borders *et al.*[6] show no perceptible average rise in the *normal* blood or plasma cholinesterases of adults after a 2-cc. injection of Cholase; 4 cc. invariably produced such a rise. The rise of blood enzyme level produced by a 4-cc. dose persists for four days; in this case the therapeutic response persisted beyond the period of presumed rise. In the next patient sufficient data in this regard were obtained to suggest that the plasma cholinesterase level per se is not the determinant of the response to Cholase.

CASE 2.—A thirty-seven-year-old housewife has had Hodgkin's disease for six years. The initial response to an antibiotic-containing crude streptomyces residue was detailed in an earlier publication.[10] A total of 4 cc. of Cholase had been administered intravenously in 1952 during an episode of hyperemesis gravidarum ultimately necessitating abortion. A subsequent pregnancy was successfully terminated by cesarean. The patient has enjoyed excellent health on continued administration of 5 mg. per Kg. of Terramycin and 0.5 mg. per Kg. per day of cortisone for the past three years. One course of radiotherapy to cosmetically troublesome cervical glands has been given during this time. The hemoglobin level has been satisfactorily maintained by a cobalt-containing preparation, Roncovite, and the patient has never been transfused. The chief complaint during the past four months has been recurrent giant urticaria provoked by scratching of a moderate, daily recurring pruritus. Drowsiness precluded the use of antihistamines which are of dubious benefit for the pruritus, but because of cortisone ingestion the patient occasionally received Diamox, which, it developed, controlled the itching for several hours and prior to the onset of diuresis.* However, it also causes drowsiness in this patient.

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* Cholase, Cutter, a human plasma cholinesterase preparation, containing 350 Hink units per ml., was furnished by Dr. Edwin B. McLean of Berkeley, California.

Blood studies on April 22, 1955, showed a hematocrit of 0.36, hemoglobin of 77 decimillimolar, and cholinesterase of 4.11. The plasma portion was 0.87, which is definitely below normal. Two cubic centimeters of Cholase were injected subcutaneously, this route having previously been found to yield therapeutic results (or elevated plasma levels if sufficient is given).[11] Abatement was noticed within forty-eight hours, at which time the plasma esterase had *fallen* to 0.66, although the erythrocyte cholinesterase must have risen because the total blood esterase was now 4.45. This shift was accompanied by a disappearance of the urticaria which has not reappeared during subsequent observation of four weeks.

Comment

These two cases settle a previously moot point: whether cholinesterase therapy might be preferable to definitive adrenocorticotherapy. In the present cases it was, Case 1 being inadequately responsive to cortisone, while Case 2 was on hydrocortisone throughout the preceding and trial periods. The first patient received an amount of Cholase by the appropriate route sufficient to raise both plasma and whole blood cholinesterases, whereas the second patient did not. The latter patient was receiving cortisone concomitantly, and the question arises as to whether subliminal quantities of either could summate in the effect since Greig and Carter[12] have recently shown that 11-oxysteroids raise the intrinsic acetylcholinesterase of kidney tissue in vivo. However, patients have responded to amounts of Cholase which were inadequate to affect the blood level, and the effect of such injection is, in the above and other cases, much more protracted than could be anticipated were these responses based on substitutive blood cholinesterase alone. The results, therefore, remain inexplicable on this basis.[13] True, we are still unaware of the effect of Cholase injection on the skin cholinesterase (that parameter found deficient by Magnus and Thompson), but certain theoretic considerations suggest alternate explanations. These considerations are briefly stated because they reflect on every adaptation syndrome and every dyspermeability state. Cholinergic urticaria is fundamentally an adaptation to some stress in which heightened capillary permeability of skin vessels has resulted in local exudation.

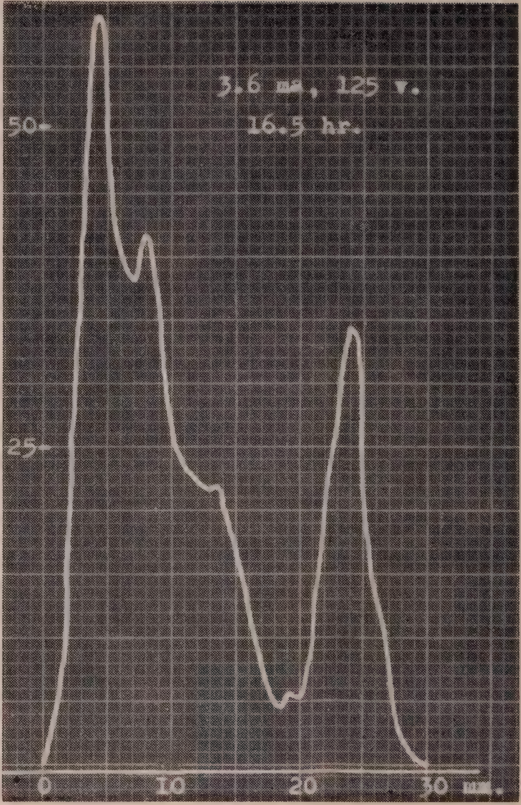

Fig. 1. Filter paper electrophoresis of Cholase (human plasma cholinesterase).

Prior to very recent disclosures, capillary hyperpermeability was looked on as a prosaically mechanical disorder of a single functional unit, the capillary wall. Debate on its nature centered on what had caused presumed widening of its interstices—histamine, acetylcholine, a polypeptide such as "peptone" or the leukotaxin of Menkin,[14] or some still undefined noxious agent—all having particular advocates, if one may in justice refer to "advocates" of a noxious agent. Extensive popularization of the histamine theory is reflected in the labeling of certain therapeutic substances as "antihistamines," but here the theory is challenged by the fact that these are not pharmacologically as antagonistic to histamine as they are, nonspecifically, to a group of depolymerizing enzymes called (after a single example) hyaluronidases.

While cholinesterases are held to govern cellular permeability in general, depolymerases govern that of ground substance and tissue matrices in general. The capillary hyperpermeability exemplified by urticaria could be that of the endothelial cells or of the intracellular cement substance. No assignment of action can be made for administered cholinesterase in this connection, however, for the administration of depolymerases (parenteral trypsin, streptokinase-dornase) also is followed by antiphlogistic effect.[15] One of the explanations of cortisone's activity is that it is an "antihyaluronidase." The injection of trypsin or streptokinase-dornase can cause the same systemic rise in the concentration of circulating "hyaluronidase inhibitor," which some investigators feel is the essential component of the general adaptation syndrome. So likewise can the injection of certain substrates of the depolymerizing enzymes; alterative effects of bacterial mucopolysaccharides (Piromen) and those of "foreign protein" are now so attributed. In this connection the Cholase preparation used is found not to be homogeneous but to exhibit a spectrum of mucopolysaccharide proteins in the alpha and beta globulin fractions (Fig. 1). Hence, just as no previous election of cholinesterase over adrenocorticotherapy could be made on the basis of prior theory, present theory does not permit rationalization of advantage of cholinesterase over nonspecific depolymerizing enzyme or enzyme-substrate therapy. It happened to have been a reasonably successful modality in the two cases presented.

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* Response of pruritus to Diamox has been noticed in three other patients

Summary

Two patients with presumed cholinergic urticaria, a condition in which a systemic depletion of cholinesterase has been incriminated, responded to parenteral administration of the human plasma enzyme.

The nature of the response did not, however, serve to differentiate its mode of action between that of specific enzyme substitution and that of nonspecific effect.

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Radiation Dangers in Diagnostic Radiology

Frequently ignored as being of no consequence, small doses of radiation delivered during diagnostic procedures may be harmful, especially considered in relation to their cumulative effect when added to cosmic radiation and radiation incidental to nuclear explosions. Pointing out that many fluoroscopes and radiographic machines are used by doctors and technicians who have no idea of the radiation output of the equipment, Dr. Israel E. Kirsh suggests a simple manner of measuring the output and adds a list of precautions that should be observed in carrying out radiographic diagnostic procedures. He adds that the physician who is not a radiologist has a primary responsibility in that it is he who orders an x-ray, and it is up to him to avoid unnecessary radiographic procedures. They should stop and ask themselves whether there is any other way of reaching a diagnosis, and whether the possible gain is warranted by the risk. Insofar as therapy is concerned, alternatives to radiation should be considered, especially in benign conditions.—*Journal of the American Medical Association, August 20, 1955*

Subacute Bacterial Endocarditis in a Penicillin-Sensitive Patient Successfully Treated with ACTH, Chlor-Trimeton, and Penicillin

JOEL J. BRENNER, M.D., ROCKVILLE CENTRE, NEW YORK, AND ALFRED LUBART, M.D., OCEANSIDE, NEW YORK

(*From the Medical Service, Meadowbrook Hospital, Hempstead, New York*)

SUBACUTE bacterial endocarditis is a curable disease in about 90 per cent of all cases. Penicillin by itself or in combination with another antibiotic is considered the treatment of choice in streptococcal subacute bacterial endocarditis. However, when a patient is sensitive to penicillin, other drugs must be considered. In spite of satisfactory in vitro sensitivity studies, the bacteriostatic drugs have proved disappointing in a large percentage of these cases. Our case of Streptococcus viridans bacterial endocarditis confirms the impression of disappointing results when bacteriostatic antibiotics (Terramycin and erythromycin) are used. Since the patient had evidenced a rapid constitutional allergic response to penicillin during desensitization with parenteral antihistamine, we were forced to attempt desensitization again with the additional use of adrenocorticotropic hormone.

Case Report

D. G., a forty-four-year-old, white male, was first admitted to Meadowbrook Hospital on July 7, 1951, with a complaint of chills, fever, and malaise of two weeks duration. A diagnosis of rheumatic heart disease and subacute bacterial endocarditis was made, and several blood cultures were positive for Staphylococcus aureus. The patient was started on 2,000,000 units of penicillin every six hours for a total of sixteen days. During this time only a single blood culture drawn on the fourth day of treatment was reported positive for the organism. Because of low-grade fever on the sixteenth day and a questionable petechial hemorrhage on the palate, the dose of aqueous penicillin was increased to 2,500,000 units every three hours, and in addition, 500 mg. of Terramycin was given every six hours. This therapy was continued for another fourteen days. During this time no further petechiae were noted, and the patient remained afebrile and asymptomatic. After his discharge on August 8, 1951, and for a period of several months thereafter the patient evidenced no sign of recurrence, and all blood cultures were sterile.

The patient was readmitted to Meadowbrook Hospital on January 8, 1953, because of chills, fever, and weakness of three weeks duration. In spite of warnings at the time of his previous discharge, a history was elicited of the self-extraction of a loose tooth on December 14, 1952, without prophylactic penicillin. Chills and fever developed five days later, and his family physician started him on 1 Gm. of Terramycin daily without improvement.

At the time of his admission he was noted to be well developed and well nourished and did not appear to be acutely ill. No hemorrhagic manifestations were noted. There was no significant peripheral lymphadenopathy. The lungs were clear to percussion and auscultation. Blood pressure was 120/60. On percussion the heart was enlarged to the left. A systolic thrill was noted at the apex. The pulse and apical rate were 100. A grade III blowing systolic murmur and an apical diastolic murmur were noted. The abdomen was soft and nontender. No masses were palpable. There was no edema, cyanosis, or clubbing. Microscopic examination of several urine specimens did not reveal any red blood cells. Repeated blood cultures during the following forty-eight hours were all reported to contain heavy growths of Str. viridans. Sensitivity studies revealed the organism to be most sensitive to penicillin, and a course of therapy with aqueous procaine penicillin was planned.

Immediately after the initial parenteral injection of 1,000,000 units, the patient developed generalized urticaria and mild shock. In view of the rapidity and severity of the reaction penicillin was discontinued, and the patient was started on oral antihistamines. The period of shock was of short duration, and the urticaria disappeared in two days. Terramycin was then started in a dose of 2 Gm. a day. After the second day of treatment the patient became afebrile. On the third day of treatment the dose was increased to 500 mg. every four hours, and this was continued for a total of thirty-four days. During this period the patient remained asymptomatic, and all blood cultures were sterile. In view of this apparent cure the patient was discharged on February 21, 1953, to be followed in the clinic.

A routine culture taken on March 4, 1953, was reported to contain a heavy growth of Str. viridans. The patient was readmitted on March 8, at which time his temperature was 103 F. Sensitivity studies were again performed, and the results showed marked sensitivity to penicillin and erythromycin. Because of uncertainty regarding the value of the bacteriostatic drugs an attempt was made to desensitize the patient gradually to penicillin, according to the plan in Table I, using in-

TABLE I.—PENICILLIN DESENSITIZATION SCHEDULE

Dose (Cc.)	Dilution (Units Penicillin per Cc.)*	Chlor-Trimeton Injectable (in Syringe with Penicillin) (Mg.)
0.1	10	2.5
0.2	10	2.5
0.4	10	...
0.1	100	2.5
0.2	100	2.5
0.4	100	...
0.1	1,000	2.5
0.2	1,000	2.5
0.4	1,000	...
0.1	10,000	2.5
0.2	10,000	2.5
0.4	10,000	...
0.1	100,000	2.5
0.2	100,000	2.5
0.4†	100,000	...

* Injection interval of 30 minutes between doses.

† When 0.4 cc. of 100,000 units was given successfully, the next dose was 100,000 units, then 300,000, and finally 1,000,000 units per injection, omitting Chlor-Trimeton every third dose.

jectable Chlor-Trimeton with each dose of penicillin. Reactions similar to those found with the first dose of penicillin were rapidly encountered, and the attempt was discontinued because of the fear of a fatal anaphylactic reaction.

On March 18, 1953, the patient was started on a course of erythromycin with a dosage schedule of 500 mg. every six hours. The following day this was increased to 500 mg. every four hours and further increased on March 27 to 600 mg. every four hours. Up to the tenth day of treatment the patient remained afebrile, and all cultures were sterile. On April 3 a fever of 101.6 F. was noted, and repeated cultures were taken. The following day the temperature rose to 104 F. On April 6 the dose of erythromycin was further increased to 800 mg. every four hours without producing any effect on the daily temperature rise. At this time the cultures taken on April 3 were reported to contain Str. viridans.

All further treatment with erythromycin was discontinued on April 10.

Because of the failure of erythromycin it was felt that another attempt to use penicillin must be made. ACTH, 20 units every six hours subcutaneously, was started and maintained for three days prior to undertaking a repeated attempt at penicillin desensitization according to the same dosage schedule in Table I. The ACTH was continued for a total of five days, and the patient was then receiving 300,000 units of aqueous crystalline penicillin G every three hours without any evidence of reaction. The penicillin dose was gradually increased to 1,000,000 units every two hours without ill-effects, even though the ACTH had been discontinued. Penicillin was continued at the maximum dosage for a total of six weeks, and blood cultures remained negative for a period of twelve months.

Comment

A review of the literature on the treatment of Str. viridans subacute bacterial endocarditis in penicillin-sensitive patients shows that doctors are forced to return to penicillin after failure with the other antibiotics. The problem then becomes one of desensitizing the patient to the only antibiotic which offers hope for a permanent cure. Recently the introduction of a potent parenteral antihistamine (Chlor-Trimeton 100 mg. per cc.) has provided a method of controlling the allergic symptoms of some penicillin-sensitive patients. Sanger and Stein[1] report success with the addition of 0.2 cc. (20 mg.) of Chlor-Trimeton to the penicillin given to a patient with local allergic manifestations to penicillin. Beck[2] has reported a case with a history of a severe systemic reaction to penicillin in a patient who was later able to tolerate large doses of penicillin with the addition of Chlor-Trimeton.

Our case unfortunately was not successfully desensitized by the use of Chlor-Trimeton alone. Because of the rapid appearance of systemic symptoms with the use of penicillin and the failure to desensitize the patient by using Chlor-Trimeton alone, the course of ACTH prior to the next attempt to combine penicillin and Chlor-Trimeton was felt to be indicated on an empiric basis. Three days before the final attempt at desensitization the planned five-day course of ACTH in a dose of 20 mg. every six hours was started.

We believe that this case is of interest for the following reasons: (1) the failure with bacteriostatic drugs (erythromycin and Terramycin) even when used in large doses and in spite of in vitro sensitivity studies which indicated a high degree of susceptibility of the streptococcus to these drugs, (2) the successful use of ACTH parenterally prior to desensitization when all other methods had proved unsuccessful, and (3) the importance of penicillin as the drug of choice in the treatment of Str. viridans subacute bacterial endocarditis even in penicillin-sensitive patients.

Summary

1. A case of Str. viridans subacute bacterial endocarditis in a penicillin-sensitive patient is presented.

2. Relapses occurred following treatment with large doses of Terramycin and erythromycin.

3. Desensitization to penicillin with the concomitant use of injectable Chlor-Trimeton also failed.

4. The use of ACTH started prior to an identical schedule of penicillin desensitization with injectable Chlor-Trimeton was then successful.

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FUNDAMENTALS OF MODERN ALLERGY

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Current Views on Atopic Dermatitis

RUDOLF L. BAER, M.D., NEW YORK CITY

ATOPIC dermatitis is among those common dermatoses which in most cases do not require special dermatologic training to make the clinical diagnosis. A majority of physicians readily recognize the eruption in its three characteristic phases:

1. In *infants* the lesions are eczematous (papulovesicular, erythematous, crusting, and oozing). The principal localizations are the face and scalp with involvement frequently also on the trunk and the extensor aspects of the extremities.
2. In *children* the lesions are lichenified, thickened, erythematous, and papular. The principal localizations are the flexors of the arms and legs, the back of the neck, and the wrists.
3. In *adolescents* and *adults* the lesions are lichenified, thickened, and erythematous. Unless secondarily eczematized, e.g., by irritating topical irritants, features of eczema are lacking except on the hands and feet. The principal localizations are the face, neck, scalp, upper chest, cubital spaces, and wrists.

Among the differential diagnostic possibilities, eczematous contact dermatitis and seborrheic dermatitis are most important. Differentiation between them and atopic dermatitis is usually not too difficult if the features listed in Table I are kept in mind.

Much information is now available regarding the hereditary background as well as certain immunologic and nonimmunologic stigmata which are often encountered in patients with atopic dermatitis. Most patients show one or more of the stigmata of the diathesis or hereditary tendency which is best called "atopy" (Coca[2]). It is this atopic background which is the feature common to the large majority of patients with the disease and which justifies the use of the name "atopic dermatitis" as a replacement for the older, confusing, or misleading names such as "disseminated neurodermatitis" or "Besnier's prurigo." Among the characteristics of the atopic diathesis is a familial tendency to allergic asthma, allergic rhinitis, atopic dermatitis, and to certain gastrointestinal and other disturbances; wheal responses in skin tests with common "protein" food, inhalant, and contactant allergens; presence of passive transfer antibodies in the blood serum; tendency to blood eosinophilia; tendency to anaphylactoid reactions to foreign sera, penicillin, etc.

In a small minority of patients protein allergens (foods, inhalants, and contactants) can be shown clinically to contribute to the maintenance of the eruption and to produce flareups. These allergenic agents, however, must be discovered by subjecting the patients to *clinical*

TABLE I.—Some Data Helpful in the Differential Diagnosis Between Atopic Dermatitis, Contact Dermatitis, and Seborrheic Dermatitis*

	Atopic Dermatitis	Contact Dermatitis	Seborrheic Dermatitis
Localization	In typical areas (see characteristic phases listed in text)—usually independent of detectable contributory factors	Mainly in areas of major exposure to the causal agent	In typical areas—scalp, nasolabial, postauricular, axillary, sternal, anocrural
Morphologic characteristics of lesions	Usually much thickening and lichenification with erythema; eczematous (papulovesicular) lesions only in infants and very young children	Usually eczematous (erythematous; papulovesicular); thickening and lichenification only in the chronic phase	Erythematous to brownish, greasy, scaly
Age groups involved	At any age *but* most common at ages 1 to 3; 6 to 9; 12 to 18; not common after age 25	At any age *but* most common at ages 20 to 50; relatively uncommon (except for plant dermatitis) before age 20	At any age *but* most common at ages from 20 years up
Familial tendency to seborrheic dermatitis and psoriasis	Usually not but seborrhea of scalp often present	Usually not	Often
Familial or personal tendency to asthma, seasonal rhinitis, etc.	Very common (about 80%)	Average (about 10%)	Average (about 10%)
Response to "nonspecific" therapy (exclusive of systemic steroid or ACTH therapy)	Often good, even on a long-term basis	Usually only moderately good or poor if exposure to specific etiologic agents continues	Often excellent
Tendency to "white" dermographism	Yes	No	No
Tendency to blood eosinophilia	Yes	No	No
Urticarial response in skin tests with "protein" food, inhalant, and contactant allergens	Often positive	Usually negative	Usually negative
Eczematous reaction in patch tests with small molecular substances	Usually negative	Often positive	Usually negative

* Based on Sulzberger.[1]

tests of avoidance and re-exposure since skin tests are not reliable as indicators of clinical sensitivity in atopic dermatitis.

Certain other stigmata also are seen more or less frequently in patients with atopic dermatitis. It is not yet known whether they are part of the mechanism underlying the disease or whether they develop as a consequence of it. Among these are peculiar vascular responses (as shown by "white" dermographism,* abnormal skin temperature and cold pressure responses, and tendency to low blood pressure); flat blood sugar tolerance curves; disturbances in sweating (probably an important factor in the severe itching because of "self-injected" sweat and lack of cooling); susceptibility to secondary infection with herpes simplex virus and vaccinia virus (this may lead to death in infants); skin test reactions to human dander (the clinical significance of these is not yet clear); and cataract formation (fortunately not common in mild cases).

Among additional factors which often have an unfavorable influence on the course of the disease are rapid changes in temperature; emotional tension; dusty environments; alkaline cleansing agents, including common toilet soaps;

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* When the skin is lightly stroked, e.g., with the fingernail, a distinct white line develops instead of the usual red line.

contact with wool; greasy topical medicaments, and nonfebrile intercurrent infections (colds, sinusitis). Diseases associated with high fever, however, often exert an evanescent beneficial action.

Is atopic dermatitis due to a single etiologic mechanism? Or is it due to a combination of factors which are superimposed on a peculiar hereditary makeup and, if so, what is the relative importance of each of the various contributory mechanisms? The atopic hereditary background, as well as the abnormal vascular responses and diverse other stigmata mentioned above, indicate the very complex nature of the disease. All the evidence available at present is against a single etiologic mechanism and favors a multiplicity of contributory factors which superimpose themselves on a peculiar terrain. This is of the greatest *practical* importance because obviously if there is no single major etiologic mechanism, the sensible management of atopic dermatitis must be based on a combined approach rather than on a one-sided attack.

It is likely that in the past the poor therapeutic results in many cases of atopic dermatitis were, at least in part, due to just such one-sided management, of which purely "allergic" and "psychosomatic" approaches are outstanding examples.

As has been stated above, multiple positive skin reactions to "protein" food, inhalant, and other allergens are commonly seen in patients with atopic dermatitis. It is an error, however, to manage such patients with diets and hyposensitization procedures based on the results of skin tests alone. Only a small minority of atopic dermatitis patients in our experience can be reliably shown to be clinically sensitive to allergenic agents. (Wool is a possible exception to this rule and will be discussed below.) Even in those cases in which allergenic foods or inhalants have been shown to be contributory factors, their elimination or avoidance *alone*, while it may cause much improvement, does not always lead to healing of the eruption.

In those instances in which allergenic agents can be shown to contribute to the eruption, foods are more often a significant factor in infants and young children and inhalants in older children, adolescents, and adults. Among the contactants wool is probably the most important single factor. There are cases where a single wearing of a wool sweater even for a few hours is sufficient to produce a flareup in some of the exposed areas. Whether the effect of contact with wool in many of these patients is due to an allergenic action, or is the result of an irritating effect of the wool fibers on itch points, or a combination of both has not yet been established.

One-sided management from the psychosomatic viewpoint in our experience has proved equally unsuccessful. This is not surprising since there is no evidence that emotional difficulties play a major etiologic role. Rather, they are among the *many* links in the chain of factors contributing to the maintenance and flaring up of the disease. It is obvious, however, that emotional tension is an unfavorable influence on any pruritic dermatosis and especially on one with the intense itching which is characteristic of atopic dermatitis.

It would be surprising if a disease which, if not successfully treated, causes sleeplessness, discomfort, disfigurement, and interference with the patient's normal social and economic development, did not have a significant effect on the patient's psychic status and his relationship to his environment. For example, a child with severe atopic dermatitis requires and is likely to receive attention from the parents way beyond that given to the healthy siblings. Moreover, the child is likely to utilize the dermatosis to arouse sympathy, to obtain still more attention, and to achieve objectives which are entirely unrelated to the disease. Many physicians, including the present author, believe that these somatopsychic aspects of atopic dermatitis are generally probably *of much more importance* in these patients than the psychosomatic factors.

Management

Treatment and prevention of recurrences in atopic dermatitis must be based on a consideration of *all* factors which are known to have an unfavorable influence on the disease together with measures which empirically have been found beneficial in many instances. Obviously in mild cases of the disease it is unnecessary to take some of the steps which are required in the more severe ones. The procedures which have proved successful in our hands in the large majority of cases may be summarized as follows:

In Mild Cases:

1. Topical therapy of a generally nonstaining, greaseless, and odorless type.

(*a*) Hydrocortisone preparations (creams, lotions, ointments).

(*b*) Antipruritic shake lotions. For example—menthol 0.3, phenol 0.6, benzocaine 12.0, coal tar solution N.F. 6.0, resorcin 2.4, zinc oxide and talc each 20.0, glycerin 10.0, alcohol and water each 35.0. Paint on three or more times daily with 1-inch flat varnish brush.

(*c*) Medicated baths. For example—tar solution for the bath (Almay or Ar-Ex), 4 tablespoonfuls per bath, or coal tar solution N.F. or Zetar for the bath (Dermik), 2 tablespoonfuls per bath.

(*d*) Antiseborrheic treatment for the scalp. For example—Selsun Suspension (Abbott) twice weekly for two weeks and then once weekly.

(*e*) Avoidance of greasy topical medicaments (exception: hydrocortisone ointment).

2. Systemic antipruritic therapy with:

(*a*) Antihistamines, e.g., Teldrin (S.K.F.), 12 mg. after breakfast, and Phenergan (Wyeth), 12.5 to 25 mg. after dinner.

(*b*) Thorazine, 25 mg. three to four times daily.

(*c*) Aspirin, 0.3 Gm. four times daily (avoid in cases associated with asthma).

(*d*) Papaverine hydrochloride, 0.1 Gm. four times daily.

3. Substitution of a mild soapless detergent bar for toilet soap. For example—Dove bar (Lever Bros.) or Lowila Cake (Westwood).

4. Avoidance of exposure to persons with herpes simplex lesions.

IN MORE SEVERE CASES, ADD:

1. Topical therapy, if necessary of a less convenient type (including some remedies which stain and require bandaging). For example:

(*a*) Hydrocortisone powder 0.3,* crude coal tar 0.6, Sterosan ointment (Geigy) 30.0. Apply lightly to affected areas three times daily.

(*b*) Hydrocortisone powder 0.3,* crude coal tar 3.0, paste of zinc oxide 30.0. Apply in thick layer to affected areas; cover with muslin material and bandage.

2. Avoidance of allergenic agents clearly suggested by the history.

3. Radiation therapy (grenz rays, superficial x-rays).

4. Avoidance of direct contact with wool.

5. Avoidance of activities producing sweating or rapid changes in temperature.

6. Avoidance of emotional stress.

7. Avoidance of dusty environments.

If no significant improvement occurs after four weeks of such management:

8. Careful study for possible allergenic factors by avoidance and re-exposure tests and in some cases by skin tests.

9. Hospitalization for two to three weeks.

IN OTHERWISE INTRACTABLE CASES, ADD:

1. Systemic therapy with cortisone, hydrocortisone, Meticorten, or ACTH, first in suppressive doses and subsequently in minimum maintenance doses. In many cases this has to be continued for many months or years unless it is used on a short-term basis only for suppression of an acute exacerbation of short duration. Do not rely simply on such treatment, but combine with the other measures listed above.

2. Complete change in environment, preferably to a dry warm climate for a period of weeks, months, or years.

Summary

Atopic dermatitis is a relatively easily recognized dermatosis which undergoes a characteristic morphologic evolution in infancy, childhood, adolescence, and adulthood.

A majority of patients with this disease present one or more of the features of atopy, including a familial tendency to allergic asthma, allergic rhinitis, and atopic dermatitis. In addition, they often present other stigmata, among them abnormal vascular responses, sweat disturbances, flat blood sugar curves, etc.

Present knowledge of atopic dermatitis does not indicate a single etiologic mechanism, nor does it justify the singling out of the allergic or psychosomatic factors as having greater contributory significance than many others of equal or greater importance.

Successful management is based on a combination of therapeutic approaches, taking into consideration the *total* available knowledge regarding factors contributing to the disease rather than on one-sided approaches.

962 PARK AVENUE

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(*Number thirteen of a series on Fundamentals in Modern Allergy*)

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* When the powder is not obtainable, the pharmacist may use crushed 20-mg. hydrocortisone tablets.

CLINICAL ANESTHESIA CONFERENCE

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Anesthetic Death from Hypoxia of Apparently Unknown Origin

THIS death was clearly due to anoxic anoxia without obvious respiratory obstruction. The anesthesiologist, although a certified specialist, was at a loss to prevent, correct, explain, or investigate the occurrence. The case is presented because it stimulated a valuable discussion at conference.

Case Report

A white, forty-nine-year-old male was to be operated for carcinomatous pyloric obstruction. Postprandial vomiting had been present for one month. In the past few months he had lost 25 pounds and now weighed 114 pounds.

The salient physical findings were abdominal distention, blood pressure 90/64, and pulse 68. The laboratory data were hemoglobin 12.8 Gm. per 100 ml., erythrocytes 4,000,000 per cu. mm., leukocytes 6,400 per cu. mm. Urinalysis was normal, as were the blood sugar, sodium, potassium, and prothrombin time; the total serum proteins were 5.4 Gm. per 100 ml., the albumin-globulin ratio 3.1: 2.3.

After intravenous glucose, saline, and ascorbic acid and the institution of nasogastric tube drainage, the patient was scheduled for gastrectomy. Preanesthetic medication was 75 mg. of meperidine and 0.4 mg. of atropine sulfate injected subcutaneously thirty minutes before anesthesia. The effect was satisfactory: the blood pressure was 90/60. Anesthesia was induced at 10:15 A.M. with 0.4 per cent thiopental sodium followed by ether and oxygen. Orotracheal intubation was easily performed with a number 8 Magill tube at 10:25. The operation began at 10:35, and the peritoneal cavity was entered at 11 A.M. During this period the systolic pressure fell from 90 to 80 mm. Hg, the diastolic pressure remained at 60 mm. Hg, and the pulse rate stayed at 100. A transfusion was begun. In the next ten minutes the patient became cyanotic, and the pulse rose to 140, culminating with cessation of respiration and circulation. At 11:15 A.M. the chest was entered, cardiac standstill found, cardiac massage performed, and manual ventilation maintained. Resuscitation failed after three hours of cardiac massage, two doses of epinephrine, 0.5 cc. of 1:1,000 each, and 1 cc. of lanatoside C into the heart. The advent of fibrillation was followed by defibrillation. The heart contracted for five to ten minutes on two occasions during resuscitation, and spontaneous respiration occurred occasionally. Postmortem examination was not performed.

Comment

Death was clearly precipitated by anoxic anoxia despite endotracheal intubation and adequate ventilation with a high oxygen atmosphere in the presence of a mildly depressed peripheral circulation and a presumably normal heart. When this case was presented before a conference of anesthesiologists, the agreed conclusion was that inadvertent intubation of a main bronchus had occurred. The exclusion of one lung, with its circulation remaining active, created an acute, severe reduction of alveolar surface and a major right-to-left pulmonary vascular shunt of blood unable to absorb oxygen and eliminate carbon dioxide. This mechanism, although most probable, cannot be proved or disproved without additional evidence which is obtainable by postmortem examination or simply by a postmortem roentgenogram of the thorax.

This case is published to emphasize several vital requirements:

1. Awareness and alertness to the possibility of inadvertent endobronchial intubation with every endotracheal anesthesia. The position of an endotracheal catheter should always be checked for accidental entry into a main bronchus. Regardless of expertness, almost every anesthesiologist encounters this mishap, particularly in small adults and children. Only constant suspicion of this misplacement, especially when anesthesia is not proceeding according to plan, prevents more of these episodes from duplicating the course of this case.

2. Prompt and complete analysis of the possible causes of anoxia. The differential diagnosis of anoxia is the practice of medicine in which the anesthesiologist should be most expert. He must be capable of immediate analysis of an anoxic episode so that an accurate and comprehensive review of possible causes relevant to a given set of circumstances is complete within the three minute grace period between severe hypoxia and cardiac arrest.

3. Postmortem roentgenography in the investigation of unexpected death. This type of fatality is subject to review and clearance by the Office of the Medical Examiner (at least in New York City). As a rule, however, an autopsy is not ordered. As long as this situation persists, the anesthesiologist must utilize every other feasible means of obtaining data to clarify the cause and mechanism of death. A simple chest x-ray is often surprisingly revealing in a case such as this.

A panel of leading anesthesiologists might be created to assist the anesthesiologist and the Medical Examiner in the emergency review of every death under anesthesia. With this auxiliary system of immediate clearance` the responding consulting anesthesiologist could advise both the Medical Examiner and the surgical team in the urgent need for additional data to be derived by x-ray, aspiration, or a limited or complete postmortem examination.

(*Number nine of a series of Clinical Anesthesia Conferences*)

Nylons Not Electrostatic

The gentler sex of surgical teams can feel less midvictorian in operating rooms from now on because nylon stockings can be worn without violating safety rules, provided the girls wear electrically conductive shoes.

At a meeting of the committee on hospital operating rooms of the National Fire Protection Association, New York City, January 23 and 24, Howard A. Carter, director of biophysical investigation of the A.M.A. Council on Medical Physics, said that, based on new evidence and experience, nylon stockings are not electrostatically dangerous when touching the skin.

A study of operating room explosions by the committee has shown that high electric charges will generate on nylon, wool, and silk garments which do not touch the skin and therefore are a hazard. The static sparks can ignite the anesthetic gas. Mr. Carter said that the committee declared that nylon stockings which touch the skin do not retain a charge.

The committee did not change the rules for nylon undergarments and the uniforms of the nurse anesthetists or nurse attendants. These swishing garments must be made of cotton or of some textile that will not generate static electricity.

Fortunately, the electrically conductive shoes are made to coincide with the prevailing fashion.—*Secretary's Letter, American Medical Association, February 6, 1956*

Postgraduate Radio Programs

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Prophylaxis of Rheumatic Fever

MACLYN McCARTY, M.D., NEW YORK CITY

(*From the Hospital of the Rockefeller Institute for Medical Research*)

The processes involved in the pathogenesis of rheumatic fever are not much better understood today than they were twenty years ago. However, the maturation of certain concepts concerning the disease together with the development of modern antimicrobial therapy have made it possible to deal effectively with the problem of preventing rheumatic fever, even in the absence of more precise knowledge concerning its nature. The most important basic concept involved is that rheumatic fever is somehow initiated by infections with hemolytic streptococci. There can no longer be any serious doubt about this relationship, and with the appropriate tools it is possible to provide objective evidence for a recent streptococcal infection in practically every case of acute rheumatic fever.

The obvious corollary to this view of the disease is that rheumatic fever could be controlled by the elimination or control of streptococcal infections. Perhaps the ideal approach to the problem would be the use of some form of active immunization which could be employed in early childhood to provide permanent or long-term protection against streptococcal infections. Unfortunately, no satisfactory method for carrying out this type of immunization has been devised, nor is there any indication that this problem will be solved in the near future. One of the major stumbling blocks is the fact that many different serologic types of group A streptococci exist in nature. To a large extent immunity is type-specific, and consequently experience with one type affords little protection against the other types. Thus, any vaccine devised for immunization, even if capable of inducing a consistent and durable antibody response, would of necessity have to include a bewildering number of different streptococcal types or purified products derived from these types.

Until a suitable polyvalent vaccine is produced or some new approach to the prevention of streptococcal disease is devised, it is logical to develop the best possible program for the prevention of rheumatic fever using the tools that we have at hand—the various antimicrobial drugs. Any program for the use of antimicrobial drugs for this purpose falls rather naturally into two distinct categories: first, the prevention of rheumatic fever in the general population by adequate treatment of streptococcal infections whenever they occur and, second, the prophylaxis of recurrent attacks of rheumatic fever in those patients known to have had one or more previous attacks of the disease. During this developmental period when new drugs are constantly being introduced and when much remains to be learned concerning the methods of administration and the various biologic properties of the drugs that are already well established, it is inevitable that any proposed program be a tentative one and that it be based on an evaluation of the best evidence available at the moment. One must expect, therefore, that the details of the procedures recommended for the prevention of rheumatic fever will be subject to continuous change. These facts are recognized by the Committee on Prevention of Rheumatic Fever of the Council on Rheumatic Fever and Congenital Heart Disease of the American Heart Association. The recently released revised statement of this committee represents an attempt to incorporate new information in those areas in which sufficient evidence has accumulated. It is anticipated that the recommendations set forth in this statement will have to be subjected to repeated revisions in the future. In the present discussion specific recommendations with regard to dosage and modes of administration are drawn from this statement.

Of the two aspects of the program for prevention of rheumatic fever, the one that is the more difficult to carry out successfully is the treatment of streptococcal infections in the general population. It is also the more debatable from the point of view of feasibility and general applicability. For the demonstration that this approach to the problem might conceivably be effective, we are indebted primarily to the group of investigators working at the Streptococcal Disease Laboratory at Warren Air Force Base under the direction of Dr. Charles H. Rammelkamp, Jr. These workers showed conclusively in large-scale experiments that antibiotic treatment of streptococcal sore throat, with apparent elimination of streptococci from the throat, effectively prevents the occurrence of rheumatic fever. Recent evidence indicates that even if therapy is delayed for several days, the eradication of infecting streptococci results in a marked decrease in the incidence of rheumatic fever.

The key to the success of this preventive measure lies in the choice of an agent and a dosage schedule that will consistently bring about elimination of streptococci from the throat. At the present time penicillin is the only antibacterial drug that has been proved to be completely reliable for this purpose, probably because its effect is bactericidal rather than simply bacteriostatic. The sulfonamide drugs have been shown to be ineffective in treatment, and detailed information concerning the so-called broad-spectrum antibiotics is still so incomplete that they should be reserved for those cases in which sensitivity to penicillin precludes its use.

Duration of therapy with penicillin is also of considerable importance. Although a few days of treatment may appear successful in certain cases, relapses will be frequent, and bacteriologic culture will demonstrate the persistence or return of streptococci. Controlled studies have shown that ten days of therapy are required to assure the desired result. There are several alternative procedures by which this end may be achieved, and either the oral or intramuscular route of administration may be selected. For example, a single intramuscular injection of 600,000 units of the long-acting benzathine penicillin G will maintain an adequate blood level of penicillin in a child for a sufficient length of time to eliminate streptococci. If one of the preparations with moderately delayed action is employed, such as procaine penicillin with aluminum monostearate in oil, one intramuscular injection of 300,000 units every third day for three doses is required. Similar results can be obtained with oral administration of 250,000 units three times a day for ten days.

The selection of the most appropriate method of administration in a given case depends on a number of factors, and there is no general agreement at the present time on the relative weight to be given to the advantages and disadvantages of various methods. Those physicians who are most concerned about possible sensitivity reactions to penicillin tend to favor the oral route of administration, although it must be recognized that with oral therapy there is often considerable uncertainty that the full ten-day course will be carried out.

There are certain factors that render the prevention of rheumatic fever by treatment of streptococcal infections not an altogether satisfactory procedure. The first of these concerns the diagnosis of streptococcal sore throat. A significant percentage of cases of streptococcal tonsillitis or pharyngitis do not show the manifestations that have come to be considered characteristic of the disease. Fever and constitutional symptoms may be minimal, and even soreness of the throat may be absent. It must be emphasized that symptomatically mild infections of this type can lead to rheumatic fever.

It is evident that the mild streptococcal infections with minimal or atypical symptoms present considerable difficulty in terms of diagnosis. In addition, there are cases in which the symptoms suggest the presence of a streptococcal sore throat but which do not show the typical exudative pharyngitis or tonsillitis on examination of the throat. On the other hand, certain nonstreptococcal illnesses can give rise to exudative lesions that simulate those of streptococcal sore throat. The conclusion that must be drawn from these observations is that accurate clinical diagnosis of streptococcal disease is possible only in that portion of total cases which show the classic findings. These facts serve to emphasize the importance of throat cultures in diagnosis of these infections and to point up the need for the development of facilities in all communities that would make this type of bacteriologic service available to physicians. A positive throat culture for group A streptococci is the most reliable diagnostic evidence available, and the general neglect of this procedure is not justifiable on the basis of any technical difficulties involved. A more intelligent application of the program for prevention of rheumatic fever depends on the expansion of facilities for bacteriologic culture.

A second disturbing factor inherent in the widespread use of effective antibiotic therapy of all recognized streptococcal infections is concerned with our incomplete knowledge of the possible effect of treatment on the immune response of the patient. The present evidence indicates that penicillin therapy markedly suppresses the development of antibodies to streptococcal antigens, including the type-specific antigen. It can be argued, although it has not been proved, that the apparent relative immunity of adults to streptococcal infections is the result of exposure to these organisms on many occasions throughout childhood. Theoretically, the continued vigorous prosecution of the preventive program would ultimately result in an adult population lacking this relative immunity and thus possessing susceptibility to streptococcal infections comparable to that of a young child. Even if this hypothetic outcome is a reality, it may not outweigh the advantages that will accrue from the prevention of rheumatic fever. However, it is clear that the control of streptococcal disease with antibiotics can be considered only a stopgap measure which must be employed pending the development of a more satisfactory approach.

The indications for carrying out the second aspect of the prophylactic program—that of the prevention of streptococcal infections in rheumatic individuals—are much more clear. It has been abundantly confirmed that patients who have once had rheumatic fever are extraordinarily susceptible to recurrences of the disease following streptococcal infections. Epidemics of streptococcal disease in rheumatic populations have been reported with recurrence rates as high as 50 per cent. It is evident, therefore, that the threat of a streptococcal infection to the rheumatic subject is so great that one cannot rely on the procedure of treating acute streptococcal infections because of the uncertainties in their recognition. More foolproof measures are demanded, and with our presently available tools this demand is best met by continuous prophylaxis to eliminate the chance of streptococci becoming established in the upper respiratory tract.

Part of the threat of streptococci is related to the same factor that makes the problem of immunization so difficult, that is, the occurrence of a large number of different types which are immunologically specific so that infection with one type affords little protective immunity against the others. In the past it was not uncommon for the rheumatic child to have repeated attacks of the disease year after year, initiated in each case by a fresh streptococcal infection. Each attack can add to the permanent damage to the heart, and the majority of serious cases of rheumatic heart disease have a clear history of repeated episodes of acute rheumatic fever. The ultimate aim of prophylaxis is to prevent cardiac damage in those children who have suffered no apparent ill effects from their first attack of rheumatic fever and to forestall progressive damage in those with established rheumatic heart disease.

In order to achieve these ends it is recommended that some form of continuous prophylaxis be started as soon as the diagnosis of rheumatic fever or rheumatic heart disease has been unequivocally established. In the case of rheumatic fever it is probably wise to begin by administering a full therapeutic course of penicillin in an attempt to eliminate streptococci from the body. This procedure should be followed even if negative throat cultures have been obtained since it is difficult to exclude the possibility of the carrier state associated with residual viable organisms in inaccessible locations.

Once the prophylactic regime has been instituted, the patient must be prepared to accept the possibility of continuing it indefinitely without interruption. It is not considered safe to discontinue prophylaxis during the summer, nor is it feasible to set some age limit after which prophylaxis is no longer required. On the basis of statistical evidence indicating that the incidence of recurrences of rheumatic fever is greatly reduced after the lapse of five years since the last previous attack, it was formerly suggested that prophylaxis be discontinued after this period of time. Although there is no doubt about the validity of the statistical information on which this view was based, it has no particular value in handling the individual case of rheumatic fever. It merely means that the risk is reduced as time passes and not that the danger of recurrence is completely eliminated. True recurrences of rheumatic fever following streptococcal infections in adult patients many years after the last previous attack are sufficiently common to establish the fact that an important risk remains. While the exposure to streptococcal infections no doubt becomes much less after the school age is passed, it certainly rises again during adulthood when there are young children in the family.

In principle, then, the recommendations for prophylaxis are based on the fact that there is no time of the year and no time of life in which the threat of streptococcal infection can be considered entirely absent. Since the possibility of exposure cannot be predicted in advance, there is no logical alternative to the maintenance of some form of preventive medication. It is obvious, therefore, that the greatest care should be employed in making the diagnosis of rheumatic fever and rheumatic heart disease in order to protect those patients that require it and to avoid subjecting to a prophylactic regime those who do not need it. While it is possible to conceive of special situations in which exceptions should be made to the general rule that all rheumatic subjects should receive continuous prophylaxis, it is difficult to give specific criteria to be employed in making these exceptions. The judgment of the physician in this matter must be based on a careful evaluation of all the facts.

The choice of the exact prophylactic method to be employed is to some extent again a matter of personal preference. In contrast to their inefficiency in the treatment of acute streptococcal disease, the sulfonamide drugs have proved effective in prophylaxis. In a single daily dosage of 0.5 Gm. in children and 1 Gm. in adults, sulfadiazine has been shown to be a practical drug for oral prophylaxis. Toxic reactions are rare at this dosage level, but because of their rather serious nature it is important to be on the alert for their occurrence. The appearance of a skin rash associated with sore throat or fever is an indication for discontinuing the drug. Leukopenia resulting from sulfonamide drugs usually occurs early in the course of therapy, and for this reason it is recommended that white blood counts be made at weekly intervals during the first two months of the prophylactic regime and that the drug be discontinued if the count falls below 4,000 per cu. mm. A further precaution is to avoid the use of full doses of sulfonamide drugs in the treatment of any illness of patients receiving sulfonamide prophylaxis.

Many physicians consider penicillin to be the drug of choice in prophylaxis and reserve sulfadiazine for those cases in which penicillin is contraindicated. Penicillin may be given either by the oral or intramuscular routes. When given by the oral route, it shares with sulfadiazine the disadvantage of depending upon conscientious cooperation of the patient. However, in practice it has proved possible to indoctrinate patients successfully so that the taking of the medication each morning becomes part of the daily routine. It is recommended that 200,000 to 250,000 units of penicillin be taken each morning immediately after arising. This dosage was selected because of unequivocal evidence for its effectiveness under the conditions of the field experiments on prophylaxis.

Intramuscular prophylaxis may be given in the form of benzathine penicillin G in a dosage of 1,200,000 units once a month. Thus, in most cases this procedure requires a monthly visit of the patient to the physician but possesses the distinct advantage of assuring the administration of the prophylactic agent. The toxic reactions to penicillin are the same for either method of administration, although they seem to be of significantly higher incidence and possibly of greater severity following intramuscular administration. The common manifestations are urticaria and angioneurotic edema or more severe reactions of this type that resemble serum sickness. These latter reactions are of special significance because the occurrence of joint pain and fever may lead to the incorrect diagnosis of rheumatic fever. It has frequently been observed that skin rashes may disappear even on continued administration of the drug, but if the reaction is severe, it is advisable to discontinue penicillin.

It is likely that other antibacterial agents will ultimately prove acceptable for prophylaxis. At the present time, however, none of these has been investigated to an extent comparable to the studies on sulfadiazine and penicillin.

The immediate aim of prophylaxis is to maintain for part of each day a sufficiently high bacteriostatic or bactericidal concentration to prevent the establishment of hemolytic streptococci, even if they gain access to the upper respiratory tract. Under ordinary circumstances the dose of infecting organisms will always be small so that intermittent therapy is adequate to block progressive multiplication. With the possible exception of the first few days after the intramuscular injection of benzathine penicillin, the blood levels obtained are not high enough to cause the profound disturbances in the normal flora of the upper respiratory tract which commonly result from full therapeutic dosage. The exquisite sensitivity of group A streptococci to antibacterial agents is the factor that makes intermittent therapy feasible.

It is not uncommon to encounter resistance on the part of the patient to the continued daily use of a prophylactic drug. This is often the result of justifiable warnings against the indiscriminate use of antibiotics but reflects to some degree an ignorance of the specific indications for their use in rheumatic fever patients. Occasionally, the intelligent patient will confront the physician with information, obtained from reading or from a high school course in biology, that drugs like penicillin lose their effectiveness when given over a long period of time. This, of course, refers to the development of drug resistance on the part of certain microorganisms. In the case of penicillin the development of true resistance of group A streptococci has apparently not occurred in the human population despite the large amounts of the drug that have been used. The group A streptococcus appears to be biologically so constituted that even in the laboratory it has not been possible to isolate and establish mutants with significant resistance to penicillin. Sulfonamide-resistant streptococci appeared in the course of mass prophylaxis programs in military populations during World War II, but the evidence suggests that this is an unlikely event during scattered use of the drug in civilian populations. In any event the possibility of drug resistance is not great enough to outweigh the advantage of the prophylactic regime in preventing recurrence of rheumatic fever.

In summing up the current status of prophylaxis, it can be stated that effective treatment of streptococcal infections offers hope of at least reducing the incidence of rheumatic fever and that the continuous administration of certain antibacterial drugs in relatively small amounts will protect the rheumatic individual from recurrences of the disease with the attendant risk of further cardiac damage. While the methods available are not ideal for achieving these ends, they should be intelligently employed to the fullest extent until more appropriate methods are found.

(*Number three of a series of Postgraduate Radio Programs*)

Prosthesis after Amputation for Malignant Lesions

Is it medically advisable or economically sound to fit a person with an artificial limb after he has undergone an amputation for malignancy? In an attempt to answer this question—frequently asked because of the costs involved and the dubious prognosis of such cases—Dr. William F. Hickey and A. Arthur Rosse surveyed the experience of 17 vocational rehabilitation agencies. Here is what they found: most of the patients survived two years or more after amputation, and most of these earned money. On the minimal estimate of total income and taxes derived from it ,the authors conclude that fitting these people with limbs paid off.—*New England Journal of Medicine, July 14, 1955*

SPECIAL ARTICLES

Proposed New Health Services for Older People

FRANK W. REYNOLDS, M.D., ALBANY, NEW YORK

(Director, Bureau of Chronic Diseases and Geriatrics, New York State Department of Health)

On October 18 to 20, 1955, the first New York State Conference on the Problems of Aging was held in Albany. The conference, convened by Governor Averell Harriman, met to consider the growing problems associated with an aging population and was attended by about 350 men and women specially invited by the Governor.

In opening the conference Governor Harriman expressed the hope that the conference would "help to obtain a 'grassroots' view as to the needs of older persons and the priorities of these needs; help to develop programs for older persons in the fields of employment, housing, health and rehabilitation, education and recreation, community care of the aged, etc.; assist in determining the areas of responsibility which should rightfully belong to private agencies and public agencies in helping older persons; and help determine the respective rules of our State and local governments in aiding older persons either through administrative efforts or legislation."

The conference consisted of 11 committees, each of which considered a different aspect of the problem of aging. One of these committees considered the problems of older persons in the fields of health, medical care, and rehabilitation. The chairman of this committee was Dr. Renato J. Azzari, president of the Medical Society of the State of New York. Dr. William R. Willard of Syracuse and Dr. Michael M. Dacso of New York City served as consultants to the committee and prepared basic documentation for the committee's discussions.

The conclusions and recommendations of the Committee on Health, Medical Care, and Rehabilitation were as follows:

The following recommendations of the committee have been formulated with full recognition that the medical care of older persons should not be separate and apart from the medical care of the rest of the population. The committee also recognizes that housing, opportunities for employment, recreational facilities, social relationships, and other factors are important for the preservation of the health of old people.

Healthful aging has its origin in young adulthood and during the middle years of life. There is need for anticipatory and preventive measures to prevent, minimize, or postpone the disabilities that commonly attend the aging process.

I. Medical and Paramedical Services for the Aging

1. Recognizing that many older persons require medical care in their homes, the committee recommends that programs be developed by hospitals, local health departments, and other appropriate agencies to assist practicing physicians in providing home care. Such home care programs should include home nursing service, home physical therapy service, nutrition service, medical social service, and homemaker service.

2. The committee endorses the present activities of health departments and voluntary health agencies in the field of geriatrics and chronic illness and stresses the importance of broadening the scope of such activities, especially those relating to prevention and early detection of disease and those stressing health education among the adult population, with emphasis on the older age groups. It recommends financial support for intensified health department activities in these fields which are so vital to the preservation of the health of older people.

3. It is recommended that clinic facilities be established for health evaluation and disease detection among old people. Where outpatient facilities exist, these might be utilized and the services adjusted to meet the needs of older persons.

4. It is recommended that funds be made available for the evaluation of experimental services, such as (*a*) pilot rehabilitation projects specially designed for older persons, (*b*) a "meals on wheels" service for aged persons confined to their homes, and (*c*) "day hospital" service for ambulatory persons which would provide medical services, including physical and occupational therapy. These might also include recreational services, rest periods, luncheons, and transportation.

5. It is recommended that organizations be developed which would provide expensive types of sickroom equipment and self-help devices for home care on a loan basis to patients with chronic illness. Funds and personnel for this purpose might be provided by voluntary agencies.

II. FACILITIES

1. A State-wide system of licensure and supervision of nursing and convalescent homes is recommended.

2. It is recommended that consulting services and educational programs for operators and the staffs of nursing homes be provided by appropriate State or local agencies.

3. In view of the need for developing comprehensive rehabilitation facilities and for the training of adequate personnel, it is recommended that the State provide assistance to medical schools and teaching hospitals for the establishment or improvement of such departments.

4. The committee commends the New York State Joint Hospital Survey and Planning Commission and particularly endorses the commission's policies and program with regard to the construction of medical care facilities for chronic disease, rehabilitation, diagnostic services, and nursing home services. These facilities will be especially significant for older persons.

III. FINANCING

1. It is recommended that the State Legislative Committee on Health, Accident and Hospital Insurance explore the feasibility of providing comprehensive medical care through voluntary health insurance and prepayment plans which will provide continuing benefits after age sixty-five, including the care of prolonged illness.

2. In meeting the special financial problems which the low-income aged face in obtaining medical care, the following three principles should be observed: (*a*) prepayment should be utilized to the maximum extent; (*b*) prepayment plans based on the service principle are preferable to those based on the cash indemnity principle; (*c*) prepayment plans and other methods of purchasing services should move in the direction of "comprehensive" service.

The committee recommends that experimental prepayment programs embodying these principles be encouraged to meet the needs of older people. The committee itself has no specific recommendations to make in this regard but transmits a suggestion from one member of the committee for consideration by the State Legislative Committee on Health, Accident and Hospital Insurance.

3. It is recommended that welfare departments liberalize the definition of medical indigency, especially in regard to older persons and those responsible for their support.

4. It is further recommended that the State Department of Social Welfare provide matching funds for the medical care of the medically indigent on the same basis as for categoric welfare recipients.

5. The committee recommends long-term, low-interest loans to nonprofit agencies for the construction of nursing homes for the care of older persons.

IV. PERSONNEL

1. In view of the extreme shortages in various categories of personnel required for the rendering of health services to the aged, the following recommendations are made: (*a*) active and continuing State-wide recruitment programs to attract persons into the various medical, nursing, and other professional and technical disciplines that contribute to health services for the aged, and (*b*) expanded programs for scholarships, student loans, and work-study plans for such persons.

2. In order to improve quality of health services for the aged and to strengthen teaching programs, the following recommendations are made: (*a*) establishment of additional programs for the training of physical and occupational therapists in medical schools and teaching hospitals; (*b*) all medical schools in the State should appoint a full-time faculty member to coordinate teaching and research in gerontology among the various departments of the school; (*c*) all schools of nursing in the State should designate a faculty member to integrate the teaching of gerontology throughout the curriculum; (*d*) institutions for the care of the aged should be affiliated wherever possible with medical schools or teaching hospitals; (*e*) in view of the present emergency shortages in personnel and until adequate numbers of fully trained personnel are available, some relief can be achieved through the proper utilization of auxiliary personnel, provided there is adequate supervision, teamwork, and organized on-the-job training.

V. COORDINATION OF COMMUNITY FACILITIES AND SERVICES FOR THE CARE OF THE AGED

It is recommended that local committees or councils be established or designated in communities or counties throughout the State for the purpose of determining the needs of the aged, including their health needs. These committees or councils should develop plans for closer coordination of the activities of voluntary and official agencies. A State agency should be responsible for providing leadership and guidance to these local committees or councils. Funds should be made available to the State agency to help in the establishment of such coordinating groups.

VI. RESEARCH

It is recommended that financial support be provided for the establishment of additional facilities for basic research in all aspects of the aging process.

*What Price Medical Malpractice Insurance?**

JOSEPH F. SADUSK, M.D., OAKLAND, CALIFORNIA

(*Chairman of the Medical Review and Advisory Board of the California Medical Association*)

THE problems associated with medical malpractice insurance are obvious to any physician, what with the rapid and progressive increase in premiums for such insurance during the past ten years. Articles on the subject have appeared in medical journals and other types of publications; some of these articles are sound, others reveal that the individual writing the article has little or no comprehension of the basic factors involved in this field.

The purpose of the present article is to discuss in general fashion the various factors playing a role in insurance coverage of this type. This article is written from physician to physician; therefore, the details will be presented along the lines of interest to physicians rather than from the viewpoint of attorneys or insurance experts.

It is, first, important to realize that this problem is not confined to California. Indeed, the problem is nation-wide, with particular emphasis recently in the states of New York, Illinois, Florida, Connecticut, Maryland, and the District of Columbia. In some of these states the insurance carrier covering a group program has canceled its group coverage because of increasing hazard in which the ratio of losses to premiums (loss ratio) continued to increase despite the rapid increase in premiums.

As an example of the increasing hazard in California, statistics show that for a group Northern California malpractice program during the period 1946 through 1951, one of every 12 physicians had a malpractice claim of some type levied against him each year. Breaking this figure down further, it is noted that one of every 52 physicians in the program had an actual malpractice suit filed against him each year, while one of every 14 physicians had a serious allegation presented by a patient that required investigation by the insurance carrier. As a result, premiums in this group program have risen almost 200 per cent during the eight-year period from 1946 to 1954.

The growing dissatisfaction of insurance carriers with the field of medical malpractice insurance is disturbing. More and more carriers are dropping out of this type of insurance. Some carriers, realizing that this has been a losing field, are only offering the insurance to a physician if he permits the carrier to sell him other insurance, such as automobile insurance, home insurance, personal liability insurance, etc. This is commonly known as the "package deal."

Dissatisfaction of Insurance Carriers

Factors that make the insurance carrier dissatisfied may generally be classified as follows: (1) the problem of latent liability; (2) the progressive increase in losses in such insurance due to inflation and the increasingly critical attitude of the public, the juries, and the courts; (3) the small volume of sales of this type of insurance; and (4) the growing dissatisfaction of physicians with the progressive increase of premiums by means of which the insurance carrier hopes to balance the program.

The latent liability factor is entailed in the long lapse of time between the alleged act of malpractice and the filing of a claim or suit. With automobile liability insurance the carrier knows at the end of the given policy year or shortly thereafter the entire extent of its liability. With medical malpractice, however, claims for alleged malpractice may come up many years after the incident that is cited as a basis for claim.* This is due to the very unfavorable statute of limitations in California which basically provides that a patient may file a suit or claim against a physician one year after the patient has acquired knowledge of an act of malpractice. Basically, this means that the patient has practically his entire life or the physician's lifetime in which to file suit. For instance, if a surgeon inadvertently leaves a clamp in an abdomen during an operation and the patient is told forty years later when a gastrointestinal series is made that such a clamp is present, the patient has one year thereafter to file a suit. Consequently, it is extraordinarily difficult for insurance carriers to predict losses with any accuracy for a given policy year, since the policy for the year in which the incident occurs is the policy which covers the physician for the rest of his life, regardless of the year in which the suit is filed.

That both the incidence of malpractice claims and size of judgments and settlement costs are increasing is clear not only in California but in other states. For instance, actuarial data in one state reveal that the incidence of malpractice suits per unit number of physicians has increased 100 per cent during the past ten years. Inflation has likewise produced an increase in judgments and an increase in the cost of defense during the same period.

In contrast with other types of insurance, sales in malpractice insurance are relatively small, and con-

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* EDITOR'S NOTE.—This does not apply to New York State where the statute is two years except in the case of a minor.

sequently an insurance carrier would make relatively little profit, even if this type of insurance were profitable. As a result, the average insurance carrier looks upon the selling of malpractice insurance as a "courtesy" or "accommodation" line, rather than as a profitable enterprise.

Another facet of the problem is the growing dissatisfaction of physicians with increasing premium rates. This dissatisfaction is due to the failure of the physician not only to realize the problems involved, but also the fact that such insurance has recently been a losing proposition to the carrier. The Medical Review and Advisory Board has had the opportunity of reviewing financial data for a number of insurance carriers selling malpractice insurance in California. In no instance was the board able to find evidence of even a reasonable profit; indeed, the carriers making information available to the board presented statistics which showed that the insurance coverage was carried at a financial loss during the period studied.

Calculation of Premiums

Medical malpractice insurance premiums, like premiums for other types of insurance, are calculated on the basis of expected losses plus expected expenses. In the best of circumstances where accurate data are available on the history of losses, the insurance carrier takes this financial data into account and adds to it the cost of administering the policy (sales, Federal and state taxes, home and district office expenses, and employes' salaries), costs of special investigation, court costs, attorneys' fees, and agents or brokers' commissions (if the company is a stock company) to arrive at a given annual premium. In the case of a stock company, a fair dividend return to the stockholders is included in the expenses. In the case of a mutual company, any profit resulting from a given year's sale of the insurance returns to the buyer either in the form of a dividend or as reduced premiums in future years. In the case of medical malpractice insurance, the calculation of premiums is extraordinarily difficult due to the factors of latent liability, inflation, an increasingly critical attitude of the public, and the generosity of juries in awarding higher and higher judgments. Therefore, medical malpractice premiums are set by an educated guess at the very best in this day of rapidly increasing problems.

"Reserves"

Many physicians have asked about the question of "reserves." There are generally two types of reserves in any insurance company. First come the general reserves of the company which are generally set aside for catastrophic events and generally depend upon the size of the insurance carrier. Second, are the reserves that are set aside in safekeeping when a case with possible loss is reported, so that there is a guarantee to the holder of the insurance policy that there will be sufficient money to pay the claim, or judgment in a suit, if and when such payment becomes due. This type of reserve is set up by the company and represents, in the best judgment of the insurance carrier, the amount that the claim or suit will cost, taking into consideration the award to the plaintiff, court costs, attorneys' costs in defending, and costs of special investigation.

Such reserves may vary in amount from less than $100 to even the entire limit of coverage of the physician, depending upon the seriousness and liability of the case. If there is no liability, the reserves will be very minimal, reflecting only the costs of special investigation.

In general, insurance carriers are very skillful in setting up such reserves, and in most instances successful claims over a period of one or several years, when averaged out for many cases, come to within 10 or 15 per cent of the amount originally set aside. When money is set aside in such specific reserves, the money is not necessarily lost to the program. In other words, if the case is successfully consummated insofar as the defendant physician is concerned, the money is taken out of the reserve and is put back into the program, thereby eventually lowering premiums or becoming payable in the form of dividends.

Mutual Versus Stock Companies

There has been much discussion concerning pros and cons of the so-called mutual company versus the stock company. In general, a stock insurance carrier is owned by shareholders, such as any ordinary corporation. These shareholders receive a dividend return on their shares of stock, ranging from 2 to 5 per cent, generally. With a mutual company, there are no stockholders; indeed, the policyholders themselves own the company by virtue of their policies. There are no stockholders to pay, and any profits resulting at the end of the year are added to general surplus or returned to the policy holder by the payment of dividends or reduction of premiums during the next year. Also, in general, policies for stock companies are sold through agents or brokers, while policies for certain mutual companies are transacted by salaried company employes.

It is profitless to discuss the pros and cons of the stock versus mutual company, since the matter is one of individual preference. Further, the efficiency, skill, and service of companies is a variable factor. The important point is that the policyholder have his insurance in a reputable, long-established company which will give every assurance of being in the business throughout the lifetime of the physician and that has assets in the United States available for defense and paying claims. Whether the company be stock or mutual is of little concern, and premiums are of secondary consideration.

The important criteria for a physician to consider in selecting a carrier are:

1. Past and future stability of carrier.
2. Adequate reserves of the carrier on deposit in the United States.
3. Group program sponsored and monitored by a county or state medical society.
4. Offering by the carrier of sufficiently high coverage to meet adequately a high judgment.
5. Limitation of "cancellation" clause.
6. Limitation of "exclusion" clauses.
7. Contingent liability coverage (for the acts of a physician's partner).
8. Permanence for yearly renewal of the policy.
9. Absence of hidden additional charges.
10. Sufficient volume of business in the area in which the physician practices to have experienced malpractice claims adjustors and defense counsel.

Group Program Versus Individual Policies

There is little or no doubt that a group malpractice program has many advantages over the individual malpractice policy. Here the physician has the basic advantage of group protection and group negotiation with the carrier along the following lines:

1. Prevention of discrimination against physicians whom the carrier considers hazardous risks because of their field of work. (This danger already exists. For instance, there is one insurance carrier which rejects orthopedists, plastic surgeons, and radiologists from coverage.) Who is to be excluded from medical malpractice coverage should be a determination of physicians rather than insurance people.
2. Prevention of the possible control by the insurance company over what procedures the doctor may perform. Such control, preventing the performance of hazardous procedures, may easily be accomplished by the carrier through exclusions in the individual policy or by the device of surcharges so high the physician cannot afford to pay the premium.
3. The medical profession itself may have considerable influence over which claims are to be settled and which are to be defended in a group program. Thus the decision is influenced by analysis of the merit of the claim rather than by expediency.
4. The training of competent claims managers and the team approach to claim handling and defense is accomplished in a group program. Such effective programs are found in groups rather than in individually handled policies.
5. An effective prevention—or safety—program may be set up with a long-term view of reducing the incidence of claims or lessening liability.
6. The collection of loss data by physicians in a group program may be accomplished with the objective of testing the reasonableness of premiums and, most important, of establishing the underlying or real causes of claims.
7. The long-range interests of the profession are served in a group program rather than the immediate interests of the insurance carrier by physicians influencing and guiding the course of malpractice insurance. The insurer can desert the field of malpractice, but the profession has to live with it. The problem is basically medical in nature rather than insurance.

Local Group Programs Versus National Group Programs

What has been said above on the subject of group programs in malpractice insurance does not necessarily apply to national specialty group programs. Several such national programs have been started in the recent past, and one such specialty group already has been suddenly dropped by the insurance carrier involved.

While a group national specialty program may have a cost advantage over individual insurance, this has not yet been demonstrated. On the other hand, national programs are not so advantageous to the physician as a local group program. The principal disadvantage of a national program is that it may lack concentration in an area and, therefore, have so few claims that it does not have claims adjustors and attorneys sufficiently well qualified in the field. The handling of medical malpractice problems by the underwriters of national programs may be a very minor part of their total general work.

Another difficulty with the national program is the remoteness of the central claims office from the field of action. Consequently, there may be a tendency on the part of the carrier to settle on the basis of expediency, medical-professional appraisal of the case with coordination of the claims adjustor may be poor, and there may be little or no contact of the physician with the carrier.

Still another problem with national groups is the difficulty in setting up prevention or safety programs because of local state differences, court procedures, and legal codes. Malpractice is not within the province of Federal courts but rather is governed by local and state courts—with differences not only among states but also among counties.

Amount of Coverage

With respect to the amount of insurance coverage for medical malpractice, several articles have lately appeared in journals circulated to physicians, recommending low coverage. The argument is that low coverage will discourage claims and will tend to lower the amount of plea for damages or settlement. The author has never known or heard of a single malpractice case in which the plea for damages or settlement was influenced by the amount of insurance coverage. On the contrary, physicians leave themselves open to financial ruin with low coverage.

The problems connected with inadequate coverage have been increasingly great during the past several years. Recently in California two judgments in excess of $200,000 each were rendered. The author has been closely associated with the field of malpractice during the past five years and has seen the near tragedies which result with low coverage. The physician who carries coverage of $5,000/15,000 or $10,000/30,000 is indeed an unhappy person when he is faced with a suit in which the plea may be up towards $200,000, and if damages are awarded, the judgment may well run in the neighborhood of $50,000 to $75,000. The author has seen physicians become almost psychotic persons with the worry and fear of the approaching trial in cases of that kind.

What is considered adequate coverage? The answer is difficult, but of course basically it depends upon the individual's assets, both present and in prospect, to be protected and also upon his type of practice. In general, a coverage of less than $50,000/100,000 should be considered inadequate in these days, and generally it is well to have coverage of $100,000/300,000. For physicians engaged in particularly hazardous work, such as anesthesiologists, vascular surgeons, and neurosurgeons who perform work of a type that, regardless of skill and care, may lead to paraplegia as a complication, coverages up to $300,000/900,000 may be considered desirable. This is based specifically upon the fact that in California within the past few months, verdicts of $225,000 and $250,000, respectively, have been awarded by juries for paraplegia following spinal anesthesia in one case and aortogram in another. The day of the $5,000/15,000 and $10,000/30,000 coverage has passed.

The Future

The future for the physician in medical malpractice insurance is dismal indeed. Each year brings forth new medical discoveries of importance with benefit to the patient, but as medicine progresses, so likewise difficulties increase in practice with the use of complicated surgical procedures and the administration of toxic drugs. These lead necessarily to an irreducible number of complications for which the physician may be held responsible and likewise lead to a greater burden placed upon the physician by the courts and by an increasingly critical public. The great advances in medicine and surgery, as presented to the layman in magazines, have led the public to be supercritical in appraising results. Our grandfathers didn't expect the horse-and-buggy doctor to be perfect, but our contemporaries expect perfection of today's physicians.

To seek aid from the public, the attorney, the legislature, and the courts is not necessarily the answer at this time. The physician must begin the battle himself. As Ford[1] pointed out five years ago, in probably the shortest paper ever published on the subject but nevertheless most revealing, the control of medical malpractice hazards depends upon:

Good faith
Good records
Common sense

Good faith implies that the physician treat his patient with tact and kindness, that he conceal no known difficulty in diagnosis or treatment, and that he advise consultation freely.

Good records means that the physician adequately document his medical records of a patient, carefully record untoward happenings, and make a matter of record the treatment given and advice offered.

Common sense implies that the physician know the vindictiveness of some patients, recognize the hazard connected with the collection of reluctant fees, be aware of the failure of equipment which in turn can produce injury, and, finally, use only well-established medications and procedures.

Reference

1. Ford, R.: New England J. Med. **243**: 408 (Sept. 14) 1950.

Surgical Bone Grafting with Cultured Calf Bone

Although certain difficulties have been encountered in the past in the use of heterogenous bone grafts, recent reports indicate that results with frozen calf bone are comparable to those with frozen human bone in cases where, for one reason or another, a fresh autogenous graft cannot be used. Drs. William B. Fischer and Irvin Clayton, Northwestern University, Chicago, report that no ill effects resulted in eight implants performed so far and give one specimen case summary in which a persistent nonunion of a severe fracture of the humerus was finally overcome by this method after failure of an autogenous graft. The authors outline the method of E. J. Tucker for culturing the bone in plasma.—*Quarterly Bulletin, Northwestern University Medical School, Winter, 1955*

MINUTES OF THE COUNCIL

The following is a summary of the minutes of the March, 1956, meeting of the Council of the Medical Society of the State of New York, as approved April 12, 1956.

THE Council met March 8, 1956, from 9:15 A.M. to 1:10 P.M. at the Manhattan Club, New York City, Dr. Renato J. Azzari, president, occupying the chair.

Secretary's Report

Executive Committee.—Dr. Anderton reported on communications considered by the Executive Committee on March 7, 1956:

1. A letter of March 1, 1956, from Dr. Charles F. McCarty, secretary of the Coordinating Council of the First District Branch, transmitting action taken at a meeting of the Coordinating Council in connection with the resolution of the Medical Society of the County of Kings regarding a complaint to the New York State Commissioner of Insurance against some of its members. Dr. Anderton's reply, quoted below, was approved by the Executive Committee:

> Dear Doctor McCarty:
>
> This is to acknowledge two copies of your favor of March 1, 1956.
>
> I trust Dr. Charles Mueller, president, and Dr. Herbert Berger, vice-president, of your honored Council, will draw to its attention the results of a conference which was held yesterday at Dr. Robert Warren's office in Brooklyn.

It *was voted* that the secretary's reply be approved.

2. The following letter was referred by the Executive Committee to the Council for its information: Letter of February 21, 1956, from Dr. Charles H. Loughran, secretary of the Medical Board of Cumberland Hospital, enclosing a resolution adopted by the board disapproving a directive of October 21, 1955, of the New York City Commissioner of Hospitals. The resolution follows:

> WHEREAS, the Commissioner of Hospitals, Dr. Basil C. MacLean, in a directive dated October 21, 1955, abolishes the Kings County Medical Board (i.e., Open Division) of Kings County Hospital and places complete control of patient care at that institution in the hands of the State University of New York College of Medicine at New York City; and
>
> WHEREAS, such action renders a distinct disservice to the community at large, including the practicing physicians of Brooklyn, the patients at the hospital, and its interns and residents; and
>
> WHEREAS, the manner in which this directive originated and was approved by the Board of Hospitals, the physician members of which, to a man, are closely affiliated with medical colleges, is unjustified and patently unfair; and
>
> WHEREAS, it is the obvious implied intention of this group to place all city hospitals under medical college control on request, thereby creating an uneasy uncertainty as to the future of the voluntary physicians in these hospitals; and
>
> WHEREAS, this situation is demoralizing to all voluntary physicians, especially the younger practicing group who recognize the undesirability of future affiliation with city hospitals under these circumstances; and
>
> WHEREAS, this will result in weakening the medical staffs serving these hospitals and will detract from the high quality of care now being furnished the indigent sick; and
>
> WHEREAS, this will also eventuate in the physicians who serve the community losing valuable training and experience; be it
>
> *Resolved*, that this Medical Board of Cumberland Hospital go on record as strongly disapproving of the Commissioner's action and recommending its immediate and permanent withdrawal, and that a copy of this resolution be sent to the Mayor of the City of New York, the five borough presidents, the Commissioner of Hospitals, the five county medical societies, and the New York State Medical Society."

A similar resolution was received from the Queens General Hospital.

3. Communication of March 6, 1956, from Dr. Louis H. Bauer stating that the State Public Health Council, consisting of Dr. George Baehr, Dr. Cauldwell Esselstyn, Dr. Clayton W. Greene, Dr. Herman E. Hilleboe, Dr. Gerald B. Manley, Dr. Norman S. Moore, Dean Thorndyke Saville, Dr. Howard A. Rusk, and himself, had considered the question of health insurance for New York State employes for the purpose of making a recommendation to the Governor. Two reports were made to the Governor. The majority report was as follows:

> Dear Governor Harriman:
>
> At its monthly meeting on February 24, the Public Health Council discussed the public health implications of the proposed legislation on health insurance for State employes. As a result of its discussions, the Council wishes to express to you some general principles which it feels should guide the development of any health insurance program for State employes.
>
> The Council has noted with interest that the State is contemplating the purchase of voluntary health insurance for its employes and their families, under a contributory plan. Because of its concern with public health, the Public Health Council regards it as important that the voluntary health insurance program adopted by the State be designed primarily to protect the health of its employes, active and retired, and their family dependents, and not just be a fringe benefit in the form of conventional

sickness insurance. A far-sighted program of this kind for State employes and their families should have great educational value as an example to private industry, labor organizations, and to the general public. Such a program could have a most significant influence upon the health of the people of New York State.

The reported spread of voluntary health insurance throughout the State and the nation presents a new and important opportunity to safeguard the health of people of all ages. When it is planned in accordance with the true meaning of the term, health insurance offers possibilities for disease prevention comparable to the accomplishments of environmental sanitation and other public health measures of the past forty years. Most of the potential gains may be lost, however, unless people can be taught to distinguish between "health insurance" and what should more properly be termed "sickness insurance."

Sickness insurance, like fire and burglary insurance, provides protection against the expenses of a future catastrophe which the insured person hopes will not occur. It is intended to provide financial aid after an illness has occurred.

Health insurance is designed to safeguard the beneficiaries' total health. In addition to sickness insurance, it provides the beneficiaries with preventive services, as well as with all medical services necessary for the early detection of disease and its prompt treatment at a stage when the illness may be cured or arrested.

Prevention and the earliest possible detection and treatment of diseases and optimum rehabilitation of disabled individuals are the primary aims of modern medicine. They are essential for persons of all ages, and they require the services of family physicians, specialists in the various branches of medicine and surgery, diagnostic laboratory tests, x-ray examinations, radiation therapy, and other technical aids to accurate diagnosis and treatment.

To be adequately effective from a public health standpoint, voluntary health insurance should be available not only to wage earners but also to family members of all ages. The beneficiaries should be eligible for service benefits if possible without extra charges which they cannot afford and which deter them from seeking the services required for prevention and early detection of disease.

By incorporating preventive services into the program, the State can keep illness costs down, keep up productivity of employes, and detect disease and disability early, when treatment and rehabilitation are least costly and most effective.

Finally, health insurance, to be of greatest effectiveness, must cover a broad range of health services and thus provide the most comprehensive program at the least cost to the State and its employes.

The minority report representing Dr. Bauer's views was as follows:

Dear Governor Harriman:

At its monthly meeting on February 24, the Public Health Council discussed the public health implications of the proposed legislation on health insurance for State employes. As a result of its discussions, the Council wishes to express to you some general principles which it feels should guide the development of any health insurance program for State employes.

The Council has noted with interest that the State is contemplating the purchase of voluntary health insurance for its employes and their families under a contributory plan. Because of its concern with public health, the Public Health Council regards it as important that the voluntary health insurance program adopted by the State be designed to benefit effectively its employes, active and retired, and their family dependents. A far-sighted program for State employes and their families should have great educational value as an example to private industry, labor organizations, and to the general public. Such a program could have a most significant influence upon the health of the people of New York State.

The reported spread of voluntary health insurance throughout the State and the nation presents a new and important opportunity to provide the best medical care for people of all ages.

Effective voluntary health insurance can provide for the major costs of medical care when ill, and thus patients will not be deterred from seeking care when needed. The assurance of means to pay for medical care when ill and needed encourages persons to seek at the earliest possible time advice regarding health and preventive services and not to postpone such because of the inability to pay the additional cost.

Prevention and the earliest possible detection and treatment of diseases and optimum rehabilitation of disabled individuals are the primary aims of modern medicine. They are essential for persons of all ages, and they require the services of family physicians, specialists in the various branches of medicine and surgery, diagnostic laboratory tests, x-ray examinations, radiation therapy, and other technical aids to accurate diagnosis and treatment.

To be adequately effective from a public health standpoint, voluntary health insurance should be available not only to wage earners but also to family members of all ages. The beneficiaries should be eligible for service benefits if possible without extra charges which they cannot afford and which deter them from seeking the services required.

By encouraging preventive services, the State can keep costs down, keep up productivity of employes, and urge the detection of disease and disability early, when treatment and rehabilitation are least costly and most effective.

Finally, health insurance, to be of greatest effectiveness, must cover a broad range of health services and thus provide the best program at minimum cost for the State and its employes.

Dr. Bauer expressed the feeling that the Council of this Society should know of these two reports and should know that his opinion differed very markedly from that contained in the majority statement of the Public Health Council.

After discussion it *was moved and seconded* that the Council reiterate its stand against any health insurance program which does not provide free choice of physician.

The motion *was amended* to direct that "a copy of this motion be sent to the Governor, to the Commissioner of Health, and to the members of the Health Council."

It *was voted* to approve the motion as amended.

Dues Remission.—The Council voted to remit annual State dues of five members for 1955 and 26 members for 1956 because of illness, of 56 members for 1956 because of service in the armed forces, and of two deceased members for 1955 because of hardship. Remission of annual State dues of one member for 1954 and 1955 was rescinded because of his return from military service previous to those years. One member previously elected a retired member was reinstated to active membership. The American Medical Association was requested to remit 1955 dues of four members and 1956 dues of 21 members because of illness, 1956 dues of 44 members because of military service, and 1956 dues of 16 members because they are more than seventy years of age.

General.—Dr. Anderton reported: The Board of Trustees authorized the renewal of the lease of the Albany office for three years. Dr. Dan Mellen has graciously accepted his election to the Board of Trustees. Messrs. Martin, Clearwater, and Bell were notified of your desire not to join in Dr. Harold Somberg's appeal to the Appellate Division of the Supreme Court and also that you authorized Mr. William F. Martin's attendance at the American Medical Association's Law Department conference.

The Medical Society of the County of Otsego was notified of your permission for Dr. Wendell L. Bryce, Richfield Springs, to transfer to the Medical Society of the County of Herkimer, if the latter society agrees. Dr. James R. Reuling's resignation as trustee was regretfully accepted.

Dr. James Greenough was notified by the secretary that you approved of his submitting a letter at your March meeting for approval before it is sent to Dr. A. H. Groeschel, regarding a study of obtaining and distributing blood for transfusions in New York City.

Dr. Carlton E. Wertz, Dr. Harold B. Smith, Dr. John C. McClintock, and Mr. George P. Farrell were notified of your authorization that they appear before Senator George R. Metcalf's committee in Albany, on February 22, 1956.

Mr. George Ettenberg was notified of your opinion that it is not ethical for a physician to refer patients to a particular pharmacy, and Mr. Nathan B. Fogelson was sent word that it is unethical in this State for a physician to own or partly own a drug department of a medical clinic or medical group or to own a drugstore in his own community.

The secretary of the Malpractice Insurance and Defense Board received confirmation of the October 13, 1955, Council resolution with the added comment you directed.

Letter and resolution from Kings County Medical Society were acknowledged, and Deputy Commissioner of Social Welfare Peter Kasius was sent word of the Society's inability to reply to his questions about the Institute of Applied Biology, Inc.

Confirmation was sent to Councillor Dorman of your authorization for him to represent the society before a U.S. Finance Committee meeting regarding Senate Intro. 7225.

On February 14, I attended a meeting of the Sesquicentennial Committee of the Medical Society of the County of New York. The following morning I assisted Speaker Holcomb and Vice-Speaker Williams in their preparations for the House of Delegates, and in the afternoon I went with President Azzari and Mr. William F. Martin, counsel, to the New York State Insurance Department; February 16, meeting of the executive committee of the Legislation Committee; February 17, with President Azzari, Dr. Curphey, and Dr. Fineberg, attended dinner in honor of Mr. Oswald Heck, twenty years speaker of the New York State Assembly, and the following evening, with President Azzari, attended the annual dinner-dance of the New York Polyclinic Medical School and Hospital; February 21, there was a morning meeting of the Dinner and Dance Subcommittee of the Arrangements Subcommittee of your Convention Committee, and a luncheon conference with Editor Laurance D. Redway; February 23, I attended a meeting of the Joint Committee of the Medical Society of the State of New York and the New York State Pharmaceutical Association, where strides were made in preparation of an up-to-date formulary for physicians.

Your secretary has scheduled at the time of writing this report to represent President Azzari at the Regional Conference of the American Cancer Society in Syracuse, February 29; dedication of Evan M. Evans ward at Roosevelt Hospital, March 2; March 6, Joint Conference Committee of the State Society and the Medical Society of the County of Kings; and March 7, meetings of the Publication, Office Administration and Policies, and Executive Committees, and Malpractice Insurance and Defense Board or the editorial staff dinner of the NEW YORK STATE JOURNAL OF MEDICINE.

The program for the annual meeting is well under way, and most annual reports have gone to the printer.

The secretary's report *was approved.*

The Treasurer's report was accepted.

Reports of Committees

Blood Banks Commission.—Dr. James Greenough, chairman, stated: "There has been no meeting of the commission since the last Council meeting.

"Your have before you for suggestions a tentative letter to Dr. August H. Groeschel, chairman pro tem of a committee studying blood procurement and distribution in New York City."

This letter was discussed, and it *was voted* to send the following:

Dr. August H. Groeschel
Greater New York Hospital Association
369 Lexington Avenue
New York 17, New York

Dear Doctor Groeschel:

After reporting to the Council of the Medical Society of the State of New York at its meeting March 8, 1956, the following actions were approved.

The Medical Society of the State of New York suggests that some foundation, such as the Josiah Macy Foundation, be approached rather than the Academy of Medicine. This suggestion is motivated by the desire of the Medical Society to avoid any possibility of criticism of the study being biased. Such criticism might arise since the Academy of Medicine is primarily a medical organization.

The Medical Society of the State of New York suggests that the following subjects be included in such a study:

1. The adequacy of the present supplies of (*a*) blood, (*b*) rare types, (*c*) blood derivatives.
2. If present supplies are inadequate, the relative merits of replacement or preplacement to increase blood resources.
3. Determination of the question of preplacement being, in fact, insurance and, if so, the steps necessary to permit preplacement, such as (*a*) new legislation, (*b*) regulation by State Department of Insurance, (*c*) setting up of financial reserves.
4. Whether donation of blood is spread widely enough in the community or whether too few donors are individually providing too much blood.
5. Actuarial figures showing the amount of blood which must be collected in order to supply one pint of blood for a recipient due to waste from outdating and spoilage, blood necessary for indigents and those unable to provide replacement, and the manufacture of blood derivatives.
6. The ratio of blood supply in a replacement system and the ratio in a preplacement system.
7. Consideration of whether recipients should receive blood without paying for the overhead involved in collecting such blood and methods for encouraging such payment by replacing blood to the issuing agency.
8. The advisability of any agency (bank, hospital, or other) deriving a profit from blood over and above the cost of overhead, supplies, and administration.
9. Methods for improving the exchange of blood between banks and hospitals or other agencies collecting or distributing blood.
10. Determination of the responsibility for recruitment of donors, considering physicians, hospitals, blood banks, Red Cross, and the community.
11. The question of whether blood is being used indiscriminately and superfluously and, if so, the best method to stop such abuses.
12. Promotion of better cooperation between all agencies recruiting or distributing blood.

The Medical Society of the State of New York heartily approves of the inclusion of the Blood Banks Association in the group of organizations concerned with the problem of blood procurement and distribution in New York City.

Very truly yours,

JAMES GREENOUGH, M.D., *Chairman*
Blood Banks Commission

Dr. Greenough continued: "I attended a short portion of a meeting of the directors of the Blood Banks Association on Tuesday. At that meeting the financial situation of the Blood Banks Association was reported for the first two months of the year. In January the deficit was $622. In February the deficit has been $557. That is a total of $1,179 for two months this year. As of March 1 the current assets are almost $2,000. There is still $3,000 left of the original loan authorized by the House of Delegates last May. Unless something strange occurs, it should be possible to carry on the Blood Banks Association with the money already earmarked until the meeting of the House of Delegates in May.

"The commission will meet next month to make a supplementary annual report."

Dr. J. Stanley Kenney supplemented the report as follows: "The subscriber income has increased very positively since the first of December.

"Up-to-date developments in the acquisition of new subscribers, all in keeping with the permissive action of the Council, are as follows:

"Walden—team from Cornwall Hospital; 185 donors; next bleeding scheduled for May 3.

"Wallkill—(scheduled last fall) 130 donors from prison; 135 by villagers; this is completed.

"Tarrytown—United Auto Workers, Chevrolet Plant; 163 donors; next scheduled bleeding about March 29.

"Newburgh—600 air force students enrolled; 75 per cent expressed desire to donate at St. Luke's Hospital, Newburgh. Remainder will be bled at Cornwall, Liberty, and Middletown. First bleeding scheduled for about March 19.

"The Textile Workers Union will donate to St. Luke's Hospital, Newburgh, on a year-round basis.

"Sullivan County portion of this program shows 31 participating organizations with 500 subscribers enrolled; projected goal 1,000 subscribers. Blood Assurance Week in this county March 19. Blood will be collected on a year-round basis geared to community needs.

"We are trying to expedite negotiations with the State Insurance Department. I am hopeful we will clarify this program and remove the difficulty that has been raised over the insurance issue."

Dr. Dattelbaum, treasurer, stated: "I would like to add my personal gratitude to the chairman of the Blood Banks Commission for the work they have done in cutting down their budget. I think we should go on record that they have not overstepped the amount that has been allotted to them, but they will be able to carry on until the next House of Delegates' meeting. Furthermore, personally, I want to commend the work that Mr. Alexander has done in helping to cut down this overhead; also Mr. Farrell, who has been of inestimable help."

Approval of the report and of Dr. Dattelbaum's statement *was voted.*

Constitution and Bylaws.—Dr. Frederick W. Williams, chairman, reported: "The committee has considered the amendments to the constitution and bylaws submitted by Wayne County Medical Society. These have been approved by the secretary, legal counsel, and the committee. Therefore, I move approval by the Council."

Approval *was voted.*

Convention.—Dr. Samuel Z. Freedman, chairman, requested Dr. Greenough to speak about subcommittees. Dr. Greenough stated: "I was requested by Dr. Azzari at the last Council meeting to jump the gun on appointment of committees for next year and to make suggestions for the committees associated with the sesquicentennial. I have the following recommendations:

"The Sesquicentennial Committee for 1957: Dr. Freedman, chairman; Dr. Anderton; Dr. Dattelbaum; and Mr. Alexander as advisor.

"The Arrangements Subcommittee: Dr. Rawls, chairman.

"The Dinner Subcommittee, of which we will have a little more later on: Drs. Wurzbach, Kenney, LaGattuta, Ogden, Schussheim, Bernstein, Axelrad, Cerniglia, Alvich, Borrelli, Shirley Fisk, Brady, McKeeby, McClintock, and Berger. That is largely the same committee as this year with a few names added from upstate to cover a greater area and a few deletions.

"Motion Picture Subcommittee: Heretofore we have had a committee of six covering motion pictures and television at the convention. At the sesquicentennial, at the suggestion of the chairman of that Motion Picture and Television Subcommittee, I would recommend that the subject be divided into two committees: The Motion Picture Subcommittee, to consist of Dr. Phillips, chairman, Dr. Coleman, and Dr. Healy; the Television Subcommittee, to consist of Dr. Philip Allen, of New York, chairman, Dr. E. Dean Babbage, and Dr. John H. Talbot.

"Scientific Awards Subcommittee, the same as at the present time: Drs. Charles D. Post, Harold F. Brown, Morris Maslon, and John G. Masterson.

"Scientific Exhibits Subcommittee, reduced in size from nine to five: Dr. William L. Watson, as chairman, Dr. Beverly C. Smith, as cochairman, Dr. J. G. Fred Hiss, Dr. Ernest Witebsky, and Dr. Frederick Lee Liebolt.

"I think that is all of the committees that need to be appointed now."

Approval of the appointments *was voted*.

Dr. Freedman reported: "You will recall that the Council has approved that the sesquicentennial celebration in 1957, the scientific and the dinner part, be held in February in New York City and the House of Delegates be held in Buffalo.

"A meeting of the Convention Committee was held on March 2. All of the members were present; also Mr. C. L. Baldwin and Mr. F. W. Miebach. We hope you will decide for our guidance whether or not certain changes which our committee recommends shall take place.

"I first want to present the suggestion that the dinner be at the Waldorf-Astoria."

Dr. Freedman also advocated that the main ballroom at the Statler be used for technical exhibits.

The committee will make every effort to obtain interesting speakers, including, it is hoped, some Nobel Prize winners. The Governor of the State will be invited. It is planned to eliminate dancing.

A conference of section chairmen and secretaries is to be held as soon as possible after the 1956 annual meeting to discuss the possibility of telescoping the section meetings into eight sessions.

Dr. Freedman asked that in view of the unique character of the February, 1957, meeting, the Council make decisions in some matters and indicate to what extent plans should be submitted to it and to what extent they should be decided by the committee.

After discussion it *was voted* that the dinner be held at the Waldorf-Astoria on February 20, 1957.

Dr. Freedman moved, and Dr. Givan seconded a motion, that the scientific part of the sesquicentennial celebration be different from the usual convention scientific sessions in that there will be no section meetings as such, but that there will be general meetings at which the sections will be asked to cooperate, provision to be made for the meetings of the sections for the election of officers. This matter was discussed but no action taken.

The question of having the House of Delegates meeting and the sesquicentennial celebration at the same time in New York City in February was discussed, and it was left to Dr. Freedman to investigate and report at the April meeting.

The idea of having professional artists enter into a poster contest and having posters printed and distributed throughout the State for publicity purposes was discussed.

It *was voted* to leave this in the hands of the committee to carry out.

Economics.—Dr. John C. McClintock, chairman, presented his report in the agenda. "On invitation of Senator George R. Metcalf, chairman of the State of New York Joint Legislative Committee on Health Insurance, Dr. Harold B. Smith, Mr. George P. Farrell, and myself appeared before the committee on February 21, 1956, at the Capitol, Albany. Present also were Mr. Frank Van Dyke, president of Associated Hospital Service of New York, representing Blue Cross Plans; Mr. Lynn Doctor, vice-president of United Medical Service, representing Blue Shield Plans; and Mr. John DeGraff, counsel for the State Civil Employees' Association. The purpose of this meeting was to give information to the committee regarding the value of service benefits versus indemnity insurance benefits and to determine whether or not catastrophic coverage should be written before a sound basic coverage is provided. The information submitted to the committee by me was in substance the same as presented at the public hearing (see below).

"Dr. Smith stressed the importance in any plan of free choice of physician, and Mr. Farrell presented statistical information on New York State Blue Shield Plans, plans offering service benefits as compared to indemnity, number of subscribers, and other information.

"It was pointed out that there are approximately 80,000 civil service employes, not including dependents, and approximately 45,000 are now insured under Blue Cross and 40,000 under Blue Shield.

"There was considerable discussion of the provision in the Metcalf bill providing hospitalization coverage for people who have retired from civil service and those who would later retire. Senator Metcalf pointed out the reason Blue Shield was not included in his bill at this time was because of the complications involved as compared to a Blue Cross program. He specifically referred to the lack of a uniform State-wide contract on a service basis and that if specific services are stated in the bill, considerable study would be necessary to determine the cost.

"Mr. DeGraff pointed out that 90 per cent of civil service employes earn less than $6,000 annually and that the median income is approximately $3,500 to $3,600.

"I appeared before the public hearing at 2 P.M. on February 22 in the Senate Chambers. I presented the attached statement and was not asked anything further.

"Varied interests were represented at this public hearing: American Hospital Association, Hospital Association of the State of New York, and State Charities Aid Association. Their representatives spoke in regard to the philosophy upon which Blue Cross has been built; also representatives of two commercial insurance companies, who were in favor of deductible and coinsurance features in surgical, hospital, and catastrophic coverage.

"Dr. Daly of the Health Insurance Plan of Greater New York spoke in favor of the Metcalf bill and felt that medical care costs should be provided and paid for by the State.

"Mr. Louis Devine, representing a CIO-AFL union, felt that the State should pay for complete hospital, medical, dental, nursing care, drugs, and appliances without any cost to the employe.

"Mr. Winslow Carlton, chairman of the board of Group Health Insurance, spoke in favor of service benefits provided in the Metcalf bill.

"Mr. John DeGraff, counsel for the Civil Service Employees' Association stated the employes are in favor of a better bill which would include surgical and catastrophic coverage in addition to hospital coverage. However, there was some question in his mind whether the State or the State employes could afford such a broad program.

"Mr. Charles Dubuar, chief actuary of the State of New York Insurance Department, felt there would be difficulty in purchasing so-called catastrophic coverage unless there is basic coverage included in the contract.

"Mr. Roberts of the Empire State Chamber of Commerce was of the opinion that benefits offered to State civil service employes should not go beyond what industrial employers are now doing for their employes.

"Mr. Van Dyke, vice-president of Associated Hospital Service, spoke along the same lines as he had the previous day, pointing out the community aspects of Blue Cross and Blue Shield Plans in the over-all prospectus, whereas no commercial plan is equipped or desires to provide hospital and medical care to all the people in a community.

"Mr. Charles Garside, president of Associated Hospital Service of New York, took issue with some of the figures presented by the commercial insurance company representatives, regarding the cost of providing hospital care for people over age sixty-five.

"Dr. Louis Bauer, chairman of the Board of United Medical Service, presented the attached statement (see below)."

Mr. George P. Farrell, director of the Bureau of Medical Care Insurance, gave in detail his activities during the preceding month, also in the agenda for the meeting.

STATEMENT OF MEDICAL SOCIETY OF THE STATE OF NEW YORK TO JOINT LEGISLATIVE COMMITTEE ON HEALTH INSURANCE PLANS.—The Medical Society of the State of New York is the major medical organization of this State, consisting of 61 county medical societies and approximately 23,500 members.

The Society has recommended to its membership the service-indemnity type contract with a $6,000 service benefit ceiling. This means that medical care provided for in the contract and rendered by a participating physician to a member is fully paid for by the plan, provided that the member's income is not in excess of $6,000. A member whose income is in excess of $6,000 may be charged an additional amount by a participating physician above the amount of indemnity allowed in the contract. If a member receives medical care from a nonparticipating physician, he is indemnified according to the schedule of allowances in his contract.

A participating physician, as the term is used in connection with Blue Shield Plans, is any duly licensed physician of the State who agrees with a Plan to provide medical care to its subscribers within the terms of the subscriber's contract and further agrees that, in the event of the plan's financial inability to pay 100 per cent of the schedule of allowances, he will accept a pro rata portion of the scheduled allowance, and in no instance will the subscriber sustain a loss of benefits.

The reason that plans in this State of the type recommended by the Medical Society have been successful is that over 90 per cent of privately practicing physicians voluntarily assume the obligations of a participating physician. If they did not assume such obligations, such plans would not be possible.

STATEMENT BY LOUIS H. BAUER, M.D., MADE BEFORE THE JOINT LEGISLATIVE COMMITTEE ON HEALTH INSURANCE PLANS.—The importance of a service benefit cannot be stressed too strongly. Those who carry health insurance include large numbers of those in the lower and middle economic levels. A person with low or moderate income wishes to feel that he is completely protected against that for which he carries insurance. For example, if he is insured against the cost of surgical operations, he wants to feel that his insurance will completely cover the costs of surgery. If he is insured against the cost of medical care in the hospital, he wants to be sure that he is completely covered for that. The same applies to the cost of hospitalization. On a service basis, if he is willing to accept semiprivate accommodations, he is fully covered.

The use of a deductible and an indemnity payment leaves the insured person vulnerable in two ways. First, he has to pay the initial cost up to a certain amount. Second, since there is no service benefit, he has no guarantee that the amount paid by the insurance company will be accepted as the balance of payment, and he may receive a supplementary bill. Whereas, with a service plan, the patient knows that if his income is within a certain agreed-upon limit, he will not receive a supplementary bill and that his insurance will pay in full for any service he receives which is covered by the service features of the contract.

The vast majority of physicians are participating in the plans which have a service benefit, so that the patient has a wide freedom of choice among physicians.

Dr. McClintock added: "The report of the Committee on Economics is in the agenda, with two supplements, the statement that I read before the Joint Legislative Committee on Health Insurance Plans and the statement that Dr. Bauer read."

The report *was adopted.*

Legislation.—Dr. Henry I. Fineberg, chairman, reported: "A meeting of the executive committee of the Committee on Legislation was held in the office of the Medical Society on February 16, 1956, at 2 P.M.

"The following were present: Dr. George J. Lawrence, Jr.; Dr. Jacob L. Lochner, Jr.; Dr. W. P. Anderton; Dr. Harold B. Smith; Dr. Henry I. Fineberg. By invitation: Dr. Matthew Brody, psychiatrist; Dr. Stuart W. Cook, president of the New York State Psychological Association; and Mr. Frank J. Smith, Chief of Narcotic Control of the Department of Health of the State of New York. Excused: Drs. Brady, Lynch, and Kottler."

He stated that at that meeting Dr. Cook spoke about licensure or certification of psychologists, and Mr. Smith discussed a proposal which would permit the filling of oral (telephoned) prescriptions for certain narcotic drugs. The committee agreed not to support a bill for the latter purpose should it be introduced.

Dr. Fineberg gave a detailed progress report on (*a*) bills sponsored by the Medical Society, (*b*) bills supported by the Medical Society, and (*c*) bills opposed by the Medical Society.

He stated that a number of other bills of medical interest had been considered at the meeting of the executive committee of the Committee on Legislation and that a great many bills of some medical interest had been reported in the bulletins of the Legislation Bureau.

Dr. Fineberg continued: "As far as amendments to the Motor Vehicle Law are concerned, it was recommended that no action be taken on any bills at this time since the entire matter is being considered by a special committee of the Council.

"The antichiropractic campaign has been proceeding according to schedule.

"In accordance with the recommendation of this Council regarding the bill which authorized the 'commissioner of health to convey to the County of Tompkins for use as a general hospital the land, buildings, and essential hospital equipment now owned and operated by the State as Hermann M. Biggs Memorial Hospital,' opinions were requested from the seven county medical societies said to be opposed to the bill. Two did not reply; three were noncommittal; one was opposed to the proposal, and one voiced its opposition to the closing of the hospital but had nothing to say about the transfer to Tompkins County. In view of this poll we see no reason for altering the decision of the Council at its last meeting that the transfer of the Hermann M. Biggs Hospital be approved (this is also in keeping with a resolution passed by the Medical Society of the County of Tompkins). Drs. Hilleboe and Larimore have been so notified by telephone and letter."

It *was voted* to approve the report.

Dr. Harold B. Smith, executive officer, reported briefly.

Malpractice Insurance and Defense Board.—President Azzari requested Dr. Samuel Z. Freedman to give the report of the Ad Hoc Committee with Reference to Malpractice Insurance and Defense.

The Council thereupon went into executive session.

When the Council emerged from executive session, it *was voted* that a committee be appointed to investigate the matter of Malpractice Insurance and Defense, from the time of its inception, and that the president appoint such a committee.

It *was voted* to discharge the Ad Hoc Committee with thanks.

Nursing Education.—Dr. Raymond S. McKeeby, chairman, reported: "I have been asked to refer a letter to the Council, the second letter from Miss Katherine E. Rehder, executive secretary of the New York State Nurses Association.

> On November 8, 1955, I wrote to Dr. Azzari stating that our association felt it was necessary to appeal to the Attorney General for either a reversal or reaffirmation of his 1942 opinion in regard to nurses performing intravenous therapy. Shortly thereafter I received a letter from you saying that this matter was being referred to Dr. Raymond S. McKeeby and Mr. William Martin for their opinion. To date we have had no reply.
>
> Since this matter is being pursued, we should like to have an expression from the Medical Society as soon as possible.

"As you remember, at a previous Council meeting the answer to Miss Rehder's letter was to be made by Mr. Martin, and in his deliberations that letter has not been forthcoming to date. I would like to refresh your mind on the decision the Attorney General rendered in 1942, in which he said, in regard to intravenous injections, that a registered professional nurse may not lawfully give intravenous medication to a patient except in cases of extreme emergency under supervision of a physician and not then when minor operations are required, such as an incision to reach a vein. I would ask the Council for suggestions or advice in answer to this letter of Miss Rehder's."

After discussion, it *was voted* that the State Society, or its counsel, draw up an interpretation of the law, to be submitted to the Education Department and the Attorney General, permitting nurses to perform intravenous therapy, including infusions, transfusions, and withdrawal of blood.

It *was voted* to approve the report.

Office Administration and Policies.—Dr. John J. Masterson, chairman, stated: "We have the report of our February meeting, postponed at the last Council meeting, and part of today's agenda."

"The regular monthly meeting of the Office Administration and Policies Committee was held on February 8, 1956.

"The office manager submitted his report, and various personnel matters were approved.

"The committee approved the purchase of three typewriters and one adding machine. All of these items have been appropriated for in the budget.

"The committee was asked by the Board of Trustees to prepare data which could be used as the basis of a possible pension plan for the staff of the Society. The committee studied basic figures in order to try to determine what the approximate annual cost of a pension plan would be in the event that favorable action from the Council, Board of Trustees, and House of Delegates was forthcoming.

"There was a general discussion as to the possibility of the Society handling the pension plan on a self-insuring basis. It was the feeling of the committee that the membership would be willing to have such an assessment, particularly in view of its purpose. It was felt that in certain respects this could compare to the War Memorial Fund.

"The committee recommends to the Council that it suggest to the Trustees that it be proposed to the House of Delegates that a $10 assessment be approved for the purpose of establishing a pension plan for employes of the State Society on a self-insuring basis."

Dr. Masterson continued: "There are four pages going into the details of the pension plan. We took the matter up with four different groups. It would cost us $20,000 a year. Some of the members of the committee felt that if we could raise a quarter of a million dollars plus the $75,000 that we now have in the Employes' Beneficiary Fund, we could run this plan ourselves after having it set up by some insurance expert. Treasurer Dattelbaum feels that if we are going to dip into the treasury each year for $20,000 or more for the next ten years, there is nothing else to do but increase the dues $5.00 a year."

After discussion it *was voted* to approve the report and recommend to the Board of Trustees that it be proposed to the House of Delegates that a $10 assessment be approved for the purpose of establishing a pension plan for employes of the State Society on a self-insuring basis.

Dr. Masterson presented the following report of the March meeting of the committee: "The regular monthly meeting of the Office Administration and Policies Committee was held on March 7, 1956.

"The office manager submitted his report, and various personnel matters were approved.

"The office manager reported that he attended a meeting of the Sullivan County Medical Society the evening of February 29, 1956, for the Blood Banks Association."

It *was voted* to accept the report.

Publication Committee.—Dr. Masterson presented the report which had been postponed in February: "The regular monthly meeting of the Publication Committee of the Society was held on February 8, 1956.

"The editor's monthly report was accepted, and it was decided that he should be requested to attend the June, 1956, American Medical Association meeting in Chicago.

"The editor reported on correspondence with Dr. Morton S. Biskind of Westport, Connecticut. Dr. Biskind referred to a new cold remedy being promoted via newspapers, radio, and television and alleged that the manufacturer has adapted publications of his in thinly disguised rewrites.

"Dr. Biskind has requested that he be permitted to use the correspondence columns of the JOURNAL to clarify his position. The committee approved publication of such a letter provided our legal counsel, Mr. Martin, approves.

"The committee granted permission to Dr. A. M. Rabiner to publish the paper he is presenting at our 1956 meeting in the *Journal of the American Medical Association* because of the interest medicine in general would have in it.

"Dr. Thomas Hall of the Massachusetts General Hospital requested two copies of each of the cancer series articles for teaching purposes. Approval was granted.

"The business manager reported on JOURNAL advertising and income.

"The committee is now in process of discussing bids with printers for the 1957 edition of the *Directory*. We are planning to use the same grade of paper and binding as was used in the 1955 edition.

"It was decided to list the degree, D.D.S., in the *Directory* and to designate fellows, members, and associates of the American Psychiatric Association.

"There was a substantial discussion of listing teaching appointments in the *Directory* brought about by numerous letters from physicians. It was decided to appoint a subcommittee to review this question to report at the next meeting."

It *was voted* to approve the report.

Dr. Masterson then presented his March report, as follows: "The regular monthly meeting of the Publication Committee of the Society was held on March 7, 1956.

"There was a general discussion of the advisability of conducting a campaign to increase the circulation of the JOURNAL.

"The committee discussed the proposed increase in rates for half and full pages of advertising in the JOURNAL, and after discussion it was moved, seconded, and passed to approve this increase, effective January 1, 1957.

"The committee discussed the present basis on which our salesmen are compensated. After discussion this was tabled.

"The committee received a request from the magazine, *Soviet Health Care*, for an exchange. The committee decided it should be denied because there is hardly any member who would be able to read the publication.

"Communications regarding *Directory* listings were considered and acted upon."

It *was voted* to adopt the report.

Planning Committee.—Dr. Anderton stated: "This is a very watery report. Dr. Di Natale called on the telephone during this meeting and stated he was sorry he could not be here, but his cellar was flooded; that is, the pump was working but had stopped in the middle of the night on account of failure of power, and the roads are too icy for him to go to the airport. I move acceptance of the report."

The report *was accepted* jovially with sympathy.

Public Health and Education.—Dr. Theodore J. Curphey, chairman, stated that he had attended three meetings and arranged 15 postgraduate lectures in ten counties since the February Council meeting.

He reported: "On February 16 there was a meeting of local and national representatives of the American Physical Therapists Association and of the American Occupational Therapists Association with Dr. Abramson, chairman of the Subcommittee on Physical Medicine and Rehabilitation, and Drs. Canning and Tobis. The purpose of the meeting was to discuss the personnel shortage in this field.

"1. The two organizations were requested to submit in writing to the subcommittee (*a*) concrete proposals with regard to recruitment; (*b*) specific weaknesses in present legislation in the State or the interpretation thereof; (*c*) suggestions as to how to improve the economic aspect of the personnel problem.

"2. It was proposed to call a meeting with officials of the State Education Department to discuss the interpretation of the law, which still works a hardship on physiotherapists seeking licenses who wish to be employed while awaiting the date of the licensing examination."

Regarding a Conference on Medical Education and Licensure in Chicago, February 10 to 14, he reported: "Dr. Norman Moore was also there.

"Several important matters were discussed. The question of the foreign physician came up again, and there was produced a tentative suggested policy, which I presume will be published in the *Journal of the American Medical Association.*

"There are a few points that concern the general practitioner that interested me. There was a discussion as to how much surgery the general practitioner should be taught in his training, and here are some figures: There are 156,000 physicians in the United States; 49 per cent are general practitioners. In small communities 90 per cent are general practitioners, in large communities 40 per cent. About 60 per cent of the surgery is done in the country by the general practitioner. Dr. Cole, a prominent surgeon, was against teaching the general practitioner too much surgery. Other men took the opposite view that it was important that provisions be made in residency training programs that they get exposure to a degree of surgery that they could do in their local communities.

"Another point that received discussion was the full-time professor in the medical school being allowed to practice privately in the community and use the facilities of the medical school for his own personal gain. As you probably know, the matter is very hot in two states at the moment, Mississippi and Tennessee. The local medical societies are quite opposed to this. I heard last night, and others of us did, too, a man from one of the State universities here mention his view, and he was perfectly willing to state that his total income, even though he is a very outstanding man in the State, from private practice did not amount to more than $5,000 last year. It is a difficult situation, and I am sure I don't know what the answer is, but I do think that in these small universities in the country, where attempts are being made to establish medical centers, and in view of the fact that salaries are so low in faculty positions, something has to be done for these men.

"I picked up a few quips that might be interesting to the group: 'An internist is a general practitioner without benefit of surgical fees; a surgeon is a G.P. who does not deliver babies; and a specialist is one who gives a confused discussion of a simple subject and makes you think the confusion is yours.'" (*Laughter*)

The report as a whole *was adopted.*

Public Relations.—In the absence of Chairman Floyd S. Winslow, Dr. John C. McClintock, a member of the committee, moved the adoption of the following report: "The staff of the Public and Professional Relations Bureau, during the past month, concentrated much of their efforts on furthering the campaign of the special Committee to Combat Cults.

"Following the mailing of letters to the presidents, legislation, and public relations chairmen of county medical societies and the State legislators, the secretarial staff was flooded with requests for literature, information, and other assistance. Four pieces of literature were distributed in large quantities.

"A letter to be sent by county auxiliary legislation chairmen to members of their auxiliaries was mailed. Literature was sent by the bureau to each of the 5,000 members of the Woman's Auxiliary. Approximately 5,000 stamps were supplied to the local chairmen for their mailings.

"Another important part of the campaign was the work of the field representatives, Mr. Schuyler, Mr. Tracey, and Mr. Walsh. They visited county medical societies with order blanks for literature to stimulate action as outlined by the Committee to Combat Cults. As a result of this field work, numerous orders were filled at headquarters, and county societies swung into action.

"As a means of enlisting the support of every member of the Society, the February issue of the *Newsletter* devoted space to the campaign. The entire text of the new pamphlet, 'Should Chiropractors Be Licensed?,' occupied a full page, while an order blank with a message urging doctors to obtain free copies of this leaflet and the three other publications filled a third of another page.

"Carrying out the promise made in the Guide for Cooperation between the medical profession and the media of information that the Guide would be reviewed annually, or more often if necessary, our Subcommittee on Cooperation with the Media of Information, Dr. John C. McClintock, chairman, has scheduled meetings to discuss the document on March 8 and 9 at the Hotel Biltmore in New York City.

"On February 20 Mr. Miebach and Mr. Charles L. Baldwin, convention manager, met Dr. Samuel Z. Freedman, chairman of the convention committee, to make preliminary plans for carrying out the details of the sesquicentennial commemoration in 1957.

"On February 23 your chairman and Mr. Miebach spoke at a meeting of the Seventh District Branch Advisory Committee, at Canandaigua. Mr. Schuyler, field representative for the branch, also was present.

"Covering postgraduate lectures, special releases were mailed to editors of newspapers in the following counties: Broome, Dutchess, Greene, Jefferson, Schenectady, and Suffolk.

"Unique evidence of the continuing popularity of the bureau's publications, 'Seven PR Pointers for Medical Personnel' and 'Telephone Cues for Medical Personnel,' was a letter received from a Michigan physician. Dr. J. E. Manning, of Saginaw, requested that copies of 'your two excellent pamphlets' be sent to 16 physicians in Toronto, Canada. They had asked for these materials at a lecture he had given on medical assistants to members of the Ontario Medical Association. This request was gladly filled.

"An indication of what may be accomplished in the future through continuing efforts to improve service to members without increasing costs was the recent authorization granted by the U.S. Post Office to mail the *Newsletter* second class. Following the adoption of a resolution by the Council at its January, 1956, meeting stating that all paid-up members of the State Society are entitled to receive the *Newsletter*, application was made for second class mailing privileges commencing with the February issue. Within ten days approval was received from Washington. Surprising as it may seem, improving the mailing service from third class to second class was accomplished not by increasing but by decreasing cost. The January *Newsletter*, mailed third class, cost $243.11. The February issue, mailed second class, cost $101.10. The difference was a decrease in cost of $142.01, or almost 60 per cent. The explanation for improved service at less cost is the fact that second class privileges were granted at publishers' rates. Projecting the current savings over a year's period of ten issues, a substantial annual saving of approximately $1,420 can be anticipated, and better mailing service can be expected by our members.

It *was voted* to adopt the report.

Veterans' Administration, Liaison with.—Dr. Herbert H. Bauckus, chairman, reported: "On April 6 we intend to have a meeting of the Liaison Committee, and we will report later to the Council."

Workmen's Compensation.—Dr. Gerald D. Dorman, chairman, reported: "I would like, for the information of the Council, to say that we have a bill in Albany regarding expert panels on compensation. This has the backing of the commerce and industry group. It might well pass next year if it does not pass this year.

"I would also point out that the Department of Labor under the chairmanship of Mr. Larson has drawn up a model compensation law. It has been studied by a committee of the American Medical Association on compensation. I went to that committee meeting. One of the provisions in the original draft of the model law was that an injured person could choose from a panel of physicians. We modified that to bring in the free choice of physician, such as we have in New York State, rather than a panel system set up by the employer. This was to act merely as a model; it is not the intention of the Federal government to move into the compensation field, but there might be advantages in having more similar provisions in the laws throughout the country than exist at present."

It *was voted* to adopt the report.

Veterans Administration

Planning for Patient Discharge.—Many communities are helping seriously disabled veteran patients before and after discharge from Veterans Administration hospitals, so they may remain well and even become self-supporting again. A new program, known as "Planning for Patient Discharge," is designed to make full use of community volunteer, social, and health groups under a definite plan of assistance for each discharged patient who needs it to readjust to home and community life. VA said the program has proved so successful that it may be adopted eventually by all 173 hospitals in the VA system.

The key to the program is the vast army of VA voluntary service workers who annually donate more than 5 million hours to veterans in VA hospitals. Under the new program, the volunteers are extending their help to discharged patients in their home communities as a continuation of their services while the patients were in the hospitals. Once a plan of community assistance is drafted by the hospital staff's functional committee for a seriously disabled veteran about to be discharged, the voluntary service workers, through the hospital's steering committee, help to put it into effect. This assistance may take the form of home nursing service, transportation to a community clinic, free medicines, materials for hobbies, friendly visits, a job the veteran can perform—in fact, anything he may need to live at home without losing the benefits of the care he has received at the hospital.—*Journal of the American Medical Association, February 25, 1956*

NECROLOGY

David Bernard Ballin, M.D., of New York City, died on April 15 at the age of sixty-four. Dr. Ballin graduated from New York Homeopathic Medical College and Flower Hospital in 1918. He was an associate attending in dermatology and syphilology at University Hospital and an assistant attending in dermatology and syphilology at Bellevue Hospital. He was a Diplomate of the American Board of Dermatology and Syphilology and a member of the American Academy of Dermatology and Syphilology, the Bronx Dermatological Society, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Clements Winfield Blodgett, M.D., of Syracuse, died on March 20 at the age of seventy-one. Dr. Blodgett graduated in 1913 from Syracuse University College of Medicine. He was a professor emeritus of pediatrics of the State University College of Medicine at Syracuse and a former member of the staff of University Hospital. Dr. Blodgett, who had formerly been a member of the Onondaga County Medical Society, was a member of the Syracuse Academy of Medicine.

Lovelace Brown Capehart, Jr., M.D., of New York City, died on December 26, 1955, at the age of sixty. Dr. Capehart graduated from Columbia University College of Physicians and Surgeons in 1931. He was a member of the Manhattan Central Medical Society.

James Manning Dunn, M.D., of East Hampton, died on April 10 at the age of sixty-eight. Dr. Dunn was graduated in 1915 from Albany Medical College. Until 1927 he practiced in Schenectady except for service in the Army Medical Corps in World War I. In 1918 he won a Twenty-seventh Divisional citation for operation of a field hospital under fire. From 1927 to 1930 he was on the staff of the Manhattan Eye, Ear, and Throat Hospital, New York City. In 1930 he returned to Schenectady to become chief otolaryngologist at Ellis Hospital until 1942 when he reentered the Army service and became chief of surgery at Lawson General Hospital, Atlanta. He retired from the Army in 1945 with the rank of colonel and joined the Veterans Administration. Dr. Dunn was a Diplomate of the American Board of Otolaryngology and a member of the Suffolk County Medical Society and the Medical Society of the State of New York.

Edwin Perry Hall, M.D., of Oneonta, died on April 9 at the age of seventy-five. Dr. Hall graduated in 1903 from Hahnemann Medical College of Philadelphia. From 1936 to 1947 he served as city health officer and as town health officer until his death. He was a member of the staff of Aurelia Osborn Fox Memorial Hospital and a consultant in eye, ear, nose, and throat at the Homer Folks Tuberculosis Hospital. Dr. Hall was a Diplomate of the American Board of Otolaryngology and a member of the American Academy of Ophthalmology and Otolaryngology, the Syracuse Academy of Medicine, the Otsego County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Meyer Hammer, M.D., of the Bronx, died on November 4, 1955, at the age of forty-seven. Dr. Hammer graduated in 1935 from the Royal College of Physicians and Surgeons in Edinburgh, Scotland. He was an assistant attending physician at Lebanon Hospital Outpatient Department. Dr. Hammer was a member of the Bronx County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Charles W. Lanning, M.D., of Herkimer, died on April 18 at the age of eighty-two. Dr. Lanning was graduated from Syracuse University College of Medicine in 1898. He was an honorary member of the staff of the Herkimer Memorial Hospital. From 1904 to 1910 he was school commissioner for Onondaga County, and for a period of nine years later served as Otsego County physician. When Mary Imogene Bassett Hospital opened in 1927 he was a member of the staff. Dr. Lanning retired from practice in 1953. He was a member of the Herkimer County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Horace A. Lo Grasso, M.D., of Buffalo, died on March 19 at the age of seventy-four. Dr. Lo Grasso graduated in 1937 from the University of Rochester School of Medicine and Dentistry. He was an associate attending physician at Buffalo General Hospital. For twenty-six years he had served as superintendent of J. N. Adam Memorial Hospital in Perrysburg. In 1948 he retired and moved to California where he served as the post surgeon at the Army Medical Depot in Alameda until March 6. He was a member of the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

James I. Mooney, M.D., of Rochester, died on March 28 at the age of fifty-one. Dr. Mooney graduated from Syracuse University College of Medicine in 1931. He was a senior physician at St. Mary's Maternity Hospital and Children's Home. Dr. Mooney was a Fellow of the American College of Physicians and a member of the Rochester Academy of Medicine, the Rochester Pathological Society, the Monroe County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Stanley Fireman Ungar, M.D., of New York City, died on April 19 at the age of fifty-four. Dr. Ungar was graduated in 1927 from New York University and Bellevue Hospital Medical College. He was an assistant in gynecologic surgery at Knickerbocker Hospital. During World War II he served as a flight surgeon with the Ninth Air Force in England and France and received two Purple Hearts and the Air Medal with three Oak Leaf clusters. He was a member of the Aero Medical Association, the Association of Military Surgeons of the United States, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

John Ross Whisenant, M.D., of Alford, Massachusetts, formerly of White Plains, died on April 16 at the age of sixty-four. Dr. Whisenant graduated from the University of Texas School of Medicine in 1914. He served as urologist at Sing Sing Prison for twenty-two years and from 1935 had been a clinical professor in urology at the Polyclinic Hospital, New York City. Dr. Whisenant was a consultant in urology at the White Plains Hospital and Northern Westchester Hospital, Mount Kisco, and honorary urologist at the Phelps Memorial Hospital, Tarrytown. He was a Fellow of the American College of Surgeons, a Diplomate of the American Board of Urology and a member of the American Urological Association, the Westchester County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

MEDICAL NEWS

Speakers at Connecticut Meeting—Seven New York State doctors were among those speaking at the 164th annual meeting of the Connecticut State Medical Society in Hamden, Connecticut, April 24 through 26.

Dr. Willard C. Rappleye, dean of the faculty of medicine and vice-president in charge of medical affairs at Columbia University, New York City, discussed "Some Problems of Medical Education"; Dr. Ralph A. Deterling, Jr., associate clinical professor of surgery at Columbia University College of Physicians and Surgeons, New York City, and director, Surgical Research Laboratories at Columbia College of Physicians and Surgeons, spoke on "Present Status of Cardiovascular Surgery"; Dr. Byron C. Smith, surgeon director, Manhattan Eye, Ear, and Throat Hospital, and instructor in ophthalmologic surgery, New York Eye, Ear Infirmary Postgraduate School, spoke on "Preferred Technics in Ophthalmological Plastic Surgery"; Dr. Alvin J. Tillman, associate professor of obstetrics and gynecology, Columbia University College of Physicians and Surgeons, spoke on a panel discussing toxemias of pregnancy; Dr. Hans Kraus, assistant clinical professor of physical medicine and rehabilitation, New York University School of Medicine, spoke on "Does the Disabled Back Need Exercise?" and Dr. Alvin I. Goldfarb, psychiatric consultant, Home for Aged and Infirm Hebrews, New York City, associate psychiatrist, Mt. Sinai Hospital, and clinical faculty, Columbia College of Physicians and Surgeons, New York City, spoke on "Contributions of Psychiatry to the Care of the Aged and Chronic Diseased Patient."

National Fund for Medical Education—A $10,000,000 program of grants to the National Fund for Medical Education has been announced by the Ford Foundation.

The appropriation is intended to assist the National Fund for Medical Education in its efforts to strengthen the financial support for medical schools throughout the United States, both public and private, and to develop new sources of such support.

Grants from the $10,000,000 appropriation will be paid to the National Fund on a matching scale in a program that could last up to ten years but might be accelerated to completion in five years, depending upon the rate at which the National Fund develops additional support for medical education. The maximum grant in any one year would be $2,000,000.

Foundation grants will be distributed to the National Fund at the close of each calendar year, starting with 1956.

Science Research Contracts—New York University and the Research Foundation of the State University of New York were among the institutions awarded life science research contracts in the fields of medicine, biology, and biophysics by the United States Atomic Energy Commission. The contracts were awarded as part of the Commission's policy of assisting and fostering research and development in fields related to atomic energy.

Hill-Burton Grants—The Department of Health, Education, and Welfare reports the status of all Hill-Burton grants for the State of New York as of March 31. Projects approved but not yet under construction include 13 projects at a total cost of $15,386,805 including $4,650,964 Federal contribution and designed to supply 880 additional beds.

Under construction are 19 projects at a total cost of $55,747,590 including Federal contribution of $7,924,138 and designed to supply 1,747 additional beds.

Completed and in operation are 73 projects at a total cost of $73,733,362 including Federal contribution of $21,100,109 and supplying 4,029 additional beds.

American Medical Education Foundation—New York State contributors to the American Medical Education Foundation for the month of March were: *Addison*—Dr. H. E. Auringer; *Albany*—Dr. Jeffery Wiersum; *Amenia*—Dr. Edward A. Larkin; *Astoria*—Drs. Guido Boccardi, Martin Dollin, and James J. Morrissey; *Avoca*—Dr. William O. Jackson; *Bath*—Drs. Stanley B. Chapman, J. F. Kenzie, and Ernest P. Smith; *Bayside*—Drs. Samuel C. Clayton, Charles H. Ellard, Jr., Isidore L. Epstein, Abraham Halberstein, and Ignaz Handl; *Beacon*—Drs. Donato A. Astone and John F. McNeill; *Binghamton*—Drs. Charles M. Allaben, F. A. Baumann, A. A. D'Angelo, Amore DelGuidice, Wilbur M. Dixon, Ernest Hock, James F. Johnson, Philip H. Landers, Stephen Major, Harold W. McNitt, Charles A. Mossew, J. H. Robertson, Mary J. Ross, Alfred L. Standfast, G. M. Tirrell, Myrtle M. Wilcox, and B. I. Wulff.

Also: *Briarcliff Manor*—Dr. A. S. De Augustinis; *Bronx*—Dr. H. H. Livingston; *Bronxville*—Drs. C. H. Branigan, George W. Brooks, Ralph Greenlee, Violet Kiel, F. L. Landau, Jr., C. Phillips, James A. Ramsay, Arthur T. Rowe, W. J. Sullivan, and Waring Willis; *Brooklyn*—Drs. E. H. Francis, Jr. and Howard R. Gerber; *Brooktondale*—Dr. M. R. Tinker; *Callicoon*—Drs. George R. Mills and Edmund T. Rumble; *Cambria Heights*—Drs. Cono Forte and H. A. Gozan; *Cambridge*—Dr. D. M. Vickers; *Canandaigua*—Dr. F. C. McClellan; *Canaseraga*—Dr. F. M. Tisdale; *Chappaqua*—Dr. Joseph Nelson; *Chatham*—Drs. Charles Rosen and Oscar Wilcox, Jr.; *Clifton Springs*—Dr. Stephen W. Brouwer; *College Point*—Dr. Joseph S. Ephraim; *Corning*—Drs. Arthur P. Darling, Fred E. Gorman, Maynard W. Gurnsey, John A. Holmes, James J. Mulcahy, Edwin H. Ober, and Wayne Templer; *Corona*—Dr. Stanley Altschuler; *Croton-on-Hudson*—Drs. Louis E. Bernard and George Vogel; *Crown Point*—Dr. John S. Miller; *Douglaston*—Dr. Leif Y. Jacobsen; *Deposit*—Dr. Clayton M. Axtell; *Dover Plains*—Dr. Samuel E. Appel.

Also: *East Elmhurst*—Dr. Michele S. Dimino; *Ellenville*—Dr. Anthony Ruggiero; *Endicott*—Drs. Emil Ekstein, Herta Ekstein, and Dante Tocco; *Flushing*—Drs. Albert J. Bajohr, William E. Berkeley, Leonard J. Brandman, Thomas L. Burns, F. S. Butler, P. A. Cioffi, Louis T. Cornacchia, John N. DeHoff, Abraham Dumanis, Joseph A. Gaetane, A. C. Hoffman, Jerome L. Jacoby, Jerome L. Leon, E. A. Mittell, and Amedeo W. Pallone; *Forest Hills*—Drs. Leo Dobrin, John J. Drucker, Leonard P. Fox, Grace Frank, Lydia Friedlander, Harry Goldman, Max D. Goldman, Norman Goldfarb, Joseph J. Healy, Alice Howitt, Milton Kaufman, and Samuel Marsh; *Fort Edward*—Dr. J. Feingold; *Geneseo*—Drs. J. Delehanty, G. Manley, and John D. Mould; *Germantown*—Dr. Hugh G. Henry; *Glen Cove*—Dr. S. J. Makowski; *Gloversville*—Drs. John Fernandez, Edward Holcomb, Robert Lenz, and E. N. Perkins; *Granville*—Drs. W. S. Bennett and J. A. Sumner; *Greenwich*—Dr. R. L. Skinner; *Highland*—Dr. Anthony E. Biancardi; *Hollis*—Dr. R. R. DeNicola.

Also: *Hornell*—Drs. Thomas Cotton, Irving Feldberg, and William J. Tracy; *Howard Beach*—Dr. Murray Elkins; *Hudson*—Drs. John L. Edwards and Everett A. Jacobs; *Hudson Falls*—Drs. R. W. Homer, C. V. Latimer, Jr., and John McGann; *Irvington*—Drs. Donald R. Reed and William R. Roane; *Ithaca*—Drs. George E. Poucher and M. B. Tinker, Jr.; *Jackson Heights*—Drs. William Filler, Paul Gold, Hyman J. Modlin, and Morton Roberts; *Jamaica*—Drs. Kurt Adler, Alfred Angrist, Michael Bevilacqua, Frank N. Dealy, Albert H. Douglas, J. F. Faigle, Harry A. Feigenbaum, Irene Garrow, Otto Gitlin, Louis W. Granirer, Otto T. Hofmeister, George H. Kittell, Frances Lewis, and Aaron Meister; *Jeffersonville*—Dr. Max Epstein; *Johnson City*—Dr. Chares B. Steenburg; *Johnstown*—Dr. Arthur Howard; *Kerhonkson*—Drs. Alfred M. Feldshuh and William R. Galeota; *Kingston*—Drs. Vincent P. Amatrano, H. Boyd, Jr., William S. Bush, Shirley A. Collins, John A. Cooke, Peter D. Corsones, William J. Cranston, Jr., M. B. Downer, B. J. Dutto, Herbert B. Johnson, Douw Meyers, Robert F. Moseley, Jr., Francis E. O'Connor, John A. Olivet, Harold L. Rakov, John R. Roberts, Edward F. Shea, and Ted R. Smalldon.

Also: *Lake Success*—Dr. Alfred R. Ernst; *Larch-*

mont—Drs. Seymour H. Fine and W. J. Sheils; *Liberty*—Drs. Deming S. Payne and Lee R. Tompkins; *Little Neck*—Dr. Hermann Brenner; *Livingston Manor*—Dr. Victor G. Bourke; *Long Island City*—Drs. Herbert Bermont, Reuben M. Dicker, Victor Fimia, A. Franco, Herbert Greening, and William J. Lavelle; *Mamaroneck*—Drs. Milton Drexler, V. I. Haggerty, and R. E. Machan; *Marlboro*—Dr. John B. Scott; *Maspeth*—Dr. A. Bucacz; *Mechanicville*—Dr. Anthony J. Fantauzzi; *Middle Village*—Dr. Horace Chaitin; *Millbrook*—Dr. William W. Bennett; *Millerton*—Dr. Gilbert S. Tabor; *Mineville*—Dr. Oscar Greene; *Minoa*—Dr. Harold J. Platz; *Monsey*—Dr. Matthew A. Dal Lago; *Monticello*—Drs. Ralph S. Breakey and Stanley Kornblum; *Mount Kisco*—Drs. Daniel N. Brown, John P. Lambert, and Grant Sanger; *Mount Vernon*—Drs. Vincent J. Cimmino, N. Fiegoli, Thomas Johnson, J. R. Kahaner, Joseph Lombardi, E. A. Novick, Robert L. Rosen, Louis S. Smith, David Teitelbaum, Louis H. Tobin, A. van Eyck, and James M. Vaughan; *Nanuet*—Dr. Leo G. Weishaar, Jr.; *New Hyde Park*—Dr. Edward Meilman; *New Paltz*—Dr. Virgil B. DeWitt.

Also: *New Rochelle*—Drs. George C. Adie, Michael A. Cassidy, Harry L. Chasserot, G. E. Froehlich, F. H. Johnston, John F. Miller, Maynard G. Priestman, Sigurd C. Sandzen, H. H. Sawicky, H. R. Seidenstein, N. E. Selby, Samuel Silverman, and Norman Survis; *New York City*—Drs. Maynard B. Badanes, Bruce Buchenholz, K. Butler, Edward P. Daly, A. A. Eggston, Sarah R. Kelman, Joseph H. Lede, Malvin Proctor, Anthony Totero, N. J. Viggiano, Jerome Weiss, and Samuel Weiss; *North Syracuse*—Dr. Erwin Lindenfeld; *Northville*—Dr. K. Durand; *Nunda*—Dr. H. Schneckenburger; *Ossining*—Drs. Robert R. Bloom and L. D. Redway; *Pawling*—Dr. Milnor B. Morrison, Sr.; *Pearl River*—Drs. B. W. Carey, Thomas Cassara, and Anthony Noto; *Peekskill*—Drs. Herbert Eisler, J. A. McGurty, Mabel M. Smith, William A. Strauss, and W. B. Wolfe; *Pelham*—Drs. Eliza Caldwell and E. A. Hardy; *Philmont*—Dr. Algird F. White; *Piermont*—Dr. George G. Knight; *Pleasantville*—Dr. Edison S. Shaw; *Port Chester*—Drs. John H. Dale, John R. Finlay, H. H. Gibb, John E. Gundy, R. A. Higgons, Anthony Mascia, H. H. Perry, and N. H. Schwartz; *Poughkeepsie*—Drs. James R. Breed, John I. Cotter, Chester O. Davison, C. K. Deyo, James S. Fishler, Harry V. Hanley, Jr., Lloyd D. Harris, Raymond Koloski, Reuben T. Lapidus, Donald Malven, Raymond T. McFarlin, William H. Meyer, Sidney N. Miller, John F. Rogers, William R. Updegraff, Helen E. Van Alstine, George J. Ward, and Harold Weiner.

Also: *Queens Village*—Drs. S. S. Daiell, Henry E. Illick, and Francis J. Martell; *Rego Park*—Drs. Martin Gold, Abraham M. Goldman, Harold N. Levine, and Ephraim J. London; *Rhinebeck*—Dr. Martin J. Poppo; *Richmond Hill*—Drs. Arthur P. Ahrens, Hugh Barber, George B. Fernlund, and Sophie Hirsch; *Ridgewood*—Dr. Edward A. Essex; *Rosendale*—Dr. Eugene F. Galvin; *Rushville*—Dr. B. C. Hurlbutt; *Rye*—Drs. C. C. Craven, R. d'Isernia, P. J. Giuffre, M. M. Loder, Robert Mallory, III, and John L. Slabey; *St. Albans*—Dr. Joseph B. Dixon; *Saratoga Springs*—Drs. Robert S. Hayden and William J. Hickey; *Saugerties*—Dr. Bertram W. Gifford; *Scarsdale*—Drs. Joseph Ballinger, M. M. Benedict, M. R. Buchman, John Cannon, David Fertig, Daye Follett, R. Keith, Jane Lester, John B. Moses, W. M. Parke, Jr., Milton Roberts, H. K. Russell, and Herman Tarnower; *South Ozone Park*—Dr. Sidney B. Meltz; *Spring Valley*—Drs. Henry J. Kaplan and Julius Pomerantz; *Suffern*—Drs. George G. Stone and P. B. VanDyke.

Also: *Syracuse*—Drs. David Bennett, Alfred S. Berne, Hans Bruns, Agnes Buck, Linus W. Cave, Chester E. Clark, Mark E. Conan, Arthur N. Curtiss, James G. Derr, Herbert R. Diaso, Edward J. Dick, Herman J. Dick, L. W. Ehegartner, Edwin J. Euphrat, Thomas J. Fahey, Jerome H. Flatow, Louis G. Fournier, C. D. Gelormini, Leon H. Griggs, J. G. Hiss, Charles H. Hitchcock, Edward C. Hughes, C. Jernakoff, Irving Kalow, Richard H. Lyons, Searle B. Marlow, F. N. Marty, James L. McGraw, William J. Michaels, Jr., Edgar M. Neptune, L. K. Pickett, A. J. Raffaele, Arthur B. Raffe, Harry A. Steckel, Howard H. Volan, Marie C. Wasileska, F. R. Webster, W. J. Werfelmann, Jr., Richard D. Wiseman, and William G. Woodin; *Tarrytown*—Dr. Charles W. Pierce; *Ticonderoga*—Drs. Rudolph Martin and William Vilardo; *Tuckahoe*—Dr. John C. Seed; *Valhalla*—Drs. W. G. Childress and Fred V. Rockwell; *Vestal*—Drs. Manuel A. Angulo and Charles Minch; *Watertown*—Drs. Warren W. Daub, James A. Fitzgerald, Murray M. Gardner, John A. Kennedy, Chris G. Ronson, and C. C. Wray; *Wellsville*—Drs. Edwin F. Comstock, Irwin Felsen, F. H. McCarty, and Paul E. Rockwell.

Also: *White Plains*—Drs. Stanley F. Altman, F. W. Birkman, R. D. Duckworth, G. E. Gaillard, B. C. Hecht, Alan Herfort, Charles G. Huntington, Homer Kesten, John J. Kneisel, D. A. MacDonald, James R. Montgomery, K. K. Nygaard, V. M. Palmer, E. G. Ramsdell, Daniel Roth, Raymond Sobel, Frank Spellman, James Wall, Donald Weisman, and C. Wood; *Whitestone*—Dr. C. J. Cohen; *Wingdale*—Dr. Louis Loeffler; *Woodhaven*—Drs. Sol Axelrad, Goodwin A. Distler, William C. Godwin, George Goldberg, and N. A. Knox; *Woodside*—Drs. E. M. Feller and Alfred E. Passera, and *Yonkers*—Drs. A. A. Blasi, Charles M. Brane, Walter Carey, Gregory Chvartazky, A. J. Di Fabio, W. J. Garvin, Charles G. Jackson, A. D. Josephson, Jacob Kertzman, Felix P. Loiacono, Robert V. Minervini, V. Minervini, William A. Morris, Robert R. Onorato, Stanley M. Rubin, George Spota, Rocco Troiano, W. W. Walker, and A. Wolf.

Nassau Ophthalmological Society—The April meeting of the Nassau Ophthalmological Society was held in Bellmore on April 30. Dr. John Harry King, Jr., Washington, D.C., spoke on "Experience with Newer Corticosteroid Hormones in the Treatment of Eye Diseases."

Kings County Medical Society—At a meeting of the Kings County Medical Society in Brooklyn on April 17, Dr. Robert F. Warren, president, formally announced the Society's approval of the formation of a committee for the study of pelvic malignancy, the first of its kind in New York State and the second such committee to be formed in the United States. This committee is being formed in conjunction with the Brooklyn Gynecological Society. An initial grant of $1,000 has been approved for preliminary planning and setting up of the project. Dr. John G. Masterson has been appointed chairman of the committee.

Research Award Available—The New York Academy of Medicine has announced the availability of the Louis Livingston Seaman Fund for the furtherance of research in bacteriology and sanitary science. Nineteen hundred dollars is available for assignment in 1956.

The fund will be expended only in grants-in-aid for the securing of technical help, aid in publishing original work, and purchase of necessary books or apparatus.

The committee will receive applications either from institutions or individuals up to July 1. Communications should be addressed to Dr. Wilson G. Smillie, chairman of the Louis Livingston Seaman Fund, 105 East 22 Street, New York 10, New York.

Personalities

Elected

Dr. Alexander B. Gutman, president; Dr. Bernard Rogoff, vice-president; Dr. Felix Demartini, secretary-treasurer; and Drs. Charles Ragan, Robert L. Preston and Emanuel Rudd, to the executive committee of the New York Rheumatism Association.

Appointed

Dr. Gurston D. Goldin, New York City; Dr. Valentino D. B. Mazzia, New York City; Dr. Robert R. Siegel, Brooklyn; Dr. Jack M. Stopak, Long Beach, and Dr. Richard T. Suchinsky, Buffalo, to the inactive reserve component of the commissioned officers corps of the United States Public Health Service . . . Dr. William A. Holla, recently retired County Commissioner of Health in Westchester, as program services consultant of the United Cerebral Association of Westchester County, Inc. . . . Dr. Melville H. Manson, New York City, as scientific director of the Muscular Dystrophy Associations of America, Inc. . . . Dr. Walter F. Riker, Jr., New York City, as professor of pharmacology and chairman of the Department of Pharmacology at Cornell University Medical College . . . Dr. Robert L. Yeager, superintendent and medical director of the Rockland County Tuberculosis Hospital in Pomona, as chairman of the State Committee on Tuberculosis and Public Health of the State Charities Aid Association.

Speakers

Dr. Ralph D. Alley, Albany Medical College, Albany, before the Washington County Medical Society on April 12 on "Recent Advances in Cardiovascular Surgery" . . . Dr. Chester E. Clark, professor and chairman of the Department of Gynecology, State University of New York College of Medicine at Syracuse, before the Chemung County Chapter of the American Academy of General Practice on April 25 at the Mark Twain Hotel in Elmira on "Gynecology in General Practice" . . . Dr. Herbert Conway, professor of clinical surgery at Cornell University Medical College, New York City; Dr. Jacob Fried, associate in radiology at Columbia University College of Physicians and Surgeons, and Dr. Maurice J. Costello, associate professor of clinical dermatology at New York University Post-Graduate Medical College, in a symposium on "Cancer of the Face" before the Nassau County Medical Society on April 24 at Meadowbrook Hospital, Hempstead . . . Dr. Leonard Greenburg, director of the Bureau of Air Pollution Control, before the South Side Clinical Society in April on "The Effect of Industrial Substances on the Body" . . . Dr. Howard A. Rusk, chairman of the Department of Physical Medicine and Rehabilitation at the New York University College of Medicine, before the New York University Dental Alumni Association on April 27 on "Rehabilitation as it Applies to the Practice of Dentistry."

Honored

Dr. Arthur S. Abramson, professor and chairman of the Department of Rehabilitation Medicine, Albert Einstein College of Medicine, Yeshiva University, New York City, as "handicapped man of the year" by the Presidents' Committee on Employment of the Physically Handicapped . . . The late Dr. Nathan Rosenthal, New York City, with a plaque in his memory unveiled in the auditorium of Mount Sinai Hospital, to be erected in the new hematology laboratory.

New Office

Dr. Sheldon Rudansky, practice of urology at the Garden City Medical Center, 520 Franklin Avenue, Garden City.

MEDICAL MEETINGS

Binghamton Academy of Medicine

There will be a meeting of the Binghamton Academy of Medicine on May 15 at 8:45 P.M. in the Doctors' Auditorium of the City Hospital in Binghamton. Dr. Arthur H. Blakemore, professor of clinical surgery at Columbia University College of Physicians and Surgeons, will speak on "Advances in Surgery of the Great Arteries."

Jefferson County Medical Society

A panel on poliomyelitis has been arranged for the meeting of the Jefferson County Medical Society on May 15 at the Black River Valley Club in Watertown. Clinical aspects of the disease will be discussed by Dr. Philip M. Stimson, professor of clinical pediatrics at Cornell University Medical College, and rehabilitation will be discussed by Dr. Morton B. Hoberman, assistant clinical professor of physical medicine and rehabilitation at Columbia University College of Physicians and Surgeons. Dr. John Gorrell, director of medical services at the National Foundation for Infantile Paralysis, New York City, will report on that organization.

Action Prevention Course

A one-day conference on "Medical Aspects of Motor Vehicle Accident Prevention" will be held on May 23 at New York University, cosponsored by the University's Center for Safety Education and the New York University-Bellevue Medical Center.

A general evening session, open to the public, will be held at 8:30 P.M. at the New York Academy of Medicine Building, 2 East 103rd Street, New York City. During this session Dr. Herman E. Hilleboe, commissioner of health for New York State, will deliver a report on "The Conclusions and Recommendations of the Conference Workshop Groups." Dr. Howard A. Rusk, director of the Institute of Physical Medicine and Rehabilitation at New York University-Bellevue Medical Center, will speak on "The Importance of the Physician in Motor Vehicle Accident Prevention."

Further information on the conference can be obtained from the Center for Safety Education, New York University, 6 Washington Square North, New York 3, New York.

Committee on Cosmetics

The Committee on Cosmetics of the American Medical Association will sponsor a symposium at the 105th annual meeting of the American Medical Association in Chicago, June 11 through 15. The symposium will be held June 13 in the ballroom of the Knickerbocker Hotel. The program has been specifically planned to inform the physician on the significance of cosmetics in medical practice.

Greene County Medical Society

There will be a meeting of the Greene County Medical Society and Greene County Chapter of the Academy of General Practice on June 14 at 8:00 P.M. at the Greene County Memorial Hospital in Catskill. Dr. Barnard Kleiger, director of rehabilitation at the Hospital for Joint Diseases, New York City, and visiting orthopedist at the Veterans Administration Hospital in Brooklyn, will speak on "General Principles in the Treatment of Fractures."

American Neurological Association

The 81st annual meeting of the American Neurological Association will be held at the Claridge Hotel, Atlantic City, New Jersey, June 18 through 20. All communications regarding the meeting should be addressed to Dr. Charles Rupp, secretary, 133 South 36th Street, Philadelphia 4, Pennsylvania.

Occupational Medicine Course

A full-time eight-week comprehensive course in occupational medicine for physicians will be given in the Post-Graduate Medical School of New York University-Bellevue Medical Center from September 10 through November 2, it has been announced.

Among the subjects being offered to physicians are: organization and administration of an industrial medical department, preventive and constructive medicine in industry, occupational diseases, toxicology and industrial hygiene for the physician, as well as biostatistics, communicable disease control, and epidemiology. Opportunities will be provided for attendance at medical, surgical and clinicopathologic conferences during the course.

For further information and application address: Dean, New York University Post-Graduate Medical School, New York 16, New York.

Pan American Association of Ophthalmology

The fourth interim congress of the Pan American Association of Ophthalmology will be held at the Hotel Statler, New York City, April 7 through 10, 1957, according to Dr. Brittain F. Payne, New York City, president of the Association. The congress will be held in conjunction with the annual meeting of the National Society for the Prevention of Blindness. Dr. John M. McLean, professor of clinical surgery in ophthalmology, Cornell Univer-

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"Good Cheer"

For the Convalescent
and Geriatric Patient—

There's geniality in a glass of wine—it brightens the outlook—perks up the jaded appetite of the anorexic patient—makes food taste better, while adding its own supplement of minerals, vitamins, carbohydrates.

Many generations of physicians have warmly recommended not only dry table wines, but also sweet wines of many varieties in the treatment of elderly, post-surgical and convalescent patients.

While in the past the use of wine as a medicinal agent has been based largely on tradition, recent research is revealing the physiologic basis for subjective theories of past years.

Thus it has been observed that wine heightens olfactory acuity, stimulates salivary secretion, provides mild but prolonged stimulation of gastric secretion, and exerts a vasodilating action which helps improve circulation and increase cardiac output.

A glass of Sherry, Burgundy or Rhine Wine before meals, table wine with luncheon or dinner, or a little Port at bedtime can add a welcome touch of interest and "elegance" to the daily routine of the convalescent and the elderly patient. The food tastes better, the day seems shorter and brighter, and the night more pleasant and relaxed.

May we send you a copy of "Uses of Wine in Medical Practice" (at no expense, of course). Just write to: Wine Advisory Board, 717 Market Street, San Francisco 3, California.

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sity Medical College, New York City, is chairman of the program committee. Those wishing to present papers should contact him at the New York Hospital, 525 East 68th Street, New York City 21.

A cinema program relating to diseases of the ocular fundus, ophthalmic surgery, and therapeutics in present-day ophthalmology is being planned under the chairmanship of Dr. Wendell L. Hughes, Professional Building, Hempstead. Ophthalmologists who have suitable films should write to Dr. Hughes.

Dr. Conrad Berens and Dr. Algernon B. Reese, both of New York City, are serving as consultants on plans for the congress.

St. Clare's Hospital

St. Clare's Hospital, New York City, will hold its quarterly clinical conference on May 15 at 8:30 P.M. at 426 West 52nd Street, New York City. Dr. William B. Rawls, attending physician at New York Polyclinic Hospital, will be moderator of a panel on "Coronary Thrombosis."

Panel members include Dr. J. Scott Butterworth, attending physician, Bellevue and University Hospitals; Dr. Charles A. R. Connor, associate cardiologist, Lenox Hill Hospital; and Dr. Robert A. O'Connor, associate cardiologist at St. Clare's Hospital.

ANNOUNCEMENTS

The following announcements concerning suspension, revocation, annullment, and cancellation of medical licenses have been received from Dr. Stiles D. Ezell, secretary, Board of Medical Examiners, University of the State of New York, State Education Department:

License Suspended.—LEO KLEBAN, Brooklyn, New York: medical license number 30512, issued under date of June 27, 1935, permitting him to practice medicine in the State of New York, suspended for a period of one year. The Order of Suspension was served on Dr. Kleban on November 23, 1955, and his medical license, therefore, stands suspended from November 23, 1955, to November 23, 1956.

License Suspended.—JACQUES D. SOIFER, Brooklyn, New York: medical license number 19999, issued under date of September 24, 1925, permitting him to practice medicine in the State of New York, suspended for a period of one year. The Order of Suspension was served on Dr. Soifer on December 9, 1955, and his medical license, therefore, stands suspended from December 9, 1955, to December 9, 1956.

License Revoked.—HENRY LEE BLANK, Great Neck, Long Island, New York: medical license number 17504, issued under date of June 28, 1923, permitting him to practice medicine in the State of New York, revoked, annulled, and canceled. The Order of Revocation was served on Dr. Blank on November 15, 1955, and his medical license, therefore, stands revoked as of that date.

License Revoked.—MOSES HOLTZ, Irondequoit, New York: medical license number 7982, issued under date of June 22, 1906, permitting him to practice medicine in the State of New York, revoked, annulled, and canceled. The Order of Revocation was served on Dr. Holtz on December 5, 1955, and his medical license, therefore, stands revoked as of that date.

License Revoked.—JULIAN R. ISQUITH, Brooklyn, New York: medical license number 23826, issued under date of June 27, 1929, permitting him to practice medicine in the State of New York, revoked, annulled, and canceled. The Order of Revocation was served on Dr. Isquith on December 2, 1955, and his medical license, therefore, stands revoked as of that date.

License Revoked.—HERBERT S. WOLFE, New York City: medical license number 29815, issued under date of September 27, 1934, permitting him to practice medicine in the State of New York, revoked, annulled, and canceled. The Order of Revocation was served on Dr. Wolfe on December 5, 1955, and his medical license, therefore stands revoked as of that date.

Censure and Reprimand.—HYMAN RESSLER, Brooklyn, New York: revocation of medical license accepted and sustained and, in compliance with the recommendation of Medical Committee on Grievances, "said Hyman Ressler be censured and reprimanded." The Order of the Commissioner was served on Dr. Ressler on March 13, 1956, and he will be notified to appear for reprimand before the Board of Regents at the May meeting.

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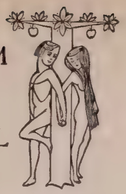

KARNAKY reports in treating vaginal trichomoniasis ". . . approximately 39 to 47 percent of resistant cases are reinfections from the sexual partner."[1]

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Protect the wife. Karnaky recommends in recurrent cases of vaginal trichomoniasis that the husband wear a condom at coitus for as long as four to nine months. By the end of this time the trichomonads he harbors will usually die out.[3]

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References: 1. Karnaky, K. J.: Urol. & Cutan. Rev. *42*:812 (Nov.) 1938. 2. Lanceley, F., and McEntegart, M. G.: Lancet *1*:668 (Apr. 4) 1953. 3. Karnaky, K. J.: J.A.M.A. *155*:876 (June 26) 1954. 4. Davis, C. H.: West. J. Surg. *63*:53 (Feb.) 1955.

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GERALD D. DORMAN, M.D., *Chairman, Council Committee on Workmen's Compensation*

Medical Society of the State of New York

THE following series of decisions in heart cases were rendered under the provisions of the Workmen's Compensation Law. These abstracts appeared in the *Workmen's Compensation Law Reports*, published by the Commerce Clearing House, Inc. They show the trend with respect to claims for compensation as a result of coronary thrombosis sustained in the course of employment. These decisions should be of assistance to physicians who may be called upon to treat cardiac conditions sustained in the course of employment.

(1619) *Wieda* v. *American Box Board Co.* Michigan Supreme Court. October 3, 1955.

HEART ATTACK—FAILURE TO PROVE ACCIDENTAL INJURY—TURBINE OPERATOR—ABSENCE OF UNEXPECTED OR FORTUITOUS EVENT.—A turbine operator was properly denied compensation for a disability resulting from a coronary occlusion suffered while repairing a turbine which was out of order where he failed to prove an accidental injury. The claimant contended that the failure of the turbine was an unexpected event which caused him to exert unusual energy resulting in the heart attack. The court ruled that there was nothing in the occurrence preceding claimant's acts that resulted in his disability that was unforeseen or unexpected. On the contrary, power shortages were anticipated and arrangements made to deal with them in a proper and methodical manner when they occurred. An unfortunate result may not be given retroactive effect of making a particular event or happening accidental in nature which was not of such character when it took place. Affirmed.

(1636) *Cappozalo* v. *N.Y.C. Housing Authority.* New York Supreme Court, Appellate Division, Third Judicial Department. No. 332-9. December 23, 1955.

CORONARY THROMBOSIS—CAUSAL CONNECTION—STRAIN AND EXERTION—SUFFICIENCY OF EVIDENCE.—The dependent wife of a chief maintenance man for a housing project was properly awarded death benefits for the death of her husband due to a coronary thrombosis where the evidence was sufficient to sustain the finding that there was a causal connection between the strain and exertion of decedent's work and his fatal heart attack. The evidence disclosed that decedent had 75 maintenance men working for him and, in addition to supervising their work, he had to conduct a training school for new men. On the day he suffered the heart attack he had conducted two sessions of this training school. The court rules that the medical testimony was sufficient to sustain the finding of the board that decedent suffered an industrial accident. Affirmed.

(1515) *Pearl River Tung Co.* v. *John.* Mississippi Supreme Court. No. 39,768. November 7, 1955.

DEATH BENEFITS—HEART ATTACK—PRE-EXISTING HEART CONDITION—STRAIN AND EXERTION.—The dependent wife of a deceased employe who suffered a fatal heart attack while putting tung oil nuts into bags was properly awarded death benefits where the evidence was sufficient to support the finding that the strain and exertion of lifting the bags brought on the attack and subsequent death. The court rejected the employer's contention that claimant failed to give notice of the injury, ruling that the employer had notice as the foreman was present when it occurred and the employer was in no way prejudiced by the lack of formal notice. The court further ruled that pre-existing disease or infirmity of the employe does not disqualify a claim under the "arising out or employment" requirement if the employment aggravated, accelerated, or combined with the disease or infirmity to produce the death or disability for which compensation is sought. Affirmed.

(1523) *Fath* v. *1095 Park Ave. Corp.* New York, Supreme Court, Appellate Division, Third Judicial Department. No. 65-5. April 1, 1955.

DEATH BENEFITS—MYOCARDIAL INFARCTION—STRAIN AND EXERTION—SUFFICIENCY OF EVIDENCE TO CORROBORATE HEARSAY DECLARATIONS.—The dependent wife of a building maintenance man was properly awarded death benefits for the death of her husband where the evidence that he did extremely hard work was sufficient to corroborate his declaration to his wife and to the doctor that he suffered a severe pain in his chest while moving a heavy refrigerator. The court ruled that the medical proof was sufficient to establish that the decedent had been well and that his heart had been found normal on examination prior to the date of the accident and that the strain of moving a refrigerator was a competent producing cause of the heart attack he suffered. Affirmed.

(1543) *Handaly* v. *Alfred Blayer & Co.* New York Supreme Court, Appellate Division, Third Judicial Department. No. 246-5. October 6, 1955.

HEART CONDITION—STRAIN AND EXERTION—CAUSAL CONNECTION—DEATH BENEFITS.—The dependent wife of a deceased worker was properly awarded death benefits for the death of her husband where the evidence was sufficient to support the finding that the myocardial infarction suffered by the decedent was occasioned by the strain and exertion of attempting to push a loaded truck weighing over 1,000 pounds when it stuck in a crack in the floor. The evidence was conflicting as to the condition of the floor, but the credibility of the witnesses was a matter for the board to pass upon. The court ruled that there was substantial evidence to support the finding of the occurrence of an accident. The court further ruled that the employer was unaware of a pre-existing heart condition of the decedent which fact gave the board the authority to find that the second injury fund was without liability. Affirmed.

(1632) *Plafker* v. *P & J Lewis, Inc.* New York Supreme Court, Appellate Division, Third Judicial Department. No. 336-13. December 23, 1955.

CORONARY OCCLUSION—FAILURE TO PROVE ACCIDENTAL INJURY—CLOTHING CUTTER.—A clothing cutter was properly denied compensation for a coronary occlusion where he failed to prove that his disability was due to an accidental injury. Claimant contended that he suffered a severe pain in his chest after lifting a bolt of cloth which weighed between 75 and 90 pounds. The court ruled that it was entirely within the province of the board, as trier of the facts, to consider the conflicting evidence and to determine, upon the whole record, that claimant did not sustain an accidental injury arising out of and in the course of his employment. Affirmed.

The Guardsmen

A soldier on a Korea-bound transport won close to $1,000 during a prolonged crap session. He at once hired, at $5 a day, two of his buddies to guard him until he was able to send the money home. Their duty was to prevent the losers from inveigling him back into the game.—JAMES FOX

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THE MONTH IN WASHINGTON

Among a growing list of health measures receiving active consideration this Congress are two bills that have very good chance of becoming law before adjournment this summer. That both measures have bipartisan support is an important factor in this election-charged year.

Most advanced in the legislative process, having passed the Senate before the Easter recess, is the national morbidity survey proposal. The other bill, which also originated in the Senate, is the National Library of Medicine plan. Both are indorsed by the Eisenhower Administration.

There has been no national study of the extent of sickness and disability since the rather inadequate survey made in 1936 by the W.P.A. A series of special and continuing surveys under auspices of the U.S. Public Health Service accordingly will fill "a very great need," Senator Hill, one of the bill's sponsors, informed the Senate.

Secretary Folsom of the Department of HEW describes the lack of morbidity data as "woeful." Nation-wide data on the incidence, cause, and duration of sickness and disability are basic, Mr. Folsom has pointed out, to efforts in improving voluntary health insurance.

The Senate agreed and, after writing in an amendment that would assure the conduct of surveys on a noncompulsory basis, the bill passed without a dissenting voice. The measure then went to the House Interstate and Foreign Commerce Committee. The American Medical Association indorses the survey idea.

The National Library of Medicine bill sponsored by Senators Hill and John Kennedy is an outgrowth of one of the Hoover Commission recommendations. The medical task force proposed that the Armed Forces Medical Library be reconstituted as the National Library and placed under the Smithsonian Institution. The Hill-Kennedy bill differs from the commission in one major respect: It would establish the library as an independent agency.

Sentiment, meanwhile, has developed for placing the Library in the Department of HEW, under Public Health Service supervision. This was supported by the Administration, and the American Medical Association urged immediate start on construction. Almost two years ago, before the question arose of a National Library, the A.M.A. House of Delegates foresaw the need for housing the Armed Forces Library in more adequate quarters.

The bill's sponsors pointed out that the A.M.A. in June, 1954, had found that "the irreplaceable collections of the Armed Forces Medical Library are now housed in a sixty-seven-year-old building totally unsuitable for the purpose by reason of its inadequate size, poor state of repair, susceptibility to fire hazard, and general inadaptability to efficient operations. . . ."

Both Senators made this additional point: So long as it remains in the Defense Department, the Library simply cannot compete for funds against the needs and demands of those activities directly related to national defense.

A major development in the long legislative history of the House-approved bill to open up the social security system to cash disability payments was the testimony of Secretary Folsom to the Senate Finance Committee. In a three-hour appearance as the 101st and final witness, Mr. Folsom warned against enactment on the disability portion of the bill as well as the plan to lower the retirement age of women from sixty-five to sixty-two. Disability payments at age fifty, Mr. Folsom declared, present "grave uncertainties" and "potential heavy costs to all social security taxpayers." A majority of the witnesses heard during the extended hearings opposed this section of the bill, H.R. 7225.

On the eve of the launching of the 1956 Cancer Crusade, the Food and Drug Administration issued its first public warning of this type in several years against the cancer treatment fostered by Harry M. Hoxsey. FDA said long and thorough study by it and the National Cancer Institute has produced "no scientific evidence that the Hoxsey treatment has any value in the treatment of internal cancer." FDA said Hoxsey operates clinics at Dallas, Texas, and Portage, Pennsylvania.

Notes

Surgeon General Leonard Scheele has been confirmed by the Senate for a third four-year term as head of the U.S. Public Health Service . . . Chairman Priest of the House Interstate and Foreign Commerce Committee has introduced a bill transferring from the Civil Aeronautics Board to the Civil Aeronautics Authority all medical aspects of civil aviation, including pilot examinations. It also authorizes a research program for the proposed Office of Civil Aviation Medicine . . . PHS says the production of the Salk poliomyelitis vaccine is improving. It is now practical, added PHS, for doctors to use their available vaccine for first injections and to count on receiving new supplies by the time second shots are due . . . PHS Division of International Health, Washington 25, D.C., has a number of openings for physicians in foreign posts.

Prepared by the Washington Office of the American Medical Association, Washington, D.C.

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*Steigmann, F., and Goldberg, E.: Ambulatory Continuous Drip Method in the Treatment of Peptic Ulcer, Am. J. Digest. Dis. *22*:67 (Mar.) 1955.

†Mg trisilicate 3.5 gr.; Ca carbonate 2.0 gr.; Mg oxide 2.0 gr.; Mg carbonate 0.5 gr.

BOOKS REVIEWED

Oral Pathology. A Histological, Roentgenological, and Clinical Study of the Diseases of the Teeth, Jaws, and Mouth. By Kurt H. Thoma, D.M.D. Fourth Edition. Quarto of 1,536 pages, 1594 illustrations. St. Louis, C. V. Mosby Company, 1954. Cloth, $22.50.

The fourth edition of Kurt H. Thoma's *Oral Pathology* contains several important changes from the preceding editions. The author states that these have been made so that the book may be used as a text for students of oral pathology. The changes have in no way lessened the book's value as an aid in diagnosis of both common and rare diseases of the oral cavity as seen by the clinician. The chapters on dental caries have been brought up to date and cover the many controversial texts on this subject. The chapters on experimental pathology which appeared in the preceding editions have been eliminated to make room for additional material on other subjects. This volume is almost a necessity as a reference work in the modern dental office. It is well illustrated and well indexed with many fine color plates.—Lawrence J. Dunn

Surgical Forum. Proceedings of the Forum Sessions, Fortieth Clinical Congress of the American College of Surgeons, Atlantic City, N.J., November, 1954. Committee on Forum on Fundamental Surgical Problems, Harris B. Shumacker, Jr., M.D., J. Garrott Allen, M.D., Bradford Cannon, M.D., Warren H. Cole, M.D., *et al.* Octavo of 851 pages, illustrated. Philadelphia, W. B. Saunders Company, 1955. Cloth, $10.

This volume contains over 150 reports on new experimental work carried on by the younger surgeons throughout the country and presented to the Clinical Congress of the American College of Surgeons in Atlantic City, November, 1954. Of course, all these experiments cannot bear immediate practical fruit; it is surprising how many of them do. There is no telling now how much of this recorded material will be the foundation for further discoveries.

Some of the material is rather esoteric, but the reviewer feels that all practicing surgeons and those just beginning their careers will be well rewarded by time spent in carefully perusing it. The ingenuity by which the complicated problems of the heart and great vessels are reproduced in the experimental animal and microdissections to obtain tissues for enzyme analysis are among the mechanical marvels—far more thrilling than solutions of crossword puzzles or murder mysteries. Biochemistry, physiology, and biophysics analyze what goes on in burned patients and those undergoing hypothermia, when the various organs are individually isolated, or when the patient is anesthetized. One article uses mathematical formulas beyond the ken of the average surgeon. All the rest are comprehensible. One, based on work done in Korea during the recent fighting, gives a simple and practical test of the degree of resuscitation after injury. It indicates the readiness for surgery. The test requires only a tilting table and a sphygmomanometer.

We live in an ever-expanding universe. These efforts indicate that surgery by its continuing experiments is expanding in harmony.—William H. Field

Problems of Consciousness. Transactions of the Fifth Conference, March 22, 23, and 24, 1954, Princeton, N.J. Edited by Harold A. Abramson, M.D. Octavo of 180 pages, illustrated. New York, Josiah Macy, Jr. Foundation, 1955. Cloth, $3.50.

Members and guest participants of this fifth conference on the *Problems of Consciousness* have tackled one of the most challenging and difficult fields of scientific research and, by so doing, have made all of us their debtors. While not purporting to be in any way final, the more or less established experimental facts and opinions expressed herein by the conference program lift the shades of a broad vista for continuing advances in this intricate field of psychologic medicine.

This volume, as of now, represents the epitome of multidisciplinary approach to various ramifications of problems of consciousness which have been evolving in these annual conferences during the past five years. The facts, factors, and variables entering into this exceedingly complex and important psychologic problem are pointed up in this volume. The approach is scientifically provocative. This book is highly recommended to all those seeking "more light" on this challenging subject.—Frederick L. Patry

Directory of Professional Motion Picture Films and Authors, 1954. Octavo of 326 pages. Lawrence, Kansas, Professional Publications, 1954. Cloth, $7.50.

There is a definite need for this descriptive listing of available professional motion picture films on medicine and dentistry. In addition to a classified arrangement enabling the user to select suitable films easily, instructions are included on how to obtain films in the United States as well as in foreign countries. It is hoped that the publisher will keep the work up to date by making frequent editions available.—Wesley Draper

[Continued on page 1706]

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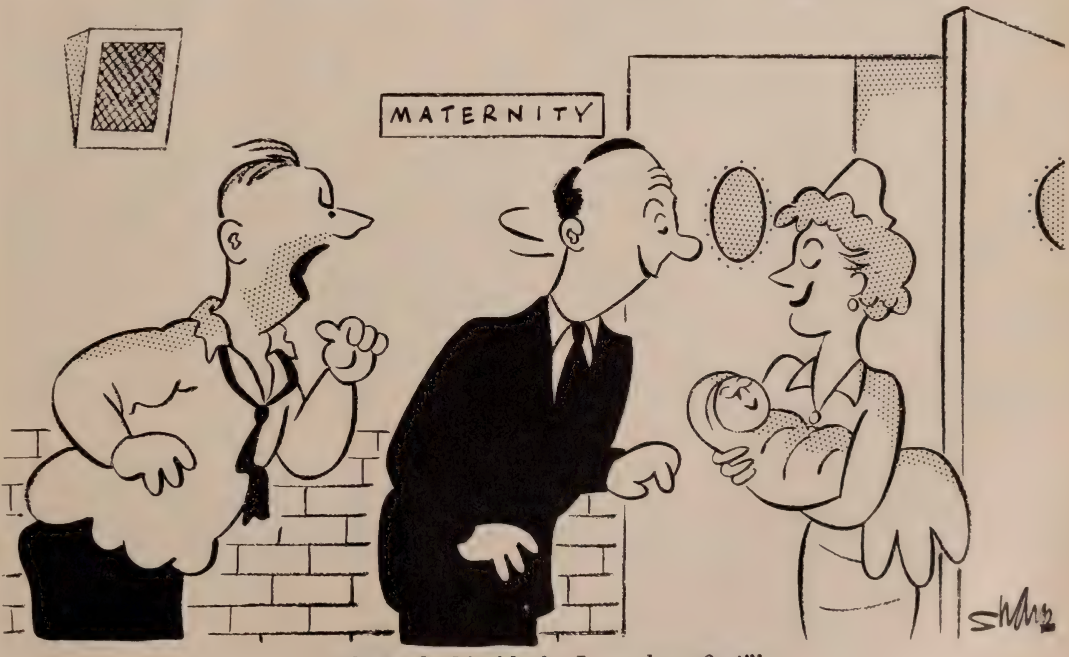


"What's the big idea? I was here first!"

[Continued from page 1704]

Therapy of Fungus Diseases. An International Symposium. Edited by Thomas H. Sternberg, M.D., and Victor D. Newcomer, M.D. Presented June 23, 24, 25, 1955 by the Division of Dermatology, Department of Medicine, School of Medicine and Medical Extension, University Extension, University of California at Los Angeles. Octavo of 337 pages, illustrated. Boston, Little, Brown and Company, 1955. Cloth, $7.50.

Some 55 presentations make up the symposium on the therapy of fungus diseases. The contributions come from the United States, the Continent, South America, the Philippines, and India. One can learn from this symposium that the treatment of the superficial fungus infections is symptomatic and that the prophylaxis and mode of spread are poorly understood. Attempts to produce superficial fungus of the skin under optimal conditions usually meet with failure. Tinea capitis can be experimentally produced in only 50 per cent of cases. The superficial ringworm fungi lack the capacity to invade living tissue. There is something in the living cell which completely stops the growth of these organisms. Superficial dermatophytes cannot reproduce themselves or grow in living tissue. Most of the fungi capable of producing mycoses in man exist in nature as saprophytes in soil or on vegetation and organic debris.

The infectiousness of ringworm infections has been greatly exaggerated. Some individuals are readily infected while others are more resistant. Something more than the presence of the parasite is required—that something may be susceptibility. Concentration of fatty acids in postpubertal sebum is an attractive thesis but is without experimental support. Isolation of Candida organism from intertriginous eruptions of the feet may be incidental. The degree to which it contributes to the inflammatory changes is speculative. It is highly uncertain that the presence of Candida on the skin is the result of the reaction to broad-spectrum antibiotics.

Practically every pharmaceutical house is manufacturing agents for the therapy of the superficial mycoses. The eventual curative agent may be something which will be administered systemically and be concentrated in the epidermal cells.

This exciting, provocative work is a worth-while addition to the physician's library.—ARTHUR M. PERSKY

Diencephalon. Autonomic and Extrapyramidal Functions. By Walter Rudolf Hess, M.D. Octavo of 79 pages, illustrated. New York, Grune & Stratton, 1954. Cloth, $4.00. (Monographs in Biology and Medicine, Vol. III)

In this short monograph the author has systematically detailed his extensive neurophysiologic work regarding the diencephalon. His conclusion that "true autonomic regulation finds its highest level of direct and automatic coordination in the diencephalon" is not foreign to American investigators. Of great interest is the almost personal technic of investigation of the deeper lying structures without the aid of the more modern stereotaxic instruments. The true value of this work will only be appreciated by those who are more than casually interested in the hypothalamus and mid brain. To the readers this treatise will be a stimulus as well as a basis for further compilation of data regarding these vital areas.—ALBERT W. COOK

The Medical Clinics of North America. Boston Number. September, 1955. Octavo. Illustrated. Philadelphia, W. B. Saunders Company, 1955. Published bimonthly, (six numbers a year). Cloth, $18 net; paper, $15 net.

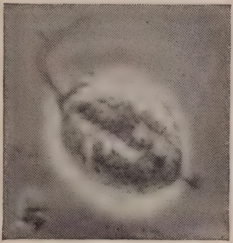
The Boston Number of the *Medical Clinics of North America* consists of 18 sensible articles on specific methods of treatment, including a small and extremely informative group on the therapeutic use of procaine injections. There is an additional succinct and well-written article by Cantor on office proctology.—MILTON PLOTZ

Doctors in the Sky. The Story of the Aero Medical Association. By Robert J. Benford, M.D. Octavo of 326 pages, illustrated. Springfield, Charles C Thomas, 1955. Cloth, $8.75.

This volume describes the history of the Aero Medical Association, an organization which has been closely connected with the development of aviation medicine in the United States since 1928. Actually, the foundations of the new specialty and the Association were laid during and after the first World War by Louis H. Bauer and T. C. Lyster. Dr. Benford discusses the growth of the Association, the establishment of the *Journal of Aviation Medicine,* the development of certification for specialists in aviation medicine, and he tells the reader a good deal about the men who have been leaders in this field. This is a useful book to have, and it is recommended to anyone interested in an important medical specialty of the present and future.—GEORGE ROSEN

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn 16, New York. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selections for review will be based on merit and interest to our readers.

HOW
DAVIS
TECHNIQUE
EXPLODES
HIDDEN
TRICHOMONADS



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References: 1. Davis, C. H., and Grand, C. G.: Am. J. Obst. & Gynec. 68:559 (Aug.) 1954. 2. Davis, C. H.: West. J. Surg. 63:53, (Feb.) 1955. 3. Davis, C. H.: J.A.M.A. *157*:126 (Jan. 8) 1955.
†Pat. App. for.

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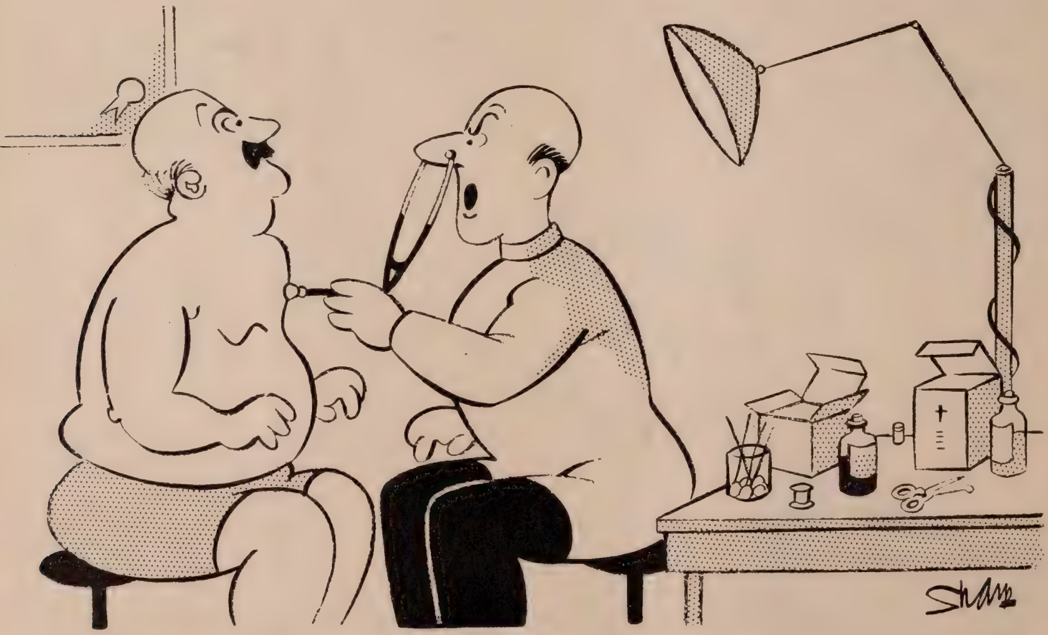

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age	34	65	77	62	58	51	41
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Blood Pressure BEFORE	195/130	205/115	210/130	250/115	220/130	205/110	215/120
	↓	↓	↓	↓	↓	↓	↓
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VOLUME 56 JUNE 1, 1956 NUMBER 11

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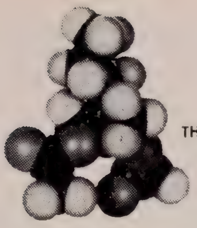

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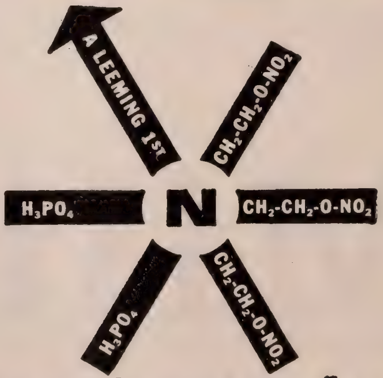

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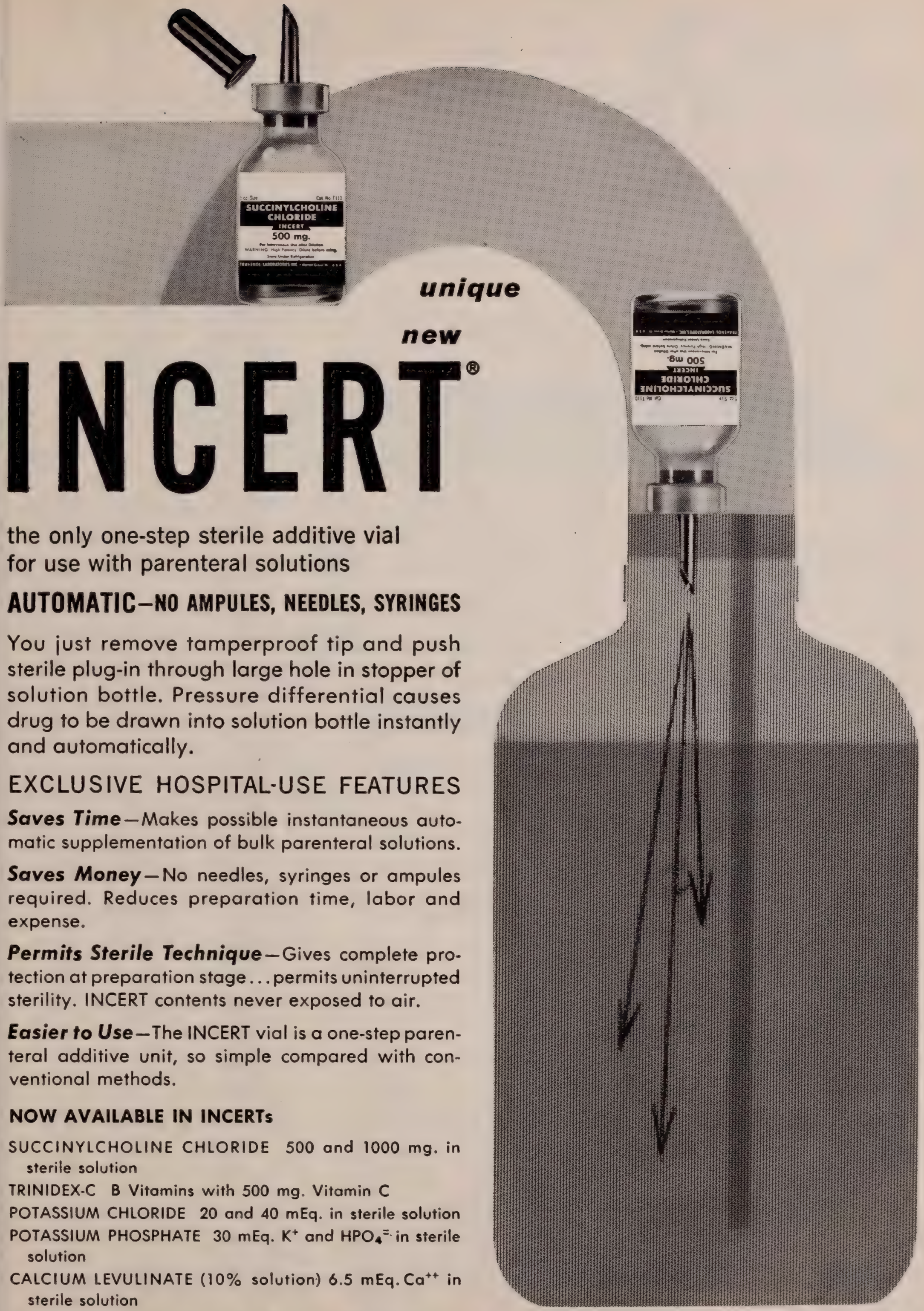

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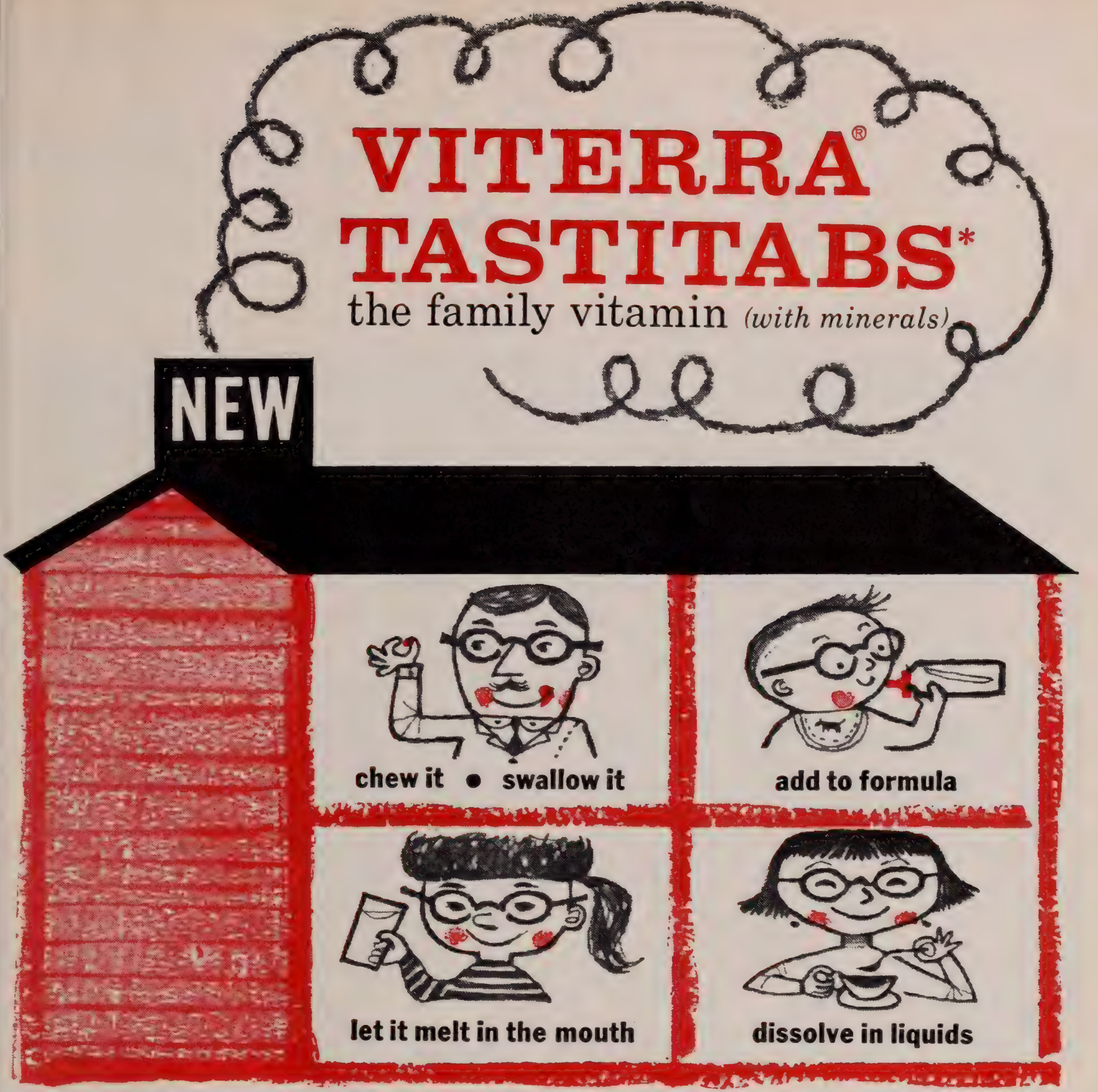

Each VITERRA TASTITAB contains:

Vitamin A	5,000 Units
Vitamin D	1,000 Units
Vitamin B_1 (Thiamine Mononitrate)	1 mg.
Vitamin B_2 (Riboflavin)	2 mg.
Vitamin B_6 (Pyridoxine HCl)	1 mg.
Vitamin B_{12} (Crystalline)	2 mcg.
Vitamin C (from Sodium Ascorbate)	50 mg.
Niacinamide	12 mg.
Calcium Pantothenate	2 mg.
Cobalt (from Cobalt Carbonate)	0.014 mg.
Copper (from Copper Oxide)	0.07 mg.
Iodine (from Potassium Iodide)	0.05 mg.
Iron (from Reduced Iron)	1 mg.
Potassium (from Potassium Iodide)	0.016 mg.
Molybdenum (from Sodium Molybdate)	0.01 mg.
Manganese (from Manganese Carbonate)	0.028 mg.
Magnesium (from Magnesium Oxide)	0.108 mg.
Zinc (from Zinc Oxide)	0.071 mg.

DOSAGE: Usually one TASTITAB daily.

SUPPLIED: Bottles of 100 TASTITABS.

Also available in capsule form.

New cherry-flavored tablet
may be taken five ways.
One bottle
serves the whole family.

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(*Continued from page 1720*)

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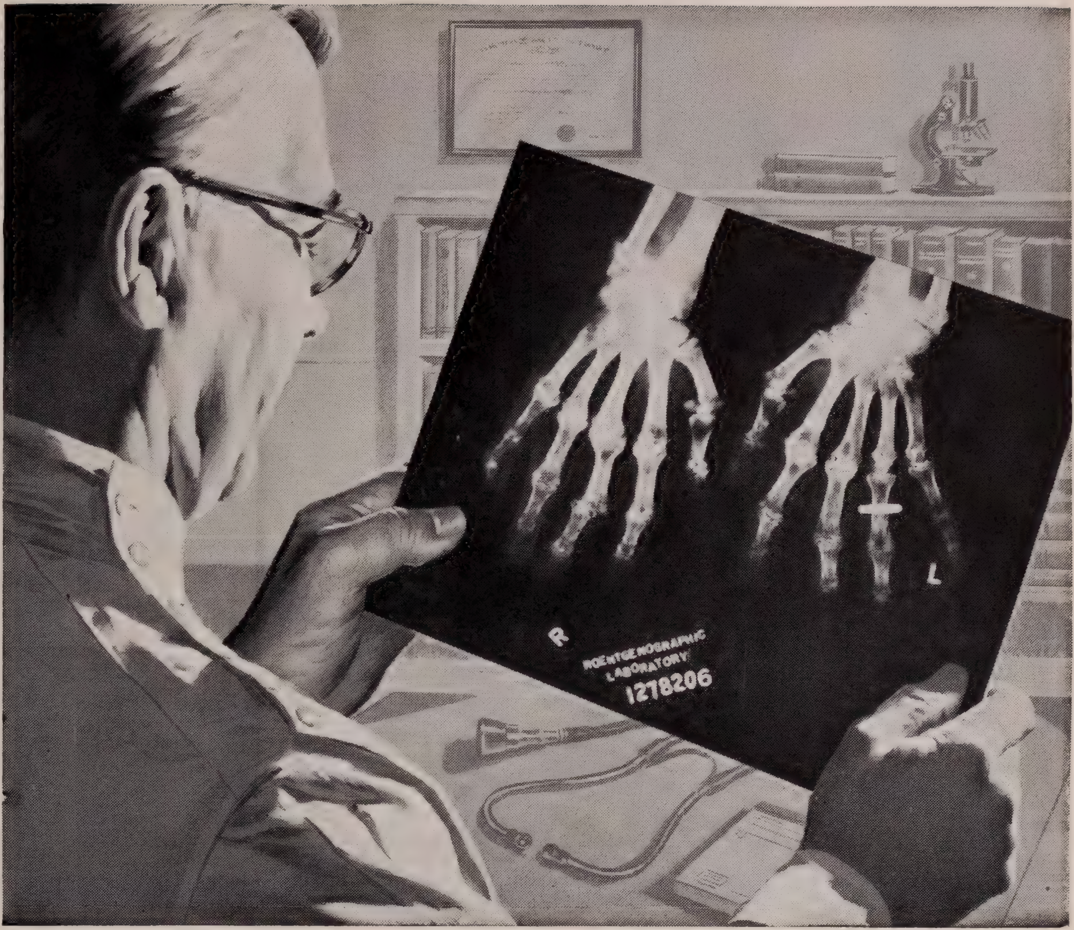

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Treatment of rheumatoid arthritis demands a "highly individualized program," Spies[1] writes. The additive action of salicylates permits use of smaller amounts of hormones, thus lessening or eliminating their well-known side effects. "A proper mixture of salicylates and corticosteroids produces an effective antirheumatic agent in many cases."[1]

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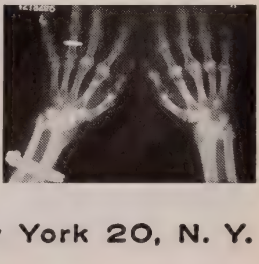
Each BUFFERIN tablet contains 5 grains of acetylsalicylic acid and the antacids magnesium carbonate and aluminum glycinate.



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2. J.A.M.A. 158:386 (June 4) 1955.

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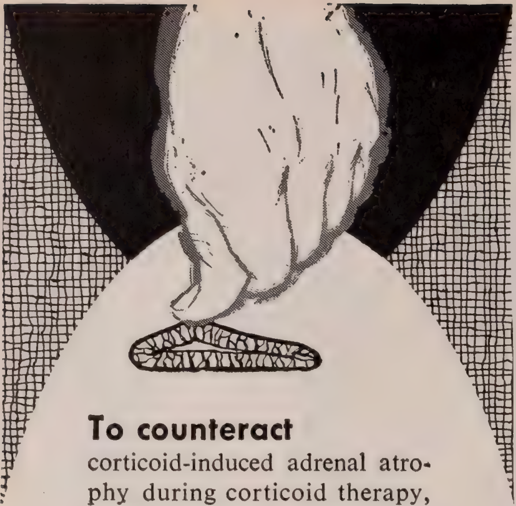

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- When using *prednisone* or *prednisolone:* for every 100 mg. given, inject approximately 100 to 120 units of HP* ACTHAR *Gel.*
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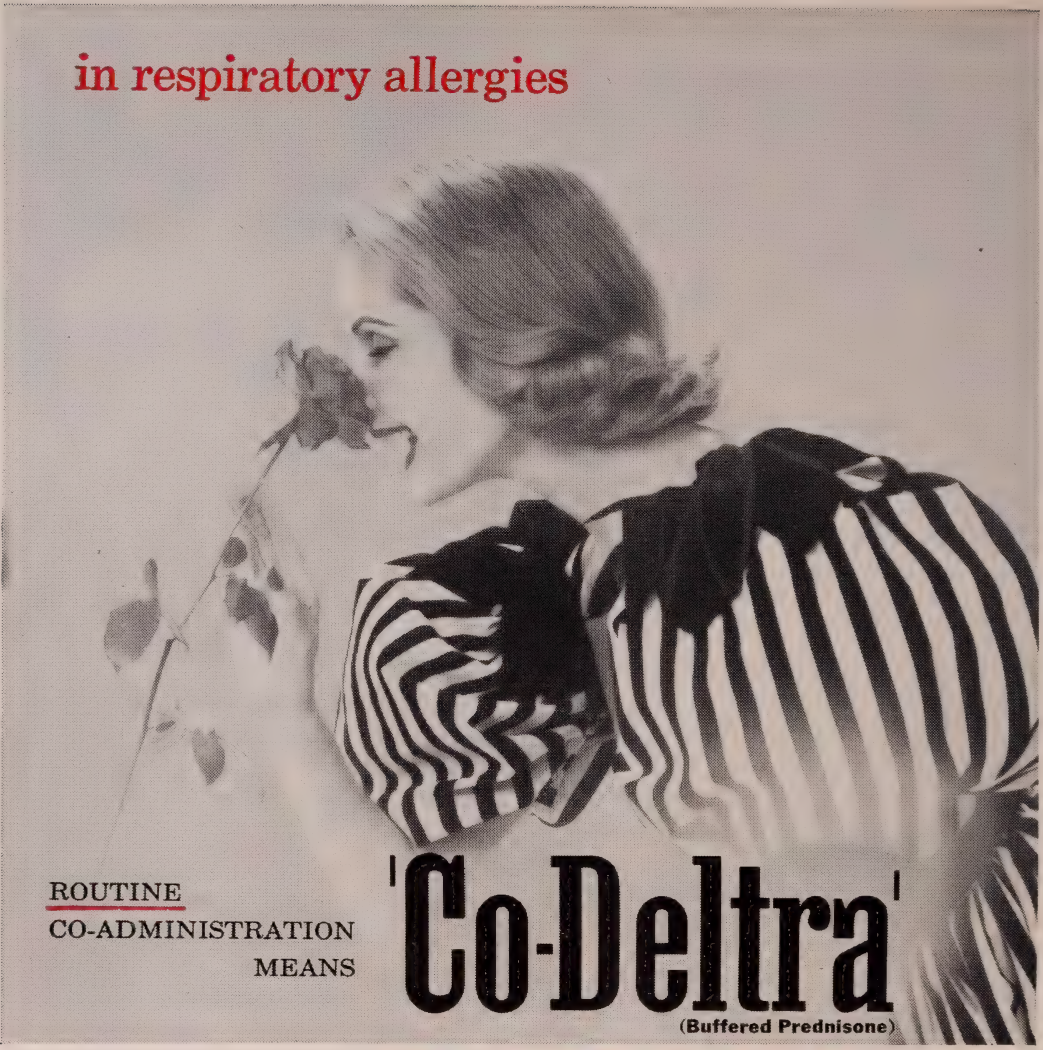

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'Co-Deltra'

(Buffered Prednisone)

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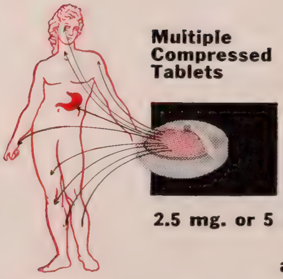

Clinical evidence[1, 2, 3] indicates that to augment the therapeutic advantages of prednisone and prednisolone, antacids should be *routinely* co-administered to minimize gastric distress.

2.5 mg. or 5 mg. prednisone or prednisolone with 50 mg. magnesium trisilicate and 300 mg. aluminum hydroxide gel.

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References: 1. Boland, E. W., *J.A.M.A.* **160**:613, February 25, 1956. 2. Margolis, H. M., *et al. J.A.M.A.* **158**:454, June 11, 1955. 3. Bollet, A. J., *et al. J.A.M.A.* **158**:459, June 11, 1955.

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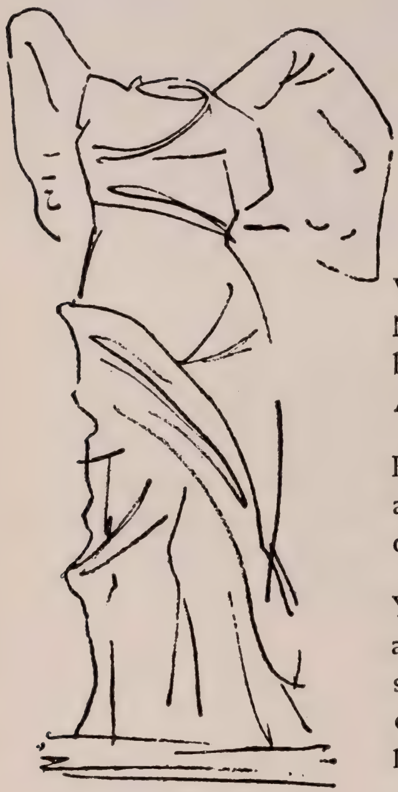

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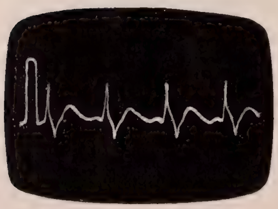

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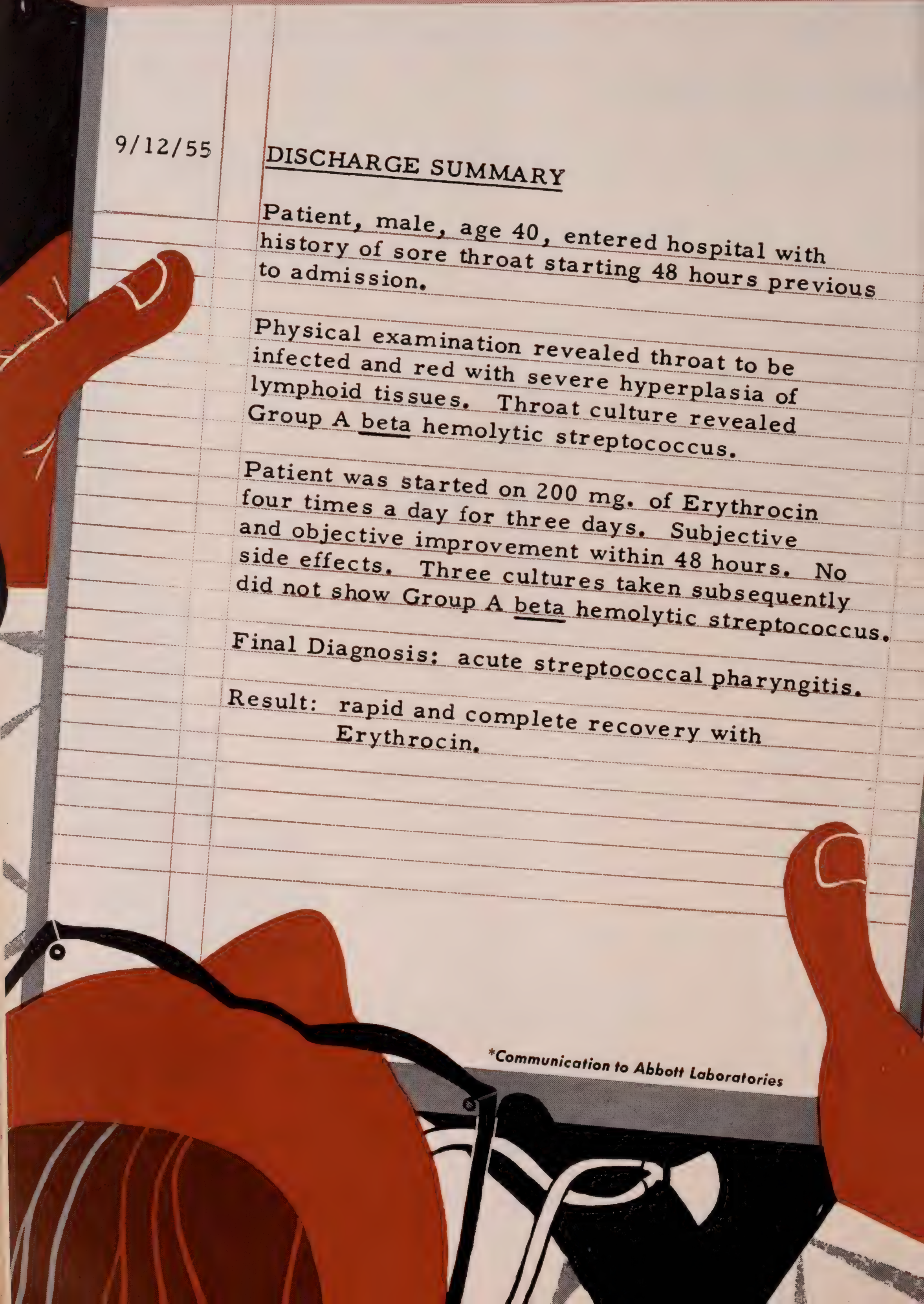

9/12/55

DISCHARGE SUMMARY

Patient, male, age 40, entered hospital with history of sore throat starting 48 hours previous to admission.

Physical examination revealed throat to be infected and red with severe hyperplasia of lymphoid tissues. Throat culture revealed Group A beta hemolytic streptococcus.

Patient was started on 200 mg. of Erythrocin four times a day for three days. Subjective and objective improvement within 48 hours. No side effects. Three cultures taken subsequently did not show Group A beta hemolytic streptococcus.

Final Diagnosis: acute streptococcal pharyngitis.

Result: rapid and complete recovery with Erythrocin.

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® Filmtab — film-sealed tablets; pat. applied for

605169

now!
enzymatic debridement
safe and convenient
for office practice

Panafil ointment

- Effective in resistant skin lesions...including wounds, burns and ulcers.[1,2]
- Simultaneously promotes wound healing.
- Convenient, ready-to-apply as continuous dressing.
- Nonirritating, even when dressings are not changed for several days.

PANAFIL Ointment combines three active ingredients to provide

safe, controlled debridement plus healing action

1—PAPAIN...Efficient debriding enzyme...harmless to viable cells.

2—UREA...Augments Papain's debriding action, especially in encrusted lesions.

3—CHLOROPHYLL DERIVATIVES...Control inflammation and promote healthy granulation.

PANAFIL Ointment contains papain powder 10%, urea crystals, U.S.P. 10%, and water-soluble chlorophyll derivatives, N.N.R. 0.5% in a hydrophilic ointment base. Available *on prescription* only in 1-ounce and 4-ounce tubes.

References: 1. Miller, E.: New York State J. Med., to be published. 2. Reports to Clinical Research Division, Rystan Company.

Literature and samples for clinical trial available on request.

Rystan company · MOUNT VERNON, N. Y.

4 oz. AVOIR
Rystan
Panafil
OINTMENT
CAUTION:

New Relief from the Enigmas of Pruritus Ani

CASE – MALE, 55 YEARS

Hydrolamins Ointment, an isotonic, specially selected combination of amino acids, offers a new answer to the baffling problem of ano-genital pruritus.

Therapy is based on the observation[1,2,3] that this non-irritating protein counteracts the protein-precipitating irritant responsible for the pruritus and is protein-sparing to perianal tissue.

BEFORE

Rectal itch for 20 years; itching in rectal area extending across perineum to scrotum in wide area. Red scratches in perineal region. Severe erythema. Areas sensitive, painful, tender.

AFTER

Hydrolamins applied 3 times daily to whole area. No irritation developed. Itching relieved immediately, and healing was complete in three weeks.

FORMULA:

Hydrolamins offers an isotonic, specially selected combination of amino acids derived from lactalbumin, in a vehicle of polyethylene glycol 1500.

SUPPLIED:

1 oz. (28 Gm.) and 2.5 oz. (70 Gm.) tubes with peel-off label.

Lewal PHARMACEUTICAL COMPANY CHICAGO 14, ILLINOIS

REFERENCES:

1. Bodkin, L.G.. Amino Acid Therapy for Pruritus Ani, Am. J. Surg. 82:557 (Nov.) 1951.
2. Bodkin, L. G., and Ferguson, E. A., Jr.: Successful Ointment Therapy for Pruritus Ani, Am. J. Digest. Dis. 18:59 (Feb.) 1951.
3. McGivney, J.: Recent Advances in Proctology, Texas J. Med. 47:770 (Nov.) 1951.

new

Against Pathogen & Pain

in urinary tract infections

Azo Gantrisin combines the single, soluble sulfonamide, Gantrisin, with a time-tested urinary analgesic - in a single tablet.

Prompt relief of pain and other discomfort is provided together with the wide-spectrum antibacterial effectiveness of Gantrisin which achieves both high urinary and plasma levels so important in both ascending and descending urinary tract infections.

Each Azo Gantrisin tablet contains 0.5 Gm Gantrisin 'Roche' plus 50 mg phenylazo-diamino-pyridine HCl. Gantrisin® - brand of sulfisoxazole

ROCHE | Original Research in Medicine and Chemistry

your allergy patients need a lift

Plimasin®

(tripelennamine hydrochloride and methyl-
phenidylacetate hydrochloride CIBA)

What with sneezing, wheezing and scratching, being allergic is fatiguing business. As a result your hypersensitive patients suffer from emotional depression in addition to their allergic symptoms.

Now, with Plimasin, you can give these patients a lift—and obviate sedative side effects. Plimasin is a combination of a proved antihistamine and Ritalin —a new, mild psychomotor stimulant. Plimasin not only relieves the symptoms of allergy but counteracts depression as well.

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Tablets (light blue, coated), each containing 25 mg. Pyribenzamine® hydrochloride (tripelennamine hydrochloride CIBA) and 5 mg. Ritalin® hydrochloride (methyl-phenidylacetate hydrochloride CIBA)

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a "judicious combination..."

for antiarthritic therapy

SALCORT*

That cortisone and the salicylates have a complementary action has been well established.[1-5] In rheumatic conditions, functional improvement and a sense of feeling well are noted early. No withdrawal reactions have been reported.

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INDICATIONS:

Rheumatoid arthritis . . . Rheumatoid spondylitis . . . Rheumatic fever . . . Bursitis . . . Still's disease . . . Neuromuscular affections

EACH TABLET CONTAINS:

Cortisone acetate	2.5 mg.
Sodium salicylate	0.3 Gm.
Aluminum hydroxide gel, dried .	0.12 Gm.
Calcium ascorbate	60 mg.
(equivalent to 50 mg. ascorbic acid)	
Calcium carbonate	60 mg.

* U.S. Pat. 2,691,662

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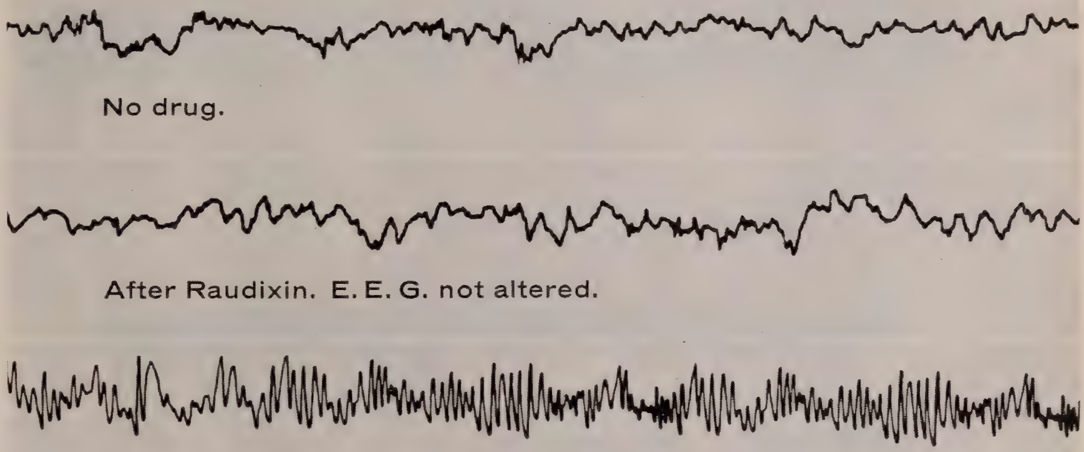
NEW YORK
KANSAS CITY
SAN FRANCISCO

1. Busse, E.A.: Treatment of Rheumatoid Arthritis by a Combination of Cortisone and Salicylates. Clinical Med. 11:1105 (Nov., 1955).
2. Roskam, J., VanCawenberge, H.: Abst. in J.A.M.A., 151:248 (1953).
3. Coventry, M.D.: Proc. Staff Meet., Mayo Clinic, 29:60 (1954).
4. Holt, K.S., et al.: Lancet, 2:1144 (1954).
5. Spies, T.D., et al.: J.A.M.A., 159:645 (Oct. 15, 1955).

The S. E. Massengill company

WHAT IS THE DIFFERENCE BETWEEN A TRANQUILIZER AND A SEDATIVE?

Comparison of the effect of Raudixin (tranquilizer) and a barbiturate (sedative) on the cortical electroencephalogram



No drug.

After Raudixin. E. E. G. not altered.

After barbiturate. Typical "spindling" effect.

Because barbiturates and other sedatives depress the cerebral cortex, the sedation achieved is accompanied by a reduction in mental alertness.

Raudixin acts in the area of the midbrain and diencephalon, and does not depress the cerebral cortex. Consequently, the tranquilizing (ataractic) effect achieved is generally free of loss of alertness.

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Squibb Whole Root Rauwolfia Serpentina

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SUPPLY: 50 mg. and 100 mg. tablets; bottles of 100, 1000 and 5000.

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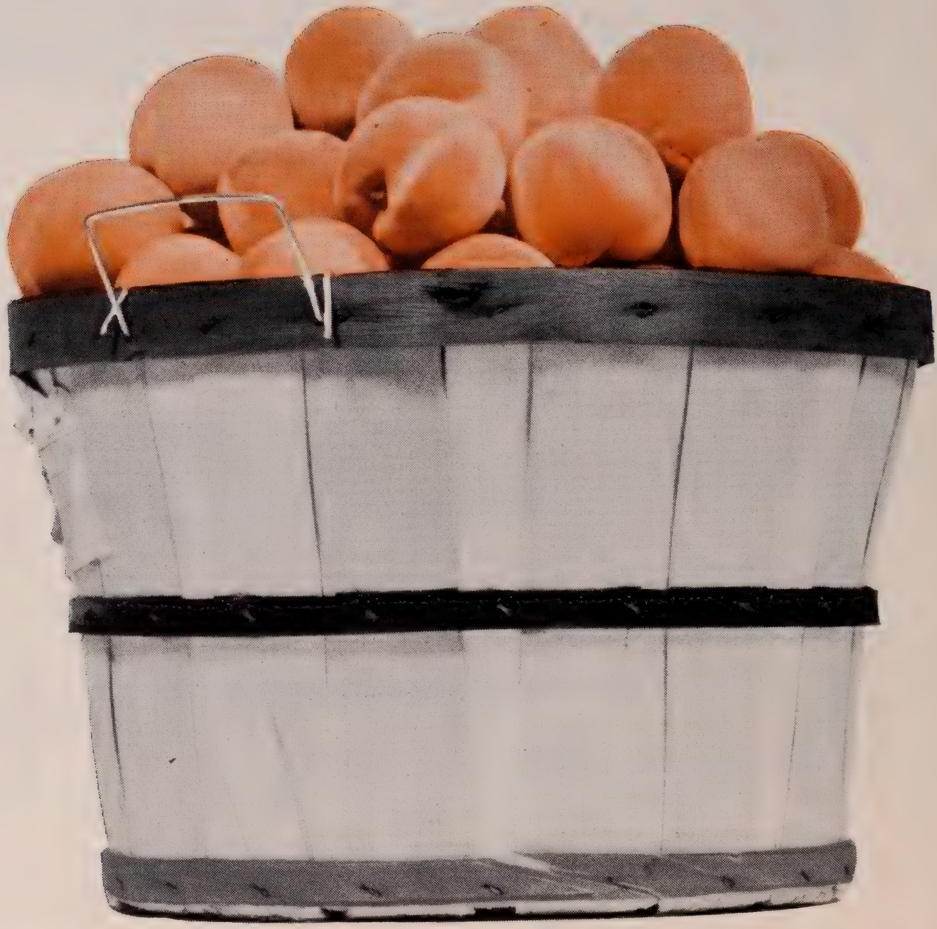

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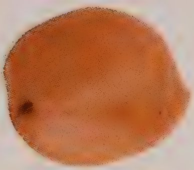
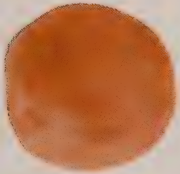


a delightful new taste



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new . . . peach-flavored, peach-colored liquid form of TERRAMYCIN®† 125 mg. oxytetracycline per 5 cc. teaspoonful; bottles of 2 fl. oz. and 1 pint, packaged ready to use.

*Trademark †Brand of oxytetracycline

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magnified potency

with Meti-steroid

effectiveness in allergic

and inflammatory dermatoses

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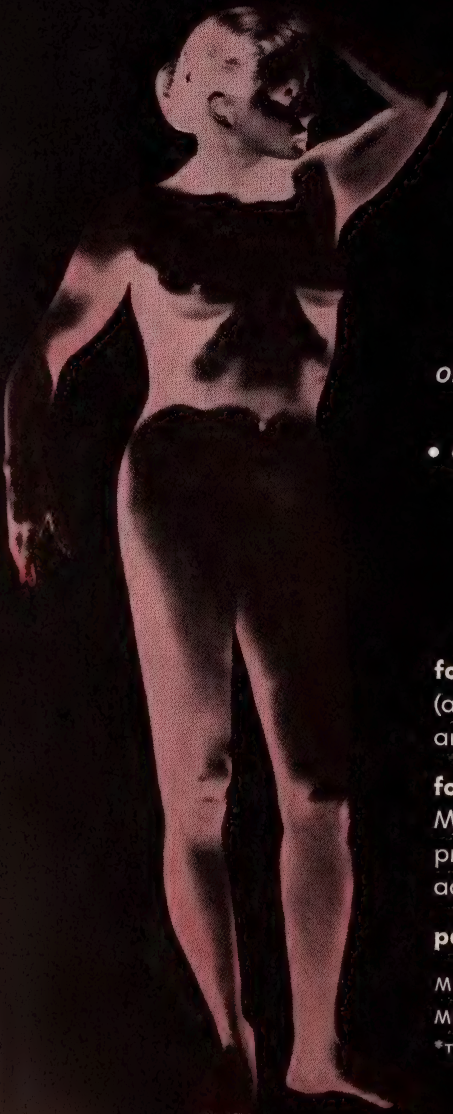
Meti-Derm cream 0.5%

with METICORTELONE, original brand of prednisolone



- *approximately twice the per milligram anti-inflammatory activity of topical hydrocortisone*
- *cosmetically acceptable*
- *water-washable*

for effective local relief of allergic (atopic and contact) dermatoses, nonspecific anogenital pruritus.

formula: Each gram of water-washable METI-DERM Cream contains 5 mg. (0.5%) of prednisolone, free alcohol, in a cosmetically acceptable base.

packaging: METI-DERM Cream, 0.5%, 10 Gm. tube.

METI-DERM,* brand of prednisolone topical.
METICORTELONE,® brand of prednisolone.
*T.M.

...and adding dual control

to Meti-steroid skin therapy—

protection

against infection

new

Meti-Derm ointment

with Neomycin

enhanced effectiveness

in allergic, inflammatory

dermatoses when

minor infection

is present

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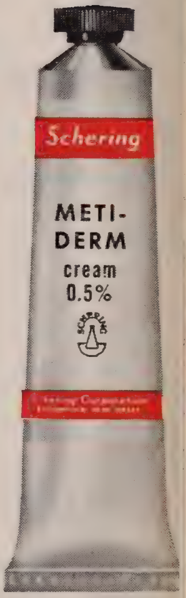

neomycin in addition to prednisolone, free alcohol
—for protective coverage against virtually all pathogenic skin bacteria with a well-tolerated, *topical* antibiotic.

formula: Each gram of water-washable Meti-Derm Ointment with Neomycin contains 5 mg. (0.5%) prednisolone, and 5 mg. (0.5%) neomycin sulfate equivalent to 3.5 mg. neomycin base.

packaging: Meti-Derm Ointment with Neomycin, 10 Gm. tube.

Schering MD-J-656

pronounced
MUSCLE-RELAXING ACTION

Equanil*

MEPROBAMATE (2-methyl-2-n-propyl-1,3-propanediol dicarbamate)

LICENSED UNDER U.S. PATENT NO. 2,724,720

For significant relief in myositis, osteoarthritis, backstrain, and related conditions marked by:

- *Muscle spasm*
- *Restriction of motion*
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- *Pain*

As a superior muscle-relaxant, EQUANIL offers predictable action and full effectiveness on oral administration. It does not disturb autonomic function and is relatively free from gastric and other significant side-effects. Its anti-anxiety property provides important correlative value.

Usual dosage:	1 tablet t.i.d. The dose may be adjusted either up or down, according to the clinical response of the patient.
Supplied:	Tablets, 400 mg., bottles of 50.

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anti-anxiety factor
with muscle-relaxing action
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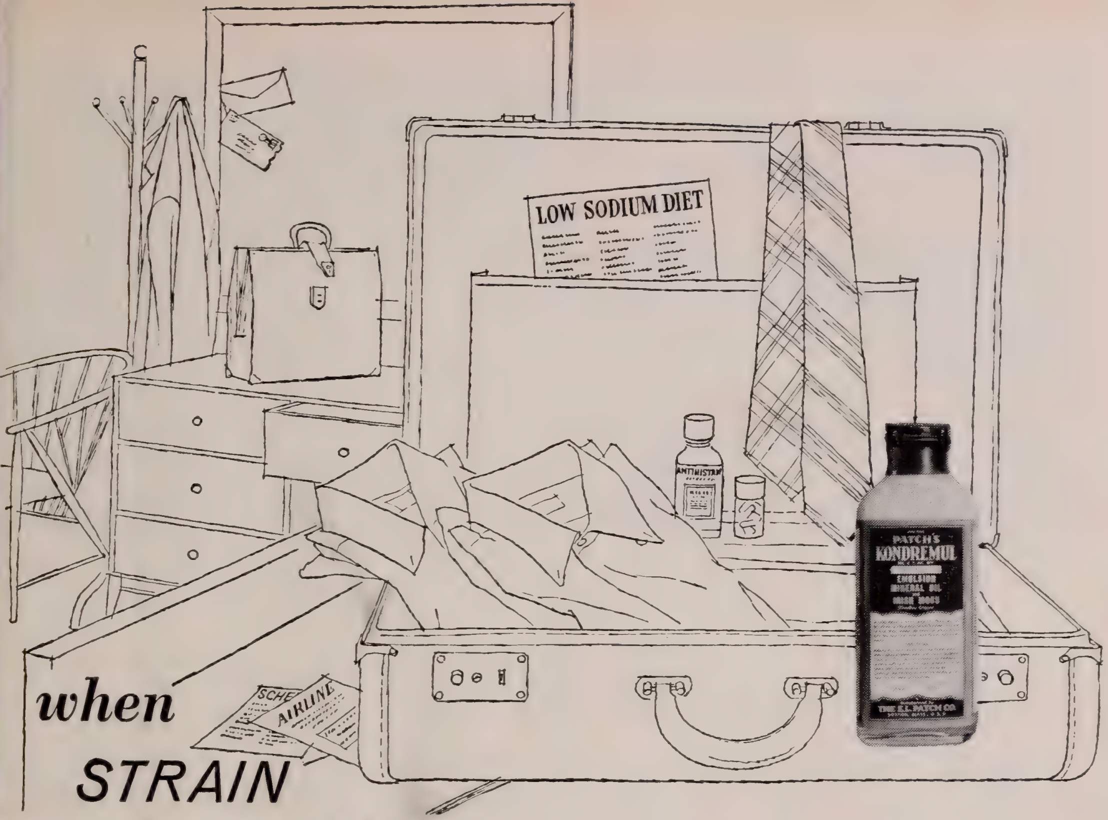
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when the "going" is rough
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Contains 55% mineral oil; pleasantly flavored. In bottles of 1 pint.

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KONDREMUL WITH CASCARA—0.66 Gm. *nonbitter* Ext. Cascara/tbsp.

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KONDREMUL belongs in the picture whenever *strain-free elimination* is a "must." The softening and infiltrating action of KONDREMUL results in a soft, well-formed, easily passed stool . . . with no irritation, griping, or tenesmus. KONDREMUL is an outstanding mineral oil emulsion because of its high stability and the extremely small, uniform size of its oil globules, each held firmly in an envelope of Irish moss. No unpleasant leakage.

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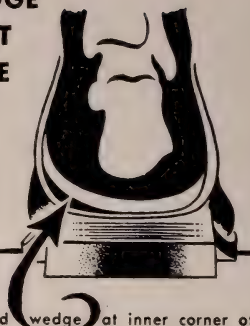

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Send for free booklet, "The Preservation of the Function of the Foot Balancing and Synchronizing the Shoe with the Foot."

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Impressive Response

In the Acutely Agitated Patient...

- The acute alcoholic
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The **NEW** Phenothiazine Derivative

Supplied: Tablets, 25, 50, and 100 mg., bottles of 50 and 500; 200 mg., bottles of 500. Injection, 50 mg. per cc., vials of 2 and 10 cc.

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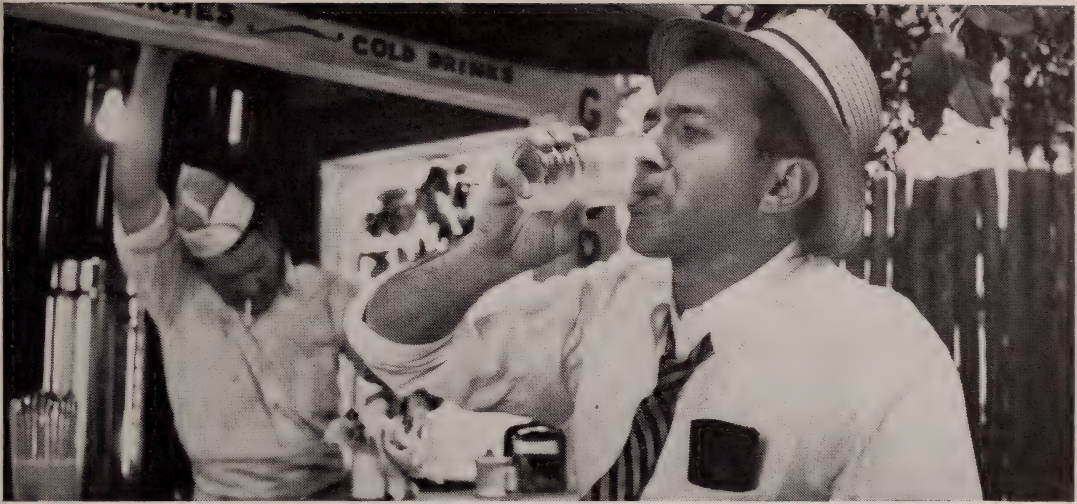

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SULFASUXIDINE® SUSPENSION WITH PECTIN AND KAOLIN

MAJOR ADVANTAGES: Has pronounced antibacterial action. Detoxifies and adsorbs intestinal irritants. Soothes the mucosa. Tasty chocolate-mint flavor.

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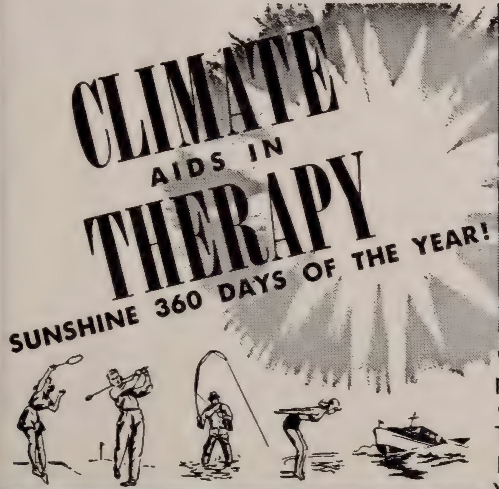
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Tetracycline *Lederle*

in the treatment of

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The prevention and control of cellulitis, abscess formation, and generalized sepsis has become commonplace technique in surgery since ACHROMYCIN has been available. Leading investigators have documented such findings in the literature.

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ACHROMYCIN SF

ACHROMYCIN with STRESS FORMULA VITAMINS. Broad-range antibiotic action to fight infection; important vitamins to help speed normal recovery. In *dry-filled, sealed* capsules for rapid and complete absorption, elimination of aftertaste.

dry-filled sealed capsules

[1] Albertson, H. A. and Trout, H. H., Jr.; Antibiotics Annual 1954-55, Medical Encyclopedia, Inc., New York, N. Y., 1955, pp. 599-602.

[2] Prigot, A.; Whitaker, J. C.; Shidlovsky, B. A., and Marmell, M.: *ibid*, pp. 603-607.

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AMERICAN CYANAMID COMPANY
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*REG. U.S. PAT. OFF.

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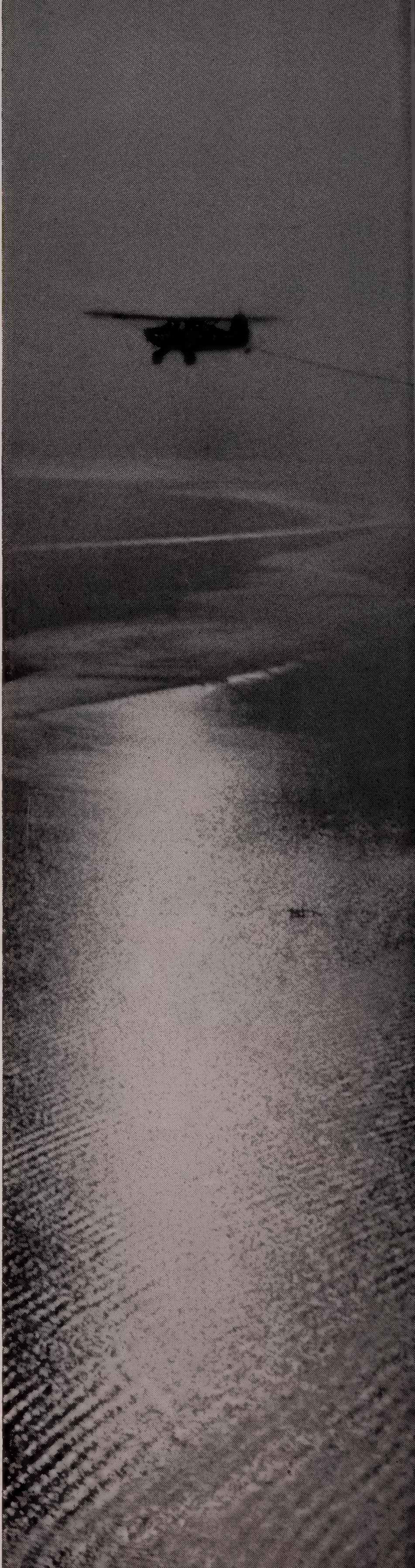

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BETTER

results are obtained with STERANE[1]—3 to 5 times more active than hydrocortisone or cortisone.

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capacity is greatly enhanced. "Relief of symptoms is more complete and maintained for longer periods with relatively small doses."[2]

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Sterane®

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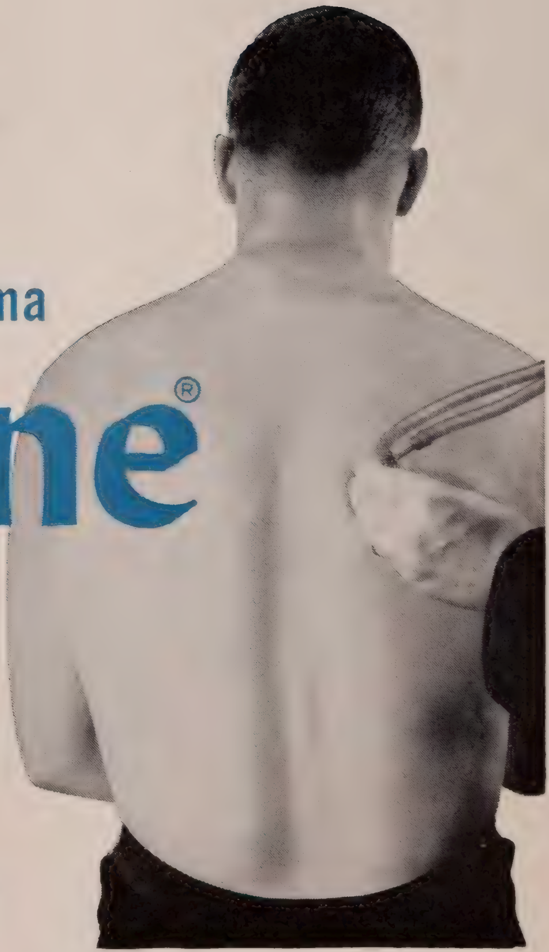

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1. Johnston, T. G., and Cazort, A. G.: J. Allergy 27:90, 1956. 2. Schwartz, E.: New York J. Med. 56:570, 1956. 3. Schiller, I. W., et al.: J. Allergy 27:96, 1956.

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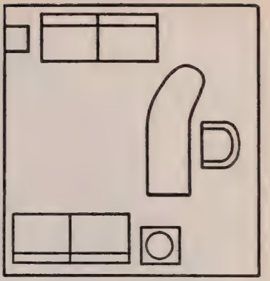

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Trasentine®-Phenobarbital

integrated relief . . .
mild sedation
visceral spasmolysis
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TABLETS *(yellow, coated), each containing 50 mg. Trasentine® hydrochloride (adiphenine hydrochloride CIBA) and 20 mg. phenobarbital.*

C I B A
Summit, N. J.

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for patients with allergy

Lilly

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'Co-Pyronil'

(PYRROBUTAMINE COMPOUND, LILLY)

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Because 'Co-Pyronil' is unusually long-acting, it affords the patient continuous relief without the inconvenience of frequent doses. Also, the bedtime dose keeps the patient symptom-free throughout the night.

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EDITORIALS

Paralytic Poliomyelitis

From presumably reliable estimates it would appear that prospects are good that "Paralytic polio in the United States can be cut in half in the epidemic period in 1956 and can be reduced to a negligible amount in 1957 if there is a coordinated effort during the remaining months of 1956 by all concerned..."[1]

The program needed to accomplish the desired result can be divided into two time periods according to the report: from now through July 10, 1956, and from July 10 through December 31, 1956. Manufacturers of Salk vaccine are said to estimate that between March 1 and December 31, 1956, they will produce 203 million cc. of vaccine.

These estimates are based on one year's manufacturing experience by the producers of the vaccine and should be viewed against that background. If these estimates are fulfilled, according to the report, it should be possible to reduce paralytic polio in 1957 to a negligible amount if those groups which have the highest incidence of paralytic polio are immunized. Some 80 per cent of paralytic polio is in the zero to nineteen age group and in pregnant women. Combined, these two groups total 65 million persons.

The report concludes that there will have been manufactured and released for use adequate vaccine to give two shots to all in these two groups and thus reduce by at least one-half the incidence of paralytic polio in the epidemic period of 1956.

These stocks would be adequate to give the third shot to the 52 million in the above-mentioned two groups and two shots to approximately 45 million additional persons—or a total of at least two shots to 97 million individuals out of a total of 167 million in this country—or 80 per cent of the population aged zero to forty-five years. Less than 2 per cent of all paralytic polio is in the age groups over forty-five.

The job is a big one logistically, but it can be done if all those interested cooperate fully. In an effort of such public health significance we can assume:

1. That the manufacturers will make every effort to live up to their production estimates.
2. That the U.S. Public Health Service, through the National Institutes of Health, will be ready to release promptly for public use all properly manufactured vaccine presented to it.

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[1] Report to Physicians, National Foundation for Infantile Paralysis, 1956, p. 1.

Editorial Comment

Sears-Roebuck Foundation Awards. Recent large gifts to medical educational institutions and hospitals have possibly overshadowed by their size and the publicity given them previous grants for assistance to physicians entering the practice of medicine by the Sears-Roebuck Foundation. The *Journal of the American Medical Association*[1] notes, editorially, in part:

> Assistance in the establishment of ten medical practice units ranging from $3,000 to $25,000 has been announced by the Sears-Roebuck Foundation, Chicago. These grants were made under the 1955 plan of assistance which the Sears-Roebuck Foundation introduced last year. The foundation grants long-term, unsecured loans to physicians to enable them to complete the financing of their practices. The foundation administers the plan, while the screening and selection of

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[1] J.A.M.A. 160: 960 (Mar. 17) 1956.

applicants is done by a 17-member advisory board of leading physicians from all sections of the country named by the Board of Trustees of the American Medical Association. In announcing the ten grants, the foundation said it has allotted $125,000 for the plan during 1956. This amount, plus $24,000 remaining from the 1955 budget, will make a minimum of $149,000 available for the coming year. . .

The Sears-Roebuck Foundation plan of assistance program began early in 1955 with the publication of a detailed booklet, "A Planning Guide for Establishment of Medical Practice Units." Copies of the booklet, designed to aid doctors in planning new medical facilities and converting and enlarging existing units, were furnished to state medical societies, hospitals, and medical schools. In September, 1955, the foundation announced its financial plan of assistance. . . .

Theodore V. Houser, president of the Sears-Roebuck Foundation, said that he felt the plan had progressed satisfactorily in its initial phase, but in the future greater emphasis would be placed on helping locate doctors in communities without medical care.

These loans are granted only when the physicians have utilized all conventional loan facilities and serve to make up the difference between conventional financing and completed cost. Loans are not made for the purpose of refinancing current obligations, Mr. Houser said.

Grants are repayable any time within ten years, with payments being made in equal monthly installments starting not later than the beginning of the fourth year. Until repayment is begun, interest is charged at the rate of 6 per cent a year, payable monthly. No further interest is charged after repayment begins. After the fifth year, when interest payments have ceased, recipients make monthly contributions to a revolving fund. This is in recognition of the aid they have received and to assist other physicians. All interest and pledge money, along with all repaid loans, is used for the purpose of establishing additional medical practices. The addition of these funds to the basic amounts provided by the Sears-Roebuck Foundation will enable the plan to grow, Mr. Houser said. Specific information about the plan may be obtained from state medical associations or the Council on Medical Service of the American Medical Association.

Loans last year went to 18 doctors who are setting up ten practice units in eight states. The units fall into two categories: those that bring medical care and facilities to communities where none exist and those that retain existing care and facilities in communities about to lose them. Eight are being established in small towns in northern Georgia, central and northeast Oklahoma, southwest Colorado, northern Texas, southwest Michigan, southeast New York, and Connecticut. The others are in suburbs of Tulsa, Oklahoma, and Seattle.

Some of the criteria for evaluating requests for assistance will be the professional qualifications of the applicant, the availability of medical service in the community, the extent of community participation in establishing the proposed unit, and the "soundness of the plans proposed for providing medical care," according to Mr. Houser.

Experience gained in actual operation of the ten medical practice units already established under the 1955 plan of assistance should prove invaluable to the advisory board in the coming years. We shall follow with much interest what seems to be a thoroughly practical project to increase good medical service to such communities as actually need it.

Child Adoption Service. The following letter describing the Child Adoption Service of the State Charities Aid Association has been sent to all gynecologists and obstetricians in New York State by the Association. It is printed herewith for the information of all our physician readers who may at some time need assistance with this type of problem.

Dear Doctor:

Dr. George W. Kosmak, shortly before he died, published a very thoughtful article in our State Journal on "The Doctor's Responsibility in Child Adoption." Dr. Kosmak realized that every physician, sooner or later, is called upon to face this situation. He wrote this article *for physicians* condensing in it, from his long personal experience and wise judgment, the difficulties and pitfalls that a physician encounters in trying, on his own initiative, to solve the problems of a distraught unmarried mother at a most difficult period of her life.

As a memorial to him we have reissued this article in pamphlet form. We enclose it herewith and hope it will prove of value to you.

As you know, the State Charities Aid Association has conducted a child adoption service throughout New York State for a great many years. It has had a full experience and has borne an unparalleled reputation for integrity and skilled confidential services. It charges no fees.

As Medical Director of the State Charities Aid Association, I wish to assure you that we shall be glad to be of any aid to you and to any unmarried mother throughout the State in working out special plans for adoption. We are prepared to give immediate assistance to the mother and child whenever necessary.

Please do not hesitate to telephone or write us at any time if you feel we can be of assistance. All communications are guarded in strictest confidence.

Sincerely yours,
Wilson G. Smillie, M.D.
Executive Director

State Charities Aid Association
105 East 22nd Street
New York 10, New York

ANNOUNCEMENT

SCIENTIFIC EXHIBITS

SESQUICENTENNIAL CONVENTION

MEDICAL SOCIETY OF THE STATE OF NEW YORK

Applications for space for the scientific exhibits should be made directly to the Chairman of the Subcommittee on Scientific Exhibits of the Convention Committee:

William L. Watson, M.D.
340 East 72nd Street
New York 21, New York

The Sesquicentennial Convention will be held February 18 to 21, 1957, at the Hotel Statler, New York City.

No applications can be considered after November 1, 1956.

There will be two groups of awards:

Group I: Awards in Group I are made for exhibits of individual investigation, which are judged on the basis of originality and excellence of presentation.

Group II: Awards in Group II are made for exhibits which do not exemplify purely experimental studies and which are judged on the basis of presentation and correlation of facts.

W. P. Anderton, M.D., *Secretary*
Medical Society of the State of New York

PRESIDENT-ELECT

Medical Society of the State of New York

1956–1957

THURMAN B. GIVAN, M.D.

Dr. Thurman B. Givan, of Brooklyn, was chosen president-elect for the year 1956–1957 by the House of Delegates of the Medical Society of the State of New York at its 150th Annual Meeting in New York City on May 9.

A native of Alexandria, Tennessee, Dr. Givan received his medical degree from Vanderbilt University in 1914 and interned at St. Thomas Hospital in Nashville, Tennessee, from 1914 to 1917, following which he held a residency in pediatrics at Long Island College Hospital, for sixteen months in 1919 and 1920. At Long Island College Hospital, Dr. Givan was instructor, lecturer, assistant clinical professor, and in 1927 became clinical professor of pediatrics, at present holding the same position at the Long Island College of Medicine and State University of New York College of Medicine at New York City.

From 1930 to 1953 Dr. Givan was chief of staff in the Pediatric Department of Cumberland Hospital, Brooklyn, where he is now a consulting pediatrician. He received his boards in pediatrics in 1935. Other hospital appointments include director of pediatrics, St. Peter's Hospital; consulting pediatrician, Long Island College Hospital, Kingston Avenue Hospital, Beth-El Hospital, and Brooklyn Eye and Ear Hospital, and attending pediatrician, Norwegian Hospital.

During World War I Dr. Givan served as a captain in the U.S. Army Medical Corps and during World War II was in charge of four draft boards. Dr. Givan has served as president of many medical organizations, including the Brooklyn Pediatric Society, the Medical Society of the County of Kings, the Brooklyn Pathological Society, and the Brooklyn Academy of Pediatrics. He was also chairman of the Coordinating Council of the Five County Medical Societies of New York City, New York State chairman of the American Academy of Pediatrics, chairman of the section on pediatrics of the State Society, and vice-chairman of the pediatric section of the American Medical Association. He has been a member of the Council of the State Society since 1951.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

SESQUICENTENNIAL CONVENTION

- Banquet at Waldorf-Astoria
- Scientific Program
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- Scientific Motion Pictures
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- Special Events
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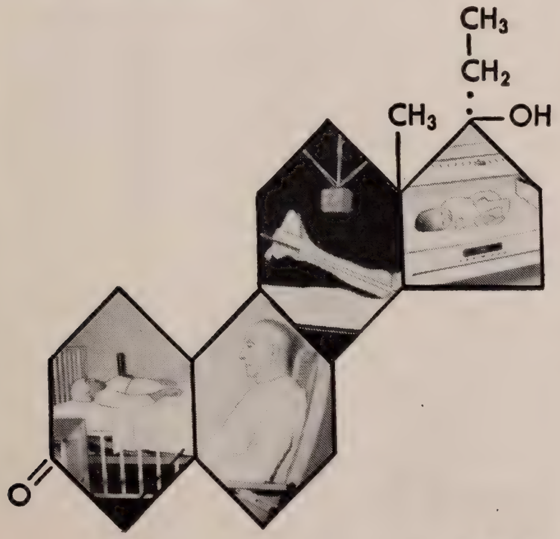

OBJECTIVE AND SUBJECTIVE RESPONSE — Orally effective, Nilevar therapy is characterized by retention of nitrogen, potassium, phosphorus and other electrolytes in ratios indicative of protein anabolism. Moreover, subjectively the patient observes an increase in appetite and sense of well-being.

WELL TOLERATED—Nilevar has an extremely low toxicity. Laboratory animals fail to show toxic effects after six months of continuous administration of high dosages. Nilevar should not be administered to patients with prostatic carcinoma. Nausea or edema may be encountered infrequently. Slight androgenicity may be evidenced on high dosage or in particularly responsive individuals.

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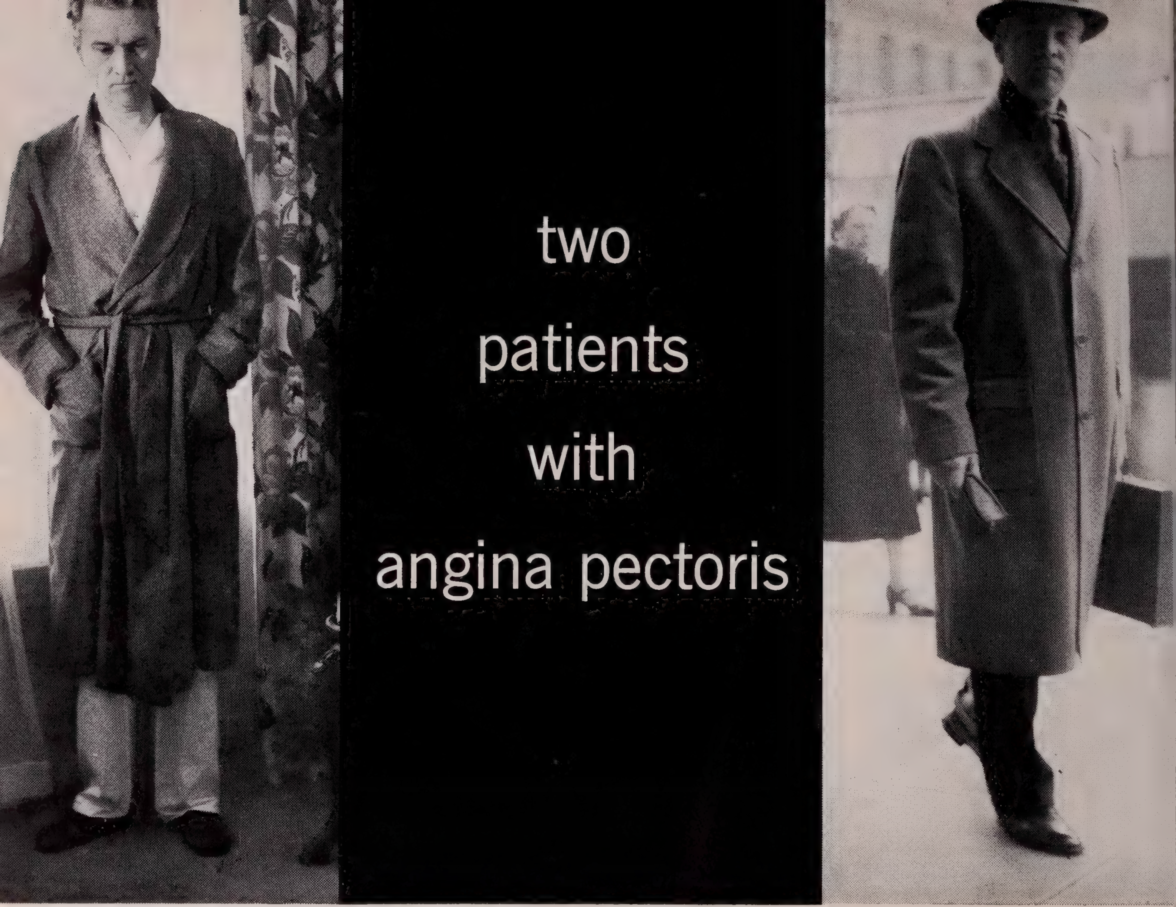

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Usual Dosage: 10 to 20 mg. *before meals* and at bedtime.

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SCIENTIFIC ARTICLES

Advantage of Routine Endotracheal Anesthesia for Tonsillectomy in Children

ALFRED GRANATELLI, M.D., AND VINCENT J. COLLINS, M.D., NEW YORK CITY

(*From the Department of Anesthesiology, St. Vincent's Hospital*)

THE endotracheal technic for the maintenance of anesthesia in children undergoing tonsillectomy has been withheld until recent years because of two misconceptions. On the one hand, it has been alleged that the technic is too hazardous, and on the other hand, it is stoutly maintained that the insufflation technic is innocuous. Experience has shown that the complications associated with routine intubation of children by anesthesiologists are quite infrequent, but the occasional complication has been so overemphasized that the technic has been pragmatically condemned. Nevertheless, according to accepted principles of modern anesthesiologic practice, the indications for endotracheal anesthesia are clearly defined in the surgical procedure of tonsillectomy. However, it is the purpose of this report to examine the contention that the insufflation technic is innocuous.

Traditionally the open-drop ether and ether hook anesthetic sequence has been practiced without observations or recordings of vital signs. Surgeons and anesthetists alike have studiously avoided assessing the tonsillectomy patient's physiology or appreciating fully the effects of the operation on physiology. Simple taking and recording of pulses and blood pressures have been neglected. Hence, any conclusions drawn have been pure speculation. Coughing, breath-holding, aspiration, noisy respiration, and intermittent bouts of cyanosis have been permitted without proper evaluation. Only the relative brevity of hurried surgery has been the lifesaving factor.

Procedure

Observations of the pulse and blood pressure were made on 50 unselected tonsillectomy patients ranging from three to eight years in age. After adequate premedication with a barbiturate and belladonna drug, all patients were induced with vinethene, ether, ether-oxygen sequence, using the open-drop technic, and anesthetized to plane 2, stage III (Guedel). They were kept at this depth for ten minutes to allow for anesthetic stabilization. At this point the anesthetic maintenance for surgery was accomplished by use of the ether hook insufflation technic in 25 patients. The remaining 25 patients were intubated under direct laryngoscopy with pHisoHex-scrubbed plastic tubes of appropriate size and maintained on a nonrebreathing system using a Digby-Leigh valve. Two anesthetists were available on each case; one gave his undivided attention to maintenance of anesthesia, and the other observed and recorded pulse rates and sphygmomanometric blood pressure readings throughout surgery. At the conclusion of surgery a thorough tracheobronchial toilet was performed and the presence or absence of aspirated blood noted.

The vital signs recorded after anesthetic stabilization (just prior to surgery) served as controls. Arbitrarily, pulses and pressures were evaluated at two periods during surgery. The first group of data represents changes in vital signs over con-

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Presented at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Section on Otolaryngology, May 13, 1955.

TABLE I.—Pulse Rate Changes During Tonsillectomy (Comparison of 25 Patients Maintained by Ether Hook Insufflation with 25 Patients Maintained by Endotracheal Technic)

Insufflation Cases	Per Cent Rise	Endotracheal Cases
	INITIAL PULSE RISES	
3	40 to 60	0
8	20 to 40	0
9	10 to 20	6
5	0 to 10	19
	TERMINAL PULSE RISES	
3	60 to 80	0
5	40 to 60	0
7	20 to 40	0
5	10 to 20	6
5	0 to 10	19

TABLE II.—Blood Pressure* Changes During Tonsillectomy (Comparison of 25 Patients Maintained by Ether Hook Insufflation with 25 Patients Maintained by Endotracheal Technic)

Insufflation Cases	Per Cent Rise	Endotracheal Cases
	INITIAL SYSTOLIC PRESSURE RISES	
7	40 to 60	0
8	20 to 40	0
10	10 to 20	11
0	0 to 10	14
	TERMINAL SYSTOLIC PRESSURE RISES	
2	60 to 80	0
6	40 to 60	0
11	20 to 40	2
6	10 to 20	11
0	0 to 10	12

* Only systolic pressures are tabulated.

Note: In the endotracheal cases there were no pressure rises greater than 22%; the average pressure rise was approximately 10% or 12 mm. Hg. In contrast, the average pressure rise in the insufflation group was 45% or approximately 50 mm. Hg at the termination of surgery.

trol values observed after one tonsil had been removed and is labeled "initial change." The second group of data represents changes over control values observed at the completion of surgery and is labeled "terminal changes." Changes of pulse rates and blood pressures over control values during surgery would be a reflection of several variables: reflex circulatory response to surgical stimulation, hypoxia due to mechanical obstruction, partial or complete laryngospasm, carbon dioxide accumulation, and shifting planes of anesthetic depth. Any or all of these conditions could be operating at a given time. However, whatever the cause, these induced changes must be considered as acute stresses on the patient's compensatory mechanisms and on the body economy.

Results

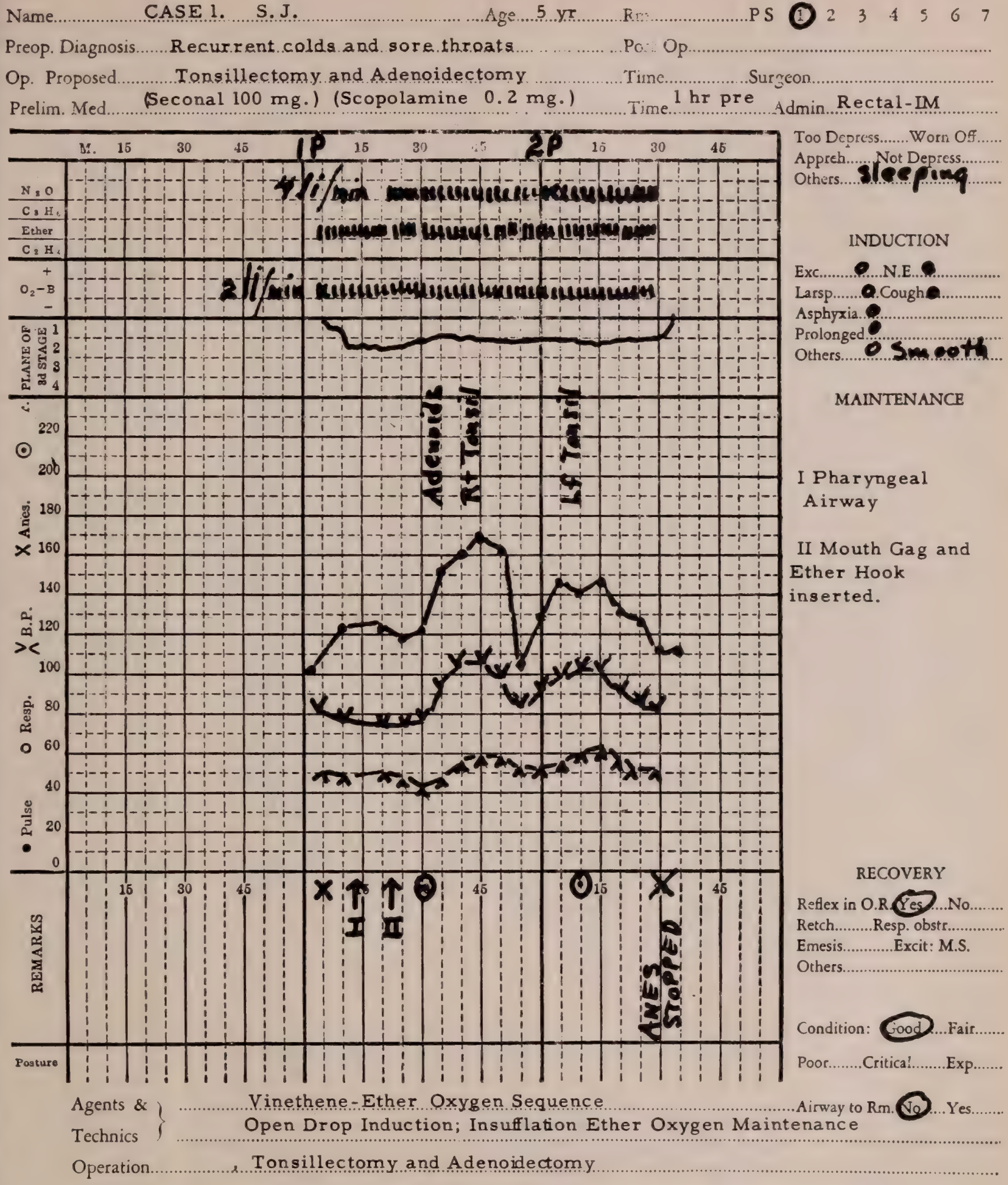
A comparison of the initial pulse changes over control levels is shown in Table I. Significant is the fact that whenever a change occurred in either group, it was invariably an increase. It is seen that in the ether hook insufflation cases there were many and some astonishingly marked rises in pulse rate. Actually for this group the over-all average increase was approximately 30 per cent. On the other hand, there were no marked rises in patients receiving anesthesia by the endotracheal system, and the changes, if any, were of a low order of magnitude. The average increase in pulse rate for all intubated cases just after removal of first tonsil was approximately 7 per cent, a statistically insignificant change over control values.

The terminal pulse changes showed a similar but more marked trend. At the termination of surgery tachycardias were frequent in the insufflation group. The over-all average pulse increase was 40 per cent of control. In the intubated group the number of patients who had a significant pulse rise was small, and the increase averaged for the entire group approximately 8 per cent.

A comparison of the blood pressure changes is presented in Table II. Only the systolic changes are tabulated, but in general, the diastolic pressures paralleled them. As with the pulse, all changes were elevations of the pressure. The initial systolic rise, that is, the pressure observed after one tonsil had been removed, averaged 28 per cent in the insufflation group and only 10 per cent in the intubated group. The terminal systolic pressure in the insufflation group was approximately 45 per cent above control values and represented an increase of about 50 mm. of mercury in the pressure. In contrast, the pressure increase at the completion of surgery in the endotracheal group averaged about 10 per cent or 12 mm. of mercury pressure increase; significant is the fact that there were no pressure rises greater than 22 per cent in any of the intubated cases.

Two typical cases are presented to illustrate the difference in cardiovascular physiology seen in the patients managed by insufflation (Case 1) and those managed by endotracheal systems (Case 2).

Case 1. Insufflation Technic.—This patient was anesthetized with vinethene and ether sequence by the open-drop system. Maintenance of anesthesia was by the ether hook insufflation system



Name CASE 1. S. J. Age 5 yr Rm PS [✓ 1] 2 3 4 5 6 7
Preop. Diagnosis Recurrent colds and sore throats Post Op
Op. Proposed Tonsillectomy and Adenoidectomy Time Surgeon
Prelim. Med. (Seconal 100 mg.) (Scopolamine 0.2 mg.) Time 1 hr pre Admin. Rectal-IM

Too Depress Worn Off
Appreh Not Depress
Others sleeping

INDUCTION
Exc. 0 N.E. 0
Larsp. 0 Cough 0
Asphyxia 0
Prolonged 0
Others 0 Smooth

MAINTENANCE
I Pharyngeal Airway
II Mouth Gag and Ether Hook inserted.

RECOVERY
Reflex in O.R. [✓ Yes] No
Retch Resp. obstr.
Emesis Excit: M.S.
Others
Condition: [✓ Good] Fair
Poor Critical Exp.

Agents & Technics Vinethene-Ether Oxygen Sequence
Open Drop Induction; Insufflation Ether Oxygen Maintenance
Airway to Rm. [✓ No] Yes
Operation Tonsillectomy and Adenoidectomy

M. 15 30 45 1P 15 30 45 2P 15 30 45
N2O
C3H6
Ether
C2H4
+
O2-B
−
4 l/min
2 l/min
PLANE OF 3d STAGE 1 2 3 4
Adenoids
Rt Tonsil
Lt Tonsil
220 200 180 160 140 120 100 80 60 40 20 0
⊙ X Anes.
V B.P. Λ
O Resp.
● Pulse
REMARKS
15 30 45 15 45
X
I
II
⊙
ANES STOPPED
Posture

FIG. 1. *Case 1*—Anesthesia record.

throughout surgery. As soon as the patient stabilized, surgery was started, and almost immediately there was a pulse rise accompanied by a pressor response.

As surgery proceeded, the pulse increased to 168 beats per minute, representing a 40 per cent increase (Fig. 1). The blood pressure likewise was elevated approximately 20 per cent. On removal of the adenoids and right tonsil the patient was given a rest period, during which the cardiovascular system returned to control levels. As surgery was begun on the left tonsil, the same type of response occurred with both elevation of pulse and blood pressure. Such changes occurred despite a fairly constant plane of anesthetic depth. At the conclusion of surgery the trachea was suctioned, and several cubic centimeters of blood mixed with mucus were removed.

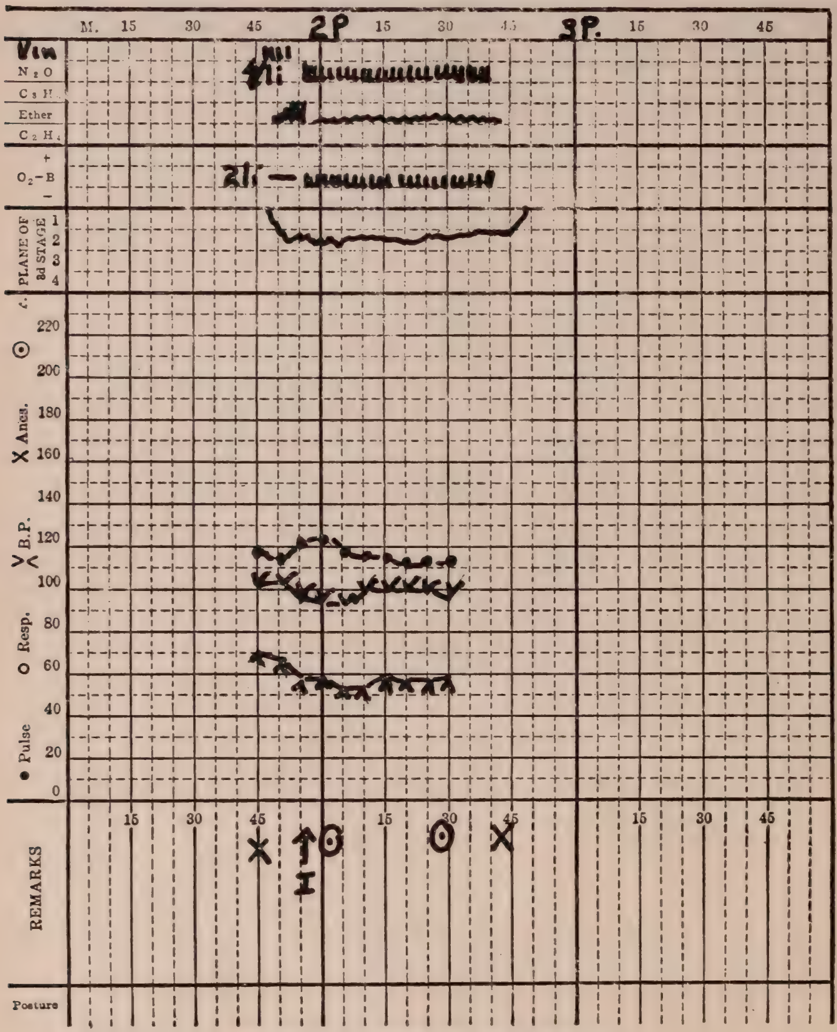
CASE 2. ENDOTRACHEAL TECHNIC.—This case

Name CASE 2. R.S. Age 4 yr R PS [✓ 1] 2 3 4 5 6 7

Preop. Diagnosis Hypertrophied Tonsils Post Op.

Op. Proposed Tonsillectomy and Adenoidectomy Time Surgeon

Prelim. Med (Seconal 100 mg.) (Scopolamine 0.2 mg) Time 1 hr pre Admin Rectal-IM



Too Depress Worn Off

Appreh Not Depress ✓

Others calm

INDUCTION

Exc 0 N.E. ●

Larsp 0 Cough 0

Asphyxia 0

Prolonged 0

Others smooth

MAINTENANCE

I Endotracheal Intubation with # 21 Magill Rubber Tube Uncuffed. Under Direct Laryngoscopy Digby-Leigh Valve

Tracheal Suction Small amount of clear mucus.

RECOVERY

Reflex in O.R [✓ Yes] No

Retch Resp. obstr.

Emesis Excit: M.S.

Others

Condition: [✓ Good] Fair

Poor Critical Exp.

Agents & Technics Vinethene -Ether Oxygen Sequence Airway to Rm [✓ No] Yes

Open Drop Induction; Endotracheal Non rebreathing System

Operation Tonsillectomy and Adenoidectomy

FIG. 2. *Case 2*—Anesthesia record.

illustrates the cardiovascular course when the anesthesia is maintained via an endotracheal tube. No significant changes in either pulse rate or pressure occurred (Fig. 2). No blood was found in the trachea at the conclusion of the surgery. The operative course was smooth and expeditious.

A review of the results of tracheobronchial suction are also quite revealing. All cases maintained on the ether hook insufflation technic aspirated blood, as revealed in the observation glass connector to the suction catheter. In only one of the intubated patients was blood found in the trachea.

Comment

It is expected that a certain amount of the evident cardiac stimulation and pressor response is of a reflex nature. A pressor reflex circulatory response to stimulation of the root of the tongue, the epiglottis, and larynx has been demonstrated.[1] An elevation of systolic pressure is evident on stimulating any of the aforementioned structures with a laryngoscope blade. A similar response occurs when retractors or suction apparatus is applied. It is further established that such reflex responses of circulation are markedly enhanced by anoxia. Independently the same stimulation evokes a stimulatory response from the heart via the cardioaccelerator nerves.[2,3]

The tonsillectomy patient anesthetized via the ether hook insufflation system is obviously exposed both to reflex stimulation and to either mild, moderate, or complete airway obstruction due to blood, packs, surgical manipulation, and faulty tongue retraction, as well as various degrees of laryngospasm. This results in interference with tidal exchange and allows the development of hypoxia and carbon dioxide accumulation. Oximetric studies[4] have clearly shown that mild or moderate airway obstruction is sufficient to produce acute hypoxia; it is not relieved by administration of 100 per cent oxygen but only by removing the obstruction. Hypoxia is known to increase the heart rate in direct proportion to changes in the arterial oxygen saturation.[5]

It is apparent that the marked cardiovascular stress manifested by an accelerator pressor response in the nonintubated patient is due chiefly to acute and progressive hypoxia affecting both the chemoreceptors and the vasomotor center. That the derangement is imposed by the conditions of the anesthesia is also evident, and the cumulative character is reflected in the greater derangement found in the patient's cardiocirculatory state at the termination of surgery. A gradual but oftentimes slow return to normal physiology occurred after surgery, although in several instances the anesthesia was continued.

Conclusion

Tonsillectomy performed by the time-honored ether hook insufflation system is not an innocuous procedure. The patient is constantly exposed to conditions which are unfavorable to his physiology. A rather severe cardiovascular stress is imposed as a result of the attendant hypoxia in the insufflation technic for oropharyngeal surgery. Endotracheal anesthesia not only avoids the occurrence of hypoxia, but it also prevents the aspiration of mucus and blood. In brief, ideal physiologic conditions are provided by the endotracheal system in the patient undergoing tonsillectomy. This modern anesthesiologic technic should not be denied the patient because of age.

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Spider Webs and Ant Hills

When you see spider webs abundant on lawns, it will not rain that day enough to break the webs. The red spider is too wise to work all night and then have the rain spoil his work. When there has been a long drought and you notice many piles of dirt thrown up around the little ant holes, it will rain within three or four days. Ants do not like to work in wet soil. It sticks to their legs and backs.—*The Old Farmer's Almanac, Dublins, New Hampshire, 1956,* ROBERT B. THOMAS

Treatment of Anticholinesterase Poisoning by Phosphate Insecticides and "Nerve Gas"

STEPHEN KROP, PH.D., AND TED A. LOOMIS, CAPT. (MC),* ARMY CHEMICAL CENTER, MARYLAND

(From the Physiology Division, Chemical Corps Medical Laboratories, Army Chemical Center)

The advent of potent anticholinesterase compounds as insecticides and the possibility that some member of this broad group of chemicals might be used in war as "nerve gas" present the medical practitioner with an urgent treatment problem in cases of severe poisoning which he otherwise sees only in such emergencies as severe cyanide, carbon monoxide, or aconite poisoning, severance of a major artery, or acute bilateral pneumothorax. Some of these compounds, such as diisopropyl phosphorofluoridate (DFP), tetraethylpyrophosphate (TEPP), paranitrophenyl diethyl thionophosphate (parathion), etc., have a degree of toxicity exceeded by few other known chemicals. They may cause death in a very few minutes after skin or eye contact, ingestion, or inhalation of vapor.[1-6] Since death can occur so rapidly, primary reliance for treatment must obviously be placed on the general medical practitioner whether these agents are used as insecticides or in a chemical attack on the civilian population. Therefore, it may be useful to describe the known major actions of these compounds in order to acquaint physicians with the principles of treatment.

These compounds are, in the main, liquids of high boiling point, having little or no odor and exerting no irritation on the skin, eye, or respiratory tract in liquid or vapor form, thus providing no simple warning of dangerous exposure. Hence, their great toxicity and insidiousness render them highly dangerous.[1-4,7,8]

Mode of Action

The only clearly defined biochemical lesion resulting from the action of these compounds is the long-lasting inactivation of cholinesterases[2-4, 9-15] which normally destroy acteylcholine. The body "neurohormone," acetylcholine, is believed to be intimately associated with impulse formation and propagation in nervous tissue and at the neuromuscular junction, with smooth muscle activity, with secretory activity of many glands, and with the regulation of the cardiovascular system. For convenience in understanding the aims of treatment, the effects of these poisons may therefore be regarded as those of acetylcholine, i.e., stimulation of the "cholinergic" portions of the autonomic nervous system and stimulation and paralysis of the central nervous system and of the neuromuscular apparatus. Acetylcholine effects have also been termed "muscarinic" and "nicotinic." (Other actions of anticholinesterase compounds have been reported,[16] but they probably are not significant from the standpoint of therapy.) From these considerations the actions of these compounds may be deduced or explained.

Symptomatology

There are considerable variations in relative prominence of groups of symptoms, in time of onset and greatest severity of symptoms, and in time to death, as illustrated by the rapid-acting sarin and TEPP, on the one hand, and the slow-acting parathion, on the other. However, in each case it is possible to regard the symptoms as arising from a common cause and to consider the problem of treatment as fundamentally the same for all members of this class of poisons.

On the basis mainly of observations in animals,[1-4, 17-19] the following symptoms can be expected to appear in rapid succession after severe exposure to sarin or TEPP: rhinorrhea, salivation, and miosis; difficulty in breathing followed by cyanosis, collapse, and convulsions; sweating, urination, and defecation; paralysis of respiration with extreme cyanosis. The pulse may be slow or absent and blood pressure low after an initial elevation. Heart block, partial or complete, may accompany the low heart rate, which may persist until death. Widespread or localized twitching of skeletal musculature and subsequent persistent weakness appear. A severe case of anticholinesterase poisoning will present itself as one of acute asphyxia. On the other hand, these symptoms appear and develop more slowly in parathion poisoning.

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* Present address: Department of Pharmacology, University of Washington, School of Medicine, Seattle, Washington.

It is obvious that not all of the symptoms enumerated must be controlled to ensure survival. For example, sweating and miosis will not cause death, but interference with respiration at any point between nostril or mouth and the tissues may be lethal. Hence, this action of the anticholinesterases is the central problem in the treatment of the severely poisoned. The symptoms of primary, lifesaving importance are those arising from the action of these compounds on organ systems whose failure results in asphyxia. The means by which body tissues are assured of an adequate oxygen supply may be regarded as follows:

1. Those concerned with ventilating the pulmonary alveoli. The anticholinesterases act to increase the resistance of the lung to inflation (bronchoconstriction),[17-20] obstruct the upper airway by secretions,[2-6] interfere with the operation of the respiratory center by convulsions[1,19] and by paralysis,[21,22] and interpose neuromuscular block to the muscles of respiration.[22]
2. Those concerned with delivering oxygenated blood from the lungs to the tissues. In anticholinesterase poisoning propulsion of blood to the tissues is hindered or lost by the slowing or arrest of the heart[5,6,19] and by increased resistance in the pulmonary circuit.[23] Such action may explain acute collapse.

Therefore, the therapeutic challenge is to combat the effects of anoxia. Effective respiration must be maintained, and cardiovascular support must be provided.

Treatment

Further absorption of the poison obviously must be prevented by removal of the casualty from the poisoned atmosphere, masking, washing the skin and eye, or gastric lavage—whichever is indicated by circumstances of the exposure. Oropharyngeal secretions must also be cleared. However, in view of the rapidity with which symptoms may become serious, as already indicated, treatment must be instituted without delay.

Drug treatment of anticholinesterase poisoning may logically be approached by (1) chemical destruction or inactivation of the poison already in the body, (2) reactivation of the cholinesterase and destruction of the poison, and/or (3) blocking the effects of acetylcholine. Important progress has been made in the direction of (1) and (2) by study of the action of certain hydroxamic acids in vitro and in vivo.[14,24,25] However, the important element of time is yet to be satisfactorily overcome in these approaches since the hydroxamic acids act too slowly for practical usefulness and, for destruction or inactivation of the poison, must be given prophylactically to be effective.* Blocking the actions of acetylcholine with atropine, however, meets the time requirement for successful treatment, for its action is almost instantaneous after absorption and is of suitable duration. Except for the neuromuscular action of acetylcholine, the actions of the anticholinesterases having life-or-death importance are controllable to an important extent by atropine by its known antiacetylcholine action in the central nervous system, smooth muscle, glands, and circulation.[26,27] Similarly, atropine readily prevents or reverses the actions of the anticholinesterases[17-19,27,28] and by itself exerts considerable lifesaving action if given early enough and in sufficient dosage in cases of severe poisoning.[5,6,27,28]

Artificial respiration will be necessary in all cases where respiratory embarrassment or failure exists. Positive pressure ventilation will be needed if the airway resistance is increased. Although atropine in feasible dosage does not affect the neuromuscular block exerted by the anticholinesterase compounds, it makes possible the successful application of artificial respiration by erasing the lung impedance to ventilation, by controlling airway secretions, by relieving the cardiovascular effects, and by controlling convulsions.[19,20,29] It also hastens recovery of the respiratory center[21,22] and spinal reflexes.[16] It should be noted that convulsions will impede artificial respiration and may prevent intravenous therapy.

The toxicity of atropine is low,[30,31] considering its high antiacetylcholine potency, and in severe anticholinesterase poisoning the dosage of atropine may need to be quite high by comparison with doses used for other purposes.[1−6,32] In the past, treatment failures in severe insecticide poisonings have been due to too little atropine given too late. In general, it must be given repeatedly in doses sufficient to control the effects on respiration and circulation or sufficient to maintain a mild degree of overdosage (dryness of the mouth and skin). The initial dose should be 2 mg. of atropine sulfate or tartrate intramuscularly, repeated as the clinical condition indicates. The chief drawback to atropine is its interference with sweating, an important avenue of heat loss from the body; in warm climates this must be carefully observed.[31,33,34] Other drugs possessing the desirable properties of atropine to an improved extent and with greater lifesaving potency are being sought, and some have shown promise,[2−4,16] but their possibilities, all factors considered, are yet to be established. In the meantime, reliance on atropine for drug therapy of anticholinesterase poisoning must continue.

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* Similar compounds, such as 2-pyridine aldoxime methiodide (PAM), reported after this paper was submitted for publication, suffer from the same fundamental limitation. In fact, recent observations by one of us (T.A.L.; to be published) indicate that PAM is ineffective as an antidote in experimental sarin poisoning. Therefore, no change in the conclusion of the present paper, that atropine is the backbone of drug therapy of severe anticholinesterase poisoning, is indicated at this time.

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Streptonivicin (Albamycin): A New Antibiotic

In a report on both laboratory data and experimental and clinical trials this new antibiotic was found very active against M. pyogenes. Dr. William J. Martin and associates, Mayo Clinic, Rochester, Minnesota, investigated streptonivicin (Albamycin, Upjohn) from the viewpoints of stability, bacterial resistance, animal protection, and, on human subjects, determinations of concentration in the serum, body fluids, thyroid tissue, and excreta. They found that there apparently is no cross resistance between streptonivicin on the one hand and a considerable list of the more common antibiotics on the other, including penicillin, streptomycin, chloramphenicol, the tetracycline group of compounds, neomycin, bacitracin, and erythromycin. Organisms resistant to these latter may be highly susceptible to streptonivicin. Their investigations indicated, however, that M. pyogenes can become resistant to streptonivicin, although it proved effective in the initial treatment of an experimental infection in mice. Streptonivicin, which is absorbed into the general circulation when given orally, is bound extensively by serum proteins. After being taken by mouth, detectable serum levels persist after twelve hours. These studies indicate that it is distributed in most of the body fluids previously listed and is excreted in bile, urine, and feces, but it was not detected in cerebrospinal fluid.—*Proceedings of the Staff Meetings of the Mayo Clinic, November 16, 1955*

Short-Term Treatment of Psychiatric Patients with Reserpine

STEPHEN B. PAYN, M.D., AND FRED V. ROCKWELL, M.D., VALHALLA, NEW YORK

(*From the Psychiatric Institute of Grasslands Hospital*)

THE purpose of this study was to evaluate the short-term therapeutic usefulness of reserpine. The patients were treated during a relatively short observation period in the Psychiatric Institute of Grasslands Hospital.

Between October, 1954, and August, 1955, reserpine was given to 100 patients. We confined our study to patients in whom any favorable effect of the drug was likely to be dramatic and unmistakable and could not easily be confused with the spontaneous improvement as a result of the hospitalization. For this reason, too, we usually observed the patient for several days and gave the reserpine only if no spontaneous improvement took place. Our method of evaluating the results differed from that of most investigators insofar as we evaluated each individual patient by daily observation and frequent psychiatric interviews.

Method

In our earlier patients the intial dose of reserpine was 3 to 5 mg. given in one dose intramuscularly, orally, or occasionally intravenously. Thereafter the patient received 1 or 2 mg. of reserpine by mouth once a day. When oral medication was refused, it was given intramuscularly. Later in our study the daily dose from the first day on consisted of 5 to 15 mg. intramuscularly with or without 2 to 6 mg. by mouth. The blood pressure was taken every day immediately before and one hour, two hours, three hours, and six hours after the medication. The nurses kept daily records of the individual patient's behavior and of the number of hours that the patient slept every night. In addition, the patient was seen in psychiatric interviews every few days.

As mentioned before, the medication was usually given after an observation period of a few days when no spontaneous improvement occurred. Occasionally, however, in severely disturbed patients treatment with reserpine was started within a few hours after admission.

General Effect

The first effect of the drug usually appeared about thirty minutes to three hours after the injection and consisted of generalized flushing, chilliness, and tremulousness lasting several hours. These symptoms were rarely seen when the drug was taken by mouth. On the other hand, they did not appear much sooner after intravenous injection than after intramuscular administration. This was also observed by Kline,[1] who therefore believes that some metabolic change has to occur before the drug can become active. Hafkenschiel and Sellers[2] suggest that this change is a conversion of the reserpine into a yohimbine-like substance.

The first effect of the reserpine on the mental condition was a sedative one and sometimes occurred dramatically within a few hours but was usually not apparent until the third or fourth day of treatment. Tension and anxiety were reduced. The patients were less agitated and less assaultive. Their appetite improved, and they were able to sleep better.

It is remarkable that this improvement usually occurred without any change in the mental content. Patients with delusions, for instance, continued to have their delusions but were no longer frightened by them.

After about a week some of our patients showed an aggravation of their original symptoms. They became tense, excited, and assaultive and had delusions and hallucinations. This phase lasted from an hour to several days, but when the medication was continued, the patients improved again.

These observations confirm the description given by Barsa and Kline[3] who divide the effect of treatment with reserpine into three phases, the sedative phase, the turbulent phase, and the integrative phase.

The reserpine used in this study was kindly supplied by E. R. Squibb & Sons, New Brunswick, New Jersey.

Side-Effects

Only few side-effects were noted. Their occurrence was in no way related to the therapeutic efficacy of the drug. The most common side-effects were those mentioned before: chilliness, generalized flushing, and tremulousness, which appeared from thirty minutes to three hours after parenteral administration and subsided after several hours. As part of the flush reaction several patients had a marked injection of the conjunctival vessels. Some patients had stuffiness of the nose; some had soft stools or gastric discomfort. Drowsiness was not infrequent, and an occasional patient complained of generalized muscle aching. The symptoms usually subsided spontaneously or with symptomatic treatment, but in some cases the dose had to be reduced. Since our patients received the drug for short periods only, they never developed any parkinsonism, which many authors describe as a common side-effect after prolonged administration.

Effect on the Blood Pressure

For the purpose of this study the patients were divided into three groups on the basis of the blood pressure, with the same criteria as those used by Kline:[4]

1. "Normal" blood pressure, between 100 and 149 mm. Hg systolic or between 60 and 99 diastolic pressure.
2. Low blood pressure, anything below that.
3. High blood pressure, anything above that.

The effect of reserpine on the blood pressure was not always consistent. In some cases there was a transient rise a few hours after administration of the drug. In others the blood pressure fell abruptly within an hour or two after the drug was taken but rose again to its original level during the next twelve to twenty-four hours and then fluctuated in an irregular fashion either around the original level or at a lower level. The response often varied from day to day in the same patient with the blood pressure falling one day and remaining unchanged another day. The fall occurred in some patients within two hours and in others after several days. It involved either the systolic pressure alone or both the systolic and diastolic pressure. In our series there were no cases with lowering of the diastolic pressure alone.

Since spontaneous fluctuations of the blood pressure had to be taken into account, the pressure was considered lowered only if there was a drop of at least 25 mm. Hg in the normotensive group and 35 mm. in the hypertensive group.

Of 78 patients with normal blood pressure, 20 responded to reserpine with lowering of the blood pressure, 35 showed no blood pressure change, and 23 had transient lowering with spontaneous return to the original level.

Of 19 patients with hypertension, seven had a blood pressure fall, two had no change, and ten had only transient lowering.

Our series had three patients with low blood pressure. Two of them showed no blood pressure change, while in the third patient an alarming fall in systolic and diastolic pressure occurred.

Case 1.—The patient, a thirty-eight-year-old woman with far-advanced, active pulmonary tuberculosis, was admitted to the Psychiatric Division because of auditory and visual hallucinations and paranoid ideas resulting in refusal to eat. She received an intramuscular injection of 5 mg. of reserpine initially and 1 mg. by mouth the following day. Her blood pressure was 98/68 before the injection. It remained essentially unchanged until the third day when it was 88/58. The reserpine was withheld, but the blood pressure continued to fall and on the sixth day was 70/20. It rose spontaneously to 94/68 the next day. The patient had no complaints which could be attributed to the hypotension, even when the blood pressure was at its lowest level.

What was unusual in this case was the fact that the blood pressure continued to fall even after the drug was stopped.

There were several other patients in whom the blood pressure fell rather sharply, but in most of them it rose again spontaneously, and the reserpine could be continued, as in the following case.

Case 2.—A twenty-six-year-old male patient with acute undifferentiated schizophrenic reaction received 5 mg. of reserpine intramuscularly. Before the injection his blood pressure had been 110/72. After two hours it was 96/70, and an hour later it had fallen to 88/38. This fall was associated with pain in his head, back, and abdomen and a feeling of heat alternating with chilliness. He improved spontaneously within a few hours. The blood pressure rose to 100/60 and remained at that level with minor fluctuations. The reserpine was continued with 2 mg. by mouth daily for eighteen days.

In other patients it was necessary to withhold the reserpine or to use ephedrine or phenylephrine (Neo-Synephrine), as in the following patient.

Case 3.—A twenty-nine-year-old woman with acute undifferentiated schizophrenia had a blood pressure of 100/60 before she was started on reserpine, 5 mg. intramuscularly and 1 mg. by mouth every day. There was no essential change in the blood pressure until the fifth day of treatment when it fell to 60/30. The patient received 50 mg. of ephedrine intramuscularly, and the blood pressure rose again. A second drop occurred on the seventh day of treatment, this time to 68/48. When the reserpine was withheld, the blood pressure rose again. At no time did the patient show any symptoms which were due to the fall in the blood pressure.

What was said about this patient applies to most others. It was astonishing that the marked drop in the blood pressure was rarely associated with any symptoms. This may be partly explained by the observations of Hafkenschiel, Sellers, King, and Thorner[5] that reserpine did not decrease cerebral blood flow so that their patients had no complaints which could be attributed to cerebral ischemia.

Effect on the Mental State

Of 100 patients who received reserpine there were 12 with marked improvement, 18 with moderate improvement, and 28 with slight improvement; that is, 58 patients showed some degree of improvement, while 42 did not improve.

By "marked improvement" we mean a very definite change in the patient's behavior, as shown, for instance, when a patient in catatonic stupor begins to talk or loses his waxy flexibility; or when a patient with incoherent speech full of neologisms begins to talk coherently; or when an agitated, hostile patient becomes quiet and friendly. "Marked improvement" does not necessarily mean that the thought content has changed.

Between "marked improvement" and "no improvement," there are degrees which we called "moderate improvement" and "mild improvement." These terms mean here what they generally mean. Any more precise definition tends to obscure the fact that the evaluation of behavior and emotions is bound to be subjective to a certain degree. Suffice it to say that even for "slight improvement" there had to be a definite change, such as ability to sleep without sedation in a patient who previously slept poorly even with sedation. Whenever there was any doubt about the effect of the reserpine, the result was classified as "no improvement."

The number of cases studied is not sufficiently large to permit accurate statistical evaluation of possible correlations between the degree of improvement and such variables as type and duration of illness, age of patient, and blood pressure response. However, the results of this study are presented as factual observations.

The highest rate of improvement was obtained in the schizophrenic reactions (37 out of 50 patients).

Patients under the age of forty had better results than those over forty. Of 54 patients below forty, 38 improved, whereas only 20 out of 46 patients over forty showed improvement.

Patients with illness of less than two years duration responded better than patients whose first psychotic episode dated back more than two years.

A favorable response to reserpine occurred more often when the drug was given in the early stages of an episode.

There was no evidence of correlation between the therapeutic effect of reserpine and the blood pressure response.

On the basis of the total clinical observations, the authors were left with the impression that the best results were obtained in those patients with the most intense emotional reactions, especially tension and anxiety, regardless of diagnosis.

The results of treatment did not always depend on the dose of the drug. While it has been generally established that the reserpine doses used in the earlier clinical trials were too small, the optimal dose has not yet been determined. Our studies have shown that some patients improve with small doses, while others do not respond to much larger doses. We have no explanation for it. But this apparent inconsistency can hardly be surprising when we consider the complexity of the pathologic condition that we are treating. Obviously further studies will be necessary. Our main intention was to see whether reserpine could be of value in the short-term treatment of psychiatric patients. That it is of definite value can be seen from the following two case histories.

Case 4.—A forty-year-old woman was transferred to the Psychiatric Institute from the surgical service following a breast biopsy. Although the lesion was found to be benign, the patient was depressed and apprehensive and felt the nurses were conspiring against her. She was convinced something terrible was going to be done to her; she had learned of it "through the air." She spoke of vague hallucinatory experiences. She would often burst into tears and insist she had cancer. Her movements were slow, her appetite was poor, and she required sedation at night.

On her fourth day in the Psychiatric Institute she received 5 mg. of reserpine intramuscularly. This was followed by daily oral doses of 1 mg. About six hours after the injection she watched television and smiled occasionally, and that night she slept without sedation. The next day she was more relaxed and outgoing, talked rationally, ate well, and was able to help with the ward work. Two days later, however, she woke up during the night, was very agitated, said she was "tricked into coming here," and the "spirits" were telling her that something was going on. When the nurse gave her some milk, she asked whether a pill was put into it. Although she was still tense the following day, she soon began to relax again, and from then on she continued to improve. She conversed freely with the patients and nurses, laughed and joked with them, and seemed to enjoy their company. The nurses described her as "the life of the ward."

Blood pressure before the first dose of reserpine was 110/80 mm. Hg and remained unchanged. No side-effects were observed. The patient was discharged to her husband on the ninth day of treatment.

CASE 5.—A thirty-seven-year-old, white woman was admitted to the Psychiatric Institute of Grasslands Hospital in catatonic stupor. She was mute and motionless, stared into space, and showed automatic obedience to the point of waxy flexibility. Thirteen hours after her admission, she received 4 mg. of reserpine intravenously. Thirty minutes later her movements were more relaxed, and she went to the toilet spontaneously, while previously it had been necessary to toilet her. One and a half hours after the injection her face was flushed, and she indicated by gestures that her chest and throat were tight. Half an hour later, she also expressed it in words. She still talked little, usually only in response to questions, and she still had waxy flexibility. She ate fairly well and slept with 0.1 Gm. of pentobarbital sodium.

The next day the improvement was remarkable. There was no more automatic obedience. She talked freely and described her feelings in the following manner: "I was afraid of everything. . . Mostly of people. Everything looks different now. I'd like to take care of my children and husband the best I possibly can. . . Now I realize my husband doesn't bother with other women. He doesn't drink. He is good to me. . . One morning I heard somebody banging and I was afraid and ran away, but of course I couldn't run away from myself."

The improvement continued for four days during which she received 1 mg. of reserpine by mouth every day. On the fifth day she became agitated, paced up and down, then lay down and stared at the ceiling. When spoken to, she said: "I feel like nobody wants me. My husband doesn't want me. They are making fun of me. Doctor, am I a bad person? I am afraid." The reserpine was increased to 2 mg. a day. In the course of the day her anxiety diminished, and she slept well without sedation. The following day she was transferred to the State hospital in good condition.

TABLE I.—NUMBER OF SEDATIVE PACKS AND TUBE FEEDINGS IN RELATION TO RESERPINE

	Sedative Packs	Tube Feedings
Without reserpine		
Oct., 1950 to Mar., 1951	432	159
Oct., 1951 to Mar., 1952	709	155
Oct., 1952 to Mar., 1953	453	64
Oct., 1953 to Mar., 1954	621	107
With reserpine		
Oct., 1954 to Mar., 1955	95	12

In both patients one can recognize the sedative phase, the turbulent phase, and the beginning of the integrative phase. We could never observe more than the beginning of the third phase because the patients reached it at a time when they were ready for transfer to the State hospital.

While reserpine does not cure the patients of their psychoses, the drug is more than just a sedative. Its importance lies in the fact that it establishes contact between the patients and the outside world and thereby makes them accessible to psychotherapy. This is dramatically illustrated in the last case.

Not less striking is the effect that the treatment with reserpine has had on the general atmosphere in the wards. A remarkable change has taken place. The wards are quiet. Fewer patients have to be secluded. Tube feedings are rarely necessary. Less sedation is needed. Sedative packs are hardly ever used. To what extent sedative packs and tube feedings have been reduced is shown in Table I, which compares the number of packs and tube feedings during the first six months of reserpine therapy with the figures during the corresponding six-month periods in the four preceding years.

Summary

Reserpine was subjected to clinical trial in the short-term treatment of 100 psychiatric patients. Fifty-eight patients improved. While a change in the patients' thought content was rarely ap-

parent, the most striking effect of the drug was the relief of tension and anxiety, resulting in improved sleep, reduction of overactivity, and the establishment of contact with the environment. The wards became more quiet, there was less need for sedation and tube feedings, and sedative packs were practically eliminated.

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A Study of the Therapeutic and Clinical Effects of a Derivative of Pipendyl Methane

K. G. S. NAIR, M.D., AND HELMUT O. HAAR, M.D., NEW YORK CITY

(*From the New York Medical College, Metropolitan Hospital Research Unit, Welfare Island*)

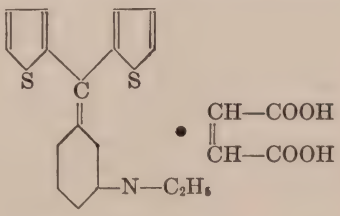
IN AN endeavor to find an effective non-narcotic antitussive agent, several substances have been evaluated in recent years. Pipendyl methane,* which is a di-thienyl derivative of Prantal methylsulfate, is one such non-narcotic compound which has shown promising results in clinical studies. As a result of extensive animal experimentation which demonstrated a relatively low toxicity and high antitussive activity of the pipendyl methane, it was decided to test this compound in human beings.

Pharmacology

Spoerlein, Makovsky, and Margolin[1] have studied the pharmacology of pipendyl methane in mice, rats, cats, and dogs. They found that faradically induced cough reflex was effectively blocked in cats by intravenous administration of pipendyl methane, and this action lasted from ten to fifty minutes. In mice and rats after artificial induction of pain, pipendyl methane was administered in doses of 100 to 375 mg. per Kg. body weight, orally as well as subcutaneously. These tests failed to show any kind of analgesic activity. Considerable antispasmodic activity was noticed in vitro as well as in vivo. In mice and dogs the ability of pipendyl methane to antagonize the action of acetylcholine was approximately equal to that of codeine. Pipendyl methane showed an action similar to Dilantin in combating electroshock seizures in rats. Following subcutaneous lethal doses in mice the compound produced stupor, hyperactivity followed by tonic-clonic convulsions, and in terminal stages depression.

Acute toxicity studies in rodents and dogs showed a good margin of safety. Chronic toxicity studies in mice with overdoses of the compound given as long as seven weeks failed to show any cumulative toxicity.

The structure of pipendyl methane is as follows:



Method and Procedures

In Table I are given some basic clinical data on

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* This material was supplied to us through the courtesy of the Schering Corporation under their code number Sch 2747.

TABLE I.—Clinical Data on 28 Subjects Receiving Pipendyl Methane

Subject	Age	Sex	Diagnosis	Concurrent Therapy*	Comment
1	56	F	Rheumatoid arthritis	Anodyne of salicylate class	Stage 4, functional class 3
2	42	F	Rheumatic heart disease	Digitalis	Inactive
3	63	F	Hypertensive cardiovascular disease	Rauwolfia	No malignant features
4	80	F	Generalized arteriosclerosis; hypertension	None	Benign; custodial care
5	78	F	Hypertensive cardiovascular disease; fractured hip	None	Custodial care
6	63	F	Cirrhosis of the liver	Vitamin supplements and high-quality protein diet	Convalescent, i.e., without signs or symptoms for several months
7	68	F	Hypertensive cardiovascular disease	None	Benign; custodial care
8	17	F	Psychoneurosis	None	.....
9	75	F	Diabetes mellitus	Insulin and diet	Controlled
10	78	F	Arteriosclerotic heart disease	None	Custodial care
11	73	F	Carcinoma of lung	Symptomatic	Severe cough
12	67	F	Generalized arteriosclerosis	None	Custodial care
13	34	F	Far-advanced pulmonary tuberculosis	INH, streptomycin, PAS	Severe cough night and day
14	46	F	Far-advanced pulmonary tuberculosis	INH, streptomycin	Severe cough night and day
15	31	F	Far-advanced pulmonary tuberculosis	INH, streptomycin, PAS	Severe cough night and day
16	29	F	Far-advanced pulmonary tuberculosis	INH, streptomycin, PAS	Severe cough night and day
17	27	F	Far-advanced pulmonary tuberculosis	INH, streptomycin	Moderately severe cough
18	31	F	Far-advanced pulmonary tuberculosis	INH, streptomycin	Severe cough
19	22	F	Far-advanced pulmonary tuberculosis	INH, streptomycin, PAS	Severe cough
20	32	M	Far-advanced pulmonary tuberculosis	INH, streptomycin, penicillin	Severe cough, large amounts of sputum
21	32	F	Far-advanced pulmonary tuberculosis	INH, streptomycin	Severe cough
22	34	M	Far-advanced pulmonary tuberculosis	INH, streptomycin, penicillin	Severe cough, large amounts of sputum
23	63	M	Far-advanced pulmonary tuberculosis	INH, streptomycin	Moderately severe cough
24	31	M	Moderately advanced pulmonary tuberculosis	INH, streptomycin	Mild cough
25	41	M	Far-advanced pulmonary tuberculosis	INH, streptomycin	Moderately severe cough with hemoptysis
26	55	M	Far-advanced pulmonary tuberculosis	INH, streptomycin	Severe cough, large amounts of sputum
27	32	M	Far-advanced pulmonary tuberculosis	INH, streptomycin	Severe cough
28	70	M	Far-advanced pulmonary tuberculosis	INH, streptomycin	Severe cough with hemoptysis

* INH, isonicotinic acid hydrazide; PAS, para-aminosalicylic acid.

28 subjects who were selected for this study. Of this total, 16 subjects were selected for the study of the antitussive effects of pipendyl methane. Each of the 16 patients suffered from far-advanced pulmonary tuberculosis with an associated chronic intractable cough. In all of these subjects the cough was of several or more weeks duration and had failed to respond well to the usual antitussive preparations. The second group of 12 patients was selected from the wards of the Research Unit of Metropolitan Hospital for a study of the toxic or untoward effects of the drug.

All patients were observed daily for any clinical evidence of toxic manifestations due to the administration of the drug. The blood pressure was recorded every second or third day. In each subject a determination of the hemoglobin, red cell count, white cell count, differential count, and the thymol turbidity was made prior to and on completion of the study. Urinalyses were done prior to the study, after a dosage of four tablets four times a day, and on completion of the study. The weight was recorded daily for all ambulatory patients who were being studied for toxicity.

In all subjects a careful record was kept of such untoward clinical manifestations as gastrointestinal irritation, changes in the habits of urination, disturbances of the central nervous system, and those suggesting any ill effects of any sensory organs such as the eye, ear, and nose.

In the subjects treated for coughing, care was taken to observe the quantity, color, and consistency of the sputum. The frequency of cough and its variations during both the day and the night were also recorded. A comparative study was made of the relative effectiveness of codeine and pipendyl methane in a group of five patients.

A placebo was used when necessary to check the reliability of the patients' subjective manifestations. The drug was given in capsules containing 5 mg. of active material. The placebo resembled the drug in appearance and size. In all patients two capsules, 10 mg., were given initially. Where beneficial effects were noted in three days, the drug was continued at the same level of dosage. For patients in whom no appreciable improvement was noted within a period of three days, the amount was raised to three capsules, 15 mg., four times a day. In no instance was the dosage raised above this level of 60 mg. a day, except in the case of patients who were being studied for toxicity. These received a maximum of 30 capsules or 150 mg. a day.

No fixed duration of treatment was followed. With patients in whom favorable effects were noted, the drug was given until the maximum therapeutic effect was obtained. In five subjects, after this objective was reached, the drug was maintained for two weeks. In those cases in which no appreciable effect was noticed, the drug was discontinued after a period of one week.

Toxicity

The drug was well tolerated by all patients. Even the highest dosage of 30 capsules, 150 mg., daily was taken without difficulty. No signs of irritability or other involvements of the central nervous system were noticed. Gastrointestinal symptoms were completely absent. The influence on the urinary system was the most important untoward effect noticed.

The urine of four patients turned slightly reddish on the fifteenth day of the study when 24 capsules of pipendyl methane were given for the third consecutive day. When the dosage was increased to 30 capsules a day, this discoloration became more intense and appeared for the first time in the urine of a fifth patient. The urine was still discolored one day after the drug was discontinued, but within forty-eight hours the reddish hue had completely disappeared.

On completion of the study a very mild albuminuria was found in six patients. In all these affected patients, the mild albuminuria had subsided three days after discontinuing the medication.

There was no definite correlation between the pH of the urine and the intensity of reddish tint, nor was there any direct correlation between the albuminuria and the degree of urinary discoloration. The urinary discoloration was believed to be due to the excretion of a red dye secondary to the large amount (150 mg. daily) of pipendyl methane. On titrating the urine with hydrochloric acid, the red color disappeared, while on titration with alkali (sodium hydroxide) the red color was intensified. The color reappeared when the acidified urine was titrated with an abundance of alkali. This is in accord with the observation that the reddish tinge became more intensified when the urine was standing for several days at room temperature. The cause of this phenomenon was probably associated with alkaline fermentation.

Four patients who were suffering from far-advanced pulmonary tuberculosis and who had copious sputum showed a peculiar bluish-pink color in the sputum after two days of therapy. This disappeared after three days. In connection with the use of pipendyl methane no significant changes in the morphologic blood picture, the blood pressure, or the thymol turbidity test were observed.

Therapeutic Responses

Table II lists the data on the response to the drug of the 16 patients to whom it was administered for therapeutic effect.

A good response to the drug was obtained in seven patients, as evidenced by marked reduction in the coughing at night, complete absence of coughing during the day, reduction in the amount of sputum expectorated, general feeling of well-being, and more restful sleep.

Excellent results, as shown by complete disappearance of the cough during the day as well as during the night, reduction in the amount of sputum to a point where it became almost negligible, and a general feeling of well-being with good sleep, were noticed in three subjects. Two of these three who showed an excellent response to therapy had considerable secondary bronchiectasis with large amounts of sputum. One subject was receiving large amounts of penicillin before therapy with pipendyl methane was started and continued to receive it concurrently.

TABLE II.—INDIVIDUAL THERAPEUTIC RESPONSES OF CHRONIC COUGHS TO PIPENDYL METHANE IN DOSE OF 10 MG. FOUR TIMES DAILY

Subject	Result*	Side Effects	Duration of Therapy (Weeks)	Comment
13	2	Burning sensation behind the sternum	6	Marked reduction in the quantity of sputum
14	2	None	6	Very favorable response
15	1	None	2	Cough reduced
16	1	Burning sensation behind the sternum	6	Cough reduced
17	2	None	4	Very favorable response
18	0	Burning sensation behind the sternum; bluish-pink color of sputum	1	Patient did not tolerate drug
19	3	Bluish-pink color of sputum	6	Very favorable response
20	3	None	6	Marked reduction in the quantity of sputum
21	1	None	2	Cough reduced
22	2	Burning sensation behind the sternum; bluish-pink color of sputum	4	Marked reduction in the quantity of sputum
23	0	None	1	No change noticed
24	0	None	1	No change noticed
25	2	None	4	Very favorable response
26	3	None	4	Marked reduction in the quantity of sputum
27	2	None	4	Very favorable response
28	2	None	1	Cough controlled

* Grading of response: 0, no relief; 1, slight improvement; 2, marked improvement; 3, complete relief.

Mild effects, as indicated by slight decrease in cough, no change in the amount of sputum, and a little more restful sleep than usual, were noticed in three subjects.

Little or no therapeutic response was observed in the last group of three subjects.

In six subjects to whom the drug was administered for at least six weeks with favorable effects, the drug was stopped suddenly to notice whether there were any withdrawal symptoms. None were observed, nor were there any signs of addiction.

All the subjects who showed a favorable response to pipendyl methane volunteered the statement that they slept more restfully as a result of its use. It was difficult to determine whether this effect was due to the disappearance of cough, which allowed more uninterrupted sleep, or to some inherent soporific effect of the drug itself. In any case this was one effect which was universally and consistently noticed in all the patients who responded favorably.

A comparative study of the effects of pipendyl methane and codeine was made in five subjects. In all of these the new drug was administered first. Four subjects showed an equally good response to pipendyl methane and to codeine. One subject was relieved by codeine but not by pipendyl methane.

It should be noted here that two subjects had hemoptysis and were given pipendyl methane instead of the usual codeine. Both responded well. In one subject the drug was stopped as soon as the cough subsided, and hemoptysis was controlled.

One important finding during therapy with pipendyl methane was the alteration in the quantity and consistency of sputum. Eight subjects had copious, thick, purulent sputum before starting therapy. After three days of administration of the drug, in all of the above subjects, the quantity of sputum was considerably reduced. At the end of therapy in all these cases the amount of sputum expectorated became negligible. The consistency of sputum became progressively thinner and thinner, and all the subjects said that it was "easier to bring up the sputum now." This was especially striking in the mornings just after awakening.

In five subjects the coughing spells reappeared soon after discontinuing therapy. In these patients a different regimen was adopted (roughly two weeks after stopping the original course of the drug) to ascertain the duration of relief after single effective doses. An attempt was also made to evaluate the effect of minimum dosages in these subjects. All of these subjects coughed more or less continuously both day and night. They were given 10, 15, 20, 25, and 30 mg., respectively. The method adopted was as follows: Each patient was given 10 mg. at 9 A.M. and 15 mg. at 3 P.M. on the first day. On the second day 20 mg. were given at 9 A.M. and 25 mg. at 3 P.M. On the third day each was given 30 mg.

TABLE III.—Individual Responses in 5 Subjects to Pipendyl Methane as Judged $2^{1}/_{2}$ Hours After Each of a Series of Graded Dosages

	Response* After Dosage of Pipendyl Methane (Mg.)				
Subject	10	15	20	25	30
13	0	0	0	2	3
14	0	0	0	1	3
16	0	0	0	0	3
20	0	0	1	2	3
21	0	0	0	1	3

*Grading of response: 0, no improvement; 1, slight improvement; 2, marked improvement; 3, complete relief.

in a single dose at 9 A.M. The patients were asked to note the effects carefully and report. The best results were obtained from doses of 30 mg. in all five of the subjects (Table III). However, four of them reported slight to marked effect at the 25-mg. level of dosage.

The duration of effect was observed in all five of these subjects after doses of 30 mg. for three consecutive days. All of them were given 30 mg. of the drug at 9 A.M. Relief was noted within one-half hour in four subjects and within one hour in the remaining individuals. The maximum effect was noted at 11:30 A.M. (that is, two and one-half hours after administration) in four of the five subjects. The fifth gave contradictory reports and so was considered unreliable. All the subjects reported that cough began to return by 2 P.M. and became marked by 3 P.M. Two subjects reported that this cough came back to them in all its original severity by about 3 P.M. Three subjects reported that although the cough reappeared, it was not so severe as it was during the afternoons when they were not getting the drug. From this it would appear that pipendyl methane usually starts acting in one-half hour and continues to act for six hours. It reaches its peak of effectiveness about two and one-half hours after administration.

Summary

A new antitussive drug, pipendyl methane, was subjected to clinical evaluation with a view to observing its therapeutic effect in 16 patients and its side-effects in 28 patients.

Of the 16 patients requiring an antitussive, three obtained excellent results, seven good effects, three moderate improvement, and three no benefit from the drug under conditions used in the present studies.

The most effective single dose was found to be 30 mg. The action of the drug lasted for a maximum of six hours. No withdrawal symptoms or addictions were noticed in any of the subjects.

Pipendyl methane compared favorably with codeine. A 30-mg. dose was found to be as effective as $^{1}/_{2}$ grain of codeine.

The best results were obtained in patients having large amounts of sputum. For this reason the use of pipendyl methane in cases of bronchiectasis and pulmonary diseases with suppuration may give promising results.

Five of the 12 patients who were observed for toxicity showed a reddish discoloration of the urine when 24 to 28 capsules a day were given. This effect was probably due to the excretion of ingested dye, inasmuch as it was not accompanied by any toxic systemic reaction.

No significant changes in urinalyses, red cell counts, blood pressure, or thymol turbidity tests were observed.

Three subjects noticed a pale bluish-pink discoloration of the sputum. This disappeared after three days. All the patients were remarkably free from any gastrointestinal or nervous symptoms.

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Liquid Nitrogen Therapy in Dermatology

After evaluating results in 512 patients Drs. Israel Zeligman and Harry M. Robinson, Jr., conclude that liquid nitrogen is the preferred method for treatment of all types of verrucae except plantar warts. Of the total, 456 (89 per cent) showed excellent results, while 56 (11 per cent) either did not improve or had recurrences. In the series were 12 patients with seborrheic keratoses all of whom responded well to treatment with the liquid nitrogen and showed an excellent cosmetic result.—*Bulletin of the University of Maryland School of Medicine, October, 1955*

Skin Tests in Certain Virus Diseases

Review of the Literature

ALAN H. SORRELL, M.D., NEW YORK CITY

(From the Beth Israel Hospital and the New York Medical College and Flower and Fifth Avenue Hospitals)

In 1945 Kane[1] reviewed the literature concerning skin tests employed in certain diseases of bacterial and viral origin. It has been demonstrated that certain of these tests may be employed in the determination of (1) a guide to level of immunity (or susceptibility), (2) a guide to prognosis, and (3) a guide to specific diagnosis.

Although complement fixation and neutralization tests yield more precise results, skin tests are desirable under certain conditions. This is especially true in installations (military, nurseries, etc.) where an extensive laboratory setup may not be present and where it is necessary to do an easy and rapid test without drawing blood.

Most of the tests are performed by introducing small amounts, usually 0.1 cc., of antigen intradermally. Sites are usually read in twenty-four to forty-eight hours, and the description of the reaction is determined by the amount of edema and/or erythema present. Immediate reactions, e.g., those test sites that yield an area of erythema and/or edema in ten to twenty minutes, most probably indicate a sensitivity to egg protein, which is the most common antigen vehicle used. Untracht and Ratner[2] have reviewed the literature which demonstrates that this is not a rare or unexpected occurrence. Generally, control sites are chosen on the other arm, and the material is identical with test material in all respects except for the absence of the inactivated specific virus.

The literature which was considered to be of interest from a practical, historical, or academic point of view is reviewed, and Table I presents a summary of these data.

Cat Scratch Fever (Benign Lymphoreticulosis)

The descriptive name "benign lymphoreticulosis" is used, as recommended by the *Lancet.*[3] The original name suggested by Debre *et al.*,[4] "maladie des griffes de chat," has not found universal favor, and it was suggested by Daniels and MacMurray[5] that a more suitable name might be nonbacterial regional lymphadenitis. After a study of 42 cases Mollaret and his colleagues[6] suggested that a more proper name might be benign lymphoreticulosis of inoculation since it appeared that only 26 of these cases were caused

TABLE I.—SUMMARY OF DATA FROM LITERATURE

Disease	Author	Date	Test Material	Interpretation of Positive Reaction
Benign lymphoreticulosis (cat scratch fever)	Rose and Hanger[51]	1945	Inactivated pus from lymph node	Diagnosis?
Infectious hepatitis	Henle *et al.*[9]	1950	Inactivated infected amniotic fluid	Immunity
Influenza	Beveridge and Burnet[10]	1944	Inactivated infected allantoic fluid	Allergy
Trachoma	Tricoire[14]	1923	Inactivated trachoma scrapings	Inconclusive
Herpes simplex	Nagler[23,24]	1944	Inactivated infected allantoic and chorioallantoic fluid	Diagnosis
Mumps	Enders[26]	1943	Inactivated infected monkey gland (at present inactivated infected chick embryo)	Immunity. Also as diagnostic aid when complications arise with no previous parotitis
Lymphogranuloma inguinale	Frei[11]	1925	Inactivated infected pus from lymph node (at present inactivated infected yolk sac; Lygranum)	Previous infection
Warts	Maderna[48]	1934	Inactivated infected condyloma acuminata	Diagnosis
Dengue	Sabin[49]	1952	Serum from human cases of active dengue	Diagnosis (in acute stage)

by the bite or scratch of the cat, while the remainder were caused by a variety of splinters, thorns, bone injury, etc. Some authors have demonstrated that the disease may enter via the upper respiratory tract.

The original material used for preparation of antigen was pus from an infected lymph node. Daniels and MacMurray[5] with the help of Dr. Charles Armstrong of the National Institute of Health have obtained a good test antigen from a 1:5 dilution of the macerated lymph node suspended in isotonic sodium chloride.

Mollaret was of the opinion that the specific virus was antigenically related to the psittacosis-lymphogranuloma group. This was disputed by Wilcox[7] who was able to obtain positive skin reactions to a variety of diseases, such as trachoma, nonspecific urethritis, psittacosis-lymphogranuloma group, and false positive reactions, with the test antigen provided him by Dr. Mollaret. Bedson *et al.*[8] have shown that definite cases of the disease gave negative Frei tests. Studies of group antibody titer and complement fixation seem to indicate that much remains to be accomplished before proof is elicited that the specific virus belongs to the psittacosis-lymphogranuloma group. It would appear, therefore, that a clear-cut positive skin test would clarify any vague illness manifested by fever and swelling of the lymph nodes.

Infectious Hepatitis

Henle and coworkers[9] prepared an antigen for skin testing from the amniotic fluid of a chick embryo which had been infected with infectious hepatitis virus and inactivated by ultraviolet irradiation. The antigen (0.1 cc.) was introduced in the forearm, and results were read in twenty-four to thirty-six hours. Any erythema, usually brown-red in color, and/or induration of more than 10 mm. in size was designated as positive. The results that were positive persisted for one week.

Tests were performed on groups of individuals who were ill or had been exposed to infectious hepatitis. All individuals (100 per cent) in this group gave a positive reaction. In an adult group which had been picked at random, positive reactions were obtained in approximately 39 per cent. In cases where a definite positive past history of infection could be obtained, the percentage of positive reactors was the same as that in random adult population. The authors believe that this large group of positive reactors probably denote unrecognized past infection.

Generally speaking, a positive skin reaction denotes immunity, whereas a negative reaction denotes susceptibility.

Influenza

In 1944 Beveridge and Burnet[10] performed skin tests with a heat-inactivated allantoic fluid of the chick embryo which had been infected with influenza A and B virus. A positive reaction was found in subjects similar to those described by Frei[11] for lymphogranuloma inguinale and by Andervant and Rosenau[12] and Smith[13] for vaccinia. The tests were performed on groups of adults and children, and results were compared with serum neutralization tests. The authors felt that the most reliable controls were allantoic fluid of the chick embryo that had been infected with Newcastle's disease.

On the basis of these experiments the authors were able to establish the following:

1. Skin tests were positive in most adults and some children.
2. The extent of the skin reaction bears no correlation to the serum antibody titer.
3. The results of the test were not dependent on the protein content of allantoic fluid; partial purification did not diminish the size of the reaction.
4. Allergic reactivity of the skin is probably shared by the respiratory tract mucous membrane; many persons, particularly adults, are to a degree allergic to the influenza virus (or its by-products), and this allergic state may be a factor of importance in relation to the production of symptoms and the resistance of the reactive individual.

Trachoma

In 1923 Tricoire[14] described an antigen that he prepared from trachomatous scrapings from the conjunctivae of patients with trachoma. After grinding and storing the material for two weeks at 37 degrees, it was then diluted to 1 per cent with tincture of iodine. The author believed that on the basis of his studies[15] and the work of Mikaelian[16] in 1927 and Belot[17] in 1930, positive reactions could be obtained in 68 to 70 per cent of florid trachoma cases, whereas older and scarred cases might be expected to give negative reactions.

Belot[18] in 1931 studied the results of skin tests in 400 trachoma cases and found that 47 to 63 per cent gave a positive reaction, whereas a group of 111 control patients gave positive reactions in 43 per cent. Of 38 luetic patients tested 26 gave a positive reaction (68 per cent). That same year Sedan[19] found that there was a group of positive reactors not only among cases of syphilis, but also among tuberculosis patients. However, in a later study the same author[20] found positive reactors in 61.5 per cent of 150 trachoma patients; 16 per cent of those tested gave a doubtful reaction.

It is probable that the large percentage of positive reactors in nontrachomatous individuals may be due to the fact that antigenic components are shared between trachoma and inclusion conjunctivitis,[21] benign lymphoreticulosis,[7] and the psittacosis-lymphogranuloma inguinale group.[22] For this reason the initial hope that this test might be a guide to diagnosis or level of immunity (or susceptibility) has not been upheld.

Herpes Simplex

Nagler[23] in 1944 prepared an antigen for skin testing by using heat-inactivated herpes simplex-infected chorioallantoic membranes of the chick embryo. Since this antigen produced a large number of nonspecific reactions, the author[24] later began to use inactivated virus which had infected the allantoic and chorioallantoic fluid. This was diluted 1:50 before testing. About the same time Rose and Malloy[25] began to use a heat-inactivated chorioallantoic fluid antigen, which they believed had advantages over Nagler's antigen in relation to the number of nonspecific reactions obtained. They compared their reactions with serum neutralization tests and also ran a series of parallel controls on 36 adults and adolescents (fourteen to sixty-eight years) and eight children (4.75 to twelve years). As was expected, the children gave negative results to test antigen, controls, and neutralization tests. In adults and adolescents an immediate response (ten to fifteen minutes) followed by the usual response (twenty-four to forty-eight hours) was noted in nearly half the cases. All those who had positive skin tests also gave positive serum neutralization tests. The immediate response may be described as reaction to egg protein which Untracht and Ratner[2] have described in their paper. There were two cases with negative antigen tests and negative controls but positive immediate reactions with positive neutralization tests, and the author believes that these must be considered as positive reactions.

In conclusion, the test may be of value under the following conditions:

1. Where facilities for neutralization tests are not available or where difficulty is encountered in drawing blood samples.
2. Where the primary diagnosis of herpes is suspected, but the primary symptoms may be gingivostomatitis, encephalitis, etc.

Mumps

Enders[26] in 1943 was able to obtain an antigen for skin testing by using a heat-inactivated infected parotid gland of the monkey; the normal monkey parotid gland was used as a control. He felt that the skin test might be a more practical approach as a guide to level of immunity or susceptibility, especially in large military establishments. The author also felt that this test might be of assistance in those instances of mumps encephalitis without previous glandular involvement.

Several years later a better test antigen was prepared by Habel[27] and Levens and Enders[28] in which the infected chick embryo was used. Comparative tests in groups of patients using the monkey parotid gland and chick embryo showed that positive tests were usually the same. However, when a group of 26 individuals who received typhus (yolk sac) inoculations were tested, nine of the 26 gave a positive control reaction. This problem of positive controls in egg-sensitive patients is a complicating factor, since not only do the positive control reactors confuse the test results, but it is possible to cause aggravating symptoms in the egg-sensitive individual (severe local reaction, eczema, asthma, etc.).

On the basis of further studies Enders and his group[29,30] were able to gather a series of observations which were of statistical significance and which demonstrated that reactions should be read in forty-eight hours and that those under 10 mm. in size should be considered negative. There were a considerable number of positive controls (28 of 49); however, if one waited forty-eight hours, these controls would be negative. The test itself has minor value in diagnosis since it does not become positive until five or more days after infection. On the basis of their studies the authors believe that about one third of all infected individuals were probably subclinical infections. In studying the size of the reaction in relation to morbidity, it was found that in those individuals with a reaction that measured 11 to 15 mm., chances of developing the disease were 1 to 13; 16 to 25 mm. in size, chances were 1 to 50, and with any reaction that measured over 25 mm. in size, the likelihood of illness was remote. In a large group it could be stated that the attack rate is low when 50 per cent or more of those tested gave a positive reaction. Work with accompanying complement fixation tests seems to indicate that a skin test may be used as a method of vaccination[31] since the complement fixation test antibody titers rose significantly after skin test. The same author in doing skin tests with a heat-inactivated infected chick embryo (periembryonic fluid) antigen elicited no untoward reaction (egg). He is of the opinion that repeat skin tests should not be performed since positive reactions might occur in a previously negative tested individual. The author estimates that positive skin reactions may persist fifty or more years on the basis of positive skin tests in older individuals.

It has now been established that the test may be of value under the following circumstances:[32-34]

1. As a guide to immunity or susceptibility. A positive reactor who has symptoms that may appear to be mumps may be released from isolation. Anxious parents of sick children may be convinced that they are immune.
2. Complications (orchitis, meningitis, etc.) with no associated parotitis may be classified etiologically if a previously negative skin test later becomes positive.
3. Individuals who have recently been exposed but who have positive skin tests will not contract the disease. Those who have negative skin tests should be considered susceptible, but no prediction can be made as to whether the disease will develop.

Lymphogranuloma Venereum

The historical background and mechanism of the skin reaction has been already noted.[1] The original antigen used by Frei[11] in 1925 was prepared from the diluted heat inactivated pus from a bubo of a patient with lymphogranuloma. In later attempts to find a more suitable antigen material from human beings[35] and from various animal tissues such as monkey brain, rabbit lung, mouse brain, guinea pig gland, etc.,[36-39] was studied. Because nonspecific reactions were not infrequent, these materials were discarded when Grace, Rake, and Shaffer[40] in 1940 reported results with an inactivated infected yolk sac of the chick embryo (commercially known as Lygranum). Controls are prepared from normal egg yolk sacs prepared in a similar fashion. Tests are read as positive after twenty-four to forty-eight hours if the area of induration measures more than 6 by 6 mm. The test usually becomes positive from seven to forty days after the appearance of the adenitis and may remain positive for life, but Koteen[41] believes that sulfonamide treatment may cause a reversal. The test may be considered to be reliable from the observations of D'Aunoy and von Haam,[42] who obtained 98.1 per cent positive results in infected patients, and Connor *et al.*,[43] who were able to obtain a positive history in all but 17 out of a total of 243 positive skin reactions.

In using this egg yolk prepared antigen there have been found a certain number of immediate reactions which, as has been previously stated, may be construed as a reaction to the egg protein. Occasionally one will obtain a negative Frei test in a clinically and otherwise definite case of lymphogranuloma inguinale. This may be due to a variety of factors, such as fever, menses, tuberculosis, syphilis, etc.[44]

Considerable work has been done which indicates that there is a common antigen.[45,46] Positive skin tests may be obtained from members of this group which includes, among others, psittacosis, pneumonitis, meningopneumonitis, etc. Mention has previously been made of the possible relationship between lymphogranuloma inguinale and benign lymphoreticulosis.[7] A reaction similar to that produced by the Frei test (inactivated virus) may also be produced by an intradermal test with active virus material in infected individuals. In these instances neither the skin or regional lymph nodes show signs of infection.[47]

Warts

Maderna in 1934[48] prepared an antigen for skin testing by using a saline suspension of desiccated warts (condyloma acuminata) with controls of physiologic saline. After passage through a Chamberland filter, both antigens were tested, e.g., antigen A (before passage through filter) and antigen B (after passage through filter). Sites were usually read twelve to forty-eight hours after testing. The author divided his positive reactions into papulous (5 to 8 mm.), pustulous, and torpid.

A total of 44 patients with diagnosis of condyloma acuminata was tested with antigen A. Of the total, 34 showed a positive reaction, divided as follows: papulous 26, pustulous four, torpid four, and negative five. There were five dubious reactions, mainly in new cases with a small number of warts. All controls were negative.

In another group of 22 patients with condyloma tested with antigen A, there were 11 positive reactions (five papulous, four pustulous, and two torpid). There were also seven negative and four dubious reactions. All controls were negative. When the seven negative reactions in this group were tested twenty days after original testing time, three were found dubious, and four continued to remain negative.

When tests were performed with antigen A, antigen B, and controls in a variety of skin lesions, such as psoriasis, lupus, lichen planus, acne, etc., the results were all negative. In a further group of 12 patients with condyloma acuminata, tests were performed using antigen A and antigen B on either arm. The results were as follows: There were four patients who had positive reactions to both antigen A and B; six cases were positive to antigen A alone, and two cases were negative to both. Controls in all instances were negative.

As a result of these observations the author believes that (1) there appears to be a parallel between strength of positive reaction and gravity of the case, and (2) skin lesions which might be mistaken for warts but are actually other dermatologic lesions give negative reactions with antigen A and B.

Dengue

A somewhat different type of skin test was used by Sabin[49] in the diagnosis of dengue. When 0.1 to 0.2 ml. of human serum containing dengue virus was injected intracutaneously, there appeared in three to five days local edema of 1 to 4 cm. in diameter at the site of injection in those patients who had dengue fever or were susceptible. This did not occur when the serum containing dengue virus was injected into dengue convalescents or when serum from active cases of sandfly fever was used.[50]

264 Lexington Avenue

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Management of Neuroses by the Internist and General Practitioner

HERBERT BERGER, M.D., F.A.C.P., STATEN ISLAND, NEW YORK

The neurotic personality, with his innumerable symptoms, his inability to recover a sense of well-being, his subsequent discouragement, and his profound effect on those in his environment, is in the forefront of medicine's and society's thinking. Advances in the science of our profession have resulted in spectacular increases in the length of our patient's lives with, however, no concomitant addition to the breadth. As a matter of fact, we might go even further. The lengthening has been achieved, as in the stretching of a piece of rubber, at the expense of breadth. Our predecessors in medicine had so few specific remedies and so little definitive surgical therapy that they were, of necessity, committed to the mastery of the art of practice. It is this facet which we have, in large part, sacrificed to the gods of Science. This offering has taken with it our ability to treat successfully the larger part of our clientele who have no need of our scientific accomplishments.

There are few areas in the complexity of modern medical hierarchy where the concept of the whole person is so necessary as in internal medicine. Its importance here probably transcends even its niche in general practice where it is the very foundation of that all-important branch of our profession.

There may have been a time when the internist consulted with the various practitioners representing the many disciplines in medicine primarily about the purely organic internal diseases. If after appropriate study a functional ailment was recognized, its further management was placed under the egis of a psychiatrist or rereferred to the general physician. But, now, many if not most of our referrals emanate from other specialists who, since they have served no apprenticeship in general medicine, are neither interested in nor qualified to care for these patients. Furthermore, for reasons to be described, the family doctor may not care to manage these difficult problems. We cannot nor do we wish to avoid our responsibilities in this direction.

There is no longer an opportunity to choose whether or not we will care for these people. We can't afford to ignore them. There are too many neurotic personalities and too few psychiatrists to treat them. In a survey of 1,000 consecutive new patients seen over a period of several years in the practice of internal medicine, 72 per cent were found to be suffering entirely from functional diseases, and if the truth be known, the remaining 28 per cent possessed a large functional component in their otherwise organic illnesses. The well-trained general practitioner of today with his extensive background in clinical science rarely needs the help of an internist in solving a cardiac, pulmonary, hepatic, or renal problem. These men are entirely competent to deal with most problems in allergy and gastroenterology as well. By and large the patient whom they fail to cure is the individual whose illness is related to situations of stress in their environment or to their inability to solve life's problems.

Actually the general practitioner who sees such a patient frequently recognizes that the problem is, in part or in whole, psychosomatic, but he does not attempt the therapy of this patient, primarily because it is time-consuming or because he feels "that there is nothing wrong with her." In many instances he may feel that an admonition to the effect, "It's all in your head," or "This is due to your imagination," or "It's only your nerves," is sufficient to calm the apprehension of such a person. These patients may be advised to "forget it," or to "keep a stiff upper lip," or "don't give in to yourself," or other suggestions of this nature. These discussions are usually fruitless because this type of individual is unable to adapt himself to the problem in his environment or has found himself incapable of resolving a frustration. Actually had the patient been able to do this alone, he would never have developed seemingly organic symptoms, nor would he have consulted a physician in the first place. To advise such a patient to "forget it" is about as ridiculous as ordering a legless invalid to run a race.

This sufferer seeks consultation with the internist either because the referring physician had been unable or unwilling to relieve his anxiety or, more likely, because one practitioner after another fails to relieve his symptoms. There follows eventually the visit to the diagnostician with the hope that he may determine the cause of the illness and perhaps eradicate it. It is only after we fail them that they fall into the frequently unscrupulous hands of the cultist. The general practitioner, known intimately by the other members of the patient's family, may not be considered as a safe repository for intimate problems for fear that they be disclosed to others. The neurotic may desire to avoid judgment by an old family friend. The consulting internist's position, therefore, is advantageous in this situation.

I first started to practice medicine in a semirural community. During ten years in general practice the certainty that I lived in a belt of inbred neurotics became firmly fixed in my mind. Coming from a large urban center myself, I felt fairly certain that the residents of my community had intermarried (with some poor stock to begin with) and that this explained the large number of functionally incompetent individuals whom I met. It soon became apparent that I was inadequately trained to meet the demands of these unfortunate people. A seemingly satisfactory undergraduate schooling and several years of intern and residency training had not prepared me with any actual knowledge for their management. Now, after an equal number of years in the practice of internal medicine, I find that I see even more neurotic personalities. Consequently, it seems proper to emphasize that the undergraduate, intern, and residency programs, even now, frequently fail to give sufficient consideration to this large segment of the sick population. Even inpatient and outpatient hospital appointments offer little training to the practicing physician in their care.

This is a long introduction to the subject at hand, but perhaps it is still necessary to justify the inclusion of this subject in a journal devoted primarily to general practitioners. I am sure that physicians who practice outside of institutions are aware that many of the papers which we read concern situations which we may see only infrequently. But should anything of worth come from a discussion of the neurotic personality, each of us may use this information tomorrow.

After my entrance into the field of internal medicine, it became even more imperative that I learn something about this disease. Consequently, I spent considerable time in acquiring psychiatric interview technics and in learning to listen rather than to speak to these patients; to give more of one's heart to them than of one's brain. These methods served to be of some value in many instances, but all too often they failed. Gradually I have come to recognize that these individuals never wish to be told that they are *just* nervous. The word "imagination" is anathema to them for they are certain that they are seriously ill, and they expect and demand that the physician treat their disease with considerable respect. It is often necessary to medicate these people. Placebos may do, but more often one must attempt something to relieve pressing symptoms rather than to cure them, so that the patient may maintain his self-respect in his own opinion that he is actually suffering from an organic illness. It is frequently necessary to administer some form of therapy at the office in order to induce these individuals to return at frequent enough intervals so that a rapport may be established between the practitioner and his patient. These visits give one an opportunity to learn something of the personality. As the patients become more friendly, they may begin to unburden themselves about intimate problems which they dare not discuss with a stranger.

Therefore, symptomatic therapy, interview technic, and placebo injections were sometimes used concomitantly. With the advent of these changes in the attack on the problem, the results became still better, but they continued to fall short of what we might expect in the treatment of pneumonia or other diseases which are amenable to more definitive forms of therapy. Rarely can we shed the burden of these patients by referral to a psychiatrist. The patient is often reluctant to admit even to himself that he is mentally sick, whereas he can continue to believe that he is organically ill as long as he visits the office of a nonpsychiatrist. This seemed important to their well-being, and while I am sure that my friends in psychiatry may take exception to this point of view, I found that referral of psychosomatic and neurotic patients to psychiatrists was not a happy solution nor one that was easily accomplished early in their treatment. When the time is finally propitious, it is often no longer necessary. Such patients suffer great psychic trauma when visiting a psychiatrist. They become ashamed of their illness. They dare not mention it to their friends for fear they may lose their position in the community or even lose their livelihood. Moreover, many are unable to bear the expense of an extended psychoanalytic or psychotherapeutic program. I do not mean to imply that the actual nature of the illness is not ultimately explained to the patient. This is always done at an appropriate moment when he can accept the truth with equanimity.

Before going into definitive medical technics' it seems appropriate to say a few words about methodology in the approach to such patients so that we may help them understand the nature of their illness. They are usually more than intelligent. Their complaints must be explained to them carefully and sincerely so that they may comprehend why a severe stomach-ache or an attack of diarrhea is due to nervousness and not due to ulcer or cancer or some other dread disease. I find this most easy to do with the use of homely analogies. For example, if one were to point to an electric lamp in the office and say to the patient, "Let's assume that that lamp were to go out this moment. What would you say caused the trouble? A faulty bulb? The wiring in the lamp itself? A fuse? The street electric wires? The generating plant itself? Now all of these possibilities may be responsible for the failure of this lamp to light. Note that the bulb itself is not the only possible cause. Then isn't it just as possible that a pain in your stomach might be due not only to a disease of your stomach but also be due to disease in the nerves leading to your stomach or due to an illness or derangement in the brain itself?"

This little story usually will illustrate the point that needs to be made over and over again to these patients. "You have come to me with a pain in your abdomen. This pain has been investigated carefully by previous physicians and by myself. We find no evidence of a serious disease in the stomach, but we do find evidence, either in hypermotility or in hypersecretion, of a nervous disorder. This abnormality can derange the workings of this organ just as effectively as an ulcer or a cancer. What you feel is *really* there. You aren't imagining the pain. This discomfort is just as severe as the pain of any other disease. However, the difference between the pain in your abdomen and that of an individual with an ulcer lies in the cause. His trouble is actually in the stomach. Yours is due to a disturbance of the nerves."

It is important to hasten to explain at this point that this is *not* insanity and that nervous individuals never become insane. The patient should be made to realize that the brain seems to function on two levels, one having to do with reason and the other doing with emotions. These two functions are not related. Insane people do not have functional complaints and, conversely, nervous people do not become lunatics. There is a large element of truth in these statements, and they are usually readily acceptable. One cannot emphasize too strongly that this must be done at great length and must be illustrated appropriately so that the patient can completely understand it.

To the intelligent patient this now brings up the question of causal relationship. "What had caused me to get into this condition?" At this point it becomes necessary to explain that there is a considerable difference between those situations that are related to organic illnesses and those which are the causal problems in functional disease. In organic disease it is rarely possible to effect a cure without discovering the cause and removing it. In functional disease the converse in often true. The etiology of functional complaints is often multiple and frequently obscure. It is often impractical, if not impossible, to ascertain all of the causes, and even after they have been learned, it may be difficult to eradicate them. For example, a patient who has acquired dysentery from the water in an infected well can be kept from the cause by sterilizing the water, and the organism in his body may be killed with appropriate chemotherapy. The patient who is utterly frustrated because the boss's son was promoted over his head has a cause for his illness which cannot be removed by any medicament.

This little tale illustrates the problem. Those practitioners who are engaged in the art of psychoanalysis are, of course, interested in ascertaining basic causes, and I have no fault to find with this technic except that it is impractical for most psychosomatic patients. In the first place, there aren't enough analysts. Second, it takes too long. Third, it costs too much. Fourth, the analytic procedure often uncovers situations that might better be forgotten. Therefore, this apprehensive and thoughtful individual must understand that his illness must be treated regardless of the cause. Causes for frustrations and difficulty surround us constantly. Even a hermit living in a cave entirely by himself and away from most of the problems of life is, no doubt, beset by difficulties at one time or another that seem utterly frustrating. Therefore, the difficulty is not so much that of eradicating a cause but rather one of making the individual live so full and so rounded a life that he develops within himself the strength to face his problems, beat down the ones that can be overcome, and accept gracefully those with which he must make a compromise.

It is imperative that the patient realize that he is adept at compromise and actually uses this technic many times a day in his usual living. Therefore, it requires only an extension of this already present characteristic to the point where he can accept those situations, defined or not, which at this moment are responsible for his symptoms. For example, one may aptly illustrate this point thus: Your patient has bought the suit he is now wearing. The shop which he visited probably had in its racks many garments much more costly than the one he bought. Yet he purchased the one that he could afford and was grateful and happy about it. He doesn't spend his days in endless sorrow because he couldn't buy one for many times the purchase price of the one he now possesses. In other words, he has made a successful compromise. It is quite probable that many if not most of his acts in the course of the day require the use of this ability. He will then be encouraged when he recognizes that he possesses within himself this characteristic so necessary to effect a cure.

The patient becomes further assured as he understands the nature of his disease. To round out his knowledge of nervous ailments I like to explain that people have varying capabilities to withstand nervous strain just as they may vary in their ability to withstand physical strain. None but a trained athlete could successfully pick up 500 pounds and hold it above his head. Similarly, each of us can carry only a certain amount of nervous load. Exceed it, and symptoms appear.

With this concept in your patient's mind the cure of nervous strain then resolves itself into only three possibilities:

1. Remove some of the causes for strain. This we have already discussed at some length. It is rarely possible.

2. Build up the nervous system so it can stand more strain. This is accomplished in the same manner that one improves his physical prowess, by exercise and practice. In the case of nervous illness it is done by never giving in to functional symptoms. Once the patient learns that his headache is functional, he may never let it interfere with his planned routine for the day. He should no longer retreat in fright over the appearance of each symptom but recognize that it is nervous, not organic, and that it will disappear. As he stops surrendering to symptoms, he practices self-control, acquires self-respect, and becomes a more responsible, stable, mature personality.

3. Remove the nervous tensions within him. This he does by the acquisition of new interests. Here is the place for the hobby, an extra vocation, or an avocation. It is the physician's duty to help his patient find more suitable work; painting, music, study, radio, camping, etc.; directing the patient into an activity commensurate with his skills, interests, and finances. Study is probably the most successful solution of this problem.

Finally, the patient will earn considerable self-esteem if he can be shown that his nervousness is really an asset. This can be done by defining this characteristic as pentup energy misdirected into the production of abnormal activities in the various organs of the body with the consequent appearance of unpleasant symptoms. If all this energy can be directed into productive work, the patient will no longer squander his abilities in fruitless worry but may well become a more useful member of society. Explain to him that a fire may heat a home, drive a ship across the ocean or a locomotive across the country, but that same fire in his living room will burn his house down. Now, then, if all his energy can be channeled into useful work, an individual might well advance himself materially. Actually your patient will be gratified to know that he has a characteristic possessed by all successful people, abundant nervous energy. They use it productively. He has been wasting his, thus far, but as he acquires these new technics and puts his nervous energy to work for him, there is no knowing to what peaks of happiness or success he may rise.

At this point the patient may ask why he cannot solve this himself. Why does he need a doctor if he isn't sick? This is an encouraging remark since this type of patient will frequently be self-sufficient enough to resolve his own difficulties shortly. However, they usually require some therapy, and the necessity for this is justified by the explanation of their need for perspective. Insight into one's own problem is a characteristic of very few people. Your patient can't read a card held against his nose; he can't even see what it is. If it is held a foot away, he identifies it as a card and can read it easily. Similarly your impartial detachment from his problems makes it easier for you to see and recognize his difficulties than for him.

Medications may help to accomplish this by helping the apprehensive introspective patient to unburden himself. One of the most successful technics in our hands has been the use of intravenous mephenesin. This material is a muscle and nerve relaxant. The tension of these patients seems to melt away as it is infused. It is probably similar in effect to the technic of narcoanalysis practiced with intravenous barbiturates. However, it does not make the patient sleep, nor does it discommode him unduly. The most that may happen is the appearance of vertigo if the material is infused too quickly. On rare occasions nausea appears. This can be overcome by the addition of 50 mg. of chlorpromazine to the infusate. Age is no contraindication. Indeed the material has been used in the management of many geriatric psychosomatics which comprise an ever-increasing proportion of our patients. Since it takes thirty minutes to infuse the medication, the physician has a perfect opportunity to establish a close relationship under the best possible circumstances with his patient.

The patient is pleased that the doctor is *doing* something for him and not just talking to him. The latter is the complaint made by many patients who have received straight psychotherapy. "He didn't treat me or do anything. He just let me talk." The talking is, of course, the really essential part of the therapy. Nonetheless, patients resent it without medical treatment. In addition, the patient is relaxed and uninhibited. He may often speak of matters very closely held inside him. Foremost among these is the fear of disease, poverty, impotence, and loss of attractiveness to the opposite sex. These can often be explained to the patient's satisfaction, affecting a rehabilitation even more quickly. Examples of this are so numerous in the practice of all of us that they hardly bear repeating.

The experience at the clinic with this material includes 1,880 infusions administered to 94 patients. The 100-cc. ampul of mephenesin containing 2 Gm. of material may be injected directly, but it tends to produce chemical thrombophlebitis, obliterating veins which may be necessary for future therapy. Furthermore, it is difficult to inject 100 cc. slowly enough to prevent vertigo and/or nausea. Therefore, we have diluted it with 300 cc. of normal saline for the noncardiac and 5 per cent dextrose in water for the cardionephritic. In those individuals who have poor veins the medicament may be administered by clysis, diluting it then with 300 cc. of 0.1 per cent procaine to obviate local pain and adding one ampul of 150 turbidity-reducing units of hyaluronidase to facilitate absorption. Either technic works satisfactorily, and the infusion is completed in thirty minutes. Highly salutary results were obtained in 87 of these patients, and I have the feeling that our failures are evidences of missed diagnosis where we were dealing with psychotic rather than neurotic people.

For medications to use at home we have employed prescriptions, including, as they became available, phenobarbital, reserpine, and chlorpromazine. The Rauwolfia alkaloids in 1-mg. doses are very effective. In hysterical or highly agitated people the chlorpromazine in 50 to 100-mg. doses has been infused with the above material.

Case Report

The patient, C. K., was a thirty-two-year-old, white male with gastric distress. His symptoms will be described chronologically. Actually the information was obtained irregularly as he unburdened himself while under therapy. His symptoms first appeared eight years previously when he returned from the war to find that his wife had left him. They had had two children, one of whom had died of meningitis while they were living on a naval base. He had strong guilt feelings about the death of the youngster since he economized by using "service doctors instead of regular ones."

He returned to college and shortly after graduation met and impregnated a girl who, he felt, was considerably below himself socially. He married her at once "because I am a gentleman." The wife developed tuberculosis, necessitating a deforming chest operation which he found difficult to accept. "The only thing she had was her looks and she's lost them now." She seemed to have a "crush" on many of the male patients in the sanitarium and on the doctors there.

Their only child, the cause of the marriage, succumbed to an undiagnosed illness at three. He reproached himself for not staying at home from work on the day of the child's death. "Thought more of a few dollars than I did of my son."

His work had been going poorly, and while his wife was in the sanitarium, he resorted to masturbation which he now felt was apparent to all who saw him. "Everyone knows of my bad habit."

His childhood was unhappy; he was an only child of a demanding, hypochondriac, hypertensive mother and a submissive father who did his best to stay out of the house. The maternal grandmother was a barbiturate addict.

His gastric symptoms were so severe that he had many studies in various institutions and had been operated on three times with no relief. His gastric complaints were unchanged, even after all the surgery, medication, and diet.

Therapy consisted of 32 infusions, during which he revealed the above history. His fears, including the "dire results" of masturbation, were explained. He realizes now that most males masturbate and no longer feels himself a pariah. He knows that no one but himself will ever be aware of this habit. His marriage is working better after several joint sessions with his wife. He gave up his job to go back to school for a graduate degree and is putting in part time in another place where he is considered promising. The return to school has siphoned off much of his excess nervous energy, and he feels himself protected and secure. His stomach symptoms have disappeared. He has had no diet or gastric medicaments. He continues to come in once a month.

There seems little doubt that the crude psychotherapy was responsible for the good results. However, he was unable to submit to this type of treatment in other hands as well as in our own without the use of the mephenesin technic.

Comment

Our seven failures were all psychotic patients whom we would never attempt to treat today. All of them had had or have since had shock therapy and/or sanitarium care. We do not attempt the therapy of obviously psychotic people with this technic.

In conclusion, not all of these people can stay well without help. There is no doubt that a transference is made to the practitioner. As the patient improves, the treatments are given further apart with the hope that the patient may soon stand without the crutch of the physician's personality and medication. Many neurotics succeed in doing this as they gain insight and find expression for their nervous energy in creative work.

Unfortunately some seem unable to do this entirely. In our present state of knowledge these individuals may be compared to the diabetic who can survive only with insulin. Such a patient is competent, productive, and happy only with supervision and treatment by the physician at some interval. The worst of these neurotic patients require reassurance weekly; others can do well with visits at intervals up to several months.

Summary

In a study of 94 severely incapacitated patients, intravenous mephenesin has helped us to establish sufficient rapport with them that cure or control of all presenting symptoms was obtained in 87.

Neurotics comprise a large portion of our population. They can be rehabilitated if we are willing to give freely of our time and ability and, primarily, of our interest. They can be made happy and productive.

The improvement of such a patient often redounds to the benefit of his family and of his community since these patients usually have considerable ability. Finally, cure of these people is a source of infinite satisfaction to the conscientious physician who has had the happy experience of assisting a miserable, complaining, fearful, and unstable person to achieve a more mature personality.

7440 Amboy Road

Some Americans need hyphens in their names because only part of them has come over.—Woodrow Wilson, *Address, May 16, 1954*

Anaphylactic Shock from Oral Penicillin

STUART E. KROHN, M.D., F.A.C.P., UTICA, NEW YORK

With more and more emphasis on the use of oral penicillin,[1] especially in regard to mass prophylactic control of streptococcal diseases,[2] physicians must be on the lookout for the more alarming types of serious allergic reactions from this route of administration. In view of the frequent reports of serious to fatal reactions from parenteral penicillin,[3] it is little wonder that oral penicillin, which is of proved value, is coming into wider usage and favor. In addition to what is generally assumed to be a relatively large measure of safety from untoward reactions, its ease of administration makes its use further appealing. Keefer[4] in 1951 stated, "Penicillin by mouth causes few or no disagreeable side-reactions and the incidence of hypersensitivity is less than when it is exhibited intramuscularly."

In the past several years numerous case reports[5–8] have pointed out various types of dermatoses, urticarial reactions, and serum sickness from penicillin, either in the form of lozenges, tablets, or ointments. Leibowitz[9] in 1950 reported a case of severe constitutional and anaphylactic reaction following repeated aerosol penicillin inhalation for the treatment of asthma. Carter and Coke[10] recently reported on the occurrence of anaphylactic shock following the application of penicillin ointment to the eye.

The problem of severe or anaphylactic-like reactions to oral penicillin thus becomes a timely one and appears to warrant careful appraisal. Although Brown[11] states, "Inquiry among my colleagues shows that everyone has seen anaphylaxis following oral administration of penicillin," a review of the literature on this aspect of penicillin sensitivity reveals only very limited references or remarks on this rather practical and important problem.

In 1946 O'Donovan and Klorfajn[12] used oral penicillin in an attempt to desensitize a soldier who previously had had an anaphylactic reaction to intramuscular penicillin. They reported that this soldier experienced a sensation of burning about the face about one or two hours after taking some oral penicillin, and edema and redness of the face appeared an hour later. Although this type of reaction is not of the anaphylactic type, it is similar to initial symptoms which may be noted in the early state of anaphylactic pattern. Beckman[13] mentions the nonfatal appearance of anaphylactic shock from oral penicillin in an individual having previously received intramuscular penicillin. Welch *et al.*,[3] in a survey of anaphylactic reactions to penicillin, report on a fatal instance of anaphylaxis after oral penicillin. This patient, who also had had previous injections of penicillin, died an hour and ten minutes after the ingestion of an oral tablet of dibenzylethylenediamine penicillin G. Although a number of Anacin tablets had been taken previously, Welch[14] feels that, "Although the preponderance of circumstantial evidence indicates the fatal case following oral penicillin was probably due to the penicillin tablet, there is no possible way that the Anacin tablet taken at the same time can be eliminated as the possible cause."

Pierce's report[15] of an anaphylactoid reaction after oral penicillin is the only article found to date which focuses attention on this specific problem. This is a brief report of a twenty-seven-year-old man who had frequent bouts of dermatophytosis of the feet and who received intramuscular penicillin on several occasions for recurring furunculosis.

On prescribing oral penicillin for subsequent furunculosis a previous occurrence of a "black-out" with cold perspiration after intramuscular penicillin was overlooked. A few minutes after the oral ingestion of 600,000 units of powdered penicillin in water, the patient experienced a severe and alarming anaphylactic shock which fortunately was reversible with appropriate therapy.

Within a period of less than a year we have seen three patients who suffered anaphylactic shock following oral penicillin.

The dramatic and alarming picture of such an event occurring after such a commonly used oral antibiotic, generally assumed to have wide margin of safety, warrants the presentation of these three cases, in order to emphasize this subject more strongly than has been done previously in the literature.

Case Reports

Case 1.—On February 11, 1954, M. C., a twenty-eight-year-old, white, married woman, was seen with complaint of a sore throat of about one day duration. Aside from a temperature of 100 F. the physical examination was negative. No evidence of tonsillitis could be seen. Localization was somewhat below the usual tonsillar area and was explained on the basis of an inflammatory process of the posterior lingual tonsils.

About one month prior to this illness the patient was given an intramuscular injection of penicillin because of a superficial laceration of the skin. Within a day or two after this she developed considerable swelling in the gluteal region where the penicillin had been administered. There was no knowledge of allergy in her past or family history. Because of the reported appearance of some type of local allergy to penicillin, I refrained from giving her intramuscular penicillin that night but left a prescription for oral tablets of 200,000 units of penicillin, feeling that this would be reasonably safe. The next morning, about twenty minutes after the ingestion of the first tablet of penicillin G, she felt a generalized pruritus, especially marked around the eyes, scalp, and toes. Then, because of dizziness and weakness, she "flopped into bed" and was soon seized with a severe pain in the right lower quadrant and urgency of bowel movement. On attempting to get up to go to the bathroom, she collapsed on the floor and was found in an unconscious state. She was seen within a relatively short time by a physician who lived in the same apartment house. He reported her as displaying shocklike state with cool and clammy extremities and a blood pressure of 80/40. Because of her alarming state she was sent to a local hospital. After receiving intravenous Dextran solution and injections of an antihistaminic preparation, her condition rapidly improved. For the next several days she ran a mild febrile course with a posterior pharyngitis which responded to a sulfonamide preparation. Outside of showing a moderate leukocytosis the laboratory studies were not unusual, and there was nothing else of note in her subsequent course. After a few days in the hospital she was discharged feeling quite well.

At a later date she was requested to have skin tests with penicillin, but being pregnant at that time and knowing that she had had a serious reaction from a penicillin tablet, she refused this type of study. However, her blood was taken several months after her anaphylactic shock and studied for passive transfer for sensitivity to penicillin. Dr. William C. Woodin, an allergist, reported a slight to plus or minus positive passive transfer test to penicillin G in this case.

Case 2.—This forty-two-year-old, white, married woman with rheumatic heart disease was first seen in consultation in April, 1950, because of an allergic bronchitis and pneumonitis. After recovery from this illness she was advised to use tablets of oral penicillin when she had a recurrence of respiratory infection. She had had rheumatic fever at the age of twelve, but her first knowledge of heart trouble dated back to the age of twenty-two. There was also a history of minor allergies with a tendency to allergic bronchitis with respiratory infections.

On August 12, 1954, she was admitted to a local hospital because of sudden collapse with unconsciousness after taking two tablets of penicillin G for what she thought was a respiratory infection. At a later period I obtained the history that about five minutes after swallowing two tablets of penicillin, she stated that, "my throat felt as if it was choking and was crowding my breath off and shutting off my breathing." She had at that time a very sour, bitter taste in her mouth. On attempting to get out of bed, where she was lying during this time, she collapsed and was unconscious for several minutes. On regaining consciousness she suffered from shortness of breath and a sensation of anxiety and tension. In the past several years she had had intramuscular and oral penicillin on rather frequent occasions, mainly for respiratory infections, but without knowledge of untoward reactions from such penicillin administrations. Her slight or moderate degree of cardiac failure was easily controlled by digitalis and diuretics.

On physical examination the patient was acutely ill, conscious, and dyspneic with respirations of 30. Blood pressure and pulse were unobtainable; heart rate 90; lungs clear to auscultation. The heart was slightly enlarged with the left border dullness just outside the midclavicular line and the typical murmurs of mitral stenosis with a regular rhythm present. Within the next hour she responded to therapy with epinephrine, 0.1 cc. intravenously and 0.2 cc. subcutaneously; Benadryl, 10 mg. intramuscularly, and a barbiturate for sedation. Blood pressure at the end of that period was then obtainable at around 60/?. The next morning she looked surprisingly well and was practically asymptomatic with a blood pressure of 80/40 and pulse 80. Within a day she was feeling sufficiently well to be discharged from the hospital. In October, 1954, a scratch test was done with 0.1 cc. solution of penicillin G containing 1,000 units of penicillin per cc. or about 100 units for the scratch test. Within a few minutes a wheal appeared with pseudopodia about 1.5 cm. in diameter with an erythematous zone of about 5 cm. Two drops of this solution were placed on the patient's tongue and swallowed, but no symptoms or signs of a reaction, either local or constitutional, occurred. A passive transfer reaction was recorded as 2 plus to penicillin G and O.

Case 3.*—On September 24, 1954, G. G., a twenty-eight-year-old truck driver, was advised to take penicillin tablets because of an acute maxillary and frontal sinusitis with a temperature of 102 F. Immediately after swallowing one penicillin G tablet of 200,000 units, he felt a burning sensation in his mouth and throat and over his upper abdominal region. He became nauseated, vomited a small amount of watery gastric contents, and experienced difficulty in breathing.

He was admitted to a local hospital in a severe state of shock, and the attending physician was unable to obtain a blood pressure reading or pulse. He was thrashing about and was dyspneic, cyanotic, and cold. The lungs were clear to auscultation; the apical rate was about 120 and regular; no enlargement or murmurs of the heart were made out, and the remaining examination was within normal limits. He gradually responded to adrenalin, 1 cc. subcutaneously; Benadryl, 40 mg. intramuscularly, and oxygen inhalations. Later, ACTH was given. About two and one-half hours after his shocklike state he appeared to rally and became somewhat more alert with a blood pressure of 80/?. He continued to improve and was asymptomatic after several hours. He was discharged two days later, feeling well and with no apparent residual findings or complaints.

I was extended the privilege of examining this patient on November 4, 1954, and noted in his history that at the age of thirteen he was troubled occasionally with a considerable degree of epidermophytosis of the feet and was under the care of a dermatologist for a number of years. In addition, he had received a considerable amount of oral and intramuscular penicillin in the past few years for recurrent bouts of acute sinusitis. He recalled an apparently forgotten episode during the winter of 1954 when, within a few minutes after taking one tablet of penicillin, "he broke into hives" which lasted for about fifty minutes. He stated that on September 24, 1954, when he went into collapse following the taking of a tablet of penicillin, the burning symptoms in his throat came on almost immediately after swallowing the tablet. His past and family history revealed no knowledge of allergies except the occurrence of urticarial reaction mentioned above. He had had an appendectomy in childhood and was always well. Physical examination was entirely within normal limits with a blood pressure of 124/80.

Scratch tests were deemed a safer testing method than intracutaneous method because of the history of anaphylaxis. A powdered penicillin G which comes in capsule form was used, and two solutions containing 200 and 20 units per cc., respectively, were made up. About 0.1 cc. of each of the above solutions, containing 20 and 2 units, respectively, was used for the scratch tests. A third scratch test was done with a speck of the pure powdered penicillin G diluted in tenth-normal sodium hydroxide. Within a few minutes each of the three sites showed a large wheal, up to about 3 cm. in diameter, with conspicuous pseudopodia and erythema up to 5 and 6 cm. in diameter. The three skin reactions were about similar in diameter regardless of the strength of testing material. The skin wheal from one drop (about 0.1 cc.) of the solution containing 20 units of penicillin G per cc. appeared as large and as conspicuous as that from the powdered penicillin.

TABLE I.—Correlation Between Degree of Anaphylaxis and Test Results

Case	Severity of Anaphylaxis	Scratch Tests	Passive Transfer Tests to Penicillin G	O	U
1	+	Not done	±	±	±
2	2+	3+	2+	2+	2+
3	3+	4+*	4+	4+	4+

* Anaphylactic-like constitutional reaction.

About five minutes after beginning the test, at about the time the skin wheals became most prominent, the patient complained of a burning in his mouth and throat and chest and said, "It feels the same as it did when I took the tablet of penicillin and passed out." At this time his lips and mouth felt "tight," and he was seized with a burning feeling all over his body. He became pale and clammy, perspired, was nauseated, and vomited a little watery material. About ten minutes after starting these tests he was obviously in a state of beginning anaphylactic shock with a fall of blood pressure from 120/80 to 60/30, pulse 130, and respirations 30, with shallow breathing and marked cyanosis of the nails but with preservation of consciousness. There were no rales or wheezes heard on auscultation of the lungs. In the course of the next hour, with the well-recognized methods of recumbency, warmth, intravenous epinephrine 0.1 cc. and 0.4 cc., Chlor-Trimeton 10 mg., and Benadryl 10 mg. intramuscularly, he gradually rallied from his shocklike state, and his blood pressure rose to 100/60. He felt well enough to go home about one and one-half hours after this study. About three months later passive transfer tests were reported as showing a 4 plus reaction to both penicillin G and O.

Comment

In some of the early work on penicillin sensitivity,[16,17] the delayed tuberculin intracutaneous type of skin reaction was viewed as being quite characteristic of penicillin sensitivity.

Although limited to three cases, Table I points to a correlation between the degree of anaphylactic shock, the scratch test, and passive transfer test and certainly shows the value of the scratch test in assessing penicillin sensitivity. The passive transfer tests were equally positive to penicillin G, O, and U. Approximately a year after the occurrence of the anaphylactic shock in Cases 2 and 3, the passive transfer tests to penicillin G and O were repeated and were found to be negative in both of the patients.

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* Dr. Arthur Coriale, of Utica, has allowed me the privilege of examining and reporting on this patient.

Skin testing in patients suspected of penicillin allergy requires careful consideration of the type of test employed and the dosage of the allergen used. There is no doubt that with the alarming constitutional reaction from scratch tests alone in Case 3, an initial intracutaneous test might have been very serious or possibly fatal. In retrospect, it was unwise to do more than one test at a time on this patient, and it would have been a great deal safer just to do one scratch test with a few units of penicillin. Regarding the intracutaneous test, Rose[18] stated, "I know of one case where death occurred following an intracutaneous test." The warnings and cautions concerning the use of penicillin, pointed out by Blanton and Blanton[19] and Kern and Wimberley,[20] definitely apply to Cases 2 and 3. Case 1 previously had had a localized tissue sensitivity, probably to the penicillin, and the author felt he was being cautious in giving penicillin tablets in place of intramuscular penicillin. Although she had an alarming and severe reaction with the tablet of penicillin, had she received a parenteral injection of penicillin, the consequences might have been fatal.

Case 3 had several important warning signs in his past history for caution in the use of penicillin. First, there was the long history of rather severe epidermophytosis which Peck and Hewitt[21] have shown to be antigenically related to penicillin. Second, he had been exposed over several years to frequent administration of penicillin, both orally and intramuscularly. Finally, over six months prior to his severe reaction, he had had a mild urticarial reaction to penicillin.

Certainly in the light of the author's present knowledge and experience gained from observing these cases, it would seem most advisable, in cases with histories similar to those of Cases 2 and 3, to do scratch tests with penicillin prior to prescribing it. In Case 1 there were few unusual warnings to induce an attending physician to use a scratch test. In several instances in the past few months the author has employed the scratch test to good advantage in testing the safety factor of the oral administration of penicillin before its prophylactic use against streptococcal infection in patients with rheumatic heart disease. Some degree of reassurance plus a reasonable safety factor in giving oral penicillin is obtained in such instances if the patients show no positive scratch or intracutaneous tests.

When there is a history of allergy or a suspicion of sensitivity to penicillin, the scratch test with only a few units of penicillin should be employed. Patients undergoing skin testing with penicillin should be under proper observation, and all available precautionary measures should be taken. It would seem inadvisable to recommend oral penicillin in any patient showing a marked sensitivity to the scratch test with penicillin. The passive transfer test done in these cases appears to correlate well with the degree of sensitivity and gives further support and evidence for the existence of penicillin sensitivity.

Conclusions

1. A review of the literature shows very few references to the subject of anaphylactic shock from oral penicillin. There is, however, one case report of anaphylaxis following oral penicillin and a footnote reference to nonfatal anaphylactic shock from this therapy.
2. Three case reports of severe anaphylactic shock following oral penicillin are reported.
3. Scratch and passive transfer tests appear to correlate well with the degree of clinical sensitivity.
4. An anaphylactic shocklike state was brought about in Case 3 with the use of scratch test. Cautious testing in cases suspected of penicillin sensitivity is again emphasized.
5. In assessing sensitivity or contraindications to employment of penicillin, especially in cases of prolonged mass oral prophylaxis against streptoccal infection, properly performed skin tests are advocated as a precautionary measure.
6. With the widespread use of oral penicillin, such serious anaphylactic reactions as reported above will probably become more frequent.
7. Because of the not too well appreciated fact that anaphylactic shock may follow the oral ingestion of penicillin, every physician is advised to keep this thought in mind when he sees a patient in an acute shocklike state in which other commonly known causes are not present.

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Addendum

Several months after this article was submitted for publication, Peters, Henderson, and Prickman published an article on three nonfatal cases of anaphylactic reaction to oral penicillin and one fatal reaction following intramuscular penicillin.

The author wishes to express his thanks to Dr. William C. Woodin of Syracuse, New York, for performing the passive transfer tests in Cases 1, 2, and 3.

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Brill's Disease

I. J. TARTAKOW, M.D., HEMPSTEAD, NEW YORK

(*From the Bureau of Epidemiology, Nassau County Department of Health, Garden City*)

ALIENS seeking admission into the United States are required to undergo rigid medical inspection by quarantine officers of the United States Public Health Service, and those who show evidence of having certain diseases or of being carriers of these diseases are excluded. In spite of the strict vigilance maintained by these officials, there is a group of immigrants permitted to enter this country with a clean bill of health who, after several years of residence here, may come down with an attack of a disease, the etiologic agent of which was unknowingly and imperceptibly harbored by them at the time of their admission. These individuals are the displaced persons from Europe, who, as a consequence of the ravages of war and the acts of inhumanity preceding it, were compelled to live under extremely unsanitary conditions in inadequate dwellings, prisons, and concentration camps where they weathered one or more epidemics of typhus fever. As a consequence of these unfortunate circumstances, many of them became infected with the rickettsiae that cause typhus.

It has been demonstrated that after recovery from typhus such persons may continue to harbor the rickettsiae within their body. The microorganisms may remain alive and dormant for many years and under certain conditions, as yet unknown, may become reactivated and cause a recurrent attack of typhus. This form of typhus is known as Brill's disease and occurs almost exclusively among foreign-born individuals who have lived in an area where typhus was epidemic.

It is the purpose of this paper to alert the physician to this disease, to acquaint him with its clinical and epidemiologic aspects, and to describe as an illustration a case which recently came to the attention of the author.

History

After a preliminary observation dating to 1898, Brill[1] in 1910 reported a series of 221 sporadic cases in New York City of a disease which resembled typhus among immigrants from Russia and Poland. A similar observation was made in 1911 by Lewis[2] in Philadelphia and in 1912 by Lee[3] in Boston. In 1912 Anderson and Goldberger[4] demonstrated by cross-immunity tests in monkeys that what had come to be known as Brill's disease was related to a form of typhus occurring at that time in Mexico.

For many years Brill's disease was considered by many authors to be murine typhus.[5] Some current textbooks still use the two terms synonymously. In 1934, however, Zinsser[6] pointed out the close resemblance of three strains of rickettsiae isolated from cases of Brill's disease to epidemic typhus rather than to murine typhus. He found no evidence that rat fleas were a factor in transmitting the disease, as is the case in murine typhus. He concluded that Brill's disease is a recrudescence of epidemic typhus which occurs in individuals who had suffered an attack of the disease many years previously while residing in a region of Europe where epidemic typhus had occurred for many centuries.

Further evidence in support of Zinsser's hypothesis has been presented by other investigators.[7,8] Plotz[9] in 1943 reported that sera of 23 cases of Brill's disease gave higher titer readings in the complement fixation text with classic epidemic typhus antigen than with murine antigen. A similar report of 14 cases was made by Murray and his associates[7] in 1950.

Etiology

With the isolation of epidemic strains of typhus rickettsiae from patients with Brill's disease by Zinsser and Castaneda[10] in 1933, its etiologic agent was established to be Rickettsia prowazekii, the same microorganism which produces epidemic typhus. Rickettsial strains of Brill's disease have been demonstrated by complement fixation tests to be indistinguishable from classic epidemic typhus strains.

As a small percentage of individuals with typhoid fever become chronic typhoid carriers, so a number of persons who had typhus years ago while residing in an epidemic area remain carriers of typhus, the rickettsiae remaining latent for many years somewhere in their tissues. Unlike typhoid fever such persons may suffer a second attack of typhus when for some reason their state of immunity is disturbed. Zinsser[6] pointed out in 1934 that 94.8 per cent of the 538 cases of Brill's disease observed in New York and Boston occurred in foreign-born individuals who had emigrated from typhus regions of eastern and southeastern Europe; over 90 per cent were Jewish, and over 80 per cent of them came from Russia. Of 126 cases for which detailed data were obtained, it was found that 76 per cent had been in this country over ten years and the remainder from one to ten years.

It is now believed that the typhus group consists of three diseases: (1) classic or epidemic louseborne typhus caused by R. prowazekii, (2) murine or endemic rat fleaborne typhus caused by R. mooseri, and (3) Brill's disease, a recrudescence of epidemic typhus.

Transmission

Brill's disease is not communicable from man to man by contact. Neither the human louse, as in epidemic typhus, nor the rat flea, as in murine typhus, has been incriminated as vectors of the disease. However, Murray *et al.*[7,8] have clearly shown that human body lice may become typhus infected by experimental feeding on Brill's disease patients during the febrile stage. Therefore, the occurrence of the disease in louse-infected communities might serve as the focus of an outbreak of epidemic typhus.

Symptoms

The principal symptoms of Brill's disease are similar to those of epidemic typhus, but the illness is milder and its duration shorter. Usually the onset is abruptly ushered in by shaking chills and severe headache, the latter being the characteristic feature of the disease. Generalized aches and pains, lassitude, malaise, and anorexia occur early in the disease. Fever which rises to 104 F. begins on the second day and without treatment remains elevated ten to fourteen days. A faint, discrete, pinkish, macular or maculopapular rash usually appears between the fourth and sixth day. It is first seen on the chest and spreads within a day or two to the rest of the trunk and to the extremities, sparing the face, palms, and soles. The eruption at first fades readily on pressure, later becoming fixed. It reaches its height usually by the seventh or eighth day of illness, lasts as long as the fever, and disappears as convalescence begins. Rarely does it become petechial as in epidemic typhus.

Laboratory Diagnosis

It would be extremely difficult to make a definite diagnosis of Brill's disease without the aid of the laboratory. The tests most frequently used for the diagnosis of the rickettsial diseases are the Weil-Felix test and the complement fixation reaction.

Although no etiologic relationship exists between the rickettsiae group and Proteus vulgaris, the nonflagellated or O antigen of three of the X strains of Proteus known as OX-19, OX-2, and OX-K (Kingsbury) have been demonstrated by Weil and Felix[11,12] to have a common antigenic component with some rickettsiae. Sera from 95 to 97 per cent of patients infected with R. prowazekii or R. mooseri agglutinate Proteus OX-19 after the tenth day of illness, usually in a titer of 1:160 or higher. R. rickettsii, the etiologic agent of Rocky Mountain spotted fever, agglutinates Proteus OX-19 and OX-2, while R. tsutsugamushi, the etiologic agent of scrub typhus, agglutinates only OX-K. The Weil-Felix test, however, fails to differentiate between cases of epidemic typhus and murine typhus since the same type of reaction is obtained with Proteus OX-19 for R. prowazekii and R. mooseri. It has also been found that Brill's disease sera often give no Weil-Felix reaction.[7,13] Such a negative test or a reaction in a low titer, therefore, does not necessarily rule out Brill's disease.

With the introduction of the complement fixation test for the rickettsial diseases,[14,15] it became a relatively simple matter to determine definitely the etiologic agent of the infection under consideration. Differentiation between epidemic typhus and murine typhus can now be made through the use of these specific antigens.

It has been demonstrated that complement-fixing antibodies for R. prowazekii usually begin to appear in the sera of patients with Brill's disease on the fourth to sixth day after onset, reaching a peak by the tenth day. Antibody response is somewhat slower in the primary attack of epidemic typhus, beginning about the eighth to the twelfth day with maximum titers attained between the twelfth and the sixteenth day. Since persons recovered from an attack of epidemic typhus in the past may have complement-fixing antigen in low dilution in their sera for years after the initial attack,[16] serologic diagnosis of Brill's disease should depend on the demonstration of a significant titer of antibodies, at least 1:160, and on its rise during the course of the disease.

The diagnostic value of the complement fixation reaction in persons suspected of having Brill's disease who have received typhus vaccine in the past is highly questionable and must be carefully appraised. In such instances a rise in titer during the course of illness is significant and may indicate recent infection in spite of vaccination.

Isolation of the etiologic agent is difficult and requires extensive experience. By means of special technics (louse-feeding methods, guinea pig inoculation, fertilized hen's egg culture), isolation of R. prowazekii from blood or ground clots is possible.

Differential Diagnosis

The complement fixation test with R. prowazekii antigen readily differentiates Brill's disease from murine typhus and other rickettsial diseases, such as Rocky Mountain spotted fever, rickettsialpox, and Q fever, as well as from bacterial or virus infections, such as typhoid fever, meningococcemia, and measles, with which it may be confused clinically.

The chief epidemiologic differential points of epidemic typhus, Brill's disease, and murine typhus are given in Table I.

Treatment

For many years the treatment of Brill's disease as well as other rickettsial infections was primarily supportive. With the advent of the antibiotics it was found that chloramphenicol, chlortetracycline, oxytetracycline, and tetracycline[17] possess definite antirickettsial properties and, when given in proper dosage, will markedly reduce the length of the febrile period.

Prevention and Control

As previously mentioned, there are undoubt-

TABLE I.—EPIDEMIOLOGIC DIFFERENTIATION OF TYPHUS GROUP

	Epidemic Typhus	Brill's Disease	Murine Typhus
Etiologic agent	R. prowazekii	R. prowazekii	R. mooseri
Prevalence	World-wide; occurs in epidemics	Recognized in immigrants to the U.S.A.; sporadic	World-wide; endemic cases
Usual seasonal occurrence	Late winter and spring; colder climates	Autumn	Summer and autumn
Incubation period	6 to 15 days	Several months or years	6 to 14 days
Reservoir of infection	Man	Man (?)	Rat
Usual mode of transmission	Human body louse (Pediculosis humanus)	Recrudescence of former epidemic typhus infection	Rat flea (Xenopsylla cheopis)
Contact history	Louse infestation	Residence in the past in typhus area	Rat infestation
Multiple cases in same family	Yes	No	Yes
Clinical course	Usually severe	Usually mild and of short duration	Usually milder than epidemic typhus
Social, economic factors	Conditions of overcrowding and human misery; occurs during war, in prisons, concentration camps	All economic classes	All economic classes (common among workers in food-handling establishments)
Weil-Felix test	Usually reliable	Not reliable	Usually reliable
Complement fixation test	Reaction with R. prowazekii antigen begins 8th to 12th day reaching peak by 14th day	Reaction with R. prowazekii antigen begins 4th to 6th day reaching peak by 10th day	Reaction with R. mooseri antigen begins 8th to 12th day reaching peak by about 14th day
Case fatality rate	Children: less than 10%. Rises with age. Persons over 50 years: 60%	Low (about 1%)	About 2%; higher in older persons

edly a considerable number of foreign-born persons in the United States who were exposed years ago to epidemic typhus. A certain percentage of these individuals may have become infected at that time with R. prowazekii and may be harboring these microorganisms which have remained latent in their tissues for many years. Since the trigger mechanism which at any time may upset the immunologic balance in these individuals and precipitate an attack of Brill's disease is unknown, no recommendation can be made regarding the prevention of such an attack.

Because lice feeding on the blood of patients during the first week of Brill's disease may become typhus infected, it is conceivable that outbreaks of the disease may be initiated by such insects. Hence, if louse infestation of a patient with Brill's disease or of his environment is suspected, measures should be taken to eradicate these insects, and active immunization of contacts with killed typhus vaccine should be recommended.

Case Report

The following case report illustrates many of the features of Brill's disease which are described in this paper.

The patient was a forty-three-year-old, white housewife who complained of severe headache and general malaise on the afternoon of January 20, 1955. Several hours later she had a shaking chill followed by fever. Since the headache, fever, chills, malaise, and anorexia persisted, the patient was admitted to the hospital three days after onset. On the fifth day of illness a maculopapular rash appeared on the upper portion of the abdomen, and within twenty-four hours it spread to the chest and arms. Several moderately enlarged nontender lymph nodes were observed in the left axilla. On the seventh day of illness evidence of pyuria was noted.

Epidemiologic history revealed that the patient was born in Russia in 1912. She stated that in 1919 there was an epidemic of typhus in the village in which she and her family lived. She and a cousin became ill at that time and were believed to have had an attack of typhus. She and her parents emigrated to the United States in 1921. She had no recollection of any recent insect bite, and she kept no dog, cat, or other pet. She visited Bermuda about two years ago and had not traveled out of New York State for the past year. She had no knowledge of ever having received typhus vaccine. The patient lived with her husband in a newly constructed one-family house with ideal modern sanitary facilities located in a choice residential section of town. The home was maintained in excellent sanitary condition.

White blood cell count was 6,300 on January 23; 9,700 on January 26; 13,300 on January 30; 8,500 on January 31; and 7,700 on February 6. No growth was obtained on culture of blood on January 23, 24, and 28. Many pus cells were present in the urine on January 27, and Aerobactor aerogenes was isolated on culture. No enteric pathogen was isolated from stools on January 28 and 31. No agglutination was obtained with Bacterium typhosum, Bact. tularense, or Brucella abortus. In the test for heterophil antigen no agglutination with sheep red blood cells was obtained on January 30 and February 2. Agglutination with Proteus OX-19 occurred in a titer of 1:20 dilution of serum on January 25, in a titer of 1:320 on January 30, and in a titer of 1:160 on February 17.

Therapy with Achromycin, 2 Gm. per day, was started on January 27 and maintained for six days. The patient became afebrile on January 31, and recovery was uneventful.

Paired blood specimens obtained during the patient's convalescence were submitted to the Division of Laboratories and Research, New York State Department of Health, for complement fixation test for typhus and other rickettsial diseases. The first sample taken on February 2, thirteen days after onset of illness, was positive in a dilution of 303 for murine typhus and in a dilution of 1,766 for epidemic typhus. The second sample taken on February 17 gave a titer of 81 with murine antigen and 442 with epidemic antigen. No agglutination was obtained with Proteus OX-2 or Proteus OX-Kingsbury, and titers of less than 8 were obtained in complement fixation tests with Q fever and Rocky Mountain spotted fever antigens.

The possibility of transmission of infection by human lice was promptly ruled out in view of the cleanliness of the patient and her home.

Diagnosis of Brill's disease was made on the grounds that (1) the patient was foreign-born and migrated to New York State thirty-three years ago from a region of Russia where typhus was epidemic; (2) the patient allegedly had an attack of typhus about thirty-five years ago; (3) the clinical picture of her illness was characteristic of typhus; (4) complement fixation for epidemic typhus with the patient's serum was obtained in a titer of 1,766; (5) there was no history of recent exposure or travel to a typhus area; (6) there was apparently no exposure to a local source of infection or to insect vectors.

The epidemiologic evidence obtained in this case strongly points to the probability that the rickettsiae had remained dormant in this patient for a period of approximately thirty-five years.

Summary

1. Brill's disease is a recrudescence of an early epidemic typhus infection (Zinsser's hypothesis). Its etiologic agent is R. prowazekii, the same organism which produces epidemic typhus.

2. The criteria for diagnosis are (*a*) fever of unknown origin, (*b*) severe persistent headache, (*c*) macular or maculopapular rash on the fourth to sixth day of illness, (*d*) occurrence in a foreign-born person who has lived in an area where typhus was epidemic.

3. The symptoms of Brill's disease are similar to those of epidemic typhus, but illness is milder, duration shorter, and case fatality rate much lower.

4. Laboratory confirmation is made by means of complement fixation test with epidemic typhus antigen, the Weil-Felix test often being unreliable as a diagnostic aid in Brill's disease.

5. Lice feeding on a case of Brill's disease during the febrile stage may become infected with R. prowazekii and initiate an outbreak of epidemic typhus.

6. The broad-spectrum antibiotics are effective in reducing the length of the febrile period.

7. A case of Brill's disease in a patient who had typhus in Russia thirty-five years ago is described.

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Conceit

He was like the cock who thought the sun had risen to hear him crow.—GEORGE ELIOT

Understanding Stuttering

DOMINICK A. BARBARA, M.D., F.A.P.A, JAMAICA, NEW YORK

STUTTERING as a symptom may be defined as a disturbance in the smooth flow of speech due to tonic and clonic spasms involving the functions of respiration, phonation, and articulation. Tics and spasms near to or remote from the speech mechanism are frequently associated.

Disturbances along the pathway and levels of speech may be of three varieties: (1) disturbances of phonation and articulation, (2) disturbances in symbolic expression, and (3) disturbances in rhythm. A disturbance of the latter type is commonly known as stuttering, or dysphemia.

In the realm of speech disorders, stuttering plays a most prevalent and important role. Attempts to study and classify this syndrome have been made by the psychiatrist, the neurologist, the laryngologist, and the sociologist. In spite of the wide number of theories that have been offered with respect to the nature, etiology, and treatment of this condition, it still remains a topic of considerable discussion and controversy.

Stuttering as a problem of speech has been recognized from time immemorial. It has puzzled scholars for centuries. It is mentioned in the hieroglyphics of the Egyptians. It is also referred to in the Bible and by the ancient philosophers. Moses is reputed to have been a stutterer.* Aristotle, who trained himself as an orator, attributed the whole genesis of stuttering to the tongue. Morgagni,[1] the founder of pathologic anatomy, inclined toward fixating the hyoid bone as the most likely cause. Kussmaul[2] defined stuttering as lalloneurosis, a "dysarthria syllabaris," an intermittent spasmodic neurosis, in which there is a want of harmonious action between the muscles of respiration, vocalization, and articulation.

Stuttering has been called the disorder of many theories, and properly so. Its genesis was originally assumed to be physical. Hippocrates held that stuttering is due to "dryness of the tongue." Aristotle blamed a too thick and too hard tongue. This notion is still prevalent to some extent in the thinking of the laity that tongue-tie is responsible for stuttering. In fact, this idea was so strong that, according to Greene and Wells,[1] in the year 1841 "a regular mania" took possession of the surgeons of Europe, each one of note claiming to be the inventor of a new modification of some previous operation. The methods were generally arranged by nationalities, the Germans following Dieffenbach, the French Velpeau, the English Yearsley and Braid. Nearly 200 cases in France submitted to the operation in the course of the year. At the end of the year a cry of warning was raised, and those who had tried the experiment found the courage to acknowledge their grave error.

The concept that stuttering is caused by some physical dysfunction has remained with us for many years. Early physicians reasoned that since stuttering is a disorder of speech, it necessarily has to do with some abnormality in the speech tract. Hippocrates,[1] for instance, advised the application of healing oils and medications to the throat and neck. Galen practiced cauterization of the tongue, and somewhere in the first century B.C., Celsus placed emphasis on the use of breathing exercises for the cure of stuttering. He advocated that the stutterer "retain his breath, wash the head with cold water, eat horseradish—and vomit."

Present-day organicists differ from the earlier ones only in regard to the choice of organ to which the causative factor is referred. Where the tongue was the chief organ of choice, today the organicity is attributed mainly to the more complicated neurophysiologic aspects of the entire speech tract. Finally, in the struggle to arrive at a clearer understanding of the problem of stuttering, there are those researchers who attempt to attribute psychologic factors to its modus operandi. These latter theoreticians seem to be gaining supporters and the most sympathetic and interested audience in the field of speech pathology.

The incidence of stuttering amounts to about 1,300,000 in this country alone. It has been placed at about 1 per cent of the general population, roughly half of whom are children. Stuttering has no respect for social or economic status, religion, race, or intelligence. The intelligence quotient of the average stutterer is normal or even above normal. Although there are no definite hereditary factors found in stuttering, we do know that there is a familial tendency. In a study by Johnson[3] and others 33 per cent of stuttering children and 9 per cent of nonstuttering children had stuttering relatives (outside their immediate families). Eleven per cent of the mothers and fathers of the stuttering children and 3 per cent of the parents of the nonstuttering children were or at some time had been stutterers. In a study of my own it was found that in about 45 per cent of the cases there was a history of other stutterers in the family.

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* Other famous stutterers have included Aristotle, Aesop, Demosthenes, Virgil, Erasmus, and Charles Lamb. And, coming down to the modern day, we have Sir Winston Churchill, Somerset Maugham, and the late George VI.

The age of onset in about 90 per cent of stutterers is before ten, and the majority of these start in the first five years. The males are from four to eight times as frequently affected as females. Neurologic examination in the average stutterer reveals no evidence of peripheral neuromuscular involvement or of any pathologic disturbances of the speech organism. Electroencephalography has also been proved to be nonspecific for any stutter-like pattern. It has merely shown that the stutterer is characteristically an awkward, tense individual, suggesting deficiencies in motor integration. Very often this incoordination appears to be related to emotional disturbances rather than to any correlated cortical disturbances. West and Kopp[4] made biochemical studies to ascertain physiologic differences between stutterers and nonstutterers. In examining chemical entities in the blood, the following conclusions were reached: The blood of the stutterer is found to contain more inorganic phosphates, calcium, and sugar and less potassium and protein than that of the normal speaker. It was felt that this larger quantity of sugar in the blood was possibly the result of emotion and that although the amounts of inorganic phosphates, potassium, protein, and calcium differed from the averages, they did not necessarily affect the health of the stutterer.

Although so much has been concluded regarding the facts and characteristics of stuttering, it still presents itself today as a perplexing problem. One of the main reasons for this confusion is the revealing fact that no two stutterers are alike in makeup or development. Where sorely needed research may aid in clarifying and shedding more light on this clouded issue of stuttering is in the study of personality development.

Stuttering is a highly complex syndrome with multiple etiology, combining genogenic, morphogenic, chemogenic, neurogenic, psychogenic, and socioenvironmental factors. Only by approaching it from a holistic viewpoint with an emphasis mainly on the total organism, can we hope to understand its nature.

It is my opinion that many theoreticians working with the problem of stuttering have met with pitfalls because of adherence to a genetic approach to its understanding with overemphasis on cause-and-effect concomitants. When one takes into account the tremendous number of stutterers at the present time, it is not difficult to understand why a study project relating to its etiology can assume almost boundless proportions. This sort of thinking presupposes that symptom reactions are conditioned entirely by something in the past and that as a result they persist in the present in the pattern of original development. This view also stresses the importance of constitutional origins in practically all forms of disease entities. Although I do affirm that constitution is a relatively fixed quantity which plays a role of some importance in individual development, it is a small factor when compared to the resultant impact of interpersonal experiences on the same person.

Any workable hypothesis of the nature of stuttering must take into account the organism as a whole. So-called symptoms of neurosis are not essential constituents, but they develop as an outgrowth of the neurotic character structure and can be understood only on that basis. Stuttering is to be considered as an expression of anxiety which results when the protective structure of the organism in a neurotic system becomes threatened and disorganized. Goldstein[5] refers to this as the organismic approach. He states that not all deviations of behavior are directly related to the underlying defect, but some are the expressions of protective mechanisms which the organism utilizes against the disastrous consequence of the defect.

To understand the nature of stuttering better, we should make an attempt to understand the neurotic trends in the individual stutterer's character structure with their particular functions and consequences to his personality and way of life. Emphasis should be directed less to the symptom of stuttering and much more to the underlying forces which drive him to stutter and, to the feelings, attitudes, and responses in the crucial speaking situation.

Free-flowing and spontaneous speech in a child results for the most part in an environment of parental warmth and freedom in which the child feels accepted. Beginning speech in most children is normally quite nonfluent. The average child, aged two to six years, is said to repeat about 45 times per 1,000 words. In those parental environments where there is no concern or overemphasis on "perfect" or "correct" speaking, these normal nonfluencies are usually disregarded or, most times, not even noticed. In fact, in some of the American Indian tribes where emphasis is placed mainly on silence and cogitation instead of on verbal communication, there are known to be no stutterers at all.

Nonfluent speech and hesitancy when talking is normal to some degree in most children. However, this may also be a focal point for fixation and concern by tense, worrisome, and perfectionistic parents and finally may become referred to as stuttering. Once the child has been so labeled and added emphasis is placed in this same direction, a chain reaction sets in, making the speaking situation one filled with anxiety and conflict. For instance, the perfectionistic parent will force his child, if he hesitates when talking, to hurry and to speak "perfectly clearly and lucidly" at all times. He should not speak slowly or mumble at any time but "know exactly what he is going to say to begin with." In these same parents the tendency is toward flawless excellence and perfection in the child. The child is further compelled to choose the "right" words carefully before speaking, to articulate perfectly, and to master his speech at all times. The overprotective parent, on the other hand, encourages the child to feel fearful, helpless, and dependent in the speaking situation. The child in this parental relationship is made to feel that his words are not his own possessions but are to be used for praise, approval, and recognition from others. These same parents may squelch their children's initiative and spontaneous desires by taking over for them in practically every situation. Their children are to be seen but not heard. They should never intrude when others are speaking, never express themselves openly, or disagree verbally with others. Their children should instead be nice, be quiet most times, and speak up only when requested to do so. In such a prohibitive and emotionally crushing atmosphere, it isn't too difficult to see why a child develops a fear and apprehension of talking. He is made to feel guilty each time he speaks, and he feels driven to make every conscious attempt to control his thoughts and measure his words. Verbal expression now begins to become identified with fear, resentment, and struggle.

The onset of stuttering in childhood may be precipitated by any experience which generates anxiety and fear in a child predisposed to stuttering. Such traumatic experiences are generally related to fright, accident, illness, operation, or forcible conversion from left to right-handedness. The element of fright as a situational traumatic experience plays the most prevalent role. The most common experiences of this type are being frightened by the dark or lightning, receiving severe punishment at the hands of a domineering or stern parent, being frightened by a dog or some other animal or by a gang of "tough boys," being yelled at by an angered person, being thrown into the water for the first time, and being caught in the act of masturbation by a parent. However, in all of these causes or incidents of fright, there is the common denominator of an unhealthy soil predominated by a tense and worrisome parental environment.

The following are some of the sources from which stuttering can stem in its early development:

1. The stuttering child from an early age is subjected to disturbed parental and environmental influences. These same factors cause him to feel basically anxious, helpless, and hostile toward his external surroundings.

2. These same recurrent emotional traumatic experiences threaten him at an age when he is still unable to organize enough forces to restore personality integration.

3. Being rendered crippled in his developmental growth, he is thus compelled to find a way of life in order to live with some form of pseudo-unity.

4. The neurotic ways or solutions he chooses become of a compulsive nature, are contradictory in many ways, and are prone to fail easily. As a consequence he experiences further chaos, disruption, and overwhelming anxiety.

5. Since language in this same period is one of the primary and chief mediums of communication, it also becomes the area which first tends to disorganize when his protective structures are threatened. In simpler terms the stuttering is an

expression of his conflicts and free-flowing anxiety.

6. At first the child is unware of his hesitant speech. What expresses itself is a general tension, awkwardness, fearfulness, and some muscular incoordination. However, by the added stresses, fears, and threats of overanxious or perfectionistic parents, it tends to make the child fix his attention completely on his speech defect. The speaking situation, which is normally used to convey an idea, express a feeling, or ask a question, now becomes filled with apprehension, a testing ground for struggle and one filled with hostility and fear.[6]

7. Finally, when this same child enters school, the added stress and competitive elements in this particular atmosphere further cripple his weakened structure. Added emphasis is placed on his speech defect. He may now be subjected to ridicule, criticism, and embarrassment, causing him to feel "different from others." Speech, which ordinarily is not conscious, now becomes conscious and identified with the fear of social rejection and of stuttering itself.

8. In the confirmed or adult stutterer there is merely a further development of the actual neurotic process. Where the adult stutterer differs from other neurotic individuals is in the special attitudes, feelings, and beliefs relevant to his particular neurotic development and in the added importance and meanings implicit in the "speaking situation."

In the stuttering process, as in all other forms of neurosis, the individual attempts to rise above his conflicts and to arrive at some form of pseudo-integration through self-idealization. Especially in people who stutter, the tendency is toward creating, more or less, what I call an image of "Demosthenes" in their own imaginative pictures of themselves. They tend to feel that if they could only talk perfectly clearly and lucidly at all times, they could become omnipotent and godlike. Or they may imagine themselves at one and the same time as great orators, able to hold vast audiences spellbound. Their speech begins to dominate their life activities to the exclusion of everything else, and they may feel compulsively driven to excel in something which they feel is defective in themselves—verbal communication.

Language is one of our prime means of communication. With the spoken word we convey to others our individual opinions, thoughts, feelings, and attitudes. The speaking situation per se, however, is a much more complicated and integrated process. It not only communicates what we are saying, but it is also an expression of experience of our total personality makeup.

As the neurotic process is formed and developed, the speaking situation adds to itself additional complexities. The very intent to speak, for instance, is of an objectionable significance to the person who stutters. The mere idea or thought of speaking in this person carries with it a common denominator of fear, dread, and apprehension. This same person starts with the feeling that the speaking situation is a dangerous one, to be avoided, and one in which he feels bound to fail. His organism is immediately set into gear for an "imaginary battle," which he perceives as about to begin once he starts to talk. Inwardly he may feel anxious, disorganized, and confused, and his behavior becomes as a result chaotic and disruptive. These diffuse and extreme reactions originate usually even before the utterance of a single word and are entirely out of proportion to the existing realities of the situation. This anticipatory reaction of fear and the dread of speaking may be present in all of us before specific situations, such as speaking before a group, appearing in court as a witness, etc. However, to the person who stutters, usually any intent to speak, be it threatening or not, is experienced with marked anxiety and with a diffuse feeling of fright.

Once the person who stutters finally takes the dreaded plunge into speaking, he still does not adapt himself to depend upon his own natural resources for spontaneous verbalization. He must now feel that his only possibility in breaking through the dilemma of speaking is to resort to various learned maneuvers, evasions, substitutions, and magical rituals. He substitutes an easier word for a feared one, adds extraneous words to help him over difficult spots, postpones the utterance of a difficult sound by the use of "ah, ah," or even changes the entire context of what he is saying at the time to suit his own tricks or devices. Other ways of momentarily releasing anxiety in the speaking situation are distractions of all sorts, such as pinching himself, talking in a mechanical tone, laughing at a moment of anticipation, looking away, or drawing the listener's attention by some nonspeech activity. These releasing devices aid the person who stutters to break through a hesitation or block in speaking, although they are at the same time basically artificial in nature and actually intensify and engender the stuttering itself in the speaking situation.

The person who stutters is very dependent upon the reactions of his audience, be it one or more persons. What he fears in the speaking situation depends to some degree on how he may feel he is performing at the time and to a large extent on the expectant response he anticipates from his listener. Toward others, when he speaks, he experiences himself as though he were "on stage." He pictures himself in his imagination as the performer at the mercy of his critics, his audience. This varies with the particular speaking situation, and the threat is experienced as though coming from the outside, or the audience in this specific case. The more threatening an audience may appear to his protective structures at the time, the more anxious and intensely will he fear the situation itself and the greater the amount of criticism or rebuff will he expect to be forthcoming.

The person who stutters feels that his words are most powerful weapons. With words he can, he feels, control and master things about him. To such a person, using the "right" or the "wrong" word is of crucial importance. Words can "kill or resurrect." He also learns, however, to fear words and to feel that words can become dangerous, powerful, or destructive. He finds it imperative to measure his words, to use them with utter care and caution, for a "careless word could cause a calamity." Each word he utters, he feels, carries life-or-death significance. Finally, in this same context he learns to feel that not only can his words become explosive and dangerous to others, but that they can also retaliate and strike back at him with the same destructive impact.

People who tend to stutter are chronic blockers in most other aspects of their living. As a by-product of neurosis, he ultimately becomes affected with a state of inertia, that is, a paralysis of psychic energies which affects not only individual initiative and action but also thought and emotion.

Treatment in stuttering is a difficult, tedious, and serious undertaking. Because of its technical nature only mention of it is to be made here.* One of the main goals in therapy is to help the stutterer unravel himself and free himself from his neurotic web, so that he can avail himself of constructive forces and energies necessary for healthy growth and self-realization.

As the person who stutters accepts himself more, with or without his stuttering, so will the need to cover up and hide discrepancies in his "godlike" image of himself become lessened. As he comes out more into the open and becomes more honest with himself, he will as a result have much less need to stutter.

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* A more detailed and descriptive elaboration of this process can be found in my book on stuttering.[7]

A Purely Feminine Talent

God has given married women the ability to listen with their eyes, to appear to be charmed by their husband's conversation, while the portals of their ears are actually closed tight and their minds are off on pleasant journeys. God has given them this gift so that they may stay married to the same man for years, and still smile.—JAMES FOX

Achromycin in the Treatment of Acute Urinary Tract Infections

ROBERT G. MARKS, M.D., AND SEYMOUR F. WILHELM, M.D., NEW YORK CITY

(From the Urological Surgical Service of the Beth Israel Hospital)

SINCE the historic discovery of penicillin by the late Sir Alexander Fleming, there has been made available to physicians one new antibiotic after another. Unfortunately, the bacteria which are responsible for many of the disease entities rapidly become resistant to each new drug so that the search for new and more potent antimicrobial agents is never ended.

The authors were given the opportunity to employ and evaluate Achromycin,* a new antibiotic, chemically known as tetracycline, in the treatment of acute urinary tract infections.

Material and Method

Achromycin was administered to 100 consecutive patients suffering from urinary tract infections. Twenty-nine of these patients failed to return for follow-up cultures and are not included in the tabulation. Of the remaining 71 cases 13 were hospitalized patients who had undergone prostatic or renal surgery and in whom drainage tubes were present. The remaining 58 cases were private, ambulatory patients, many of whom had recently undergone urinary tract surgery.

The 71 cases studied completely represented 98 organisms since ten patients had mixed infections on the primary culture and eight patients were treated for single organisms at different times.

Each patient received 250 mg. of Achromycin four times daily for five days, a total of 5 Gm. of the drug.

Results

The results were evaluated solely on the basis of the bacteriologic findings. A patient was considered cured when the urine repeatedly showed no white blood cells and when two consecutive cultures, taken two and nine days after the drug was discontinued, were negative. In some of the cases which are tabulated as failures, clinical improvement was noted despite the persistence of positive urine cultures.

TABLE I.—RESULTS IN 13 HOSPITALIZED PATIENTS

Organism	Treated	Cured	Failed
B. lactis aerogenes	4	1	3
B. coli and coliform	7	2	5
B. pyocyaneus	4	3	1
Hemolytic Staphylococcus albus	1	0	1

TABLE II.—RESULTS IN 58 AMBULATORY PATIENTS

Organism	Treated	Cured	Failed
B. lactis aerogenes	26	8	18
B. coli and coliform	14	9	5
B. pyocyaneus	11	4	7
B. proteus	23	2	21
Hemolytic Staph. albus	4	4	0
Nonhemolytic Staph. albus	4	3	1

The results in the hospitalized group of patients were not impressive since the presence of foreign bodies, such as drainage tubes and catheters, interferes with all measures used at the present time in the eradication of infection (Table I). In the ambulatory group the best results were found to occur in patients whose infection was due to the staphylococci group of organisms (Table II). In both groups a high percentage of the infections due to Bacillus pyocyaneus responded to therapy, but poor results were encountered when the cultures showed the presence of B. proteus or B. lactis aerogenes. The drug was found to be effective in the majority of infections due to B. coli and the coliform group of organisms.

In a large percentage of these cases a high correlation was found between in vitro sensitivity and therapeutic response. Cures were usually obtained when the in vitro studies showed the offending organism to be highly sensitive to Achromycin.

Toxicity

Two patients developed a mild, generalized

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* This work was made possible by a grant from the Lederle Laboratories Division of the American Cyanamid Company.

pruritic dermatitis. Achromycin was immediately discontinued, and the eruption promptly subsided. No patients were forced to discontinue therapy because of gastric symptoms, and no cases of colonic or rectal irritation were noted.

Summary

Achromycin was found to be most effective against the pyogenic group of organisms. It was more effective against B. pyocyaneus than other related drugs have been. It was moderately effective against the B. coli group of bacteria.

Sensitivity studies should be carried out whenever possible in all cases of acute and chronic urinary tract infection so that the most effective drug for each infective organism may be utilized. This careful selection of therapeutic agents will help minimize the development of drug resistance on the part of the bacteria and lessen the development of drug sensitivity on the part of the patient.

Clinical Experience with Tensodin, a Vasodilator

SAUL S. SAMUELS, M.D., F.A.C.A., NEW YORK CITY

It is a known fact that subjective symptoms in peripheral arterial diseases are in themselves an unreliable index of the effectiveness of therapy. However, when correlated with objective phenomena, such as plethysmographic or oscillometric determinations, they do afford information which may confirm or otherwise influence the objective findings. For this reason a pilot study of the effect of Tensodin on peripheral arterial disease, particularly arteriosclerosis obliterans, was made.

Tensodin is a mixture of three drugs in tablet form. Each tablet contains ethaverin 30 mg., Phyllicin 180 mg., and phenobarbital 15 mg. Ethaverine is a modification of papaverine in which the four methoxy groups have been replaced by ethoxy groups. Chemically it is tetraethoxybenzylisoquinoline. Although it has the same basic actions of papaverine, it has been reported to be a more powerful vasodilator and to be less toxic. It is not habit forming and has a few negligible side-effects. Phyllicin is the calcium salicylate salt of theophylline. It is presumed to have a synergistic action with papaverine. The sedative action of phenobarbital requires no comment.

This study was carried out at the Stuyvesant Polyclinic and included 28 ambulatory cases (Table I). The diagnosis in all cases was arteriosclerosis obliterans except for one case of thromboangiitis obliterans. Ages ranged from twenty-nine to seventy-eight years. There were 18 males and 10 females. Duration of treatment ranged from one to seven months. The patients were examined and interviewed weekly and were questioned about their ability to walk. New York City blocks, approximately 200 feet in length, were the standard measurements. Inquiry was made concerning the distance covered before the appearance of any of the following symptoms: cramps or pain in the affected calf, foot, thigh, or buttock. The latter is often misinterpreted when it appears as an expression of intermittent claudication. Contrary to frequent statements in the literature, night cramps or so-called rest pains are not usually observed in ambulatory patients except in severe cases with impending gangrene.

Most of the patients in this group had come to the clinic with no previous treatment. The remaining had been under simple treatment for varying periods of time with no improvement in symptoms or oscillometric tracings. In all cases smoking was prohibited. It may be argued that this factor alone was responsible for the improvement except that at least eight of the old cases had not been smoking for many months prior to the initiation of Tensodin therapy.

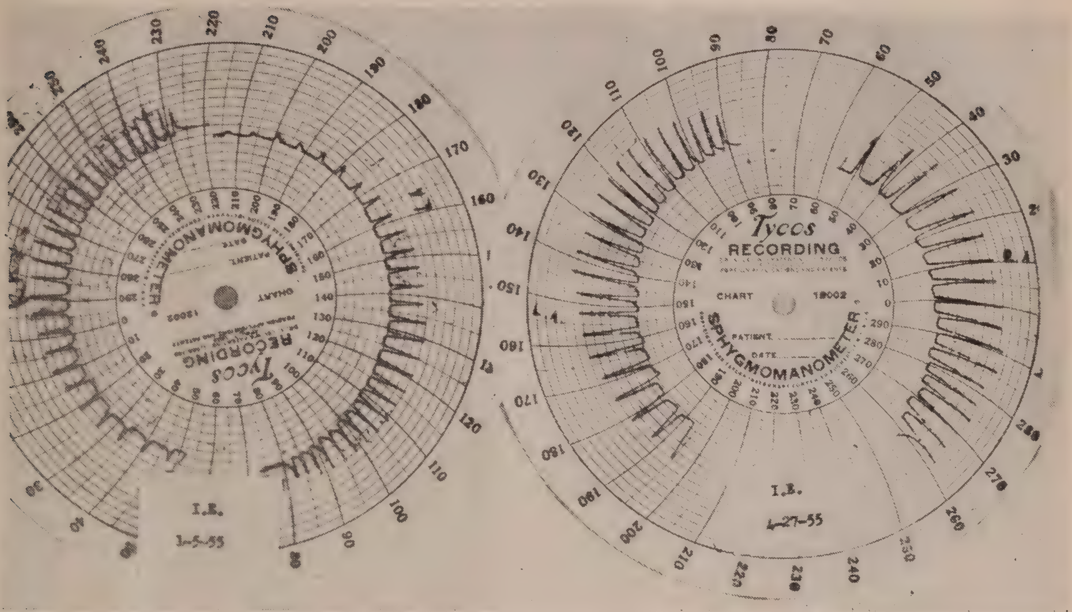

FIG. 1 *Case 1*—Oscillometric readings on January 5, 1955, before treatment were 4.5 for right ankle and 4.0 for left ankle (*left*). On April 27, after treatment with Tensodin, readings were 7.5 in both ankles (*right*).

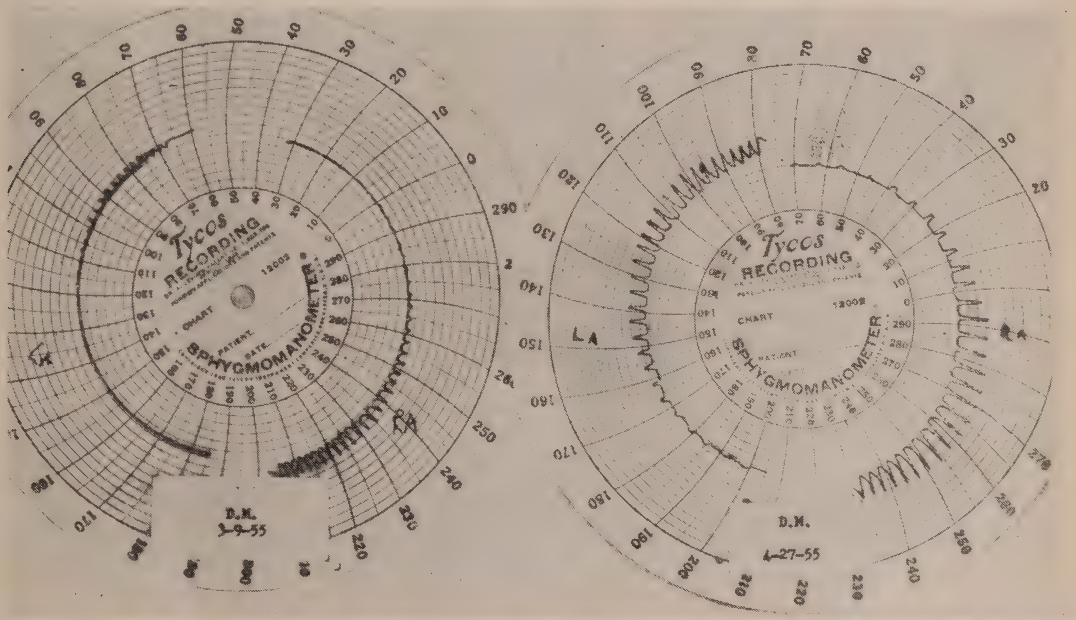

FIG. 2. *Case 2*—On March 9, 1955, before treatment, oscillometric readings were 2.0 in both ankles (*left*). On April 27, after Tensodin therapy, readings were 4.0 in the right ankle and 3.0 in the left (*right*).

The unusually good results and the high percentage of increased oscillometric tracings plus the small series in this study did not warrant application of the double-blind method which will be reserved for a future project.

Of the 28 cases 16 (57 per cent) reported definite improvement in walking ability. Particular care was taken in eliciting information to avoid the usual "You are feeling better, aren't you?" In the more advanced cases with zero readings at the ankle, no improvement or very little improvement was observed either in symptoms or in

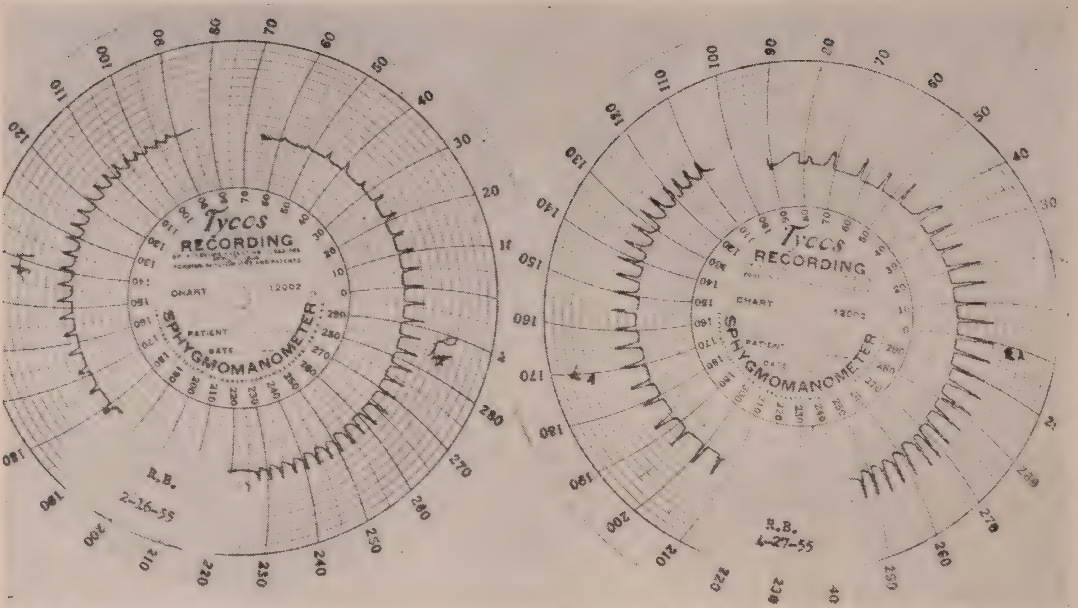

FIG. 3. *Case 5*—Pretreatment oscillometric readings on February 16, 1955, were 2.5 in the right ankle and 2.0 in the left (*left*). On April 27, after treatment with Tensodin, readings were 4.0 in the right ankle and 3.0 in the left (*right*).

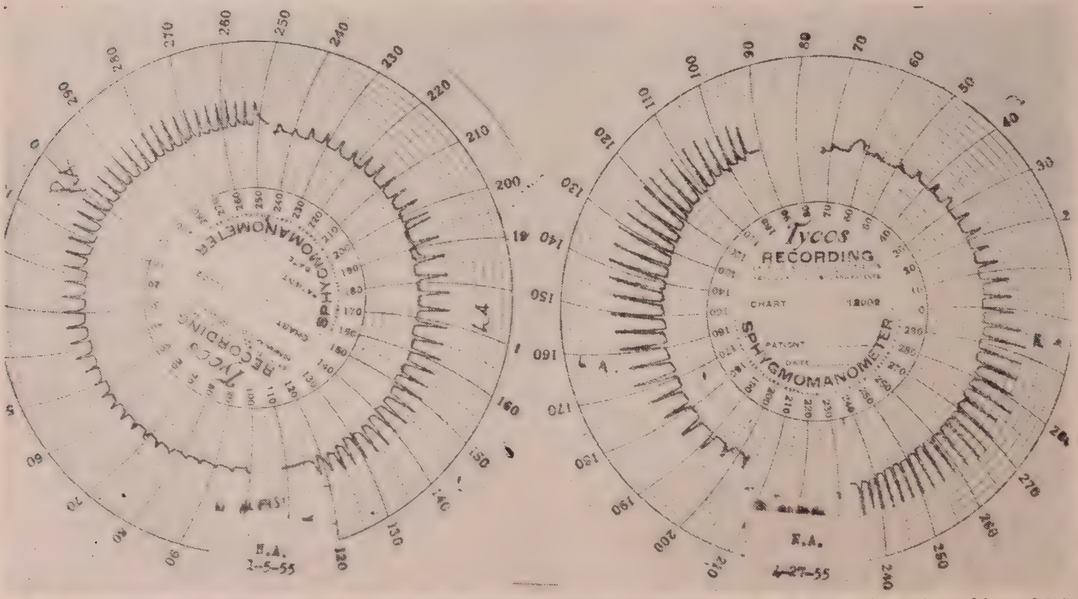

FIG. 4. *Case 6*—Oscillometric readings on January 5, 1955, before treatment, were 4.0 in the right ankle and 3.5 in the left (*left*). On April 27, after Tensodin therapy, readings were 5.5 in the right ankle and 6.5 in the left (*left*).

pulsation. Better results were naturally seen in those instances where there was some oscillometric pulsation at the ankle. Of the 28 patients seven (25 per cent) showed distinct increase in oscillometric readings at the ankle level (Figs. 1 to 4).

While oscillometric readings are not to be interpreted as absolute values of the state of the peripheral circulation, it must be emphasized that they do afford some *relative* information about the arterial circulation which has practical value. For instance, several patients not in-

TABLE 1.—Tensodin Treatment in 28 Cases

			Walking Ability (City Blocks)		Oscillometric Index Before Treatment		Oscillometric Index After Treatment		Duration of Tensodin Medication (Months)
Case	Age (Years)	Sex	Before Treatment	After Treatment	Right Ankle	Left Ankle	Right Ankle	Left Ankle	
1	65	F	1	2	4.5	4.0	7.5	7:5	5
2	78	M	3	14	2.0	2.0	4.0	3.0	3
3	70	M	2	10	1.5	1.5	2.5	1.5	2
4	67	M	2	5	2.0	3.0	2.5	4.0	6
5	60	F	1	3	2.5	2.0	4.0	3.0	2
6	61	F	10	15	4.0	3.5	5.5	6.5	5
7	74	M	1	1½	0.0	0.0	0.0	0.0	6
8	70	M	2	10	4.0	0.5	3.5	1.0	6
9*	30	M	1	5	0.0	1.5	0.5	2.5	1
10	65	F	8	16	0.2	0.0	0.2	0.0	2
11	64	F	1	8	2.0	2.5	2.0	2.5	1
12	65	F	2	15	6.5	5.5	4.0	3.5	2
13	70	F	1	4	0.0	0.5	0.5	1.5	1
14	70	M	1	1½	0.0	0.0	0.0	0.0	2
15	55	M	1	1	6.5	7.5	6.0	5.5	1
16	29	M	2	2½	4.0	2.5	4.0	3.0	2
17	71	M	3	3½	2.0	8.0	2.0	8.0	1
18	57	M	1½	15	7.0	0.0	8.0	0.0	7
19	39	F	2½	8	3.5	2.5	6.0	6.5	4
20	55	M	5	7	9.0	7.0	9.0	7.5	1
21	47	M	8	8	13.0	9.0	12.0	9.0	6
22	60	M	2	2	0.5	0.0	0.2	0.0	6
23	35	M	4	6	6.5	6.0	8.5	9.0	3
24	38	M	3	3	7.5	6.5	8.0	6.5	6
25	42	F	1	1	0.0	0.5	0.0	0.5	2
26	70	F	1	2	0.2	3.0	0.2	3.0	3
27	73	M	3	6	0.0	0.5	0.0	0.5	4
28	62	M	2	2	1.0	2.5	1.5	2.5	6

* Thromboangiitis obliterans; all other cases arteriosclerosis.

cluded in this group have been studied for twenty years, during which time some have registered decreases in readings from as high as 7 down to zero. They have simultaneously shown intensification of symptoms and objective signs of diminished arterial circulation. In these cases the confirmatory oscillometric tracings are particularly satisfying in correlating the changes in the clinical picture over the years. It seems logical to assume that an increase in the oscillometric tracings combined with improvement in the clinical picture is of equal significance.

The dosage of Tensodin was one tablet three times a day before meals. In a few cases this dosage was doubled. The only side-effect was a feeling of lassitude induced by the phenobarbital. In most cases this was not objectionable or harmful.

In those cases with occasional symptoms of angina pectoris, Tensodin therapy appeared doubly beneficial. In these cases no electrocardiographic studies were made.

Summary

Tensodin, compounded primarily as a coronary vasodilator, may prove of value in the treatment of peripheral arterial insufficiency and deserves further trial. In 28 cases, mostly arteriosclerosis obliterans, improvement in walking ability was accomplished in 16 (57 per cent). Seven (25 per cent) showed increased oscillometric readings at the ankle level. The dosage was one or two tablets three times a day. No important side-effects were noted.

151 East 83rd Street

Ideals are like the stars—we never reach them, but like the mariners of the sea, we chart our course by them.—Carl Schurz

Gallbladder Disease in Young Women

FRANK RICHARD COLE, M.D., F.A.C.S., FLUSHING, NEW YORK

(From the Department of Surgery, Forest Hills General Hospital)

GALLBLADDER disease connotes in medical minds the aphorism, "fair, fat, and forty." However, a rule is made to be broken. It is strange that the average general practitioner and internist is astonished when gallbladder disease manifests itself in young people. The literature abounds in isolated instances or case reports, but few have taken the trouble to collect or analyze their cases.

I have noted for some time that there are cases of gallbladder disease in young women who are slender and yet come to surgery for calculi. This is apart from the cases of congenital hemolytic anemia in childhood or those with congenital anomalies.

A series of 21 cases of gallbladder disease in young women is analyzed in this paper.

Table I clearly shows the distribution of cases. It is surprising to see that the greatest number of cases were in the youngest age group of sixteen to twenty-two years of age.

TABLE I.—AGE INCIDENCE IN 21 CASES

Age (Years)	Number	Per Cent
16 to 22	10	47
22 to 25	6	27
25 to 28	5	26

An investigation of the history revealed that all of the 21 cases never complained of any biliary symptoms before pregnancy. Ten patients or 47 per cent complained when five or six months pregnant, the remaining within six months after the first or second pregnancy. This in itself is a remarkable fact that has passed unnoticed. What percentage of cases of pregnant women have gallbladder disease during their pregnancy?

In our 21 cases three gave a history of allergy, and 18 or 85.7 per cent gave a history of menstrual disturbances, such as irregularities, prolonged bleeding, and intermenstrual bleeding. This has been described by Chiray, Debray, and DeLattre.[1] They also note that, in addition, their patients have marked emotional upsets.

An analysis of our patients elicited symptoms of emotional difficulty in 18 or 85.7 per cent. Since most of the young women married quite early, their difficulties stemmed from maladjustment to married life.

Examination of all these people does not disclose any attendant difficulties in diagnosis, provided that the possibility of gallbladder disease is suspected. Many of the symptoms are overlaid with emotional symptoms and, as described, should be suspected in these cases.

All of the patients presented an asthenic body habitus contrary to usual expectation. Their musculature and turgor were poor. The basal metabolism in these patients was between 15 and 22 per cent, definitely below normal, which, along with an elevation of cholesterol in ten patients, brings to mind the picture of an individual suffering from mild symptoms of hypothyroidism. This certainly would fit the picture of those patients with menstrual difficulties.

All these points indicate that there is an endocrine imbalance in these young women. Is this brought on by pregnancy, or does pregnancy bring these symptoms to the fore?

The treatment should not present any trouble. These patients have cholecystitis and cholelithiasis. The treatment is excision of the gallbladder and T tube drainage of the common duct when indicated just as in other surgical cases. Medical treatment should work in conjunction with surgery. Chiray *et al.*[1] insist on medical treatment since they consider this condition an endocrine one. Antispasmodics and sedatives should not be the treatment of choice.

Three patients had to have T tube drainage of the common duct because of stones. All had cholecystectomy. The prognosis in these cases is excellent since all are comparatively healthy and the condition causing the pathology has been present only a short time.

144-21 SANFORD AVENUE

Reference

1. Chiray, M., Debray, C., and DeLattre, P.: Acta gastroenterol. belg. 13: 89 (Feb.) 1950.

proceedings

Special Committee on

INFANT MORTALITY

Medical Society of the County of New York

HAROLD ABRAMSON, M.D., *Editor*

EDITOR'S NOTE.—*By means of animal experiments Dr. Reynolds demonstrates the profound alterations that occur in the vascular architecture of fetal and neonatal lungs and the special structures of the fetal heart with onset of pulmonary ventilation at birth. A knowledge of these physiologic and morphologic changes is of importance in understanding the functional adjustments essential at birth for survival.*

Circulatory Adaptations at Birth

Physiologic and Morphologic Correlations

S. R. M. REYNOLDS, PH.D., D.SC., CHICAGO, ILLINOIS

(*From the Department of Anatomy, University of Illinois College of Medicine*)

THE problem of perinatal mortality demands that increasing attention be paid to the physiologic and morphologic adjustments of the circulation before and after birth, for the deaths that occur at this time are acute, although largely of unknown origin. There has been increasing interest in recent years in laboratory work connected with the nature of these changes. Such physiologic adjustments at birth are sudden, extensive, and vital; if the transition from a fetal to a neonatal state is not smoothly accomplished, the viability of the infant is jeopardized to the extent that the adaptations are insufficient. Accordingly, the problem of neonatal mortality may be best considered against the background of those physiologic and morphologic adjustments which take place at the moment of birth.

The Fetal Circulation

The fetal circulation, adapted as it is to a specialized aquatic environment, needs to be considered from two standpoints. Physiologically there is a pressure gradient, a cardiac output, and blood flow throughout various parts of the fetus that are unique to the fetal condition.[1] Anatomically, there is a particular feature in the vascular architecture of the lungs which influences the circulation, along with the well-known special structures of the fetus, namely, the ductus venosus, the foramen ovale, and the ductus arteriosus, which distinguish the fetal circulation.

At birth these vascular structures undergo a profound change, primarily because of change in the lung vasculature associated with pulmonary ventilation. This is the key to physiologic sequelae that take place in the newborn. We turn first, therefore, to the hemodynamic conditions as they are now known to be in the fetus.

BLOOD PRESSURE GRADIENT IN THE FETUS.—In fetal lambs near term there is a progressive fall in pressure from the ascending aorta through the umbilical arteries from about 75/50 to 60/40 mm. Hg. Across the placenta to the umbilical

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vein, there is a further fall to about 35/50 mm. Hg.[2] This high venous pressure in the umbilical vein is noteworthy. It persists, obviously, up to the umbilical recess in the liver. At this point there is resistance to outflow of blood through (1) the liver circulation (and thence to the inferior vena cava via the hepatic veins) and (2) the ductus venosus. The ductus venosus is a *direct* channel to the inferior vena cava, so resistance to flow in it is to be controlled by a recently discovered sphincter, innervated by the vagus nerve, in the ductus venosus. This sphincter appears to be sensitive to the pressure of blood in the umbilical recess and so to the venous return from the placenta. The combined resistances to flow keep the umbilical vein distended, maintain a large diameter in the vessel, and offer the best conditions for flow in what is a long and tortuous vascular pathway. One may note that by keeping the placental vascular tree under a moderately high pressure, the functioning placenta is an erectile organ.

Regional Blood Flows in the Fetus.—The distribution of the fetal cardiac output through the fetus is worthy of note. Only 15 per cent goes to the head and forequarters of the animal; 12 per cent goes to the fetal lungs.[3] Fifty-five per cent goes to the placenta. Moreover, the blood flows exceedingly slowly through the head and lungs and very rapidly through the placenta.[1] Thus, we see in the fetus that the placenta is favored with respect to velocity and volume flow of blood.

The corollary to the foregoing conclusion is that the blood flows fastest and in greatest quantity into the regions of the fetus where the resistance to flow is least. Conversely, it flows most slowly and in smallest amount to the areas where the resistance to flow is highest. Clearly, the lungs, supplied by the pulmonary arteries where the blood pressure is high, offer the greatest resistance to blood flow. Yet in histologic sections the fetal lung contains an abundance of blood. This fact has led Barcroft[4] to the belief that the fetal pulmonary circulation is abundant in preparation for postnatal life. This view, however, is erroneous. Pulmonary blood flow in the fetus is slow and scant.

These are the cardinal features of the fetal circulation. It is one designed to favor placental blood flow, and it is governed by the high resistance to flow in other parts of the fetus, especially in the lung.

Changes at Birth

The nature of the vascular changes at birth were almost "best guesses" until cineangiofluorographs of the process were recorded and blood pressure measurements were made in the pulmonary artery and aorta.[5] Complementing this, and only slightly later, other measurements of the decrease in pulmonary vascular resistance were recorded, and changes in pulmonary blood volume were measured. Finally, a clear demonstration of the nature of the finer pulmonary musculature about alveolar ducts and air sacs was made, and the anatomic changes occurring in the lung vasculature were seen to be sufficient to explain all the physiologic changes which take place. All of these changes will be reviewed and correlated in what follows.

Changes in Blood Pressure.—With immediate aeration of the lungs, there is a precipitous decline in blood pressure throughout the pulmonary and systemic circulations. In the former, low blood pressure persists, while in the latter it is transitory, lasting five to twenty minutes. The reason for this is aeration of the lungs; distending them with saline does not give rise to these changes.[3] Blood pressure changes are obviously associated with release of a previously congested circulation. Since there is a transitory fall in systemic pressure, there is clearly a transitory decrease in left heart output. This can only be explained, physiologically, by opening and filling up of vessels in the lung which, until aeration, were closed. Then, as these vessels become full, venous return from the lungs is restored, and systemic pressure will rise as left heart output again increases. It is aided by tying the umbilical cord (i.e., increasing peripheral vascular resistance).

The *ductus arteriosus*, it has been established unequivocally by cineangiographs, becomes functionally closed to the forward flow of blood as the level of blood pressure falls throughout the organism.[5] It closes because the pressure of blood distending it is reduced and because the contractile force of the muscular and elastic elements of the ductus exceed the distending pressure of the blood within.

There is question in many quarters as to when the ductus arteriosus closes. Functionally, it closes to forward flow of blood immediately on aeration of the lungs. However, when systemic pressure in fetal lambs increases after the initial fall of blood pressure, there is a copious amount of blood moving at a high velocity from aorta into pulmonary artery[3] through a lumen which is much reduced in size. It makes a definite sound which continues through the cardiac cycle and which ceases on ligation of the ductus arteriosus. There is no evidence yet of a similar effect in the human. In the lamb this flow persists for one to two days, whereupon flow ceases. Morphologic obliteration must follow this.

The *foramen ovale* (in reality an opening with a flap valve) does not close until the pressure on it from the left atrium exceeds the pressure on it from the right atrium, thus closing the valve. This, Dawes[3] shows, occurs when systemic pressure recovers, indicating an abundant flow of blood into the left heart from the lungs. This, like ductus closure, is strictly a mechanical phenomenon.

No one knows how the sphincter of the *ductus venosus* reacts at the time of aeration of the lungs. This is a study for the future.

The pulmonary pressure, it was noted above, decreases permanently after aeration of the lungs. At the same time the velocity and volume of the blood entering the lungs increases very substantially. The velocity of flow is four to five times the speed in the fetus, and the percentage of the cardiac output entering the lungs increases from 12 to 50 per cent. Clearly, aeration brings about a substantial decrease in pulmonary peripheral vascular resistance.[3] This determination has been made directly in lamb fetuses. Expressed as the quotient of the drop in blood pressure across the pulmonary circulation divided by the volume flow of the blood, the peripheral vascular resistance was found to decrease by about 80 per cent. This is true in lambs weighing about 2 Kg. Earlier than this, when the lamb is nonviable, such extensive a drop in pulmonary peripheral vascular resistance does not take place.

One final bit of physiologic evidence must be explained to complete the picture. Aeration brings about an initial increase in pulmonary blood volume followed by a further increase over the next seven to twenty-four hours.[6] In guinea pigs Everett and Simmons[6] have found that when P^{32}-labeled erythrocytes are injected into fetal and neonatal guinea pigs, there is an initial rise of 20 to 30 per cent which is followed by the further rise to 100 per cent in the time noted above.

TABLE I.—PULMONARY VASCULAR CHANGES AT BIRTH

Physiologic Factor	Fetal Condition	Neonatal Condition
Pulmonary arterial blood pressure	4+	1+
Velocity of blood flow, pulmonary artery	1+	4+
Pulmonary circulating blood velocity	1+	4+
Pulmonary peripheral vascular resistance	4+	1+
Pulmonary blood volume	2+	3+ to 4+

Table I summarizes the quality of pulmonary vascular changes described above. Consideration of this table reveals that the crux of the changes at birth is to be found in two morphologic features. First, there must be a structural change to account for the decrease in pulmonary peripheral vascular resistance. Second, there must be a vascular bed which opens progressively over the first twenty-four hours after birth. These anatomic features will be described in what follows. They were first described in detail by Reynolds.[7]

VASCULAR ARCHITECTURE OF FETAL AND NEONATAL LUNGS (GUINEA PIG).—Fetal guinea pigs near term, with the placenta retained in utero, were delivered by cesarean section. Breathing was prevented by tying the membranes about the head and neck. The lung was bloodlessly exposed and a loose ligature placed about the pedicle of the lung. After a time it was tied tightly, trapping blood within the pulmonary vasculature at the moment of ligation. The lung was then excised, cut in thick (25 micra) sections and then the hemoglobin stained with a selective stain (the Crossmon stain technic[8]). In this way blood was retained in the fetal pulmonary vessels and then stained to reveal the vascular architecture of the lung.

With necessary modifications lungs of breathing animals were obtained, preventing loss of blood and collapse of the lung.

Low Power Examination of Sections

WHOLE SECTIONS OF FETAL AND NEONATAL LUNGS.—Our attention was first attracted to a different appearance of all the sections with respect to the size of the large blood vessels in the unaerated and aerated lungs. The fetal lung showed many large distended vessels, arteries and veins (Fig. 1). Such large, distended blood vessels are not visible in the neonatal lung in pictures taken at the same magnification (Fig.

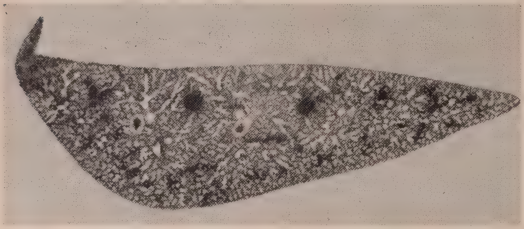

FIG. 1. Section of fetal guinea pig lung. Fixed in formol-saline; sectioned at 24 micra. Stained for hemoglobin by Crossmon's[8] stain; counterstained lightly with methylene blue. Note some alveolar ducts sectioned longitudinally. Observe numerous congested arteries and veins (large black structures).

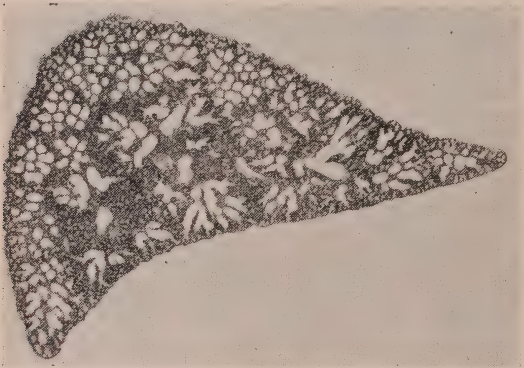

FIG. 2. Section of neonatal (breathing approximately thirty minutes) guinea pig lung. Fixed and stained as in Fig. 1. Note paucity and small size of large vessels (i.e., no vascular congestion). The alveolar duct diameters are increased about two times.

2). This absence in aerated lungs of vascular congestion is associated with a more than doubling of the diameters of the largest alveolar ducts which are visible in each type of section. Such an increase in alveolar duct diameter represents at least a quadrupling of their cross-sectional areas and, hence, a substantial increase in the volume of the distended portions of the lungs.

Aeration, therefore, promptly removes a congestive influence which is present in the fetal lung.

FETAL LUNG HISTOLOGY.—Microscopic examination of 24-micron sections at a magnification of 100 revealed, along the alveolar ducts, cords containing numerous serrations (Fig. 3). These are easily seen in ducts that are cut longitudinally. Once seen, the serrations are identifiable generally throughout the sections. They are not recognizable in sections cut at 10 micra.

At a magnification of 300, these "serrations" are seen to consist of continuous and convoluted blood vessels. Their origins from terminal arterioles are abrupt where they have relatively large capillaries full of erythrocytes connecting them (Fig. 4). At the termination of the convoluted capillary structures where they empty into venules, vascular interconnections containing erythrocytes are again seen clearly (Fig. 5). The main convoluted vessels join just beyond this merging, giving rise to a venous channel. In thick sections the wall of this channel has not been identified, but the channel of erythrocytes leads to a recognizable small vein.

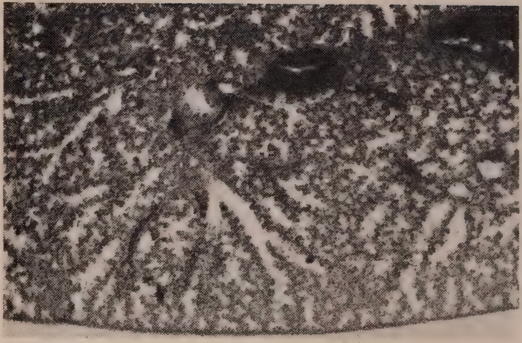

FIG. 3. Section of lung shown in Fig. 2. Note artery (large oval vessel), first arterial branch arising from it, and terminal arteriole (upper right). Observe the appearance of serrated "cords" lying along the alveolar ducts. 24 micra.

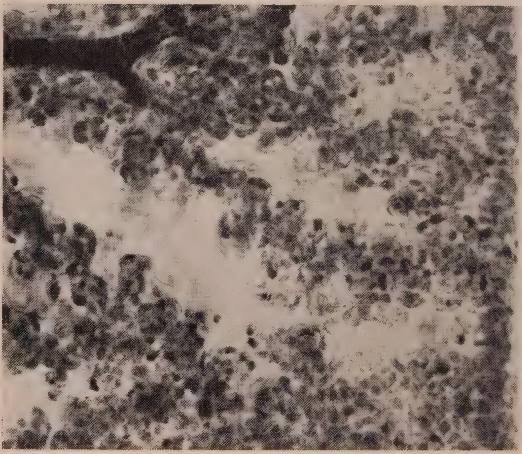

FIG. 4. Section of same lung shown in Fig. 4, cut at 24 micra. Note that the serrated elements are correlated blood vessels.

Detail and relations of a convoluted capillary are shown in Fig. 4. A long one running across the pictures from upper left of center to the lower right of center is shown. It contains seven or eight convolutions. Between it and the neighbors is a fine, less erythrocyte-filled structure, in

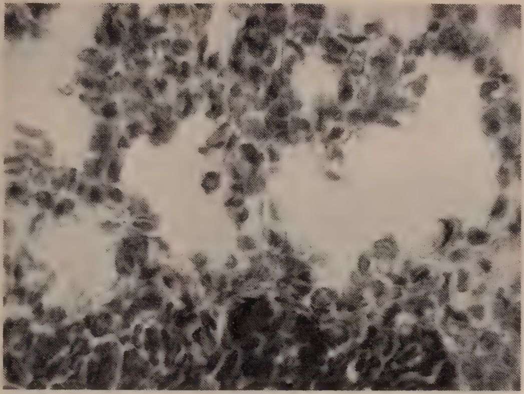

FIG. 5. Magnification of entry of arterial capillaries into a collecting venule (at bottom). Mallory-Heidenhain stain; 24 micra. Note anastomosing connections between the larger capillaries and abrupt entry of interconnecting arterial capillaries into a venule at bottom margin of the picture.

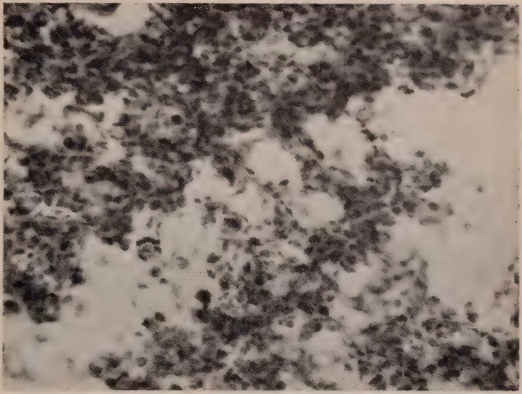

FIG. 6. Section of a saline-injected fetal lung to demonstrate small capillary vessels connecting convolutions of convoluted arterial capillaries. Note erythrocyte-free portion of plexus at left and origin of plexus from convoluted arterial capillary at right. Other capillaries in both alveolar ducts are identifiable microscopically, but are out of focus in the plane of the photograph. Crossmon's stain; 24 micra.

focus at the lower right of the cord. In another picture at a different optical level similar structures are seen at the left of the cord and above it as well. These finer structures, as will be noted below, are parts of an unextended capillary plexus.

Such distinct relations of the convoluted vessels are never clearly seen in sections cut at 10 micra. These convoluted vessels, therefore, have a size somewhat greater than 10 micra in order to be recognizable in the thicker but not in the thinner sections of fetal lung. Diameters up to 20 micra have been measured.

There is continuity of each of the convoluted vessels, as may be seen at a magnification of 500. The erythrocytes are contained within single tubes, as may be proved by observing their relations to each other by "optical dissection," focusing up and down.

The convoluted vessels have relatively large diameters. They accommodate at times as many as four or more erythrocytes packed across the lumen. They approximate in diameter the lumen of the terminal portion of the arteriole from which they arise.

Numerous as these convoluted vessels are, they appear to be less so than the finer capillary bed to which they give rise. The fine capillary vessels are seen in numerous sections as distorted, small vessels running between different, adjacent convoluted tubules. In the fetal lung these blood capillaries are frequently flattened, containing relatively fewer erythrocytes as compared with the larger structures from which they arise, except in the vicinity of the origin and termination of the convoluted vessels as noted. They are distorted and small since in 24-micron sections one must focus at different levels in order to see them.

A special procedure was used to bring these capillaries more clearly into view. In one fetal guinea pig the lungs were moderately distended by an injection of saline through a number 27 needle inserted into a trachea occluded anteriorly. Sections from such a saline-injected lung are shown in Fig. 6. Here the convoluted vessels are but slightly extended, while the alveolar ducts are somewhat distended. We see, therefore, in these figures typical areas where the capillaries have been brought into an optical plane suitable for photography by slight distention of the lung.

By examination of regions of sections of undistended fetal lungs, one can detect as many as seven capillaries connecting two convoluted vessels in a distance of about 100 micra at intervals averaging about 15 micra. These capillaries in turn are interconnected, forming a network of great potential magnitude (Fig. 6). They contain few erythrocytes in the fetal state in contrast with the convoluted arterial capillaries.

The identity of the convoluted vessels has been determined by study of sections cut at 6 micra and stained for smooth muscles, connective tissue, and for elastic tissue in or about their walls.

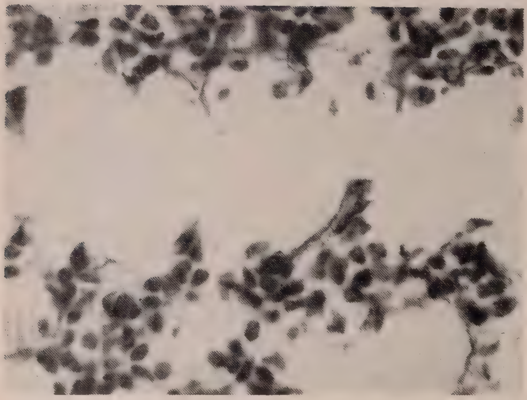

Fig. 7. High-power view of elastic fibers on convoluted arterial capillaries. Fraenkel's stain. Nuclei of endothelial cells show in photograph as black dots. In slides they are purple-brown. Elastic fibers are black. Note that an erythrocyte-filled, elastic fiber-free capillary bridge exists between two separate arterial capillaries.

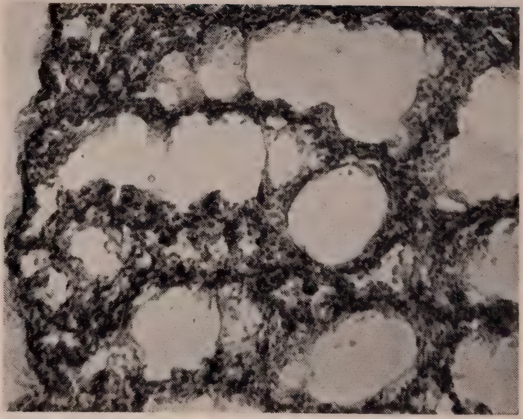

Fig. 8. Section of lung from a neonatal animal, breathing about thirty minutes. Note partially extended convoluted arterial capillaries. 24 micra.

It is strikingly evident at higher powers (1,000 ×) that there is a fine elastic reticulum associated with the convoluted vessels (Fig. 7). Virtually every convoluted capillary vessel that can be clearly seen has fine elastic fibers associated with it. One observes in the convoluted vessel the lightly stained epithelial nuclei, the single curve of a convolution, and with this a dark elastic fiber band or group of bands which runs more or less longitudinally along the convolution. By focusing up and down, it is possible to see that these fibers follow the course of each curve in the vessel. There are no smooth muscle cells present. Elastic fibers have not been seen on the small, interconnecting capillaries between the arterial capillaries.

The relation of the elastic tissue to terminal arterioles has been studied in many sections. The arteriole possesses a discrete elastic membrane and fine reticulum throughout its walls. As an arteriole gives rise to an arterial capillary (i.e., the convoluted capillary), the elastic tissue becomes dispersed and scanty, following the cords of convoluted vessels as these interconnect and radiate outward to form and shape the boundaries of the alveolar ducts in the fetal lung. At the other end of the convoluted vessels, a similar situation obtains. The elastic fibers on or about the convoluted vessels become more abundant as convoluted capillaries join the venous capillaries and venules.

The elastic tissue of the arteries and veins, therefore, forms a continuum with the investment of the arterial capillaries. Since the walls of the capillaries are but a single layer of endothelium, the elastic tissue may be regarded as perivascular.

In the fetal lung, therefore, the capillary bed is unique. The arterial tree follows closely the bronchiolar tree. At the level of alveolar duct the arteries rapidly become arterioles and divide directly into convoluted arterial capillaries of large diameter and in part provide along their lengths the bounding contours of long alveolar ducts. Between the long arterial capillaries lies a vast, wrinkled, and relatively erythrocyte-free capillary plexus. Venous drainage is by union of a number of convoluted arterial capillaries to yield venous channels of increasing size. The drainage of the capillary net is by way of the venous capillaries that form the terminal parts of the large, convoluted arterial capillaries.

Neonatal Lungs.—Neonatal lungs from animals breathing less than half an hour show only partial distention of the alveolar ducts, usually at the base of the lung and in its more lateral parts (Fig. 8). One sees in these areas that there is a mixture of extended, thin vessels carrying but few erythrocytes within vessels of a septum and other areas in which the convoluted arterial capillaries are partially extended. The convoluted capillaries are of smaller diameter than in the unaerated state (approximately 6 versus 12 micra), and the capillary plexus between them is evident in certain regions. Clearly, the network is only reoriented spatially, and the observations confirm the study of the more dense and convoluted vasculature of the fetal lung.

At Twenty-four Hours.—The lung is still more distended but not nearly so much as in the adult. Erythrocytes lie in the septa in what must be individual capillary vessels. In view of the extreme distention of this lung as compared with the fetal lung, the capacity of the capillary plexus must now be very large. Here and there, one still sees regions in which the convoluted vessels are not yet fully extended. These vessels are about 6 micra in diameter instead of well over 10, as in the fetal lung.

Adult Lung.—The adult lung shows stretched and minute capillaries lying within thin septa along with the supplying arterial and venous channels. The histology of the adult lung is well known and need not be discussed further.

The Relation of Function to Structure

The observation that the alveolar duct of the fetal lung is bounded (perhaps beneath an overlying epithelium) throughout its length by long convoluted arterial capillaries has not been made heretofore. These originate as abrupt transitions from the terminal arterioles. Irwin *et al.*[9] describe blunt termination of these arterioles in living lungs, as do Knisely and Knisely.[10] The convoluted vessels are connected by closely spaced smaller capillaries which in turn are freely interconnected. The main venous drainage of this system is from terminal regions of the convoluted arterial capillaries. In this system alveoli exist only potentially as extensions of the alveolar duct against the meshes of the undistended capillary system surrounding it when this is distended with air. The cardinal factor in such an arrangement is that there are large convoluted arterial capillaries that have an elastic support, offering greater resistance to distention than the thinner, more numerous small capillaries which do not possess elastic fibrils.

This description is consistent with the observations made by Olkon and Joannides.[11] Studying the lungs of the living adult dog by transillumination, they say: "The lines represent shallow partitions within the alveolus, as determined by stereoscopic observation. What these septa-like processes are cannot be stated with certainty. But presumably they represent networks of elastic fibers. . . . Surrounding each alveolus is a more refractive zone made up of two walls, representing the walls of adjacent alveoli. *What appears to be a large capillary is seen to occupy this space between the two walls, although presumably this is merely the capillary network seen on edge. From this large capillary smaller capillaries, having the diameter of one red corpuscle, dip into the wall of each alveolus. These smaller radially arranged capillaries do not end blindly* as suggested by the drawing, *but anastomose everywhere with adjacent capillaries*" (authors' italics).[11]

Irwin *et al.*[9] likewise noted capillaries large enough to accommodate several erythrocytes side by side, while in the smallest capillaries the erythrocytes move individually and are sometimes distorted, or there is plasma-skimming. They also note the anastomosing capillary plexus as here described in the fetal lung.

It is clear from our study that in the fetus the small capillaries are folded and contain very few erythrocytes. Instead, these cells are for the most part packed into the convoluted arterial capillaries. On inflation, therefore, a tremendous reservoir of blood vessels opens up as the capillary plexus unfolds. It is clearly the filling of the smallest capillaries that accounts for the transient decrease in systemic blood pressure that occurs with onset of ventilation and so results temporarily in diminished venous return to the left side of the heart and the observed transient fall in systemic blood pressure.[5] Extension of convoluted arterial capillaries permits reduction of pulmonary peripheral vascular resistance. The fact that not all alveolar ducts become distended at birth, but progressively with time, would account for the accompanying progressive opening up of the associated small capillaries and progressive increase in pulmonary blood volume with time. This quantitative difference with time is a distinguishing feature of the neonatal organism that makes it truly transitional between the fetus and the adult in a structural and functional sense.

The congestion of the fetal pulmonary arteries and arterioles is accounted for by the packing of erythrocytes in the convoluted arterial capillaries. It is an evidence of resistance to the flow of blood. It would explain also the slow pulmonary artery filling demonstrated in the cineradiographs of fetal lungs and the slow fetal pulmonary circulation times. But what accounts for the distended pulmonary veins in the fetal lungs beyond the convoluted arterial capillaries? This may be explained in part on the basis of a high left atrial pressure in the fetal heart. This is high, as measured by Dawes,[3] so long as the foramen ovale delivers blood into it from the abundant return of blood flowing from the inferior vena cava. Pulmonary capillary pressure has been found to approximate closely left atrial pressure.[12] This venous resistance, therefore, combines with that in the convoluted arterial capillaries to impede the pulmonary blood flow in the fetus and so to keep the pressure high in the pulmonary trunk.

The manner of blood flow in the fetal capillary plexus must be clear from what has been said above. It is slow, small in volume, and confined primarily to the larger convoluted arterial capillaries. It fails to flow in the smallest capillaries in significant amounts because, perhaps, of more or less equal pressures at their origins on the systems of convoluted arterial capillaries and because these smallest vessels are folded and compressed. In the aerated lung, in contrast, flow is copious and fast, although under a low head of pressure.

Since the main pathways between arterioles and venules in the ventilated lung are the extended arterial capillaries, how will blood flow in the plexus of extended small capillaries between them? Irwin *et al.*[9] observed intermittent flow in them in ventilated lungs of guinea pigs and rabbits. Olkon and Joannides[11] write, ". . .the number of small capillaries visible in the alveolus varies with the amount of air pressure. . . . Another instructive feature of the capillary mechanism is an increase in the speed of movement of blood cells in the larger capillary when the lung is excessively distended. The smaller capillaries which take origin from this large capillary. . .assume a deeper color and straighter outline; and when the pressure is suddenly reduced, the flow in the larger capillary assumes a to-and-fro movement; the smaller ones also show changes in their color, caliber, and outline." Similar intermittent flow in the larger capillaries has been observed by other investigators.[13,14]

Observations such as the above corroborate our observations based on morphology that the venous drainage of the pulmonary blood capillary system is from the arterial capillaries and that it is not directly connected with the vast capillary plexus that lies in the alveolar duct septa.

Summary and Conclusions

In brief, it is evident that the quality of blood flow in the fetal lung is the result of resistance offered to flow by two principal factors: (1) the coils and convolutions of the large arterial capillaries and (2) by a high venous resistance beyond the arterial capillaries. In part, this is morphologic, and in part it is functional as determined by the hemodynamics of the fetal lung.

The anatomic study of the pulmonary vasculature summarized here in some detail serves to provide a basis for explaining all the physiologic changes known to be associated with the onset of pulmonary ventilation of the lung at birth (Table 1). How it is related to pathologic changes which develop remains, of course, to be established. Even so, this study may serve to point the way for the obstetric and pediatric pathologists to the solution of some of their problems. If so, one of the main objectives of this presentation will have been achieved.

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There is some comfort in the fact that even though your dreams don't come true, neither do your nightmares. If you want your dreams to come true, wake up!—F. B. James

CLINICOPATHOLOGIC CONFERENCE

STATE UNIVERSITY OF NEW YORK COLLEGE OF MEDICINE AT
NEW YORK CITY AND THE UNIVERSITY DIVISION-MEDICAL
SERVICE, KINGS COUNTY HOSPITAL, BROOKLYN, NEW YORK

Conducted by PERRIN H. LONG, M.D.

FEBRUARY 10, 1955

Clinical History

L.G., a forty-four-year-old, married, self-employed milkman, entered Kings County Hospital on June 6, 1954, because of chest pain of three days duration.

The patient was in his usual state of good health until 10 A.M. on June 3, 1954, when, on his way home from work, he noted the sudden onset of stabbing retrosternal pain which soon spread to both shoulders and over the precordial area. It did not radiate into his back or down his arms but was accompanied by a profuse diaphoresis and was made worse by exertion and deep respiration. The patient did not faint but walked home slowly. He visited his physician early that afternoon, and bed rest was advised. No electrocardiogram, erythrocyte sedimentation rate, or white blood cell count was done. In spite of bed rest the pain persisted with frequent exacerbations precipitated by mild exertion but not by eating. The patient stated that the pain was relieved somewhat in the upright position. During the three days prior to admission the patient noted increasing dyspnea with mild exertion and orthopnea even with four to five pillows. He was awakened from his sleep several times because of chest pain and paroxysmal nocturnal dyspnea. On June 6 he called his physician because of the persistence of chest pain. Hospitalization was recommended. He was given an injection by the ambulance physician. His medical and surgical past were uneventful and noncontributory to his present illness.

On admission examination the patient was found to be an alert, cooperative, well-developed, well-nourished man who appeared to be his stated age. He was acutely rather than chronically ill, being somewhat orthopneic and tachypneic. Temperature was 102.4 F., pulse 96 (irregular), respirations 30, and blood pressure 110/70. Positive physical findings were as follows: (1) marked neck vein distention in the semirecumbent position, (2) coarse, moist inspiratory and expiratory rales at the right base posteriorly, and (3) distant heart sounds with an occasional extrasystole.

TABLE I.—LABORATORY DATA

Date	Erythrocyte Sedimentation Rate	Hemoglobin (Gm.)	White Blood Cells
June 6	24/35	13.3	17,000
7	24/15	..	..
8	24/30	13.2	15,000
11	24/12	..	..
22	24/30	..	9,600
28	24/45	..	10,000
July 1	..	11	6,000
3	24/35	..	..
4	..	10.5	..
7	..	..	..
10	24/35	12	23,000

The patient's initial laboratory studies showed a hemoglobin of 13.3 Gm. and white blood cells 17,000 with a shift to the left, Mazzini negative, fasting blood sugar 134 mg. per cent, cholesterol 132 mg. per cent, and bromsulfalein retention 55 in five minutes and 0 in forty-five minutes; results of later laboratory tests are given in Table I. The patient required several injections of morphine during the first two days of his hospital stay and did not void spontaneously until his second hospital day, at which time his urine showed a 1 plus reaction for sugar, 5 to 10 white blood cells, and some hyaline casts. His erythrocyte sedimentation rate was slightly elevated on admission and remained elevated. On June 7, while being examined by the attending physician, the patient had a shaking chill. The attending physician read his initial electrocardiogram as "significant Q waves in lead III and aVF with elevation of ST segment in these leads and slight depression of ST in lead I."

The patient continued to experience intermittent pressing precordial pain and manifested increasing congestive failure. On June 8 dicoumarin was administered. A repeat electrocardiogram on June 9 showed no changes, and a bedside chest film revealed the heart enlarged to the left. No pericardial friction rub was heard, but because of the possibility of a pericarditis, dicoumarin was discontinued. Venous pressures at that time were 100 and 80 mm. of water, and Decholin circulation times were fifteen and eighteen seconds.

The patient's temperature lysed to normal over a four-day period. Coarse, crackling rales were consistently heard at his right base with some dullness and decreased breath sounds heard at the left base. Repeated bedside x-rays failed to reveal any recent pneumonic changes but did show straightening of the left cardiac border and atelectatic changes in the posterior portion of the left base. After the initial urine examination all subsequent urine examinations were within normal limits. The patient's retrosternal pressure attacks diminished, and an electrocardiogram on June 19 showed flattening of the T waves. Since the course was uneventful, the patient was allowed in a wheelchair on June 22, and on June 25 gradual ambulation was started. On June 29 the patient again became febrile (101 F. during day, 102 F. in evening), and was found covered with sweat; a gallop rhythm was heard.

The patient remained febrile (100 to 103 F.) and became more dyspneic, requiring oxygen for a good portion of the time. Repeated blood cultures were negative. A venous pressure was then reported at 320 mm. water and a Decholin circulation time at thirty-four seconds. It was decided on July 5 to digitalize the patient because of increasing congestive failure. In spite of digitalization the patient's tachycardia and dyspnea continued. Repeated x-rays failed to reveal any evidence of a pulmonary infarction. The course continued downhill, and on July 12, 1954, the patient expired in shock despite two hours of l-norepinephrine.

Discussion

Chairman Perrin H. Long: I have asked Dr. Maynard, who is director of the Medical Service at the Brooklyn Hospital and clinical professor of medicine in the Downstate Medical Center, to participate in our Clinicopathologic Conference today.

Dr. Edwin P. Maynard: I will consider that the protocol has been read by all of us. I read it several times myself and found it extremely interesting. It was quite difficult to make up my mind as to just what the pathologist is going to tell us he found at postmortem. Before drawing conclusions, however, I would like a little more information. May I have that, Dr. Long?

Chairman Long: If we have it.

Dr. Maynard: I would like to know if I may see the electrocardiograms of this patient?

Chairman Long: They will come on the screen. You will have to watch them quickly before they burn up.

Dr. Maynard: I was interested in lead I. The electrocardiogram as described in the protocol shows elevation of the RT segments in leads II and III and some reciprocal depression of the RT segments in lead I with significant Q waves in leads II and III. I can certainly see a significant Q wave in lead III and depression of the RT segments in lead I. May we see the V leads?

Dr. Daniel D. Steiker: They cannot be projected.

Dr. Maynard: In the subsequent electrocardiograms I was particularly interested to know whether the T waves became inverted in leads II and III and in the V leads as the disease progressed. There was some inversion of the T waves in the V leads. Thank you very much.

Another question—did the liver enlarge as heart failure progressed? Was a paradoxic pulse noted?

Dr. Steiker: The liver was not palpable or enlarged, and no paradoxic pulse was noted.

Dr. Maynard: One more point, and then I am through with the questions. How much Dicumarol did the patient receive, and for how long was it given? As I calculated it from the protocol, it was only given for two days.

Dr. Steiker: Two days.

Dr. Maynard: And very early in the disease?

Dr. Steiker: It was given late in the disease, on July 10 and 11.

Dr. Maynard: Then it seems to me that we have to think about conditions which cause severe retrosternal pain and heart failure. One of those that came to mind is of course acute myocardial infarction with or without cardiac tamponade. The second disease which might do this is acute pericarditis with tamponade. A third which seems least likely is pulmonary embolism with infarction of the lung. Dissecting hematoma, which was formerly called dissecting aneurysm, should be mentioned. This would not fill the bill because it would not produce congestive heart failure.

When we analyze the history, we note interesting points—first, as to the character of the pain. It was said to be stabbing in nature, occurring in a man who was apparently well, returning from work. The pain was made worse by breathing. This seems to me to be an important point. The pain radiated to the shoulders but not down the arms. Also it seems significant that it was relieved by sitting up. The pain of pericarditis is aggravated by breathing and is also relieved by sitting up, particularly if the patient leans forward. Perhaps that is because the fluid in the pericardium separates the lower anterior portion of the visceral pericardium from the parietal.

Then it is interesting in this history that there was rapid development of shortness of breath. The patient became orthopneic and developed paroxysmal dyspnea soon after the attack. This in my experience is uncommon in acute myocardial infarction and favors pericarditis with the development of fluid in the pericardium.

Now as to the physical examination, it was noted that the patient had tachypnea, that he had markedly dilated neck veins, and that the heart sounds were distant and the blood pressure low. All these facts favor fluid in the pericardium with cardiac tamponade. It must be remembered that when fluid develops rapidly, only a small amount is necessary to produce cardiac tamponade. In tuberculosis of the pericardium with slow onset, large amounts of fluid may be required before compression symptoms develop.

Now let us consider the electrocardiographic findings. From the interpretation in the protocol and from what I could see from the slides, there were significant Q waves in lead III, and there was some reciprocal inversion of the T waves in lead I. Acute pericarditis does not cause the development of significant Q waves in the electrocardiogram. It does produce elevation of the RT segments, usually in leads I and II or leads II and III, and occasionally in all leads, but if the RT segments are elevated in leads II and III, there is no reciprocal depression of the RT segment in lead I. Then because of the fact that in pericarditis there is involvement of a layer of the myocardium under the pericardium, the T waves later become inverted in the limb leads and also in the V leads. The fact that there are significant Q waves in lead III with elevated RT segments favors myocardial infarction.

As to the clinical course—how does that influence me in making the diagnosis? In the first place this patient had an acute phase during which he was extremely ill for ten days and recovered without any apparently specific therapy. He was not treated for heart failure except for rest in bed and simpler measures and then was allowed up and about. He had a recurrence of symptoms on the twenty-sixth day with the rapid appearance of signs of heart failure, shock, and what appeared to me to be signs of cardiac tamponade. Then, interestingly enough, the venous pressure went to very high levels in this relapse, and the circulation time was greatly prolonged. So far, the description of the patient's pain, the clinical course, the physical examination—all but the electrocardiogram suggest to me that this is an illness which has produced precordial pain and cardiac tamponade. After we have seen the x-rays, we shall try to be a little more specific.

Dr. S. Hemley: The x-rays will be of considerable interest. The first study was taken on June 8 (*film*). From the appearance of the flank and of the ribs and clavicle, the patient was either in a supine position or semirecumbent position. I won't say too much about the cardiac configuration since it is altered quite considerably in this position.

The next study was on June 14 (*film*). I think it is important to note two things here: first, the configuration of the cardiac silhouette, and second, the absence of engorgement of the pulmonary vasculature. In spite of the clinical history there was nothing at either base, and the diaphragms were smooth.

A lateral study film at this time revealed nothing of great note as far as the cardiac silhouette was concerned, and the retrocardiac area was not too remarkable (*film*). However, there were some linear streaks in this region which, in spite of their altered direction, may possibly have been atelectasis due to compression from enlarged heart.

I think the most significant study film was taken on July 2 (*film*). In this study we have evidence of a heart that has enlarged considerably in size. This was an upright study. Once again, in spite of the enlargement of the heart shadow and the clinical picture, there was no engorgement of the pulmonary vasculature whatsoever. In this region the superior mediastinum showed some fullness that could be due to engorgement of the brachial cephalic vessel or superior vena cava. However, there was in this region an oval lesion which did not appear to be an artefact superimposed on the cardiac silhouette. This particular density plus this fullness here were of great significance, particularly in the light of the absence of distention of the pulmonary vessels and the size of the heart. In the lateral projection taken during the same day we could not isolate the oval density superimposed on the cardiac border. However, the blue pencil outlines a considerable increase in the size of the retrocardiac region. There was no effusion at this time, and the linear areas which apparently were atelectatic segments of the left lower lobe—we have some oblique studies—were no longer apparent.

Therefore, summing it all up, we have evidence of a heart which has rapidly increased in size with clinical and roentgen evidence of pericardial effusion, and we have also an oval density superimposed on the cardiac silhouette and possibly something in the superior mediastinum. These densities, which from their configuration are probably tumor, cannot be isolated from the heart proper. Therefore, I would say the possibility is to be considered of pericardial effusion secondary to metastatic disease from elsewhere, or possibly from primary disease of the mediastinum, or less likely from possible primary tumor of the heart or pericardium. However, those tumors do not appear so well circumscribed and so well formed. That is the last x-ray.

Dr. Monte Malach: There was one other electrocardiogram.

Dr. Maynard: I would like to look at it without seeing it on the projector.

Dr. William Dock: There is quite a difference between July 5 and 12.

Dr. Maynard: After having seen the x-rays, I shall comment on the diagnosis in this case. The clinical syndrome is that of heart failure and acute cardiac tamponade. One of the causes, which seems to me improbable, is acute myocardial infarction with rupture of the myocardium and hemopericardium. I don't know whether any of us have ever seen a patient recover from this, but I never have. In my experience rupture of the heart in acute myocardial infarction occurs usually in the first week. All the patients I have seen have died very promptly. I think Wright, Marple, and Beck in their recent book have autopsy material on what they call partial rupture of the heart. I have never seen such a patient.

Then it would be very extraordinary to have a second lesion twenty-six days later and develop the picture of cardiac tamponade again. I think the electrocardiogram helps here in that it does show evidence of myocardial damage, but it is not typical of acute myocardial infarction. It helps us when we try to make the diagnosis of pericarditis. It shows that in addition to inflammation of the pericardium, there has been damage to the heart muscle. So then, aside from myocardial infarction with hemorrhage into the pericardial sac, which I think is extremely unlikely, we have to think about the ordinary types of acute pericarditis of unknown etiology in which we never recover an organism and in which there are rapid development of fluid in the pericardium and the production of cardiac tamponade. Again, tuberculosis of the pericardium must be thought of. This seems highly unlikely because the course is so rapid. Finally comes tumor of the heart and pericardium which, I must confess, was last on my list before I saw the x-ray films. In view of the fact that they show nodular areas of increased density in the heart shadow, it seems most probable that tumor had been developing in this man, that it finally invaded the pericardium and produced an effusion, either bloody or clear, which resulted in cardiac tamponade. Then, for some reason, the fluid decreased in amount, and the patient improved. Finally the tumor ulcerated again, bled a second time, and caused recurrence of cardiac tamponade and the death of the patient.

The pathologist will tell us the commonest types of tumor of the heart. As a clinician I have seen very few, but the commonest ones have been metastatic in origin.

Dr. Long, I think that I shall be more definite now and say that this patient had a tumor ***involving the heart, the pericardium, and***

also the mediastinum, etiology and source unknown, that produced a bloody effusion and cardiac tamponade on two occasions.

Chairman Long: Thank you very much, Dr. Maynard.

Our students have made the following diagnoses: myocardial infarction, four students; myocardial infarction with hemopericardium, six students; myocardial infarction with ventricular aneurysm, two students; cardiac fibroelastosis, one student; rheumatic myocarditis, one student.

After our friends from the Department of Pathology have discussed this patient's findings, I am going to ask Dr. Dock why he shook his head on fibroelastosis, because I thought it was going to come off with that shake.

Dr. Prose, will you begin your part of this discussion?

Pathologic Report

Dr. P. Prose: I will describe the pertinent gross findings of the postmortem examination. The body was that of a well-developed, well-nourished, white man, measuring 69 inches and weighing approximately 160 pounds. There was marked pallor of the skin.

When the abdominal cavity was opened, the liver was observed to extend 8 cm. below the right costal margin and 13.5 cm. below the xyphoid process. The spleen was hidden behind the costal case. Within the left side of the abdominal cavity there were thickened gray-white loops of jejunum. The mesentery was thicker than normal and presented numerous small white nodules, presumably lymph nodes.

On opening the thorax the mediastinum at the level of the diaphragm extended from the vicinity of the left lateral chest wall to the midclavicular line on the right side. The pericardium was light yellow and firm. It was noted that the lungs were partially collapsed. A gross examination of the separate organs was performed. The heart could not be separated from the parietal pericardium because the pericardial space was replaced by gray-white tissue which also invaded the underlying myocardium. The heart with adherent pericardium weighed 1,700 Gm. The left ventricular wall (with adherent pericardium) was approximately 31 mm. in thickness, the right ventricular wall approximately 24 mm. On their endocardial surfaces the ventricles presented white nodules, millet seed to lima bean in size. The coronary vessels were compressed but patent.

The esophagus and stomach were not grossly remarkable. Just beyond the pyloric ring there was a sharply defined ulcer of the duodenum, 1.8 cm. in diameter. The base of the ulcer and the underlying muscularis were firm and gray white. Portions of the jejunum resembled a garden hose, measuring 1.5 to 2 cm. in thickness. The mucosa was intact.

The liver appeared congested and weighed 2,350 Gm. The spleen was congested, with prominent follicles, and weighed 300 Gm. The pancreas was not remarkable. The medulla of the right adrenal was replaced by gray-white tissue and measured approximately 1 cm. in diameter. The right kidney weighed 230 Gm., the left 210 Gm. In each renal medulla we observed a few small infarcts, 2 to 3 mm. in diameter. There were a few atheromatous plaques in the aorta. The vertebrae were essentially normal.

The first kodachrome shows part of the gross specimen of the heart (*slide*). For your orientation this is the mitral valve (*indicating*). Here we have the wall of the left ventricle and the auricle, and this is all tumor involving the pericardium and also infiltrating the heart muscle.

A photomicrograph of the heart showing pericardial fat and myocardium (*slide*). Both are invaded by the bluish masses which represent nuclei of cells.

The coronary vessels and epicardial fat again invaded by the same cells that we saw in the previous kodachrome (*slide*).

This is a photomicrograph of duodenum showing involvement of the mucosa; the muscularis in this area and the serosa are relatively uninvolved (*slide*).

This is a section of the right adrenal (*slide*). The cortex is relatively normal. The medulla is involved by tumor.

This photomicrograph of the heart was taken with greater magnification than the previous one (*slide*). The heart muscle is infiltrated by pleomorphic cells, some of them in mitosis, resembling bizarre reticulum cells.

This photomicrograph shows the infiltrate in the duodenum (*slide*). Again we see the pleomorphic cells locally invading the mucosa and muscularis.

The previously shown section at higher magnification shows the pleomorphism of the reticulum cells; some with very large nuclei, relatively hyperchromatic; others paler (*slide*). There is no attempt at gland formation.

Another photomicrograph, this one of the adrenal (*slide*). The medulla is replaced by pleomorphic tumor cells.

This is a photomicrograph of the pericardium showing basically the same infiltrate (*slide*). The pericardium also showed areas of necrosis, which may have accounted for some of the acute clinical episodes.

The final anatomic diagnosis was reticulum cell sarcoma involving the jejunum, mesenteric and mediastinal nodes, pericardium, myocardium, adrenals, and lungs; atelectasis; congestion of lungs; chronic passive congestion of the liver; and ulceration of the duodenum secondary to the reticulum cell sarcoma.

Comment

Chairman Long: Thank you very much, Dr. Prose. It is a very interesting situation. Dr. Maynard, would you like to say anything more?

Dr. Maynard: Yes, Dr. Long. I think that I have learned a lesson from this case. We must be alert to recognize the syndrome of cardiac tamponade. If the pericardium had been tapped early in the illness, the patient's life would not have been saved, but we might have made the diagnosis.

I would like to know whether Dr. Prose thinks these two acute episodes were caused by hemorrhage into the pericardium, or by what mechanism does he explain the two attacks of acute compression of the heart?

Dr. Prose: Dr. Maynard, we saw no evidence of hemorrhage. We saw areas of necrosis. Perhaps they accounted for the acute episodes.

Chairman Long: Dr. Maynard, I would like to ask you a question. The protocol reads, "The course was uneventful. The patient was allowed in the wheelchair on June 22, and on June 25 he was permitted to walk around." Here is a man who apparently was very ill, who, we know now, had a reticulum cell sarcoma. He got enough better so that he was allowed up and about in the ward, and about a week later he developed fever again and was sweating, and a gallop rhythm was heard. In a matter of two weeks he died.

With this tumor progressing from the very beginning, what do you suppose happened in that last week of June to permit him to think that he was getting better and to permit all his physicians to think he was getting better? They were letting him get up and around, preparatory to going home, when we visualize a sarcomatous process as being a dynamic process? What do you suppose happened?

Dr. Maynard: That was one of the things that interested me in this patient. It seems to me it was an accumulation of fluid caused by the tumor. The tumor probably ulcerated. There was not much space for fluid to accumulate, and therefore cardiac tamponade developed readily. The patient improved because the fluid was reabsorbed.

From the way the case was managed, Dr. Long, it was quite apparent that the staff did not think that the patient had acute myocardial infarction. They were hesitant about the use of the anticoagulants and administered Dicumarol only for a short period.

I notice that in Wright, Marple, and Beck's report on the effects of anticoagulants in myocardial infarction, they report that in their autopsy cases, 40-odd cases that had received anticoagulant therapy, the incidence of hemopericardium was considerably higher in the treated cases and that rupture of the heart was more frequent. They think that their sample is not large enough, and there may be a statistical error. However, they do warn that in patients who are receiving anticoagulant treatment for myocardial infarction and who suddenly develop the picture of cardiac tamponade with distended neck veins, dyspnea, and shock, we must think about the possibility that the anticoagulant may have produced hemopericardium, and we must tap the pericardium. In so doing we may save the patient's life. I think this is important.

Chairman Long: Dr. Dock, have you any comment to make on this very interesting patient?

Dr. Dock: This man was a milkman, and one of my house officers discovered he was a great consumer of his own wares, and so we made the diagnosis of myocardial infarction, I think without any effort or trouble. He was taken acutely ill; he had Q waves in the electrocardiogram, fever, leukocytosis, and a little change in sedimentation rate. I don't think there was any doubt on the ward, from the beginning to end, that he had acute myocardial infarction. We threw out the 132 mg. of cholesterol as showing that our laboratory was not dependable. Now, we know that people with jejunal disease always have low cholesterol. This is a standard feature of disease of the jejunum, as in the sprue syndrome. In this case the only evidence we had of jejunal disease before autopsy was that he had a very low cholesterol. We had all the available data, if we had been willing to pay attention to it, to make a diagnosis of lymphosarcoma of the jejunum with secondary involvement of the heart, and we missed the opportunity.

The diagnosis which made me shake my head was fibroelastosis. That is a disease which progresses slowly, produces congestive failure, usually with small heart. As far as I know, no cases have been described with anything simulating the anginal syndrome. Have you heard of any such cases, Dr. Maynard?

Dr. Maynard: No.

Dr. Dock: In patients with severe precordial pain, that is not a very likely diagnosis.

In this case we know now the Q wave was due to the necrosis going through the heart wall; due to tumor but not to coronary disease. This reminds us that the best evidence of myocardial necrosis does not mean that the patient has coronary disease because there are other causes of necrosis of the myocardium than occlusion of the coronary artery. This man had narrow coronary arteries. You don't feel that his circulation of the myocardium was ever compromised by that?

Dr. Prose: No, Dr. Dock, the vessels were patent, and they were narrowed by the tumor.

Dr. Dock: His blood supply to heart muscle was never impaired as far as your section shows?

Dr. Prose: No.

Dr. Dock: It seems all the changes were directly due to myocardial infiltration and myocardial necrosis secondary to tumor infiltration.

Because the man was a milkman, a standard two-pack-a-day smoker, and drank a lot of milk, we convicted him without any hesitation at all of having acute myocardial infarction at the age of forty-four. Allowing him up was the way we would manage most men who seem to be doing well after myocardial infarction.

Chairman Long: Are there any other questions or comment from any of the group?

Student: I wonder how we can explain 13.3 hemoglobin in the middle of June and 10.5 in July.

Dr. Dock: He had lymphosarcoma.

Chairman Long: You looked at the bone marrow?

Dr. Prose: Not remarkable.

Chairman Long: It had not invaded the bone marrow.

Student: I was wondering about the fact that the anginal attacks increased in the recumbent position—angina decubitus, I think it is called. What is its relation to cardiac tamponade as opposed to its relation to myocardial infarction.

Chairman Long: Dr. Maynard, would you enlighten us on that?

Dr. Maynard: We should not call these chest pains anginal. Sharp pain aggravated by breathing is not characteristic of angina pectoris. My own explanation of the fact that he felt better sitting up is that he had cardiac tamponade, and sitting up and leaning forward gave him relief.

Student: This has nothing to do then with the venous return and increased load on the heart in the recumbent position?

Dr. Maynard: Certainly the venous return was impaired. That was evidenced by the dilated neck veins, etc., and I think you have a point there. Perhaps sitting up also improved the venous return. It is well recognized that in compression of the heart that is a factor. It has been reported that giving intravenous infusions in people who have compression of the heart raises the venous pressure and thereby improves the cardiac output temporarily.

Student: What caused the sudden onset of pain?

Dr. Maynard: My explanation was that it was caused by ulceration of the tumor producing pericarditis.

Student: I woud like to ask the pathologists whether they noted any enlarged lymph nodes, axillary, cervical, or inguinal.

Dr. Prose: On external examination there were no palpably enlarged lymph nodes. They were noted on examination of the internal organs. The lymph nodes were enlarged in the mediastinum and in the mesentery.

Chairman Long: Are there any other questions or comments? May I ask you, Dr. Maynard, in closing, could we have done anything, possibly a pericardial tap or some other procedure, which would have permitted us to make the histologic diagnosis of this tumor prior to the time this man died?

Dr. Maynard: As I said before, Dr. Long, I think we might have gotten tumor cells out of pericardium by a tap. Then I doubt if the attending staff saw these x-ray films. The x-ray interpretations given in the protocol were not at all helpful in making the diagnosis, but as soon as we saw the films, it was quite obvious that this man had some type of tumor involving the heart. Thus, I think that viewing the x-ray films would have been helpful in making the diagnosis.

Chairman Long: Dr. Prose, with this particular type of tumor, if we had gotten any of the cells in the pericardial fluid or little bits of tissue in the course of a pericardial tap, do you think that the diagnosis of reticulum cell sarcoma would have been made in pathology, or would the report have come back "tumor cells?"

Dr. Prose: We might have been very cautious in our diagnosis since there was no history of the tumor. We probably would have reported the smear as positive for malignant cells rather than have made a diagnosis of lymphosarcoma because serosal cells in a fluid medium can become very bizarre in appearance.

Dr. Dock: Could I ask how much fluid there was in the pericardium at the time of autopsy?

Dr. Prose: None.

Dr. Dock: We would not have gotten anything with the needle?

Dr. Prose: Cells perhaps.

Dr. Dock: We could have scraped cells off the heart. Certainly our needle would have hit the tumor and surface of the heart.

Dr. Prose: Absolutely.

Chairman Long: The only reason I was bringing that point up is because the late Dr. Schoenbach, in late 1949 or 1950, had two patients in Baltimore with reticulum cell sarcoma who obtained prolonged remissions with one of the antifolic acid antagonists.

If there are no further questions, thank you, Dr. Maynard.

Medicine on Postage Stamps

Among the many hobbies of members of the medical profession, the collection of stamps is well at the top of the list. We often wonder how many philatelists in the profession realize how often medicine is referred to on postage stamps. We are mentioning some of these references as seen in 1955 issues.

Algeria—A 15-franc stamp showing Aesculapius, god of healing in Greek mythology, and El Kattar Hospital, to publicize the French Congress of Medicine.

Ethiopia—Three stamps showing Princess Tsahai, in nurse's uniform at a sick bed; issued to commemorate the twentieth anniversary of the founding of the Ethiopian Red Cross.

Finland—Three semipostal stamps with fish designs and the Lorraine Cross, surtax going to the Antituberculosis Society.

India—A 6-annas stamp inscribed "malaria control," showing a caduceus.

Italy—A 25-lire stamp picturing Battista Grassi (1854–1925), who contributed to understanding of malaria by studies of life processes of mosquitoes.

Monaco—Four stamps in honor of Dr. Albert Schweitzer, medical missionary.

Saar—15-franc semipostal, showing nurse holding baby.

Turkey—A 20-k stamp showing a battlefield first aid station, 30-k showing military hospital at Ankara, both issued to commemorate the International Congress of Military Medicine; three postal tax stamps showing nurses, issued in connection with the meeting of the International Council of Nurses, and three other postal tax stamps showing nurse holding child.—*Illinois Medical Journal, January, 1956*

CASE REPORT

Auto Observation of a Near Fatal Penicillin Reaction in a Physician

IRVING WEINSTOCK, M.D., AND MICHAEL B. ALBIN, M.D., BROOKLYN, NEW YORK

ALTHOUGH severe and at times fatal reactions to penicillin are known, the incidence is relatively low. Although the objective features of severe penicillin anaphylactoid reactions have been clearly elucidated before, subjective symptoms which make up a major part of the clinical picture are lacking in their description. Recently, one of us (I.W.) sustained a near fatal reaction to penicillin, and a description of this episode is the basis of this report.

Case Report

The patient, a forty-four-year-old physician, gave himself an injection of 600,000 units of procaine penicillin G into the buttock on June 22, 1954. This medication was administered for a mild pharyngitis. He had self-administered penicillin several times before without any allergic reaction, the last injection being four months ago.

The patient recalls the incident in the following manner. Within a period of two minutes after the intramuscular injection of penicillin, the following symptoms occurred chronologically: a million needles tingling and pricking deeply into the skin of the feet and legs and spreading rapidly up the entire body, sensation of not being able to get air into the lungs, nausea, and, just prior to unconsciousness, a blackness before the eyes.

Unconsciousness lasted for about thirty minutes, and during this critical half hour the following events took place. The patient was found by the other author (M.A.) in a prone position on the floor and incontinent of urine and feces.

The face was deeply cyanotic and distorted by angioneurotic edema. This was most striking about the lips. Frothy mucus had escaped copiously from the mouth. There was respiratory arrest, and the pulses could not be felt. The skin of the extremities and trunk was cold and clammy and covered with a diffuse scarlatiniform erythematous eruption. There was no response to pain stimuli. The eyeballs were turned upward, and the pupils were dilated. The corneal reflex was absent. The heart sounds were very distant and barely perceptible. The rate was 36 and irregular.

A tourniquet was applied to the right arm. Only after rhythmically stepping down on the forearm with a crepe rubber-soled shoe, did the anterior cubital vein fill sufficiently to permit the insertion of a 22-gauge needle, which was then securely fastened in place. Immediately, 50 mg. of ephedrine sulfate and 500 mg. of aminophylline were administered intravenously. After completion of the injection the patient reacted. He opened his eyes with twitching of facial muscles and resumed respiration of a grunting, stertorous type. This was the first sign of life the patient had manifested since the onset of the unconscious state, which had lasted for about twenty minutes. In the meantime the Police Emergency Squad had arrived, and oxygen by mask was administered. One cubic centimeter of adrenalin 1:1,000 was given intramuscularly. His pulse remained imperceptible. Next 40 mg. of Histadyl and 50 mg. of ephedrine sulfate were given intravenously. The patient started to moan and grunt, throwing himself forcefully from side to side. By this time ten minutes had elapsed since the start of treatment.

The generalized erythema, which had subsided somewhat, gradually became more pronounced again. At this time urticarial wheals appeared on the forehead, arms, and chest. The respirations began to increase in rate and became noisy. The patient managed to ask in a thick speech for more medication because he felt "it coming back." The pulse was still hardly perceptible, irregular, and slow. Thirty milligrams of Benadryl and 50 mg. of ephedrine sulfate were given intravenously. Oxygen by mask was continued, and 1 cc. of adrenalin 1:1,000 was given subcutaneously. By this time twenty-five minutes had elapsed since the institution of therapy. Within two minutes the erythema started to fade, and the facial edema subsided except about the lips and in the circumoral area. The respirations became regular and less noisy, and the pulse was found to be thready, about 50 per minute.

About five minutes later, thirty minutes after therapy had been started, the patient started to roll from side to side, asking for more medication. He was given 40 mg. of ACTH intravenously. The patient improved considerably, and within ten minutes his general condition appeared satisfactory. The blood pressure was 90/70, and the pulse was regular and of good quality at a rate of 58. The heart sounds were regular and of fair quality. Auscultation of the chest revealed scattered moist rales and rhonchi. The skin, which had been clammy, wet, and erythematous, became rather dry and warm. This was approximately forty minutes after the beginning of therapy.

He was then given 60 mg. of ACTH gel intramuscularly and 75 mg. of cortisone orally. About one hour later the patient was carried into his bed, and external heat was applied. He was rechecked two and four hours later. The blood pressure was 95/72, the pulse rate 60 and regular, but the heart sounds were rather distant. Careful neurologic examination failed to disclose any evidence of intracranial injury despite the twenty-minute episode of peripheral vascular collapse. An electrocardiogram the next morning was found to be within normal limits. The patient was advised to stay at bed rest, force fluids, and to take cortisone, 100 mg. orally per day, over the next few days.

In all, he had received within a period of forty minutes by intravenous injection a total of 500 mg. aminophylline, 150 mg. of ephedrine sulfate, 40 mg. of ACTH, 30 mg. of Benadryl, and 40 mg. of Histadyl. In addition, 2 cc. of adrenalin 1:1,000 had been given intramuscularly. The use of such energetic therapy appeared indicated by the gravity of the situation and the tendency to relapse during the early phase of therapy.

The patient recalls that after return of consciousness, he felt an almost incontrollable urge to thrash from side to side in a desperate attempt to avoid pain. Intolerable aching discomfort in the back was present. The patient felt as if he were being pressed against two railroad tracks placed on either side of the spine. This terrible sensation apparently arose from severe spasm of the paraspinal musculature. Breathing was extremely difficult, and it seemed as if there was marked limitation to the inspiratory movements of the chest wall. This sensation aroused considerable fear, and the oxygen mask was interpreted to be an additional respiratory barrier rather than to be of help. At this point the patient recalls hearing his physician say, "He'll be all right now." His auditory sense, however, was impaired, for it was only after thirty-six hours that he was able to hear footsteps entering the apartment. While oxygen was being administered, his sensorium became sufficiently clear to be afraid of the possibilities of permanent brain damage as a result of the accident. He especially worried that perhaps his memory would be impaired.

The patient next became aware of markedly acute olfactory appreciation. The odor of feces, the result of anal incontinence, was intense and intolerable.

Attempts to invoke voluntary movements were fraught with considerable difficulty and accomplished only by markedly exaggerated gross movements. He could turn from side to side only by violently throwing his extremities to the side towards which he wished to turn. More complicated muscular activity, such as holding the oxygen mask to his face, could not be accomplished for at least two hours. Shortly after regaining consciousness, the patient began to feel that recovery was merely a matter of time when, suddenly, labored breathing and tingling and pricking sensations of the feet began to reappear. He summoned all of his strength to scream that he was receding and needed more treatment. He felt that if he had a relapse, he would never have the strength to survive. Another injection was given, and shortly thereafter the dyspnea and paresthesias began to disappear.

Vision recovered very slowly. At first the central fields of vision returned. Only the mouth, nose, or eyes of a face were visible. Over a period of two hours the visual fields gradually widened, and finally complete peripheral vision returned.

Following the complete return of the senses, fatigue was quite marked and incapacitating. During the first week of convalescence, eating a small meal in bed was sufficient to exhaust the patient. Such acts would cause him to perspire and to lie back in bed almost completely spent. It took approximately six weeks for the patient to be restored to his usual state of health.

Two weeks after the anaphylactic shock, passive transfer tests of the patient's serum were done. Four sites on a "nonallergic" individual were intradermally injected with the patient's serum. Subsequently, the intradermal injection of 50 units of penicillin into one of these sites produced a marked local reaction. At the other three locations a similar but less intense reaction was observed to appear simultaneously. Six months later the same experiment was repeated and revealed the continued presence of a high titer of antibodies.

Comment

This report is not made in an effort to support any specific rationale for the treatment of such a medical emergency. Undoubtedly, in other hands the treatment would have varied considerably. Rather, this auto observation is reported to elucidate the unfolding of the objective and subjective features of a near-fatal penicillin reaction. It is hoped that this experience will help others to recognize the very first signs of such a complication and to appreciate the need for early and intensive therapy. It is obvious that one must employ considerable caution in the use of intramuscular injections of penicillin and other medicaments despite the absence of any specific previous intolerance and allergic history.

Summary

A physician and his physician report the symptomatology and treatment of a near-fatal reaction to a penicillin injection.

350 Ocean Avenue
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The passive transfer test was kindly performed by Dr. Bernard Siegel.

FUNDAMENTALS OF MODERN ALLERGY

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Associate Editors

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On the Adrenal Cortical Steroids in Relation to Allergic Dermatoses

MARION B. SULZBERGER, M.D., F.A.C.P., NEW YORK CITY

(From the Department of Dermatology and Syphilology, New York University Post-Graduate Medical School, and the Skin and Cancer Unit, New York University-Bellevue Medical Center)

THE record of modern medical history shows clearly that fundamental physiologic and medical knowledge has often been acquired through study of the skin, its reactions and diseases. Nowhere is this truth more apparent than in the sphere of endocrinology and that of the adrenal hormones—in particular in their relations to allergic dermatoses.

The reasons for this may be seen in the fact that both the adrenal glands and the skin are organs most intimately concerned with the adaptation of man to his environment and that the immunologic and allergic changes are primarily and predominantly reactions of adaptation. Often it is the adrenals which send out hormones to stimulate and regulate the adaptive and protective changes, while other organs, such as the skin, respond by producing the required local adaptive reactions.

Among the nonimmunologic adaptive and protective reactions of the skin are its production of pigment, horny substance, sweat, and sebum, its pilomotor reflexes, its vasodilatations and constrictions, its arteriovenous shunts, and its sensory warnings of touch, heat, cold, pain, and itching. All these are parts of the human skin's main function: adapting the individual to and protecting the individual from the chemical and physical, living and inanimate onslaughts of his environment. Moreover, it must not be forgotten that the skin's allergic reactions and lesions are also protective and adaptive mechanisms, albeit often so miscarried as to do more harm than good (at least locally in the parts where they take place). In the common allergic skin diseases the skin is working to throw out, wash off, and carry away potential injurious agents by blistering, weeping, and accelerated scaling (contact-type eczematous dermatitis); or acting to dilute them and carry them away by edema (urticaria, angioneurotic edema, wheals

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Based in part on a talk sponsored by the New York Academy of Medicine's Committee on Medical Information, "For Doctors Only," radio station WNYC-FM.

from stinging nettles and insect bites, etc.); or proceeding to wall off, destroy, and eliminate infecting microorganisms by cellular infiltration, by local crusting and necrosis, and by fibroblastic proliferation, etc. (cutaneous reactions in allergies of infection, tuberculosis, syphilis, leprosy, fungous infections, etc.).

Since many of the described dermatologic immunologic protective devices are directly or indirectly stimulated and regulated by the adrenal hormones, it is not to be wondered at that there are close relationships between adrenal function and allergic skin reactions and skin diseases.

On the basis of such purely theoretic considerations it was to be predicted that the administration of the adrenocortical steroids would exert profound influences on both skin functions and allergic skin lesions. I believe that the last five years of dermatologic experience with adrenal steroids have amply demonstrated the accuracy of this prediction, for it appears to me that no recent advance in medicine has had a greater impact on the understanding and management of both allergic and nonallergic skin diseases than has the introduction of ACTH, cortisone, hydrocortisone, and derivatives.

Several other facts are the almost inevitable consequences of the basic theoretic considerations which have just been sketched briefly. Thus, it was to be expected that the effects of the steroids would be *nonspecific*, i.e., they would act on the erythema, exudation, edema, infiltration, fibroblastic repair, pain and itching of the skin, the resultant phenomena of pathologic happenings, almost regardless of their widely differing intermediate mechanisms or original causes. It was, therefore, also to be expected that the hormones would not be in and of themselves "curative" but would suppress the disease manifestations, i.e., would be "morbistatic." Moreover, it was almost inevitable that the administration of the hormones would be beneficial when the skin changes which they inhibited were actually producing more harm than good (i.e., *excessive* itching, blistering, scaling, erythema) and, conversely, would be harmful when administered to cases in which the skin lesions were in themselves highly beneficial by walling off, confining, or casting out the damaging agents (e.g., in tuberculosis, certain pyodermas, other localized skin infections, etc.). It also was always apparent that when the body's other maneuvers and devices were excessively increased by the administration of the hormones, grave harmful effects might be produced: for example, in hypersecretion of the gastric mucosa and consequent gastrointestinal ulcerations; persistent elevation of blood sugar and consequent diabetes; too much accumulation of fluid in the tissues and consequent weight gain, cardiac damage, etc.; excessive fears, agitation, and sleeplessness and consequent psychoses; and other such "hyperphysiologic effects."

The very first practical deduction to be made from these fundamental concepts is that just as before the advent of corticosteroids, in each case every modern means must be used to establish the diagnosis of the skin disease as accurately as possible, and in each patient with an allergic (or other) dermatosis the causes must be sought and, if possible, reduced or eliminated as assiduously and thoroughly as ever. In this connection it is important to recall the studies of our school showing that administration of cortical hormones in the usual therapeutic doses does *not* regularly or significantly alter the responses to the usual forms of skin testing *when standard concentrations of allergens* are employed.[1] These results indicate that patients not only should but also can be skin tested even while they are under treatment with the hormones. Failure to use every possible means to discover causal allergens and willingness to be content with merely giving the hormones are just as medically unsound as it would be to confine oneself to administering morphine for a gluteal pain without examining the patient and discovering and removing the tack on which he is sitting.

Of course, allergic skin disease should not as a rule be treated with the *steroid hormones alone*. There is not only no general contraindication to the addition of appropriate local therapy, but quite the contrary, this should be added whenever indicated (including topical medicaments, radiation with roentgen and grenz rays, etc.). Indeed, it is my own opinion that the most substantial benefits which these hormones bring often lie in their ability to complement, aid, and augment the effectiveness of properly selected topical therapy. A blistering, weeping, hot and swollen, oozing or scaly eruption will commonly tolerate no form of lotions, ointments, or pastes, no tars or quinolins, no rays or other effective topical agents. The judicious systemic administration of cortical steroids will frequently and in a matter of hours transform the acutely erupting, angry, and universally intolerant skin surface, which would throw off and wash off all external remedies, into a smooth and docile area which will not only tolerate and retain but derive great benefits from the appropriate dermatologic topical medicaments, which may of course include topical hydrocortisone when indicated. But it is not only external medication which should be used in conjunction with steroid therapy; the physician must also utilize to their fullest the concomitant beneficial effects of indicated internal and systemic medication (including antibiotics and other anti-infectious agents, antihistamines, antipruritics, sedatives, etc.).

Moreover, the patient receiving cortical steroids must be kept under constant medical surveillance and generally medicated as needed. Thus, the present or potential undesirable effects of the hormones should be counteracted whenever necessary by sodium chloride-poor diets, diuretics, potassium additions, anabolic agents like testosterone and high-protein diets, diets to control or prevent diabetes, insulin, sedatives, tranquilizers, electroshock, etc.

It is not usual and perhaps not usually desirable to discuss the ill effects of a medication first. But in the case of systemic administration of cortisone and derivatives, the potential for damage is so great and so omnipresent that I believe it should be stressed as early and as vigorously as possible. It is my opinion that the following rules should be engraved on every physician's mind, if not on his office walls and on his prescription pad:

1. Never give these hormones unnecessarily, i.e., never when the disease is not serious and is not a cause of very great suffering, serious incapacity, or a threat to life.

2. Never give these hormones one day longer than needed or in a dosage higher than needed to establish satisfactory control over a threatening or intolerable situation.

3. Never give them alone, and never rely on them to the exclusion of other diagnostic and therapeutic measures. Whenever possible, combine them with the best other measures available.

4. Never give them to a case in which other less potentially harmful measures may prove equally effective.

5. Never give them without first taking a history and giving a thorough, sharply focused examination. Never start them without first taking into consideration any contraindications which may exist (gastrointestinal ulcers, active or formerly active tuberculosis, diabetes, psychoses, hypertension, cardiovascular disease, etc.).

6. Never fail to give the necessary measures to counteract or to reduce the risk of the present or potential undesirable effects.

7. Never fail to see that the patients are examined regularly to discover any incipient ill effects and to institute appropriate measures. (In practice we examine patients for gain in weight, changes in psyche, blood pressure fluctuations, urinary sugar levels, and for general physical and mental findings once weekly when they are on a daily oral dose of cortisone of 75 mg. or more and once every two to four weeks with doses of less than 75 mg. daily.)

8. Except for research purposes, give the hormones only when the skin disease has been classified as one known to be generally responsive to this form of therapy.

9. When the dose is high (over 75 mg. daily) and the period of uninterrupted administration has been prolonged (over three to four weeks), do not stop medication abruptly unless this step is absolutely essential. Reduce the dose gradually over a period of weeks to months.

10. When any emergency is expected or arises (surgical intervention, intercurrent infection, other stress), raise the dose substantially above the maintenance level (for example, from 75 to 150 mg. daily) for a short period before, during, and after the stressful situation. (This should be done even in patients who have had previous administration of cortisone in the recent past but have not received any for several weeks to a few months before the stressful situation occurs.)

By observing these rules and other common medical and common sense practices, the physician can help many patients with formerly fatal dermatoses to stay alive (e.g., pemphigus, acute disseminated lupus erythematosus, severe drug eruptions, exfoliating erythrodermas, etc.). Moreover, he can tide patients with many acute dermatoses over the severely distressing and incapacitating periods of their skin eruptions (e.g., severe acute contact dermatitis, such as sometimes arises from poison ivy, dyes, cosmetics, external medicaments, etc.; severe acute urticarias and angioneurotic edemas; severe erythema multiforme bullosum and Stevens-John-

TABLE I.—"BENIGN" DERMATOSES IN WHICH ACTH AND/OR CORTISONE ARE VALUABLE AS ADJUVANTS IN SEVERE OR INTRACTABLE CASES*

CATEGORY I—Dermatoses ordinarily of self-limited course in which the short-term administration of the hormones can act as a morbistatic agent
- Eczematous contact-type dermatitis
- Acute urticaria and angioneurotic edema
- Certain drug eruptions (purpuric, urticarial, exfoliative, etc.)
- Multiforme erythemas

CATEGORY II—Ordinarily nonfatal persistent chronic or recurrent dermatoses in which the prolonged administration of the hormones can act as a morbistatic agent
- Atopic dermatitis (including infantile eczema)
- Exfoliative erythrodermas
- Nummular eczema
- Eczematous eruptions of the hands
- Distinctive exudative discoid and lichenoid chronic dermatosis (Sulzberger and Garbe)
- Chronic urticaria
- Seborrheic dermatitis (particularly in intertriginous areas)
- Psoriasis of the erythrodermic, pustular, and arthropathic varieties and particularly in intertriginous areas

* Based on Sulzberger and Witten.[2]

son syndrome; severe allergic purpuras, exfoliative erythrodermas, etc., from drugs and other causes; severe acute pruritus from various causes). Table I presents the allergic dermatoses in which we have found the administration of steroids of significant morbistatic value in severe cases.

In the cases of severe chronic dermatoses, such as otherwise intractable atopic dermatitis, the maintenance doses can often be given in very gradually descending amounts and quite safely over long periods of time. Thus, there are now quite a few patients with chronic, previously intractable skin diseases, such as extensive incapacitating exfoliating erythrodermas or severe chronic atopic dermatitis, who originally needed 200 to 300 mg. or more of cortisone orally per day in order to relieve their distressing itching and skin lesions and who now, after very gradual reduction of dose through several years, are maintained in a completely satisfactory state by doses of 10 to 25 mg. daily. There are even some who at the moment require no cortisone at all! It is gratifying, therefore, to record that a great degree of long-lasting relief can be brought to a fair proportion of sufferers from certain chronic skin diseases, diseases which, as Stephen Rothman once expressed it to me, "did not end life, but completely ruined it."

So it seems that the administration of cortisone and related steroids, far from interfering with the healing powers of "tincture of time" or far from inhibiting natural acquisition of resistance to these serious skin diseases, either aids in the production of adequate resistance or at least does not interfere with nature's curative forces.[3]

It would be misleading, however, to give even the momentary impression that *all* patients with chronic incapacitating skin diseases, like atopic dermatitis or exfoliating erythrodermas, can now be relieved and rehabilitated. There are unfortunately still many in whom the necessary doses of hormones are contraindicated or must be stopped because they produce uncontrollable and prohibitive undesirable effects. So I must repeat, these steroids, tremendously valuable as they are in selected cases of certain dermatoses, should never be used indiscriminately. They should not be given to patients with ordinarily nonfatal chronic dermatoses or with the common allergic dermatoses unless and until the other less dangerous available dermatologic measures have been tried and have proved themselves inadequate.

In this stituation in which the dangers of ill-effects are so constantly real and threatening, so obviously the sole limiting factors preventing the more widespread and general use of adrenal steroid hormones in dermatologic therapy, two relatively recent advances are to be hailed with great satisfaction. The first of these is that local treatment with hydrocortisone ointments, lotions, and creams is an excellent and effective remedy for a great many common itching and inflamed dermatoses: infantile eczemas and older forms of atopic dermatitis; lichenified eczematoid dermatoses; anogenital pruritus; otitis externa; acute, subacute, and chronic eczematous and eczematoid eruptions of many areas, including the face, eyelids, hands, etc.; contact dermatitis and eczematous drug eruptions, etc.[4–7] External applications of hydrocortisone have proved to be entirely safe, even for prolonged use on extensive eruptions. Nevertheless, even these external applications of the hormone should not generally be relied on alone. They should be combined with the search for and elimination of causal agents and the selected diagnostic procedures and internal and external remedies appropriate to the condition. Used in this way, to *supplement* but *not* to *supplant* other effective internal measures and proved topical agents (various kinds of shake lotions, ointments, or pastes containing Vioform, Sterosan, tars, menthol, and other antipruritics, as well as superficial radiation therapy), hydrocortisone is perhaps the most valuable single external medicament ever introduced into dermatology. It brings speedy relief in many cases of a great variety of common dermatoses; it does not "sting, stink, or stain," and it has not as yet produced a single instance of either systemic ill-effects or allergic sensitization dermatitis. Truly a remarkable record and cause for optimistic appraisal of its future.

I shall close these remarks on a second optimistic note—one which promises to have if not greater, then at least more general value than the introduction of topical preparations of hydrocortisone! This is the fact that the chemists have now been able to juggle the basic steroid molecules of the naturally occurring adrenocortical hormones and shift about, lop off, and add various groups, side chains, and chemical elements in such ways as to come up with steroid relatives in which one or another biologic property of the natural hormones is much reduced or is eliminated, another property much intensified, etc.

Thus, we now know that hydrocortisone systemically will do practically everything that cortisone will do systemically and will require a somewhat smaller amount (a ratio of about 4:5) to achieve the same effects. Therefore, all my previous remarks regarding systemic use of cortisone apply to hydrocortisone as well, with the necessary 20 per cent adjustment downwards in the dosage figures for the hydroderivative. However, we also know that cortisone is therapeutically almost ineffective on external application to the skin, while hydrocortisone is very effective, and that in turn about one-tenth the amount of topical fluorhydrocortisone will produce the same local therapeutic effects as the tenfold amount of externally applied hydrocortisone. It is also known that fluorhydrocortisone and Aldosterone have a tremendously increased effect on sodium chloride and water retention, while the newer steroid relatives, metacortandracin (prednisone) and metacortandralone (prednisolone), have much less effect than cortisone on the retention of salt and water, although in our experience there is a greater tendency to produce "moon facies," "buffalo humps," and presternal and clavicular pads.

This short sketch of some recent molecule magic must suffice to show how the wizardry of the organic chemist, by producing the relatives and companions of naturally occurring steroid hormones, has already given us medicaments which will reduce to a large degree one of the limiting undesirable effects of the systemic administration of the older steroids in dermatologic therapy, namely, the retention of sodium chloride and water and its sometimes disastrous consequences.

It appears not altogether unreasonable, therefore, to hope that we may someday, perhaps soon, have at our command steroid medicaments (not necessarily naturally occurring "hormones") which will have a minimum of hypertensive effects, of harmful psychic effects, of diabetogenic effects, and of other undesirable activities and yet retain, augmented or unimpaired, their tremendous therapeutic powers to help the unnumbered hosts of sufferers from many allergic and other skin diseases.

999 Fifth Avenue

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(*Number fourteen of a series on Fundamentals of Modern Allergy*)

Reviewers are usually people who would have been poets, historians, biographers, if they could; they have tried their talents at one or the other, and have failed; therefore they turn critics.—S. T. Coleridge

CLINICAL ANESTHESIA CONFERENCE

A series of conferences on medical emergencies in the operating room including causes of death during anesthesia

Prepared by the Anesthesia Study Committee of the New York Society of Anesthesiologists

MEREL H. HARMEL, M.D., *Chairman*

Death During General Anesthesia for Bronchoscopy in a Child

The responsibility of the anesthesiologist to his patient includes not only the technical administration of an anesthetic but also the review of all pertinent data preoperatively. This includes roentgenograms, particularly when disease of the respiratory system is suspected, or electrocardiograms when cardiac disease is suspected or present. The degree to which the anesthesiologist can then truly practice "operating room" medicine is based on the clinical knowledge he possesses about the patient and its application during the operative procedure. The neglect of careful review and evaluation can only contribute to catastrophe which might otherwise be avoided. The following case illustrates an instance in which a valuable opportunity was missed.

Case Report

An eight-year-old, white male was admitted to the hospital with the chief complaint of asthma. His early childhood was marked by repeated attacks of bronchitis and hives. He was well until the age of two and one-half years when he developed a severe asthmatic attack. He had numerous exacerbations thereafter, and three of these asthmatic attacks required hospitalization. Since that time he had gradually lost weight, become anorexic, addicted to various asthmatic drugs, and had become a victim of progressive chronic respiratory disease. Ten days previously the patient had complained of costovertebral angle pain and dysuria. Since then he had shown marked anorexia and vomiting and ultimately developed an acute asthmatic attack for which he was admitted.

The patient was a well-developed, thin, almost emaciated male with a grayish hue to his skin. His temperature was 99 F., pulse rate 100, respiratory rate 29 to 32. He was moderately dehydrated, in acute respiratory distress, and wheezing audibly. The head, ears, eyes, nose, throat, and heart were normal. Examination of the lungs disclosed diffuse expiratory wheezing and rhonchi. These findings were later modified by a pediatric consultant who felt that the child's major pulmonary problem was noted in inspiration rather than expiration. He had a pectus excavatum type of rib cage with retraction sternally and costally and used his accessory muscles of respiration. The abdomen was considered normal. The laboratory data included normal urine, hemoglobin 14.5 Gm., hematocrit 47, white blood count 24,200 with 2 bands, 80 segmenteds, 2 eosinophils, 15 lymphocytes, and 1 monocyte. The Wassermann test was negative. X-ray of the chest showed a depressed right diaphragm, emphysematous lungs, and a large pulmonary conus. The x-ray department also reported that the anterior-posterior and lateral views of the neck showed no abnormality. The results of blood chemical studies were within normal limits. The tuberculin test was negative. The urine culture showed Neisseria catarrhalis.

During his two-week stay in the hospital, indirect laryngoscopy was performed. The larynx was reported as entirely normal. The respiration, it was decided, was not characteristic of asthma. Bronchoscopy was ordered to determine whether an anatomic anomaly or a foreign body could account for the obstruction. Shortly after induction with vinethene and ether by the open-drop method, the patient became cyanotic and markedly obstructed. Respiration progressively became more labored and practically ceased. Under direct vision an endotracheal tube was inserted into the larynx, but respiration did not improve. Manual ventilation with 100 per cent oxygen and rebreathing bag and mask did not alter the desperate situation. Tracheotomy was considered, but it was believed that since the patient did not improve with an endotracheal tube, tracheotomy would not be helpful. It was the general opinion that the obviously obstructed respiratory pattern was caused by a lesion below the trachea and, therefore, the patient would not be helped by tracheotomy.

The patient did not respond to the measures taken and was declared dead approximately thirty-five minutes after the start of anesthesia. The only additional resuscitative measure employed was the gesture of intracardiac injection of 10 ml. of 10 per cent calcium chloride. After death a bronchoscope was inserted and a biopsy taken. Autopsy was performed three hours after death. An occluding tracheal papilloma was found, situated several centimeters above the bifurcation of the trachea. Review of the lateral neck films, previously reported as negative, revealed an intratracheal mass.

Comment

The roentgenographic interpretation of the neck films on review revealed the intratracheal mass. While the anesthesiologist may not have observed this lesion, to satisfy his obligation to the patient and himself, these films should have been reviewed preoperatively, particularly since they related to the respiratory system. Preoperative diagnosis would obviously have profoundly altered the outcome of this case.

In view of the fact that bronchoscopy was the contemplated procedure, it is somewhat disturbing that when intubation was followed by unrelieved obstruction, bronchoscopy was not performed. Surely bronchoscopy in such a situation can be lifesaving. Bronchoscopy should always be considered whenever the problem of obstruction either develops or becomes aggravated after intubation.

In addition, any form of ventilatory obstruction, which cannot be otherwise relieved, should not be denied the possible benefits of tracheotomy, especially if bronchoscopy is not available. With known tracheal-bronchial obstruction the patient is not harmed by tracheotomy and might even be relieved by the reduction of resistance and dead space in the airway. In this particular patient tracheotomy, had it been performed, would undoubtedly have completely overcome the obstruction.

(*Number ten of a series of Clinical Anesthesia Conferences*)

Inoculation of Multiple Antigens (From "Immunization of Infants and Children")

The injection of a single antigen is being displaced rapidly by administration of multiple antigen preparations, the most popular of which, at present, is the diphtheria-tetanus-pertussis combination. In the course of a general discussion of the immunization of infants and children against a rather extended list of diseases, Dr. Franklin H. Top gives special attention to the use of these combinations for the three diseases mentioned. The review contained herewith will be limited to this phase of the subject. Three approaches are outlined: (1) The method of diSant Agnese, (2) The method of Christie and Peterson, and (3) The method of Miller, who takes into account the Schick status of the mother in considering the probable response of the child to diphtheria toxoid, using alternative schedules accordingly.—*Chicago Medical Society Bulletin, August 17, 1955*

CORRESPONDENCE

Treatment of Ingrown Toenail

To the Editor:

A principle of treatment of the ingrown toenail involves protection of the nailbed from the edge of the nail. To the best of my knowledge, the manner of protection which I am describing below is new. It involves one minor procedure which usually does not require anesthesia and is useful even in the presence of marked inflammation. The only material necessary is polyethylene tubing.

Polyethylene tubing (size PE 320, manufactured by Clay-Adams Co.) is cut into convenient lengths about 2 inches long. A 2-inch length is then split down one side and is pushed in along the nail, between the nail and the lateral nail fold (Figs. 1 and 2). The split side of the tubing engages both surfaces of the nail, thereby preventing slippage and rotation of the tubing. The rounded surface of the tubing encloses the free edge of the nail and prevents this free edge from coming into contact with the lateral nail fold. When the tubing is inserted, it is fastened to the nail and toe with a strip of adhesive tape. The tubing need not necessarily be inserted into the root region of the nail. The excess projecting beyond the toe is trimmed away with a pair of scissors.

As the nail grows, the polyethylene tubing is trimmed away with the toenail. The adhesive strip holding the tubing in place to the nail may be removed and reapplied without danger of dislodging the tubing.

Within several days the infection of the toenail subsides, and the patient returns to wearing shoes with no restriction of normal activity. Antibiotics and soaks are not mandatory.

The tubing has been left in place for as long as six weeks without any ill effects. While immediate improvement has been dramatic, further observations are necessary to determine the general applicability of this technic.

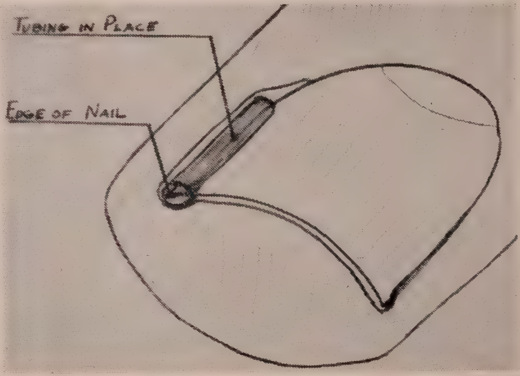

Fig. 1. Dorsal view of tubing in place.

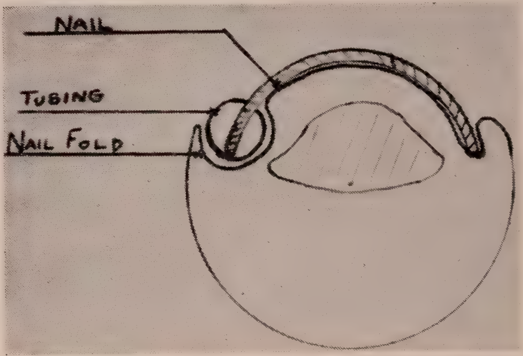

Fig. 2. Cross section showing tubing encircling nail.

Benjamin G. Kerr, M.D.

155 East Rockaway Road
Hewlett Harbor, New York

Coffee and a Coffin

The following affecting epitaph may be found upon a tombstone in Connecticut:

> Here lies cut down like unripe fruit,
> The wife of Deacon Amos Shute;
> She died of drinking too much coffee,
> Anny Dominy eighteen forty.

—*The Old Farmer's Almanac, Dublin, New Hampshire, 1956,* Robert B. Thomas

NECROLOGY

Arthur Fletcher Baldwin, M.D., of Waterloo, died on March 30 at the age of fifty-six. Dr. Baldwin was graduated from the University of Michigan Medical School in 1930 and interned at the Hospital for Special Surgery. At various times Dr. Baldwin served as village, town, school, and jail physician. He was an attending physician at the Waterloo Memorial Hospital and an associate in surgery at Geneva General Hospital. He was a member of the Geneva Academy of Medicine, the Seneca County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Joseph Laurence Byrne, M.D., of Bay Shore, died on April 2 at the age of fifty-one. Dr. Byrne graduated from Tufts College Medical School in 1929 and interned at St. Mary's Hospital, Brooklyn, and Southside Hospital, Bay Shore. An associate of the International College of Surgeons, he was an attending in surgery at the Southside Hospital and a member of the Suffolk County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Angelo D'Alfonso, M.D., of San Diego, California, formerly of Rochester, died recently at the age of eighty-one. Dr. D'Alfonso received his medical degree from the University of Naples in 1901. He was a retired member of the Monroe County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Lewis Fitzsimmons, M.D., of Bath, died on April 20 at the age of ninety-nine. Dr. Fitzsimmons graduated in 1890 from Long Island College Hospital Medical School. Before his retirement he had served as health officer for the town of Pulteney for forty-five years and had practiced medicine for more than sixty years. Dr. Fitzsimmons would have celebrated his one hundredth birthday in December. He was a member of the Steuben County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Samuel Robertson Fowler, M.D., of Syracuse, died on April 23 at the age of eighty. Dr. Fowler graduated from Columbia University College of Physicians and Surgeons in 1902. He was a member of the Syracuse Academy of Medicine.

Nathan Kagane, M.D., of New York City, died on April 22 at the age of sixty-four. He was an assistant adjunct in dermatology at the Beth Israel Hospital and a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Murney Edward Lewis, M.D., of New York City, died on April 27 at the age of seventy-five. Dr. Lewis graduated in 1905 from Columbia University College of Physicians and Surgeons and interned at Bellevue Hospital. He was a member of the New York County Medical Society and the Medical Society of the State of New York.

Philip Ingram Nash, M.D., of Brooklyn, died on April 25 at the age of eighty. Dr. Nash graduated from the Queens University Faculty of Medicine in 1902. He had been a member of the staff of the Coney Island Hospital since 1910 and president of the medical board for five years and director of the medical division for thirteen years. The new Coney Island Hospital was named for him at a ceremony on May 1. From 1930 to 1936 he had served as a clinical professor of medicine at Long Island College of Medicine and was chief of staff and president of the medical board of the former Harbor Hospital. From 1934 until a few years ago he had been physician for the Brooklyn Borough Gas Company and had also served as medical examiner for the Kings County District Attorney. In 1939 he was president of the Kings County Medical Society. Dr. Nash was a Diplomate of the American Board of Internal Medicine, a Fellow of the American College of Physicians, and a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Siegfried Fred Nelson, M.D., of New York City, died on December 29, 1955 at the age of seventy-seven. Dr. Nelson received his medical degree in 1902 from the University of Freiburg. He was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Arthur Clare Palmateer, M.D., of the Bronx, died on April 27 at the age of seventy-five. Dr. Palmateer graduated from the College of Physicians and Surgeons, Baltimore, Maryland, in 1906. A former instructor in surgery at the New York Polyclinic Medical School and Hospital, he was an assistant in ophthalmic surgery at the Bronx Eye and Ear Infirmary and an attending in otolaryngology at St. Joseph's Hospital. He was a member of the Bronx County Medical Society, the Medical

Society of the State of New York, and the American Medical Association.

Joseph Anthony Petruzzi, M.D., of Elmsford, died on April 20 at the age of fifty. Dr. Petruzzi graduated from Tufts College Medical School in 1930. He was physician for the Elmsford schools and for the Sonotone Corporation in Elmsford. Dr. Petruzzi was a member of the Westchester County Medical Society and the Medical Society of the State of New York.

Louis Starr, M.D., of Brooklyn, died on April 21 at the age of forty-two. Dr. Starr received his degree in 1939 from the Royal College of Physicians and Surgeons of Glasgow and Edinburgh, Scotland, and interned at Israel Zion Hospital. He was an assistant in orthopedic surgery at the Long Island College Hospital and Long Island College Hospital Outpatient Department, an associate in orthopedic surgery at Maimonides Hospital and Maimonides Hospital Outpatient Department, an associate in orthopedic surgery at the Jewish Chronic Disease Hospital, Brooklyn, and an assistant in orthopedics at the Kings County Hospital Center. He was a Diplomate of the American Board of Orthopedic Surgery, a Fellow of the American College of Surgeons, and a member of the New York Academy of Medicine, the New York Rheumatism Association, the American Academy of Orthopaedic Surgeons, the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Percy Gardiner Waller, M.D., of New Baltimore, died on April 28 at the age of eighty-five. Dr. Waller graduated from Albany Medical College in 1893. He was a member of the Memorial Hospital of Green County, Catskill. In 1951 he was named outstanding general practitioner of New York State by the Medical Society of the State of New York. Dr. Waller was a member of the Greene County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Adolf Abraham Weiss, M.D., of New York City, died on April 23 at the age of sixty-six. Dr. Weiss graduated in 1914 from Columbia University College of Physicians and Surgeons and interned at Mount Sinai Hospital. He was a Member of the American College of Gastroenterology, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

John Charles Williams, M.D., of New York City, died on April 25 at the age of sixty-seven. Dr. Williams graduated in 1912 from the University of Vermont College of Medicine. At one time he had served as professor of physical diagnosis at Flower and Fifth Avenue Hospitals and for twelve years was an attending specialist in tuberculosis at St. Luke's Hospital.

Participation is the Price of Freedom

The November 14, 1955, newspapers carried a notice that the newly combined CIO-AFL labor group will urge the Governor and the legislature to set up a state-wide 'hospital and medical care' system to be paid for out of taxes levied upon employers and employes. The ghost of compulsory health insurance walks again. Under this law, if enacted, you will participate . . . or you will look for a new gainful occupation.

Our best answer to this challenge is to become active, participating physicians in the one doctor-care plan which is ours. A recent issue of the UMS 'Bulletin' shows the organization to be truly ours. The doctors of the 17-county medical societies control both the structure and the functions of this plan which pays for doctor-care of its subscriber members.

It provides free-choice-of-doctor and fee-for-service. It is the only plan which has met the standards for approval set up by your State Medical Society . . . in the New York City area. If you do not choose to stand up and be counted now, later you will be counted in the state compulsory system.

We of the profession can show our faith in voluntary medical care insurance . . . in UMS . . . if we all join to make it work . . . this is our last line of defense against the threat of destruction of democracy in the practice of medicine. Blue Shield represents the best thought of our profession. It stands for all that we consider best for the people whom we are dedicated to serve. It promotes medical care of only the highest standards . . . it does not promote a cheapened service to attain 'unlimited' quantity pretenses.

If you have faith in yourself . . . in the sincerity of efforts in behalf of your economic welfare . . . you will support Blue Shield. Let's all unite in a campaign to defend and maintain the democracy of medicine. Let's not be drafted into a lock-step alien system of practice . . . without at least a good fight against it. Our people will stand with us . . . IF WE STAND TOGETHER.—*Kings County Medical Society "Bulletin," December, 1955*

MEDICAL NEWS

Alcoholism Symposium—The fourth annual medical symposium on alcoholism was held on May 10 at the New York Academy of Medicine, presented by the New York City Medical Society on Alcoholism.

"The Use of Tranquilizing Drugs in Alcoholism" was discussed by Dr. Harold W. Lovell, president of the National Committee on Alcoholism and associate professor of neurology at New York Medical College. The subject of "A Multi-Disciplinary Research Project on the Etiology of Chronic Alcoholism" was reviewed by Dr. Israel Zwerling, consultant research psychiatrist at the State University Alcohol Clinic, Kings County Hospital, and discussed by Dr. Arnold Z. Pfeffer, assistant clinical professor of psychiatry, New York University School of Medicine.

Dr. Benjamin Kissin, physician-in-charge, State University Alcohol Clinic, Kings County Hospital, spoke on "Experiences With a New Combination of Drugs in the Treatment of Chronic Alcoholism" and this was discussed by Dr. Joseph Post, associate professor of clinical medicine, College of Medicine, New York University-Bellevue Medical Center. Dr. Ruth Fox, president of the New York City Medical Society on Alcoholism and vice-president of the National Committee on Alcoholism, spoke on "Practical Management of the Alcoholic."

Cancer Teaching Day—A teaching day devoted to cancer was held on May 3 in the Hotel Utica, Utica, under the auspices of the Medical Society of the County of Oneida, the Utica Academy of Medicine, the Medical Society of the State of New York, the Fifth District Branch of the Medical Society of the State of New York, and the New York State Department of Health Bureau of Cancer Control.

Dr. Lemuel Bowden, consultant, Tumor Clinic of the Medical Society of the County of Oneida, was chairman of the meeting.

Among the speakers was Dr. Alexander Brunschwig, attending surgeon at the gynecologic service of Memorial Center for Cancer and Allied Diseases, New York City. He discussed "Radical Cancer Surgery."

Denver Cancer Conference—The tenth annual Rocky Mountain Cancer Conference will be held July 11 and 12 in Denver, Colorado, sponsored by the Colorado State Medical Society and the Colorado Division of the American Cancer Society.

Dr. Grant H. Sanger of Mount Kisco will be a panelist on a symposium on "Cancer of the Breast."

4,000,000 Blue Shield Subscriber—Dr. Louis H. Bauer, chairman of the board of the United Medical Service, New York's Blue Shield, enrolled Mrs. Dorothea J. George as the 4,000,000 subscriber to the Service on April 19. Mrs. George's husband and children are pictured with her.

Society of Medical Jurisprudence—The Society of Medical Jurisprudence met on May 7 at the New York Academy of Medicine building in New York City.

Dr. Russell S. Fisher, chief medical examiner of the State of Maryland, spoke on "The Investigation of Sudden Death." Discussants included Dr. Milton Helpern, chief medical examiner of New York City; Dr. Theodore J. Curphey, chief medical examiner of Nassau County; Dr. Victoria A. Bradess, chief medical examiner of Westchester County, and Edward J. Bohne, Esquire, member of the New York Bar and president of the Society.

Course in Occupational Health—The Institute of Industrial Medicine of New York University Post-Graduate Medical School is offering a two-month course for physicians in occupational health, beginning September 10 and continuing through November 2. Those topics discussed will be occupational medicine, preventive medicine, industrial hygiene, administrative medicine, and occupational diseases, with subdivisions under these. For applications contact Office of the Dean, Post-Graduate Medical School, 550 First Avenue, New York 16, New York.

Panel on Diabetes Available—The Clinical Society of the New York Diabetes Association has a panel of speakers available on request to appear before hospital groups in the Metropolitan area for discussion of various aspects of diabetes mellitus. Requests should be sent to the Clinical Society of the New York Diabetes Association, 270 Park Avenue, New York 17, New York.

Doctors' Orchestral Society—The New York Doctors' Orchestral Society gave a concert on April 18 at the New York University School of Education Auditorium. The orchestra performed Dvorak's "Carnival Overture" and "New World Symphony."

Physicians, dentists, and others in allied professions are invited to become members of the orchestra. Rehearsals are held every Thursday at 8:30 P.M. in the auditorium of Public School 33, 9th Avenue and 26th Street, New York City. For details, call Dr. Benjamin A. Rosenberg at NEvins 8–2370.

Great Lakes Association—The Great Lakes Physical Medicine and Rehabilitation Association held its first annual medical program meeting at the University of Buffalo School of Medicine on May 26. The subject discussed was "Study of the Hand."

Mental Health Foundation—The second in a series of lectures on "Contemporary Psychoanalytic Theories and Technics," sponsored by the American Mental Health Foundation's Psychoanalytic Center, was held on May 23 at the New York Academy of Sciences in New York City. Dr. Sandor Rado, New York City, spoke on "The Future of Psychoanalytic Therapy."

International Academy of Proctology—The New York Chapter of the International Academy of Proctology met on May 14 at the Hotel Plaza, New York City. Subject of the scientific session was "Management of the Complicated Anal Fistula," by Dr. Edward Levy, of Fordham Hospital.

Personalities

Elected

Dr. Stanley E. Bradley, associate professor of medicine at the College of Physicians and Surgeons, Columbia University, as president of the American Society for Clinical Investigation . . . Dr. Lloyd H. Gaston, executive director of St. Luke's Hospital, New York City, as president of the Greater New York Hospital Association . . . Dr. Janet McKenzie Rioch, of Roosevelt Hospital in New York City, as president of the newly organized "United Nations" of psychoanalysts.

Appointed

Dr. Michael S. Bruno, assistant professor of clinical medicine in the Post-Graduate School of New York University College of Medicine, to director of the Department of Internal Medicine of Knickerbocker Hospital, New York City.

Speakers

Dr. Leona C. Baumgartner, New York City Commissioner of Health, before the 57th annual meeting of the Council of the Association for the Aid to Crippled Children, on April 30 . . . Dr. Giorgio Lolli, director of the Silkworth Memorial Service at the Knickerbocker Hospital, New York City, before the first annual meeting of the Professional Association on Alcoholism on April 4 at the Massachusetts Medical Association's headquarters at Boston . . . Dr. Harold H. Sage, assistant professor of surgery at New York University College of Medicine, before the Rensselaer County Medical Society on May 15 in Troy, on "Cancer of the Head and Neck" . . . Dr. A. Clement Silverman, clinical professor of pediatrics at the State University of New York College of Medicine at Syracuse, before the Chemung County Chapter of the Academy of General Practice on May 23 in Elmira on "Infectious Diseases in Childhood" . . . Dr. Albert M. Yunich, assistant clinical professor of medicine at Albany Medical College, before the Dutchess County Medical Society on May 16 in Poughkeepsie, on "The Medical Management of Diseases of the Upper Gastrointestinal Tract."

There's a Difference

As I reached the summit of the hill that overlooked the village I was living in, I met a youngster delivering newspapers. It was dawn and we stopped to survey the flickering lights of the town that lay at our feet. "Which one of those houses do you live in?" I asked.

Still looking below him, he answered, "It's not a house. It's a home."

"And what's the difference?" I asked.

He continued to gaze down at the town, over which the first rays of the sun were casting a web of light. "I guess that sun will shine *on* a house," he said. "But it shines *in* a home."

—James Fox

NEWS FROM THE MEDICAL SCHOOLS

Albany Medical College

Adrian A. Ehler Memorial Lecture—The fifth annual renewal of the Adrian A. Ehler Memorial Lecture was on April 16. Dr. J. Burns Amberson, New York City, spoke on "The Tuberculous Patient Today—Some Clinical and Epidemiologic Implications." Dr. Adrian A. Ehler, who was credited with being the first thoracic surgeon in Albany, was associate professor of surgery and head, subdivision of thoracic surgery in the Department of Surgery at the College at the time of his death.

Television Program—"Diabetes," a dramatization of the problems of the diabetic, was produced on station WRGB on April 9. Dean Harold C. Wiggers served as narrator.

Alpha Omega Alpha Chapter—The college chapter of Alpha Omega Alpha held its annual initiation on April 17. Chosen on the basis of scholastic achievement, general attributes, a future promise for a career in medicine, the alumni initiated were Dr. Donald L. Burdick, New York City; Dr. Paul F. Formel, Glenmont, and Dr. John J. Gamble, Albany. Senior students were: Frederick R. Brandlin, Rochester; Catherine J. Peffer, Greenfield, Massachusetts; Fred A. Phillips, Jr., Troy; Lawrence H. Rockland, Bronx, and Orazio R. Zumbo, Albany. Third year initiates were Rollin M. Galster, Scotia, and Robert F. Yates, Newburgh. Guest speaker was Captain Edward G. Sperry, USAF, who spoke on "Problems of Space Medicine."

State University of New York College of Medicine at Syracuse

Alpha Epsilon Iota—Dr. Priscilla White, Joslin Clinic, Boston, was the guest of the Syracuse chapter of Alpha Epsilon Iota on April 20. She spoke on "Diabetes in Pregnancy."

Appointments, Promotions, and Resignations—Dr. Thomas W. Mou has been appointed assistant professor in the section on preventive medicine. The following promotions have been announced: Dr. John M. McKibbin to professor in the Department of Biochemistry; Dr. Samuel Mallov to assistant professor in the Department of Pharmacology; Dr. Otto Muller to professor in the Department of Physiology; Dr. Lytt I. Gardner to professor in the Department of Pediatrics; Drs. William Faloon and Donald Samson to associate professors in the Department of Medicine; Dr. David B. Jones to associate professor in the Department of Pathology, and Dr. Robert Straus to associate professor in the Department of Public Health (Sociology). Resignations announced are: Drs. Arland Ryan and Richard Storrs in the Department of Radiology to enter private practice.

Splenectomy in Infants and Children

After surveying the end results in a series of splenectomies performed on infants and children for a variety of indications, Drs. LeRoy Walters and Lawrence Chaffin, University of Southern California, Los Angeles, found no clinical evidence that splenectomy in infants is associated with any unusual risk or with increased susceptibility to infection. The total of 72 cases for all diagnoses occurred over a twenty-year period. Of these, 37 were for congenital hemolytic icterus. Because of the scattering of the other indications over ten different diagnoses, this summary will concern itself with the 37 congenital icterus cases only. The writers are of the opinion that this diagnosis is a clear-cut indication for splenectomy; delay may mean only the necessity of repeated transfusions, chronic ill health, anemia, and retarded development.—*Annals of Surgery, November, 1955*

Woman's Auxiliary

to the MEDICAL SOCIETY OF THE STATE OF NEW YORK

Auxiliary Officers Elected for 1956–1957

Mrs. Albert Vander Veer 2nd, Albany, was elected president of the Woman's Auxiliary to the Medical Society of the State of New York at its 20th Annual Convention on May 9. Mrs. Leif Jensen of Richmond, Staten Island, was chosen president-elect.

Officers and Directors

Other officers elected included: Mrs. Milton W. Kogan, Oswego, first vice-president; Mrs. Gerald C. Cooney, Syracuse, second vice-president; Mrs. Colgate Phillips, Bronxville, recording secretary; Mrs. Arthur F. Holding, Albany, treasurer, and Mrs. Granville W. Larimore, Albany, assistant treasurer. Directors elected were: Mrs. Isadore Zadek, New Rochelle, and Mrs. Albert M. Biglan, Suffolk, who will serve for three years.

Councillors

Mrs. Harry I. Norton, Rochester, was elected councillor-at-large and the following district councillors were chosen: Fourth District—Mrs. Edward P. Ryan, Glens Falls, and Sixth District—Mrs. Windsor R. Smith, Binghamton. Reelected were: Mrs. J. H. Kinnaman, Garden City, for the Second District and Mrs. Maurice G. Sheldon, Olean, for the Eighth District.

Committee Chairmen

Chairmen of committees include the following: American Medical Education Foundation—Mrs. James L. McCartney, Garden City; Archives—Mrs. Ezra A. Wolff, Forest Hills; Civil Defense—Mrs. Raymond J. Byron, Schenectady; Convention—Mrs. Herbert J. Ulrich, Buffalo; Fall Conference—Mrs. Gerald Cooney, Syracuse; *Distaff*—Mrs. H. D. Vickers, Little Falls; *Distaff* Circulation—Mrs. Walter T. Heldmann, Staten Island; Finance—Mrs. Herman Galster, Scotia; Historian—Mrs. Thomas P. Hamilton, Watertown; Legislation—Mrs. James A. Moore, Albany; Mental Health—Mrs. S. Judd Bochner, Scarsdale; National Bulletin—Mrs. Carleton Heist, Westfield; Nurse Recruitment—Mrs. R. T. Corey, Cortland; Organization—Mrs. Alton B. Thompson, Pulaski; Parliamentarian—Mrs. Luther H. Kice, Garden City; Physicians' Home—Mrs. Richard Loomis, Springville; Poster Contest—Mrs. Heinz Salm, Hudson; Press and Publicity—Mrs. John L. Neubert, Roslyn Heights; Printing and Supplies—Mrs. Charles Yarington, Moravia.

Also Program—Mrs. Eugene Wolff, Newburgh; Public Relations—Mrs. Edward W. Briggs, Jr., Wellsville; Recommendations—Mrs. Samuel Reback, Staten Island; Revisions—Mrs. Matthew E. Fairbank, Rochester; State Fair—Mrs. Raymond Fenner, Syracuse; Cochairman—Mrs. Marvin Brown, Cleveland; *Today's Health*—Mrs. Joseph A. Squillace, Brooklyn; Voluntary Health Plans—Mrs. William J. Godfrey, Flushing.

The Tune Is the Same

PRAXAGORA: I want all to have a share of everything and all property to be in common; there will no longer be either rich or poor; no longer shall we see one man harvesting vast tracts of land, while another has not ground to be buried in. . . . I intend that there shall be only one and the same condition of life for all. . . .

I shall begin by making land, money, everything that is private property, common to all.

BLEPYRUS: But who shall do all the work?

PRAXAGORA: Oh, we shall have to have slaves.

This is a scene from a play about Praxagora, a lady Communist, written by the Greek comic genius, Aristophanes, 2,300 years before the Soviet state.

—JAMES FOX

BOOKS REVIEWED

Present-Day Psychology. An Original Survey of Departments, Branches, Methods, and Phases, Including Clinical and Dynamic Psychology. Edited by A. A. Roback, Ph.D. With the collaboration of 40 experts in the various fields. Octavo of 995 pages, illustrated. New York, Philosophical Library, 1955. Cloth, $12.

This is an impressive book on our present-day knowledge of psychology, containing 40 original essays on a wide range of subjects and written by authorities in their fields. It is edited by Dr. A. A. Roback, a psychologist of note who has done an excellent job of choosing the authors and material and who has himself contributed several chapters.

Several chapters are outstanding and provocative, especially those by Dreikurs on Individual Psychology, Wolff on some Recent Experimental Work in Psychodiagnostics, and Bellak on Projective Techniques in Contemporary Psychology.

The pleasure which the reviewer received in reading the book was enhanced by a concise biography of each author at the beginning of the chapter. This helped to orientate the author in his field. A comprehensive bibliography will be useful to those who pursue the material further. It is highly recommended to anyone who seeks a philosophic understanding of present-day psychology.—JOSEPH L. ABRAMSON

The Thyroid. A Fundamental and Clinical Text. With 60 contributors. Sidney C. Werner, M.D., Editor. Octavo of 789 pages, illustrated. New York, Paul B. Hoeber, Medical Book Department of Harper & Brothers, 1955. Cloth, $20.

This book is designed for use in the clinic as well as in a basic science laboratory. Every effort has been made to have a complete treatise. Contributions from 60 authorities of endocrinology and a wide range of component fields assure a wealth of information on the thyroid gland.

It is an excellent standard guide in noncontroversial matters. Even the complete lack of agreement which exists in the treatment of hyperthyroidism, cancer, and thyroiditis is well expressed. The reviewer feels that cancer and thyroiditis are almost completely self-limited diseases. Also that the radioactive iodine treatment of hyperthyroidism needs further study before its acceptance.—BERNARD SELIGMAN

The Pharmacopeia of the United States of America (The United States Pharmacopeia). Fifteenth Revision, U.S.P. XV. By authority of The United States Pharmacopeial Convention, Inc. meeting at Washington, D.C., May 9 and 10, 1950. Prepared by the Committee of Revision and published by the Board of Trustees. Official from December 15, 1955. Octavo of 1,178 pages, illustrated. Easton, Pa., Mack Publishing Company, 1955. Cloth, $10.

In the 15th revision of the U.S.P., the high official standards set for pharmacy and medical practice have been maintained. Eight hundred and thirty-eight monographs are included as opposed to 756 in U.S.P. XIV. Two hundred and forty-two new admissions reflect the advances in medicine such as Isoniazid, Hydrocortisone, Oxytetracycline, and Tetracycline. One hundred and forty-six pages are devoted to general tests, processes, and apparatus. Practically all Latin titles have been dropped unless the Latin stem differs markedly from the English.

One hundred and fifty-six articles have been dropped, among which are a number of single sulfonamides with serious reactions, penicillin troches, ointment, and aerosol.

Assay procedures and calculations providing uniformity of potency for lots are given for all drugs except those having physical characteristics which show adequate purity.

A number of changes in official titles have been made: Chlortetracycline hydrochloride for Aureomycin hydrochloride, cyanocobalamin for vitamin B_{12}, and purified water for distilled water. An additional 21 other title changes are included.

Some new features included are: A category at the end of each monograph, designating the class of drugs to which it belongs, by its most potent pharmacologic action. The usual dose and its range are also given. Antimicrobial and antioxidative preservatives may be added for parenteral administration and topical applications unless otherwise specified in the monograph. Some of the new admissions are veterinary products and combinations of drugs.

The book is well indexed with appropriate cross references within the text. An essential standard source book for the medical pharmaceutic industry and allied fields, as well as all medical and technical libraries.—W. ALAN WRIGHT

Cardiac Diagnosis. A Physiologic Approach. By Robert F. Rushmer, M.D. Quarto of 447 pages, illustrated. Philadelphia, W. B. Saunders Company, 1955. Cloth, $11.50.

This admirable book covers a wider field than its title implies since it is essentially a modern-day handbook for all of cardiology. Rushmer, a biophysicist, approaches the heart and the circulatory system with the technics and the knowledge of current concepts. He presents the fundamental concepts of the physiologic and pathologic mechanisms involved so lucidly that every one interested can profit. There are numerous schematic drawings which illuminate the text. In short, this volume is recommended without reservation.—Milton Plotz

Life Stress and Essential Hypertension. A Study of Circulatory Adjustments in Man. By Stewart Wolf, M.D., Philippe V. Cardon, Jr., M.D., Edward M. Shepard, M.D., and Harold G. Wolff, M.D., Octavo of 253 pages, illustrated. Baltimore, Williams and Wilkins Company, 1955. Cloth, $7.50.

This is a 250-page statement of the studies done mostly at the New York Hospital on the relationship between emotional stress and cardiovascular functions, especially hypertension. Although the authors reiterate a point of view long generally accepted and add nothing new, the volume makes entertaining reading. It is, however, far too long for its material and would have reached a wider audience if prepared much abridged as an article for a medical journal. Some 85 pages are devoted to case histories, for example. The book is fairly well written, but occasionally psychiatric jargon and awkward phrasing get in the way of simple English, an example being the first paragraph, particularly its second sentence, on page 225.—Milton Plotz

Ciba Foundation Colloquia on Endocrinology. Volume VIII. The Human Adrenal Cortex. Editors for the Ciba Foundation, G. E. W. Wolstenholme, M.D., and Margaret P. Cameron, M.A. Assisted by Joan Etherington. Octavo of 665 pages, 227 illustrations. Boston, Little, Brown and Company, 1955. Cloth, $10.

Distinguished international workers in chemical and medical research air their recent advanced observations. The lively controversial discussions of the two-day 1954 meeting are replete with facts.

The students of the basic sciences as well as the practitioners of medicine will find this book stimulating and instructive. The editing, too, is well done, which makes the book easily read.—Bernard Seligman

Modern Drug Encyclopedia and Therapeutic Index. Edited by Marion E. Howard, M.D. Sixth edition. Octavo of 1,477 pages, illustrated. New York, Drug Publications, 1955. Cloth, $15.

The *Modern Drug Encyclopedia and Therapeutic Index*, with its supplements, *Modern Drugs*, is still the most up-to-date reference source for information on new and old drugs.

The arrangement of the sixth edition is mostly the same as the previous editions. A few new innovations have been added such as dosage forms according to both the metric and apothecary equivalents and registered trademarks under "Supply" and entered under (C.A.) for Council acceptance. Notations indicating narcotics requiring a prescription, or exempt products, are designated by (—) and (□) respectively. Other drugs, requiring prescriptions are marked (Ps).

The four indices provide excellent cross references to manufacturers, products, trade names, and broad classification of drugs.—W. Alan Wright

Clinical Biochemistry. By Abraham Cantarow, M.D., and Max Trumper, Ph.D. Fifth edition. Octavo of 738 pages, illustrated. Philadelphia, W. B. Saunders Company, 1955. Cloth, $9.00.

This book, now in its fifth edition, is a well-established text for both the medical student and the clinician. The authors have deleted some material but have compensated by bringing all important biochemical advances to the physician for his use in diagnosing and treating disease.

The chapters on the biochemical changes in the functions of liver, kidneys, blood plasma, lipoproteins, and porphyrins, all described in the fourth edition, are enlarged and improved in this fifth edition. A new small chapter on the nutritive value of diet and its biochemical value in normal functions creating deficiencies merits expansion.—Morris Ant

The Surgery of Theodoric, Ca. A.D. 1267. Translated from the Latin by Eldridge Campbell, M.D., and James Colton, M.A. Vol. I (Books 1 and 2). Octavo of 223 pages, illustrated. New York, Appleton-Century-Crofts, 1955. Cloth, $5.50.

Surgery was rather well developed at Bologna in Italy during the thirteenth century. One of the outstanding representatives in this branch of medicine was Theodoric Borgognoni, who was also a cleric and became Bishop of Cervia. Theodoric was an extremely original surgeon who in some degree anticipated antisepsis and anesthesia, two of the basic adjuncts that have made possible the growth of modern surgery. He stated that the formation of pus in wounds was neither necessary nor desirable for healing to occur. Furthermore, he advocated simple dressings dipped in wine. Theodoric also employed an anesthetic sponge which was soaked in hot water before being inhaled by the patient.

Theodoric wrote a *Surgery* of which the first two books have been translated by Campbell and Colton. The first book deals with general surgery, ulcers, abscesses, hemorrhage, and the like. Book two is concerned with fractures and dislocations. The translation is straightforward and readable. It is anticipated that a second volume will complete the translation of Theodoric. Meanwhile this is a book for every surgeon, indeed for every physician who has the least spark of interest in the men upon whose shoulders we stand.—George Rosen

Fractures and Joint Injuries. By Sir Reginald Watson-Jones, Ch.B. Volume II. Fourth edition. Octavo of 1,073 pages, illustrated. Baltimore, Williams & Wilkins Company. 1955. Cloth, $22 for set of 2 volumes. Sold in sets only.

This latest edition of Watson-Jones is most excellently written and illustrated. The fundamentals in the treatment of fractures are so well covered that this book should be read by all who treat these conditions.—Otho C. Hudson

Hydrocortisone, Its Newer Analogs and Aldosterone as Therapeutic Agents. By Joseph W. Jailer, M.D. (Conference Chairman), N. Abu Haydar, V. Alford, W. L. Arons, M.D., B. L. Baker, Ph.D. (anat), *et al.* Octavo of 355 pages, illustrated. New York, New York Academy of Sciences, 1955. Paper, $4.50. (*Annals of the New York Academy of Sciences.* V. 61, Art. 2, pp. 281–636).

In January, 1955, a conference on hydrocortisone and its analogs was held by the New York Academy of Sciences. Papers were presented by the leading investigators in this field. This brochure presents the papers which were read at the conference.

The five parts of the conference discussed the Pharmacology of Cortisone, the Use of Cortisone, Hydrocortisone and Synthetic Steroids in Systemic Disease, Selected Parenteral Forms of Hydrocortisone in Therapy, Topical Use of Hydrocortisone, and Halogenated Analogs of Hydrocortisone.

This small volume is packed with observations, experiments, and conclusions of the foremost investigators in the field of steroid therapy.—Martin Perlmutter

Introduction to Operating-Room Technique. By Edna Cornelia Berry, R.N., and Mary Louise Kohn, R.N. Quarto of 154 pages, illustrated. New York, The Blakiston Division, McGraw-Hill Book Company, 1955. Paper, $4.00.

This handbook was written by two nurses to facilitate the study of aseptic technic and care of the patient in the operating room. They have done an excellent job in presenting and illustrating their material.

The book is clear, concise, and arranged in an orderly manner. The sheets are perforated so that they may be placed in a standard ring binder and interspersed with blank sheets for additional data to meet individual needs. The section on medicolegal aspects is especially instructive. The work is highly recommended for all operating room personnel.—John J. Lille

Peptic Ulcer. Diagnosis and Treatment. By Clifford J. Barborka, M.D., and E. Clinton Texter, Jr., M.D. Octavo of 290 pages, 33 illustrations. Boston, Little, Brown & Company, 1955. Cloth, $7.00.

This is a very well-written compact review of the ulcer problem. Of course it adds nothing to help solve the riddle of ulcer either in the mystery of its causation or in the confusion and uncertainty which surrounds its therapy.—Benjamin M. Bernstein

Textbook of Endocrinology. Edited by Robert H. Williams, M.D. Contributors, William H. Daughaday, M.D., Peter H. Forsham, M.D., Harry B. Friedgood, M.D., John Eager Howard, M.D., *et al.* Second edition. Octavo of 776 pages, illustrated. Philadelphia, W. B. Saunders Company, 1955. Cloth, $13.

This treatise continues the excellent presentation of the first edition. Daughaday has replaced Newburgh in obesity; Forsham and Thorn have taken over the complete exposition of the diseases of the adrenal gland.

After five years, the endocrinologist should replace his standard textbook.—Bernard Seligman

Brain Mechanisms in Diachrome. By Wendell J. S. Krieg, Ph.D. Illustrated by the author. Quarto of 188 pages, illustrated. Evanston, Ill., Brain Books, 1955. Cloth, $7.00.

The title of this book indicates its purpose. It is a description of the structures of the brain by the use of color transparencies which are attached in a series of six double-sided plates at the end of the book. The author refers to these plates throughout the text. Three dimensional views, a method of demonstration for which the author is justly famous, are frequently used in the book to supplement the color transparencies.

The entire nervous system is developed in a relatively few pages beginning with a description of a single cell and then by application of embryology and comparative anatomy carried through to a survey of the entire brain and spinal cord. The basic anatomic structures are accurately portrayed in the illustrations and simply described in the text. However, frequent application of clinical and physiologic material in an explanation of some of the anatomic mechanisms detracts from the value of the book; for this material, because of its simplicity, is misleading and does not always follow the more recent trends in the field of physiology.

The book seemingly would be of value to the experienced neurologist and neurosurgeon who has had a well-grounded training in neuroanatomy and who, because of the lack of frequent application of anatomy, may want to refresh his thoughts on some of the basic points and localizations. The medical student and neurologist not too well informed in basic neuroanatomy may find this book rather difficult to use. Nevertheless, the beautiful illustrations, especially the diachrome, makes this book a very worthwhile addition to any library.—Harry A. Kaplan

A Handbook of Hospital Psychiatry. A Practical Guide to Therapy. By Louis Linn, M.D. Octavo of 560 pages. New York, International Universities Press, 1955. Cloth, $10.

The author exemplifies in a most commendable fashion the goal of "Treatment Team" in progressive mental hospital functioning which, in turn, is regarded as a "Therapeutic Community." The roots of its contents draw from many years of state hospital practice, neuropsychiatric experience in the Medical Corps of the Army, and several years as attending psychiatrist of Mount Sinai Hospital, New York City. Its substance also stems from a series of psychiatric seminars at various state hospitals under the auspices of the New York State Department of Mental Hygiene. This experience has given weight to its practical value. One finds due recognition to the relationship of theory (be it psychoanalytic, somatotherapeutic, or other rationale which gives pertinent meaning and significance) to practice.

Practicing psychiatrists, especially those working in the hospital setting, will find this a highly useful book in envisaging global interrelationships of their work. Its psychodynamic and interpretative bent, encompassing all levels of integration and contributions, refreshens interest and lends courage with increasing sense of the worthwhileness of pooled efforts in service and dedication to the understanding and treatment of the mentally ill.

Dr. Linn writes lucidly and succinctly. The reviewer knows of no such similar volume which is so comprehensive and evaluates so well the multiplicity of practical considerations as does this handy volume. It is essentially wholesomely patient-centered and yet does justice to telling sociologic needs and opportunities.—Frederick L. Patry

Child Behavior. By Frances L. Ilg, M.D., and Louise Bates Ames, Ph.D. Quarto of 364 pages. New York, Harper & Bros., 1955. Cloth, $3.95.

This book is based on a series of articles written by the authors in a daily newspaper column on child behavior. They have previously been co-authors on various books originating from the Clinic of Child Development at Yale University, now the Gesell Institute of Child Development.

The theme of the book is based on growth, for growth is the primary factor in children's development. Growth is orderly and predictable.

This book may be suggested for parental reading. It has various chapters on eating behavior, mother-child relationship, and a variety of other subjects involved in child behavior.—Stanley S. Lamm

A Textbook of Medicine. Edited by Russell L. Cecil, M.D., and Robert F. Loeb, M.D. Associate Editors, Alexander B. Gutman, M.D., Walsh McDermott, M.D., and Harold G. Wolff, M.D. Ninth edition. Quarto of 1,786 pages, illustrated. Philadelphia, W. B. Saunders Company, 1955. Cloth, $15.

This standard medical text continues to maintain its eminence in the field of practical clinical literature. The two editors, their associate editors, Drs. Gutman, McDermott, and Wolff, together with over 150 contributors, have continued and even improved upon the already high standards of prior editions. A number of conditions, particularly in the fields of virus infection and nutritional and metabolic disturbance, about which much new or improved information has recently accumulated, are covered by articles not present in previous editions.

As in prior editions, the articles are pithy and give the reader, in easily accessible form, a wealth of essential information. The stress on the physiologic biochemical, and pathogenic aspects of disease is particularly noteworthy, and the comments on therapy are up to date and helpful.

Of particular interest to this reviewer are the sections on diseases of the digestive system. These are covered in most excellent fashion, particularly when one considers the large number of conditions involved. A proper emphasis is given to the functional types of gastrointestinal disorder, and this is all to the good in view of their high incidence in clinical practice.

As a textbook this work is second to none. In addition it is certainly most useful to the more experienced practitioner and clinician both for review purposes and as a ready reference on specific aspects of disease.—Alfred P. Ingegno

Introduction to Virology. By Gilbert Dalldorf, M.D. Octavo of 102 pages, illustrated. Springfield, Charles C Thomas, 1955. Cloth, $3.50.

This small volume (99 pages) is a distinct contribution to the field of microbiology. Dr. Dalldorf in the first part of his book surveys the more important American virus diseases which he groups with regard to clinical manifestations. The last two chapters are devoted to technical problems of the virus laboratory and include suggestions concerning facilities, equipment, and methods. Both clinicians and pathologists will benefit from this book, and it should stimulate interest in a field of growing importance and understanding whose development has been handicapped by technical problems that are now finding solution.—Philip G. Cabaud

Premature Infants. A Manual for Physicians. By Ethel C. Dunham, M.D. Second edition. Octavo of 459 pages, illustrated. New York, Paul B. Hoeber, Medical Book Department of Harper & Brothers, 1955. Cloth, $8.00.

This book contains considerable material relevant to the premature. Chapter 3 discusses the causes and prevention of prematurity and reads most interestingly. Care of the premature during the neonatal period should be quite helpful to the resident in pediatrics as well as to others charged with the management of the newborn premature. The several types of incubators are explained and their application made clear.

Regarding the care of the skin of the newborn (premature), the book lacks a direct approach. Several methods are quoted but not all are recommended. The student of pediatrics who will seek in these pages constructive information on this subject will end up with confusion instead.

The chapter on nutrition is very well done and is highly recommended.—Harry Apfel

Experimental Psychology. A Series of Broadcast Talks on Recent Research. By A. J. Watson, Harry Kay, J. A. Deutsch, B. A. Farrell, *et al.*

Edited by B. A. Farrell. Duodecimo of 66 pages. New York, Philosophical Library, 1955. Cloth, $2.75.

This little book consists of broadcast talks on BBC in 1954 by eight well-known English psychologists, and edited by one of them. The talks were given in an effort to focus attention on the work of the experimental psychologists and their contribution to the understanding of mental phenomena and the general problems of human adjustment.

This was intended for lay consumption. The reviewer did not find it easy reading and one wonders if the intelligence of the average English listener on radio could cope with the contents of the various talks.—Joseph L. Abramson

Differential Diagnosis. The Interpretation of Clinical Evidence. By A. McGehee Harvey, M.D., and James Bordley, III, M.D. Octavo of 665 pages. Philadelphia, W. B. Saunders Company, 1955. Cloth, $11.

Drs. Harvey and Bordley follow an unusual plan in this interesting book. It is divided into chapters, mainly according to dominant signs or symptoms such as: Jaundice, Chest Pain, Fever of Obscure Origin, etc. In each a fine discussion of the differential diagnosis involved is presented. All end with a description of several illustrative cases. In this respect the book is unique.

The final chapter is made up of 11 unknown cases which can be studied by the reader. The answers and anatomic findings are revealed at the end of the book.

This volume would make excellent leisure reading for both the general practitioner and the internist. It is not a "must" but it does contribute a little to the fascinating medical exercise called differential diagnosis.—Julius E. Stolfi

Gynaecology. By Douglas H. MacLeod, M.S. (Lond.), and Charles D. Read, M.B. (N.Z.). Section on Anatomy by James Snyder, M.D. Section on Physiology and Endocrinology by Russell Frazer, M.D. Fifth edition. Octavo of 864 pages. 551 illustrations including 27 in colour. Boston, Little, Brown & Company, 1955. Cloth, $16.

Three or four decades ago Lockyer and Eden's *System of Gynecology* and their textbook were easily the best in the English language. In this fifth revision of the textbook MacLeod and Read have lived up to this high tradition. I believe this text is the best we have. The section on pathology is extraordinarily well done and entertainingly, too. Pelvic anatomy has been made to coincide with the practical ideas of the gynecologic surgeon. The illustrations are excellent. This book will be appreciated by everyone, including specialists.—Charles A. Gordon

Practical Endocrinology. By Lewis M. Hurxthal, M.D. In cooperation with A. Seymour Parker, M.D., and Hirsh Sulkowitch, M.D. Octavo of 318 pages, illustrated. Clinton, Mass., Landsberger Medical Books, distributed solely by the Blakiston Division of the McGraw-Hill Book Co., 1955. Cloth, $7.00. (Handbooks for the General Practitioner)

This book is exactly as stated—a handbook of endocrinology for the general practitioner. There is no bibliography. The statements made are, however, conservative with no wild claims of therapeutic results. The arrangement and the style is good. The book is recommended for quick reference.—Charles S. Byron

Angiographic Localization of Intracranial Masses. By Arthur Ecker, M.D., and Paul Riemenschneider, M.D. Octavo of 433 pages, illustrated. Springfield, Ill., Charles C Thomas, 1955. Cloth, $13.50.

The authors have quite appropriately supplemented their original treatise, *The Normal Angiogram,* with an angiographic atlas of verified intracranial mass lesions. In the first part of the monograph general considerations of arterial and venous displacements as occur with mass lesions are discussed in great detail. Part II is concerned primarily with angiographic distortions found in a great variety of lesions in specific locations. Of particular interest are the considerations of venous displacements around the tentorial ring.

As stated by the authors the data presented in this book should form the basis for evaluating similar issues in the future. From the practical standpoint there can be no question that arteriography is a great aid in resolving intrinsic vascular lesions of the brain and in some instances that of space occupying masses. However, all too frequently in the present state of our knowledge subtle displacements of vascular trunks are not acceptable as evidence for a surgeon without verification of a mass lesion by ventriculography or pneumoencephalography. Although the authors do not present their data as a substance for further diagnostic methods, it is still appropriate to emphasize the frequent failure of angiography to demonstrate space occupying masses that are clearly delineated by air studies.

The real value of this book is in the demonstration in the living of the essential role vascular displacement may assume in subtending pathophysiologic alterations which are of clinical significance.—Albert W. Cook

Bickham-Callander Surgery of the Alimentary Tract. Edited by Richard T. Shackelford, M.D. Assisted by Hammond J. Dugan, M.D. In three volumes. Quarto of 2,575 pages, 1,705 illustrations. Philadelphia, W. B. Saunders Company, 1955. Cloth, $60 per set.

Dr. Warren Stone Bickham of New York City completed, in 1924, a six-volume work concerning the technics of general and special surgery. This was confined to the presentation of the actual methods of performing practically every operation which was in vogue at that time. These original six volumes were indeed "an encyclopedic compendium of surgical practice."

Following the death of Dr. Bickham, Dr. C. Latimer Callander of California worked between the years of 1938 and 1947 rewriting Bickham's work, but did not complete his task.

In 1949, Dr. Richard T. Shackelford of Baltimore assumed the responsibility of bringing this work up to date, rewriting everything that had been done by Dr. Callander. For the next six years he devoted much of his time to this Herculean task, and in 1955 finished a three-volume treatise on the surgery of the alimentary tract.

The author has kept to the original plan, as far as describing practically every operation that is performed on the alimentary tract at the present time, but has greatly enriched and improved the original work by including descriptions of the pre- and postoperative care of the patient, by carefully evaluating the various operative procedures, calling upon his personal experience, the experience of his surgical colleagues, and by exhaustive review of the current literature.

It is the opinion of the reviewer that those who have profited by referring to the original six volumes of Bickham will find these three volumes far more valuable and profitable, not only because the operative procedures have been brought up to date but because there have been added the indications and contraindications for each of the operations. There are full discussions concerning the diseases for which the operations are done. The basic physiology as it relates to the surgical procedures involved is well presented. The end results of the various operations are concisely given.—Merrill N. Foote

Diseases of the Liver. By Mitchell A. Spellberg, M.D. Quarto of 646 pages, illustrated. New York, Grune & Stratton, 1954. Cloth, $16.50.

Spellberg mentions Jastrow's remark about reading the liver by the ancients. That was magic, but Spellberg truly reads the liver through scientific facts and observations. He shows that by careful observation, needle biopsy, and function tests the correct diagnosis can usually be made. The book is divided into 12 chapters which are interesting and bear careful study. The first three chapters on Clinical Laboratory Tests as a Mirror of Hepatic Function, the Morphological Approach to the Diagnosis of Liver Disease, and the Differential Diagnosis of Jaundice are a must reading for the student, general practitioner, and specialist. Of great interest are the short cryptic summaries scattered throughout the text. This book is highly recommended and should find a place in all libraries.—Reuben Finkelstein

The City of Hope. By Samuel H. Golter. Octavo of 177 pages, illustrated. New York, G. P. Putnam's Sons, 1954. Cloth, $3.50.

This is, in a sense, a "success story." It is actually an autobiography of Samuel H. Golter, built around the birth and progress of the Jewish Sanatorium for Tuberculosis of Southern California, a hospital consisting of two small tents which has grown to be a gigantic medical center.

The author of this book, who was also the founder and later the chief executive of "The City of Hope," records the trials and tribulations encountered in the creation of this important institution. The ideals which prompted the gigantic effort that went into the creation of this worth-while enterprise make exciting reading. Chapter 26 with the caption Legacy brings to a conclusion the humanitarian philosophy that permeates the entire book.—Harry Apfel

The Lung. Clinical Physiology and Pulmonary Function Tests. (Based on the 1954 Beaumont Lecture.) By Julius H. Comroe, Jr., M.D., Robert E. Forster, II, M.D., Arthur B. Dubois, M.D., William A. Briscoe, M.D., and Elizabeth Carlsen, A.B. Octavo of 219 pages, illustrated. Chicago, Year Book Publishers, 1955. Cloth, $5.50.

In the reviewer's opinion this is one of the best texts on the subject of pulmonary function that has ever been collected. It is highly recommended.—Lew A. Hochberg

Office Procedures. By Paul Williamson, M.D. Quarto of 412 pages, illustrated. Philadelphia, W. B. Saunders Company, 1955. Cloth, $12.50.

This helpful exposition of office procedures should be carefully read by all full-time physician-professors teaching medical students, by the students themselves, and should be in the library of all practitioners of medicine. In fact, the book should be used as a textbook for intern-training programs in both accredited and nonaccredited hospitals.

It is quite impossible to describe the contents of the book except to say that the physician who takes the trouble to read it and have it on hand for ready reference will find innumerable suggestions for bettering his office procedures and increasing the scope of his work.

As might be expected, the greatest coverage is minor surgical procedures and the musculoskeletal system (fractures, sprains, etc.) which together account for 130 of the 400 pages of total contents. Obstetrics and gynecology are second with 47 pages.

A few of the suggestions seem a little too intricate for the office, but one must remember that the suggestions must aid certain regions where doctors and hospitals are far apart.

There are a few places where a very short general anesthesia is suggested without the added injunction that general anesthesia should not be administered without the aid of an assistant.

The illustrations are excellent and add lucidity to the text.—Kenneth G. Jennings

Die Poliomyelitis. By Prof. Stéphane Thieffry, Unter mitarbeit von Pierre Lépine, Leon Laruelle, Prof. Marcel Févre, Prof. Daniel Bargeton, *et al.* Octavo of 330 pages, illustrated. Bern & Stuttgart,

[Continued on page 1848]

HOW VAGISEC LIQUID PENETRATES RECESSES OF VAGINA AND EXPLODES TRICHOMONADS OFTEN MISSED

TOO OFTEN AN ORDINARY trichomonacide fails to cure vaginal trichomoniasis because it has little or no effect on parasites that are not on the surface.[1] Trichomonads burrowed deeply into the roughened mucosa survive and set up new foci of infection. In fact, even a few hidden trichomonads remaining after treatment can cause acute exacerbations. With VAGISEC® liquid and jelly you can overcome this most troublesome problem.

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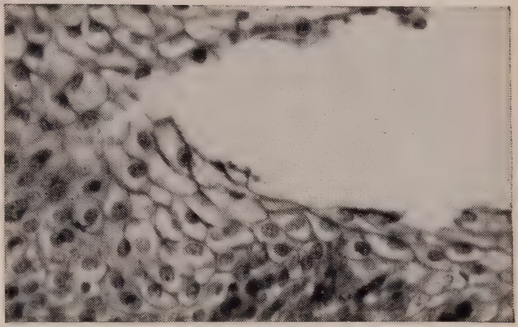
Use liquid and jelly — In the Davis technique, VAGISEC liquid is used in office therapy. At the same time, liquid and jelly are prescribed for home use. They are well tolerated, leave no messy discharge or stain.

Office treatment — Expose vagina with speculum and wipe walls dry with cotton balls. Then wash thoroughly with a 1:100 dilution of VAGISEC liquid. Remove excess fluid with cotton balls. Dr. Davis recommends six treatments.

Home treatment — Patient douches with VAGISEC liquid every night or morning and then inserts VAGISEC jelly. Home treatment is continued through two menstrual periods, but omitted on office treatment days. Douching contraindicated in pregnancy.

Photomicrograph of section of epithelium of normal vaginal mucosa, enlarged 750 times, shows uneven surface where trichomonads hide. VAGISEC penetrates surface and explodes organisms in hard-to-reach areas.



One course of treatment — "If the treatment has been accomplished as directed," the patient "will have no flagellates provided the infection was limited to the vaginal canal . . . A few women have infected cervical, vestibular or urethral glands and require other types of treatment."[4] Continued douching with VAGISEC liquid two or three times each week for eight to twelve weeks helps prevent re-infection.

Prevents coital re-infection — Infected husbands are ". . . a potential source of re-infection in wives successfully treated."[5] Prescribe for your patients the protection afforded by Schmid high quality condoms. Specify the superior RAMSES® rubber prophylactic, transparent, tissue-thin, yet strong. If there is anxiety that rubber might dull sensation, prescribe XXXX (FOUREX)® prophylactic skins, of natural animal membrane, pre-moistened.

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References: 1. Davis, C. H., and Grand, C. G.: Am. J. Obst. & Gynec. 68:559 (Aug.) 1954. 2. Davis, C. H.: J.A.M.A. 157:126 (Jan. 8) 1955. 3. Davis, C. H.: West. J. Surg. 63:53 (Feb.) 1955. 4. Davis, C. H. (Ed.): Gynecology and Obstetrics (revision), Hagerstown, W. F. Prior, 1955, vol. 3, chap. 7, pp. 23-33. 5. Lanceley, F., and McEntegart, M. C.: Lancet 1:668 (Apr. 4) 1953.

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[Continued from page 1846]

Medizinischer Verlag Hans Huber (New York, Grune & Stratton), 1953. Cloth, 26.80 Swiss francs.

This book is a German translation of lectures on the above subject given by Professor Stéphane Thieffry and collaborators at the Centre International de l'Enfance in Paris. The chapters on epidemiology, early and differential diagnosis, show little new material. The problem of respiratory disturbance and the life-saving treatment is described in detail. The diagnostic procedures with electrical muscle testing and electromyography are clearly outlined and show the changes found during the first month of the disease. X-ray therapy to the spine and iontophoresis still being used in France are mentioned; the results are uncertain. The chapters concerning the conservative and operative treatment of the deformities deal with the well-known and generally accepted procedures.

This book is well illustrated and should be stimulating to all connected with the vast problems of polio.—Karl Horn

Liver Injury. Transactions of the Twelfth Conference, September 21, 22 and 23, 1953, Princeton, N. J. Edited by F. W. Hoffbauer, M.D. Octavo of 231 pages, illustrated. New York, Josiah Macy, Jr. Foundation, 1954. Cloth, $4.25.

This book is a review of the research in liver metabolism in animals under varying conditions. The usual high standards of the previous conferences have been maintained. The book is recommended to research workers and students in nutrition.—Reuben Finkelstein

Rheumatoid Arthritis and Psoriasis Vulgaris, Internal and Cutaneous Manifestations of the Permanent Endoparasitism in the Homo Sapiens. Their Common Etiology, Pathogenesis, and Specific Vaccine Therapy. By Tibor Benedek, M.D. Quarto of 308 pages, illustrated. 25 East Washington St., Chicago, The Author, (Chicago, Chicago Medical Book Company), 1955.

In spite of the many etiologic theories of psoriasis suggested through the years, none has yet been proved. It is therefore interesting to read this book because the author is satisfied that he has not only the etiologic answer to this most puzzling problem of psoriasis but also its relation to arthritis and other dermatoses.

In brief, the author's conception of this problem is that psoriasis is a cutaneous reaction against a circulating endoparasite, B. endoparasiticus Benedek 1927. This organism is permanently present in the circulation of every person with or without skin or joint manifestations throughout life. It is not necessarily present in the skin but can be cultured from skin lesions. These circulating organisms suddenly become pathogenic because of the lack of an inherited "factor X" (which controls bacteremia), thus disrupting the balance of the forces between host and organism, and inducing one or more of the diseases. Or, the author says, certain changes may develop in the course of life which could also interfere with the forces that control the bacteremia, such as infections, foods, drugs (arsenic, mercury, sulfonamides) and thus similarly shift the power in favor of the bacteremia. The diseases so induced are pompholyx, pityriasis rosea, seborrheic dermatitis, psoriasis vulgaris, hidradenitis suppurativa, sycosis vulgaris and rheumatoid arthritis.

The author says experimental proof in the direction of Koch's postulate is impossible because of the permanency of the human endoparasite and therefore the inability to get controls. One of his main proofs is the local skin test reaction with the vaccine of the B. endoparasiticus which gives a local reaction of a tuberculin type in twenty-four to forty-eight hours, but this reaction can be demonstrated in every person. It also gives a focal reaction, an accentuation or aggravation of the cutaneous lesion after 2 to 3 injections. There are no general reactions—temperature, etc.

To assume that a nonpathogenic organism, present in every person at all times throughout life, should suddenly become pathogenic and induce any one or more of the diseases mentioned, does not seem logical. In attempting to explain the development of each of the different types of diseases, the author says that a sudden and pronounced bacteremia will induce pompholyx, a less frequent bacteremia will induce seborrheic dermatitis, and psoriasis will only develop in those who show an additional tendency. This is in spite of the fact that all of these diseases mentioned have nothing in common clinically or histologically. It also seems rather odd that in spite of over twenty-five years of work and writing on this question by the author, very little if anything on this subject appears in the English literature.—A. Walzer

Counseling in Medical Genetics. By Sheldon C. Reed, Ph.D. Duodecimo of 268 pages. Philadelphia, W. B. Saunders Company, 1955. Cloth, $4.00.

All physicians are called upon to give advice regarding heredity from time to time, and most of us including the reviewer have a woefully inadequate knowledge of the subject.

This sprightly and informative little book gives a clear, easily understood answer to many of the commoner problems of heredity. The more frequent types of congenital abnormalities are described and at the end of each chapter an example is given of the use of genetics to solve a specific problem. At the end of the book an appendix is given listing many of the rarer types of hereditary traits.

Dr. Reed has done us all a service in presenting what can be a confusing and little known subject to most of us in such a highly readable manner.—Winfield E. Stumpf

Pathology Seminars. By Lauren V. Ackerman, M.D., Arthur C. Allen, M.D., Col. J. E. Ash, M.D., Arthur Purdy Stout, M.D., and Rupert A. Willis, M.D. Edited by Robert S. Haukohl, M.D., and W. A. D. Anderson, M.D. Quarto of 195 pages, illustrated. St. Louis, C. V. Mosby Company, 1955. Cloth, $10.

The rather recent widespread popularity of pathology seminars involving case histories and slides prepared from lesions has become an important postgraduate medical educational activity. This volume is a presentation of five such seminars originally presented at Marquette University School of Medicine and conducted by five prominent pathologists, Lauren V. Ackerman, Arthur C. Allen, Colonel J. E. Ash, Arthur Purdy Stout, and Rupert A. Willis. The photomicrographs, which are an extremely important component of this type of presentation, are generally excellent, and the discussions reflect the ability of such an outstanding group of moderators. The presentation of differing and debatable interpretations adds greatly to the value of the book.—Philip G. Cabaud

Bedside Diagnosis. By Charles Seward, M.D. Third edition. Duodecimo of 408 pages, illustrated. Edinburgh, E. & S. Livingstone, (Baltimore, Williams & Wilkins Company), 1955. Cloth, $4.00.

In this edition the author has made a considerable number of changes both in arrangement and by the addition of new material. The prominence of pain as a symptom and its evaluation for diagnosis is still the major part of the book. Several chapters on anemia and blood loss in various systems such as respiratory, gastrointestinal, genitourinary, and trauma are well outlined. Chapters for other symptoms such as dyspnea, tachycardia, cough, jaundice, pyrexia, etc., are analyzed.

This book now has over 400 pages with a small index sufficient for the text. Compared with previous editions, the reviewer finds it much better and more useful for a quick reference.—Morris Ant

The Medical Clinics of North America. Philadelphia Number. November, 1955. Index 1953–1955. Octavo. Illustrated. Philadelphia, W. B. Saunders Company, 1955. Published Bimonthly (six numbers a year). Cloth, $18 net; paper, $15 net.

The Philadelphia issue of the *Medical Clinics of North America* consists of a symposium on diabetes and obesity and another on common problems in gynecology and obstetrics. Generally speaking, all the articles are good although they range from the skimpy (obesity) through the pithy (Duncan on diabetes) to the thorough and scholarly review by MacNeal and Rogers of the complications of diabetes.—Milton Plotz

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See Important Announcement Page 1756

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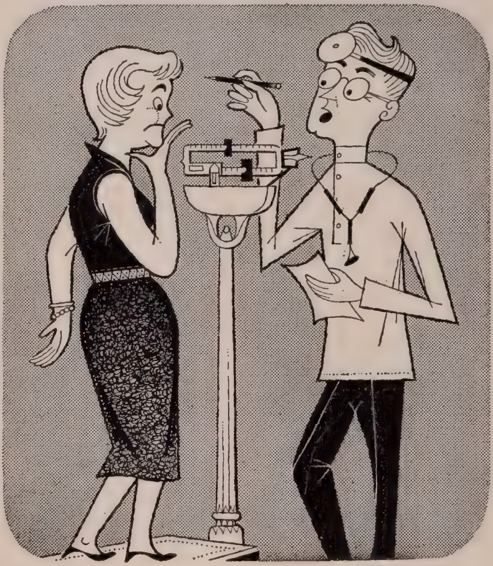

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Registry of Cancer Patients

A properly functioning registry of cancer patients is a requirement for approval of a hospital's cancer program by the American College of Surgeons under new regulations which are now effective, the Committee on Cancer of the College announced in February.

The College program considers a hospital's cancer activities only, and is entirely separate from the Joint Commission on Accreditation of Hospitals, which accredits hospitals on the basis of detailed studies of medical and administrative activities, it was explained. The American College of Surgeons is one of five member organizations in the Joint Commission.

In a new manual for hospital cancer programs published here, the College's Department of Professional Services and Accreditation has set forth the minimum requirements for approval of a cancer program. The requirements recognize three types of cancer program. These are: (*1*) The specialized cancer hospital providing complete service for cancer patients, (*2*) the general hospital conducting organized cancer clinical activities, including cancer registry, cancer consultation, and treatment service, (*3*) the general hospital, usually small in size, which maintains only a registry of all cancer patients.

All three types of programs must be under the supervision of a cancer committee of the hospital's medical staff consisting of physicians directly concerned with the diagnosis and treatment of cancer and appointed by regularly established medical staff authorities, Dr. James B. Mason, director of the Department of Professional Services and Accreditation of the College, explained.

"The duties of this committee shall be to initiate, supervise, and continually appraise the cancer programs and to report to the medical staff at least once annually," Dr. Mason said.

The purpose of such a registry is to maintain a continuing record of successes and failures in the management of cancer patients in every hospital seriously concerned with the treatment of this disease, Dr. Mason explained.

Reports are to be made regularly to the members of the hospital medical staff, so that they are repeatedly apprised of their individual and collective rates of success, thus allowing comparison with other institutions and pointing out weak spots where "shoring up" is needed.

The minimum content of the cancer registry was described as including the name and address of every patient upon whom a diagnosis of cancer is or has been previously made, with adequate identifying and diagnostic information and an abstract of the clinical record. Annual follow-up notes must be maintained as long as the patient remains alive, it is stipulated.

"From this minimum base, the content of the cancer registry may be elaborated as far as those conducting the program may desire," Dr. Mason said.

College requirements also specify procedures for maintaining the registry, including proper methods for obtaining the complete roster of patients with cancer, methods for adding new cases as they occur, and methods of developing the case abstract file.

The College cancer program also includes detailed requirements for the complete cancer hospital, and for general hospitals maintaining cancer consultation services and cancer treatment services. Hospitals of all three types must submit reports, at least annually, showing the results obtained with cancer patients and including five-year results as these become available through continuing follow-up. The College surveys hospitals and cancer clinics regularly to make certain standards are maintained; this program is supported jointly by the College, the National Cancer Institute, and the American Cancer Society.

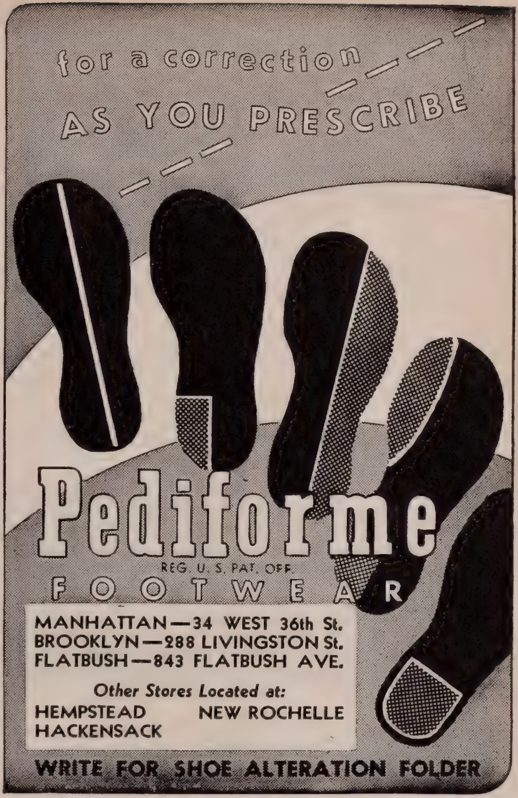
"Because of growing interest in the constantly increasing cancer problem, active educational programs on cancer are being carried on in a large number of hospitals in the United States and Canada," Dr. Danely P. Slaughter, associate professor of surgery, University of Illinois College of Medicine, and chairman, College Committee on Cancer, said. "In the individual hospitals evaluation studies are prepared from material accumulated in the registry; formal conferences and seminars are held; material is obtained for clinicopathologic conferences; increasing numbers of clinical sessions are open to all physicians of the hospital staff and of the community and surrounding area.

"These activities are resulting in constant improvement of the type of care offered cancer patients in hospitals everywhere. The cancer program of the American College of Surgeons is aimed at improving the treatment of cancer patients, as well as cancer education of physicians. It is hoped that other hospitals not now having organized cancer facilities will be encouraged to start registries and maintain individual follow-up records, keeping their own current 'box scores' of cancer results." A total of 625 hospitals is now included in the list of those approved by the College, Dr. Slaughter said.

The Good Scratch

A friend of mine, a well-known minister, was having his yearly physical examination. All seemed well until the doctor noticed a small eczema-like patch below the minister's right hip. "well," he said brightly, "we can give you a little salve for that and it will disappear in no time."

"No you don't," said my friend. "I've been working in that place for a long time and I've got it to be a real good itch. It just happens that when I am up there in the pulpit it seems as though I always had to be scratching—my nose, the back of my neck, the top of my head. As my wife said, I always had to go after some place that everyone could see. Now all I've got to do is scratch away down here at this itch where no one can see. Don't meddle with it."—*The Old Farmer's Almanac, 1956, Robert B. Thomas, Dublin, New Hampshire*



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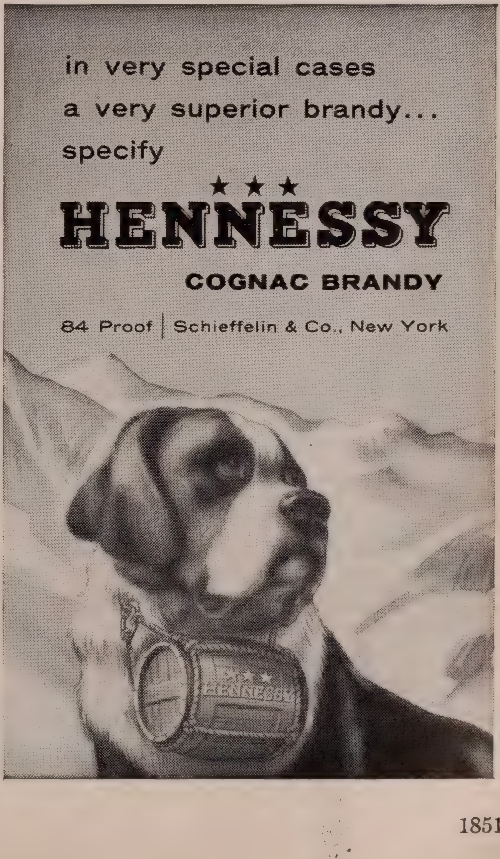

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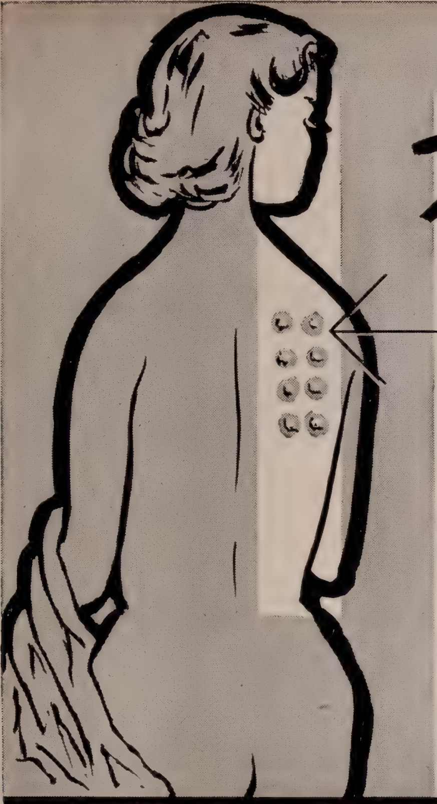*Reliability**

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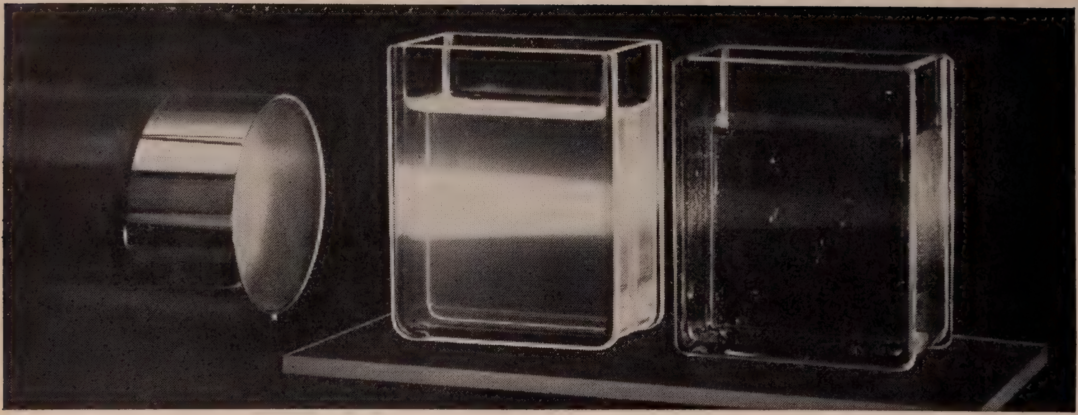

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Bibliography: 1. West, E. S., and Todd, W. R.: Textbook of Biochemistry, New York, The Macmillan Company, 1952, p. 184. • 2. Drill, V. A.: Pharmacology in Medicine, New York, McGraw-Hill Book Company, Inc., 1954, p. 64/6. • 3. Ahrens, E. H., Jr., and Kunkel, H. G.: J. Exper. Med. *90*:409 (Nov. 1) 1949.

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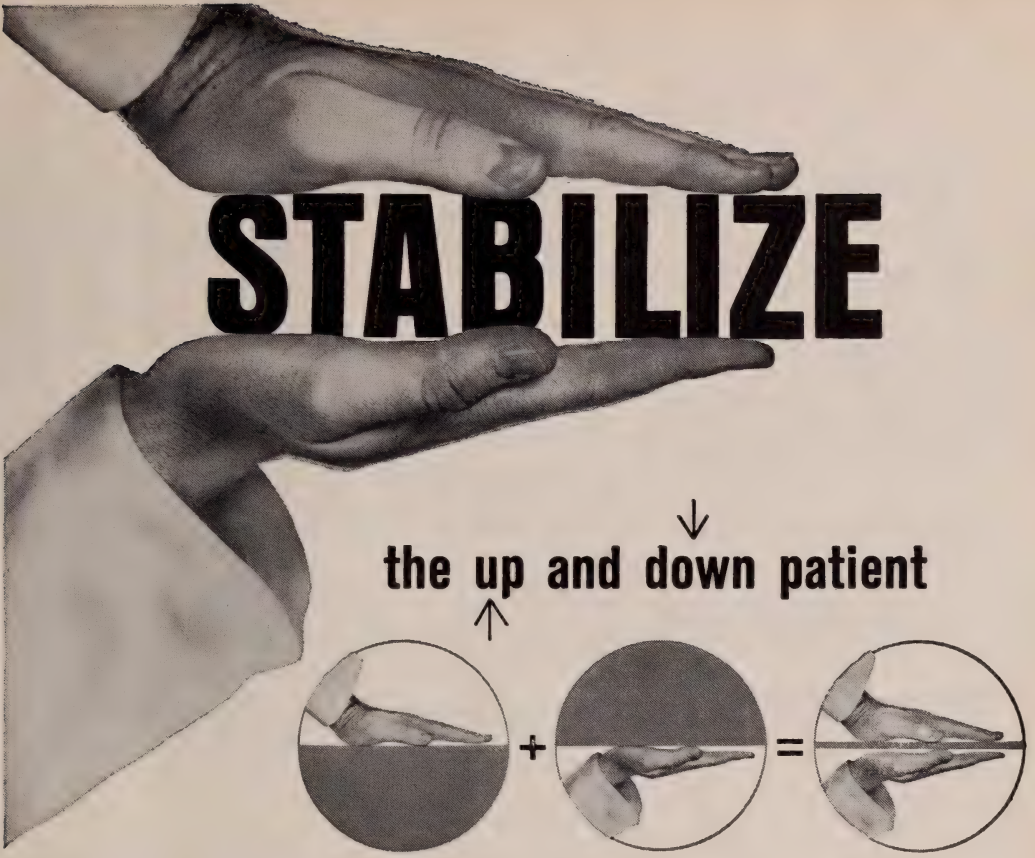

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1. Arnoff, B.: Personal communication. **2.** Lazarte, J. A., and Petersen, M. C.: Personal communication.
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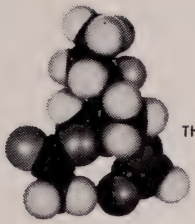

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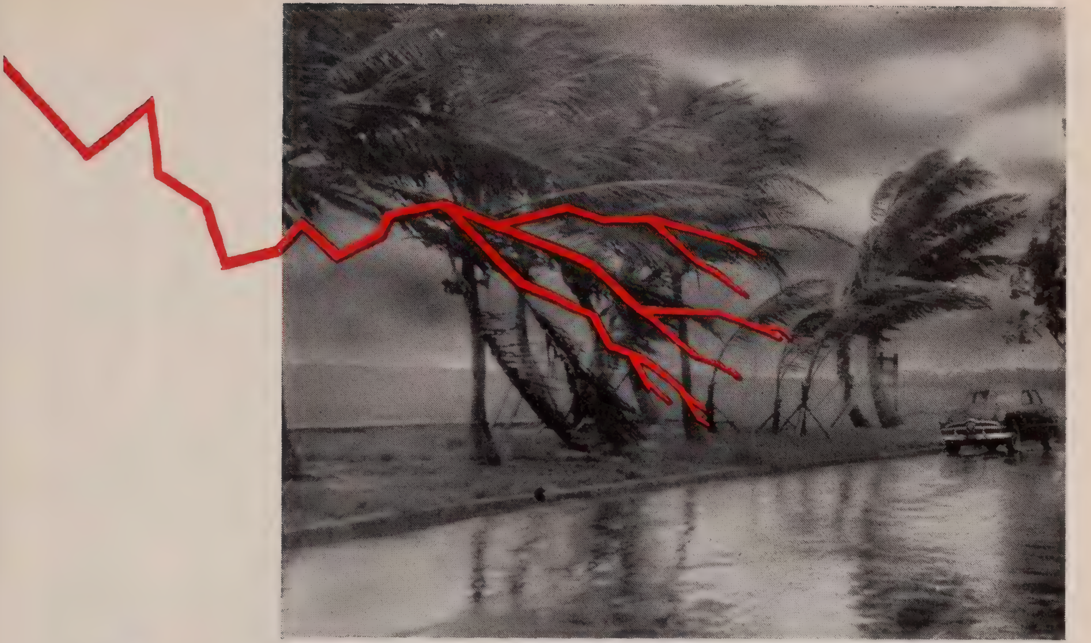

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"... may be unique as a wide-spectrum antimicrobial agent that is bactericidal, relatively nontoxic, and does not invoke resistant mutants."[1]

Furadantin®

BRAND OF NITROFURANTOIN

in acute and chronic pyelonephritis, cystitis, prostatitis

Percentage of Effectiveness of Furadantin Against Various Strains of Bacteria in Vitro

	Aerobacter aerogenes	Proteus sp.	Paracolobactrum sp.	Micrococcus pyogenes	Streptococcus pyogenes	Escherichia coli	Pseudomonas aeruginosa
Furadantin	82.1	66.6	31.2	91.9	93.9	60.0	13.3
Antibiotic A	71.4	55.5	25.0	93.5	96.9	66.0	26.6
Dihydrostreptomycin	14.2	25.9	12.5	38.7	27.2	28.0	6.6
Antibiotic B	3.5	0	0	66.1	63.6	0	2.2
Penicillin	3.5	0	0	27.4	39.3	0	0
Antibiotic C	14.2	7.4	18.7	46.7	72.6	22.0	11.1

ADAPTED FROM PERRY[2]

Furadantin's "high degree of effectiveness against bacteria responsible for urinary tract infections is brought out by this study."[2]

Furadantin dosage—simple and safe: Average adult dose is 100 mg., q.i.d., (at mealtime, and on retiring, with food or milk). Average daily dosage for children is 5 to 7 mg./Kg. in four divided doses.

SUPPLIED: Tablets, 50 and 100 mg., bottles of 25 and 100.
Oral Suspension, 5 mg. per cc., bottle of 118 cc.

REFERENCES: 1. Waisbren, B. A., and Crowley, W.: A.M.A. Arch. Int. M. 95:653, 1955. 2. Perry, R. E., Jr.: North Carolina M. J. 16:567, 1955.

NITROFURANS—A NEW CLASS OF ANTIMICROBIALS—NEITHER ANTIBIOTICS NOR SULFAS

Eaton
LABORATORIES

"an 85% over-all effectiveness"[1]

in relieving skeletal muscle spasm

flexin*

orally effective lissive‡

flexin*

(Zoxazolamine,† McNeil)

Effective up to 6 hours with a single oral dose, FLEXIN produces outstandin spasmolysis of skeletal muscle.

in musculoskeletal disorders

"more nearly approaches the ideal striate-muscle-relaxant drug than an previously studied"[1]

in neurologic disorders

"14 of 18 patients with spasticity due to spinal cord lesions showed objectiv improvement of spasticity"[2]

1. Smith, R. T.; Kron, K. M.; Peak, W. P., and Hermann, I. F.: J.A.M.A. 160:745 (Mar. 3) 1956.
2. Rodriguez-Gomez, M.; Valdes-Rodriguez, A., and Drew, A. L.: J.A.M.A. 160:752 (Mar. 3) 1956.

*T.M.

†U.S. PATENT PENDING

‡**Lissive:** Relief of skeletal muscle spasm without interference with normal function.

McNEIL Laboratories, Inc • Philadelphia 32, Pa.

What do *you* want in an analgesic?

Percodan®*

(Salts of Dihydrohydroxycodeinone and Homatropine, plus APC)

FOR PAIN

Better than codeine plus APC[1]

speed acts faster than codeine plus APC—usually within 15 minutes[1, 2]

duration relieves pain longer than codeine plus APC—usually for 6 hours

with virtual freedom from constipation[1, 2]

Average adult dosage, 1 tablet q. 6 h. Supplied as scored, yellow oral tablets. May be habit-forming. Literature? Write—

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ENDO LABORATORIES INC. Richmond Hill 18, New York

1. Blank, P., and Boas, H.: Ann. West. Med. & Surg. 6:376, 1952.
2. Piper, C. E., and Nicklas, F. W.: Indust. Med. 23:510, 1954.

*U.S. Pat. 2,628,185

a pause for reflection . . . Operation finished. You sit back and relax. Blockain* anesthesia lasted long enough with one small injection so that you were easily able to proceed from incision to closure without pause for reinjection. **Longer anesthetic duration . . .** You did that accurate reapproximation of skin edges without distortion from freshly introduced anesthetic. And more, Blockain persisted post op.—you had no complaints of uncomfortable splints, dressings or tender tissues. **Rapid onset, too . . .** You recall that the pre-incision wait was avoided. *A case to remember:* A 78-year-old patient, arteriosclerotic, poor liver function with a transcervical fracture of left femur, underwent a *one-hour-and-20-minute operation,* involving internal fixation of the fracture and the placement of a Smith-Petersen nail, with *one injection of Blockain.* Effect of anesthetic: "excellent." Onset of anesthesia: "rapid." Only 60 cc. of Blockain was used. A whiff of nitrous oxide was given at the time of actual hammering, to spare the patient emotional trauma. There were no side effects. **BLOCKAIN,** 30 cc., 0.5% (5 mg./cc.). Write GEORGE A. **Breon** & CO., 1450 Broadway, N. Y. 18 for additional information.

2-PROPOXY DERIVATIVE OF 2-DIETHYLAMINOETHYL 4-AMINOBENZOATE.

*BLOCKAIN® BRAND OF PROPOXYCAINE HYDROCHLORIDE BREON.

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Equanil*

MEPROBAMATE

(2-methyl-2-n-propyl-1,3-propanediol dicarbamate)

LICENSED UNDER U.S. PATENT NO. 2,724,720

For significant relief in myositis, osteoarthritis, backstrain, and related conditions marked by:

- *Muscle spasm*
- *Restriction of motion*
- *Stiffness and tenderness*
- *Pain*

As a superior muscle-relaxant, EQUANIL offers predictable action and full effectiveness on oral administration. It does not disturb autonomic function and is relatively free from gastric and other significant side-effects. Its anti-anxiety property provides important correlative value.

Usual dosage: 1 tablet t.i.d. The dose may be adjusted either up or down, according to the clinical response of the patient.

Supplied: Tablets, 400 mg., bottles of 50.

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Philadelphia 1, Pa.

anti-anxiety factor
with muscle-relaxing action
. . . relieves tension

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TRI-SYNAR
provides optimal
spasmolysis

NOW NEW

TRI-SYNAR PLUS

adds relaxation of mental tension to optimal spasmolysis—

. . . especially in the control of primary dysmenorrhea and gastrointestinal spasm—

Tri-Synar Plus provides a triple attack—musculotropic, anticholinergic and antihistaminic—against smooth muscle spasm, plus the relaxation of mental tension and smooth muscle produced by the barbiturate components.

Each Tri-Synar Plus tablet contains:

Powdered Extract of Belladonna*	4.1 mg.
Phenyltoloxamine Dihydrogen Citrate	20.0 mg.
Ethaverine Hydrochloride	12.5 mg.
Secobarbital Sodium	6.075 mg.
Pentobarbital Sodium	6.075 mg.
Butabarbital Sodium	2.025 mg.
Phenobarbital	2.025 mg.

*The amount of belladonna is equivalent to 2.5 minims of tincture of belladonna, U.S.P.

in bottles of 100 tablets

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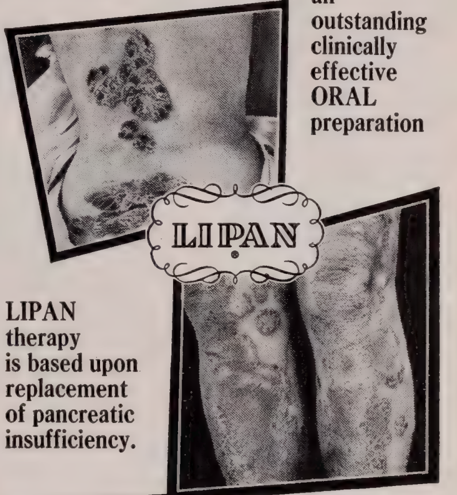
NOW for PSORIASIS...

an outstanding clinically effective ORAL preparation



LIPAN therapy is based upon replacement of pancreatic insufficiency.

A recent Seminar at the New York Academy of Sciences emphasized the general acceptance by distinguished authorities of the hypothesis that psoriasis depends for its development upon a disturbance of fat metabolism.*

Clinical evidence indicates psoriasis may be due to a disturbance of the lipid metabolism, evidently caused by a deficiency of pancreatic enzymes.*

LIPAN Capsules have been shown to be *clinically effective* in 66.7% cases. This is well above the established minimum for all types of psoriatic therapy of 36.2%.

LIPAN – and nothing but LIPAN, as maintenance regimen may keep patients free of lesions.*

**References available.*

LIPAN Capsules contain: Specially prepared, highly activated, desiccated and defatted *whole* Pancreatic Substance; Thiamin HCl, 1.5 mg.; Vitamin D, 500 I.U.

Available: Bottles 180's, 500's

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Spirt & Co., Inc.
WATERBURY, CONN.

he's heard the call for

VI-

Each 5-cc.
teaspoonful of
VI-DAYLIN contains:

Vitamin A	3000 U.S.P. units (0.9 mg.)
Vitamin D	800 U.S.P. units (20 mcg.)
Thiamine Hydrochloride	1.5 mg.
Riboflavin	1.2 mg.
Pyridoxine Hydrochloride	1.0 mg.
Ascorbic Acid	40 mg.
Vitamin B_{12}	3 mcg.
Nicotinamide	10 mg.

...and for infants,

VI-DAYLIN® DROPS

60416

DAYLIN®

And he's aiming right at a spoonful of pleasure. Why? He'll tell you—*any* youngster will—that Vi-Daylin tastes just like lemon candy. Every delicious teaspoonful provides a day's supply of *eight* essential vitamins (including B_{12}). Vi-Daylin's in stock at all pharmacies, in 3-fl.oz., 8-fl.oz. and economical pint bottles.

Abbott

establishing desired eating patterns

Obedrin®

and the 60-10-70 Basic Plan

In the development of good eating habits, medication is important, not only in initiating control, but also in maintaining normal weight.[1,2,3]

Obedrin contains:

- Methamphetamine for its anorexigenic and mood-lifting effects.
- Pentobarbital as a balancing agent, to guard against excitation.
- Vitamins B_1 and B_2 plus niacin to supplement the diet.
- Ascorbic acid to aid in the mobilization of tissue fluids.

Since Obedrin contains no artificial bulk, the hazards of impaction are avoided. The 60-10-70 Basic Plan provides for a balanced food intake, with sufficient protein and roughage.

Formula

Semoxydrine HCl (Methamphetamine HCl) 5 mg.; Pentobarbital 20 mg.; Ascorbic acid 100 mg.; Thiamine HCl 0.5 mg.; Riboflavin 1 mg.; Niacin 5 mg.

1. *Eisfelder, H.W.: Am. Pract. & Dig. Treat., 5:778 (Oct.) 1954).*
2. *Sebrell, W.H., Jr.: J.A.M.A., 152:42 (May, 1953).*
3. *Sherman, R.J.: Medical Times, 82:107 (Feb., 1954).*

Write for
60-10-70 Menu pads, weight charts,
and samples of Obedrin.

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Ulcer protection that lasts all night:

Pamine* BROMIDE

Tablets

Each tablet contains:
Methscopolamine bromide .... 2.5 mg.

Average dosage (ulcer):
One tablet one-half hour before meals, and 1 to 2 tablets at bedtime.

Supplied: Bottles of 100 and 500 tablets

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Each 5 cc. (approx. 1 tsp.) contains:
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Dosage:
1 to 2 teaspoonfuls three or four times daily.

Supplied: Bottles of 4 fluidounces

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Each cc. contains:
Methscopolamine bromide .... 1 mg.

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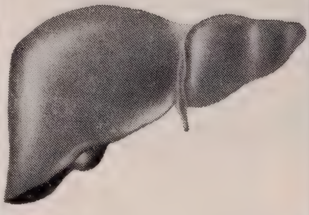
Supplied: Vials of 1 cc.

*TRADEMARK, REG. U. S. PAT. OFF.—THE UPJOHN BRAND OF METHSCOPOLAMINE

The Upjohn Company, Kalamazoo, Michigan



for **liver impairment**

associated with or aggravated by

alcoholism
diabetes
obesity
atherosclerosis
coronary disease

the original complete lipotropic therapy

methischol

methionine • vitamin B_{12} • choline • inositol • liver

Fatty liver and other hepatic damage occur in and are exacerbated by diabetes, obesity, alcoholism, arteriosclerosis and coronary disease.

METHISCHOL helps to terminate this vicious cycle . . . by acting to increase phospholipid turnover, to reduce fatty deposits and fibrosis of the liver, to stimulate regeneration of new liver cells . . . and generally to help improve liver function.

capsules:
bottles of 100, 250, 500 and 1000.

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an important first step in the care of the infant's skin

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1. Grayzel, H. G., Heimer, C. B., and Grayzel, R. W.: New York St. J. Med. 53:2233, 1953. 2. Heimer, C. B., Grayzel, H. G., and Kramer, B.: Archives of Pediatrics 68:382, 1951. 3. Behrman, H. T., Combes, F. C., Bobroff, A., and Leviticus, R.: Ind. Med. & Surgery 18:512, 1949. 4. Sobel, A. E.: Scientific Exhibit, A.M.A. Meet. 1955. 5. Marks, M. M.: Missouri Med. 52:187, 1955.

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'Thorazine' relieved this patient's anxiety, tension and fear and made it possible for him to return to work.

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patient: Anxiety, tension, and a fear of going out alone made it impossible for this 36-year-old man to work. After other treatments had failed he was given 'Thorazine'.

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This case report is from the files of a general practitioner.

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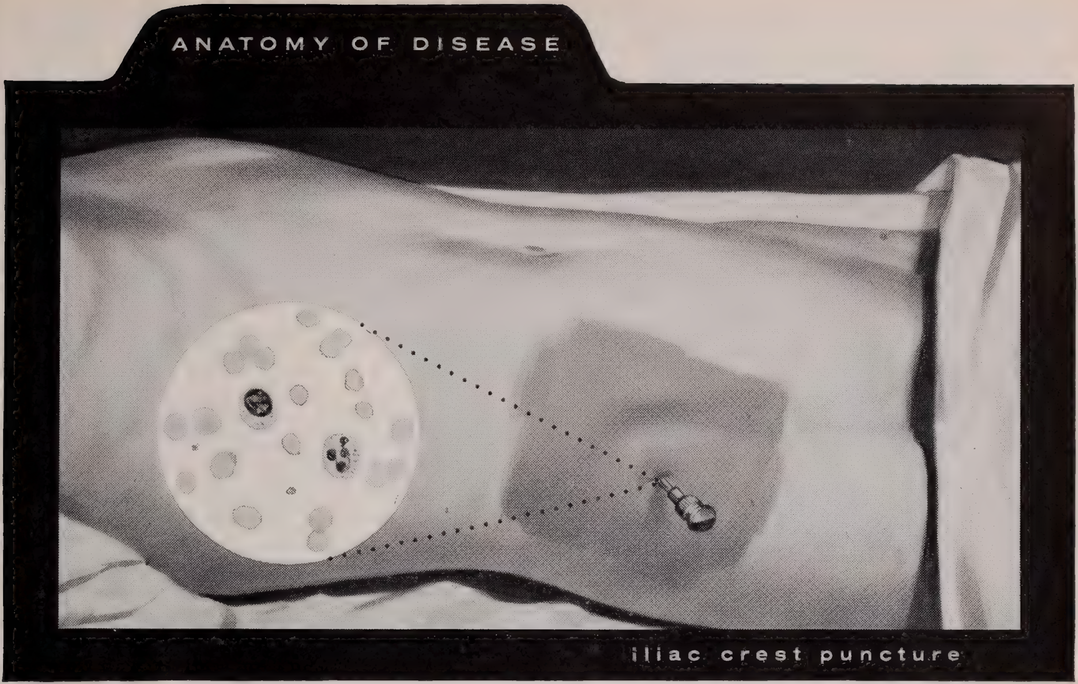
Available in ampuls, tablets and syrup (as the hydrochloride), and in suppositories (as the base).

Smith, Kline & French Laboratories, Philadelphia

*T.M. Reg. U.S. Pat. Off. for chlorpromazine, S.K.F.



now . . . for better patient response
all factors to treat **all** treatable anemias

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One of the reasons for better patient response . . . Armatrinsic supplies ferrous betainate hydrochloride—the new iron salt with the "built-in" hydrochloric acid, important for proper iron absorption.

JUST 1 ARMATRINSIC CAPSULE B.I.D. SUPPLIES:

Vitamin B_{12} with Intrinsic Factor Concentrate*	1 U.S.P. Unit (Oral)
Liver Fraction 2 N.F. with Duodenum (Containing Intrinsic Factor)	100 mg.
Vitamin B_{12} Activity Concentrate	10 mcg.
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Folic Acid	1.4 mg.
Ascorbic Acid U.S.P.	100 mg.
Cobalt Chloride	20 mg.
Molybdenum	1.5 mg.
Copper	0.50 mg.
Manganese	0.50 mg.
Zinc	0.50 mg.

*Unitage established before compounding

Adults: 2 or 3 capsules daily with meals.
Bottles of 50 capsules (small, attractive, odorless)

. . . and for your anemic patients who prefer *liquids* **ARMATINIC® *Liquid***
For a fast start and vigorous improvement
Bottles of 8 and 16 fl.oz.

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now...treatment on **two** therapeutic levels important in hypertension

HOW UNITENSEN WITH RESERPINE LOWERS BLOOD PRESSURE

1
BLOOD PRESSURE

patient	C.M.	A.T.	G.R.	B.S.	N.F.	R.G.	V.F.
age	34	65	77	62	58	51	41
Smithwick group	4	3	4	3	3	3	4
Blood Pressure BEFORE	195/130	205/115	210/130	250/115	220/130	205/110	215/120
	↓	↓	↓	↓	↓	↓	↓
Blood Pressure AFTER	160/95	175/110	170/96	170/95	175/105	180/90	175/100

(from Cohen, Cross & Johnson: Am. Pract. 6: 1030, 1955.)

2
PSYCHE

"The symptoms of hypertension usually arise in a social setting of emotional stress."[1] Unitensen-R helps to calm down the hypertensive patient and make him feel better.

[1] Weiss, E.: Am. Pract. 6: 1690, 1955.

Unitensen-R combines Unitensen—a safe, effective anti-hypertensive agent and reserpine—a tranquilizing alkaloid of rauwolfia. Unitensen-R dependably lowers blood pressure in most patients without serious side effects; and at the same time, gives patients a feeling of well-being. Dosage is simple and tablets are economical.

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*T.M. Reg., U.S. Pat. Off.

Each Unitensen-R tablet contains:

Cryptenamine (as tannate salt)	1 mg.
Reserpine	0.1 mg.

Bottles of 50, 100, 500 and 1000.

Also available: Unitensen Tannate Tablets brand of cryptenamine

IRWIN, NEISLER & COMPANY • DECATUR, ILLINOIS

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STAY ON
THE JOB . . .
COMFORTABLY

in URINARY DISTRESS

Pyridium®

(Brand of Phenylazo-diamino-pyridine HCl)

provides gratifying relief in a matter of minutes

Painful symptoms impel the patient with acute or chronic pyelonephritis, cystitis, urethritis or prostatitis to seek your aid. In the interval before antibiotics, sulfonamides or other antibacterial measures can become effective, the nontoxic, compatible, analgesic action of PYRIDIUM brings prompt relief from urgency, frequency, dysuria, nocturia or spasm. At the same time, PYRIDIUM imparts an orange-red color to the urine which reassures the patient. Used alone or in combination with antibacterial agents, PYRIDIUM may be readily adjusted to each patient by individualized dosage of the total therapy.

SUPPLIED: In 0.1 Gm. (1½ gr.) tablets in vials of 12 and bottles of 50, 500, and 1,000.

PYRIDIUM *is the registered trade-mark of Nepera Chemical Co., Inc., for its brand of phenylazo-diamino-pyridine HCl. Sharp & Dohme, Division of Merck & Co., Inc., sole distributor in the United States.*

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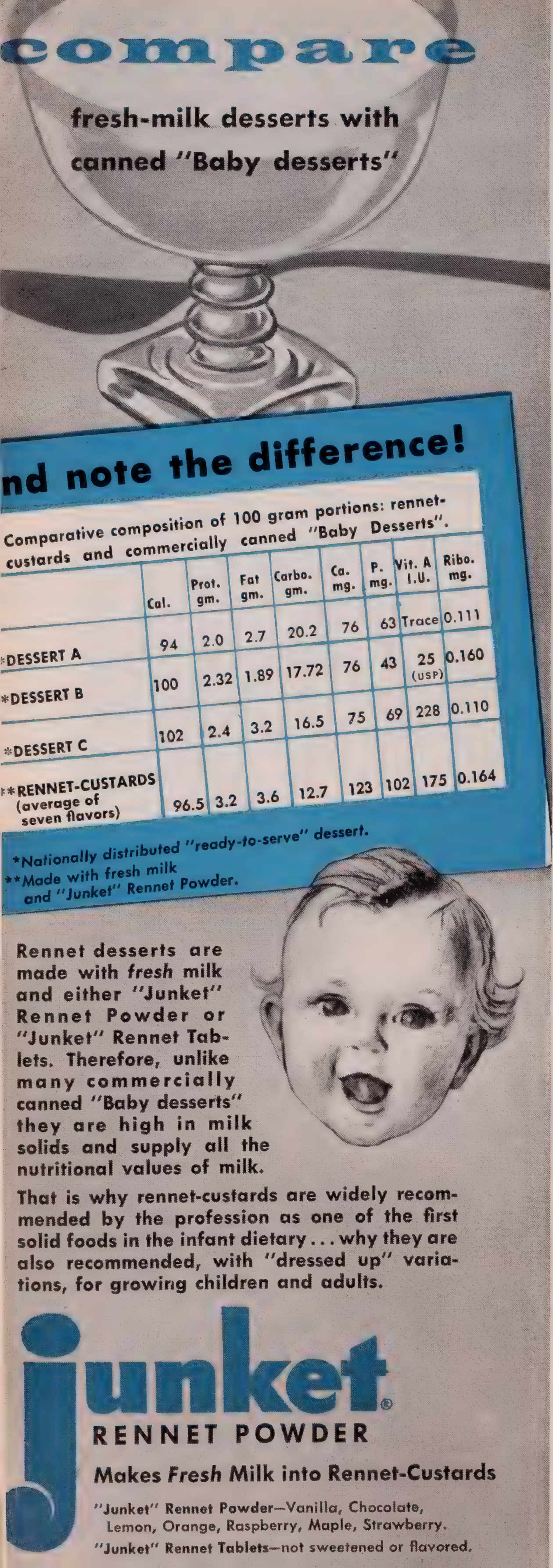

compare

fresh-milk desserts with canned "Baby desserts"

nd note the difference!

Comparative composition of 100 gram portions: rennet-custards and commercially canned "Baby Desserts".

	Cal.	Prot. gm.	Fat gm.	Carbo. gm.	Ca. mg.	P. mg.	Vit. A I.U.	Ribo. mg.
*DESSERT A	94	2.0	2.7	20.2	76	63	Trace	0.111
*DESSERT B	100	2.32	1.89	17.72	76	43	25 (USP)	0.160
*DESSERT C	102	2.4	3.2	16.5	75	69	228	0.110
**RENNET-CUSTARDS (average of seven flavors)	96.5	3.2	3.6	12.7	123	102	175	0.164

*Nationally distributed "ready-to-serve" dessert.
**Made with fresh milk and "Junket" Rennet Powder.

Rennet desserts are made with *fresh* milk and either "Junket" Rennet Powder or "Junket" Rennet Tablets. Therefore, unlike many commercially canned "Baby desserts" they are high in milk solids and supply all the nutritional values of milk.

That is why rennet-custards are widely recommended by the profession as one of the first solid foods in the infant dietary . . . why they are also recommended, with "dressed up" variations, for growing children and adults.

junket®
RENNET POWDER

Makes *Fresh* Milk into Rennet-Custards

"Junket" Rennet Powder—Vanilla, Chocolate, Lemon, Orange, Raspberry, Maple, Strawberry.
"Junket" Rennet Tablets—not sweetened or flavored.

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*Talkov, R. H., Ropes, M. W., and Bauer, W.: *The Value of Enteric Coated Aspirin.* N.E.J. Med. 242,19 (Jan. 5) 1950.

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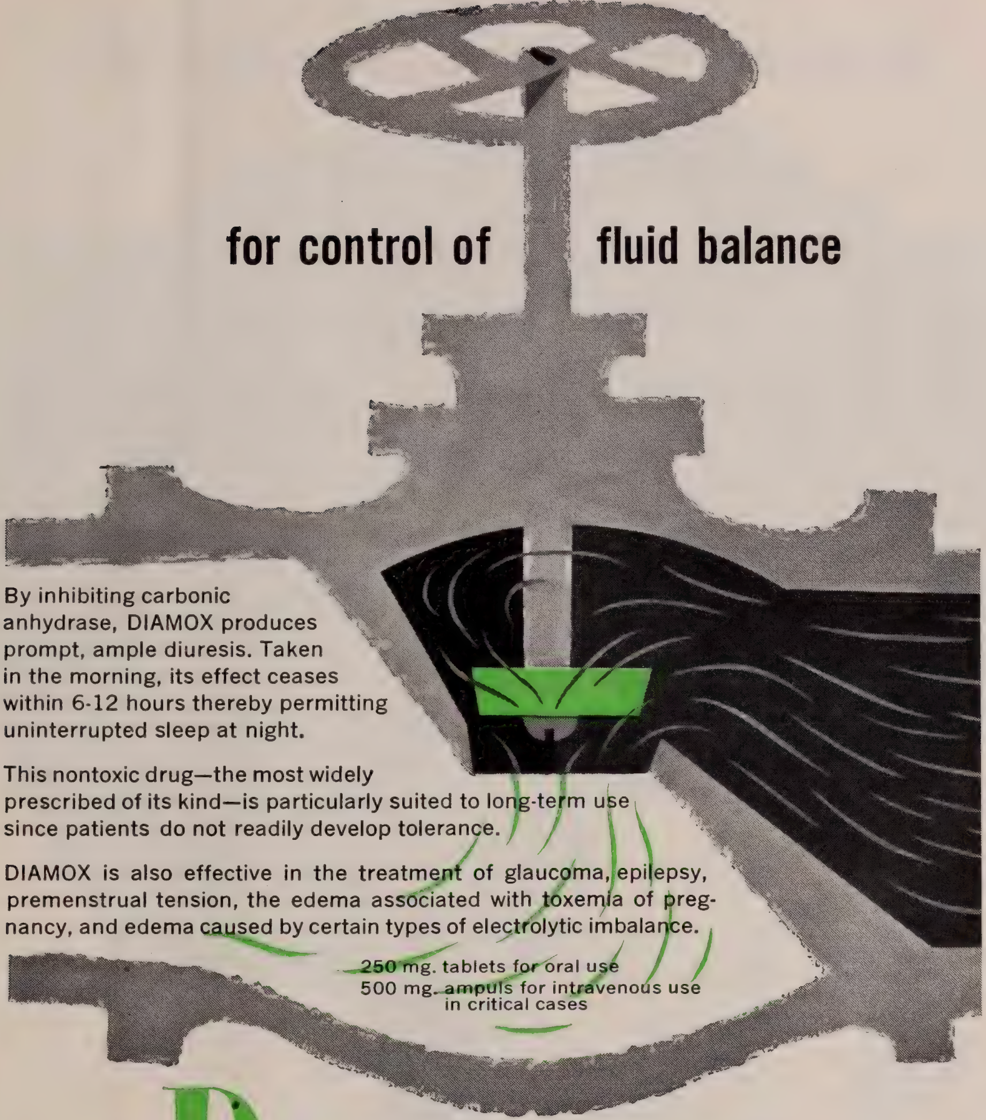

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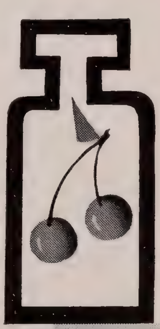

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1. Moyer, J. H., in discussion of Galen, W. P., and Duke, J. E.: Outpatient Treatment of Hypertension with Hexamethonium and Hydralazine, South, M. J. *47*:858 (Sept.) 1954.
2. Finnerty, F. A., Jr.: The Value of Rauwolfia Serpentina in the Hypertensive Patient, Am. J. Med. *17*:629 (Nov.) 1954.
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4. Moyer, J. H.; Dennis, E., and Ford, R.: Drug Therapy (Rauwolfia) of Hypertension. II. A Comparative Study of Different Extracts of Rauwolfia When Each Is Used Alone (Orally) for Therapy of Ambulatory Patients with Hypertension, A.M.A. Arch. Int. Med. *96*:530 (Oct.) 1955.

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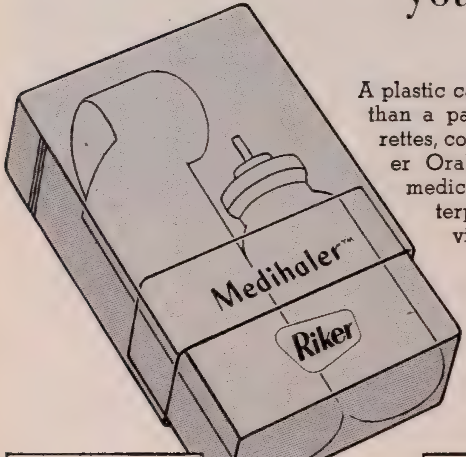

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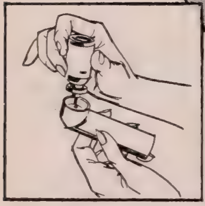

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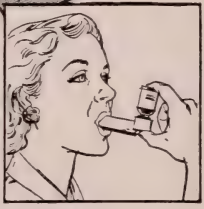
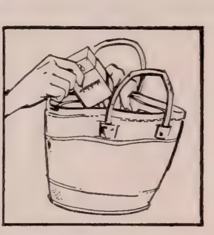


Hold as shown, close lips around Adapter, and inhale while pressing vial down against Adapter.



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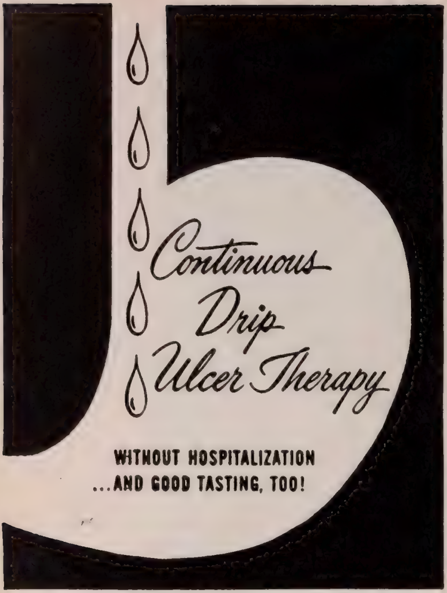

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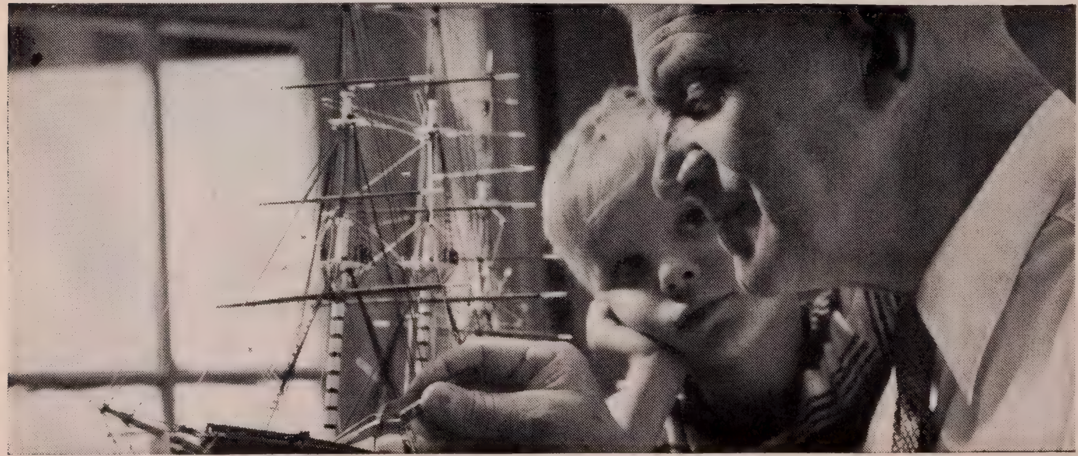
*Steigmann, F., and Goldberg, E.: Ambulatory Continuous Drip Method in the Treatment of Peptic Ulcer, Am. J. Digest. Dis. 22:67 (Mar.) 1955.

†Mg trisilicate 3.5 gr.; Ca carbonate 2.0 gr.; Mg oxide 2.0 gr.; Mg carbonate 0.5 gr.



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EDITORIAL

Number and Distribution of Physicians

In the present edition of the *American Medical Directory*, the nineteenth such volume to be published by the American Medical Association, many interesting facts are to be found concerning the number and distribution of physicians in this country.[1]

The new edition contains 3,122 pages and lists information on 240,638 physicians in the United States, its dependencies, and Canada. It also lists American graduates temporarily located in foreign countries. Since the 1950 *Directory* more than 250,000 changes of address have been recorded in the files of the Directory-Biographical Department; 46,348 names have been added, and 24,225 have been deleted because of death, with an additional 1,172 deleted for other reasons.

In the 1950 *Directory* the total number of physicians listed in the United States was 201,277; in the 1956 edition the number is 218,061, a gain of 16,784, or an average yearly gain for the past six years of 2,797. For Canada the 1956 *Directory* lists 17,906 physicians, a gain of 3,310 over the 1950 total of 14,596, or an average yearly gain of 551.

The Pacific States, as in 1950, show the largest increase in physicians for 1956, with a gain of 23 per cent over the 1950 figures; the South Atlantic and Mountain States show gains of about 16 per cent, and the Central, Middle Atlantic, and New England States show small gains. California leads in the number gained, with 20,763 physicians in 1956 as compared with 16,668 in 1950, a gain of 24.6 per cent. Florida, showing a gain of 49.8 per cent, now has 4,530 physicians as compared with 3,025 in 1950. Texas shows a gain of 1,026 physicians; Ohio a gain of 990; Michigan 963; and New York 934. Among the smaller states showing a substantial increase in the number of physicians are Arizona, New Mexico, Oregon, and Utah. Slight losses in the number of physicians are indicated in Arkansas, Illinois, Iowa, Missouri, Vermont, and West Virginia.

Statistical information given in the *Directory* includes a table showing the number of physicians by states classified as to type of practice. The figures given indicate that 30 per cent of the physicians in the United States are in general practice; 10 per cent give special attention to a specialty but do not limit their practice to it; 31 per cent limit their practice to a specialty; 11 per cent are serving internships or residencies, with an additional 6 per cent in other full-time hospital services; 5 per cent are retired or not in practice; 4 per cent are not in private practice, and 3 per cent are temporarily in military service or serving in various government agencies.

Another table shows the distribution by states of specialists in the U.S., with a breakdown of those interested in a specialty, those limiting their practice, and those certified as specialists by examining boards in a medical specialty.

It will be noted that among the larger states New York shows a gain of only 934 physicians, while California with 20,763 physicians shows a gain of 24.6 per cent in ten years. As reported in the Convention Issue of 1956 of the NEW YORK STATE JOURNAL OF MEDICINE,[2] total membership as of 1955 of the Medical Society of the State of New York was 23,838 physicians out of a total of 29,934[3] members and nonmembers for the State. It may be seen, therefore, that the percentage gain for New York State of 934 physicians is miniscule.

Apparently, not a few young men in medi-

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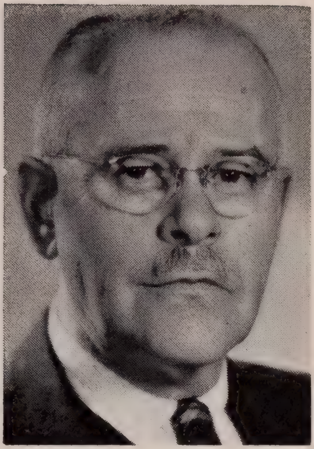
[1] Secretary's Letter, A.M.A., No. 359, Apr. 18, 1956.

[2] Report of the Secretary: NEW YORK STATE J. MED. **56**: 1073 (Apr. 1) 1956.

[3] Medical Directory, State of New York, 1955, p. 27a.

[Continued on page 1902]

PRESIDENT'S PAGE



JAMES GREENOUGH, M.D.

To develop a strong, united medical society we must arouse in our members a true interest in their Society. It is a long, devious path from our county medical societies to the House of Delegates, to the Council and Trustees, and, finally, to the committees manned by volunteers who work diligently and sacrifice time and money in serving their fellow members. Many times the only reward for a hard-working committeeman is criticism, possibly deserved but almost always completely unjustified.

How can we bridge the gap and foster understanding between our members and the committees which are working for them? The committee reports are in the JOURNAL, which publishes the minutes of the Council and the annual reports. But let us be realistic and ask, "How many busy doctors read them?" Some information from the central office appears in the *Newsletter* and some in letters to county societies' officers. Let's face the facts. These channels do not reach the men who should know what is going on.

The best way to meet criticism is to put the critic on the committee he criticizes. Take the *Directory*, for example. It is chronically the target of suggestions that it be abolished, that its cost be reduced, that it be published at greater intervals. Yet, each new member of a committee which is related to the production of the *Directory* changes from a critic to a hard-working committeeman. After exploring all methods of satisfying the desires of the members, he realizes that everything possible is being done to produce a satisfactory *Directory* at the lowest cost possible. When the report to the House states that each publication of the *Directory* every two years costs $120,000, or $60,000 a year, it seems high. Do you realize, however, that the cost to each member for the *Directory* is only $4.32 biennially, or $2.16 a year?

If we can demonstrate to our members what their State Society committees are doing, we should be able to change derogatory criticism to informed, constructive suggestions. Our district branch meetings appear ideal for this purpose. I propose that each year at the district branch meetings two or three of our committees, or groups of committees, prepare round table discussions of their work. These committees could be rotated each year. The functions and aims of the committee should be carefully explained. The meeting could then be thrown open to general discussion with questions answered and suggestions made. In this way many more members could learn what their committees are doing and why certain actions have been taken. Many valuable thoughts and new ideas might be presented which would improve committee functioning. Those who took part in round table discussions could return to their county societies with authentic information in regard to State Society committee work.

For the past three years the Legislation Committee has held local informal meetings throughout the State. The work of the committee was brought to the local level with very beneficial results. Last year one district branch meeting presented committee round table discussions which attracted a large attendance, and a marked interest was noted. It should be possible to develop this type of program in most, if not all, districts.

By improving the contacts between our Society committees and our members, the internal structure of our Society would be greatly strengthened. Much misunderstanding would be resolved. The committees' work would be improved, and many more members would develop a proprietary interest in their State Society and its functioning.

James Greenough

Editorials

[Continued from page 1900]

cine are mindful of Horace Greeley's advice to "go West. . ." or, if already there, to stay there. The Scots say that, "It's no lost wha' a frien' gets," and we are in hearty agreement. It would seem that with our over-all population gain and business and industrial expansion, plenty of opportunity exists in this country, not only in the far West but in the Southwest and Southern States for those qualified young men and women who desire to enter medical practice.

We hope that the Empire State will continue to lead the country in numbers of its physician population for many years to come.

ANNOUNCEMENT

SCIENTIFIC EXHIBITS

SESQUICENTENNIAL CONVENTION

MEDICAL SOCIETY OF THE STATE OF NEW YORK

Applications for space for the scientific exhibits should be made directly to the Chairman of the Subcommittee on Scientific Exhibits of the Convention Committee:

William L. Watson, M.D.
340 East 72nd Street
New York 21, New York

The Sesquicentennial Convention will be held February 18 to 21, 1957, at the Hotel Statler, New York City.

No applications can be considered after November 1, 1956.

There will be two groups of awards:

Group I: Awards in Group I are made for exhibits of individual investigation, which are judged on the basis of originality and excellence of presentation.

Group II: Awards in Group II are made for exhibits which do not exemplify purely experimental studies and which are judged on the basis of presentation and correlation of facts.

W. P. Anderton, M.D., *Secretary*
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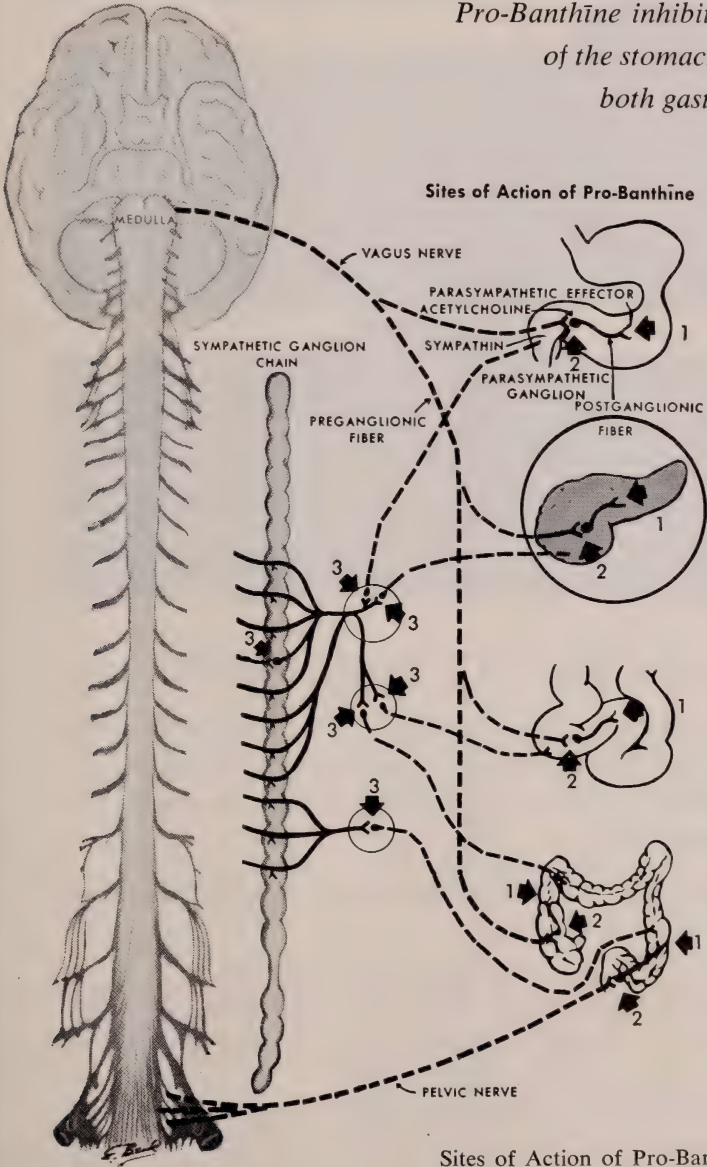
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Schwartz and Hinton achieved[4] dramatic relief of pain in four of six patients with acute hemorrhagic or edematous pancreatitis within twenty to thirty minutes after giving Pro-Banthīne intramuscularly. A dose of 15 to 30 mg. may be repeated[1] parenterally at intervals of six hours.

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Sites of Action of Pro-Banthīne. *The principal site of action of Pro-Banthīne is on the parasympathetic system where it exerts a dual action while exerting a single and lesser action on the sympathetic system: (1) parasympathetic effector; (2) parasympathetic ganglion; (3) sympathetic ganglion (see arrows).*

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SCIENTIFIC ARTICLES

Thrombocytopenic Purpura in Infectious Mononucleosis

ELMER PADER, M.D., AND HOWARD GROSSMAN, M.D., NEW YORK CITY

(From the Department of Medicine of the Mount Sinai Hospital)

THE rare occurrence of abnormal bleeding in infectious mononucleosis had been observed for many years prior to 1922. In that year Longcope[1] was one of the first to call attention to this in his case reports on infectious mononucleosis. In 1923 Downey and McKinlay[2] reported a case of infectious mononucleosis with cutaneous purpura. The occurrence of thrombocytopenia in infectious mononucleosis was first recorded by Cottrell[3] in 1927. In his review of 12 cases of infectious mononucleosis, there was one case of thrombocytopenia without hemorrhagic phenomena. In 1929 Minot[4] described a case in which hematuria and cutaneous, gingival, and mucosal bleeding occurred; the platelet count was 25,000, and the clinical impression was infectious mononucleosis. In 1934 Tidy[5] once again called attention to the occurrence of hemorrhagic manifestations in infectious mononucleosis, but he believed "the thrombocytes are not affected."

Minot[6] in 1936 described three cases with purpura, thrombocytopenia, and lymphocytosis with abnormal lymphocytes. In two cases heterophil agglutinations were not done, and the third case had a negative heterophil agglutination titer. He was uncertain as to whether these cases represented atypical idiopathic thrombocytopenic purpura with abnormal lymphocytes or infectious mononucleosis with concomitant thrombocytopenic purpura.

It was Magner and Brooks[7] who in 1942 reported the first well-documented case of infectious mononucleosis with thrombocytopenic purpura. A twenty-year-old male presented with hematuria, gingival bleeding, and ecchymoses occurring seven days after the onset of headache and malaise. Physical examination disclosed splenomegaly and significant lymphadenopathy. Peripheral blood smear showed lymphocytosis with many atypical forms. Platelets were greatly diminished on stained smear, and the heterophil agglutination test was positive in a dilution of 1:800. The patient recovered spontaneously.

Since this report 20 additional, well-documented cases of thrombocytopenic purpura occurring in infectious mononucleosis have been described. In most of these cases the usual symptoms of infectious mononucleosis—sore throat, fever, malaise, enlarged tender lymphadenopathy, headache, etc.—were present prior to or during the occurrence of the bleeding phenomena.

In view of the rarity of the occurrence of thrombocytopenic purpura in infectious mononucleosis, we deem it worth while to report two additional cases. In addition, we have reviewed 300 consecutive cases of infectious mononucleosis seen at the Mount Sinai Hospital with particular reference to the occurrence of thrombocytopenia with or without coexisting hemorrhagic tendencies in this disease.

Case Reports

CASE 1.—E. S., a seventeen-year-old, white, high school girl, was admitted to the Medical Service of the Mount Sinai Hospital on October 14, 1953. Five days prior to admission she noted gin-

TABLE I.—HEMATOLOGIC DATA IN CASE 1

Date	Day of Illness	White Blood Cells	Lymphocytes	Atypical Lymphocytes	Platelets	Bleeding Time (Minutes)	Heterophil Agglutination Titer* Before Absorption	Heterophil Agglutination Titer* After Absorption
Oct. 13	4	8,800	43	6	10,000	...	1:128	...
14	5	9,850	64	Many	None on smear	20	...	...
16	7	8,100	65	Many	18,000	...	1:224	...
19	10	...	...	...	86,000	...	1:224	1:112
20	11	7,200	60	Present	76,000	...	...	...
21	12	8,700	56	Many	110,000	5	1:448	1:224
27	18	5,600	54	...	85,000	...	1:448	...
29	20	4,800	45	Few	80,000	4	...	...
31	22	...	...	...	...	...	1:224	...
Nov. 2	24	...	...	...	...	...	1:224	1:112
3	25	5,600	48	Few	108,000	...	...	...
10	32	...	...	...	...	...	1:112	1:56
11	33	6,550	37	Few	150,000	...	...	...

* Absorbed by guinea pig kidney.

gival bleeding. A dentist was consulted, who administered an injection of penicillin into the left deltoid muscle, whereupon a moderately large hematoma formed in this area. Four days before admission she noted multiple, small, reddish purpuric spots on the face, neck, trunk, and extremities. During the next two or three days some of the initial spots faded. She received two additional injections of penicillin in the buttocks, and ecchymoses again appeared at the sites of injections. There was no gross hematuria, epistaxis, or hematemesis. Prior to the onset of the hemorrhagic phenomena, the patient had been in excellent health. Specifically, there was no fever, sore throat, malaise, tender lymphadenopathy, or other symptoms usually associated with infectious mononucleosis. Her past medical history revealed only the usual childhood diseases without sequelae and an uneventful tonsillectomy thirteen years previously. There was no history of previous hemorrhagic tendencies, nor was there a history of recent exposure to agents known to cause purpura.

Physical examination revealed a well-developed, well-nourished young girl appearing neither acutely nor chronically ill. Temperature was 99.8 F., pulse 104, blood pressure 124/64, and respirations 20. Multiple, small purpuric areas were present over the entire body, mostly on the face, neck, and lower extremities. Extensive ecchymoses were present at the sites of previous intramuscular injections on the left arm and both buttocks. There was no significant lymphadenopathy. There was slight gingival bleeding, and several small petechiae were present on the palate and buccal mucosa. The pharynx was normal except for minimal lymphoid hyperplasia. Examination of the heart and lungs was negative. The liver was not palpable. A soft, nontender spleen was palpable two fingerbreadths below the left costal margin. Neurologic examination was essentially normal.

Initial laboratory examination revealed the following: hemoglobin 9.2 Gm. per cent; red blood cells 3,790,000; white blood cells 8,800 with nonsegmented neutrophils 27, segmented neutrophils 15, lymphocytes 43, atypical lymphocytes 6, plasma cells 4, monocytes 4, segmented eosinophils 1; platelet count 10,000; sedimentation rate (Westergren method) 41 mm. in one hour; heterophil agglutination titer 1:128 (unabsorbed). Urine showed specific gravity 1.018; albumin 0 to 1 plus; 20 to 40 red blood cells per high-power field; 3 to 5 white blood cells per high-power field. Blood urea nitrogen was 19 mg. per cent; total serum protein 7.1 Gm. per cent, albumin 3.9 Gm. per cent, globulin 3.2 Gm. per cent; bilirubin 0.3 mg. per cent; alkaline phosphatase 17 King-Armstrong units; thymol turbidity test 14.5 units; cephalin flocculation test 2 plus in forty-eight hours; bromsulfalein (5 mg. per Kg.) 3 per cent retention in forty-five minutes. Coagulation studies revealed a bleeding time of twenty minutes (Duke method); venous clotting time seven minutes (Lee-White); clot retraction 1 plus in twenty-four hours; 100 per cent plasma prothrombin time 13.4 seconds; serum prothrombin activity 15.8 seconds; tourniquet test strongly positive; direct Coombs test and Wassermann negative; reticulocyte count 1.5 per cent. Bone marrow examination revealed an increased number of megakaryocytes with diminished platelet formation, normal erythropoiesis, and leukocyte maturation. Addition of the patient's plasma or serum to normal plasma failed to demonstrate platelet agglutinins in the patient's plasma or serum. Several examinations for "lupus erythematosus cells" were negative. Further hematologic data are given in Table I.

The patient's course was entirely benign. She was asymptomatic and afebrile. The purpuric and ecchymotic areas faded gradually, and no fresh bleeding appeared. A menstrual period started while in the hospital, and the flow was not excessive. She never developed significant lymphadenopathy or pharyngitis. The splenomegaly regressed and was no longer present at the time of discharge. She received no therapy except iron for the mild hypochromic anemia. At a follow-up visit three months after discharge, the patient was asymptomatic, and there were no abnormal physical findings. A platelet count was 280,000.

The unusual features of this case were the complete absence of symptoms prior to the onset of the purpura and the lack of physical findings usually associated with infectious mononucleosis except for moderate splenomegaly.

CASE 2.—H. L., a twenty-year-old, white, male college student, was admitted to the Medical Service of the Mount Sinai Hospital on June 5, 1953. Three days prior to admission the patient awakened with a feeling of malaise and noted pain on movement of his eyeballs. That evening he became febrile with occasional chilly sensations. One day prior to admission sore throat, "stuffed nose," and anorexia were noted. The patient had noted no bleeding, and there was no recent exposure to agents known to cause purpura.

Physical examination revealed a well-developed, well-nourished, white male in no acute distress. Temperature was 104 F., pulse 92, blood pressure 130/68, and respirations 24. The conjunctivae were moderately injected. The nasal mucosa, posterior oropharynx, and tonsillar pillars were markedly injected. There were many fine petechial hemorrhages over the hard palate and the uvula. The spleen was palpable two fingerbreadths below the left costal margin and was firm and slightly tender. There was shotty cervical adenopathy with one bean-sized soft node in the left posterior cervical chain. A pea-sized right epitrochlear node was present. There were bilateral soft axillary and inguinal nodes up to 1 cm. in size. The examination of the heart and lungs was negative. Neurologic examination was essentially normal.

Initial laboratory examination on June 5, 1953, revealed the following: hemoglobin 15.5 Gm. per cent; red blood cells 5,300,000; white blood cells 3,350 with nonsegmented neutrophils 22, segmented neutrophils 35, lymphocytes 26, atypical lymphocytes 6, monocytes 9, segmented eosinophils 2; platelet count was not done on admission; heterophil agglutination titer 1:14 (unabsorbed); sedimentation rate (Westergren method) 6 mm. in one hour. Urine showed specific gravity 1.019; albumin negative; rare white blood cell and red blood cell per high-power field. Blood urea nitrogen was 10 mg. per cent; total serum protein 6.4 Gm. per cent, albumin 3.9 Gm. per cent, globulin 2.5 Gm. per cent; bilirubin 0.8 mg. per cent; alkaline phosphatase 2 King-Armstrong units; thymol turbidity test 4 units; cephalin flocculation test 2 plus; bromsulfalein (5 mg. per Kg.) 7.5 per cent retention in forty-five minutes; direct Coombs test and Wassermann negative.

On June 12 a complete blood count revealed normal findings for hemoglobin and red blood cell count. The white blood cell count was 11,300 with 60 per cent lymphocytes, many of which were bizarre and of the type seen in infectious mononucleosis. The blood smear was considered diagnostic of infectious mononucleosis. The platelets numbered 50,000. On June 25 the platelets were 83,000, and the remainder of the morphologic findings in the blood were as previously noted. Studies of the coagulation mechanism at this time revealed a negative tourniquet test; bleeding time three minutes (Duke method); venous clotting time twelve minutes (Lee-White); clot retraction slight in twenty-four hours; 100 per cent plasma prothrombin time 13.5 seconds; 10 per cent plasma prothrombin time twenty-five seconds; serum prothrombin activity fifteen seconds. The heterophil agglutination titer rose to 1:56 (unabsorbed).

The patient developed no further hemorrhagic manifestations and recovered spontaneously without specific therapy.

It is to be noted that the unabsorbed heterophil agglutination titer rose from 1:14 on admission to only 1:56. However, the clinical picture and the typical appearance of the Downey cells in the peripheral blood established this as a case of infectious mononucleosis.

In contrast to the previous case the only manifestation of a bleeding tendency was the presence of petechiae on the palate and uvula.

Review of Cases in the Literature

Case 1 (*Tager and Klinghoffer*[8]).—A twenty-year-old girl presented with chills, gingival bleeding, gross hematuria, bloody diarrhea, and cutaneous purpura. Physical examination disclosed no splenomegaly or lymphadenopathy. Heterophil agglutination was 1:32, platelet count 15,000. Patient required one transfusion and recovered.

Case 2 (*Lloyd*[9]).—A thirty-year-old male presented with symptoms of weakness, fever, gross hematuria, epistaxis, and hemorrhagic blebs of the tongue and mucous membranes. Platelet count was 66,000, heterophil agglutination 1:512. Spontaneous recovery occurred.

Cases 3, 4, and 5 (*Read and Helwig*[10]).—All three cases were in males, and all had anemia, leukopenia, and thrombocytopenia. One case had a positive heterophil titer, but this case had no purpura. In the other two cases thrombocytopenia and purpura were present, but no heterophil studies were done. All three patients recovered.

Case 6 (*Dameshek and Grassi*[11]).—A twenty-two-year-old female who had demonstrated an abnormal bleeding tendency two years prior to her admission for infectious mononucleosis. She presented with gingival bleeding and cutaneous purpura. Physical examination disclosed tender lymphadenopathy and moderate splenomegaly. Platelet count was less than 10,000; heterophil agglutination 1:640. Because of the severity of the bleeding, a splenectomy was performed with a rise in the platelets postoperatively to 600,000. Recovery ensued. In view of the previous history of a bleeding tendency, we raise the question as to whether this patient may have had idiopathic thrombocytopenic purpura which was aggravated by infectious mononucleosis.

Case 7 (*Goldbloom and Denton*[12]).—A nine-year-old boy presented with fever, epistaxis, gingival bleeding, and hemoptysis. Physical examination disclosed significant lymphadenopathy and splenomegaly. Platelet count was 90,000; heterophil agglutination 1:1,024. Patient recovered spontaneously.

Case 8 (*Goldbloom and Lieberson*[13]).—A twenty-one-year-old male presented with "grippe," malaise, headache, fever, nausea, gingival bleeding, epistaxis, and hematemesis. Physical examination disclosed moderate icterus but no adenopathy or splenomegaly. Platelet count was 30,600; heterophil studies negative on two occasions; cephalin flocculation test 4 plus; bilirubin 6.1 mg. per cent. Patient recovered spontaneously. The question arises as to whether this was a case of infectious hepatitis with purpura or infectious mononucleosis with liver involvement and purpura.

Case 9 (*Thompson*[14]).—A sixteen-year-old boy presented with cutaneous purpura, epistaxis, coryza, fatigue, sore throat, and tender cervical nodes. The patient later developed gross hematuria. Platelet count was 16,400; heterophil agglutination 1:448. Spontaneous recovery ensued.

Case 10 (*Wallerstein and Madison*[15]).—A twenty-five-year-old man presented with fever, malaise, headache, and tender lymphadenopathy. Heterophil agglutination titer was 1:1,792. The patient developed widespread cutaneous purpura, hemorrhagic vesicles of the mouth, and gross hematuria. Platelet count was less than 10,000. Patient was treated with blood transfusions and protamine. Patient recovered.

Cases 11 and 12 (*Kutzer and Allen*[16]).—First case was a seven-year-old boy who presented with purpura and nontender lymphadenopathy and slight splenomegaly. Platelets were rare on smear. Heterophil agglutination was 1:128. The second case was a twenty-seven-year-old man who presented with sore throat, gingival bleeding, and cutaneous and mucosal bleeding. Platelets were diminished; heterophil agglutination 1:256. Both recovered spontaneously.

Case 13 (*Angle and Alt*[17]).—A nineteen-year-old girl presented with sore throat, petechiae, and ecchymoses. Physical examination revealed one small node beneath the angle of the mandible and moderate splenomegaly. Platelet count was 4,600; heterophil agglutination 1:112. Patient recovered. Follow-ups at six months and three years disclosed no hematologic abnormalities.

Case 14 (*Finlayson*[18]).—A twenty-eight-year-old man presented with headache, generalized aches and pains, extensive purpura, and hemoptysis. Examination disclosed slight to moderate, generalized, glandular enlargement and moderate splenomegaly. Platelet count was 10,000; heterophil agglutination 1:1,024. Patient subsequently developed epistaxis and hematuria and was transfused. Patient recovered; platelet counts on follow-ups were normal, and there were no bleeding tendencies.

Case 15 (*Benaim*[19]).—A fourteen-year-old girl presented with jaundice, malaise, epistaxis, cutaneous purpura, and hematuria. There were small axillary nodes and slight splenomegaly. Platelet count was 4,000; heterophil agglutination 1:896. Patient recovered, and follow-up showed no further bleeding tendency.

Case 16 (*Ogilvie and Parry*[20]).—A twenty-year-old woman presented with lassitude, sore throat, cutaneous purpura, skin rash, and enlarged lymph nodes. Platelet count was 12,000; heterophil agglutination 1:14,000. Spontaneous recovery ensued. One-year follow-up disclosed no hematologic disorder.

Case 17 (*Jørgensen*[21]).—A nineteen-year-old girl presented with gingival bleeding, small cutaneous hemorrhages, moderate sore throat, and slightly enlarged tonsils. Platelet count was less than 1,000; heterophil test "strongly positive." Patient was transfused and recovered. Follow-up two and one-half years later showed no hematologic disorder.

Case 18 (*Linden*[22]).—A twenty-seven-year-old woman presented with purpura and a leukocyte and differential count compatible with infectious mononucleosis. Platelet count was 15,000; heterophil negative. Patient recovered.

Case 19 (*Smith*[23]).—A twelve-year-old boy presented with painful inguinal nodes, fever, pharyngitis, cutaneous purpura, epistaxis, and gross hematuria. Platelet count was 3,500; heterophil agglutination 1:256. Spontaneous recovery ensued, and patient was normal at three-year follow-up.

Case 20 (*Volpe, Sparks, and Mautner*[24]).—A twenty-four-year-old man presented with weakness, malaise, sore throat, gingival bleeding, and petechiae of the palate. Microscopic hematuria was discovered. Examination disclosed slightly enlarged, tender cervical nodes and moderate splenomegaly. Platelet count was 21,000; heterophil agglutination 1:2,048. Recovery was spontaneous.

Comment

It is known that latent idiopathic thrombocytopenic purpura may be activated by acute infections. Case 6, that of Dameshek and Grassi,[11] demonstrates this point. The question arises as to whether all the cases reported herein represent such activation of idiopathic thrombocytopenic purpura or secondary thrombocytopenia due to infectious mononucleosis. These patients, however, had no previous history of hemorrhagic tendencies and showed complete clearing of bleeding tendencies and thrombocytopenia with cessation of the infectious mononucleosis. We feel, therefore, that this is strong presumptive evidence that the thrombocytopenic purpura is secondary to the infectious mononucleosis.

The occurrence of a significant thrombocytopenia in infectious mononucleosis, even in the absence of hemorrhagic phenomena, is rare. Angle and Alt[17] did serial platelet counts in seven cases of infectious mononucleosis without bleeding. They found slightly diminished platelets early in the disease in six cases, followed by a relative thrombocytosis and subsequent return to normal. In order to investigate more thoroughly the incidence of thrombocytopenia with or without bleeding in this disease, we reviewed 300 consecutive cases of infectious mononucleosis from the records of the Mount Sinai Hospital. Only two cases (Cases 1 and 2 reported herein) developed thrombocytopenic purpura. In the remaining 298 cases neither thrombocytopenia nor bleeding phenomena were found. Application of the criteria of both positive heterophil agglutination titer and typical peripheral blood picture resulted in our designating 100 of these cases as unquestionably infectious mononucleosis. In the remaining 200 cases typical Downey cells were found, and the clinical pictures were highly suggestive of infectious mononucleosis. Heterophil agglutination titers were negative in some of these cases and not performed in others. Platelet counts were either normal or not done because inspection of the peripheral blood smear did not suggest diminished platelets. It must be assumed that the vast majority of these 200 cases were indeed infectious mononucleosis. The incidence of thrombocytopenic purpura in infectious mononucleosis, therefore, appears to approximate closely 0.7 per cent, i.e., two cases in 300.

There are various theories as to the etiology of thrombocytopenia in infectious mononucleosis. Lloyd[9] postulated that the hemorrhagic phenomena were a result of a combination of vascular damage due to the acute infection plus thrombocytopenia at the purpuric site. He attributed the thrombocytopenia to a transient "toxic" effect on the platelets exerted peripherally rather than centrally. This concept can be neither proved nor disproved with the evidence now at hand. Certainly, substances having a direct "toxic" effect on platelets have never been isolated in infectious mononucleosis or in other acute infections either bacterial or viral in origin. Read and Helwig[10] hypothesized a depression of the bone marrow resulting from an infectious granulomatous process in the marrow. In the reports of thrombocytopenia in infectious mononucleosis which we have reviewed, bone marrow examinations were performed in the cases of Dameshek and Grassi,[11] Kutzer and Allen,[16] Ogilvie and Parry,[20] Jørgensen,[21] and Volpe *et al.*,[24] as well as in our own two cases. The constant findings were normal marrow erythropoiesis and myelopoiesis, and the megakaryocytes were described as either normal or increased in number. In no case were granulomas noted in the marrow, and in no case was the marrow depressed.

The possible role of the spleen in producing thrombocytopenic purpura in infectious mononucleosis was discussed by Dameshek and Grassi[11] in their case report. They believed that in the presence of splenomegaly a state of "hypersplenism" might result. In other words, the spleen may inhibit formation of platelets from megakaryocytes or prevent the release of platelets from the marrow. An alternate concept is that the spleen might destroy circulating platelets at an increased rate. It should be noted that only approximately one half of the reported cases of thrombocytopenic purpura in infectious mononucleosis showed a well-defined splenomegaly.

Recent studies on the pathogenesis of thrombocytopenic purpura of various causes have deemphasized the importance of the spleen and have demonstrated the existence of a specific humoral factor in the plasma in the nature of an antibody, such as a platelet agglutin in or lysin. Such platelet antibodies have been described in certain of the drug purpuras (Sedormid,[25] quinidine[26]) and in idiopathic thrombocytopenic purpura.[27,28] This humoral factor apparently is not dependent on the integrity of the spleen for its activity, for it has been shown that transfusion of plasma from a patient with idiopathic thrombocytopenic purpura into a normal patient will produce a fall in platelets even after the recipient has been splenectomized. Also platelet agglutinins can be detected in the plasma of some patients with idiopathic thrombocytopenic purpura even after splenectomy. In view of these findings the role of the spleen in the production of thrombocytopenic purpura must be re-evaluated. Conceivably, the spleen might be the major site of formation of these platelet antibodies since it contains a large reservoir of reticuloendothelial tissue, or possibly it may be concerned with the removal of "sensitized" platelets from the circulation, analogous to its role in removing "sensitized" erythrocytes from the circulation in some of the hemolytic anemias.

It is conceivable that in the purpura associated with infections such as infectious mononucleosis, the infectious agent (presumably a virus in infectious mononucleosis) combines with the patient's platelets to form an antigen. In some patients, depending on individual susceptibility, this antigen may lead to formation of antibodies (humoral factor) which may destroy platelets and possibly injure megakaryocytes. This mechanism is analogous to that proved for Sedormid and some other drug purpuras. While further experimental studies will be needed to verify this concept as it applies to acute infections, we believe that it represents an attractive hypothesis.

Summary

1. The occurrence of thrombocytopenic purpura in infectious mononucleosis is rare. We have found the incidence to be approximately 0.7 per cent in 300 consecutive cases reviewed.

2. There have been 21 cases of thrombocytopenic purpura occurring in infectious mononucleosis reported in the literature. These are reviewed, and two additional cases are reported.

3. Thrombocytopenic purpura can occur as the only manifestation of infectious mononucleosis, as demonstrated in Case 1.

4. The various concepts of the pathogenesis are discussed. Particular reference is made to the possible occurrence of a humoral factor in the nature of an antibody.

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Sesquicentennial Meeting — February 18 to 21, 1957

Serpasil in a Hospital for the Mentally Ill with Criminal Tendencies

JOHN F. McNEILL, M.D., W. CECIL JOHNSTON, M.D., AND WLADIMIR PIETUCHOW, M.D., BEACON, NEW YORK

(From the Matteawan State Hospital)

THE early reports of successful drug therapy for "backward" patients by Noce *et al.*,[1] Kline,[2] and others suggested to us that Serpasil* might be of great value for the type of case in our institution. The following is a preliminary report based on our experiences with the drug in 149 patients.

The difficulty of treating these cases becomes apparent when one stops to consider the type of patients in the institution. All our patients are admitted because they are insane and have committed a serious crime or are insane and so potentially dangerous that their presence in society or other mental institutions would be extremely hazardous.

Methods

PATIENT SELECTION.—The patients to be given Serpasil were selected at random from our 2,000-patient population. The only criterion was that each patient had to be one of our most difficult management problems, both from a psychiatric and a behavior standpoint.

DOSAGE.—The dosage employed varied considerably since we had not had experience with the drug and did not know the potentials, the range of safety, or possible detrimental actions.

The majority of cases were started on parenteral medication, one ampul, 5 mg. per day, of Serpasil for one week. In a number of cases 3 mg. per day was also given by mouth and increased up to 8 mg. when the parenteral drug was stopped. The oral range was from 1 to 8 mg. per day. A few patients received only oral medication, and a few were given two ampuls or 10 mg. per day parenterally.

EVALUATION.—The final evaluation of patient response was made by one psychiatrist (W.P.) so that all cases could be judged by a similar standard. The rating was a combined impression based on the psychiatric and nursing and ward attendant evaluations. Admittedly, the system cannot be closely scrutinized statistically, but since statistical analysis of psychiatric studies is so often unsatisfactory, it was felt that this method would be meaningful and not overtax our limited staff with burdensome record-keeping. A weekly record of blood pressure, pulse, side-effects, appetite, weight, number of restraints required, and other medication was kept. The following categories were used for evaluating the patients' responses:

1. General status: improved, not improved.
2. Behavior: worse, no change, quieter, much quieter.
3. Cooperation: no change, improved.
4. Anxiety and depression: improvement, no improvement.

The responses were then summed up in categories of no, moderate, and marked improvement.

TABLE I.—RESPONSE TO SERPASIL

	Marked	Moderate	None	Totals
Schizophrenia	45	39	24	108
Paranoid	26	19	11	56
Hebephrenic	7	10	8	25
Mixed	6	6	4	16
Catatonic	6	3	1	10
Undifferentiated	0	1	0	1
Psychotic	12	8	8	28
With mental deficiency	4	0	1	5
With epidemic encephalitis	0	1	4	5
With psychopathic personality	6	3	0	9
With syphilis-meningococcic encephalitis	1	1	2	4
With epilepsy	0	2	1	3
With alcohol	0	1	0	1
With arteriosclerosis	1	0	0	1
Involutional	0	0	1	1
Manic depressive	0	2	0	2
Paranoia	3	1	0	4
Undiagnosed	1	0	0	1
TOTALS	61	50	33	144

Results

The over-all results were quite satisfactory.

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* Grateful acknowledgment is made to J. Campbell Howard, Jr., M.D., Ciba Pharmaceutical Products, Inc., for the supplies of Serpasil (reserpine), both tablets and parenteral solution, used in the study.

Five cases could not be evaluated because the therapy was of insufficient duration. Of 144 patients given the drug for an adequate trial period of at least three weeks, 111 or 77 per cent showed a significant degree of improvement, and 33 or 23 per cent were rated as having had no benefit. The patients showing only slight benefit were graded as having none. An analysis of the results as to degree of improvement and diagnosis is shown in Table I. The majority of cases were schizophrenic. The largest percentage of these were paranoids, who, incidentally, had the best response to the drug. The following case histories, although they cannot be considered to typify all results, illustrate the type of improvement which may occur.

Case 1.—A thirty-eight-year-old male, who was first admitted to a mental institution and diagnosed as a catatonic schizophrenic in 1937 and who had been in and out of State hospitals on several occasions, was last released in 1944. On December 10, 1948, he was admitted to Matteawan State Hospital, having been indicted for second degree assault. Here he was diagnosed as a hebephrenic schizophrenic. For several years he had been noisy, restless, talking incoherently, filthy in habits, idle, and underproductive. During 1955 he was placed on Serpasil for twenty-two weeks. Serpasil, 5 mg. a day parenterally and 3 mg. by mouth, was given for four weeks, and then the patient was maintained on oral medication alone starting on 8 mg. per day which was gradually reduced to 2 mg. per day by the thirteenth week of treatment. The patient gradually became cooperative, friendly, sociable, could talk coherently and relevantly, was clean in his habits, and was able to write intelligent letters to his family.

Case 2.—Mr. W., a thirty-three-year-old male, had been institutionalized for thirteen years. In September, 1941, he commenced to talk incoherently, became so disinterested in his surroundings that he had to be tube-fed, and expressed bizarre religious ideas. Electroconvulsive treatment produced no improvement, and he was finally put in a civil hospital in 1942. Almost continually since then, he had been mute, negativistic, impulsively assaultive, threatening, and dangerous to himself and others. He was admitted to this hospital in February, 1952, as being too dangerously insane for care in a civil hospital. His behavior and mental condition remained unchanged until he was started on Serpasil. He had been filthy, uncooperative, assaultive, and had to be in constant seclusion. Serpasil has now been given for forty weeks. The starting dose was one to two ampuls, 5 to 10 mg. parenterally, and 3 mg. orally per day. He is now maintained on 6 mg. per day by mouth. It is now possible to care for him in an open ward. He has gained weight and is no longer assaultive. However, if Serpasil is withdrawn for a few days, he shows a variable response, and although he has not become assaultive, he must be put back on the drug. The underlying schizophrenic process has not been altered, but at least he can be cared for in an open ward where he is cooperative, good natured, and not threatening.

TABLE II.—Side-effects

	Cases	Per Cent
Nasal stuffiness	44	30.6
Loose bowels	4	2.8
Constipation	3	2.1
Lethargy and dizziness	6	4.2
Parkinson syndrome	2	1.4
Others	3	2.8
More than one side-effect	8	5.6
Total cases with side-effects	55	38.2

Of the 33 cases rated as having no response to therapy, 12 could be considered as definite failures. However, a review of the treatment records showed that 21 patients had not received adequate doses of Serpasil. Therefore, 21 patients could not be considered as absolute therapeutic failures and, as a matter of fact, in many cases there were indications that proper doses would have been of considerable help to them.

Five patients died during the study; however, none of the deaths was due to administration of Serpasil. As a matter of fact, one sixty-five-year-old paranoid schizophrenic with marked arteriosclerosis and other degenerative changes had eight months of quite comfortable living added to his life by the drug. Before Serpasil was started, he had been completely bedridden and in restraints most of the time. His blood pressure was 80/60, and he weighed only 109 pounds. While on the drug he gained 38 pounds, his blood pressure rose to 105/65, and he was absolutely without restraints. He died of cerebral thrombosis three weeks after the medication was discontinued.

A total of 55 cases or 38.2 per cent had side-effects from the drug (Table II). Eight patients or 5.6 per cent developed more than one side-effect. Medication was discontinued because of side-effects in only two cases (parkinson-like syndrome), and from what we now know, it would have been better to lower the dosage rather than discontinue therapy.

TABLE III.—Improvement Versus Weight Gain

	Improved	Not Improved
Weight gain	75	10
No change	8	3
Weight loss	27	21

An interesting sidelight to this study has been the effect on blood pressure. The average reduction in blood pressure of 127 normotensive patients (90/60 to 150/90) was 10 mm. Hg systolic and 6 mm. Hg diastolic. There were nine patients who were classified as hypertensive with blood pressures greater than 150/90. The blood pressure of all these came down to 150/90 or less. However, none of these was a severe hypertensive. There were eight subjects who might be considered to be hypotensive at the start of therapy with blood pressure of 90/60 or less. During the course of treatment five of these became normotensive. Thus, it would seem that the effect on blood pressure is almost a homeostatic one.

Eighty-five patients gained weight, 50 lost weight, six did not change, and eight were not recorded. An over-all impression would be that generally those patients who gained weight did better and those who lost weight did not do well. This statement, however, is not absolute, as can be seen from Table III.

Comment

In spite of the fact that the subjects chosen might be considered among the worst psychiatric problems, 77 per cent of the patients showed some degree of improvement, and 42.4 per cent or 61 patients were markedly improved. This is made more significant by the fact that many of them had been institutionalized for years and had been subjected to electroshock and other procedures without benefit. The grading of improvement is probably on the low side since both psychiatric and social advancement are lumped together. A poor performance in either of these categories would tend to lower the total evaluation. The obviousness of this has become apparent to us from the requests of the nursing and attendant staff to put some patients back on the drug after it had been discontinued.

An attempt was made to correlate the effectiveness or response to therapy as related to the psychiatric diagnosis (Table I). No valid conclusions can be drawn, however, because of the unbalanced number of schizophrenic patients, particularly of the paranoid variety.

A review of our individual case treatment records in light of recent reports indicated that we did not push the dosage high enough in some cases to obtain full therapeutic action. It is probably for this reason that we did not observe some of the side-effects seen by other investigators who had used larger doses. Only two patients developed an early parkinson-like picture, and in these we stopped the drug completely, whereas now we would have just lowered their dosage.

Unlike some of the reports to date, such as Pennington's,[3] we did not discharge patients to ambulatory and home care. Dramatic improvement can occur, but it is questionable whether such a patient can really be considered legally sane while he has to remain under medication. If they had been in an ordinary civil mental hospital, a number of our cases might have been discharged to home trial. However, at the present time we feel it would be inadvisable to release our patients to stand trial and perhaps be returned to civilian life unless their improvement while they are on Serpasil can be shown to continue after the medication is stopped. As yet, there has not been enough time to decide this question.

Although Serpasil did not cure or perhaps greatly improve the mental status of all the group, it enabled the psychiatrist to establish a good healthy relationship with a number of patients who had been resistant to previous attempts and regimens. If nothing else, as Paul Clough[4] said in a recent editorial, "That a substantial number of such hitherto hopeless derelicts, the dregs of state hospitals, should be lifted up from the very bottom of the pit into a state of tolerable or even quasi-normal behavior is really amazing even though still far removed from a cure." Its application to the less disturbed of our patients should not only greatly help us in their management but also help them in their rehabilitation.

Summary

1. Seventy-seven per cent of the most difficult psychiatric and management problems in an institution for the mentally ill with criminal tendencies chosen for a trial on Serpasil (reserpine) were improved.

2. Although side-effects were few, they might have been greater and the degree of improvement better if all of the patients had received more adequate doses of the drug.

3. No absolute correlation with improvement could be made on the basis of the weight gain or loss, blood pressure response, or psychiatric diagnosis.

4. At the present time there still is no reliable method for determining which patients the drug will benefit.

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Intramural Psychiatric Service in a Public High School

DANIEL H. CASRIEL, M.D., NEW YORK CITY, AND LESTER PEDDY, M.S., BRONX, NEW YORK

(*From the Three Schools Project, Bronx, New York*)

Stimulated by growing public concern over the problems of children and youth evidenced during the postwar and cold war periods, the New York City Youth Board set up a series of citizens panels to devise plans to meet the needs of these youngsters more effectively. One of the major outcomes of these meetings was the development of the concept of intensive social and psychiatric treatment to be given within the school setting. The school seemed a logical place for such a service since most youngsters spend a considerable portion of their time there. This was in line with the Youth Board's philosophy of establishing services where potential clients are most readily reached.

In cooperation with the New York City Board of Education, the Three Schools Project was established as an experimental treatment and research program. Three schools in the Bronx—P.S. 42, an elementary school; P.S. 37, the Clark Junior High School; and Morris High School—were selected on the basis of an apparent, high incidence of emotionally disturbed children within the school and high juvenile delinquency rates in the surrounding community. An important factor which also entered into the choice of the particular schools was the demonstrated interest of the principals and school staffs in mental health.

In November, 1949, a clinic was established in each of the three schools. The high school unit, which will be described in this paper, consists of a supervisor, two psychiatrists part time (total of twenty-eight hours weekly), three psychiatric social workers, two clinical psychologists, a vocational guidance counselor, an employment counselor, and three clerical and stenographic workers. Responsibility for the direction and administration of the individual units rests with the unit supervisor, a social worker of long experience. A coordinator is charged with over-all responsibility for the service and liaison with the New York City Board of Education and New York City Youth Board.

This article is not intended to give a comprehensive review of this project (an official study of the project and its operation is now in progress); rather, it is written to stimulate medical-psychiatric awareness of the advantages of "on-the-spot" psychotherapy to children. The advantages that derive from service rendered in this special setting may be divided into three categories: advantages to (1) the student, (2) the therapeutic situation, and (3) the educational process.

The Student

The service of the unit is limited exclusively to the student body of the high school and, where indicated, to their parents or parental surrogates. Preventive and "first-aid" psychiatry is available as well as a more intensive type of treatment. Access to the clinic is simple and direct; there is no red tape. Any student who wishes is free to come to the unit, which is popularly known as the Student Counseling Unit. The bulk of the students are referred to us through the teaching and administrative staffs of the school. However, any student is free to arrange a direct appointment on his own initiative. Over 26 per cent of our patient group are self-referred. Students who are accepted for continued treatment by the clinic are excused from class during their treatment periods. An interesting adaptation is the fact that our sessions coincide with a school period of forty-three minutes.

The process by which a student is assigned to one of the disciplines represented (psychiatrist, psychiatric social worker, psychologist, vocational guidance worker, or employment counselor) will not be dealt with in this article.

Because the unit is within the school and readily available to the teaching staff, students are brought to our attention earlier than would otherwise be possible. Treatment can be initiated without delay. If the student's problem is due to a stressful school situation, the therapist is in a much better position to help the student evaluate his possible courses of action.

Students involved in delinquent or truant behavior may be seen before their behavior requires them to appear in court. They know that the unit will offer a helping and understanding hand. They know that we do not sit in judgment but rather with understanding, as doctors and allied workers who wish to help the student change his maladaptation to a healthier, happier way of life. Only occasionally do students attempt to use this service to avoid classes or situations in which they find themselves because of their "bad" behavior. When they do, this problem is brought up within the treatment situation. They know that the unit will try to help them but will not coddle them. We attempt to make them aware of their behavior. Explanation is made of "why" their behavior and "how" their behavior has gotten them into difficulty and will continue to get them into difficulty.

Severely disturbed children, including schizophrenics, may be treated before their adaptation becomes disorganized, before they have broken down to almost irreparable levels, and before they are presented to psychiatric hospitals for admission. The less severely disturbed youngster may be brought under care at a time when he and his problems are likely to be more plastic. Many students with neurotic or minor behavior and character disorders have been helped to arrive at a more productive, happier adaptation with clearer goals and with diminished anxiety. Nothing interferes with the higher mental processes needed in learning more than uncontrolled feelings of fear, rage, and depression, the excessive emotions of the neurotically ill.

In addition to reaching the student earlier, the unit's patient load includes a good proportion of a type of student not usually seen by child guidance agencies. In these agencies the children seen are those for whom the initiative for treatment and help comes from the parent. Agencies are reluctant to accept children in treatment unless the parent becomes actively involved with the agency. In the school setting we see youngsters who frequently are having difficulty not only in school but also in the community, but who in the normal course of events would not be seen by an outside agency or physician because the parent is unaware of or unconcerned with the child's pathology. This apparent lack of interest on the part of the parent may be due to the parent's detachment, indifference, hostility, fear, shame, or because the child's pathology is so similar to the parents' pathology that it goes unnoticed by them.

Students themselves have become conscious of the importance of emotional problems. They know that they can receive help and that something can be done about their unhappy feelings. They are becoming aware of the role emotions play in their lives. They have become more tolerant of each other's attitudes and behavior. This is very important in this particular high school where there are large percentages of white, Negro, and Puerto Rican students of low and middle income groups. Students are frequently referred to the unit by their fellows; others, seeing the gains made by their friends, report of their own accord.

The Therapeutic Situation

As consultant psychiatrist, one of the writers (D.H.C.) has been able to observe significant differences between treatment given in the school setting as compared with private practice. Working with the student in the school, the therapist attains a "feel" of the objective situation which cannot be duplicated as quickly either in private practice or in an outside agency. The reality of the situation to which a youngster may be reacting can be evaluated much more objectively since the school offers a fixed frame of reference with which the therapist is familiar. The therapist is better able to evaluate the opinions and reports of the teachers by learning to know them as individuals through frequent meetings both as professional consultant and in such social contacts as the school affords.

By close cooperation with school personnel, the therapist is in a position to help alter the student's scholastic environment and thus to remove either temporarily or permanently some of the stress to which the student is reacting. This cooperation takes two general forms: first, by interpreting to the teacher the student's problems as they are reflected in his school activities and, second, by changes in program, classes, teachers, or time schedules to reduce acute pressures.

Treatment starts with a better chance for success. The student is likely to be less suspicious, less ashamed, less fearful, and less rebellious than he is at other agencies. Some students who refer themselves to their counseling service would refuse to go to an outside clinic, of which there are all too few where adolescents are concerned. Students have learned to accept this clinic as an intrinsic part of the school since the clinic has antedated the present student body. As a group they accept us warmly and trustingly. The Student Counseling Unit, although closely identified with the school, is not so close that a student feels his confidences will be divulged to the school authorities.

The transference, as it develops, is more quickly understood. There is a much broader base for evaluation. One can more readily observe and often obtain reports of the relationship and attitude of the student in his academic and social life and compare this to his relationship and attitudes to the therapist in the treatment situation. In addition, the therapist can more objectively evaluate his countertransference.

There is no "middle man" such as an emotionally disturbed parent to distort one's initial concept of the patient. Later, one is better able to assess the nature of the parental concern and put it into the proper perspective. The parent is unable to manipulate the treatment situation by threat of financial withdrawal. Not only are there fewer attempts of direct parental interference in the treatment process, but also the school setting serves as an effective buffer against these undue pressures. In addition, the presence of the unit within the school tends to reassure the parent that the treatment is offered in the best interest of the child.

Apparently, the adolescent is able to express himself more freely and warmly when the treatment situation is devoid of what the student may interpret as parental interference. One is able to relieve the student more quickly of lingering fears that threatening parents might be informed of his "secrets." The parents know that this clinic functions primarily for the treatment of the student, and the student knows this too. Thus, transference, as it develops, tends to be much more positive.

Since they would otherwise be unwilling to initiate contact with us, particularly where their problems are overtly related to acute differences with their parents, some students may initially be seen without their parents' awareness. As early as is practical, there is an attempt to make the parent at least aware of the fact that his child is in treatment and, when necessary and possible, to involve the parent more intimately with us, with an outside agency, or with a private psychiatrist. Parental treatment may take a variety of forms, for example, supportive interviews, interpretive interviews, direct suggestion and education, or more intense therapy. Where indicated, we attempt to function as constructive mediators; neither the unit nor the school wishes to come between parent and child.

The Educational Process

The unit has no administrative authority within the school; our role is essentially consultative to the school administration, which is free to accept or reject the unit's recommendations or suggestions. In practice, however, our point of view has been sought after and welcomed by the administrative staff of the school.

The presence of the unit within the walls of the high school tends to make the teachers more sensitive and alert to the significance of emotional problems and their recognition. When a student shows increasingly poor scholastic performance or truancy, often the earliest suggestions of emotional illness, he may be recommended, not ordered, to this service by his teacher, his school guidance counselor, or the attendance officer.

Because many teachers have become more sensitive to mental health concepts, they are aware that a student's behavior in a classroom is not an isolated phenomenon but rather an event in the total life picture of that student, an event which may be typical of his general behavior pattern. Teachers are more and more thinking in terms of students being "upset" and "emotionally disturbed" rather than being "bad." Their reaction to this emotional understanding can be seen in the way in which they handle the student. The teachers feel less threatened, more secure. This statement should not be underestimated. One cannot start to evaluate the total significance (as well as savings) to students and society when teachers teach and discipline with emotional alertness and security, the forerunners of empathetic understanding.

The unit's staff functions very closely with the teaching, guidance, and administrative staffs of the school. In many ways the school staff have come to appreciate the help that the unit can offer the school. The unit's assumption of responsibility for working directly with students who present severe behavior and/or personality problems relieves the school of considerable pressure. It frees the teacher's energies and time for greater concentration on the great bulk of the students who are able to make more effective use of what the school has to offer them.

The continuous daily interchange between the unit and the school personnel has enhanced the understanding of both students and teachers of community mental hygiene. The unit's functioning within the school serves as a living dynamic model which the student can utilize in understanding the total concept of mental health activity in the community.

The routine daily working together between clinic personnel and faculty, largely around the problems and needs of particular students, has contributed heavily to closer and more productive mutual understanding. We are convinced that both the school and the clinical services are the better for it. In addition, the unit personnel have occasionally been called upon to give didactic lectures to the classes to augment health topics. The courses in the school, such as "First Aid" and "Core" (a double period devoted to social studies and English), now include some aspects of mental hygiene and resources available in the clinic.

Although the educator and therapist have different frames of reference and different approaches, in the final analysis they have the same goals: to help the child achieve better adjustment in and out of school through development of his maximum potentials. Although there are differences which arise out of the divergent approach, these are not incompatible. The basis for cooperation has been found which has resulted in increased benefits for youngsters toward whom both services are geared.

Conclusion

In conclusion, the experiences gained in the Three Schools Project during the past five years, with concentrated psychiatric and allied services available within the school building itself, has far exceeded our original expectations. From a relatively narrow approach geared toward delinquency prevention, our horizons have been broadened so that we now find advantages radiating throughout the school and its student group. The special advantages that accrue from the unique location of this service have been outlined in this paper. We feel that these advantages are so significant that they warrant further consideration of the incorporation of this type of service as intrinsic elements in school and mental health planning.

Criticism

Criticism is a disinterested endeavour to learn and propagate the best that is known and thought in the world.—Matthew Arnold

RECENT ADVANCES IN MEDICINE AND SURGERY

A series of review articles dealing with medical progress

ROBERT TURELL, M.D., *Editor*

Recent Developments in the Treatment of Syphilis

EVAN W. THOMAS, M.D., ALBANY, NEW YORK

(*Consultant, Venereal Disease Control, New York State Department of Health*)

The long hoped for "magic bullet" capable of curing or permanently arresting most cases of early and probably of late latent syphilis by a single treatment seems to have arrived. The extraordinary sensitivity of Treponema pallidum to penicillin is well established. As a rule, high blood concentrations of penicillin are unnecessary in treating syphilis, but continued action of the antibiotic for at least seven days in cases of early syphilis and possibly longer for late latent cases has been found desirable. A single treatment with 2,400,000 units of benzathine penicillin G (Bicillin) provides low, demonstrable blood concentrations of penicillin for twenty days or more. Theoretically, this should be adequate therapy for most cases of early and late latent syphilis.

Owing to the marked decline in the incidence and prevalence of syphilis, data on the effectiveness of the single treatment are still meager. However, in primary and secondary syphilis the theoretic efficacy of the single treatment has been confirmed in practice. Smith *et al.*[1] and Shafer and Smith[2] have reported the results of this therapy in 196 cases of early infectious syphilis. They concluded that a single treatment with 2,400,000 units of benzathine penicillin was as effective as 4,800,000 or more units of procaine penicillin in oil and aluminum monostearate (PAM) when individual doses of the latter were given at intervals of two to seven days. Because of the slow absorption of benzathine penicillin, treatment with this preparation capable of curing secondary syphilis should be adequate for most cases of late latent syphilis (asymptomatic syphilis diagnosed solely by means of positive serologic tests for syphilis and history with no demonstrable cardiovascular or central nervous system involvement).

Since it is unlikely that documentary evidence of the effectiveness of a single treatment with benzathine penicillin will ever be comparable to that now available on the use of procaine penicillin in oil and aluminum monostearate, a brief summary of past experience with this drug seems indicated. Despite reports showing that a great variety of therapeutic regimens are still being used for syphilis, data from the most authoritative sources have shown that for routine use there are no advantages in exceeding total doses of penicillin that have been determined by much experience. Occasional cases of syphilis may require relatively large total doses where relapse has occurred. However, for routine treatment of the various types of syphilis, the following treatment with PAM can be recommended:[3]

1. For primary and secondary syphilis, 4,800,000 units given in divided doses of 1,200,000 units at two- to seven-day intervals.
2. For late latent syphilis, from 4,800,000 to

6,000,000 units given in divided doses as above.

3. For late symptomatic syphilis, especially cardiovascular and central nervous system syphilis, from 6,000,000 to 10,000,000 units given in divided doses as above.

4. For infantile congenital syphilis, three to four injections of from 200,000 to 300,000 units at two to seven-day intervals.

With the exception of congenital syphilis in infants and small children, individual injections of 1,200,000 units of PAM should be preferred to smaller doses since treatment can be completed with fewer injections. The interval between injections need not be more than two or three days. Larger total doses than those mentioned above are rarely needed.

Use of Benzathine Penicillin for Early and Late Latent Syphilis

Numerous public health agencies are now advising the single treatment with benzathine penicillin for primary, secondary, and latent syphilis. Usually this is given by an injection in each buttock of 1,200,000 units in a 4-ml. suspension. Single injections of 2,400,000 units in a 4-ml. suspension can be given, but this concentrated suspension causes more pain at the site of injection. Some patients have been incapacitated for several days because of pain following a single injection of 2,400,000 units, but reports of such severe pain have been rare following injections of 1,200,000 units in each buttock. Except for pain at the site of injection, benzathine penicillin has been associated with no more reactions than have occurred with other penicillin preparations.

The advantages of a single treatment for syphilis are obvious. If a single treatment is as effective and safe as more prolonged therapy, it is difficult to justify the latter. However, some patients may prefer treatment with procaine penicillin because it is less painful, and from a public health standpoint a more prolonged course of therapy provides opportunities for better epidemiologic information than does a single treatment. Also, no data are now available on the effectiveness of the single treatment in latent cases. However, the evaluation of any treatment of syphilis depends largely on what it accomplishes in secondary cases and in neurosyphilis. From experimental syphilis in rabbits and also from clinical experience in human syphilis (so far as the latter has been evaluated), no higher blood concentrations of penicillin are needed to arrest or cure latent syphilis than to cure secondary cases.

When in doubt about the ability or willingness of patients with latent syphilis to keep appointments for more than one treatment, the single treatment with benzathine penicillin should be preferred.

Use of Benzathine Penicillin for Neurosyphilis and Cardiovascular Syphilis

Reliable data on the treatment of neurosyphilis and cardiovascular syphilis with benzathine penicillin are not available at this time. In the past larger total doses of penicillin have been advised for these late complications than for early syphilis. This is true largely because as a rule the larger the total dose, the longer the period of treatment has been. That higher blood concentrations of penicillin are needed for neurosyphilis than for early syphilis has not been proved or disproved, but it is generally believed that the action of penicillin should be sustained for at least twelve to eighteen days in the treatment of both neurosyphilis and cardiovascular syphilis.

For routine use total doses of penicillin ranging from 2,000,000 to 10,000,000 units have been reported in the treatment of neurosyphilis. During the early years of penicillin therapy, when injections of aqueous penicillin were given every three hours for fourteen days, a number of active neurosyphilis cases at Bellevue Hospital were inactivated by total doses as small as 2,000,000 units, but the relapse rate with such minimal therapy was appreciably higher than when 6,000,000 units were given over the same period.[4] In 1950 Callaway and his coworkers[5] concluded that therapeutic results in neurosyphilis were not improved by increasing the total dose of penicillin above 4,000,000 units and that combined fever and penicillin produced no better results than penicillin alone.

Since 2,400,000 units of benzathine penicillin in a single treatment provide at least fifteen days of penicillin action, this treatment might be adequate for many cases of neurosyphilis. However, more cases of neurosyphilis than of early syphilis may need relatively high blood concentrations of penicillin. Consequently, if benzathine penicillin is used to treat neurosyphilis or cardiovascular syphilis, it has been recommended that three treatments of 2,400,000 units be given at no more than seven-day intervals for the purpose of increasing concentrations of penicillin within the body rather than prolonging the duration of therapy. Timberlake,[6] in a recent review of psychiatric progress, states that benzathine penicillin will supersede procaine penicillin in the treatment of neurosyphilis.

Until more is known about the results of treating neurosyphilis with benzathine penicillin, treatment with PAM, as previously mentioned, can be conservatively recommended for all types of neurosyphilis, including general paresis. No good evidence exists that fever therapy, with or without combined penicillin, accomplishes more than penicillin alone. This statement holds for cases of primary optic atrophy and general paresis, provided at least 6,000,000 to 10,000,000 units of penicillin are given over a period of fifteen days. In rare cases very large total doses of penicillin, up to 30,000,000 units or more, may be necessary for permanent arrest of neurosyphilis.

Evaluation of Treatment of Early Syphilis

Treatment of early infectious syphilis can be evaluated by follow-up serologic tests for syphilis, provided these tests are made quantitatively. Following treatment a marked drop in serologic test titers should occur within six months. Seronegativity within one year should occur in over 95 per cent of cases treated for seropositive primary syphilis, but 20 per cent or more of patients treated for secondary syphilis have had positive serologic tests in low titers for more than one year after treatment.[7] Persistently positive serologic tests are not an indication for retreatment, provided the titers fall to relatively low levels within the first six months after treatment. Rising titers from previous levels are indications of relapse or reinfection, but in the absence of lesions an increase in titers should be confirmed by repeated tests.

Evaluation of Treatment of Late Syphilis

Treatment of late syphilis, unlike that of early syphilis, is not as a rule followed by seronegativity within one or even ten years. Patients as well as physicians should be informed of this fact. Retreatment of late syphilis for the *sole* purpose of obtaining seronegativity is not only futile, but it now almost falls into the category of malpractice because it exploits the patient. High serologic titers, but not low titers, in patients treated for late syphilis usually fall gradually over the years, but minor fluctuations in titers are common. Relapse or reinfection should not be suspected unless follow-up examinations reveal clinical progression of the infection or unless the serologic titers increase markedly from previous levels and the increases are sustained for several months. In a five-to-fourteen-year follow-up of 391 patients treated for neurosyphilis at Bellevue Hospital with no evidence of progression of their disease, as determined by physical and spinal fluid examinations, marked transient fluctuations of serologic titers occurred at some time in 9 per cent.[8] The transient increases in titers could not be attributed to syphilis in these cases.

The evaluation of therapeutic results in neurosyphilis by means of spinal fluid examinations at six-month intervals after treatment has been described in numerous articles by Dattner and Thomas[9] and others.[10] It will not be repeated here, other than to stress the fact that if spinal fluid examinations are to be a useful guide, cell counts and total protein determinations must be made consistently and accurately. In the absence of such reliable tests, patients might well be spared repeated lumbar taps since tests for reagin in the spinal fluid usually remain positive for years after the inactivation of neurosyphilis.[8]

In cases of cardiovascular syphilis we have no good means of determining the activity of the infectious process. Irreparable damage has already occurred by the time cardiovascular syphilis can be diagnosed, and follow-up serologic tests are of little help in determining activity of the infection. Treatment of this complication is determined largely by analogy with neurosyphilis. That syphilitic inflammation of the aorta can be healed by penicillin therapy is indicated by the reports of Sinclaire and Webster[11] who found that healing had occurred in a few patients who came to autopsy after treatment. Preliminary treatment of cardiovascular syphilis with bismuth to prevent a Jarisch-Herxheimer reaction is no longer advised by those who have had the greatest experience in treating this complication.[12]

Reactions to Penicillin

In spite of reports of fatal anaphylactic reactions to penicillin, no other effective antisyphilitic agent has been as free from reactions as penicillin. Most of the reported fatal reactions to penicillin have occurred in patients under treatment for other causes than syphilis.

In 1954 Smith, Cutler, and Price[13] reported only 109 reactions to penicillin in 16,345 patients treated in a group of cooperating venereal disease clinics. Of the treated patients 75 per cent received procaine penicillin, and 24 per cent received benzathine penicillin. Urticaria occurred in 90 patients, serum sickness in five, and a variety of reactions were reported among the remaining 15.

The commonest reaction to penicillin is urticaria with or without angioneurotic edema. Patients with this type of reaction frequently become desensitized spontaneously and so tolerate future penicillin therapy. Caution is of course necessary in giving penicillin to patients who have had even mild reactions. Before penicillin is given to such patients, skin tests for penicillin sensitivity should be made. Although negative skin tests do not guarantee freedom from reactions, positive tests are a contraindication to the use of penicillin G in any form.

Treatment of Penicillin-Sensitive Patients

Oxytetracycline and chlortetracycline are effective antisyphilitic agents, and preliminary reports suggest that erythromycin and magnamycin may be even more effective.[14] Data on the oral treatment of syphilis with these antibiotics are relatively meager, and it is doubtful whether the minimum effective doses for routine use have been determined. From the available data, at least 3 to 4 Gm. daily of oxytetracycline or chlortetracycline, given in divided doses every six hours, are necessary. This minimum therapy should apparently continue for ten to twelve days in cases of early and latent syphilis and for fifteen to twenty days in cases of neurosyphilis and cardiovascular syphilis. Good results in the treatment of neurosyphilis were obtained at the Mayo Clinic with total doses of from 50 to 90 Gm. of chlortetracycline.[15] Buckinger, Hookings, and Garson[16] have made a preliminary report on the treatment of 11 cases of early syphilis with 2 to 3 Gm. daily of magnamycin. Attempts to substitute the older metal therapy (arsenicals and bismuth) for penicillin can be mentioned only to condemn them unless antibiotics are unavailable or have failed to arrest syphilitic activity.

Summary

1. In spite of meager data, a single treatment with 2,400,000 units of benzathine penicillin (injections of 1,200,000 units in each buttock) seems to provide as adequate routine therapy of early syphilis and probably of late latent syphilis as 4,800,000 or more units of procaine penicillin in oil and aluminum monostearate given in divided doses of 600,000 to 1,200,000 units.
2. Good results in the treatment of neurosyphilis and cardiovascular syphilis have been reported with total doses of 4,000,000 to 10,000,000 units of PAM.
3. Individual doses of PAM should consist of 1,200,000 units, and injections can be given at two to seven-day intervals.
4. No data on the effects of treating neurosyphilis with benzathine penicillin are as yet available, but three treatments with 2,400,000 units, with no more than seven days intervening between each treatment, have been recommended.
5. Penicillin-sensitive cases of syphilis can be treated with oxytetracycline or chlortetracycline. Minimum treatment consists of 3 to 4 Gm. daily given orally in divided doses every six hours. Preliminary reports suggest that magnamycin in daily doses of 2 to 3 Gm. provides effective therapy for early syphilis. Oral treatment with these antibiotics has usually extended over periods of ten to twelve days for early syphilis and for fifteen to twenty days for neurosyphilis and cardiovascular syphilis.

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(*Number five of a series on Recent Advances in Medicine and Surgery*)

"*Human Relations*" *Program Suggested for Industry*

An industrial medical director has suggested, after a study of 28,000 workers, that the number of absences because of illness can be reduced by a "grass roots" approach to the problem. Dr. Leo Wade, of the Esso Standard Oil Company, New York City, proposed a "human relations" program in industries "to make sure that each worker is properly assigned so that he can do a 100 per cent job without harm to himself or his associates." The program would be run by the medical director, personnel officer, and department supervisors. A certain amount of sickness absenteeism is inevitable, but excessive absenteeism may be a sign that a worker is not properly assigned or is incapable of adjustment in industry, he said.

Dr. Wade found in his study, reported in the December *Archives of Industrial Health*, published by the American Medical Association, the following: Women employees were absent more than twice as often as men—2,772.3 absences per 1,000 women per year compared with 1,054.8 absences per 1,000 men per year. The average number of days lost per absence among women was less than half that for men—3.6 and 8.8 days. The average number of absences per year tended to decrease slightly as employes grew older; however, the average duration of absences increased "strikingly" for men. One-day absences made up a smaller portion of the total absences with each successive decade, while long term absences increased. This may result in part from a change in the disease pattern with increasing age. Respiratory disease accounted for almost half of the total absences, while gastrointestinal disease was responsible for slightly more than one fourth. Cardiovascular disease was responsible for less than 2 per cent of the total.

With advancing age, the frequent mild upper respiratory or gastrointestinal upsets were replaced by infrequent serious life-threatening diseases. The major part of the total number of absences was due to a relatively small number of employes—often the same employes year after year. The weather, often blamed for increased absenteeism, apparently played no part in it. The only correlation found was that there were fewer absences on higher temperature days. Shift work did not increase absenteeism. Morale factors, such as a supervisor's personality, type of work, and home situation, were of "extreme importance" in influencing the rate of absences. One- and two-day absences frequently were related to weekends or holidays. A study of one refinery in 1948 showed that 54.8 per cent of such absences immediately preceded or followed otherwise legitimate time off.

Task Force—Accident Control

HAROLD JACOBZINER, M.D., NEW YORK CITY

(From the Maternal and Child Health Services of the New York City Department of Health)

ACCIDENTS are responsible for the death of about 95,000 people annually in the United States. An additional nine million suffer from disabling nonfatal injuries every year at an aggregate cost in life and property of approximately ten billion dollars. Accidents are now the leading cause of death in the age group one to twenty-four years, and the death rate is particularly high in the preschool age group.[1]

More children from one to five years died last year in New York City from accidental causes than from the ten leading communicable diseases combined (Fig. 1). As a result of the marked advances in medicine and public health, infant and child deaths have declined precipitously in the past twenty-five years, but death rates from accidents did not share in this decline to the same degree (Fig. 2). This in spite of the fact that accidents are nearly always preventable.

The total number of fatal accidents in 1953 (the most recent year for which complete statistics are available) was 3,073. A marked sex preponderance was noted in the male, 1,939 against 1,134 in the female. The under one-year group appears to be extremely vulnerable. Home accidents accounted for 50 per cent of all fatal accidents (Table I).

Fatal Home Accidents

In the under one-year group 97 per cent of all fatal accidents occurred in the home, 71 per cent in the one-to four-year age group, and 22 per cent in the five- to twenty-four-year age group. Thus, home accidents are very high in the under one, one to four-year, and in the sixty-five plus age group. This is probably due to the fact that these age groups spend much of their time in and about their homes (Table II).

In analyzing fatal home accidents some interesting facts are also noted by type and sex. There was a slight over-all female preponderance. The following sex distribution was noted, by type of accident (Table III):

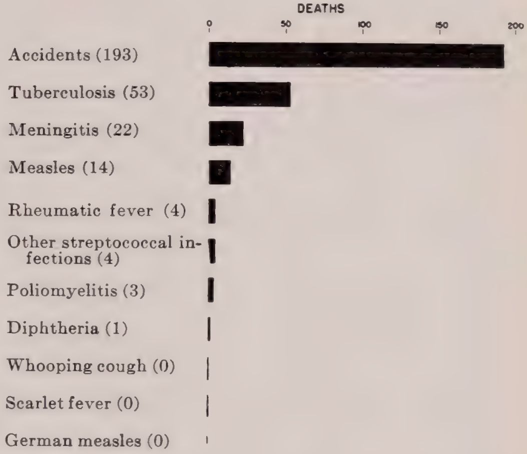

FIG. 1. Certain causes of death in children under six years of age, New York City, 1952.

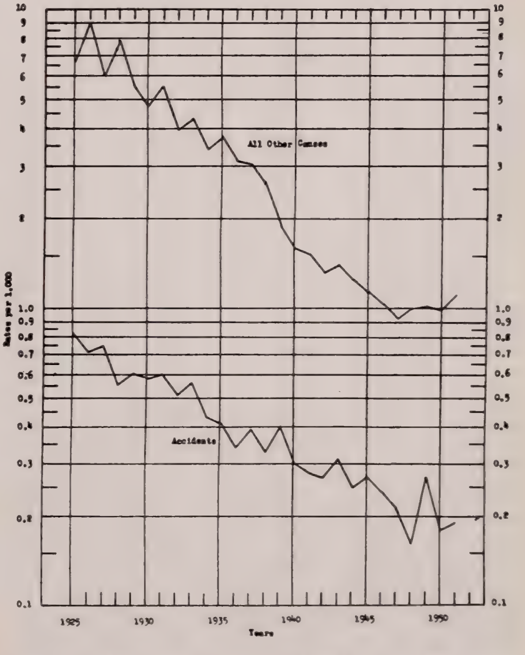

FIG. 2. Mortality rates per 1,000 for children from one to four years of age from accidents and all other causes, New York City, 1925–1951.

1. *Poisoning* was more common in the male.

Presented at the 25th Annual Safety Convention and Exposition of the Greater New York Safety Council, New York City, April 11 to 15, 1955.

TABLE I.—ACCIDENT DEATHS IN NEW YORK CITY

	Number
Total fatal accidents	3,073
Males	1,939
Females	1,134
Age distribution (years)	
Under 1	65
1 to 4	99
5 to 14	127
15 to 24	127
25 to 44	518
45 to 64	854
65 plus	1,283
Type of accident	
Occupation	159 (5.2%)
Motor-vehicle	632 (20.6%)
Public nonmotor-vehicle	647 (21.0%)
Home	1,545 (50.3%)

2. Deaths due to *fire* were more frequent in the female.

3. *Falls on the same level* were also more frequent in the female.

4. *Falls to different levels* were more frequent in the male.

5. Deaths due to *firearms* were reported only in the male.

6. *Unspecified home accidents* were also reported more frequently in the male.

Mechanical suffocation showed an unexpected sex distribution in 1953. This condition ordinarily is more frequent in the male, e.g., 18 males to 12 females in 1951 and 19 males to ten females in 1952. In 1953, however, a female preponderance was observed. The exact cause for this trend reversal is still unknown.

TABLE III.—FATAL HOME ACCIDENTS BY TYPE AND SEX

Type	Male	Female
Poisonings (gas excepted)	59	52
Poisonings by gases and vapors	61	36
Fire, explosion of combustible material	68	94
Hot substance, corrosive liquid, steam	8	8
Mechanical suffocation	12	16
Firearms	7	0
Falls on same level	139	293
Falls to different level or unspecified	308	287
Other specified home accidents	45	35
Unspecified home accidents	14	3
TOTAL	721	824

A great variation is also noted by area of residence. The highest number of fatal accidents occurred in Manhattan and the lowest in Richmond. Brooklyn is second on the list, followed by Queens, and then the Bronx (Table IV).

Past Activities in Accident Prevention

About four years ago the Bureau of Child Health of the New York City Department of Health instituted a vigorous home safety and accident prevention program for children under six years of age.[2] It has now become an integral part of the child health conference and part of the daily living of the health teams in the 75 child health stations throughout the city. Additional epidemiologic studies relating to fatal and nonfatal accidents are also being conducted to gain further knowledge about causation and possible modes of prevention.

TABLE II.—FATAL HOME ACCIDENTS BY TYPE AND AGE

	Per Cent of Home Accidents of All Fatal Accidents						
	Under 1 Year	1 to 4 Years	5 to 14 Years	15 to 24 Years	25 to 44 Years	45 to 64 Years	65 Plus Years
Poisonings (gas excepted)	3.1	14.1	..	4.7	7.3	4.6	0.9
Poisonings by gases and vapors	3.1	1.0	..	3.1	4.2	3.7	2.8
Fire, explosion of combustible material	7.7	11.1	10.2	0.8	6.4	5.3	4.2
Hot substance, corrosive liquid, steam	1.5	4.0	..	..	0.2	0.1	0.7
Mechanical suffocation	41.5	1.0	..	..	..	..	..
Firearms	..	..	..	1.6	1.0	..	..
Falls on same level	1.5	..	0.8	..	1.7	3.9	30.2
Falls to different level or unspecified	10.8	27.3	10.2	8.7	10.8	18.1	25.4
Other specified home accidents	24.6	12.1	0.8	2.4	2.3	1.6	1.7
Unspecified home accidents	3.1	..	..	0.8	0.8	0.9	0.2
TOTAL	97.0	71.0	22.0	22.0	35.0	38.0	66.0

Much has been accomplished through the various individual efforts of the Department of Health in accumulating greater knowledge about the epidemiology of accidents and also in the prevention of many accidents through the educational efforts of various services. It was felt, however, by the Commissioner of Health that the conventional and traditional methods are inadequate to combat this perplexing and challenging problem which demands immediate and vigorous action. It was believed that new horizons must be searched for and more radical methods applied to hasten a solution to the many perplexing whys and wherefors of accident causation.

Task Force on Accident Control

On July 2, 1954, the Commissioner issued the

TABLE IV.—Accident Mortality by Type of Accident and District of Occurrence in New York City, 1953

Geographic Unit	Total	Occupational	Home	Motor-Vehicle	Public Nonmotor-Vehicle	Type Unknown
New York City	3,073	159	1,545	632	647	90
Manhattan	1,134	63	630	201	239	1
Central Harlem	101	..	60	23	18	..
East Harlem	118	1	71	29	17	..
Kips Bay-Yorkville	177	10	113	21	32	1
Lower East Side	183	9	113	28	33	..
Lower West Side	329	39	119	65	106	..
Riverside	143	2	103	15	23	..
Washington Heights	83	2	51	20	10	..
Bronx	395	23	244	81	47	..
Fordham-Riverdale	73	5	50	16	2	..
Morrisania	63	..	39	15	9	..
Mott Haven	79	14	40	10	15	..
Pelham Bay	38	1	21	8	8	..
Tremont	74	1	54	11	8	..
Westchester	68	2	40	21	5	..
Brooklyn	656	44	350	179	82	1
Bay Ridge	51	2	32	11	6	..
Bedford	75	5	47	14	9	..
Brownsville	69	6	37	22	3	1
Bushwick	48	1	32	12	3	..
Flatbush	87	2	44	32	9	..
Fort Greene	97	7	51	23	16	..
Gravesend	44	1	20	20	3	..
Red Hook-Gowanus	73	9	35	14	15	..
Sunset Park	52	3	25	13	11	..
Williamsburg-Greenpoint	60	8	27	18	7	..
Queens Long Island	493	20	282	126	63	2
Astoria-Long Island City	73	5	34	21	13	..
Corona	59	6	38	5	9	1
Flushing	105	4	70	23	8	..
Jamaica East	87	1	52	25	9	..
Jamaica West	108	1	55	30	22	..
Maspeth-Forest Hills	61	3	33	22	2	1
Richmond	62	4	30	22	6	..
Occurrence unknown	333	5	9	23	210	86

following Executive Order: "Because of the importance of accidents as a cause of death and disability and since the Department already has a number of commendable activities in home accident control in several of its Bureaus and because accident control has many facets and requires the team approach, a Task Force on Accident Control is hereby established for the Department. The Task Force will study and appraise the current activities of the Department and plan and direct appropriate expansion of the programs. The responsibility for the actual administration of the activities remains with the Bureaus, which are directed to cooperate with and be guided by the Task Force."

A task force, as defined by the military, means a self-contained fighting organization under a unified command. You will note that on the task force are represented all skills and disciplines all working together towards a common aim in combating the enemy (Fig. 3). I hope you will not look upon me as the taskmaster who is defined in the dictionary as "one who loads with heavy burdens."

In addition to the chairman, the Task Force includes representatives from the following activities: Infant and Preschool and School Health Services, Public Health Nursing, Preventable Diseases, Sanitary Engineering, Sanitary Inspections, District Health Services, Statistics and Records, Bureau of Laboratories, Health Education, Public Information, Chief Medical Examiner's Office, and the National Safety Council.

Performance of the Task Force

What has the Task Force done to fulfill its mission? One of the first encounters was a survey of current activities in accident prevention and plans for needed expansion. Each bureau director and health officer was requested to report on a specially prepared form about current activities relating to safety and accident prevention and plans for expansion of activities; if no activities were carried on, bureau or district was requested to state reason why such activities were *not* carried on and how the Task Force might help in sponsoring such activities in the

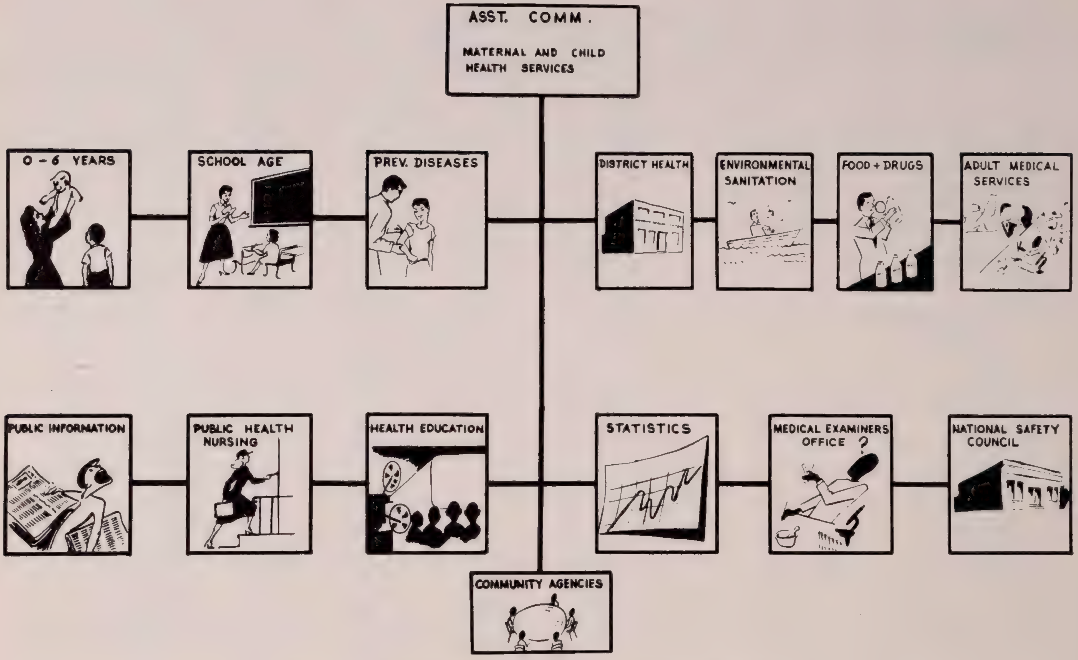
ASST. COMM.
MATERNAL AND CHILD HEALTH SERVICES
0 – 6 YEARS
SCHOOL AGE
PREV. DISEASES
DISTRICT HEALTH
ENVIRONMENTAL SANITATION
FOOD + DRUGS
ADULT MEDICAL SERVICES
PUBLIC INFORMATION
PUBLIC HEALTH NURSING
HEALTH EDUCATION
STATISTICS
MEDICAL EXAMINERS OFFICE
NATIONAL SAFETY COUNCIL
COMMUNITY AGENCIES

Fig. 3. Composition of Accident Control Task Force.

respective areas. Bureau and district heads were also requested to indicate type of programs engaged in, objectives, number of personnel involved, educational media utilized, methods used, and how activity is evaluated. These schedules were carefully scrutinized, and suggestions were made to the respective services on how to improve existing programs and on the need to institute indicated changes, additions, etc.

Because of the complexity and enormity of the problem and to prevent a dissipation of efforts it was determined to focus chiefly on home accidents. The Task Force met every month, and the following items, which were among those included on the agenda of the first meeting, will illustrate the manifold activities and concern of the group:

1. Accident control for the infant and preschool group.
2. Accident prevention program for the school-age child.
3. Employes Safety Committee.
4. Recommendations for activities to be sponsored by the Task Force which included many valuable suggestions which have not yet come to fruition.
5. Promotion of health education programs on home safety.
6. Immediate formation of a Poison Control Center.

At subsequent meetings some of the following items were discussed and specific recommendations made:

Carbon Monoxide Poisoning.—The Task Force recommended (a) that inservice training activities be extended to other agencies (for example, personnel who make home visits, health inspectors, public health nurses, social investigators, etc.); (b) that the Assistant Commissioner, Environmental Sanitation Services, invite personnel from other agencies to participate in the inservice training activities provided for Department of Health personnel; (c) that the utility companies be approached and asked to send out literature on carbon monoxide poisoning with utility bills; and (d) that the Department of Health advocate legislation prohibiting the sale of gas heaters.

Lead Poisoning.—Recommendations were made to increase educational efforts on lead poisoning, these activities to involve: (a) educating parents to notify the doctor when a child is found eating or chewing wall plaster; (b) increased education to physicians through the county medical society bulletins, emphasizing the need for the physician to investigate all members of a family when one case has been discovered to suffer from lead intoxication; (*c*) the Accident Control Task Force to sponsor an exhibit on lead poisoning at State Medical Society meeting, and (*d*) the Department of Health to take some action to bring out legislation to prohibit the use of lead in paint.

ACCIDENTS OR SUICIDE?—A complete analysis of 1953 statistics from the Medical Examiner's office relating to deaths due to accidental poisoning was made. It was shown that a large number of barbiturate deaths were probably due to suicides and that a considerable number of deaths were due to alcoholism and narcotic addiction. The Task Force recommended further investigation of narcotic addiction and alcoholism before adequate preventive measures are formulated and before health education on the problem is intensified.

PUBLIC HEALTH NURSING ACTIVITIES IN ACCIDENT PREVENTION.—During her regular visits the public health nurse observes hazardous conditions in the home which may be responsible for serious accidental occurrences. What is being done by public health nurses with regard to alleviating these hazards, motivating families, and developing interest in home safety and in the promotion of accident control?

The Task Force recommended an analysis of routine nurse home visits for a period of one month. The representative of public health nursing compiled an excellent study and evaluation of public health nursing activities in this area. Much information was gained from this study, such as where hazards lie in the home, how accidents occur, and the need to motivate individuals to obviate existing hazards and threats.

OTHER ACTIVITIES.—A joint meeting was also held with the Mayor's Committee on Gas Poisoning Prevention, and another meeting was devoted exclusively to the newly organized Poison Control Center.

Team Approach

The Accident Control Task Force has drawn from many skills, disciplines, professions, and areas of interest: physicians, nurses, educators, engineers, statisticians, laboratory workers, sanitarians, and others, all working harmoniously for a common cause in an uncharted field.

Although the community at large has not yet fully awakened to the grim conditions existing and to the many dangerous situations to which children, in particular, are exposed needlessly in their home environment, the achievements of the Task Force, thus far, are ample proof that the problem is not insoluble.

The going is rough and requires a dynamic force and unbinding, unyielding, and at times superhuman efforts. It is earnestly believed that only through a unified team approach and harmonious collaborative action on a community-wide basis, bringing battle to the enemy on all fronts, will the *war on accidents* be brought to a victorious and successful solution.

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Something To Remember

Once again I had failed to do my high school physics homework, and had given a miserable performance in class. My teacher kept me after class and asked me for an explanation of my poor record in the subject.

"Mr. Gage," I said feebly, "It's not that I can't do the work, it's just that I don't especially like physics."

"Young man," he said quietly, but firmly, "as you go through life please remember that most of this world's work is done by people who don't *especially* like what they're doing, but do it anyway."—JAMES FOX

Colloidal Radioactive Chromic Phosphate in the Control of Malignant Effusions

RICHARD H. LANGE, M.D., JOHN L. SHIELDS, M.D., AND H. M. ROZENDAAL, M.D.,
SCHENECTADY, NEW YORK

(*From the Radioisotope Department of Ellis Hospital and the General Electric Research Laboratory*)

THE use of radioactive isotopes for the control of fluid accumulations in the course of malignant disease is of increasing interest. The experiences with colloidal radioactive gold (Au^{198}) have been reported in detail during the past few years. We are presenting our observations in the use of colloidal radioactive chromic phosphate ($CrP^{32}O_4$) as recorded in the Radioisotope Department of Ellis Hospital.

Clinical experiences with radioactive gold treatment of malignant effusions have been reported by Schick and Bloor,[1] Seaman *et al.*,[2] Kent *et al.*,[3] Colby,[4] Rose,[5] and others. These authors have found that intrapleural or intraperitoneal injections of colloidal radioactive gold were of distinct benefit in from 40 to 70 per cent of their cases. Side-effects of the treatments have been slight; mild nausea and diarrhea were occasionally noted. Mild ileus of several hours duration has been noted in some of the peritoneal cases, and low-grade fever has been described in some pleural cases. No significant radiation sickness produced by Au^{198} has been reported by the authors mentioned.

Animal experiments with colloidal gold, phosphorus, and yttrium have been made by Lahr, Olsen, Gleason, and Tabern.[6] These studies indicated the great usefulness of radioactive phosphorus (P^{32}) in the form of colloidal chromic phosphate because of its convenient half-life of fourteen days, the exclusive beta ray emission, and the retention of the colloidal chromic phosphate in the pleural cavity. Similar studies in animals were done by McCormick, Miles, Jaffe, and Seed.[7] These workers used a chromic phosphate suspension which contained particles from 2 to 4 microns in 2 per cent pectin solution. This material remained well confined to the pleural cavity with less than 5 per cent of the colloid reaching the liver.

Recently chromic phosphate type G (Abbott) containing radioactive phosphorus has been made available in the form of a sterile colloid with an average specific activity of 3 to 8 mc. per mg.[8] This material does not require extensive shielding, and the resulting simplicity of administrations has made it possible to carry out treatments in the outpatient department.

Administration is accomplished by using a sterile 5-cc., Luer-Lok syringe shielded by a $^3/_4$-inch lucite cylinder. The thoracentesis or paracentesis is done in the usual manner, following which the shielded syringe containing radioactive chromic phosphate is attached to the needle. It is added directly in the case of the thoracentesis and indirectly for the paracentesis, the instillation being accomplished when free flow is established. The indirect attachment for the abdominal administration is done by removing the stylet from the trocar and threading a number 0.034 (medium) sterile polyethylene tubing through it. A number 20 cannula is inserted into the end of the tubing, and radioactive chromic phosphate is injected. Free flow can first be checked by attaching a flask of saline to the cannula before injecting the radioactive material and allowing normal saline to flow through the tubing. The peritoneal cavity is never completely emptied of its fluid. Should a small amount of fluid be present, as much as a liter of saline should be instilled with the radioactive material to allow for more complete contact with the serosal surface. After the instillation the patient is urged to change his position frequently to insure adequate mixing of the material within the cavity. This can best be accomplished by having the patient turn from side to side, prone and supine as well as sitting up, shifting every five to ten minutes for several hours.

The dosage has varied somewhat with the case. Generally 5 mc. have been used for pleural instillations and 10 mc. for abdominal cases.[8] Repeat treatments have not been given until a

TABLE I.—Results in 35 Cases

Location	Number of Cases	Result: Excellent	Good	Failure
Abdominal	21	9 (43%)	5 (24%)	7 (33%)
Pleural	14	7 (50%)	4 (29%)	3 (21%)
Total	35	16 (46%)	9 (26%)	10 (28%)

TABLE II.—Type of Primary Lesion

Type of Primary Lesion	Effusion: Abdominal	Pleural
Ovary	6	1
Uterus	2	2
Breast	3	6
Lung	0	4
Gastrointestinal	6	0
Lymph	1	1
Unknown	3	0

month has elapsed, and rarely have more than two treatments been necessary. Where bilateral pleural effusion has been present, treatments have been given approximately one week apart. Occasionally one-half the dose has been administered in each pleural cavity at the same time. Most of the cases have required two instillations before satisfactory control was achieved.

Indications

In all cases the diagnosis is confirmed by biopsy or by detection of tumor cells (Papanicolaou technic) in the fluid. Any case where fluid is a problem or is likely to become one is a candidate for therapy. Better results are seen in the patient who is in satisfactory condition generally with absence of obstruction, severe anemia, palpable masses, and debilitation. It has been our observation that very little is accomplished in the patient nearing the terminal state. Hopeless cases present a problem since frequently both patient and physician are eager for any new palliative measure. To date we have not used the isotope prophylactically at operation when pleural or peritoneal involvement is detected. This has been suggested and may be advisable in selected cases.

In our experience the response to treatment has been independent of the histology of the tumor. We believe that radiation fibrosis of the serosal surface occurs whenever there is implantation of metastatic tumor tissue. Pathologic observations indicate that along with the fibrosis there is obliteration of small blood vessels which supply the serosa. These changes, together with direct effect on tumor cells, may suppress the fluid formation. From the reports in the literature it would seem that the mechanism of action of colloidal radioactive chromic phosphate is probably similar to that of colloidal radioactive gold except for minor differences in distribution and retention.[5,7,9–12]

All investigators have described a gross change in the appearance of the fluid at subsequent taps after therapy. In many cases tumor cells disappeared from the fluid. Our observations have been similar. Fluid previously serosanguineous and viscid became clear. Specific gravity was less, and no clotting occurred on standing. Microscopically, tumor cells were absent in many instances. These findings pertain to both thoracentesis and paracentesis specimens. At autopsy marked fibrosis of serosal surfaces in contact with radioactive chromic phosphate was noted.

Results

Our results have been comparable to those obtained with radiogold. To date we have had experience with 35 patients; 14 patients had pleural effusion, and 21 had peritoneal fluid. Table I shows our series classified as to degree of success. The result was termed excellent if no clinical evidence of fluid was detected after three months with one or two treatments. A good result was noted when fluid accumulation was retarded or if no fluid was found at autopsy in those cases where the patient expired within three months of treatment. Those patients who derived no appreciable relief from effusion or who died shortly after therapy were classified as failures.

Table II shows the type of primary lesions in the 35 patients treated with radioactive chromic phosphate.

We are reporting three cases in more detail because they demonstrate some of the points which have been mentioned in the introduction.

Case 1.—E. T., a fifty-three-old housewife, was first operated on in July, 1953, for an ovarian carcinoma. She was fairly well until November, 1953, when she developed a pleurisy with effusion requiring thoracentesis of her right pleural cavity about once a month. A year later several thoracenteses on the left were performed. In the interval she formed some metastatic breast lesions which responded to deep therapy. Fluid was positive for tumor cells. When isotope therapy was advised, the patient was having considerable dyspnea accompanied by a 10-pound weight loss, and her appetite was poor.

With the use of 4 mc. in the left and 6 mc. in the right pleural cavities, bilateral therapy with colloidal radioactive chromic phosphate was accomplished in December, 1954. No further fluid accumulation was noted clinically. The patient continued on a gradual downhill course after several months, during which time she was able to be about the house and was moderately active. She then developed other metastatic lesions ending in a partial bowel obstruction and death in May, 1955.

Autopsy revealed that there was no fluid present in the pleural cavities. The pleurae were markedly thickened, and tumor cells forming acini were noted microscopically.

Case 2.—R. A., a forty-year-old housewife, noted symptoms of backache and an increase in the size of her abdomen in September, 1954. Three weeks later a paracentesis was done, and the fluid was positive for tumor cells. An exploratory laparotomy revealed a multicystic right ovary 6 inches in diameter. A large amount of serous fluid was present in the abdominal cavity. The pelvic peritoneum was studded with small, soft nodules. Similar nodules were noted in the omentum and liver. Microscopic sections of the biopsied material showed serous papillary carcinoma of both ovaries with secondary carcinomatosis.

A course of deep therapy was started through four abdominal ports. Fluid continued to be a problem. In November, 1954, after removal of 2,600 cc. of turbid, yellow fluid, 10 mc. of radioactive chromic phosphate were instilled. The patient's general condition was good. The hemoglobin was 13.7 Gm. with hematocrit 42 per cent, cephalin flocculation negative, and serum protein 5.3 Gm. per 100 cc. The abdomen remained flat for four months. The tumor masses gradually began to increase in size. Despite deep therapy the patient's course was downhill with recurrence of fluid. Patient died in July, 1955. No postmortem examination was performed.

Case 3.—E. V., a fifty-year-old nurse, was operated on June, 1953, when a panhysterectomy was done. Prior to operation she had noted a yellowish vaginal discharge of one month duration with two episodes of spotting. At operation a large symmetric uterine mass 10 cm. in diameter was found. Fixation of the lower anterior uterine segment to the bladder was present. There were considerable subperitoneal metastases. Microscopic sections showed the tumor to be a mesodermal mixed tumor, primary in the endometrium, in addition to anaplastic adenocarcinoma of the right ovary. The patient made an uneventful recovery from the operation.

Approximately six months later an increase in abdominal size was noted. Ascites developed, and a paracentesis in April, 1954, yielded 3,000 cc. of rather viscid, yellowish fluid which on cell block showed numerous groups of malignant tumor cells, some forming acini and some vacuolated. An irregular, large mass arising from the left side of the pelvis was also palpated. A rectal shelf was also noted.

After the paracentesis the patient received 7 mc. of radioactive chromic phosphate which were instilled into the peritoneal cavity. One month later another tap was necessary when 1,900 cc. of very clear, thin, colorless fluid was removed. An additional 10 mc. of chromic phosphate were injected intraperitoneally. No further abdominal effusion was observed. The patient received a course of deep therapy to the pelvic mass with some decrease in size.

In July, 1954, it was necessary to attempt control of pleural effusion which had gradually formed on the left. After the removal of 300 cc. of amber fluid from the left pleural cavity, 5 mc. of radioactive chromic phosphate were instilled. The pleural fluid was positive for tumor cells. One month later 500 cc. of a less viscid fluid were again removed from the left side. A cell block showed numerous malignant tumor cells, some showing vacuolation. Six weeks later 1,000 cc. of pale yellow fluid were removed, and 3 mc. of chromic phosphate were injected into the left side of the chest. In another month both sides had to be tapped, and 450 cc. were removed from the left cavity and 200 cc. from the right, following which 2.5 mc. were instilled in each side.

One month later the patient expired after a gradual demise. There was no sign of further abdominal fluid. The pelvic mass increased in size, and signs of partial bowel obstruction ensued about three weeks prior to death. Consent for autopsy was not obtained.

Comment

Colloidal radioactive chromic phosphate seems to be an effective compound in the control of malignant effusions in a large percentage of cases. It will settle out on serosal surfaces in the cavity in which it is placed. The hematologic effects are not significant. It is preferable to radiogold in that it is easier to handle, lacks a gamma ray component, and has a more convenient half-life.

If the patient is carefully selected and the treatment reserved for fluid formation secondary to serosal irritation and implantation by tumor tissue, good results can be anticipated. The patient who has severe anemia or large masses or shows signs of obstruction is not likely to be helped. The object of therapy is only palliative control of the fluid formation with no apparent influence on the underlying malignancy. An attempt at fluid retardation is indicated where the problem exists. A more comfortable life can be offered to such a patient, and frequent taps can often be avoided. The total number of cases presented is insufficient to draw conclusions as to the degree of sensitivity of any particular type of tumor.

Summary

1. A review of the experience with radiogold and recent observations on treatment with colloidal radioactive chromic phosphate are presented.
2. The method of administration and the dosages of this compound are discussed.
3. Thirty-five cases of peritoneal and pleural malignant effusions are reviewed. The results were excellent in 46 per cent of the cases, good in 26 per cent, and poor in the remaining 28 per cent.
4. The importance of evaluating the clinical condition of the patient is stressed.
5. Marked change in the gross nature of the fluid following therapy and the evident fibrosis of serosal surfaces in contact with the radioactive material are noted.
6. Several case presentations are given.

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Prednisone Used for Allergies, Anemia

Two Chicago physicians reported further evidence that prednisone is valuable in treating allergic diseases, and two New York physicians said in a preliminary report that it may be useful for anemia. The reports on the synthetic hormone, which is related to cortisone, appeared in the January 28 *Journal of the American Medical Association.*

Drs. Alan R. and Samuel M. Feinberg, of the allergy clinic and allergy research laboratory, Northwestern University Medical School, Chicago, compared the effectiveness of prednisone and cortisone in 80 patients with allergy diseases. They found that prednisone was five times more potent than cortisone, meaning that smaller doses of prednisone are necessary to obtain and maintain the same results as cortisone. Prednisone's side effects were about the same as those of cortisone, except that generally they did not upset the body's salt and water balance.

Of 50 patients with perennial chronic asthma, 41 obtained complete or nearly complete relief with prednisone. Satisfactory results also were obtained in 10 patients with seasonal asthma due to pollen or mold allergy, and in 27 of 32 patients with asthma and seasonal allergic rhinitis (inflammation of the mucous membrane of the nose). Other types of allergy successfully treated were perennial allergic rhinitis, allergic eczema, serum sickness reaction from penicillin, and chronic hives.

Drs. Leon N. Sussman and Jack R. Dordick of the medical service and hematology laboratory of Beth Israel Hospital, New York, used the hormone for three cases of acquired hemolytic anemia, in which red blood cells are destroyed by some agent in the blood. The exact cause of the disease is unknown. Treatment included the standard methods, cortisone, and prednisone. Prednisone in "relatively small" doses satisfactorily alleviated the anemia, without the appearance of any undesirable side effects, they said. The effectiveness of the hormone in this small series makes its further study essential, they said.

Primary Amyloidosis

ALFRED M. BEYER, M.D., KENNETH F. KRUGER, M.D., AND MARVIN WADLER, M.D.,
JAMAICA, NEW YORK

(*From the Department of Internal Medicine, Queens General Hospital, Queens Medical Center*)

When a patient presents the clinician with symptoms and abnormal findings that involve several systems, the physician must consider diseases common to all organs and systems. Such a disease is amyloidosis which may be widespread, involving every organ and system in the body, and may cause far-reaching effects.

Since the original work in 1842 by Rokitansky[1] and in 1855 by Virchow,[2] about 70 cases of primary amyloidosis were reported up to 1950.[3] A review of the literature since then reveals only ten additional cases.

Classification

Being polysystemic in character, amyloidosis has sometimes been classified with the collagen diseases. At other times it has been classified with the metabolic disturbances and vascular diseases. Best considered in a class by itself, amyloidosis is usually placed with the degenerative diseases and classified into four main groups: primary amyloidosis, secondary amyloidosis, localized or tumor-forming amyloidosis, and amyloidosis associated with multiple myeloma.[4]

Primary amyloidosis is relatively uncommon and is characterized by the lack of a known etiologic factor. The amyloid may be systemic or localized in the lungs, heart, skin, muscle, and other mesodermal tissues and tends to be deposited in nodular form. It gives variable staining reactions (absent, pale, or rapidly fading) with the special stains.[5] The amyloid accumulates over the years very slowly in and around blood vessels and becomes clinically evident chiefly in middle-aged or aged persons.

Secondary amyloidosis is more common and usually follows or develops relatively quickly during some chronic disease such as tuberculosis. It may be found in cases of chronic infection with suppuration, especially if associated with hyperglobulinemia.[6] The amyloid is deposited predominantly in such parenchymatous organs as the liver, kidneys, adrenals, and spleen in a subendothelial position in the capillary walls and arterioles.[5,7] Typical staining reactions are usually obtained with the special stains.[5] Secondary amyloidosis is most commonly seen with chronic tuberculosis with reports of incidences as high as 40 per cent active tuberculosis in cases of secondary amyloidosis.[8] In secondary amyloidosis the spleen is involved more often than any other organ.

Amyloidosis associated with multiple myeloma has been reported in 41 of 650 cases of multiple myeloma reviewed by King.[9] The distribution and character of the amyloid is similar to the primary type. However, the amyloid in this type has a tendency to be deposited in large masses in and about the joints.[10]

Tumor-forming amyloid disease has the characteristics of presenting small, solitary or multiple amyloid masses, chiefly in the eyes, urinary bladder, urethra, tongue, bone, pharynx, and in the respiratory passages and subcutaneous tissues—all of which resemble the primary type of amyloidosis but are sufficiently distinctive to be grouped separately.[10,11] This type is rare and often seen associated with multiple myeloma presenting these characteristics.

Etiology

The basic cause of amyloidosis is unknown. Several theories have been advanced to explain the reason for amyloid formation, the most favored of which relates amyloidosis to hyperglobulinemia. The latter is founded on the coexistence of amyloid disease and multiple myeloma with its disturbance of the serum globulin. It is also based on the recognition of hyperglobulinemia and amyloidosis in horses used for antiserum production and the occurrence of increased blood globulins in rabbits with amyloidosis induced by injections of sodium caseinate. The hyperglobulinemia associated with amyloidosis produced in animals by repeated injections of bacterial vaccines provides further support for this theory.[12]

In 1939 Koletsky and Stecher[13] showed that amyloid may be a reaction between some component of the serum globulin and some fixed tissue element. This may be in the walls of the capillaries or arterioles, and the reaction may be of an antigen-antibody type with a possible allergic basis. Other investigators[14,15] have come to this opinion too. In one report in 1949 it is stated that amyloid formation depends on plasma protein changes which are not specific in chemical nature. This results in changes in colloidal stability or the formation of new or abnormal plasma proteins. All this may be related to the old theory of disturbances in the reticuloendothelial system as being the cause of amyloidosis. This old theory plus the theory of serum protein changes may both be concerned in the etiology of amyloidosis.[15]

The textbooks classify amyloidosis with the degenerative diseases of fatty degeneration, hyaline degeneration, and protein metabolism. Present reports indicate that amyloid is not a compound of protein and chondroitin-sulfuric acid but is a product of variable chemical composition of a group of closely related substances. These are principally protein in nature that have a sulfate-bearing polysaccharide fraction.[16,17]

Pathology

Grossly, the pathologic examination of the organs involved with amyloid may show little or no increase in their size, depending on the amount of amyloid deposition. When large amounts are deposited, the organs take on a waxy firmness with pallor. The cut surfaces show a diffuse translucency which also depends on the degree of involvement. If Lugol's solution is applied directly to the cut surface of the organ, the amyloid will absorb the iodine and appear dark brown, making a gross diagnosis possible.

Microscopically, the amyloid is extracellular. It presents a homogeneous hyaline-like appearance indistinguishable from hyaline with hematoxylin-eosin stain. With Congo red stain the amyloid becomes salmon pink, which is diagnostic. This latter stain is used as a diagnostic procedure because of the affinity of amyloid for Congo red.

Diagnosis

The diagnosis of amyloidosis depends largely on the degree of involvement of the disease. The patient is usually not seen until there has been wide involvement of the disease or until there has been sufficient amyloid deposition in one or another of the major organs, such as the heart, spleen, or liver, to cause symptoms. A fairly frequent finding is macroglossia which is most commonly found in primary systemic amyloidosis (Fig. 1). Macroglossia is an unusual clinical finding, and the diseases with which it is found are not common. Besides primary amyloidosis, it is found in acromegaly, myxedema, hemangioma, lymphangioma, and congenital muscular hypertrophy.

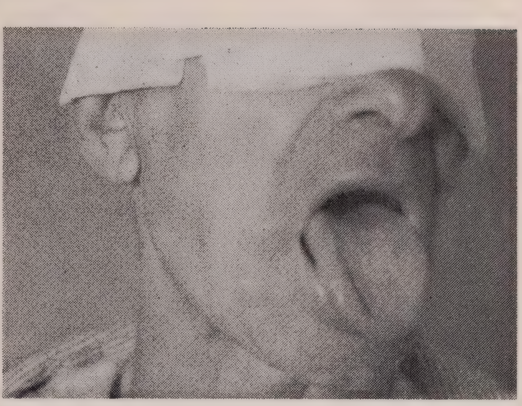

FIG. 1. Marked macroglossia in primary amyloidosis.

Amyloidosis should always be suspected in the presence of hepatosplenomegaly with proteinuria. It should always be suspected in patients with intractable congestive heart failure with moderate heart enlargement, definite but nonspecific electrocardiographic changes, and the absence of a history of hypertension, arteriosclerosis, or valvular heart disease. These findings may be present in primary cardiac amyloidosis or may be one of a group of findings in systemic amyloidosis with cardiac involvement.

The electrocardiographic changes with cardiac amyloidosis may resemble those seen in myocardial infarction. One or more of the following may be present: low voltage, variations in the T waves, prolonged P-R and QRS intervals, and deep Q waves.[18] However, the correct clinical diagnosis of amyloidosis is seldom made. Six times as many cases of amyloidosis are diagnosed postmortem as are diagnosed clinically.[19]

A definitive diagnosis is made clinically on the basis of either a positive biopsy or a positive Congo red test. For many years the liver has been used as a site for biopsy in suspected cases of amyloidosis. Such a procedure is not without danger, and since the liver is only involved in a minority of the primary amyloidosis cases, liver biopsy is of limited value. Fatal hemorrhage following trocar biopsy of the liver in one case of marked amyloidosis has been reported.[20] In 1947 Robitzek and Selikoff[21] introduced the gingival biopsy as a safer procedure and reported 18 amyloid cases in which 14 cases had amyloid formation in their gingiva.

The Congo red test is based on the affinity of amyloid for this dye. On intravenous administration the dye is absorbed more rapidly from the bloodstream by the amyloid tissue than by normal tissue. The test is done on a fasting patient who receives 0.25 ml. per Kg. of body weight of sterile Congo red dye intravenously. Blood samples are drawn five and sixty-five minutes after injection from the opposite arm. The sera from the two specimens are compared in a colorimeter. The result at sixty-five minutes is reported as the percentage of the dye found in the five-minute sample. In cases of nonamyloidosis about 70 to 90 per cent of the dye remains in the blood sixty-five minutes after injection. In cases of amyloidosis values of 40 to 60 per cent may be reported, and reports of less than 40 per cent are interpreted as severe amyloidosis.[22] During the test the urine should always be examined for possible excretion of the dye since in proteinuria the dye is removed rapidly from the blood. This is due to the absorption of Congo red by the albumin. Such a result will give a false positive test. In the absence of proteinuria a positive Congo red test is specific for amyloid disease.[22]

Treatment

The treatment of amyloidosis, in general, has not been very effective. Secondary amyloid disease has been shown to be a reversible process. The primary variety has no known specific treatment, and it is uniformly fatal. The outlook in secondary amyloidosis is much more encouraging since complete remission has been noted clinically in several of these cases.[23,24] The treatment in this variety has two aspects. The first phase concerns the eradication of the primary etiologic factor with antibiotics and removal of the focal infection if present. With the further use of antibiotics such recoveries should become more common.

The second phase in the treatment of amyloid disease should apply to both the primary and secondary types. This phase was reported in 1938 by Grayzel and Jacobi.[25] These authors reported 13 cases of amyloidosis in children secondary to chronic suppurative disease. These patients were given powdered whole liver extract by mouth in doses of 4 to 8 Gm. for at least three years. It was reported that eight of these cases were free of all clinical signs of amyloid disease for twenty to twenty-four months. This improvement occurred in spite of the persistence of the underlying suppurative disease. In view of the similar pathology in both primary and secondary amyloidosis, there is nothing in the literature to suggest that this could not occur in the rarer primary amyloidosis. At the time these 13 cases were reported in 1939, albuminuria and a postive Congo red test were found. In 1945 the same investigators[26] reported that nine of their cases no longer had a positive Congo red test, although seven of them still had albuminuria. In 1932 Whitbeck[27] used 12 Gm. of powdered whole liver extract per month for two years in seven children with amyloid disease. He reported that the liver and spleen receded in five of these cases after eighteen months of therapy. Albuminuria and edema disappeared, even though the Congo red test remained positive.

Despite these reports of success other clinicians have found no improvement with liver therapy. Grayzel and Jacobi have claimed that failure in amyloid cases was due to the liver extracts not being properly assayed for potency. They also state that the duration of the liver therapy is important since such therapy must be continued for many years.[28]

Since the advent of ACTH and cortisone and the knowledge that they inhibit collagen formation and fibril production and thus decrease connective tissue permeability, these drugs have been used empirically in both types of amyloid disease.[29] The potency of these hormones in counteracting the amyloid process has not as yet been determined or demonstrated.

Case Report

Herewith we present an interesting case of primary amyloidosis with widespread amyloid deposits.

A sixty-nine-year-old, white male tailor, who was hard of hearing, was admitted to Queens General Hospital on March 4, 1955, with the chief complaints of increasing swelling of his legs for the past several weeks and recurrent oppressive precordial pain of several months duration.

The patient had been in good health until fifteen years ago when he noted the onset of deafness which had been progressive. The patient was discovered to be a diabetic thirteen years ago; he was initially treated with a diet alone, but this had been neglected in recent years. While the history revealed that the diabetes was first diagnosed after a short, transitory coma, there was no treatment instituted that would confirm this as a diabetic coma. There was no history of acidosis, polydipsia, polyuria, or the use of insulin.

The patient had had dyspepsia for much of his life with epigastric distress occurring infrequently with no relationship to meals. In 1952 he was hospitalized for melena, and a diagnosis was finally made of an acute duodenal ulcer after several gastrointestinal x-rays. In June, 1953, an acute gangrenous appendix was resected, and the postoperative course was uneventful.

In August, 1953, the patient had his first attack of severe precordial pain. An electrocardiogram taken by his local doctor evidently was considered insignificant since the patient was advised to continue with his usual activities.

The patient was admitted to another hospital in November, 1954, for symptoms of chest pain, leg edema, and dyspnea. An anemia of 7.5 Gm. with a red blood cell count of 3,870,000 was noted at that time. The liver edge was felt six fingerbreadths below the right costal margin. The spleen was felt one and one-half fingerbreadths below the left costal margin. A liver biopsy was reported as amyloidosis. After a transfusion with 3 pints of whole blood and digitalization, the patient was discharged from the hospital.

In the month following his discharge, the patient lost 20 pounds of weight. He was bothered by increasing exertional dyspnea and moderate orthopnea. The edema of his legs continued to increase. On exertion, such as walking one city block or after excitement, he developed oppressive precordial pains of a transitory nature. He frequently had postprandial epigastric distress.

Physical examination on admission to Queens General Hospital revealed a pale, elderly, deaf, white male in no acute distress. He was afebrile. The blood pressure was 125/80, and the pulse was 100 and regular. The eyes and ears were normal. The tongue was found to be markedly enlarged (Fig. 1). There was a firm induration at the back of the neck in the midline. The thyroid was mildly enlarged and nodular. Examination of the chest revealed fine bibasilar rales. The chest was resonant throughout to percussion. Examination of the heart revealed a regular sinus tachycardia at 100 with good tones. There was a grade 2 apical blowing systolic murmur present. There were no thrills present. Second aortic sound was greater than the second pulmonic sound, and the first mitral sound was greater than the second mitral sound.

Abdominal examination revealed the liver markedly enlarged to five fingerbreadths below the right costal margin. The spleen extended to three fingerbreadths below the left costal margin. There was a right lower quadrant appendectomy scar with a small reducible incisional hernia present. There was a small reducible indirect left inguinal hernia. Rectal examination revealed a soft, nontender, mildly enlarged prostate gland. No melena was present. The lower extremities revealed 4 plus pitting edema of the feet, ankles, and lower legs. The neurologic and genitalia examinations were normal.

A peripheral blood examination revealed a hemoglobin of 6.8 Gm. per 100 cc., red blood cells 3,750,000, hematocrit of 25 cm. The white blood cell count was 12,200 with 78 per cent polymorphonuclears, 20 per cent lymphocytes, 1 per cent monocytes, and 1 per cent eosinophils. The urinalysis revealed specific gravity 1.009, 4 plus albumin, no sugar or acetone, 1 to 2 red blood cells per high-power field, and a moderate number of waxy and fine granular casts.

The blood urea nitrogen was 35 mg. per 100 cc. A glucose tolerance test revealed blood sugar levels of 95, 154, 208, 212, and 162 mg. per 100 cc. on fasting, half-hour, one-hour, two-hour, and three-hour specimens, respectively. The urine remained negative for sugar throughout the test. The cephalin flocculation was negative; thymol turbidity 0.9; total cholesterol 330 mg. with 244 mg. per 100 cc. esterified; serum bilirubin 0.3 mg. per 100 cc. The prothrombin time was seventeen seconds with a control of thirteen seconds. Repeated a few days later, the prothrombin time was eleven seconds with a control of thirteen seconds. The total protein was 4.7 Gm. per 100 cc. with serum albumin of 2.7 Gm. and globulin of 2 Gm. The bromsulfalein test showed 9 per cent retention after forty-five minutes. Blood Wassermann was negative as well as spinal fluid Wassermann.

A chest x-ray was interpreted as showing an obliteration of the left costophrenic sinus, probably due to a pleural effusion. The lung fields showed mild congestive changes, and the heart was not measurably enlarged. A gastrointestinal x-ray series showed a J-shaped stomach with no intrinsic pathology. The cap and small bowel were normal. It was noted that there was enlargement of the liver and spleen. An intravenous pyelogram revealed poor excretion of the dye with incomplete filling of the pelves and calyces. The visualized parts of the pelves and calyces of both kidneys presented a normal appearance regarding their size and configuration. The base of the bladder was elevated due to enlargement of the prostate. X-rays of the skull and mastoids were normal.

An electrocardiogram on March 30, 1955, revealed normal sinus rhythm with a left axis shift and left ventricular strain. In lead I there were low T waves. On April 15, 1955, another electrocardiogram revealed a regular sinus bradycardia at 50 with a left axis shift and a first stage heart block with underlying left ventricular hypertrophy. In lead I the T wave was now diphasic, and in lead II the T wave was low. On April 25 an electrocardiogram showed normal sinus rhythm and a pattern similar to the first electrocardiogram. On June 2 an electrocardiogram revealed an inverted T in lead I with a normal sinus rhythm and ventricular premature contractions. On June 9 auricular fibrillation was revealed by electrocardiogram with low T waves in lead I. This tracing was interpreted as suggesting subendocardial anoxia. On June 13 an electrocardiogram showed a normal sinus rhythm again with left axis shift and left ventricular hypertrophy as well as an intraventricular conduction disturbance.

A Congo red test was performed and showed 7 per cent of 270 mg. of dye remaining in the blood after one hour. One month after this test was performed it was repeated, and no dye was found in the blood one hour after 270 mg. of dye was given. On neither occasion did any dye appear in the urine. Gingival biopsy and biopsy of the mass in the back of the neck were both positive for amyloidosis. Liver biopsy done after the Congo red test revealed vital staining of the amyloid with the dye. The patient refused consent for thyroid and prostatic biopsies.

Smears of the bone marrow showed active erythropoiesis in the normoblastic series. The red cell fragility and bleeding and clotting times were all normal. The Coombs test was negative. The patient was given packed red cell transfusions from 4 pints of blood with improvement in the general condition and complete cessation of the anginal attacks. Following the transfusions the red blood cell count rose to 4,350,000 and hemoglobin to 11.5 Gm.

A twenty-four-hour urine specimen was negative for tubercle bacilli on culture, but repeated urine cultures revealed a variety of organisms. One gram of tetracycline was given daily for thirty days during hospitalization, and subsequent urine cultures were sterile. The urea clearance was 63 per cent of normal. Urinalysis for specific gravity showed ranges from 1.015 to a low of 1.002. A phenolsulfonphthalein test showed 30 per cent excretion in one hour with 60 per cent excretion after three hours. An Addis count revealed 8,120,000 white cells, 4,060,000 red cells, and 2,030,000 casts. The urine was negative for Bence Jones protein on four occasions. A urine specimen for doubly refractile bodies was negative.

The venous pressure was 113 mm. of water. The arm-to-lung circulation time was nine seconds and arm-to-tongue time seventeen seconds.

Radioactive iodine uptake was 13 per cent with a basal metabolic rate of minus 7 per cent. Clinically, however, the patient appeared euthyroid.

The patient was managed as a case of amyloidosis with congestive heart failure, probably due to cardiac amyloidosis as well as generalized amyloidosis. Digitalization was maintained, and nitroglycerin was administered when necessary, as well as antacids and antispasmodics for dyspepsia. Along with B complex and multivitamin preparations, parenteral whole liver extract in large doses was given. Tetracycline was administered for thirty days because of the pyuria as well as prophylactically.

The anemia recurs at intervals and is treated with transfusions. This patient is being followed and treated on our home-care program at Queens General Hospital and remains moderately comfortable.

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Submucous Resection and Nasal Plastic Operation

Septorhinoplasty

DAVID BERNSTEIN, M.D., BROOKLYN, NEW YORK

(*From the Department of Otolaryngology, University and Bellevue Hospitals, New York City*)

The concept of submucous resection of the nasal septum in relation to rhinoplasty has developed to the point where it is done in indicated cases as a one-stage procedure. This principle may now be taken one step further, and it may be stated that in order to do a satisfactory rhinoplasty, submucous resection is required in all cases, with few if any exceptions, as an integral part of the operation. A review of some of the pertinent literature, the experience of others, and our own experience will indicate the basis for this approach to the nasal plastic operation.

There are numerous references in the literature[1–20] to the submucous resection and to the combined septal operation and rhinoplasty. The earliest description of a deviated nasal septum producing nasal obstruction was given by Quellmaltz in 1750.[18] Symptoms and sequelae are well described, but no mention is made of treatment. In 1939 Velpeau[18] quoted William of Salicet who proposed gradual dilatation of the anterior nares with a sponge to facilitate removal of nasal polyps. As late as 1889 Roberts spoke favorably of punching out a piece of septum to permit breathing through both nostrils. In the 1880's and 1890's there developed two schools of thought on the function of the nasal septum and the respect with which it was to be treated. Asch[18] was the proponent of the first school. He urged preservation of the septal cartilages, and in order to accomplish this he proposed that its resiliency be destroyed in order to force it back into its proper place. It was the opinion of the second school that the septum is simply a partition and serves no physiologic function. On this basis Ingals[18] originated the operation of submucous resection of the quadrilateral cartilage in 1882. Krieg[18] in 1886 extended the operation to include the vomer and the perpendicular plate of the ethmoid bone. Freer and Yankauer[18] further developed the operation, and Ballenger[18] perfected the procedure with his invention of the swivel knife.

Because of the ease of the operation it became a surgical free-for-all. In competent hands results were good. In the light of present-day procedure to correct caudal dislocation of the nasal septum, Sluder's operation is an interesting one. His method consisted of making three parallel longitudinal incisions through the mucous membrane and cartilage of the side of the convexity and pushing over the upper piece so that it overrode the lower. By so doing he overcame the resiliency of the three pieces and corrected the deviation in more permanent fashion without sacrificing excess cartilage.

Several fundamental anatomic details must now be considered. The septum divides the nose into two chambers, and this partition is essentially a bony and cartilaginous framework encased in a mucocutaneous envelope. Its bony components are the perpendicular plate of the ethmoid, the vomer, the nasal spine of the frontal bone, the rostrum of the sphenoid bone, and the crest of maxillary, nasal, and palate bones. Among the cartilaginous components are the quadrilateral cartilages, the upper lateral nasal cartilages, the vomeronasal cartilages, and the medial crura of the greater alar cartilages. Each of these bony and cartilaginous components is encased in its own periosteal or perichondrial envelope which passes through a suture line. The crest of the maxillary and palate bones form a groove in which the quadrilateral cartilages and vomer rest. Not infrequently, cartilage may be dislocated from this groove by trauma or other factors.

In considering traumatic factors it must be noted that they are often overlooked and forgotten by the patient. Converse, Holmes, and Huffman[20] point out that it is usually the septum and not the nasal bone that is broken, especially in children. Obstruction may occur only later after fibrosis and scarring with callous formation have ensued. Caudal deflection of the septum in such cases is often seen. In this same excellent discussion the authors remind us that the growth center is in the anterior portion of the septum.

Dunning[19] found deviation of the nasal septum in 75 per cent of patients entering hospitals of New York for various ailments. Asymmetry of the nasal fossae is reported in 77 per cent of skulls.

With this historical, anatomic, and functional background it becomes apparent that the nasal septum is at least an important factor in the nasal plastic operation. It could never be overlooked entirely since we encounter the septum at least twice during the operation, once in the hump removal and again in shortening the nose. Since the percentage of deviation is so high and since we tend to narrow the nose during osteotomy, upper lateral cartilage resection, and tip reconstruction, it is difficult to see how a satisfactory rhinoplasty can be done without doing a submucous resection at the same time, at least to compensate for the narrowing. During the operation we have an excellent opportunity to place the septum exactly where necessary since we have elevated the dorsum, transfixed the nose, removed the hump, and separated the attachments of the upper lateral cartilages. In the Killian approach we are dealing with a fixed septum, whereas in the transfixion approach incident to rhinoplasty we have an opportunity to mobilize fully and to place the septum properly, all at the same time. It would appear that all this can best be accomplished in a single stage operation. This point is also brought out by Converse *et al.*[20]

Contrary to what has sometimes been said, such a one-stage operation also enhances the esthetic result by reducing the possibility of external deviation, whether pyramidal or caudal, and secondary hump formation. This is the crux of the matter and led the writer to adopt the submucous resection as an integral part of every rhinoplasty. In the younger age groups—and this is an operation most often done among the more youthful—the secondary hump is a distressing development and one which is not too well understood. If we observe any cut, we note that lengthening sometimes occurs at the point of apposition. In the rhinoplasty without submucous resection, particularly in a young individual, we have an excellent groundwork for such a development since the cut is at the dorsal and caudal end of the septum. Lengthening and regeneration of cartilage and membrane can and do occur with formations often requiring revision.

When submucous resection is done, there are additional incisions in the central areas so that the tendency to regrowth is stopped and lengthening forces are equalized. The pull is toward the center as well as toward the dorsal and caudal end of the nose. We mobilize every other structure, and to overlook the septum and court difficulty thereby is unsound.

A rhinoplasty today, therefore, should consist of the following:

1. Elevation of the pyramid.
2. Transfixion.
3. Hump removal.
4. Shortening.
5. Submucous resection. Here all obstructing spurs should be removed, and in the unusual instances when there are none, cartilage should be resected at least anterocentrally.
6. Lateral osteotomies.
7. Trimming of upper lateral cartilages.
8. Molding of the lower lateral cartilages.

This procedure has been followed by the writer in his last 33 cases with gratifying results, both from a functional and an esthetic standpoint. The routine performance of the submucous resection as part of the rhinoplasty in a single stage has not added enough to the procedure from the standpoint of additional trauma or time to make it a significant factor in considering surgical suitability, healing, and postoperative care. A discussion of favorite technics has deliberately been avoided since this operation is highly individualized, requiring the performance of that one which is necessary to produce a proper functional and esthetic result. This is particularly applicable to the correction of caudal deflection. Whether we use the procedure of Sluder, a modification of the Metzenbaum method, or employ cartilage grafts, the essential point is to mobilize the septum fully, as we can do so well in the course of a nasal plastic operation, and to place the structures in their proper positions. No secondary humps have been encountered in these cases, and satisfactory airways have been maintained.

Figures 1 and 2 show characteristic results. The postoperative dorsum in the first illustration is shown six months postoperatively. Correction of the deflection in Fig. 2 was accomplished by mobilization, perpendicular slicing, and crosshatching. No free grafts were required.

As indicated in the title, since this is a single operation, the designation septorhinoplasty is

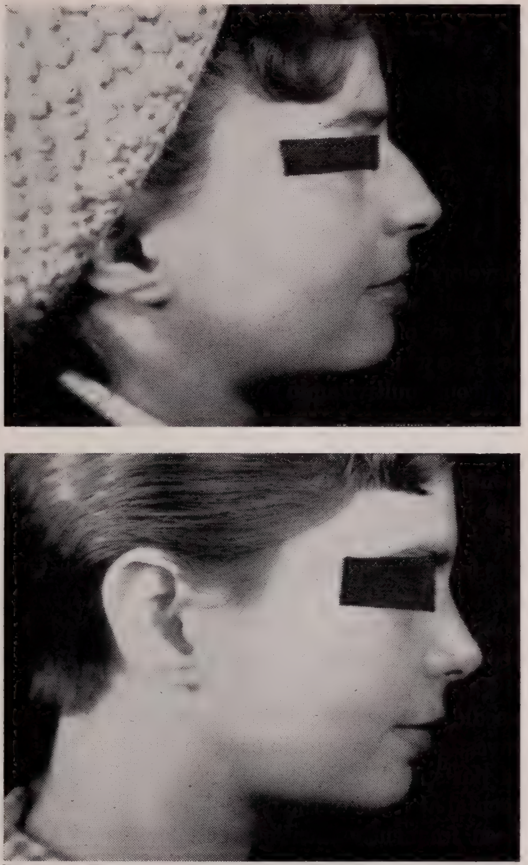

Fig. 1. Dorsum of nose **in profile view; preoperative** (*top*) and six months postoperative (*bottom*).

suggested. Even in cases where submucous resection has previously been done, seldom is it not possible to improve the condition of the septum.

Summary

Submucous resection is an essential part of rhinoplasty. Performed with rhinoplasty, it aids immeasurably in maintaining a proper airway and a satisfactory dorsum.

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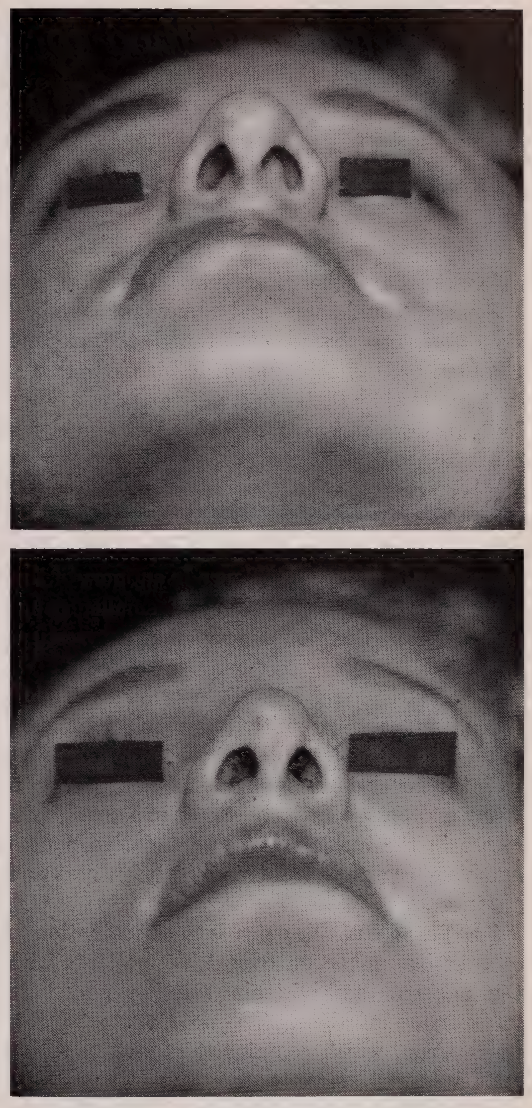

Fig. 2. Preoperative nostril view (*top*). Note left-sided obstruction due to caudal deflection of septum.

Postoperative nostril view (*bottom*). Left-sided obstruction has been corrected.

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A Simple Method for the Relief of Postspinal Headache

KALMAN D. ROSNER, M.D., AND ALEXANDER KAYE, M.D., JACKSON HEIGHTS, NEW YORK

Severe headache after spinal puncture is a most troublesome and annoying complication both for the physician and the patient. Characteristic of this type of headache is that it is aggravated by sitting or standing and alleviated by lying down. A postspinal headache incidence of 20 per cent, occasionally higher in some series, has been reported.[1,2] It is the generally accepted view that postspinal headaches develop as a result of spinal fluid leakage through the puncture wound in the dura.[3] Evidence in support of this view and suggestions for use of smaller gauge needles have been offered by many investigators.[1,4,5]

Zoll, Shirley, and Villani[2] reported that addition of an aqueous multivitamin solution,* containing both the fat and water-soluble vitamins, to intravenous infusions administered preoperatively and postoperatively results in a definite decrease in the incidence of postoperative nausea and vomiting and an increase in brightness and alertness.

The purpose of this paper is to call attention to observations made on over 1,000 patients with the aqueous multivitamin solution added to intravenous infusions. The decision to try this preparation, which contains the vitamins A, D, and E as well as the water-soluble factors in a single aqueous miscible solution, was influenced by the favorable clinical response observed by Zoll and his associates.[2] Our own experience with the multivitamin solution confirmed their findings. Even more significant, however, was the relief obtained by patients who complained of postspinal headaches. It was a coincidental and unexpected finding.

Procedure and Results

In an initial series of 504 surgical cases ranging in age from eleven to ninety years, a Whitacre 20-gauge pencil-point needle was used exclusively with Neocaine and Pontocaine as the anesthetizing drugs. Of this group 26 patients, 5.2 per cent, developed headache symptoms. Each of these 26 patients was given an intravenous infusion of 1,000 cc. of Ringer's-lactate with 5 per cent glucose, to which was added one 10-cc. ampul of the aqueous multivitamin solution.

The response to this treatment was highly impressive and often dramatic. Within four to six hours after the administration of the infusion with the added vitamins, the patients were relieved of their headache symptoms. More surprising was the fact that not a single patient failed to benefit from the treatment. In six patients relief was not complete, but each of these six responded when a second or third infusion was given.

Factors other than spinal fluid leakage and needle size have previously been cited by various investigators as contributing to the development of postspinal headache. Age, nutritional state, mental attitude of the patient, and allergies have been frequently mentioned as factors of either primary or secondary importance. Kreuger *et al.*[6] reported that the incidence of spinal headaches was higher in patients under thirty-five years of age, and it was also noted that complaints of headaches were more frequent in obstetric than in surgical cases. The fact that older, poor-risk patients were kept in bed longer with a consequent smaller loss of cerebrospinal fluid was suggested by the authors as the explanation for the fewer headaches. Hannahan and Redding[7] claimed that in obstetric cases the incidence of headache increased with both age and parity, citing decrease in muscular tone as a possible explanation. It is generally agreed, however, that dehydration is one of the major factors contributing to the development of headache symptoms.

Accordingly, a second group of 554 cases (ages six to ninety) was studied to determine more conclusively the relative effectiveness of hydration per se and the role of the aqueous multivitamin solution in alleviating postspinal headache.

All patients were anesthetized by the same procedure and with the same drugs as used in the first group. Thirty-four, or 6.1 per cent, complained of postspinal headaches. Each of these 34 was first given Empirin. Partial or complete relief of symptoms occured in five, and they were eliminated from the group of test subjects. The remaining 29 received a 1,000-cc. infusion of Ringer's-lactate solution with 5 per cent glucose. Subsidence of headache symptoms occurred in eight, or 26.7 per cent, following hydration.

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* M.V.I., a product of U.S. Vitamin Corporation, New York City.

On the succeeding or second postoperative day the same volume and type of infusion, but with the aqueous multivitamin solution added, was administered to each of the 21 patients who still complained of headache symptoms. As in the first series of 26 cases, and again without a single exception, within six hours after the infusion was completed, each of the 21 patients stated that the headache cleared completely. Invariably the patients would also volunteer information about their improved feeling of well-being to the attending nurses before being questioned by us. Our observations also confirmed the findings previously reported[2] with respect to a lessened degree and incidence of postoperative nausea and vomiting and stimulation of wound healing which followed the use of the multivitamin solution.

Comment

Before adopting the routine use of the aqueous multivitamin solution, M.V.I., it was not unusual to discharge an occasional patient still complaining of headache. One such patient, in whom severe headache symptoms persisted five weeks after discharge, was readmitted. Complete relief of symptoms followed three daily infusions of the Ringer's-lactate solution with 5 per cent glucose plus one ampul of the aqueous multivitamin solution.

Our findings indicate that dehydration is a factor contributing to the development of postspinal headaches. It has also been demonstrated in earlier investigations that by reducing spinal fluid leakage through the use of smaller gauge needles, the incidence of such headaches can be significantly reduced.[8,9] Without further investigation we are unable to offer an explanation at this time for the unexpected effectiveness of the aqueous multivitamin solution in promptly and consistently providing relief of headache symptoms when the solution is added to intravenous infusions.

Summary and Conclusions

The present consensus is that the two most important factors responsible for the development of postspinal headaches are dehydration and leakage of spinal fluid through the dural puncture.

In our two separate series of 504 and 554 surgical cases, the incidence of postspinal headache was 26 (5.2 per cent) and 34 (6.1 per cent), respectively.

The 26 patients of the first series, without exception, were relieved of headache symptoms following administration of an intravenous infusion with the added M.V.I. multivitamin solution.

Of the 34 headache cases in the second series, five responded to Empirin, and eight of the remaining 29 cases responded to straight hydration.

The 21 subjects who still complained of headache obtained prompt and complete relief from the aqueous multivitamin infusion solution.

The uniformity of the results in both series can leave no doubt as to the effective role of the aqueous multivitamin solution (M.V.I.) in alleviating postspinal headache symptoms.

32-49 79TH STREET

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Nautical Nuptial

Requests from service personnel to their commanding officers for extension of leave are based usually on one of a half dozen standard pleas: death in the family, illness, wife expecting, etc. But recently a newly married sailor came up with an original one:

"Request a leave extension of ten days for purpose of shake-down cruise of bride."

The personnel officer granted his request.—F. B. JAMES

Jaundice Due to Chlorpromazine Therapy

MAXWELL L. GELFAND, M.D., AND LOUIS GOODKIN, M.D., NEW YORK CITY

(*From the Department of Medicine, New York University Post-Graduate Medical School*)

It is now one year since the introduction of chlorpromazine (Thorazine) in this country for the treatment of a variety of clinical conditions, and millions of people have already received great benefit from its application. Early experimental and clinical trials have clearly indicated that this drug produces no serious deleterious effect. Since its release for public consumption, however, several instances of jaundice following its use have been reported in the literature.[1-9] The purpose of this communication is to add two additional cases of jaundice with recovery during chlorpromazine therapy.

Case Reports

Case 1.—Mrs. B. R., a forty-two-year-old housewife, was admitted to the hospital on November 23, 1954, complaining of severe itching over the flexor surface of both forearms, legs, and trunk, of several months duration. Her past history indicated that she had had several operations on the biliary tract for gallbladder disease and a postcholecystectomy syndrome.

Physical examination revealed numerous excoriations over the entire body but no evidence of jaundice. The heart and lungs were normal and the blood pressure 110/80. The liver and spleen were not palpable. The abdomen was soft, and several scars from the previous operations were visible.

On November 24 liver function studies disclosed normal serum bilirubin, alkaline phosphatase, thymol turbidity, cephalin flocculation, and total protein determinations (Table I). The urine showed a specific gravity of 1.018 with no albumin or sugar present, and on microscopic examination no cellular elements could be seen. The blood count revealed 4,600,000 red cells with a normal hemoglobin and 9,200 white cells, with a normal differential.

The patient was given 25 mg. of Thorazine orally three times daily for a period of ten days with some relief of symptoms. On the eleventh day jaundice became apparent, and the drug was discontinued. The results of the liver function tests repeated on December 6 indicated a hyperbilirubinemia, a normal cephalin flocculation, an elevated alkaline phosphatase, hypercholesteremia with normal esters, and normal total blood protein (Table I). The pruritus then returned with as much intensity as prior to admission. The patient was treated with a high-caloric, high-protein, high-carbohydrate diet and large doses of vitamin B complex. The jaundice began to clear at the end of the second week, and after twenty-three days it had completely disappeared. The serial liver function tests confirmed improvement (Table I). The patient was discharged on December 29, having completely recovered from the above episode but still suffering from pruritus.

Case 2.—M. M., a forty-seven-year-old, white male, was admitted to the University Hospital on May 5, 1955, complaining of jaundice, anorexia, nausea, and pruritus. The past history indicated that he had had an anxiety depression six weeks previously, for which he was given a variety of sedatives without benefit. Two weeks before admission to the hospital Thorazine was prescribed in a dosage

TABLE I.—Liver Function Studies

Date	Serum Bilirubin (Mg.)	Cephalin Flocculation	Alkaline Phosphatase (Mg.)	Total Protein (Gm.)	Albumin-Globulin Ratio	Thymol Turbidity (Units)	Cholesterol (Mg. Per Cent)	Cholesterol Esters (Mg. Per Cent)	Bile in Urine
				CASE 1					
Nov. 24	0.8	0	2.5	6.8	4.4:2.4	1	200	110	0
Dec. 6	6.2	±	9.8	6.6	4.3:2.3	1.5	320	125	4+
13	5.0	0	7.6	7.0	4.4:2.6	1	250	120	2+
20	3.5	0	6.8	6.9	4.5:2.4	1	220	110	2+
28	0.8	0	4.0	6.8	4.3:2.5	0	200	110	0
				CASE 2					
May 6	9.0	±	8.5	7.6	4.8:2.8	1	370	100	4+
13	2.9	0	6.5	7.4	4.6:2.8	0.5	545	205	2+
18	1.77	0	5.2	6.8	4.4:2.4	1	350	200	1+
June 2	0.5	0	0.9	7.0	4.6:2.4	0.5	320	150	0

of 25 mg. three times daily. Eight days later he developed nausea, anorexia, and fever, a condition which was diagnosed as a virus infection and treated with antibiotics. He improved in three days but on the following day noticed that his urine was dark and that he had developed an itch over the entire body. Visible jaundice appeared in twenty-four hours, and the patient was hospitalized the following day.

Physical examination disclosed jaundice and a slight elevation of temperature. There was a generalized pruritus over the entire body, but no distinct skin lesion could be identified. The heart and lungs were normal. The blood pressure was 120/80. The liver was palpable two fingerbreadths below the costal margin and slightly tender. The spleen was not felt, and the extremities revealed no edema.

On May 6 laboratory studies revealed an elevated alkaline phosphatase, hyperbilirubinemia, elevated cholesterol with a low percentage of esters, and normal thymol turbidity (Table I). The total protein was 7.6 Gm. per cent with albumin 4.8 Gm. per cent and globulin 2.8 Gm. per cent. The blood count disclosed 4,900,000 red cells with a hemoglobin of 14 Gm. and 9,600 white cells with a normal differential.

The patient was treated with bed rest, a high-caloric, high-protein, high-carbohydrate diet, multiple vitamins, and Benadryl for the severe itching. The latter was the most annoying symptom and failed to respond to any palliative measures. As the jaundice began to clear by the tenth hospital day, however, the itching also diminished in intensity. Liver function tests were repeated weekly, and their results appear in Table I.

The patient was discharged on May 20, 1955, much improved but still slightly icteric. On June 2 he returned for a follow-up visit, at which time the liver function findings were normal except for a slight cholesterosis.

Comment

There can be no doubt that during the short period of its use, chlorpromazine has earned for itself, a definite niche in the field of therapeutics. It has become standard therapy in nausea and vomiting, mental and emotional disturbances, alcoholism, intractable pain, and hiccups.[3] The drug exerts several pharmacologic effects on the human being. Although its chief action is that of a depressant on the central nervous system, it also possesses antispasmodic, adrenolytic, and antihistaminic properties. In addition, it can potentiate the effects of other drugs, particularly hypnotics, sedatives, narcotics, and anesthetics. Because of this versatility it would seem that while it may produce a desirable physiologic result in one area, it can also create unwanted simultaneous responses in other localities. These latter include excessive drowsiness, dryness of the mouth, nasal congestion, constipation, miosis, mild fever or hypothermia, hypotension, increased appetite with slight gain in weight, and allergic reactions consisting of urticaria and asthma.[3] Usually a reduction in dosage will improve the condition, and rarely is it necessary to interrupt therapy. However, there are some serious toxic effects that have been noted following the use of this drug, such as jaundice and agranulocytosis, which require its prompt withdrawal. Very recently an instance of both of these complications has been reported in a single patient, with fatality.[10]

The exact incidence of jaundice during Thorazine therapy is not known, but according to the figures reported by various observers, it occurs infrequently. Neither the route of administration nor the dosage seems to play a part. The condition may appear even when the drug is used in the conventional amounts for a period of ten days to two weeks, although when larger quantities are given for longer periods of time, the chances of its development are greater. Its occurrence does not imply pre-existing liver disease, nor is the presence of the latter a contraindication to the use of the drug.

The jaundice observed as a result of chlorpromazine therapy is not associated with pain. It may be ushered in by an episode of fever, malaise, gastrointestinal symptoms (nausea, anorexia, or diarrhea), and severe pruritus, or it may come on insidiously without any premonitory signs. Clinically it is frequently confused with acute infectious hepatitis. The liver function tests, however, are helpful in differentiating one from the other. In this type of jaundice there is hyperbilirubinemia, bilirubinuria, hypercholesteremia with normal esters, negative flocculation test, elevated alkaline phosphatase, and a normal prothrombin time. These findings are characteristic of an extrahepatic type of obstruction, and occasionally an exploratory laparotomy has been performed because of a mistaken diagnosis. Hence, it is now felt that in all cases of obstructive jaundice the possibility of drug etiology must be considered, and a delay of surgery for a week or two is urged in order to clarify the situation.

The pathogenesis of this type of jaundice is not too clearly understood. Histologically, the changes observed in the liver in this condition resemble those seen in patients with hepatitis following arsphenamine,[11] thiouracil,[12] and methyltestosterone[13] administration. Predominantly they consist of bile stasis with a cholangiolitic obstruction and hepatic infiltration with lymphocytes and eosinophils without evidence of hepatocellular destruction. Because of the presence of eosinophils in the liver and because Lehmann and Hanrahan[4] noted urticaria and asthma in 13 per cent of their cases, Zatuchni and Miller[6] have suggested the possibility of a hypersensitivity mechanism as a cause of this type of reaction. The fact that chlorpromazine bears a chemical resemblance to an antihistamine compound and that one of its pharmacologic actions is that of an antihistamine did not deter them from their conviction. This concept seems to gain support from the fact that eosinophilia has also been noted occasionally in the peripheral blood while the drug was employed.[7,8,14] If this is true, then the fever not infrequently observed a few days before the onset of the jaundice may well be a manifestation of drug fever. Further study along these lines is now being done by the authors.

The two cases presented above were typical instances of jaundice resulting from the administration of chlorpromazine. The first patient received 25 mg. orally three times daily for ten days, and the second received the same dose for two weeks before icterus developed. In one the full-blown clinical picture developed without warning, while in the other it was preceded by an episode of fever, nausea, vomiting, and diarrhea. The latter was diagnosed as a viral condition and the drug continued. Itching proved an extremely annoying symptom in our second case, lasting almost ten days and defying all therapeutic measures. The underlying conditions for which the drug was employed were no contraindications to its use, and both responded well to the treatment. Inasmuch as the results of the liver function tests in the first patient were completely normal prior to the administration of chlorpromazine, the subsequent alterations observed must have been due to the agent, particularly since the findings reverted to normal following cessation of the therapy. The results clearly indicate an obstructive type of jaundice similar to those reported by other observers (Table I).[6-9] In one patient the jaundice cleared in twenty-three days and the other in about twenty-seven days. There was complete recovery in both cases, indicating reversibility even in the absence of confirmatory liver biopsy studies.

Thus, it is apparent that an obstructive type of painless jaundice can occur as a result of the administration of chlorpromazine, and although the incidence is not very high, it must be considered when this therapy is contemplated. This complication in no way detracts from the usefulness of the drug, particularly since the jaundice is completely reversible on withdrawal of the drug and since no permanent liver damage has yet been reported.

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Creditor

A creditor is worse than a master; for a master owns only your person, a creditor owns your dignity, and can belabour that.—VICTOR HUGO

Clinical Experience with a New Antithrombotic Substance

GERALD H. PRATT, M.D., F.A.C.S., NEW YORK CITY

(From the Surgical Service and Vascular Clinic of St. Vincent's Hospital and New York University College of Medicine)

THE place of antithrombotic substances, the anticoagulant drugs, in the therapy of medical and surgical conditions in which pathologic clotting exists or may occur has been established. This prevention of intravascular coagulation has opened new vistas in therapy.

There are patients whose blood tends to clot just as there are bleeders, hemophiliacs. This clotting, like the bleeding, is due to some congenital defect in the delicately balanced clotting mechanism. Normal individuals also may have their clotting mechanisms deranged by direct or indirect injury and as the result of certain diseases. While it has not been proved that antithrombotic substances dissolve clots, these substances can prevent the propagation of these clots. The main complication of such therapy is bleeding. Such an accident most often is due to defects in the management of the program by the users and not in the substances administered.[1-3] Where adequate controls are maintained and the safeguards necessary for the use of any potent drug rigidly enforced, these substances have been lifesaving in some instances and have contributed in no small way to the control of many disease processes in others. The anticoagulant drugs have been used therapeutically for over twelve years.

The antithrombotic drugs so far developed are of two types: The *injectable* group is typified by heparin which lengthens the clotting time. This drug is a rapid-acting substance. It is of low osmotic pressure with high molecular weight and has a strong negative charge. Heparin apparently prevents the action of thromboplastin and collects in the kidneys and is excreted through the urine. The other anticoagulant drugs are *orally ingested* and are typified by the coumarin and indanedione substances which act by prolonging the prothrombin time. Phenylindanedione, one of the indanedione derivatives, acts by lengthening the prothrombin time. The coumarin substances in the most general use are Dicoumarol 3,-3-methylene-bis(4-hydroxycoumarin); Tromexan 3,3′-carboxymethylene bis (4-hydroxycoumarin) ethyl ester; and Cyclocoumarol, Compound 63, methopyranorin (4-hydroxycoumarin). The oral drugs are easy to administer and relatively inexpensive.[2-4]

Like all substances of this type, there are advantages and disadvantages to all of these drugs. The chief disadvantages of the oral group are the danger of hemorrhage, difficulty in obtaining or maintaining a therapeutic level, and, in some instances, the cost of the drug. In an effort to find a new substance which has fewer disadvantages, other compounds and derivatives are being studied.

New Coumarin Derivative

This report is based on a study of a coumarin substance identified as Sintrom (G-23350*). This substance is an oral anticoagulant of the coumarin series. The chemical formula is $C_{19}H_{15}NO_6$, and its chemical name is nitrophenyl acetyl-ethyl-4-oxycoumarin. It is a light brownish, crystalline, powder which is tasteless and odorless. The substance is a weak acid. It is stable under normal storing conditions and can be hydrolyzed by alkalies but only with difficulty. It forms a water-soluble salt with the alkalies. The melting point is approximately 198 C. It is moderately soluble in alcohol but can be crystallized from alcohol. With water it is increasingly soluble as the pH is raised. It is only slightly soluble in benzene and practically insoluble in ether.[5,6]

Previous Studies

This substance has been used extensively in animal experiments.[7,8] Its toxicity is very low. Rabbits withstood dosages from 0.5 to 5 mg. per

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* Geigy Pharmaceuticals Corporation, New York City.

TABLE I.—Lethal Dose Required to Kill 50 Per Cent of the Animals

Drug	Lethal Dose (Mg. per Kg.) Guinea Pig	Rat
Sintrom	1,470	1,000
Tromexan	840	880
Phenylindanedione	175	175
3-(1′-phenyl-propyl)-4-oxycoumarin)	190	200

Kg. The prothrombin returns to normal in twenty-four to forty-eight hours. The substance appears to be particularly valuable because of its low toxicity and its ability to lower the prothrombin levels with very small amounts of the drug.[9,10]

When rabbits were given the drug for a prolonged period (two months), they withstood a dosage of 0.5 to 5 mg. per Kg. without symptoms. The animals which were killed after being at a prothrombin level of 20 to 40 per cent for nine to twelve weeks showed no postmortem internal bleeding or toxic liver damage. These animals' hemoglobin and blood picture remained unchanged, and all the animals had gained weight. A single dose of 20 mg. per Kg. of this substance lowered the prothrombin level in a rabbit to 40 per cent. The normal prothrombin value could be obtained regularly in animals in forty-eight hours after withdrawal. This occurred even if the animal had had continuous therapy for three months.

The elimination of this drug is by means of excretion in contradistinction to other coumarins, such as Tromexan, which undergo a biotransformation and catabolism to turn them into inactive acids.[5,7,8]

One animal experiment to show the lethal death rate of various antithrombotic substances indicated that Sintrom seemed much the safest (Table I).

Clinical Application

This substance was used on a number of patients in a controlled study at St. Vincent's Hospital. These patients were all inpatients and were studied carefully for any liver or kidney dysfunction prior to the institution of this therapy. Some had been treated with other anticoagulant drugs previously. These patients fell in the following categories: (1) those with arterial occlusions, (2) patients with acute thrombophlebitis, (3) those with massive venous thrombosis, (4) patients who had had blood vessel surgery, (5) the group with auricular fibrillation who had arterial emboli, (6) patients who had had cardiac surgery, and (7) patients in whom clotting was feared because of their previous history of clotting. A total of 116 patients were treated with Sintrom for 1,624 patient days. The results of this study can be summarized as follows:

One patient had a hemorrhage from this drug in the group of patients studied. This hemorrhage occurred the second week of treatment. The patient was maintaining a therapeutic level of between twenty-two and twenty-eight seconds on a dosage of 4 and 8 mg., alternately. The hemorrhage occurred through the kidneys at a time when the prothrombin was forty-two seconds. The treatment consisted of discontinuing the drug and giving vitamin K. The following day the prothrombin level was thirty, and there was no further hemorrhage.

On the first day the initial dosage was from 12 to 32 mg. The prothrombin time varied from sixteen to thirty-two seconds. All patients, however, had what we considered an adequate therapeutic level in thirty-two hours (divided doses). The patients were maintained at a therapeutic level by from 4 to 12 mg. of the substance in twenty-four hours.

The prothrombin time of from twenty-five to thirty-two seconds was reached in twenty-four hours (the Link and Shapiro modification of the Quick test).

No pulmonary or arterial embolisms occurred in any of these patients, and no other toxic manifestations occurred in any of the patients in this study.

Nine patients required larger dosages than those described to obtain and maintain a therapeutic level. These patients did not reach and maintain their therapeutic level until 9 mg. per day were given. Twenty-one patients reach higher levels than desired on the above dosage. This group of patients reached an average level of thirty with the original dosage of 32 mg. and exhibited some apparent hypersensitivity. Only one untoward result occurred, however, in any of these patients. The one patient who bled, as described above, was in this group, and probably her specific case represented overdosage.

This drug was more simple to manage and could be given in lower doses to reach the therapeutic level than any of the other drugs which so far have been available for study. It can be taken orally and is safe if the usual safeguards necessary for anticoagulant therapy are maintained.

In the Vascular Clinic at St. Vincent's Hospital, we have run a large series of patients (1,470 patients, 43,200 patient days) on ambulatory antithrombotic therapy for four and one-half years using one of the other coumarin drugs (Tromexan).[11] This drug is an excellent one and has been used with relative safety.[12] The prothrombin times have been tested on these patients at ten to fourteen-day intervals. There have been 35 instances of hemorrhage of all types in these patients (2.4 per cent) in fifty-five months. This is considered a good figure since many of these patients have fresh operative wounds. We have not hesitated to perform lumbar sympathetic nerve blocks on these patients in conjunction with the anticoagulant therapy. There has been one hemorrhage in this latter group.[1] Because of the expense of Tromexan and the larger dose required, a substance which is cheaper for the patient and which requires smaller doses seems more nearly an ideal one. It appears that this substance, which we have used under the name of Sintrom, answers the fundamental requirements for successful anticoagulant or antithrombotic therapy. These requirements are that the drug be readily available, that there be minimal toxic effects from its use, that with controls it is not dangerous, that it can be used therapeutically in small dosages, and that it not be too expensive for general use.

New Therapeutic Level

The original reports stated that to prevent pathologic coagulation, a prothrombin level between two and three times normal was necessary. In our work we have kept the prothrombin level at from twenty-three to thirty seconds (our normal is thirteen seconds). This has been as effective in preventing the abnormal clotting or embolism as was the previous high level. In the last 500 patients so treated there was only one hemorrhage, and that was in a patient who had a dental extraction performed without notifying the clinic of this contemplated surgery. We suggest that this lower level be tried by other clinics.

Summary

1. A new coumarin derivative, which has had an extensive clinical trial, is reported.
2. It has therapeutic effects at a low dosage.
3. The danger of hemorrhage is less; only one hemorrhage occurred in this series (in a freshly operated wound and with a prothrombin time of forty).
4. Other toxic factors were not encountered.
5. A lower therapeutic level can be used with good antithrombotic effects.

20 East 68th Street

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Dyclonine: A New Topical Anesthetic

After experience with the topical use of dyclonine (Dyclone, Pitman-Moore) in (*a*) 562 patients for tenometry and (*b*) 31 for removal of conjunctival and corneal surface foreign bodies, Dr. Louis N. Hungerford, Jr., concludes that the drug appears to be an effective topical anesthetic for minor procedures of this kind. Because of the rapidity with which it takes effect and prompt relief of discomfort, he believes it is well adapted for use both by the general practitioner and ophthalmologists, in those procedures requiring topical anesthesia of short duration. *—Bulletin of the Mason Clinic, September, 1955*

CASE REPORTS

Staphylococcus Aureus Septicemia, Meningitis, Endocarditis, and Septic Embolization

JOHN A. DI FIORE, M.D., NEW YORK CITY

(*From the Medical Division of St. Vincent's Hospital*)

In the preantibiotic days an overwhelming Staphylococcus aureus septicemia meant a fatal outcome in the majority of cases. The achievement of a therapeutic triumph in the following case with its many complications makes it worthy of presentation.

Case Report

This twenty-eight-year-old, white, male television director was first seen on June 26, 1954, because of fever, chills, malaise, and occasional vomiting of less than twenty-four hours duration. After forty-eight hours of symptomatic therapy he was admitted to the hospital with a fever of 105 F.

Past history revealed that there had been no serious past illnesses. The day before the onset of his present illness he had undergone a root canal surgical procedure.

Examination on admission revealed the patient to be quite toxic; otherwise there were no significant positive physical findings. A blood culture was subsequently reported as positive for hemolytic Staph. aureus (Table I). On the day after admission he became confused and disoriented. There was nuchal rigidity. Rose-colored macules were found over the skin of the abdomen. There were no petechiae and no other positive findings. A lumbar puncture was performed. The spinal fluid also showed a growth of Staph. aureus (Table II). The patient was started on 1,000,000 units of penicillin intramuscularly every four hours without intrathecal medication.

TABLE I.—Blood Cultures

Date	Organism
June 28	Staph. aureus, hemolytic, coagulase positive
July 1	No growth
2	No growth
8	No growth
27	No growth

On the following day he was disoriented, stuporous, and delirious; the neck was stiff, and the eyes deviated to the right. The body, conjunctivae, and buccal mucosa were covered with innumerable petechiae. There were also larger maculopapular erythematous lesions over the feet and embolic phenomena to the tips of several fingers and toes. The left pupil was larger than the right, and a large hemorrhage was seen in the left fundus. There was moderate spasticity to the upper extremities. The heart revealed gallop rhythm. A repeat spinal tap confirmed the findings of the first one. He was given 5 Gm. of sodium sulfadiazine intravenously. Later that day clusters of tiny furuncles were found widely distributed and without specific localization. There was also an acute septic arthritis of the left second metacarpophalangeal joint.

On the fourth hospital day a long, rough, grade 4 mitral systolic murmur was heard over the precordium indicating the presence of an endocarditis. The tiny furuncles had now become small pustules. On the sixth hospital day the patient became oriented. However, the lungs revealed clinical and x-ray evidence of bronchopneumonia of the right lower lobe. There was also a septic phlebitis of the right forearm. On the twelfth hospital day a cellulitis over the dorsum of the right foot developed.

TABLE II.—Spinal Fluid Data

Date	Protein	Sugar	Cells	Culture
June 29	51	. .	1,050 white blood cells, 98% polymorphonuclears	Staph. aureus
30	95	77	192 white blood cells, 98% polymorphonuclears	Staph. aureus
July 1	68	96	120 white blood cells, 100% polymorphonuclears	Staph. aureus
3	66	74	64 polymorphonuclears, 39 monocytes	No growth
5	40	66	0 white blood cells	No growth

Presented in the clinical participation of the 27th Annual Graduate Fortnight of the New York Academy of Medicine, St. Vincent's Hospital, October 18, 1954.

TABLE III.—Sensitivity Tests on Organism

Drug	Hemolysis	Growth
Penicillin	Inhibited	Not inhibited
Bacitracin	Inhibited	Not inhibited
Chloromycetin	Inhibited	Not inhibited
Aureomycin	Inhibited	Not inhibited
Terramycin	Inhibited	Not inhibited
Erythromycin	Inhibited	Not inhibited
Achromycin	Inhibited	Not inhibited
Streptomycin	Inhibited	Inhibited

The pulmonary picture became progressively worse, and on the fifteenth hospital day he was coughing frequently and expectorating yellowish blood-tinged sputum. Numerous colonies of yeast-like organisms and hemolytic Staph. aureus were cultured from the sputum on July 12. Both lower lobes were consolidated. The heart rate was 130. The skin lesions had all cleared up. The patient was sent for an x-ray of the chest when he suddenly developed a picture of acute pulmonary edema. Heroic measures were immediately instituted by the medical resident, and the patient was literally snatched from death's door. The chest plate revealed numerous bronchopneumonic patches throughout both lung fields. He was subsequently digitalized with intravenous Cedilanid in an effort to lower his rapid heart rate. Digitalization was discontinued after forty-eight hours because of lack of cardiac improvement. After the apparent failure of Terramycin, Achromycin, and Chloromycetin, respectively, in combination with penicillin, the patient was started on dihydrostreptomycin and was also given whole blood transfusions as a supportive measure. The temperature gradually responded by lysis. The remainder of the hospital course was uneventful except for a sudden spike in temperature to 105 F. on July 30, 1954. The temperature responded within twenty-four hours to additional doses of penicillin and dihydrostreptomycin. The patient was finally discharged on August 10, approximately six weeks after admission.

Comment

This case has been presented because of its clinical interest and its varied complications and because it has been considered a therapeutic triumph.

It has been emphasized[1] that of all the microorganisms the Staph. aureus has been the most consistent in showing resistance to antibiotics. In 1937 the over-all mortality from staphylococcus septicemia was approximately 80 per cent. Following the introduction of penicillin in 1942 for the treatment of staphylococcemia, the mortality rate, as reported by the University of Minnesota Clinic, dropped to 28 per cent. As the general population of microorganisms became exposed to the widespread use of the sulfonamides and penicillin, the mortality rate rose to about 50 per cent in 1952. With the introduction of the newer "mycin" drugs the mortality rate was temporarily lowered. In a short time, however, resistance also developed to these new antibiotics so that many therapeutic failures were encountered and the present mortality rate is approximately 50 per cent.

Bacterial resistance to the various drugs is probably due to several mechanisms.[2] One of the commonest phenomena of life in general is adaptation on a genetic basis. Mutation of organisms in a bacterial population occurs among strains that are resistant to penicillin, even though they may not have been exposed to penicillin. Another mechanism of penicillin resistance depends on the ability of staphylococci to produce an enzyme known as penicillinase. Penicillin-resistant staphylococci isolated from man are almost always penicillinase-producing strains.

It is interesting to note that in 1951 Spink[3] reported that about 50 per cent of strains isolated from patients were resistant not only to penicillin but to streptomycin as well. In contrast, our patient made a rather dramatic improvement when dihydrostreptomycin was instituted after the other antibiotics showed no favorable improvement. It is ironic that our in vitro sensitivity tests performed on the first and only positive blood culture revealed inhibition of growth only in the presence of streptomycin (Table III). Because these tests were so atypical and confusing and because of the usual failure of streptomycin to influence staphylococcal infections, streptomycin therapy was left as a last resort.

What we learned from this case has been the general experience of many others. The Staph. aureus is a virulent and vicious organism with many far-reaching effects on the body, presenting a difficult problem in treatment due to bacterial resistance and necessitating the use of combined antibiotic therapy. It is emphasized that the treatment must be intensive and aggressive and must not be discontinued too soon until one is sure on the basis of clinical grounds and laboratory aids that the infection has been successfully eradicated.

Summary

A case has been presented in which a Staph. aureus septicemia developed following dental surgery on a root canal. The complicating meningitis, endocarditis, and septic embolic phenomena were cured by antibiotic therapy, thus achieving a therapeutic triumph against an organism heretofore considered lethal in the majority of cases.

11 Fifth Avenue

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Prevention of Levarterenol Sloughs

Preliminary Report

JOSEPH T. McGINN, M.D., JOSEPH SCHLUGER, M.D., AND
NICHOLAS J. DI GREGORIO, M.D., BROOKLYN, NEW YORK

(*From the Department of Medicine of the Long Island College Hospital*)

LEVARTERENOL (Levophed) is a most efficacious agent in the treatment of peripheral vascular collapse. It has been shown to be a lifesaving drug in innumerable cases of severe shock. However, the use of this valuable therapeutic agent is not without certain serious consequences since it can produce necrosis of skin and subcutaneous tissue if it infiltrates into the subcutaneous tissue. Many reports in the literature[1–5] describe the tissue necrosis which results from subcutaneous infiltration. Cases have been reported in which necrosis occurred distant from the site of infusion, even when no inadvertent subcutaneous infiltration had occurred. This usually took place in lower limbs with precarious arterial supply. When infiltration with sufficient amounts of levarterenol occurs, necrosis has been inevitable since no successful means of treating or preventing the intense vascular spasm and subsequent ischemia have been available. Many cases have eventually required extensive surgical treatment, including full-thickness skin graft of the necrotic areas.

Recently, the authors observed a case in which extensive subcutaneous infiltration with highly concentrated levarterenol inadvertently occurred. In an attempt to prevent the skin slough which, it was felt, would occur, the authors injected locally a solution of phentolamine (Regitine) and hyaluronidase into the area with excellent results. The case is reported below.

Case Report

A forty-year-old nurse entered the hospital for elective cholecystectomy for cholelithiasis. There was no history of cardiac disease, and examination of the patient did not disclose any evidence of heart disease. The patient underwent an uneventful cholecystectomy, but immediately postoperatively she became cyanotic, pink frothy sputum was noted in the mouth, and the pulse rate rose to 150 per minute. Both lungs showed moist rales bilaterally; the blood pressure was 130/70 mm. Hg. The electrocardiogram showed sinus tachycardia with low T waves in all precordial leads, but no evidence of myocardial infarction was noted. She was treated with morphine, intravenous lanatoside C, and oxygen. The response to therapy was very poor. The blood pressure fell to 70/55 mm. Hg.; the rales and tachycardia persisted. There was no evidence that shock was due to hemorrhage.

Because of the hypotension, peripheral pallor, and clamminess, an infusion of levarterenol, 4 mg. in 1,000 cc. of 5 per cent glucose and water, was started in a vein in the left forearm. A satisfactory blood pressure response could only be obtained if the solution ran at a rate of 60 or more drops per minute. Because of the obvious danger of administering large amounts of intravenous fluid in the presence of left ventricular failure, a more concentrated solution containing 16 mg. per 1,000 cc. was substituted. This produced satisfactory blood pressure levels at a rate of approximately 12 drops per minute. The pulmonary edema gradually subsided, but the blood pressure could not be maintained without continuous intravenous levarterenol. After the infusion had been running for approximately twenty hours, it was noted that the levarterenol solution had infiltrated the skin of the forearm and antecubital fossa. As far as could be ascertained, this had continued for forty-five to sixty minutes before it was noticed.

The area of skin involved measured 7.5 by 19 cm. The skin was blanched, cold, and indurated and was clearly demarcated from the surrounding normal skin. It was felt that this area would probably necrotize. Therefore, an attempt was made to prevent this by injecting locally a sympatholytic agent and a spreading factor. A solution containing 5 mg. of Regitine and 125 turbidity-reducing units of hyaluronidase in 10 cc. of normal saline was injected subcutaneously with a long, 22-gauge needle. Half of the involved area was thus injected; the remainder was left as a control. Within three to four minutes of the injection the area treated with Regitine became warm and pink and blanched on pressure. The remaining half of the area, which was not injected, continued to be white, cold, and indurated. This response appeared so beneficial that a similar solution was injected into the remainder of the involved area with the same results. Despite the fact that 10 mg. of Regitine had been injected, there was no hypotensive effect, and it was not necessary to increase the rate of flow of the levarterenol infusion which had been reinserted into another vein.

On the second day the involved skin was hyperemic and was noticeably warmer than the rest of the body; there was no vesiculation, scaling, or other trophic change. On the third day, when it was finally possible to discontinue the levarterenol infusion, the treated area was still slightly warmer than the rest of the body. Subsequently the involved area became indistinguishable from surrounding skin. The patient was discharged on the twentieth postoperative day in good condition. Follow-up has revealed no deterioration of the treated area.

Comment

Since the use of a solution of Regitine in the aforementioned case, the authors have used it in two similar cases. In both instances the same good results were obtained. The mechanism of action is probably local vasodilation. These preliminary studies suggest that in cases where extensive infiltration with levarterenol (especially in concentrated solution) has occurred, Regitine may be injected subcutaneously at the site of the infiltration with good results. It would seem wise to add hyaluronidase to this solution to insure adequate penetration into all the affected parts. Because of the persistent hyperemia and calor that were obtained in these cases, it may not be necessary to use as much Regitine as orginally proposed. Animal experiments are in progress to attempt to fix dosages, times of administration, and other details of method.

Summary

1. A method of preventing skin necrosis due to subcutaneous infiltration of levarterenol by using phentolamine (Regitine) and hyaluronidase locally is presented.

2. A case in which the method was used is presented.

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Radioactive Iodine Uptake and Localization Studies with a Scintiscanner in Subacute Thyroiditis

F. C. MARCHETTA, M.D., F.A.C.S., AND M. A. BENDER, M.D., BUFFALO, NEW YORK

(*From the Departments of Head and Neck Surgery and Radiology of Roswell Park Memorial Institute*)

ACUTE thyroiditis is a rare but well-recognized entity. It is often diagnosed clinically, but in some instances the firmness of the gland suggests malignancy, and a thyroidectomy is performed. We recently had occasion to observe a case of untreated thyroiditis over a period of several months. The radioactive iodine studies were of particular interest in that localization studies were performed with a scintiscanner.[1–3] This new instrument presents a graphic representation of the distribution of radioactive materials within the body. With this new aid in diagnosis the size, shape, and relative degree of function of various portions of the thyroid gland can be easily ascertained.

Case Report

Mrs. M. F., a thirty-eight-year-old, white female, was referred to the Roswell Park Memorial Institute on September 1, 1954, with a chief complaint of a hard mass in the region of the thyroid. The patient was well until six weeks prior to admission. At that time she developed slight dysphagia and a mild huskiness of voice. She also complained of pain which seemed to originate over the lateral aspects of the thyroid cartilage and which radiated upward toward the ears. The patient and her husband noted a swelling over the thyroid area.

These symptoms persisted and at times became more severe. The pain became aching in character, seemed to be worse at night, and frequently kept the patient awake. She developed marked weakness and lassitude and finally became bedridden. She lost 20 pounds in this six-week period.

Two weeks after the onset of symptoms the patient visited her family physician who prescribed Lugol's solution. No improvement was noted, and the medication was discontinued after five days.

On admission she complained of pain in her neck, difficulty in swallowing, weakness, and lassitude. There was no history of nervousness, diarrhea, or heat intolerance. The past history suggested good health.

The physical examination revealed a small, tired-

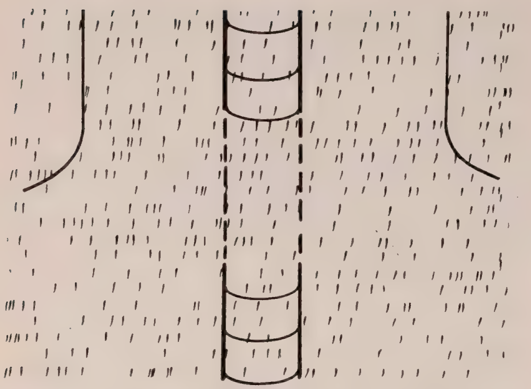

FIG. 1. Localization studies with a scintiscanner showed no functioning of thyroid tissue.

looking, thin, thirty-eight-year-old, white woman. The thyroid gland was moderately but symmetrically enlarged. It was firm in consistency and tender on palpation. In spite of this enlargement the normal architecture of the gland, including both lobes and the isthmus, was clearly outlined. There were no palpable cervical nodes. The vocal cords appeared normal, and the cord motion was normal. The remainder of the physical examination was within normal limits or noncontributory. A clinical diagnosis of thyroiditis was made, and laboratory studies were ordered. These were reported as follows: hemoglobin 10.3 Gm., white blood count 9,250 with a differential count of 1 basophil, 14 stabs, 47 polymorphonuclears, 35 lymphocytes, and 3 monocytes. The specific gravity of the urine was 1.014; reaction was acid; albumin and sugar negative; many white blood cells were noted on microscopic examination. The blood sugar was 114 mg. per cent, nonprotein nitrogen 40 mg. per cent, albumin 3.90 per cent, and globulin 3.12 per cent. The total serum cholesterol was 153 mg. per cent and free serum cholesterol 46 mg. per cent. The basal metabolic rate was plus 16 per cent. A chest x-ray showed no evidence of substernal thyroid.

A twenty-four-hour I^{131} uptake study revealed 1 per cent retention which was well below the normal range and indicative of almost complete loss of function. I^{131} localization studies failed to reveal any evidence of functioning thyroid tissue (Fig. 1).

The patient was followed, and no specific therapy was instituted. One month after her initial admission, the gland was still firm and somewhat enlarged. The neck pain had almost completely disappeared except on swallowing and when the thyroid was palpated. Two months after admission the patient was asymptomatic. Her weight had returned to normal, the tenderness in the neck had disappeared, and the gland was no longer palpable.

The patient was followed for three more months, during which time her findings suggested complete recovery. In April additional laboratory studies were performed and were reported as follows: total serum cholesterol 122 mg. per cent and free cholesterol 45 mg. per cent; basal metabolic rate reported as minus 7 and minus 15. An I^{131} uptake study revealed a 24 per cent retention in twenty-four hours, which was well within the normal range. I^{131} localization studies revealed an essentially symmetric and uniformly functioning gland (Fig. 2).

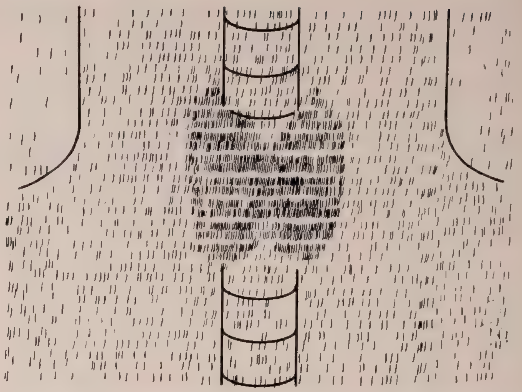

FIG. 2. The scintiscanner outlined a normal-appearing gland after the inflammation subsided.

Comment

The inflammation of the gland apparently interferes with the normal uptake of iodine. As the inflammatory process subsides, indicated by the decrease of pain and swelling, the gland recovers and again develops the ability to take up iodine in normal amounts.

The work of Hamilton *et al.*[4] in a study of four cases showed this finding to be quite consistent. They correlated the radioactive iodine uptake studies with protein-bound iodine studies. At the time when the uptake was low, the protein-bound iodine was in the high normal range or slightly elevated. When the uptake returned to normal, the protein-bound iodine fell to normal or slightly below normal limits.

Summary

A case history of untreated subacute thyroiditis has been presented. The I^{131} uptake and localization studies with the scintiscanner provided a true picture of the degree of function and architecture of the thyroid. These studies proved helpful in the differential diagnosis.

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Hidradenoma of the Anus

IRVING BERNSTEIN, M.D., BROOKLYN, NEW YORK

(From the Department of Surgery of Kings County Hospital and the Department of Proctology of Long Island College Hospital)

HIDRADENOMA is a sweat gland tumor of the apocrine type. It is most commonly found on the vulva and is a rare finding about the anus.

Many instances of sweat gland tumors of the vulva have been reported in the literature. However, there is a distinct paucity of reports of such growths in the anal region. The first such tumors were described by Cooper and McDonald[1] in 1944. Several other reports have appeared at infrequent intervals in this country and in the foreign literature.[2–6]

The case to be reported herein may represent the eighth case of hidradenoma of the anus.

Case Report

Mrs. D. B., age forty-four, was seen on June 17, 1954, complaining of a recurrent growth beside the anus. She had had this growth removed a year ago in a doctor's office by means of an electric needle, but it had recurred. On the left midline aspect of the anus about $^{1}/_{4}$ cm. from the mucocutaneous junction, there was a raised lesion about the size of a pea, fairly hard to palpation, and surrounded by a white, glistening collar which protruded beyond fleshy tissue. This small lesion was fixed and did not bleed on rectal examination. It had no connection with the anorectal canal. Because of the recurrence and its peculiar appearance, the diagnosis could not be definitely ascertained. Removal in toto and biopsy were advised.

On June 23, 1954, under local anesthesia the growth was totally excised with a good cuff of normal tissue. Two days later the pathologist reported that this was a metastatic papillary adenocarcinoma and a primary lesion must be sought. After futile examinations by other surgeons, physicians, and gynecologists another pathologic opinion was obtained. This time the true nature of the growth was ascertained (hidradenoma). The final diagnosis was hidradenoma (apocrine type) of the anus.

Comment

As noted above, hidradenoma may be easily confused with carcinoma. Microscopically, these tumors show a similar picture in that they come from the epithelium of sweat glands, most usually from the apocrine type found in the axilla, about the nipples of the breast, and about the genitalia.

The tumor consists of columnar epithelial cells arranged on thin fibrous stalks with a tendency to stratification (Fig. 1). They may be mistaken for intracystic papillary tumors and for this reason may lead to confusion in diagnosis, even by capable pathologists. Hence, one should be very careful in the examination of all anal and perianal tumors. They are basically benign neoplasms, have no inherent tendency to invade or metastasize, and, if adequately removed, do not recur. Their origin from apocrine elements is shown by the presence of a papillary structure of epithelial cells, myoepithelial elements, and eosinophilic epithelial cells similar to those found in fibrocystic disease of the breast.

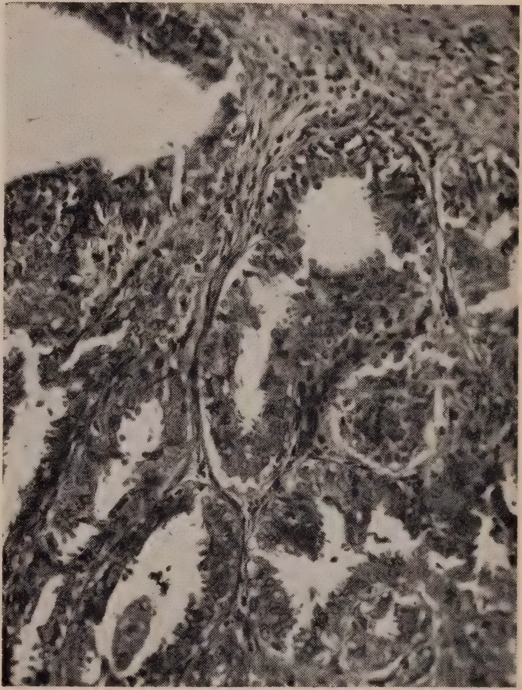

Fig. 1. Columnar epithelial cells arranged on thin fibrous stalks with tendency to stratification.

Summary

Because of the scarcity of reports in the literature, a case of hidradenoma of the anus is presented.

This tumor may raise important diagnostic problems, as it did in this case, and only by careful examination can carcinoma be ruled out. This type of tumor should be considered in the diagnosis of anal tumors.

Hidradenoma has been demonstrated as the only type of tumor that arises from the apocrine glands.

Surgical removal always effects a cure.

1001 Avenue H

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Fistula in Ano in Infants

HARRY A. FEIGENBAUM, M.D., JAMAICA, NEW YORK

(*From the Department of Ano-Rectal Surgery of the Jamaica Hospital*)

FISTULA IN ANO in infants is comparatively rare. It is so uncommon as an entity that the literature on the subject is very scant.

Grulee and Eley[1] in their textbook merely mention fistula in ano in infants as a rare condition. Bacon[2] found only 39 cases in infants in a series of 3,100 patients having abscess and fistula. Buie[3] reported only nine infants of a series of 1,801 patients. Schapiro[4] found only 20 cases of fistula in ano in a series of 2,700 proctologic disorders in children at the Jewish Hospital of Brooklyn. Gabriel[5] at St. Mark's Hospital in London reports that it is very rare and, when it does exist, is found only in male infants. Venturo,[6] in his article on fistula in ano in infants, reported only seven cases of his own, and all were male infants.

A study of the pathogenesis of fistula in ano in infants indicates that diarrhea usually precedes the appearance of abscess and ensuing fistula. Furthermore, all writers on the subject note that the fistulous tract is a lateral, simple, direct tract, usually anterior to the middle transverse diameter of the anal canal and follows the rule of Goodsall* and of Salmon. No fistula in ano in infants has ever been reported in the anterior or posterior midline. Another unique point is that only male infants present this problem.

Venturo[6] conjectures that in infants the lateral crypts are larger and, therefore, more vulnerable to trauma and impaction. He also calls attention to the fact that in infants the less acute anorectal angulation makes the anterior and posterior crypts less subject to trauma. Why fistula in ano affects only male infants remains a mystery.

This case is presented because it too bears out all the characteristic findings of the problem of fistula in ano in infants previously recorded.

Case Report

D. R., a male infant, was born at the Jamaica Hospital at term on January 18, 1955. Delivery was spontaneous, and infant's birth weight was 7 pounds, 13 ounces. Within two weeks after birth the baby developed diarrhea of undetermined origin. This subsided with treatment by diet and simple symptomatic medication. However, a "boil" developed on the left buttock. This was incised and drained. Two weeks later the "boil" recurred and again was incised and drained. The mother noted at this time that there was something hard under the skin and that when she pressed it, matter came out from the area where the boil had been. Since that time there had been intermittent drainage of pus and blood. Examination on July 11, 1955, revealed a well-nourished male infant, six months of age, in no apparent distress. On the left buttock anteriorly at about 2 cm. from the anus was a draining sinus. A fibrous tract leading from the sinus to the anus was palpable. Pressure on the tract expressed pus mixed with blood from the sinus. On digital examination a small depression was felt in the left lateral anterior crypt. Sigmoidoscopy was performed, and no other pathology was encountered. A probe was then inserted into the fistulous tract, and it went directly into the base of the left lateral crypt of the anus.

Fistulectomy was performed under general anesthesia at the Jamaica Hospital on July 13, 1955. Recovery was uneventful, and the wound healed nicely.

Comment

Another case of fistula in ano in infants is reported. It is curious that only male infants seem to be affected by this condition. All fistulas in ano reported in the literature have been simple, direct, lateral tracts.

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* The rule of Goodsall states that "fistulae having an external sinus posterior to the transverse anal line will have curved tracts which communicate with a main tract which opens into the anal canal in the midline posteriorly; fistulae having an external sinus lying anterior to the transverse anal line will usually be direct."

FUNDAMENTALS OF MODERN ALLERGY

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Occupational Contact Dermatitis

MAX GROLNICK, M.D., BROOKLYN, NEW YORK

(*From the Allergy Departments of the Jewish Hospital of Brooklyn and Maimonides Hospital*)

In this paper it is planned to present such pertinent data of immunologic-allergic significance as will aid the medical practitioner in the interpretation and management of a skin eruption of possible industrial or occupational origin. Reference to specialized articles and texts will readily provide the reader with adequate historical, clinical, statistical, and "practical" information.[1] The dermatosis being discussed is variously referred to as allergic dermatitis, contact dermatitis, dermatitis venenata, eczema, or allergic eczematous contact dermatitis of occupational or industrial origin.

Contact dermatitis was of such concern in daily life, and in industry especially, that in 1928 the United States Public Health Service organized the Office of Dermatoses Investigation for the express study of occupational and other forms of contact dermatoses. Furthermore, occupational dermatoses are of such importance as to be covered by the compensation laws of most of our states, being considered as occupational diseases.

The estimate, by various sources, of the incidence of occupational dermatoses to all skin diseases is from 2 to 20 per cent.

While it is necessary to understand the principles governing sensitization of the skin under the usual conditions of living, it is even more important to be able to evaluate them in relation to industry and commerce. In interpreting the action of a substance on the skin, one must distinguish between a primary irritant substance, which produces its effect by direct action (physical and/or chemical) on the skin at the site of contact from single or prolonged exposures, and a sensitizing excitant, which by single (rarely) or repeated exposures may cause the entire skin surface to become allergic or sensitive to it. Sensitization is brought about by certain immunologic (specific) effects, so that further contacts at the same or other areas will produce a characteristic dermatitis. One could then state that the sensitized skin has developed a specifically altered capacity to react, induced by previous exposure to a potent excitant and reproduced by subsequent exposure to the same (or a closely related) excitant.

Sensitization of the Skin

The Sensitizing Substance.—The importance of a specifically active substance was stressed by Bloch,[2] who also demonstrated the effect of the concentration of the excitant. When the human skin was treated locally with a dilute preparation of primula extract from the primrose, only 42 per cent of the subjects were sensitized. The use of a concentrated extract was effective in sensitizing all subjects to it. The strength of the excitant also influenced the time of appearance of sensitization. Thus, when Silverberg[3] treated an area of skin in humans with daily unction of a 10 per cent ointment of mesotan (a salicylic ester), sensitivity appeared in from twenty to twenty-five days. When a 100 per cent ointment was employed, sensitivity occurred in from seven to ten days.

It is believed by most investigators that a good sensitizing agent must be a primary irritant in high concentration. Landsteiner and Jacobs[4] asserted that most substances which were capable of sensitizing were in themselves irritating, although such an effective excitant as paraphenylenediamine (a dye) had little primary action on the skin, and some irritating chemicals were incapable of inducing sensitization.

To establish the role of an excitant as the cause of a dermatitis, there must have been adequate exposure of the subject to it. On initial contact of newborn infants with a tiny amount (patch test) of a strong poison-ivy extract, Straus[5] failed to find evidence of any skin reactions, but on subsequent testing several weeks later, there were positive reactions in 73 per cent. Grolnick[6] found a reaction incidence of less than 1 per cent in human subjects tested with a strong extract of krameria (a plant substance), but sensitization was achieved in 90 per cent of subjects by appropriate technics.

In industry the skin may be injured nonspecifically from the exposure to or handling of liquids, oils, lubricants, solvents, gases and vapors, dusts, etc. Such skin reactions must be distinguished from those mediated by an immunologic mechanism. It must further be kept in mind that a nonspecific dermatitis may be aggravated and prolonged by a superimposed sensitization due to contact with other substances to which the subject has been exposed in his daily living habits or even through the application of local medications intended to correct the dermatitis.

TABLE I.—Classification

1. Botanical group
    - (a) Plants
    - (b) Woods
    - (c) Fruits and vegetables
2. Cosmetic group
    - (a) Hair dyes
    - (b) Hair tonics and shampoos
    - (c) Creams
    - (d) Rouges and lipsticks
    - (e) Mouth washes and dentrifices
    - (f) Perfumes and toilet waters
    - (g) Powders
    - (h) Deodorants
3. Dyes
    - (a) Cosmetic group
    - (b) Clothing
    - (c) Fur
    - (d) Leather
    - (e) Inks and stains
4. Soaps and washing materials
5. Clothing materials
    - (a) Textiles
    - (b) Animal substances
6. Metals
7. Drugs
    - (a) Anesthetics
    - (b) Antiseptics
    - (c) Alkaloids
    - (d) Miscellaneous
8. Insecticides and parasiticides
9. Oils, resins, and related substances
    - (a) Adhesive plaster
    - (b) Lacquers
    - (c) Essential oils and oleoresins
    - (d) Paints and accessories
    - (e) Synthetic resins
    - (f) Polishes
10. Rubber compounds
11. Industrial dermatitis
12. Miscellaneous

Thus, the miscellaneous groups of substances which can sensitize the skin either in our daily living or in industry include botanicals (plants, woods, fruits, vegetables); cosmetics (hair dyes, deodorants, mouth washes, nail polish, etc.); drugs (local anesthetics, antibiotics, antiseptics, alkaloids, etc.); dyes (cosmetics, furs, leather, etc.); metals; oils, resins, related substances (adhesive plaster, lacquers, paints, synthetics, plastics, polishes, etc.); rubber compounds; hobby materials (painting, musical instruments, gardening, etc.); washing materials (soaps, detergents, polishes, etc.).

Table I gives a classification which may be helpful in establishing a differential and etiologic diagnosis.

Susceptibility of the Subject.—This might be defined as the individual's capacity for becoming sensitized and signifies the extent to which sensitization can be induced under favorable circumstances in subjects not previously exposed to the excitant. That it varies with different excitants is evident from the following experimental studies which indicate the percentage of subjects who could be sensitized by appropriate technics: primula extract (100 per cent),[2] dinitro-chlorobenzene (70 per cent),[7] poison ivy (73 per cent),[5] orthoform (45 per cent),[8] krameria (87 per cent).[9]

Experimentally there is a distinct individual variation in susceptibility to sensitization. Of 37 subjects sensitized by from one to five patch-test applications of krameria, repeated at weekly intervals, 18 required one test, eight needed two, six had three, four had four, and one required five such contacts.[6] Individual variations in developing sensitization were likewise shown by Sulzberger and Rostenberg,[10] who demonstrated, also, that subjects with recent or active contact dermatitis were more readily sensitized than control subjects.

The influence of the atopic mechanism in allergic contact dermatitis has not been established. Brown, Milford, and Coca[11] demonstrated that sensitivity to ragweed oil occurred with equal frequency in both atopic and non-atopic persons. Schwartz[12] found that a personal or family history of atopic diseases was not preponderantly present in those affected with industrial dermatitis.

THE INCUBATION PERIOD.—This is a measure of the time involved in the development of the *spontaneous flareup reaction.* The latter is the first visible evidence that a subject, previously nonsensitive, has developed a state of hypersensitiveness (allergy). The term was used by Frei[13] to describe the spontaneous appearance (aufflamungsphänomen) in man of deep inflammatory reactions at the sites of intracutaneous tests with neosalvarsan introduced eleven to twelve days previously. The flareup signifies the culmination of those immunologic processes which have been stimulated by the primary exposure.

This phenomenon has been reported as a manifestation of acquired allergy (contact type) of the skin by many observers either by name or description. Where a single simple contact on a small area was effective in sensitizing the subject, there has been found a striking uniformity in the limits of the incubation period, i.e., from seven to twenty-four days, regardless of the allergenic substance employed or its manner of application. Wedroff and Dolgoff[7] demonstrated a range of eight to twenty-four days for dinitrochlorobenzene. For this chemical and for *p*-nitrosodimethylanalin the incubation periods were shown by Sulzberger and Rostenberg[10] to be from seven to twenty days. Straus[14] reported the onset of sensitivity in the monkey seven to ten days after the simple patch-test application with poison-ivy extract. The incubation period for krameria in human subjects was eight to twenty-one days.[9]

When sensitization procedures other than a single contact were employed experimentally, the range of the sensitization period became less uniform, longer intervals being observed. This is probably what occurs in industry and commerce. The individual receives multiple exposures at regular or irregular intervals. At some time in this sequence the immunizing process (sensitization) starts, and the person becomes sensitized within the incubation period established for that particular substance.

Once sensitization has taken place, there is a change in the response of the skin. It no longer waits for the usual incubation period to react but does so on suitable contact (tests) in from twenty-four to forty-eight hours and not infrequently within the first twenty-four hours. This is the *reaction time* and must be distinguished from the incubation period.[15] The response of the skin of the sensitized individual within this shortened period forms the basis for performing the conventional diagnostic patch test, the test substances being applied for twenty-four to forty-eight hours.

Diagnosis

HISTORY.—A detailed, careful history can be most revealing. Such information should be elicited as, for example, the total period of employment, any recent change in work procedure or materials, the effect on the eruption of a sustained period away from work, the direction of spread of the dermatitis, etc. It is essential too that contacts other than those encountered at work be ruled out as possible causes of the dermatitis, such as household excitants, hobby materials, cosmetics, and actual medicaments used locally or systemically.

EXAMINATION.—Inspection of the lesions will present findings which will suggest the acuteness or chronicity of the dermatitis. The location of the lesions will give clues as to etiologic possibilities at the employe's place of work and will help to rule out sources of contact encountered away from work.

PATCH TEST.—The purpose of the patch test is the reproduction of the skin lesion seen clinically on an uninvolved area of skin. It represents a delayed type of allergic response, the reaction occurring generally within the first forty-eight hours. The concentration of the excitant must be nonirritating, so that a primary "burn" is not produced and reported as indicating a sensitivity reaction. Standard lists of proved, nonirritating concentrations of known excitants are available to those who wish to use this diagnostic procedure intelligently and safely. It must be realized too that a patch test with some excitants in fairly high concentrations, although not necessarily in an irritating strength, may cause sensitization of the general body surface. Furthermore, repeated patch tests with some excitants in nonirritating concentration may likewise achieve a general sensitization of the skin surface. It is not improbable that when the tests are negative or doubtful, the repetition of some diagnostic patch tests by the same or several clinicians with the same or related allergens, may actively sensitize the patient to the substance being applied. Such practices should be discouraged.[16]

One other hazard of the patch test should be pointed out. The application of the specific substance during the active phase of a localized dermatitis may cause a general spreading of the process. It is also possible to effect a relighting of a healed dermatitis by the patch-test application of the specific test substance.

Summary and Conclusion

Finally, one becomes aware of the enormity of the problem of dermatoses brought about by the ever-increasing addition of new chemicals in industry. Fortunately, the combined efforts of industry and of private and governmental health agencies have served to reduce these risks by such measures as plant sanitation and ventilation, protective skin coverings, proper body cleansing, the substitution of less sensitizing chemicals, pre-employment screening, and transfer of affected employes to other work procedures or to another occupation. Also the worker is protected by the assurance of broad medical care facilities offered by a very liberal workmen's compensation law.

The writer has included some experimental background in this presentation with the feeling that such knowledge will warn the practitioner of the hazards of superimposed sensitizations and thus guide him in the intelligent management of a case of occupational contact dermatitis.

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(Number fifteen of a series on Fundamentals of Modern Allergy)

Listen to the Other Side

We are all guilty of the crime of listening to our own echoes. We attend only the meetings of those associations of which we are members, and applaud speakers who waste their words trying to persuade people who are already persuaded.

What we need to do is to leave our beliefs open to challenge by mingling with those of opposite thought. Republicans should attend Democratic conclaves, business leaders should go to union meetings, etc.

For personal mental growth can only result from exposure to new ideas.—F. B. JAMES

CLINICAL ANESTHESIA CONFERENCE

A series of conferences on medical emergencies
in the operating room including causes of death
during anesthesia

Prepared by the Anesthesia Study Committee of the
New York State Society of Anesthesiologists

M. H. HARMEL, M.D., *Chairman*

Acute Pulmonary Edema—A Recovery Room Emergency

The anesthesiologist in the practice of operating room medicine is frequently called upon to diagnose and treat acute episodes of heart failure in either the operating room or recovery room. The following case illustrates the successful management of such a case.

Case Report

The patient, a forty-three-year-old, Negro female, was admitted to the hospital with a chief complaint of right upper and lower quadrant pain of about eighteen years' duration. In the past few months the attacks of pain had become more severe and on one occasion was accompanied by jaundice. At no time did she have any episodes of what could be called true biliary colic. Several weeks prior to admission x-ray studies revealed several radiotranslucent shadows in the gallbladder as well as poor function.

Past history was essentially noncontributory except for the presence of some palpitation of the heart a number of weeks prior to admission. The patient was informed by her physician that she had occasional extrasystoles.

Physical examination revealed a well-developed, well-nourished Negro female in no acute distress. Blood pressure was 140/90. Auscultation of the heart revealed a regular sinus rhythm; rate was 80, and there was no evidence of enlargement or murmurs. The remainder of the examination was essentially negative, as were the blood count, blood chemistries, and urinalysis.

On the day following admission the patient was subjected to a cholecystectomy under cyclopropane-ether-endotracheal anesthesia. D-tubocurarine was used as a muscle relaxant. During the course of the anesthesia it was noted that any increase in depth of the anesthesia beyond first plane resulted in a precipitous drop in the blood pressure from 140/90 to 80/60 with little or no change in the pulse rate. At one point during operation it was necessary to give the patient a Neo-Synephrine drip in order to maintain her blood pressure. Total amount of fluid given during operation was 1,000 cc. of 5 per cent glucose and water.

At the end of the operation, at 12 noon, the patient was awake and returned to the recovery ward with a pulse of 80 and a blood pressure of 110/70. At 12:40 P.M. the patient was wide awake, and at the request of the nurse she turned into the left lateral position. Her blood pressure at this time was 110/70 and pulse 90. At 1:15 P.M. the patient became cyanotic, dyspneic, and comatose. The anesthesiologist was summoned to the recovery room. The patient was promptly intubated. Aspiration of secretions was carried out. The secretion was large in volume, pink and frothy in character. Physical examination at this time revealed moist rales throughout both lung fields, blood pressure 80/60, and pulse 120. A diagnosis of pulmonary edema, probably secondary to myocardial failure, was made. Immediate treatment was instituted.

The therapy consisted of maintenance of an adequate airway by frequent tracheobronchial aspiration. Oxygen under 3 mm. of mercury pressure after being bubbled through ethyl alcohol was administered via the endotracheal tube. The oxygen was given to correct the patient's hypoxia, and being under positive pressure, it helped to decrease the venous return to the right side of the heart. Alcohol vapor was introduced as an antifoaming agent and was effective in reducing the volume of secretions. A half hour after the acute episode the patient was digitalized rapidly with 0.3 mg. of acetyl strophanthidin administered intravenously; 0.3 mg. acetyl strophanthidin was repeated in one-half hour. One hour and five minutes later the pulmonary edema was no longer in evidence, the pulse was 60 to 70, and the blood pressure was 110/70.

At 3 P.M. the medical consultant recommended that the patient be continued on digitalis therapy, and 0.4 mg. Cedilanid was then given intravenously. From this point onward the patient made an uneventful recovery and was discharged on the tenth postoperative day still on digitalis therapy.

Thorough clinical and laboratory investigation during the patient's hospital stay failed to reveal any overt cardiac disease or cause for the pulmonary edema.

Comment

The development of acute pulmonary edema during operation or in the immediate postoperative period could have many causes, such as too rapid administration of fluids, cardiac failure, obstruction, or the presence of gastric contents in the lung. It is incumbent upon the anesthetist to be able to recognize and diagnose this situation when it exists because pulmonary edema constitutes a severe threat to life. In the event that it is caused by the too rapid administration of fluids, treatment is relatively simple: immediate restriction of fluids, application of tourniquets to the extremities, and possibly phlebotomy. In this particular case, however, fluid was evidently not the cause for the edema. Acute heart failure can be treated by rapid digitalization, which was done in this particular instance with a satisfactory response. That the anesthetist must be able not only to diagnose this situation but also to institute therapy is obvious. This case illustrates the role that the anesthesiologist must assume as an internist in the operating room or recovery room.

(Number eleven of a series of Clinical Anesthesia Conferences)

Salmonellosis of the Newborn with Transmission by Delivery Room Resuscitators

Outbreaks of salmonellosis among newborn infants in two hospitals—23 of 44 exposed in one (52 per cent) and 28 of 34 exposed in the other (82 per cent)—were traced to delivery room resuscitators. A study of household contacts showed spread of the infection to seven persons in one outbreak and 22 in the other, but of these only three cases were of the clinical variety, the rest subclinical. The discovery of the contamination of these two resuscitators led to a study of similar delivery room equipment in a sampling of hospitals. Bacterial investigation of these resuscitators showed frequent contamination of catheters, face masks, and water trap fluid by a large variety of infectious agents. These results justify the suspicion that greater care in checking such delivery room equipment is indicated.

—Abraham D. Rubenstein, M.D., M.P.H., and Richard N. Fowler, M.D., American Journal of Public Health, September, 1955

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Selected Skin Diseases of Childhood

MORRIS LEIDER, M.D., BROOKLYN, NEW YORK

(*From the Department of Dermatology and Syphilology, New York University Post-Graduate Medical School, New York City*)

If the title, "Selected Skin Diseases of Childhood," implies that there are notable differences between the skin diseases of childhood and adulthood, the implication is indeed warranted. There are differences. A few dermatoses occur only in childhood and not at all in adulthood, and conversely, there are some that occur only in adulthood and not at all in childhood. But aside from that, there are differences in numeric incidence, in clinical pattern, in prognosis, and in treatment, even in those dermatoses that are common to both ages of man. It is worth while to spend a moment on the why of such differences.

The skin of the child, especially that of the infant, differs in many respects from the adult. Anatomically, it is thinner, less cornified, and less hairy. Physiologically, its sweat and sebaceous gland secretions are scantier, and of apocrine sweat there is none until near puberty. Chemically, the composition of glandular secretions, particularly the composition of sebum, is different from that of the adult. Physically, the infant's skin is more permeable to substances, especially fluids, approaching it both from within and without. Immunologically, it is less well developed.

There is slow transition from native immaturity to the adult status around and beyond puberty, but during that transition it is obvious that the factors of difference must influence the incidence and manifestations of specific dermatoses. To give some concrete illustrations, exudative lesions are common in young subjects in many conditions which are dry in adults, or if they are oozing in both, they are more so in children. Thus, atopic dermatitis, which is xerotic and lichenified in adults, is juicy and wet in infancy and shows partial transition to dryness in late childhood forms. An even more striking example is syphilis —happily disappearing—which is never vesicular in adulthood but may be bullous in the congenitally infected newborn. Still a third example is the common, almost exclusive, incidence of tinea capitis in the child and its rarity in the adult, probably on account of the different composition of sebum.

Aside from anatomic, physical, physiologic, and biochemical factors of difference, the work and play patterns of youngsters create conditions, of contagion at least, that are different from those of adults. Again not only in absolute numbers are infections different, but initial or primary infections are more common in childhood and give more characteristic or original forms because they start on immunologic immaturity, whereas infections in adults, which more often are reinfections, are modified by more or less well-developed immune-biologic phenomena acquired in those initial childhood episodes.

There is still a third area of difference in hereditary, congenital, dysplastic, and nevoid processes which are more frequently seen in children because more of them appear at or shortly after birth, because the severer ones are not compatible with long life, and because many of the less severe are treatable or spontaneously ameliorate and disappear with aging.

Much more could be made of the differences between childhood and adult dermatoses, but withal, the child is father to the man, and considering the phenomenon of progeria, all the ills that skin is heir to may at times begin or be seen in childhood.

Let us now try to classify cutaneous disease in general by categories of cause, if possible, and select for extended discussion those that are most important in childhood, either because they are the most common or the most serious. We can work out a schema something like this:

1. Of the dermatoses that are based principally on physical causes, everyday occurrences are intertrigo, thermal burns, and prickly heat.

2. Of the dermatoses that are caused by pyogenic bacteria, the usual pyodermas are impetigo, folliculitis, and furunculosis.

3. Of the dermatoses that are caused by the superficial dermatotropic fungi, the commonest is tinea circinata, and the most serious is tinea capitis.

4. Of the dermatoses that are caused by viruses, warts and herpes simplex are familiar to everyone.

5. Of the dermatoses caused by "animal," i.e., metazoal or multicellular parasites, there are the well-known infestations with lice or with the mites of scabies and even commoner bites and stings of insects like mosquitoes and bedbugs.

6. Of the dermatoses that are based principally on allergic mechanisms, the most important are atopic dermatoses, allergic eczematous contact dermatitis, and drug eruptions, particularly urticarial drug eruptions, caused by sensitization to agents that are given to prevent, alleviate, or cure disease.

7. Of the large number of dermatoses that are rooted in heredity, vascular and pigmented nevi are not only common but are the ones that are most amenable to treatment.

8. Finally, of the huge category of dermatoses that are still of unknown cause, seborrheic dermatitis requires special mention in connection with pediatric dermatology.

There is not time to discuss extensively all of the common and serious dermatoses of childhood, so let us limit ourselves to some highlights of intertrigo as a representative of dermatoses caused principally by physical causes; impetigo, folliculitis, and furunculosis out of the pyodermas; tinea circinata and tinea capitis from among the superficial fungous infections; atopic dermatitis alone of the dermatoses based on allergic mechanisms, and seborrheic dermatitis out of the welter of diseases of unknown cause.

Intertrigo

Intertrigo has a pathogenetic basis in the physical conditions that obtain where cutaneous surfaces either naturally fall together or are artificially kept in closer apposition than is normal by clothing. Apposition of skin surfaces is the natural condition in all persons in the great folds of the body like the axillae, groins, gluteal cleft, and umbilicus. Then, depending on body build and manner of dressing, variable degrees of apposition may also come to apply on the neck ("double chin," for example), behind the ears, on the lower abdomen, and under pendulous appurtenances like breasts and penis. Even ordinarily plane or flat surfaces where covering with clothing is constant, like the buttocks, may suffer effects like those promoted by apposition.

It is easy to imagine that in natural or artificially promoted crevices of the skin surface, the local temperature is higher; sweating and sebum production is greater, or sweat and sebum are retained more; evaporation is less; friction is greater, and there is a mechanical tendency for foreign matter to gather. With proper amounts of these factors, softening and partial dissolution of the horny layer of the skin is inevitable. Once this process starts, a situation is created which is less than ever able to withstand the combination of maceration, increased local temperature, friction, and accumulated debris. Exposure of the living elements of the epidermis (which are not designed to meet externality as are the keratinized dead cells of the stratum corneum) leads to exudation of serum and a change of surface pH from normal acidity to alkalinity which is promotional to the growth of saprophytic and pathogenic microorganisms.

Intertrigo is of a special character in babyhood because it occurs not only in the usual sites but additionally on the flat parts of the diaper area and in the creases of fatness. The diaper itself, friction from it, wetness for short or long periods, and the common practice of adding more watertight garments of rubber or plasticized materials produce circumstances and changes in unwonted places much like those of intertrigo in the natural folds.

The condition starts in the depths of creases and appears first as a beefy redness which may smart, sting, itch, or pain. As it progresses, oozing appears, the area enlarges, the signs and symptoms intensify, and secondary infection with monilial fungi and pyogenic bacteria follows inevitably. In some cases pyogenic infection or superficial fungous infection or eczematization from injudicious home treatment may predominate. The treatment of this condition will be taken up later in a general discussion of acute inflammatory dermatoses.

Pyodermas

Turning now to the pyodermas, it may be remarked that from its completely exteriorized and exposed position, it is surprising that the skin does not suffer from more infection than it actually does. Even under healthy conditions saprophytic microorganisms are constantly and abundantly present on the skin, and whatever degree of facultative pathogenicity they may possess is still a threat, although minor, if the continuity of the skin surface is suddenly severed or if the integrity of the skin surface is impaired by other disease processes. Moreover, obligatory pathogens are constantly arriving upon the skin no matter how perfect is personal hygiene, and if the sum of protective factors is insufficient to cope with their number, virulence, and other factors that promote them, then some degree of infection is inevitable. More often than not, the sum of protective factors is quite adequate, but perfect protection is, of course, not to be expected.

The principal microorganisms, pyogenic on and in the skin, are staphylococci and streptococci, and the infections they cause can be labeled generically as staphylodermas and streptodermas. In variety, severity, and frequency of infection staphylococci and streptococci alone or in combination far outdo all other organisms, and of the two, streptococci perhaps cause more cellulitis, whereas staphylococci are more pus-forming.

The commonest pyodermas are impetigo vulgaris or contagiosa, folliculitis, and furunculosis. The clinical difference between the types is explained by the manner in which the staphylococci and/or streptococci lodge or propagate themselves in the skin. If the lodgment is superficial, i.e., just below the horny layer of the epidermis, and if the propagation is horizontal to the skin surface, then the superficial infectious appearance of impetigo with its circumscribed redness and stuck-on, straw-colored, serous crusts is produced. On the other hand, if the lodgment is deep within hair follicles or sweat gland ducts and if the propagation is both vertical and lateral, then the localized and contained pustulation of folliculitis or furunculosis is the clinical picture. The treatment of the pyodermas has been made fairly simple by modern chemotherapeutic and antibiotic agents.

Superficial Fungous Infections

The superficial fungous infections of the skin are referred to by the laity and by the nondermatologic medical fraternity as ringworm. The term is not a good one, but it is entrenched and probably ineradicable. On the glabrous, i.e., the nonhairy, skin superficial fungous infections in the circinate form with the usual microspora or trichophyta are relatively trivial affairs, but in the scalp, infections with the same fungi are stubborn and serious affairs that are a highly specialized exercise to treat. Although the common fungi are rather feeble microorganisms that are easily killed in vitro and nearly as easily gotten rid of on the nonhairy, plane surfaces of the skin, because they are reachable by keratolysis and fungicidal agents like the unsaturated fatty acids, infections of the hair and the hair apparatus are stubborn because of the protected position the fungi have within the hair follicles. It is difficult to achieve keratolysis and to bring fungicides to bear upon fungi in and around hair. It is sometimes possible to induce enough inflammation with counterirritant and fungicidal agents to effect cures. At least half the time in all cases—always in the case of some fungi—it is necessary to induce a temporary defluvium of the scalp hair by x-radiation in order to effect a cure. In expert hands the procedure is absolutely safe.

Atopic Dermatitis and Seborrheic Dermatitis

Dermatoses that have an important basis in allergic mechanisms are common and complex; they require great clinical acumen to diagnose and great therapeutic versatility to alleviate.

There are two conditions which are commonly referred to as infantile eczema, namely, atopic dermatitis and seborrheic dermatitis. A differential diagnosis is necessary because the conditions have different pathogeneses, prognoses, and treatments. Atopic dermatitis shows itself in its average forms as an erythematous, oozing, and crusting acute dermatitis on the face and flexures of the elbows and knees in a baby of two or three months and, untreated, persists with ups and downs until the age of six to eight years. Seborrheic dermatitis, on the other hand, is commoner on the scalp (cradle cap) and behind the ears, although at times it may invade the sites of predilection of atopic dermatitis. In clinical appearance seborrheic dermatitis is somewhat different; there is usually less oozing than in atopic dermatitis, and its crusts are greasy scales rather than inspissated serum. Finally, seborrheic dermatitis yields more readily to simple remedies like ammoniated mercury, sulfur, or Vioform, whereas atopic dermatitis is much more rebellious to topical treatment and is perhaps the most difficult condition to manage in the whole of pediatric dermatology.

While atopic dermatitis has an admitted basis in the peculiar allergic habitus that is termed atopy (i.e., that inborn tendency to certain sensitizations which express themselves clinically as asthma, hay fever, and the dermatitis in point), treatment of the condition by allergic means like testing for culpable allergens, graded injections in order to hyposensitize against substances implicated by tests, and by dietary eliminations and other avoidances are, in my opinion, ineffective and not worth the agony to infant patient, distraught mother, or harried physician. In my opinion the best treatment for atopic dermatitis, particularly of the infant and child, is still skillful topical therapy. This gives me the opportunity to take up the last item of my discussion, how to treat acute inflammatory dermatoses in general, irrespective of cause.

In the field of dermatologic therapy it is possible to be a fairly good therapist without being a superlative diagnostician. This is especially true in the case of pediatric dermatology. The reason for this is that most skin diseases, no matter what their cause, are inflammations. The number of dermatoses that are not inflammatory can be summed up by citing neoplasms and congenital anomalies. Since most cutaneous diseases are inflammatory, it is possible, despite their large clinical variety and different causes, to treat a large percentage of them by prescribing from a general knowledge of empiric principles of treating inflammation as it appears anywhere, plus a small specialized knowledge of the peculiarities of the skin as an organ. This is by no means all there is to dermatologic therapy, but for nonspecialists it is basic and enough. Such treatment would apply in large measure to all of the conditions discussed hitherto. Let us explore this fruitful method.

The principles of treating inflammation as a general phenomenon may be stated as follows:

1. Estimate the degree of inflammation (i.e., whether acute, subacute, or low-grade and chronic), and strive to place the affected part or the entire body, if need be, at rest.

2. Prescribe nothing and do nothing that could be more harmful than the presenting condition.

3. Let the intensity of topical treatment or the activity of agents to be applied be guided by the degree of inflammation, the scale being the severer the inflammation, the milder the treatment.

4. Finally, prescribe and apply what is specific or highly effective if such things are fortunately known.

The severity of inflammation can be judged by the traditional signs of *rubor, calor, dolor,* and *tumor,* i.e., redness or erythema, heat or local fever, pain or itch, and swelling or edema. In addition, papules, vesicles, bullae, pustules, oozing, crusting, and scaling, which may be impressively visible, and the area of skin involved are also guides to severity.

Rest of the skin may be achieved by putting the entire patient at bed rest or by skillfully dressing the affected parts. Dressing the diseased skin properly, I should say, is at least of equal importance to what is applied to it by way of a medicament. It pays to learn how to cover skin with proper fittings. Both comfort and cure possibilities are gained thereby.

It sounds fatuous to say that one should not prescribe, or do, what could be more harmful than the presenting condition already is. But the simple fact is that such things are being done all the time. Antibiotic ointments, particularly penicillin which is egregiously hazardous, are prescribed on the least indication for what is frequently mistaken to be infection or for unwarranted prophylaxis against uncertain infective possibilities. Strong chemical antiseptics and fungistatics, the so-called antihistaminics in ointment form, and innumerable proprietaries of unknown composition and action are constantly ordered on vague remembrance of a detailman's recommendation. It is better and safer to do nothing beyond dressing over an indifferent bland ointment if one is not confident about how to proceed further.

But it is easy to know how to proceed further by learning the next step: fitting topical agents to the degree of inflammation. For this purpose the following plan is recommended:

For acutest inflammations, e.g., first and second degree actinic, caloric, chemical, and electrical burns; primary irritant and allergic eczematous contact dermatitis (poison-ivy dermatitis and other dermatitides due to sensitization to ordinarily harmless substances); atopic dermatitis and severe seborrheic dermatitis ("infantile eczema"); spreading superficial and deep pyodermas; fungous infections of the glabrous skin; intertrigo; prickly heat, and pityriasis rosea:

1. Place the patient at bed rest if possible and desirable, or practice dressing of the affected parts after each topical procedure if the patient has to be ambulant and away from home.

2. Wet-dress by compresses or immersion of small affected areas or by tubbing the entire body if the process is extensive, with judiciously chosen agents, e.g., physiologic saline; one-half saturated boric acid solution (never use on large areas of skin in infants and children; beware of borism); solution of potassium permanganate (1:6,000 to 1:50,000 where an antiseptic and coagulant effect is desirable); Burow's solution (1:20 to 1:40 where mild astringency is wanted); or weak solutions of silver nitrate ($^1/_5$ to $^1/_{10}$ per cent) where epithelial stimulation is indicated.

3. When wet dressings are intermittent, apply simple lotions or emulsions containing mild antipruritics if desired, freely and frequently (every one to two hours during the waking day).

For subacute inflammations, e.g., lesser intensities of the above conditions, make the wet dressings less frequent, or omit entirely if enough improvement has occurred. Continue with lotions and emulsions during the day, and prescribe pastes for the nighttime.

For low-grade inflammations, e.g., terminal and residual stages of the above conditions and for conditions that start and continue as chronic, low-grade processes, prescribe indicated pastes and ointments containing active agents that are known to be effective and teach proper dressings.

Finally, it is advised that all details of treatment be explained explicitly and little be left to the imagination or uncertain judgment of the patient and attendants. Insistence on literal obedience to instructions will not only yield greater degrees of benefit but will permit better judgment about the worth of routines ordered and agents prescribed. Modifications of treatment are then possible with better outlook for success. Spasmodic treatment, irregular applications, and hasty, ill fitting dressings are more harmful than helpful. How things are done is as important as what is applied.

820 CATON AVENUE

(*Number four of a series of Postgraduate Radio Programs*)

The Pulmonary Hyaline Membrane Syndrome

The pulmonary hyaline membrane syndrome appears to be the cause of about half the total mortality among premature infants and the leading cause of neonatal deaths among all live-born infants. It probably kills more than 20,000 American babies each year. Usually the victims are born prematurely by cesarean section or to a diabetic mother. Drs. Stuart S. Stevenson and Leonard Laufe describe the clinical picture, summarize their deductions from experimental work on etiology, discuss prevention, and give a five-point program for treatment.—*Pennsylvania M. J., October, 1955*

NECROLOGY

James H. Bennett, M.D., of Baldwinsville, died on May 9 at the age of forty-seven. Dr. Bennett graduated in 1933 from Syracuse University College of Medicine. In 1953 and 1954 he was president of the New York State School Physicians Association and in July, 1955, was honored with a plaque for his work in behalf of general practitioners by the Onondaga County Chapter of the New York State Academy of General Practice, of which he was president in 1950 and 1951. He was an honorary president of the New York State Health Officers Association and a member of an advisory committee on local health problems to the Commissioner of Health. Dr. Bennett was cited in May by the Medical Society of the State of New York as the State's outstanding general practitioner for 1955. He was a member of the Syracuse Academy of Medicine, the American Academy of General Practice, the Onondaga County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Louis J. Beyer, M.D., of Buffalo, died on April 8 at the age of seventy-nine. Dr. Beyer graduated from the University of Buffalo School of Medicine in 1899. The first physician to be made chairman of the City Health Board in Buffalo, Dr. Beyer was a consultant in otolaryngology at the Edward J. Meyer Memorial and Millard Fillmore Hospitals. He was a Fellow of the American College of Surgeons and a member of the American Academy of Ophthalmology and Otolaryngology, the Buffalo Academy of Medicine, the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Benjamin Frank Corwin, M.D., of Brooklyn, died on April 4 at the age of eighty-six. Dr. Corwin graduated in 1897 from Yale University School of Medicine. He was a member of the consulting staff at the Kings County Hospital Center and belonged to the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Walter Gray Crump, Jr., M.D., of New York City, died on May 9 at the age of fifty-four. Dr. Crump graduated in 1928 from New York Homeopathic Medical College and Flower Hospital. He was an associate in surgery at the Metropolitan Hospital and assistant attending in surgery at the Flower and Fifth Avenue Hospitals. Dr. Crump was a Fellow of the American College of Surgeons and a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Thomas Arthur Gonzales, M.D., of New York City, died on May 14 at the age of seventy-eight. Dr. Gonzales graduated from Bellevue Hospital Medical College in 1898. Until his retirement in 1954 he had served as New York City's Chief Medical Examiner for seventeen years. He was a former director of pathology laboratories at Bellevue Hospital, a professor, and later professor emeritus, of forensic medicine at the New York University-Bellevue Medical College, and in 1904 he served as an assistant pathologist at the Harlem Hospital becoming pathologist there in 1906, and in 1915 a consultant in pathology there. For more than thirty years he had served as an attending pathologist at St. Elizabeth's Hospital. Dr. Gonzales was a Diplomate of the American Board of Pathology and a member of the American Association of Pathologists and Bacteriologists, the New York Academy of Medicine, the New York Pathological Society, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Harold C. Herrman, M.D., of New York City, died in April at the age of fifty-nine. Dr. Herrman graduated in 1920 from New York University and Bellevue Hospital Medical College. He was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Peter Joseph Johnson, M.D., of Brooklyn, died on April 8 at the age of eighty. Dr. Johnson graduated from the College of Physicians and Surgeons of Baltimore in 1903. A former superintendent of Cumberland Hospital, Brooklyn, he had earlier served as an assistant health officer of the Port of New York and for a while was stationed at Quarantine Station, Staten Island. For a number of years he had also served as superintendent of the Sea View and Farm Colony Hospitals, Staten Island.

M. Joseph Mandelbaum, M.D., of New York City, died on May 10 at the age of seventy-four. Dr. Mandelbaum graduated in 1902 from Albany Medical College. A consultant in bronchoscopy at the Hospital for Joint Diseases, he had also been company physician and medical consultant to the Paterson, New Jersey, *Evening News*. The inventor of several devices for the treatment of bronchial diseases, he had been president of the New York Diagnostic Society in 1919 as well as a founder of the former New York Diagnostic Hospital. Dr. Mandelbaum was a member of the New York County Medical Society, the Medical Society of the

State of New York, and the American Medical Association.

Charles Simpson Mirkin, M.D., of the Bronx, died on May 14 at the age of sixty. Dr. Mirkin graduated in 1919 from New York University and Bellevue Hospital Medical College and interned at Fordham Hospital. He was a member of the Bronx County Medical Society and the Medical Society of the State of New York.

Myron Mitchell, M.D., of Brooklyn, died on May 12 at the age of sixty-six. Dr. Mitchell received his medical degree in 1917 from the University of Bern, Switzerland. For the last two years he had served as an assistant medical director of the Department of Welfare. He was admitting physician at Kings County and Coney Island Hospitals, a lecturer on communicable diseases for the Department of Health of which he was a physician, and a physician at the Social Hygiene Clinic. Dr. Mitchell was a member of the American Academy of Dermatology and Syphilology, the American Public Health Association, the Brooklyn Academy of Medicine, the Kings County Medical Society, and the Medical Society of the State of New York.

Joseph Louis Perrier, M.D., of New York City, died on May 4 at the age of eighty-two. Dr. Perrier graduated from New York University and Bellevue Hospital Medical College in 1913. He was the author of many articles and books on philosophy and literary history.

Francis Joseph Scott, M.D., of Waterford, died on April 12 at the age of seventy-three. Dr. Scott graduated in 1905 from Albany Medical College. He was a consulting physician at Cohoes Memorial Hospital. In May, 1955, Dr. Scott was cited by the Medical Society of the State of New York for having completed fifty years of practice. For many years he served as health adviser for the town of Waterford. Dr. Scott was a member of the Albany County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Will Cook Spain, M.D., of New York City, died on May 12 at the age of sixty-four. Dr. Spain graduated from Vanderbilt University School of Medicine in 1918. He was a physician and director of Allergy at the University Hospital and attending physician at Bellevue Hospital. Professor of clinical medicine at the New York Post-Graduate Medical School since 1924, he had also been a visiting physician at the Fourth Medical Division of Bellevue Hospital since 1949. He was a former secretary-treasurer of the Society for the Study of Asthma and Allied Conditions and had served successively from 1944 to 1947 as secretary, vice-president, and president of the American Academy of Allergy. He was a founder and member of the New York Allergy Society and had been a member of the advisory board for allergy of the American Board of Internal Medicine. Dr. Spain was honorary president of the section on allergy of the Pan American Medical Association and a member of the editorial board of the *Journal of Allergy*. In January, 1953, he received a certificate from the Hay Fever Prevention Society for his humanitarian work. He served in the Army Medical Corps during World War I. Dr. Spain was a Diplomate of the American Board of Internal Medicine, a Fellow of the American College of Physicians, and a member of the American Association of Immunologists, the American Academy of Allergy, the Pan American Medical Association, the New York Academy of Medicine, the New York Allergy Society, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Stephan Steinharter, M.D., of Hempstead, died on May 9 at the age of seventy-five. Dr. Steinharter received his medical degree from the University of Munich in 1906. He had been a clinical assistant in the medical division of Mount Sinai Hospital and retired in 1953. Dr. Steinharter was cited by the Medical Society of the State of New York for fifty years of service. He was a member of the Nassau County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

The Toxic Effects of Phenylbutazone (Butazolidin)

In reporting the 23rd death (a postscript adds another previously unreported fatality) the author reviews the literature on the toxic effects of phenylbutazone, a drug resembling aminopyrine in chemical structure. He calls attention to the reported serious reactions which have been encountered in the skin, gastrointestinal tract, liver, kidneys, bone marrow, and elsewhere in the body. The reactions apparently are not related to the dosage or duration of treatment, and may occur after withdrawal of the drug. Impending reactions are not predictable, and when they appear there is not, at present, any specific treatment. Since this drug apparently is not curative, but rather an analgesic somewhat like the abandoned aminopyrine, the author feels that its use should be carefully restricted. —*Edgar F. Mauer, M.D., New England Journal of Medicine, September 8, 1955*

MINUTES OF THE COUNCIL

The following is a summary of the minutes of the April, 1956, meeting of the Council of the Medical Society of the State of New York, as approved May 9, 1956.

THE Council met April 12, 1956, from 9:15 A.M. to 12:50 P.M. at the Manhattan Club, New York City. Dr. Renato J. Azzari, president, was in the chair.

Dr. Azzari stated: "Gentlemen, before we start the regular meeting of the Council, I should like to make a statement.

"Within a brief time during March, two prominent members of our profession, both past-presidents of our State Society, have passed to their rest. Dr. Thomas A. McGoldrick and Dr. Edward R. Cunniffe exemplified devotion to duty and tenaciousness to principle, with honesty of purpose. It is a great grief to those of us who knew them well. Their contributions to medicine have been outstanding and will be long remembered by all of us. We keenly feel their loss and their wise counsel, but their spirit will linger for many years to come.

"May we arise for a moment of silent meditation in their memory."

The members arose for a minute of silence in honor of their departed confreres.

The memorial resolutions adopted are as follows.

WHEREAS, in His omniscient wisdom, our Heavenly Father has taken unto Himself our friend and chairman of the Board of Trustees of the Medical Society of the State of New York, Dr. Edward Rutherford Cunniffe; and

WHEREAS, Dr. Cunniffe had won recognition as a surgeon, a teacher, a breeder of dogs, and a leader in important professional organizations; and

WHEREAS, his skill as a surgeon was marked by such positions as surgical director at Fordham Hospital, consulting surgeon at St. Joseph's Hospital in Yonkers, Morrisania Hospital in the Bronx, St. Mary's Hospital in Port Jervis, and the Holy Name Hospital in Teaneck, New Jersey, as well as consulting thoracic surgeon at Seton Hospital in the Bronx; and

WHEREAS, not only was Dr. Cunniffe's teaching ability established through his training of interns, but also by his formal instructing in physiology and as a clinical professor of surgery at Fordham University Medical School; and

WHEREAS, with his kennel of Kerry Blues, Doctor Cunniffe gained national reputation as a dog fancier; and

WHEREAS, through his being the originator and first president of the Bronx Chapter of the American College of Surgeons, his receipt of the gold medal of the American College of Surgeons, his ten-year chairmanship of the Judicial Council of the American Medical Association, his presidency of the Bronx County Medical Society and chairmanship of its Cancer Committee, his membership in the New York Surgical Society, his presidency of the Medical Society of the State of New York and its First District Branch and chairmanship of its Board of Trustees; and

WHEREAS, Dr. Cunniffe's community interests are marked by his work in the Selective Service System during World War I and in civilian defense preparedness during World War II; and his membership in the Siwanoy Country Club of Bronxville, the Cornell Club, the Celtic Society, the Friendly Sons of St. Patrick, and the New York Historical Society of New York City; and

WHEREAS, his many friends and devoted patients have suffered irreparable loss; therefore be it

Resolved, that this resolution be spread upon the minutes of these meetings of April 12, 1956, of the Council and of the Board of Trustees of the Medical Society of the State of New York; and be it further

Resolved, that a copy of these words be forwarded as an expression of sympathy to Mrs. Edward R. Cunniffe and Mr. Edward R. Cuniffe, Jr.

WHEREAS, it has pleased Almighty God to withdraw from our midst Dr. Thomas Aloysius McGoldrick; and

WHEREAS, Dr. McGoldrick was for many years an outstanding physician, beloved by his patients, and an outstanding leader in his profession as proved by the many posts of leadership to which he was chosen, such as vice-president of the American Medical Association, president of the Medical Society of the State of New York and of the Medical Society of the County of Kings, and a public-spirited citizen as shown by his activities as chief medical officer of the New York City Police Department; physician-in-chief of St. Peter's Hospital, Brooklyn; director of medicine at St. Anthony's Hospital, Woodhaven; medical director of the open division of Welfare Hospital, Welfare Island; and

WHEREAS, Dr. McGoldrick's exemplary life was honored by Pope Pius XII when he was made a Knight of Saint Gregory; therefore be it

Resolved, that the Council and the Board of Trustees of the Medical Society of the State of New York publish in our minutes this declaration of our loss and of our sympathy for Dr. McGoldrick's family; and be it further

Resolved, that a copy of this resolution be sent to Dr. McGoldrick's family.

The March 8, 1956, minutes were approved as distributed.

Secretary's Report

Executive Committee.—Dr. Anderton reported the Executive Committee recommended that the June meeting of the Council be on June 7 instead of the second week, on account of the meeting of the American Medical Association.

It *was voted* to approve the recommendation.

Dr. Anderton reported as follows regarding Executive Committee action on the following communications:

1. "Letter from Dr. Charles F. McCarty, secretary of the Coordinating Council of the First District Branch, conveying the request to the Council that 'no lay employe or representative of the New York State Medical Society be permitted to issue statements concerning malpractice insurance for publication without approval either of the president of the State Society or a majority of its Council.'

"The Executive Committee recommends that this letter be referred to the Malpractice Insurance and Defense Board for report and recommendations."

It *was so voted.*

2. "Letter of April 4 from Dr. Charles F. McCarty, secretary of the Coordinating Council, requesting a further reply to his letter of March 1, 1956. The letter of March 1 requests the Council of this Society to 'take appropriate action to rectify the effects of these complaints' (to the State Insurance Department) and 'if it is found that . . . an error has been made . . . so notify the Commissioner of Insurance.'

"The Executive Committee recommends that the Council instruct the secretary to write to Dr. McCarty, calling attention to pages 39 to 42 of the March 8, 1956, Council minutes, which have just been made official by your adoption."

It *was so voted.*

3. "Letter of April 4 from the Coordinating Council of the First District Branch, requesting that the Council of this Society study the legal case of *Bullock* v. *Parkchester General Hospital* 'with a view to deciding on the desirability of the State Society financing an appeal.'

"The Executive Committee recommends that the secretary be instructed to send the Coordinating Council a copy of Mr. Martin's letter of March 21, 1956, discussing the case."

After discussion, it *was voted* to send a copy of the letter to the Coordinating Council.

4. "Letter of October 4, 1955, from Dr. Kenneth J. Clark, secretary of the Medical Society of the County of Orleans, requesting information as to whether or not that Society should accept the application for membership of Dr. E. Scott Francis, a resident of Niagara County. Both of these societies agreed to it. The Executive Committee, therefore, recommends that the Council approve the acceptance of Dr. Francis' membership application by the Medical Society of the County of Orleans."

It *was so voted.*

5. "Mr. President, Dr. Anderton read to your Executive Committee a letter of March 19, 1956, of condolence which he had sent to Mrs. Edward R. Cunniffe. The committee approved the letter and recommends that suitable resolutions be adopted regarding Dr. Cunniffe and Dr. McGoldrick.

"I move that the secretary be instructed to send suitable resolutions to the families of our late deceased presidents."

It *was so ordered.*

6. "Letter of March 12 from Dr. Israel Kaufman, president of the Medical Board of the Kingston Avenue Hospital, in Brooklyn, embodying a resolution adopted by that board on March 1, 1956, regarding the October 21, 1955, directive of the Commissioner of Hospitals.

"The Committee directed that this letter be read to the Council."

Dear Dr. Azzari:

WHEREAS, the Commissioner of Hospitals, Dr. Basil C. MacLean, in a directive dated October 21, 1955, abolishes the Kings County Medical Board (i.e., open division) of Kings County Hospital and places complete control of patient care at that institution in the hands of the State University of New York College of Medicine at New York City; and

WHEREAS, such action renders a distinct disservice to the community at large, including the practicing physicians of Brooklyn, the patients at the hospital, and its interns and residents; and

WHEREAS, the manner in which this directive originated and was approved by the Board of Hospitals, the physician members of which, to a man, are closely affiliated with medical colleges, is unjustified and patently unfair; and

WHEREAS, it is the obvious implied intention of this group to place all city hospitals under medical college control on request, thereby creating an uneasy uncertainty as to the future of the voluntary physicians in these hospitals; and

WHEREAS, this situation is demoralizing to all voluntary physicians, especially the younger practicing group who recognize the undesirability of future affiliation with City hospitals under these circumstances; and

WHEREAS, this will result in weakening of the medical staffs serving these hospitals and will detract from the high quality of care now being furnished the indigent sick; and

WHEREAS, this will also eventuate in the physicians who serve the community losing valuable training and experience; be it

Resolved, that this Medical Board of the Kingston Avenue Hospital go on record as strongly disapproving of the Commissioner's action and recommending its immediate and permanent withdrawal, and that a copy of this resolution be sent to the Mayor of the City of New York, the five borough presidents, the Commissioner of Hospitals, the five county medical societies, and the New York State Medical Society.

Very truly yours,
Israel Kaufman, M.D., *President*

Adopted at the last regular meeting, March 1, 1956.

7. "Letter from Dr. S. Arthur Glixon, general chairman of the 1956 conference of the New York State Commission Against Discrimination, requesting permission to list this Society as one of the cooperating organizations for the conference, which will consist of a luncheon followed by panel discussions.

"The Committee referred this letter to the Council without recommendation."

After discussion it *was voted* that we cooperate.

8. "Mr. President, you will remember, at the last meeting of the Council, consideration was given to a resolution passed by the Comitia Minora of the Medical Society of the County of Kings and subse-

quently by the Medical Society of the County of Kings. To follow on, a letter dated March 15, 1956, from Dr. Lapp, secretary of the Medical Society of the County of Kings, states: 'This is to inform you that the enclosed resolution was unanimously passed at the regular stated meeting of the Medical Society of the County of Kings held on February 21, 1956.'

"This was acknowledged as follows:

> Dear Dr. Lapp:
>
> In studying the resolution passed by the Medical Society of the County of Kings, February 21, 1956, copy of which was received in this office on March 16, there are a few points about which I must inquire. I hope to present the resolution to the Executive Committee of the State Medical Society next month.
>
> The second 'whereas' refers to the constitution and bylaws of the Medical Society of the County of Kings and the Medical Society of the State of New York. Would you mind letting me know the exact references, chapters, articles, sections?
>
> The fourth 'whereas,' like the third, mentions my name specifically. I must, therefore, inquire the names of 'said members.'
>
> Has the Medical Society of the County of Kings a copy of 'such complaint' or allegation mentioned in the first 'Resolved?'
>
> Also, may I inquire what 'sovereign rights' were violated, as mentioned in the second 'Resolved?'
>
> It would be helpful if I could learn the answers to the above questions before the Executive Committee meets April 11.

"When I received no reply to that letter, I telephoned and found out that (this was on April 3) Dr. Lapp had been in Florida and that he expected to call me up the next day, which he did, and promised to answer, but no answer has as yet been received except this statement: 'This will acknowledge receipt of your letter of March 19, 1956, concerning the resolution which was submitted by Dr. Alfred P. Ingegno and which was passed by the Comitia Minora and the membership of the Medical Society of the County of Kings.'

"I make this report as a matter of record, sir. I don't believe we can go much further unless you want to, without the answers to the questions that I took the liberty of raising."

It *was voted* to approve Dr. Anderton's letter.

Dues Remission.—The Council voted to remit annual State dues of one member for 1955 and of 20 members for 1956 because of illness, of four members for 1955, four members for 1955 and 1956, and 19 members for 1956 because of service in the armed forces, and to rescind a remission of 1956 annual State dues previously granted because of military service. It was also voted to request remission of American Medical Association dues of one member for 1954, six members for 1955, and 21 members for 1956.

General.—Dr. Anderton reported: "On March 8, 1956, the Board of Trustees requested me to notify you that they are studying the subject of pensions for your employes and hope to have concrete recommendations for the House of Delegates.

"Two sad events have marked the progress of our Society since our last meeting. Dr. Thomas A. McGoldrick died March 9 and Dr. Edward R. Cunniffe on March 13, both former councillors, presidents, and trustees. Officers, councillors, trustees, and many members of our Society attended each funeral, and flowers were sent in the Society's name. Your secretary will take the liberty of presenting resolutions concerning these gentlemen for your consideration.

"It gives me pleasure to draw to your attention that in 1955, 10,190 physicians in New York State contributed $501,000.34 to the American Medical Education Foundation; the next largest contribution of $358,312.38 was subscribed by 5,750 Pennsylvanians; Illinois, California, and Ohio ranked third, fourth, and fifth. The total collected for the year was $2,505,750.75. New York may well be proud of our accomplishment.

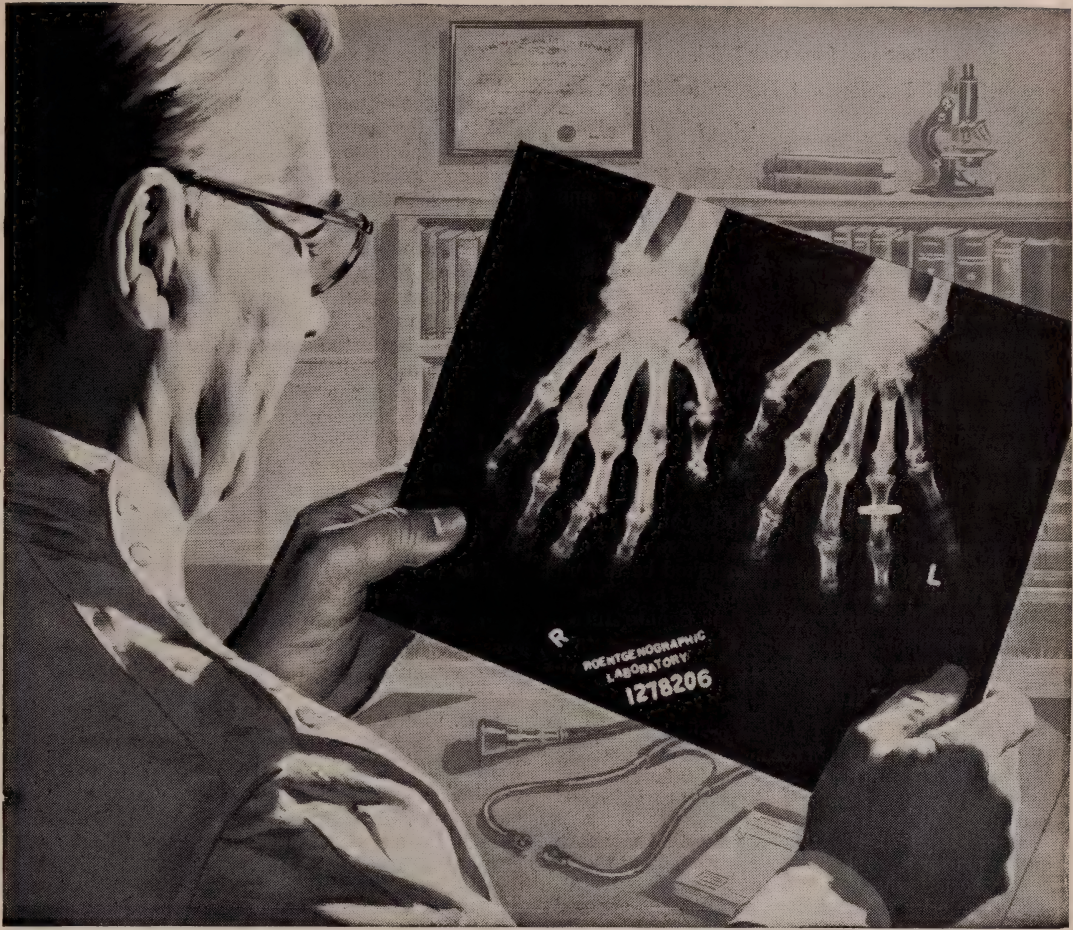
"Since your last meeting, your secretary has endeavored to fulfill directions in such ways as notifying the Medical Society of the County of Wayne of your approval of its changes in bylaws, by notifying new committee members of their appointments, and in other ways. I have attended the following meetings: March 8 and 9, Subcommittee on Media of Information, Public Relations Committee; March 21, Diabetes Subcommittee, Public Health and Education Committee; March 23, Joint Commission in New York State for the Improvement of the Care of the Patient; March 29, National Committee on Alcoholism, and Geriatrics Subcommittee, Public Health and Education Committee; April 2, luncheon of New York Convention and Visitors Bureau on behalf of New York City Coliseum; April 3, convocation at New York City Hall in honor of the sesquicentennial of the Medical Society of the County of New York, and meeting of several committee and subcommittee chairmen.

"At the time of making this report, President Azzari and your secretary expect to attend the sesquicentennial celebration of the Broome County Medical Society, April 4, and the sesquicentennial celebration of the Medical Society of the County of New York, April 5. April 6, there is scheduled the Liaison Committee with U.S. Veterans Administration; April 11, Blood Banks Commission, Publication Committee, Office Administration and Policies Committee, Executive Committee, and Malpractice Insurance and Defense Board.

"Dr. Gerald D. Dorman has been appointed a member of the American Medical Association Salk Vaccine Committee; also Dr. Azzari, Dr. Dorman, and Dr. Fineberg have been appointed members of the American Medical Association Regional Television and Motion Pictures Advisory Committee.

"Furthermore, the State Society has been requested by the Regents to nominate three gentlemen for one appointment to the Medical Grievance Committee of the State Education Department to replace Dr. W. Walter Street, of Syracuse. The secretary takes the liberty to suggest that he be allowed to nominate, in the name of the Society, Dr. Gordon Hoople, Dr. Irving Ershler (both of

[Continued on page 1972]



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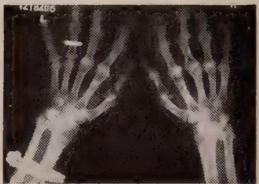

REFERENCES:
1. J.A.M.A. 159:645 (Oct. 15) 1955.
2. J.A.M.A. 158:386 (June 4) 1955.

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[Continued from page 1970]

Syracuse), and Dr. Herbert Berger (of Staten Island)."

Approval *was voted.*

"The secretary also reports that on April 9 from 8:30 to 9:30 A.M. he lectured on organized medicine to the fourth-year class of New York University College of Medicine.

"As a preliminary request from the Regents, I have heard that there will be a vacancy on the Nurse Advisory Council of the State Education Department on December 31. They have asked for three nominations, and it has been suggested that this Council authorize me to nominate Dr. Clarence R. Pearson of Scottsville, Dr. Louis M. Rousselot, and Dr. William Wheeler, Jr., of New York. Of the three, one would be chosen.

The nominations *were approved.*

"Mr. President, you and the other members of the Council will remember that a few months ago the American Medical Association asked us to find out the attitude of the members of our Society regarding Social Security. Now that Senate Intro. 7225 is in the offing, this report, which represents a great many hours of work by Dr. Iselin, I believe will interest the Council:

> On February 9, 1956, I made a preliminary report on the results of the poll of the members of the county medical societies in the matter of Social Security. At that time only 22 of our 61 county societies had replied.
>
> As of March 20, 1956, the last day that any data on the matter have since been received, 42 of the 61 county societies have been heard from.
>
> The majority of opinion continues to be opposed to participation by self-employed physicians in Social Security under its present compulsory form (2,142 against 1,747), but 2,439 physicians, against 522, are in favor of Social Security if voluntary participation could be worked out. A total of 2,089 physicians, against 1,016, favor passage of the Jenkins-Keogh Bill rather than the passage of compulsory Social Security; 1,691, against 1,450, would favor Social Security if the Jenkins-Keogh Bill were enacted into law.
>
> The counties of New York, Queens, Lewis, and Suffolk are in favor of Social Security under its present compulsory form.
>
> Bronx County approved of Social Security on a voluntary basis only, in 1954. Livingston County favors the Jenkins-Keogh Bill and prefers it over Social Security if contributions into the pension system were to be a tax-exempt business expense.
>
> John H. Iselin, Jr.

It *was voted* to approve the report of the secretary.

The Treasurer's report was approved.

Reports of Committees

Blood Banks Commission.—Dr. James Greenough, chairman, reported: "The Blood Banks Commission met April 11. The tentative financial report of the Blood Banks Association through March 31, 1956, was reviewed. The deficit for March was $361, the smallest for any month to date. The deficit for the first three months of 1956 is $1,540. The Blood Banks Association had cash on hand April 1 of $5,031, which should be sufficient to carry the organization until the meeting of the House of Delegates. Current assets were $27,593, current liabilities $23,703, representing current working capital of $3,890.

"The situation in regard to the decision of the Insurance Department was discussed. The present form of group and individual contracts has been submitted to the department. It was favorably received but has still to be passed on by the department's attorney. It is hoped that a favorable decision will be forthcoming in the very near future. As you know, the Council through the commission has instructed the Blood Banks Association to negotiate no new contracts pending the decision of the Insurance Department.

"The commission voted to request the Council to authorize further new activities by the Blood Banks Association if and when such favorable decision is received."

It *was so voted.*

Dr. Greenough continued: "A tentative budget for the calendar year 1956 was presented and discussed. This will be in a supplementary report of the commission to the House of Delegates, when it is settled.

"Dr. Miller, representing Commissioner Hilleboe, reported that the request of the Council through the Public Health Committee to the State Department of Health to supervise intrastate blood banks has had a favorable reception. In order to plan further details for standardization and approval, he suggested that a committee, consisting of Dr. Curphey, a representative of the Blood Banks Commission, and a representative of the Blood Banks Association, be appointed to meet with the representatives of the State Health Department.

"I move that the president appoint such a committee with approval of the Council."

Approval *was voted.*

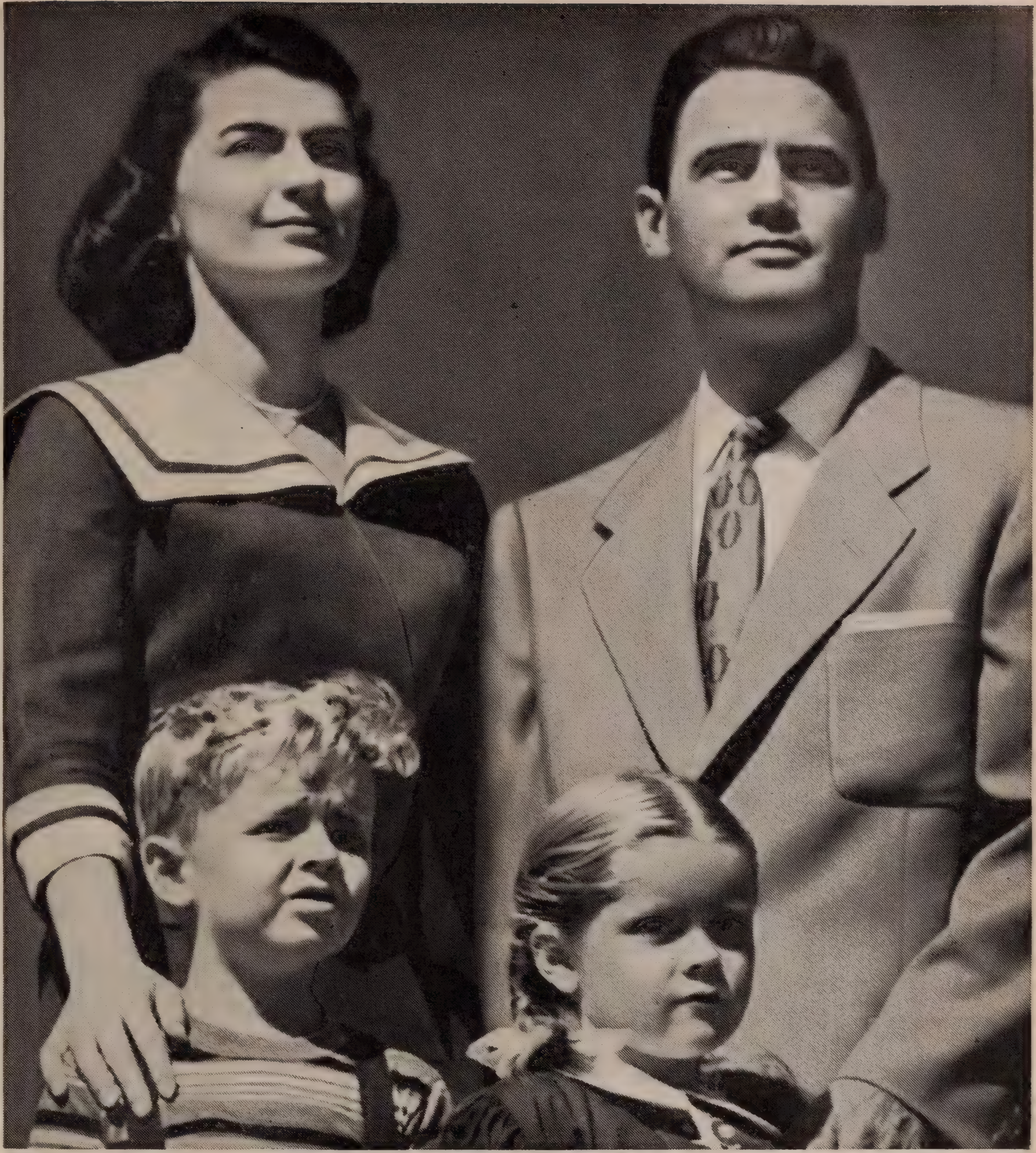
President Azzari appointed Dr. Theodore J. Curphey, Dr. James Greenough, and Dr. John J. Clemmer and requested the Council's approval.

Approval *was voted.*

Dr. Greenough stated that because of the Council's suggestion at its March meeting that the proposed study of the blood procurement and distribution situation in New York City be made by the Josiah Macy Foundation or some similar organization, the New York Academy of Medicine had refused to consider undertaking the study without written assurance from this Society and from the Coordinating Council that selection of the Academy as the sponsoring and directing group would be agreeable to them. He stated that Dr. August Groeschel, president of the Hospital Association of Greater New York, had asked permission to address the Council on this subject and had been invited to do so.

Dr. Groeschel then presented reasons for choosing the New York Academy of Medicine for this pur-

[Continued on page 1974]



How vital to their happiness . . . the mother's *health* ➤ With health, she can meet buoyantly and capably the demands of her family and her community. ➤ Upon her health and vitality rests the happiness of her family. She, in turn, depends upon the knowledgeable, experienced judgment of her physician in matters affecting her physical and mental well-being . . . especially on his advice on scientific methods of child-spacing. What more rewarding way for the doctor to expend his skill than in the perpetuation of the happy, healthy family . . . Hence, the significance of his recommending *Koromex*

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[Continued from page 1972]

pose and discussed the possibility of obtaining financial support for the project from foundations. He asked that the Council reconsider the question and give the written assurance requested by the Academy.

After discussion, it *was voted* that the Council authorize the chairman of the Blood Banks Commission to compose a letter explaining to Dr. Groeschel that the Council, in view of what it had heard that morning, would approve the Academy of Medicine's Public Health Committee conducting the survey.

Approval of the report of the Blood Banks Commission as a whole *was voted.*

Constitution and Bylaws.—Dr. Frederick W. Williams, chairman, reported: "The committee has reviewed some amendments to the constitution and bylaws of the Medical Society of the County of Erie. These have been approved by the secretary of the Society, the counsel, and the members of your committee. Therefore, I move the Council's approval of these amendments to the bylaws of the Medical Society of the County of Erie."

Approval *was voted.*

Convention.—Dr. Samuel Z. Freedman, chairman, stated the grand ballroom of the Waldorf-Astoria Hotel in New York City had been engaged for the sesquicentennial dinner on Tuesday, February 19, 1957. He recommended that if it did not conflict with the Constitution and Bylaws, the 1957 House of Delegates meeting be held in New York in February instead of in Buffalo in May.

After discussion, the Council *voted* that the Delegates meet in February at the time of the rest of the sesquicentennial celebration.

Dr. Greenough voted in the negative. (At a later date it was decided the House of Delegates will meet at the Hotel Statler, New York City, May 13 to 15, 1957.)

Economics.—Dr. John C. McClintock, chairman, presented the following:

I wish to report the present status of H.R. 7994, a bill to provide medical care for dependents of members of the armed forces of the United States, which passed the House on March 2, 1956, and is awaiting Senate action. We understand that when Congress resumes sessions about April 9, committee hearings will be heard promptly on this bill.

The bill introduced by Senator George R. Metcalf in the State Legislature to amend the Civil Service law, to provide hospital benefits for State and retired State employes, has been amended several times, the basic changes being the creation in the Department of Civil Service of a Temporary Health Insurance Board to consist of eight members: four appointed by the Governor, two by the President Pro-tem of the Senate, and two by the Speaker of the Assembly. Health insurance under this amended bill has been expanded to include not only hospital coverage for State officers, employes, and their dependents but also surgical and medical insurance against the cost of hospitalization, surgery, medical treatment, and care, including prescribed drugs, medicines, prosthetic appliances, hospital inpatient and outpatient services, and medical expense indemnity benefits. We understand that this bill is now awaiting the signature of the Governor. (*The bill was signed.*)

Mr. George P. Farrell, Director of the Bureau of Medical Care Insurance, reported:

On invitation of Dr. Theodore J. Curphey, chairman of the Council Committee on Public Health and Education, he attended a meeting on March 8, 1956, at which time were considered possible recommendations relative to the fee schedule prepared by the Bureau for use by the various State departments and representatives of the Medical Society of the State of New York in further negotiations.

On invitation of Dr. Curphey, Mr. Farrell attended a meeting April 3, 1956, at which was discussed the possible coordination of work of the subcommittees on general practice, mental hygiene, heart disease, physical medicine and rehabilitation, and "such Council committees as Economics and Medical Care Insurance."

March 14, 1956, on invitation of Dr. David M. Weeks, chairman of the Continuing Committee on Voluntary Health Insurance of the Medical Society of the County of New York, Mr. Farrell appeared before that committee. Continuation of premiums on medical care insurance for the unemployed was discussed. He was asked to present briefly his views on this matter and advised that the Subcommittee on Medical Expense Insurance of the State Society had considered a resolution on this problem referred to it by the Council of the State Society. The subcommittee felt that medical care plans should give this matter serious consideration and there should be no Federal or State subsidization or interference. Mr. Farrell recommended that perhaps the waiver-of-premium idea could be used in the event of unemployment, by adopting the same principle which has been used for many years by life insurance companies in the event of disability. In the event any State or Federal system of unemployment insurance should be tied in with the voluntary health insurance program, it would involve government expansion in private enterprise and would be, at least to some degree, regulatory.

Before a solution to this problem can be reached, certain facts will have to be ascertained and definitions established such as:

1. Average length of unemployment over a given period of time for the average worker.
2. Seasonable periods of unemployment in certain types of industry.
3. Is incidence of unemployment more prevalent among female than male employes?
4. What constitutes unemployment?
5. Determination of eligibility for benefits after becoming unemployed.
6. Do all voluntary health insurance plans provide for continuance of coverage in the event of unemployment or change of employment?

It *was voted* to adopt the report.

[Continued from page 1976]

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[Continued from page 1974]

Dr. McClintock continued: "I have been asked by the Bureau to tell you that the Council and the officers of the Society will receive the Tenth Annual Progress Report of the Voluntary Nonprofit Blue Shield Insurance Plans very shortly.

"A report handed me this morning from the Subcommittee on Medical Care Insurance recommends approval of the arrangement made by the State to take care of the new freeze order of the OASI under the Federal Social Security Program. I have not had an opportunity to go over this material, but all of the members of the subcommittee are in approval on the matter. Dr. Brightman's Department of Welfare of the State has been designated the State agency to handle this matter."

In order to give the chairman more time to study the report, it *was voted* that it be tabled.

Ethics.—Dr. Thurman B. Givan, chairman, reported: "We had a letter referred to us, from Dr. Solomon Resnick of Jersey City, under date of February 11, 1956:

> Medical Society of the State of New York
> 386 Fourth Avenue
> New York, New York
>
> Gentlemen:
>
> I would appreciate your sending me information as to the ethical and legal standing of hospitals and clinics in your State, which are govevned by a board of laymen (the presence of an occasional doctor on the board being an incidental thing), and which pay a salary to the doctors on their staff, and which receive fee for medical service either directly from the patient, or by having the doctors on their staff, and which receive fees for medical service directly from the patient, or by having the doctor turn over his fee to the hospital. Doesn't this constitute the practice of medicine by a corporation? Is it ethical and/or legal for such institutions to actually practice medicine in this manner?
>
> Is it ethically acceptable for an institution to set up a publicity department specifically designed to issue releases to the press, radio, and TV for the purpose of constantly parading the name of the institution before the public in order to attract patients to the institution? The patients are then referred to the staff doctors who treat them, but the fee the patient pays goes either directly or indirectly to the institution. It seems to me that if such publicity technics were practiced by an individual doctor, they would certainly be more than frowned on. Is it ethical for an institution to do such things which certainly would not be acceptable from an individual doctor?

"The Committee on Ethics considered this matter, and we feel it is unethical for hospitals to divert from physicians fees from the performance of medical services by said physicians on patients. A physician who participates in such practices is considered unethical. However, control over the ethics of a corporation is not in the hands of the Medical Society of the State of New York.

"If a hospital advertises its wares in order to profit an individual physician or a group of physicians, and if such a physician or group of physicians agrees to such advertising, he or they are guilty of unethical conduct (Section 4, Chapter I, *Principles of Professional Conduct,* Medical Society of the State of New York).

"I move that the letter from Dr. Resnick be answered, incorporating the views as outlined by the committee."

It *was decided* to defer action until the report of the Committee on Hospital and Professional Relations had been heard.

Hospital and Professional Relations.—Dr. Raymond S. McKeeby, chairman, presented the following report: "At its February meeting, the Council referred to the Hospital and Professional Relations Committee part of a report of the Ethics Committee. This is in reference to Section 3 under Article VI of the *Principles of Professional Conduct,* Medical Society of the State of New York, under the heading of 'Contract Practice' which reads as follows:

> *Section 3.* Contract practice as applied to medicine means the practice of medicine under an agreement between a physician or a group of physicians, as principals or agents, and a corporation, organization, political subdivision, or individual, whereby partial or full medical services are provided for a group or class of individuals on the basis of a fee schedule, or for a salary or for a fixed rate per capita.
>
> Contract practice per se is not unethical. Contract practice is unethical if it permits of features or conditions that are declared unethical in these *Principles of Professional Conduct* or if the contract or any of its provisions causes deterioration of the medical service rendered.

"It is recommended that in the first paragraph the words 'duly licensed' be inserted before the words 'physician' and 'physicians.'

"The Committee on Hospital and Professional Relations is in agreement with the Ethics Committee in the recommended change above.

"In quoting further from the Ethics Committee report:

> It is recommended also that the following sentence be added to the second paragraph instead of the one that was accepted before. It should read: "Contract practice which allows diversion of fees for professional medical services to a hospital, organization, or political subdivision is unethical."
>
> We shortened the recommendation that the House passed before, which reads: "A contract with a hospital, organization, or political subdivision, which is supported in whole or in part by public funds or by solicitation of private subscriptions, to diagnose and treat patients is ethical only when such diagnosis and treatment is for a patient who is a public charge."
>
> We felt this would be more clear. I called up Dr. Ingegno who proposed it, and he agreed with the new substitution.

"The Hospital and Professional Relations Committee feels that the recommended addition of the sentence 'Contract practice which allows diversion of fees for professional services to a hospital, organization, or political subdivision is unethical,' is completely out of step with existing conditions.

[Continued on page 1978]

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[Continued from page 1976]

Such a statement would make all hospital-employed radiologists, anesthesiologists, physical therapists, and pathologists unethical. Such a statement would only serve to create antagonism and dissatisfaction.

"Therefore, the Committee on Hospital and Professional Relations suggests the following statement as an additional sentence to paragraph 2 under Section 3 of the *Principles of Professional Conduct*: 'Contract practice which allows exploitation of the patient, doctor, or hospital is unethical' as being more suitable at this time."

After discussion it *was voted* that because of the importance of this matter and the fact that the Council has not had the opportunity to study in detail this recommendation and because the House of Delegates will be the next meeting of this group, this matter be referred to the House of Delegates and that this Council take no action on this report.

It was suggested by the president that both committees, the Committee on Hospital and Professional Relations and the Committee on Questions of Ethics, meet together before the convention and see if they can resolve this problem and appear before the reference committee with a recommendation.

Judicial Council.—Dr. Anderton stated: "Dr. Edward T. Wentworth, chairman of the Judicial Council, has written from Pittsford, New York, on March 30:

> Dear Dr. Anderton:
>
> The Medical Society of the State of New York has not given the Judicial Council authority to hear or render decisions regarding complaints registered by lay persons against physicians.
>
> Brief consideration of such situation leads one immediately to the conclusion that if the Judicial Council were given authority in such matters, it would be interfering with the due legal process in suits for malpractice.
>
> At the last meeting of the Judicial Council a suggestion was made by the legal counsel of the State Society that "the Bylaws of the State Medical Society should be reworded so as to state specifically that the duties of the Judicial Council are restricted to complaints and hearings of *members of the State Society* and that no layman's complaints should be referred to the Judicial Council."

"This was the result of an appeal by a layman from the action of a county society grievance committee. We have no mechanism in the Society now, sir, for handling any appeal from the decision of a county medical society grievance committee."

It *was voted* to accept the report.

Legislation.—Dr. Henry I. Fineberg, chairman, stated: "The Legislature adjourned during the early evening of the 23rd of last month. This session established a new record. The number of bills introduced was 7,460. The previous mark was set exactly one year ago when 6,667 bills were presented.

"A tabulation reveals that 1,288 bills were approved. This total has been topped only three times in recent legislative history—in 1946 when 1,327 bills were passed; in 1941 when the figure was 1,355; and in 1935, the last time that both houses were controlled by the Democrats, when the number was 1,329.

"In accordance with the law, the Governor has thirty days from the adjournment of the Legislature either to sign, veto, or ignore the bills that were passed."

He gave a résumé of the action taken by the Legislature on bills that the Medical Society of the State of New York sponsored, supported, or opposed. A neutral attitude was assumed in the case of a few, which may be interpreted as "tacit approval."

He stated: "During the past week we received a copy of a 'Call to Action' telegram sent, by the American Medical Association, to Dr. C. L. Palmer, member of the Committee on Legislation of the American Medical Association. Instructions were transmitted to us concerning the fight against H.R. 7225. The matter was referred to the Legislation Bureau, and we are now in the midst of alerting the members of the Council Committee on Legislation and the county legislation chairmen with the recommendation that they contact certain representatives and our two senators and inform them that we are definitely opposed to the disability provisions of H.R. 7225."

After discussion it *was voted* that the Council congratulate Dr. Fineberg and Dr. Smith on a very good year's work.

It *was voted* to approve the report.

Dr. Harold B. Smith, executive officer, stated: "I might mention one other matter. We are familiar with the Interdepartmental Council, which consists of various representatives of agencies in the State interested in medical matters. The bill was signed by the Governor recently which creates a State Health Resources Board, which assumes the old functions of the Interdepartmental Conference, and it will have a staff of employes and an appropriation which will enable it to be perhaps a more active body and conduct a broader program than the old Interdepartmental Health Conference could."

Office Administration and Policies.—Dr. John J. Masterson, chairman, stated: "The regular monthly meeting of the Office Administration and Policies Committee was held on April 11, 1956.

"The office manager submitted his report, and various personnel matters were approved.

"The committee discussed the question of using a special gold seal on all Society stationery in 1957.

"The Board of Trustees authorized the obtaining of a special study by insurance actuaries to determine how long a $10 assessment of each member of the Society would last, if the money was used to pay pensions, based on a plan recently submitted to the Council and Board of Trustees. The preliminary results of this study indicated that if $240,000 was received, the money would last more than twenty-two years."

[Continued on page 1980]

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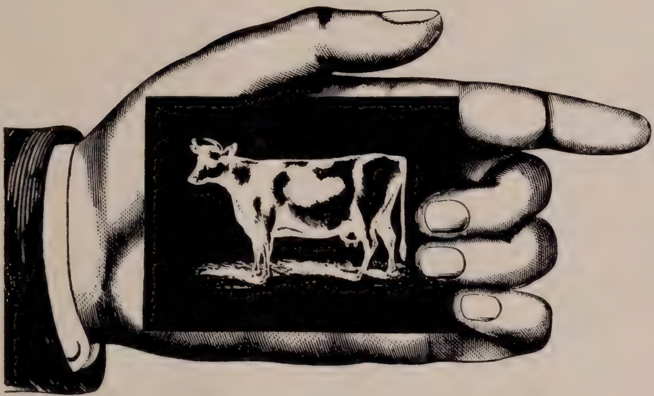

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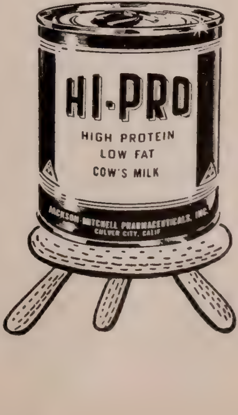

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[Continued from page 1978]

It *was voted* to accept the report.

Publication.—Dr. Masterson, chairman, reported: "The regular monthly meeting of the Publication Committee was held on April 11, 1956.

"The editor submitted his monthly report and stated that he was attempting to increase the sources of material for the clinicopathologic conferences. The committee recommended that the editor be authorized to do any necessary traveling to stimulate the preparation of such material.

"It was voted to designate the February 1, 1957, issue as the Sesquicentennial Number of the JOURNAL.

"It was reported that Dr. Frederic B. Zeman had resigned from the Associate Editorial Board because of pressure of other work. It was voted to recommend to the Council that this resignation be accepted with regret. The committee voted to request the Council to approve the addition of Drs. Samuel Z. Freedman and Samuel J. Prigal to the Associate Editorial Board.

"There was a general discussion of our present policy of not including in the *Directory* those medical organizations having less than 50 members in New York State. It was felt that perhaps in some instances this rule was excluding certain organizations which ought to be included in the biographic section. It was decided, therefore, to continue this policy with regard to intrastate organizations, but that in the case of regional, national, and international organizations each application for listing in the *Directory* be considered on its merits, and the policy of having 50 members in New York State should not necessarily apply.

"The business manager submitted his monthly report, and the committee reviewed the financial results of the JOURNAL for the nine months ended March 20, 1956.

"At our February meeting, Dr. Norman S. Moore, assistant editor, was requested to make a survey which would enable the committee to decide whether the publication in the biographic section of the *Directory* of faculty appointments was desirable. Dr. Moore's report was received, and after discussion the committee decided that there should be no change in our present policy of excluding teaching appointments from the next *Directory*."

It *was voted* to adopt the report.

Pharmaceutical Joint Committee.—Dr. Anderton stated: "A letter from Dr. Frederick Schroeder, chairman of the Joint Committee of the Medical Society of the State of New York and the Pharmaceutical Association of the State of New York:

> Please be informed that the joint Medico-Pharmaceutical Committee has completed and now approved the publication of the "Physician's Prescription Manual."
>
> Before the publication can be ordered, it is necessary for the appropriate committee of the New York State Medical Society to give its approval also. Please bring this matter to the attention of this committee, and ask them to write to me accordingly.
>
> It is desired to get this formulary in the hands of the printer by April 10, sooner if possible, and have it ready for distribution by May 15, just prior to the Annual Convention of the New York State Pharmaceutical Association.

"I have acknowledged and reported to the committee that the report would be made to the Council today.

"I move acceptance of the report and approval of the new *Physicians' Prescription Manual*."

Approval *was voted.*

Public Health and Education.—Dr. Theodore J. Curphey, chairman, reported activities of the chairman, as follows: March 8, meeting relative to fee schedules; March 15, Subcommittee on Heart Disease, Albany; March 16, executive committee of Heart Assembly, Albany, and conference with Dr. Amos of State Health Department and Dr. Frank Woolsey, assistant dean, Albany Medical College; March 21, conference with members of Diabetes Subcommittee and with Dr. Reynolds of the State Health Department; March 29, meeting of the Subcommittee on Geriatrics; April 3, meeting of the chairmen of the Subcommittees on Geriatrics, General Practice, Mental Hygiene, Physical Medicine and Rehabilitation, Heart Disease (Economics); April 5, meeting of Advisory Committee on Epilepsy.

"During the past month there were 37 lectures set up for the program.

"I might comment on the meeting with Dr. Frank Woolsey, assistant dean of the Albany Medical College. Some of you might know that Dr. Woolsey, who incidentally is a radio ham, has set up a very excellent program of postgraduate education emanating from the Albany Medical School. Dr. Woolsey thinks that the program represents another avenue of medical education centering in the medical school and transmitted by radio. He told me that he proposes to prepare a progress report at the end of about a year's operation, which he assures me will be available. I mention that because of Dr. Di Natale's report for the Planning Committee in the second paragraph, commenting on our committee, saying: 'Many feel that the medical schools and various academies of medicine and hospital staffs are providing medical education for the physicians, and perhaps some of the work that was done by the Public Health and Medical Education Committee may not be as extensive as formerly.' That is open to question. I think you have two facts; in this past month we have set up 37, which is larger than usual.

"In connection with the meeting on fee schedule, the meeting was preparatory to a meeting with the respective State Department heads concerned with fee schedules for medical services: the Education Department, Vocational Rehabilitation; the Health Department, Rehabilitation; the Social Welfare Department, Medical Services; and the Labor Department, Workmen's Compensation.

"It was agreed that your chairman should write each of the directors of the departments to ask if they are willing to use the same fee for the same procedure and if they are willing to agree on a uni-

[Continued on page 1982]

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[Continued from page 1980]

form definition for the various nomenclatures. In going through the various fee schedules we found, for example, I think it was on a bilateral sinusitis, a minor operation, it had a spread of 100 per cent on the chart in two of the governmental agencies. If they agreed to these two points, that is, a uniform nomenclature and uniform fee schedule, it would be proposed that they accept 75 per cent of the workmen's compensation fees as the basis for their respective schedules. It was also brought out at the meeting that the Workmen's Compensation Bureau is now negotiating with the board for a new schedule.

"A meeting is to be held to bring together the State department heads and the interested Medical Society officials.

"I have a report from the *Diabetes Subcommittee*, which entails a program to be used in respect to the problem of diabetes in New York State. It is a joint statement of principles governing diabetes activities by the Diabetes Subcommittee of the Medical Society of the State of New York and the Bureau of Chronic Diseases and Geriatrics of the New York State Department of Health.

"As to the meeting of the *Subcommittee on Geriatrics* on March 29, I won't mention the name of the gentlemen who attended. Dr. Zeman and Dr. Reynolds discussed two main topics: (1) the means of promoting cooperation between the county medical societies and community welfare agencies in the interest of older people and sufferers from chronic illness and (2) the plan submitted by Dr. Reynolds and Dr. Zeman for a State-wide program on 'Diagnosis and Management of Hemiplegia in the Elderly Patient,' to be sponsored jointly by the Medical Society of the State of New York and the State Health Department.

"This program is to be aimed at physicians, nurses, social workers, and the lay public. Meetings on the subject are to be set up at the annual meetings of the State Society, of the Public Health Officers Association, the New York State Nurses Association, and the State Welfare Conference.

"Special papers will be prepared for the NEW YORK STATE JOURNAL OF MEDICINE, either all in a special section of one issue or one at a time at intervals. Material is to be prepared for the physicians of the State.

"The subcommittee felt that this was a worthwhile program, and it was moved and carried that the matter be presented to the Council for approval.

"I have the outline of the State-wide campaign that takes up three full pages. I think there are some points that should be mentioned because this represents a rather important matter. Any of these matters in which there is joint action by the State Medical Society and the State Department of Health should be fully investigated and reported by our committee to the Council for future action:

" 'Statewide Campaign of Professional and Lay Education—Chronic Disease in the Aged

" 'Objectives: (1) to disseminate modern viewpoints on chronic diseases of the aged to the medical profession; (2) to acquaint nurses and social workers with medical progress and new technics in this field; (3) to improve public understanding of these problems; (4) to foster more active programs aimed at chronic illness; (5) to stimulate research on the problems of chronic disease.

" 'To meet these objectives, the Medical Society of the State of New York, through its Subcommittee on Geriatrics, and the New York State Department of Health, through its Bureau of Chronic Diseases and Geriatrics'—I think this is perhaps the gist of the matter—'are joining forces to develop annual programs, concentrating each year on one specific chronic condition that commonly affects older people. For 1956–1957 the topic of the campaign will be hemiplegia in the aged. The campaign will be concentrated during the months of October and November, but not limited to these two months.

" 'The campaign will consist of the following components:'—I will just read the headings—'(1) postgraduate education for physicians, (2) postgraduate education for nurses, (3) postgraduate education for social workers, (4) education of the public on hemiplegia.'

"Then it goes into the method of implementing and suggestions for certain lead articles in the State JOURNAL. It is entirely innocuous as far as anything in respect to basic policy is concerned. It is simply an educational approach to the problems of the aged in this particular period from 1956 to 1957, using hemiplegia as the lead-off subject. Our committee has gone over this carefully.

"It was also moved and carried at that subcommittee meeting of the geriatrics group that Dr. Zeman and I prepare a statement outlining methods where the physician has been and can continue to be of help, how it has been done in the past, giving examples of such activities, and that this statement be distributed to the membership throughout the State with certain recommendations; in other words, familiarizing the members of the State Society with the program on hemiplegia for the coming year."

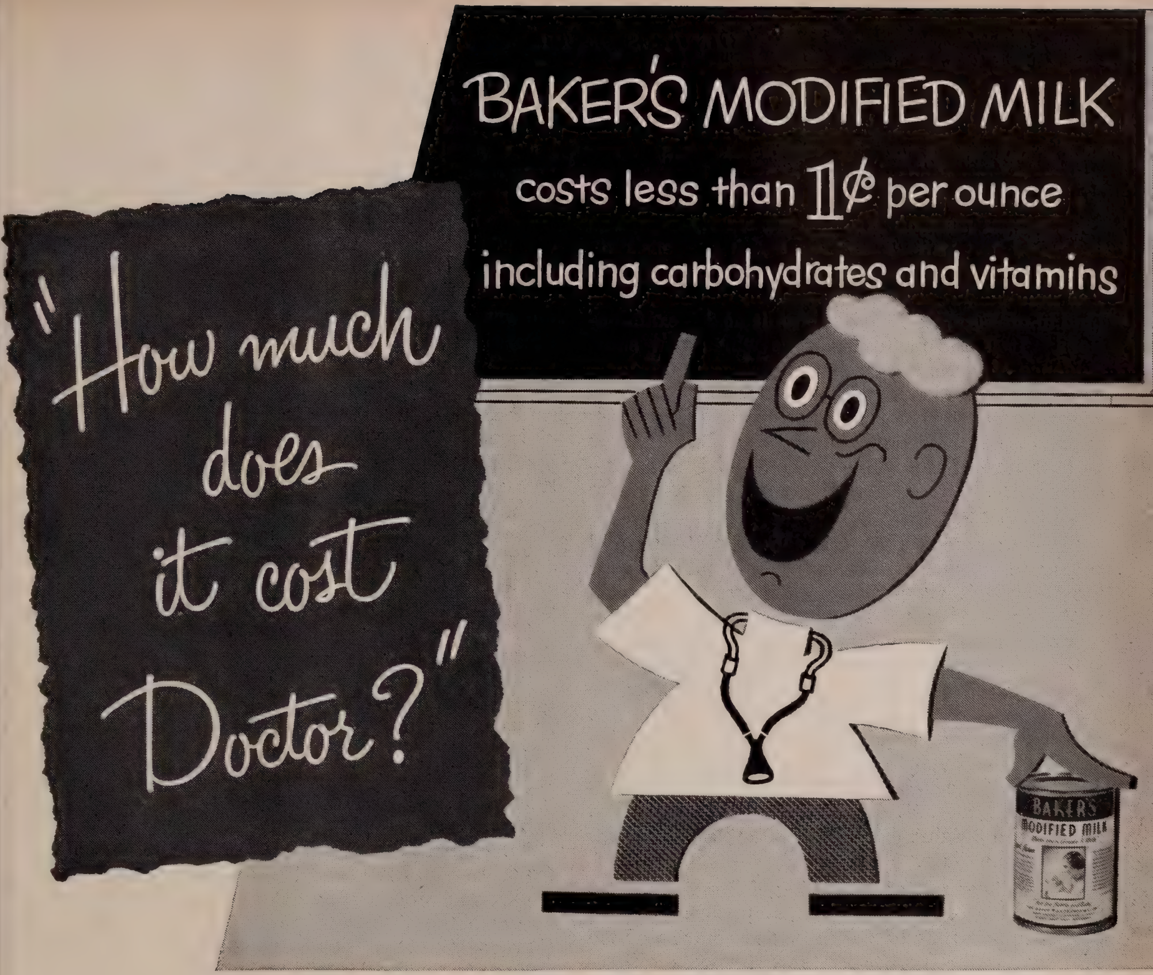
It *was voted* to adopt this part of the report.

"According to the mandates of the House of Delegates, Mr. President, we had a meeting of the chairmen of the Subcommittees on Geriatrics, General Practice, Mental Hygiene, Heart Disease, Physical Medicine and Rehabilitation, and the Council Committees on Economics and Medical Care Insurance.

"Dr. Zeman informed the meeting of the plans which his subcommittee were considering for a program of education of the profession and ancillary groups, as well as the public, in cooperation with the State Health Department. 'The Diagnosis and Management of the Hemiplegic' is the first project.

"Emphasis was laid on the importance of the medical profession putting forth greater effort to keep in their own hands the direction of the medical aspects of the various programs sponsored by lay organizations, governors' commissions, etc., and not to relegate themselves to the role of advisers only.

[Continued on page 1984]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[Continued from page 1982]

"There was discussion of possible programs broad enough to permit coordination of all the subcommittees represented at the meeting. It was suggested that an exhibit might be presented at the 1957 annual meeting in which an elderly person is examined for various diseases, with emphasis on simplified tests and on the preventive aspects. It was pointed out that the profession has lagged behind in proffering a plan for periodic health examinations. It is the medical schools which now show evidence of recognizing this lack and the need for a concept of comprehensive care (including the socioeconomic features) of which the periodic examination is one facet. It is the responsibility of the doctors to take care of the whole person, and it is the responsibility of the Medical Society to re-educate them to this concept.

"It was agreed that the subcommittees could cooperate on such a task, using as a pilot project the hemiplegia program proposed by the Subcommittee on Geriatrics. This will point up the principles of comprehensive care, and other organizations will be encouraged to contribute suggestions and financial help if possible. (We will probably be able to interest a number of the foundations, Dr. Dattelbaum, to provide the money for this program.) The importance of enlisting the full cooperation of the Public Relations Bureau was recognized, and Dr. A. H. Aaron was asked to assist Mr. Miebach in obtaining television time in the western sector of the State.

"A small committee, consisting of Drs. Abramson, Seymour Fiske, and Zeman, was appointed to prepare a rough draft of the expanded concept of the program, while Drs. Zeman and Reynolds will refine the details of the hemiplegia project. It was believed that once a blueprint has been drawn up, it will be comparatively easy to procure funds from foundations which are contributing generously to the medical schools in the interest of this comprehensive approach to medical care.

"The next meeting of the full committee will be held during the annual meeting.

"I move the adoption of this report along with its recommendation for future work of this Joint Committee."

It *was so voted.*

"The last report is that of the *Subcommittee on Epilepsy.* At our meeting there were Dr. Brill, Assistant Commissioner of Mental Hygiene; Dr. Korns, Assistant Commissioner of Health; Dr. Goddard, adviser to Dr. Korns; Commissioner Kelly, of the Motor Vehicle Department, and two of his assistants or associates, Mr. Russell and Mr. Fitzgerald.

"Commissioner Kelly reported that a recent ruling of the Appellate Division of the State Supreme Court upheld his right to rule on the applications of epileptic drivers. He quoted in part, 'The right to drive must yield to measures which must be regarded as a safeguard for the public.'

"The subcommittee agreed that it would be advantageous to procure a ruling from the Attorney General as to whether the physician's statement accompanying an epileptic driver's application for a license should merely state how long the patient has been free from attacks (two years) or whether, without rendering himself liable to possible suit, he could commit himself also as to the patient's ability or inability to drive with safety to himself and the public.

"This is a very ticklish matter, and the committee was cognizant of the risk involved to the doctors who took the responsibility. The Commissioner will obtain a ruling on this from the Attorney General.

"The subcommittee arrived at the following conclusions with regard to the mechanism for handling applicants who are epileptics or have had a convulsive seizure due to other causes.

"If the Commissioner requires a physical examination, the applicant shall be examined by his family physician and a neurologist or neuropsychiatrist of his own choice, and a letter shall be written to the Commissioner incorporating their findings.

"If the applicant is accepted, the usual three-year license will be issued:

"1. With re-examination by his physician required at the end of each six months and subsequent letter to the Commissioner to that effect, if there has been no recurrence of convulsions.

"2. But if there is a recurrence of seizures, there must be another review by both the family physician and the specialist after each six months.

"3. But at the end of the first three-year period (*a*) those who have been free of seizures and are off medication may be granted the regular three-year license without physical review every six months; (*b*) those who have been free of seizures for ten years and are on medication must still be checked by their physicians each six months.

"Alcohol: An epileptic subject to attacks should not drink alcoholic beverages. A written oath to this effect shall be required when application is made.

"Barbiturates: These shall be used only under the direction of a physician.

"Chauffeurs' licenses: Any person driving a public conveyance—bus, school bus, taxi, truck, etc.—must be more carefully scrutinized than other applicants who have had seizures. If the applicant has had convulsions, the following rules apply: (1) If he is on medication, he shall not be granted a license; (2) he must continue to be re-examined and to obtain clearance every six months, even though he may not require medication to prevent seizures.

"It was felt that the ruling should be more strict in connection with chauffeurs' licenses than with ordinary drivers.

"In a particular instance, after a person has had seizures, an electroencephalogram may be recommended by the Commissioner. In other words, this may be used selectively to reinforce his opinion in safeguarding the public.

"The subcommittee discussed the case of a certain applicant, aged thirty-eight, who began having seizures at age eighteen. He still has about two

[Continued on page 1986]

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[Continued from page 1984]

seizures a year nocturnally. Electroencephalographic examination is negative. It was decided to refuse him an operator's license.

"There was discussion of the requirements for eligibility as specialists in neurology or neuropsychiatry. It was pointed out that there are comparatively few board-certified men in the State. It was agreed to use Workmen's Compensation Board lists of these two categories.

"The question of financing examinations for the medically indigent was taken up. Dr. Wortis pointed out that the Bellevue and Kings County Hospitals have special clinics for this purpose and that there are other epilepsy clinics throughout the State. He will get a list of them. Dr. Brill suggested applying to the Community Health Boards for assistance.

"Dr. Korns described the research project being developed in Albany to study the total subject of accident prevention, for which $80,000 has been appropriated. Dr. Wortis was of the belief that additional money could be obtained from the National Institute of Neurology of the Public Health Service and from the Mental Health Association in Washington, D.C.

"May I say in commenting on this report, Mr. President, that the Commissioner of Motor Vehicles is grateful to the Medical Society for the help he is getting from the practicing doctors of the State."

It *was voted* that the report as a whole be adopted.

Public Relations.—Dr. Floyd S. Winslow, chairman, presented the following report:

Preparation for the annual meeting, participation in conferences on the "Guide for Cooperation," and completion of activities associated with the special chiropractic campaign were some of the projects on which the staff of the Public and Professional Relations Bureau worked besides their regular duties during the past several weeks.

As in past years, preparing for and publicizing the annual meeting received a great amount of attention. Special releases were mailed to newspapers and county medical society bulletins containing news about physicians taking part in the sections and sessions as well as information about other phases of the meeting. Science editors, newspaper reporters, hospital superintendents, and deans of medical schools were sent special invitations. Over Dr. Anderton's signature letters were mailed to various Society chairmen advising them to channel all materials for publication through the Bureau. Stories about the principal speaker at the annual meeting, the House of Delegates, the dinner-dance, and a full page calendar of events were featured in the April issue of the *Newsletter*.

In addition to their field work, the field men, Mr. Schuyler, Mr. Tracey, and Mr. Walsh, undertook special assignments in preparation for the convention. Among these were digests of scientific papers in the form of newspaper releases and radio and television programs.

Aid was given to Dr. Henry I. Fineberg, chairman of the Public Relations Session, in publicizing the program. Over his signature invitations were mailed to county medical society public relations chairmen and presidents.

Working under the direction of Dr. John C. McClintock, chairman of your committee's Subcommittee on Cooperation with the Media of Information, the Bureau helped in setting up two conferences at the Biltmore Hotel, New York City, March 8 and 9. The object of the meetings was to review and renew the Guide as promised in the original document approved by the 1954 House of Delegates. Dr. McClintock and Dr. Fineberg acted as moderators, while the third subcommittee member, Dr. John D. Naples, took an active part in discussions.

Your chairman is pleased to report that friendliness and cooperation pervaded both meetings. This is a great improvement over the almost hostile attitude that prevailed on the part of some representatives of the media a few years ago. A typical example of the favorable comments expressed was that of Mr. Bertrand T. Fay, public relations consultant, Hospital Association of New York State, in a letter to Dr. McClintock. He stated, "I believe your committee has done an outstanding job in the promulgation of this 'Guide,' and if it is kept alive, it will bring great benefit to all concerned."

Some 21 representatives of the Society and media participated in the conferences. The media men, representing radio, television, newspapers, and other segments, crediting the Guide for improving conditions, reported little or no trouble in obtaining news from doctors during the past year. The Society's representatives stressed the need for physicians to become familiar with the Guide's provisions.

Postgraduate lectures in various parts of the State were publicized by news releases to newspaper editors in the following counties: Greene, Jefferson, Nassau, Ontario, Rensselaer, Schenectady, Suffolk, Sullivan, and Wayne.

In regard to the Woman's Auxiliary the Bureau cooperated with the officials in promoting many projects, several of which related to the coming annual convention. Assistance was given in the preparation and publishing of the 20th anniversary issue of the *Distaff* and the Auxiliary's participation in the American Medical Education Foundation's campaign.

A meeting of your committee was held at Society headquarters on March 8. Among the items on the agenda were the sesquicentennial celebration, annual meeting, chiropractic campaign, Guide for Cooperation, medical personnel training courses, and other matters. Others present at the meeting were Dr. Anderton, Dr. Azzari, Mr. Miebach, and his field staff.

Since many county medical societies are celebrating their sesquicentennial anniversaries this year, the Bureau cooperated with Dr. Azzari in sending special letters of congratulation and best wishes, bearing his signature, to societies before their celebrations. In addition, the Bureau worked with Dr. Anderton in mailing a special letter, in which a return postcard was enclosed, requesting information

[Continued on page 1988]

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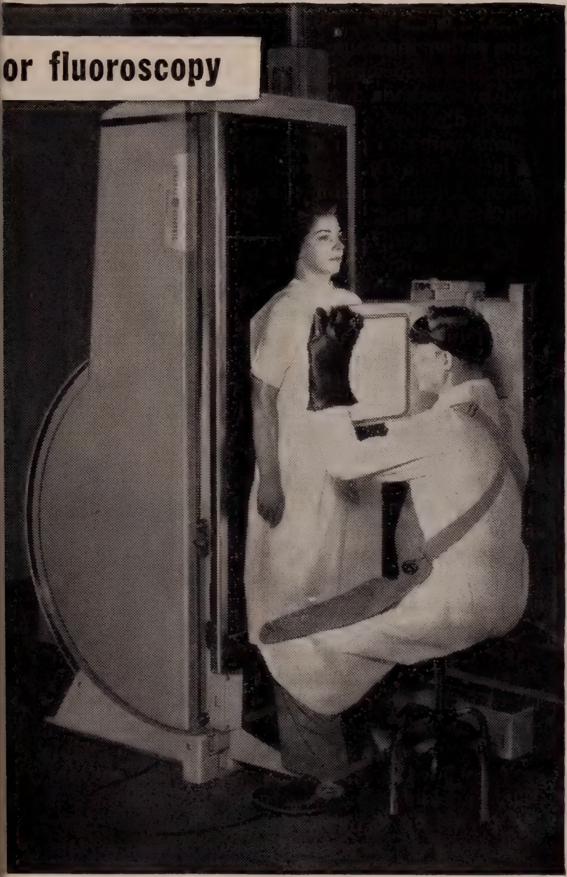

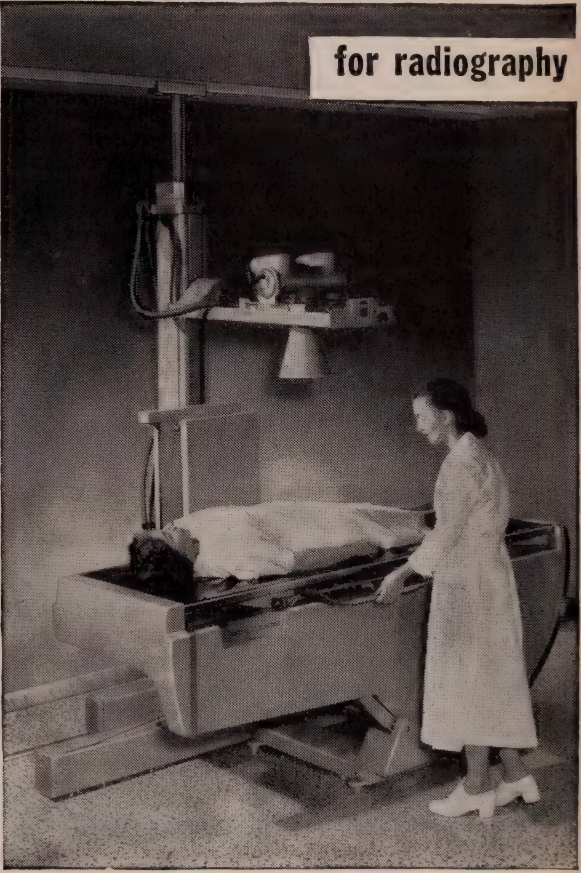

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[Continued from page 1986]

about these celebrations.

In preparation for the Public Relations Session, two meetings were arranged, at the request of the chairman, Dr. Fineberg, with participants, to discuss their roles in the session.

Prior to the closing of the Legislature, the field men, in compliance with the request of the Committee to Combat Cults, traveled in their respective territories to activate county medical societies and the Woman's Auxiliary in the campaign to prevent chiropractic licensure. They reported that they were successful in stimulating action where none had been taken and in obtaining additional cooperation from active groups.

Although the formal campaign against chiropractic licensure has come to a close, your committee feels that an informal effort to educate the people on a year-round basis is advisable. It intends, therefore, to have the Bureau, from time to time, bring the facts to the public and our members through the *Newsletter* and other means.

One reason for adopting this attitude was the great interest shown in the literature made available by the Bureau during the campaign. In the short time the campaign was active almost 150,000 pieces were distributed. The most popular was the new leaflet "Should Chiropractors Be Licensed?" of which 62,000 copies were distributed. Next in demand were "Science vs Chiropractic" (28,550), "Why Chiropractors Should Not Be Licensed" (30,500), and "The Scope of Chiropractic" (20,000). In spite of the fact that a grand total of 141,050 pamphlets were sent out, requests for the last named piece exhausted our supply.

It *was voted* to adopt the report.

Veterans' Administration, Liaison with.—Dr. Herbert H. Bauckus, chairman, stated:

"Mr. President, this is the report of the only meeting the committee had this year. It was held April 6, 1956, and the following is quoted from the minutes:

'The purpose of the meeting was the discussion of data and information that would be helpful to participating physicians.

'The question of fees for psychiatric care by the fee-basis physician was discussed. There was some misunderstanding about the catalog of fees applicable to New York State.

'After discussion it was moved that the following fees contained in VA Catalog No. 5, under date of February 15, 1948, with the words "National Fee Schedule Corrected for New York State Plan" on the front page, are the correct fees for psychiatric care: Page 4, item 0053, psychiatric treatment (psychotherapeutic conference) 1 hr.–50 min. $10, $^1/_2$ hr. (25–30 min.), $5. Motion was seconded and carried.

'Dr. Klippen agreed he would send copies of the catalog as it stands in Washington, to Dr. Bauckus.

'The matter of keeping participating physicians informed in questions of procedures, authorizations, etc., was discussed at length. Dr. Wetherell referred to a file of form letters which he had devised as a simple and clear means of supplying necessary information to fee-basis physicians and reported that it had worked well in his territory. Although it was felt that the disseminating of this information material was the obligation of the Veterans Administration rather than the Veterans Medical Care Plan or the State Society, the problem could best be solved by methods deemed advisable and workable by each director. Dr. Klippen pointed out that problems were now at a minimum.

'A letter from Dr. Brewer of the Central Office of Veterans Administration was read by Dr. Bauckus which stated that "it has been our Central Office policy to bring infractions of rates and questionable practice procedures of doctors to the Directors of the Plans or to ethics committees set up by them."

'Dr. Bauckus stated he would like coordinators to send letters to him on every infraction by fee-basis physicians for action.

'Discussion followed on the removal of doctors from lists for infractions. It was the chairman's feeling that this should be done by the plan and, if found necessary by Veterans Administration, that the VA consult the plan and the doctor be granted a hearing and consultation with the coordinator. It was also the chairman's feeling that the statement contained in Dr. Brewer's letter and quoted above should be recommended to the board of directors as a satisfactory procedure.

'The question of care of New York State workmen's compensation cases in veteran hospitals was discussed. It was pointed out by Dr. Klippen that they are using every means possible to discover workmen's compensation cases and, if possible, to exclude them. However, if a patient indicates he is unable to pay, by law the veteran hospital must accept him.

'Dr. Bauckus stated that the State Society has in mind to reduce the size of the liaison committee, and it has been suggested it be absorbed by the Economics Committee. There was no serious objection to this beyond the fact that it was important that the composition of the liaison committee contain men who understand veteran problems. It was suggested that a possible subcommittee of the Economics Committee would be satisfactory.

'Dr. Bauckus presented a brief report on the work of the plan.

'Motion was made to recommend to the board of directors that the contract between Veterans Medical Service Plan of New York and Veterans Administration be renewed in its present form. Motion was seconded and carried.

'It was pointed out by Dr. Klippen that renewing of the contract in its present form did not preclude the adjustment or alteration of fees in the schedule from time to time.' "

Dr. Bauckus presented the request of the Veterans Administration for renewal of its contract with the Veterans Medical Service Plan of New York, Inc., for the year July 1, 1956, to June 30, 1957. He asked the opinion of the Council as to whether or not the contract should be renewed, pointing out that the conduct of the Veterans Administration differed in some respects from principles approved

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by the American Medical Association.

He stated that he would request copies of the January-February, 1956, *Bulletin of the National Medical Veterans Society* for distribution to the members of the Council.

Approval of the report *was voted*, including the recommendation that the contract between Veterans' Medical Service Plan of New York, Inc., and the Veterans Administration be renewed.

War Memorial.—Dr. Walter W. Mott, chairman, read a request for assistance from the fund toward the secondary school education of a prospective beneficiary in lieu of payments toward his college education. He pointed out the following provision of the plan accepted by the House of Delegates in May 1948: "The Council shall be authorized to care for cases of special educational need arising in the secondary (high school) level within the limitations of the available funds" and stated that funds were available for the payment of this scholarship if the Council approved.

After discussion approval *was voted*.

Dr. Anderton suggested that the committee consider Lakemont Academy, at Lakemont on Seneca Lake, New York, because he knew there were certain scholarships available there.

Woman's Auxiliary, Advisory to.—Dr. Dan Mellen, chairman, reported that the projects of the Woman's Auxiliary were being carried forward successfully except for difficulties encountered in the 80-dimes campaign.

Workmen's Compensation.—Dr. Gerald D. Dorman, chairman, presented the following report:

Arbitrations of disputed medical bills were held for an entire day in Westchester County on March 14, 1956, and a similar arbitration program will be carried out for Suffolk County in Bay Shore on April 19, 1956.

We have received word from a member of our Council Committee on Workmen's Compensation in Rochester, Dr. Joseph P. Henry, that he had been informed there was much dissatisfaction over and little change in the attitude of the Corporation Counsel's office with respect to the payment of doctors bills for services in compensation cases, with particular reference to the payment of specialists fees in minor surgical conditions, and compliance with Section 13-g relating to objections to the value of medical services and arbitration of medical bills. We wish to draw attention to our report on this matter to the Council in October, 1955.

We had hoped that the matter had been properly adjudicated, that Rochester, a self-insurer, would comply with the provisions of the Workmen's Compensation Law and pay the fees in the fee schedule and that specialists would no longer have difficulty in collecting proper bills.

Your director has, therefore, arranged a meeting in Rochester with the Corporation Counsel, Miss Honora Miller, which will also be attended by Drs. Floyd Winslow, Joseph P. Henry, and Joseph A. Lane, all of Rochseter. Miss Angela Parisi has been requested to be present if possible or to send a member of her staff. We hope finally to come to a workable agreement with the Corporation Counsel. It should be borne in mind that elsewhere throughout the State, insurance carriers and self-insurers pay specialists in accordance with the fee schedule for specialists regardless of the extent or degree of the injury. In Rochester they have been loath to pay full specialists fees in minor conditions, alleging that general practitioners fees should prevail in the type of cases that could be and are treated by general practitioners. We hold a specialist is, under the provisions of the Workmen's Compensation Law and the fee schedule, entitled to specialist fees in all cases falling within his specialty.

(*The proposed meeting was called off.*)

Senate Intro. 1194 (Mr. Curry) and Assembly Intro. 2493 (Mr. McDonald) amended Section 13-g of the Workmen's Compensation Law to provide that if the parties fail to agree as to the value of medical aid in workmen's compensation cases, the value should be decided by the Medical Practice Committee of counties in which services were rendered in New York City and in other counties by arbitration committees of two physicians designated by the president of the medical society of the county where rendered, instead of where claimant resides. This bill passed the Assembly, but an objection was made by the counsel of the Workmen's Compensation Board on technical grounds which held up the passage of the bill in the Senate. On the very last day on which amendments could be introduced, the bill was amended by us to meet the objections of the counsel for the Workmen's Compensation Board. It was his opinion that the bill as introduced would have required the appointment of a medical practice committee for every county having a population of one million or more, not as the law now provides, one single Medical Practice Committee for all counties of one million population. We introduced an amendment to cover this objection although we felt that the workmen's compensation law adequately provided for a *single* medical practice committee for *all* counties and not for each county having a population of one million or more. Despite the lateness of its introduction, the bill was passed and awaits the Governor's signature. Our other bills failed passage.

Although considerable support developed for our bill providing for panels of experts, it failed of passage, but it is felt that we have a fine chance of having this legislation adopted next year. Support from an important source has developed for our bill for the abolition of the Medical Practice Committee and the restoration of the functions served by them, back to the four New York Counties having a population of over one million, and we are hopeful it may succeed next year. Owing to the imminence of Erie and Nassau Counties reaching the million mark, we should push this legislation with every means at our command, especially in view of the increasing complaints received from physicians in New York City.

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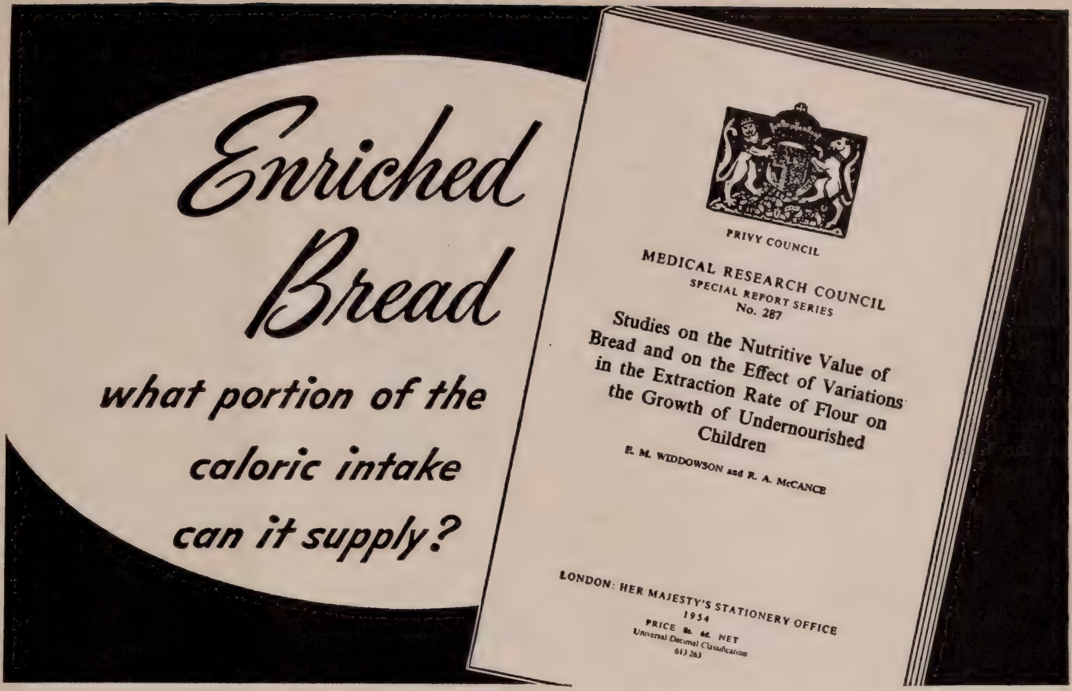
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A striking observation was made in a recently reported nutrition study. Undernourished children in a German orphanage, placed on diets providing a high percentage of their total calories in the form of bread, not only improved in health, but "in spite of the simple diet provided" gained in weight and increased in height at a highly satisfactory rate.*

The children received daily supplements of vitamin A, 2000 I.U., vitamin D, 1000 I.U., and ascorbic acid, 25 mg.

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*Widdowson, E. M., and McCance, R. A.: Studies on the Nutritive Value of Bread and on the Effect of Variations in the Extraction Rate of Flour on the Growth of Undernourished Children, Medical Research Council, Special Report Series, No. 287, London, Her Majesty's Stationery Office, 1954.

The nutritional statements made in this advertisement have been reviewed by the Council on Foods and Nutrition of the American Medical Association and found consistent with current authoritative medical opinion.

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Dr. Dorman stated: "I would like to add that on May 22 the chairman of the Workmen's Compensation Board, Miss Angela Parisi, has been asked to appear at a meeting in Utica and that the director of compensation and the Council Committee chairman have been asked to be present to speak at that meeting."

It *was voted* to adopt the report.

New Business

Dr. Azzari.—Dr. Floyd S. Winslow stated: "It is my understanding that this is the last meeting that this Council will have the pleasure of being presided over by our present president. On behalf of the Council, I wish to express to him our congratulations on the very successful year he has had and to thank him for his earnestness and prudence in furthering the activities of the Medical Society of the State of New York." (*Applause*)

President Azzari responded: "Gentlemen, I am most grateful for your kind expression as my term approaches its end. I want to assure you of the very great privilege that has been mine to preside over this group of gentlemen for this last year. It has been an inspiration, and I shall never cease to enlighten our membership as to your devotion to duty and your generous contributions made in behalf of medicine. I have never worked with any group more devoted to sincerity of purpose and dedicated to insuring justice for all of our membership. I really am very, very grateful for your indulgence. Thank you!" (*Applause*)

MEDICAL MEETINGS

American College of Angiology

The American College of Angiology held its second annual meeting in the Drake Hotel, Chicago, June 9 and 10, immediately prior to the annual meeting of the American Medical Association in Chicago.

Dr. Leo Loewe of New York City, president of the College, gave his presidential address on the first day. Dr. Shepard S. Shapiro, New York City, first vice-president and president-elect, was the chairman of the scientific program committee.

American Occupational Therapy Association

The 1956 conference of the American Occupational Therapy Association will be held from September 29 through October 5 in Minneapolis, Minnesota, at the Nicollet Hotel. The theme of the conference will be "Time for Reflection," and the topics will include: occupational therapy in relation to general medicine and surgery, geriatrics, pediatrics, physical disabilities, and psychiatry.

Annual Otolaryngologic Assembly

The Department of Otolaryngology, University of Illinois College of Medicine, will hold its annual assembly in otolaryngology from October 1 through 7.

The assembly will consist of an intensive series of lectures and panels concerning advancements in otolaryngology, and evening sessions devoted to surgical anatomy of the head and neck, and histopathology of the ear, nose, and throat. For further information write to the Department of Otolaryngology, 1853 West Polk Street, Chicago 12, Illinois.

American Heart Association

The 32nd annual meeting and 29th scientific session of the American Heart Association will be held in Cincinnati from October 26 through 31. Deadline for submission of abstracts of papers for presentation at the scientific sessions is June 15. Papers based on original studies in clinical, laboratory, and epidemiologic research are eligible for consideration. Abstracts must be limited to under 300 words and submitted on special forms available from the Medical Director of the American Heart Association, 44 East 23rd Street, New York 10, New York.

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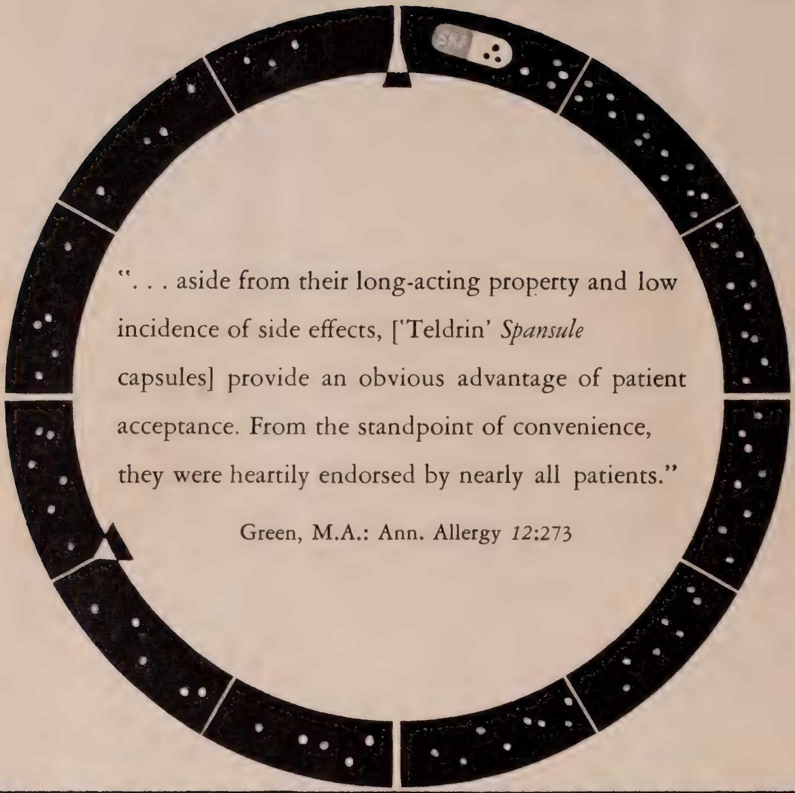

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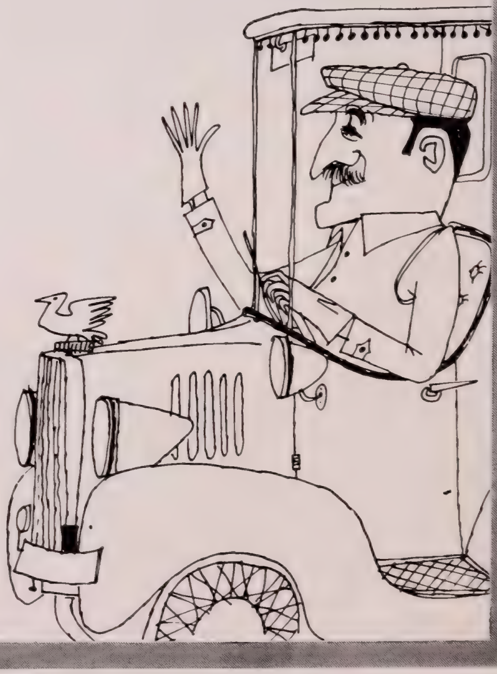

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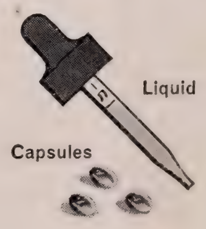

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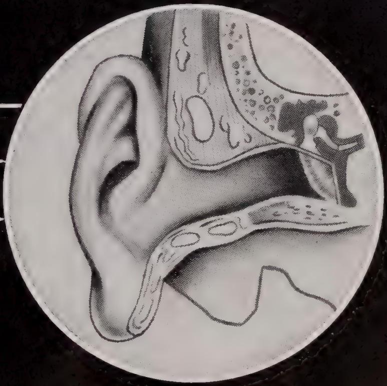

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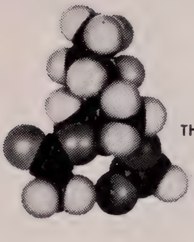

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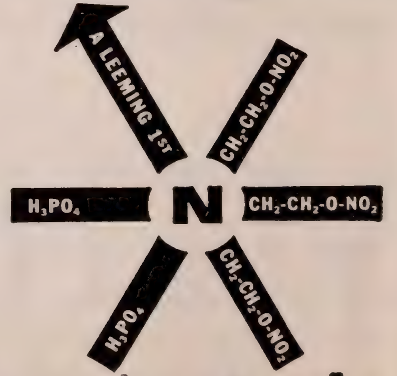
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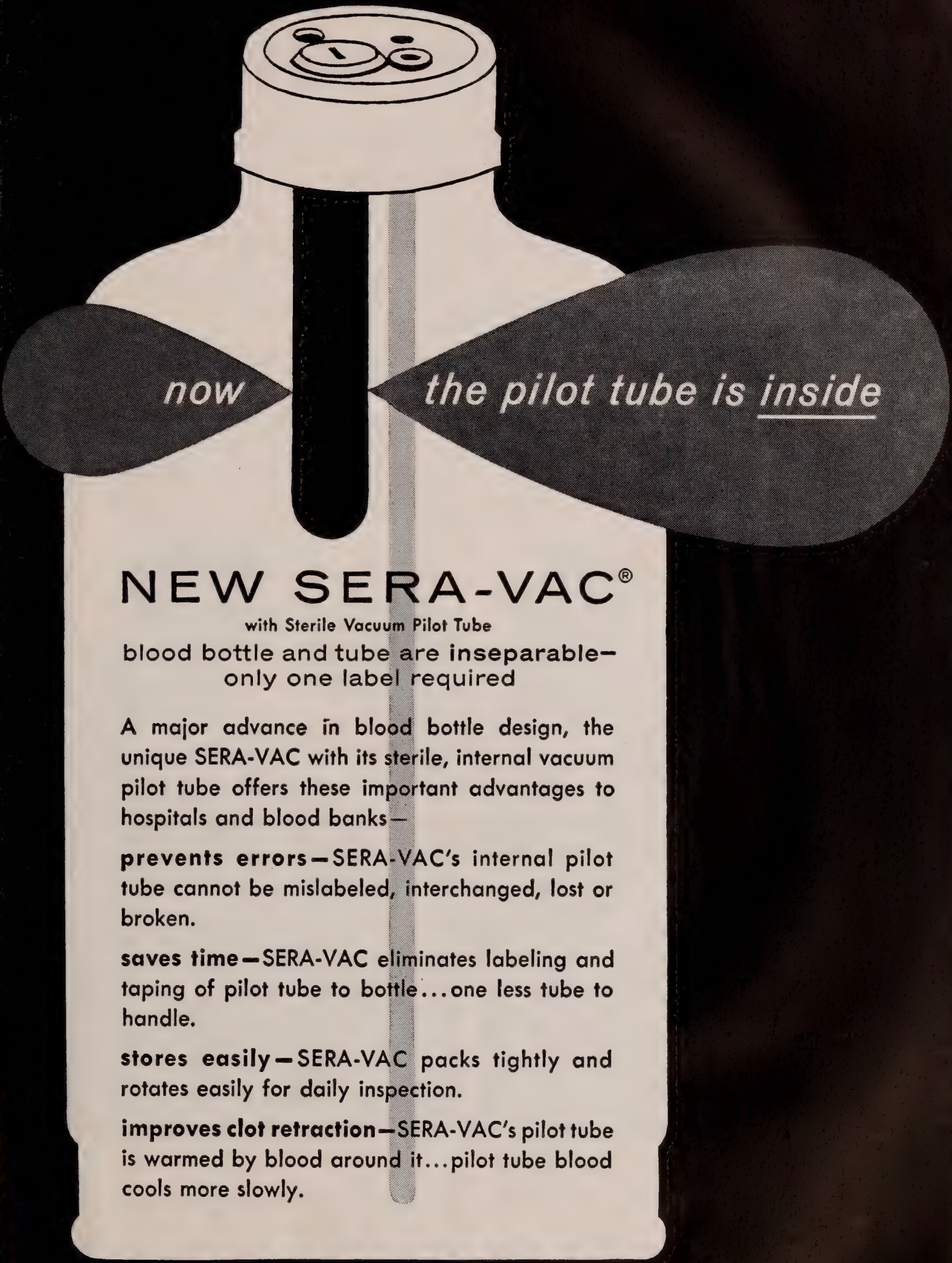
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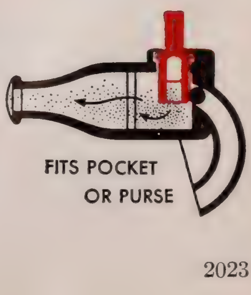

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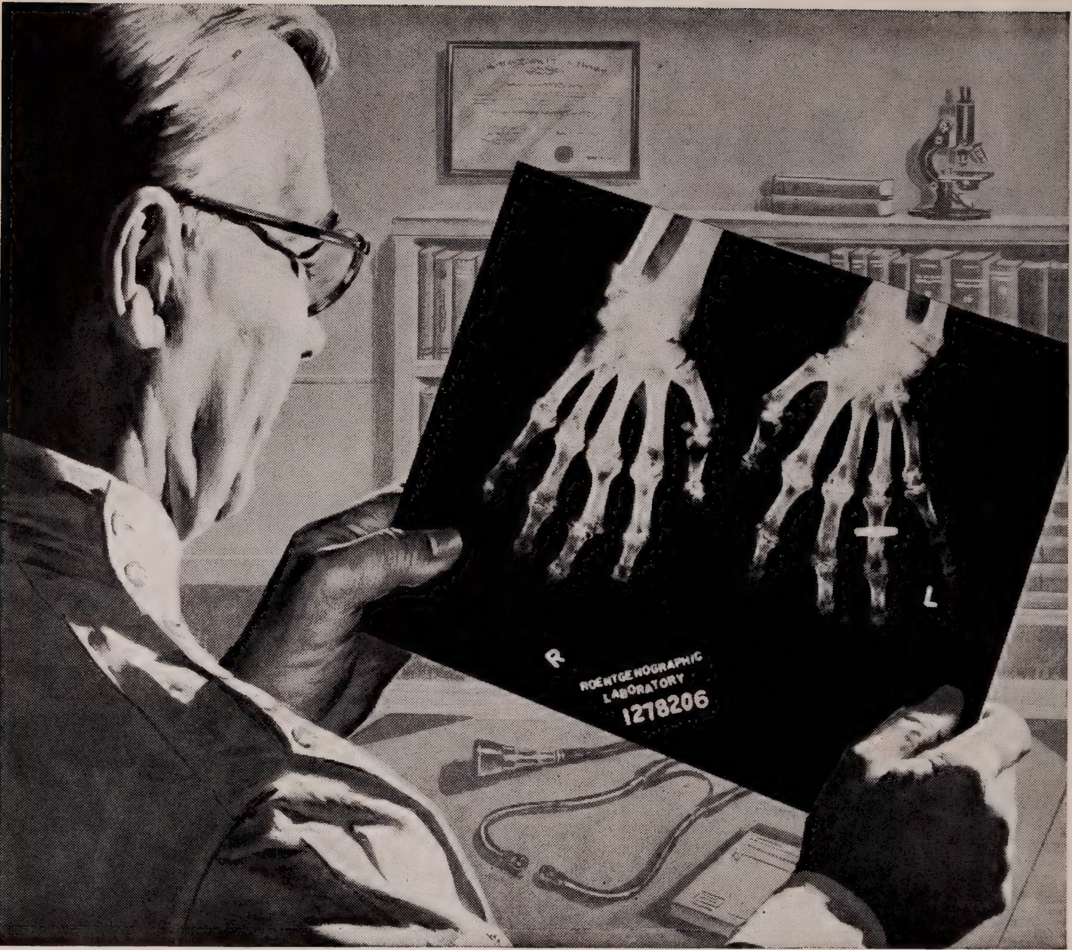

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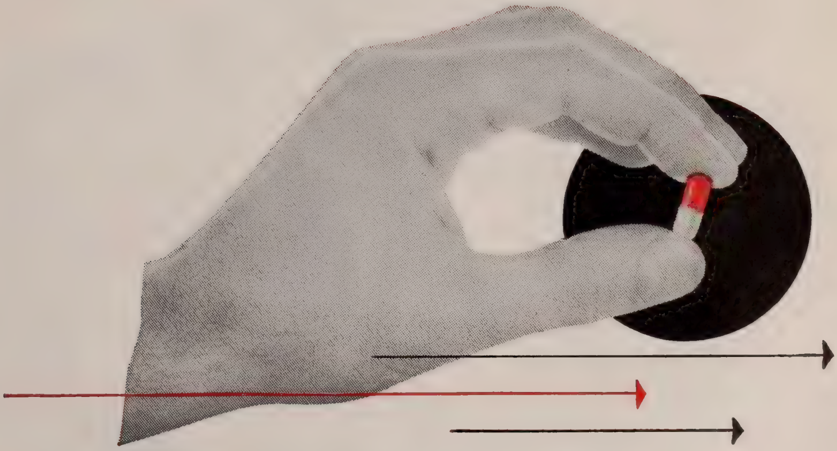

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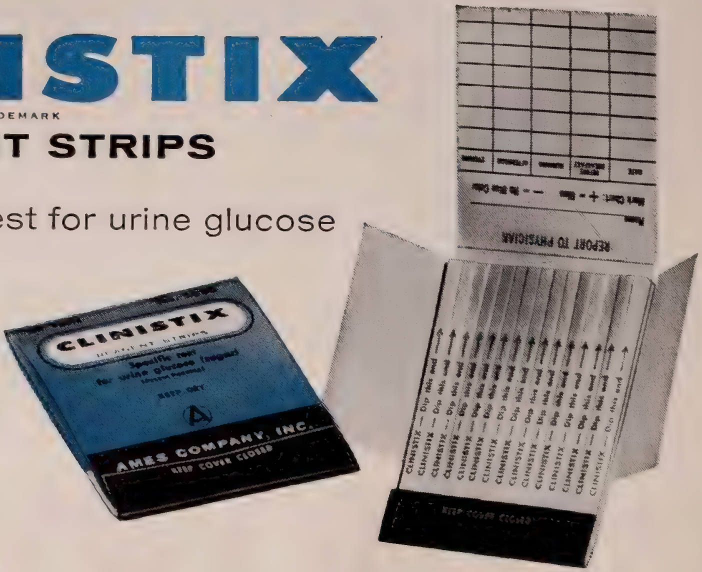
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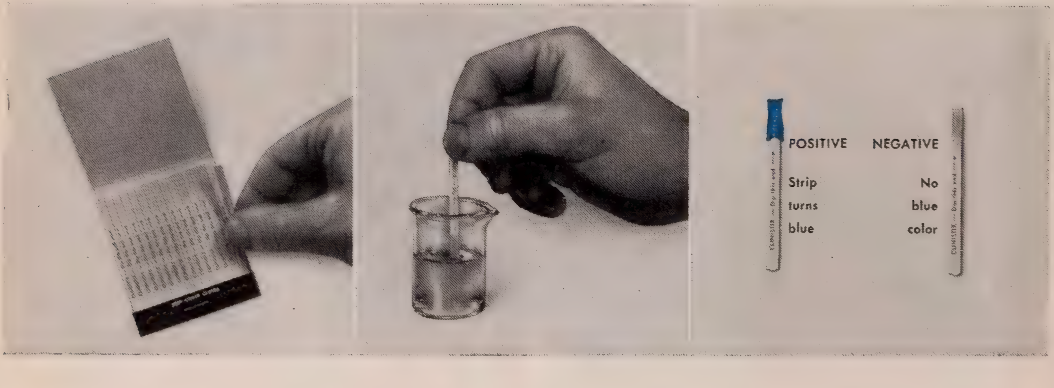
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References: 1. Miller, E.: New York State J. Med., to be published. 2. Reports to Clinical Research Division, Rystan Company.

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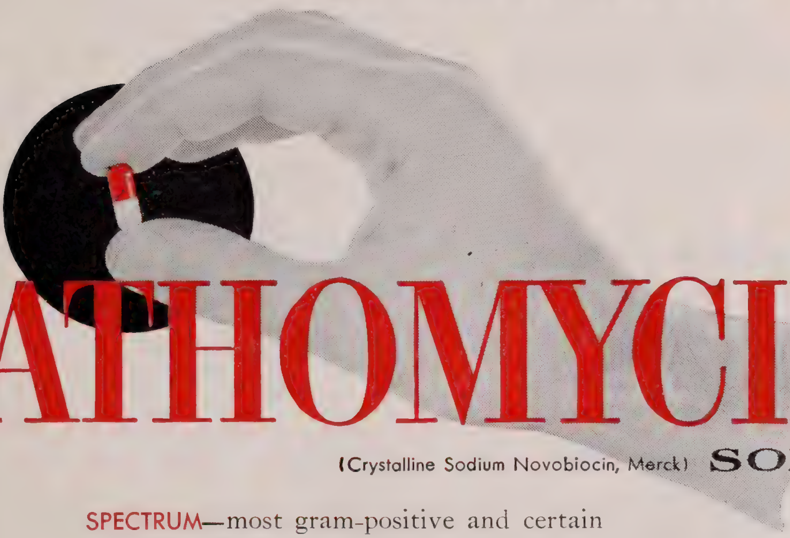

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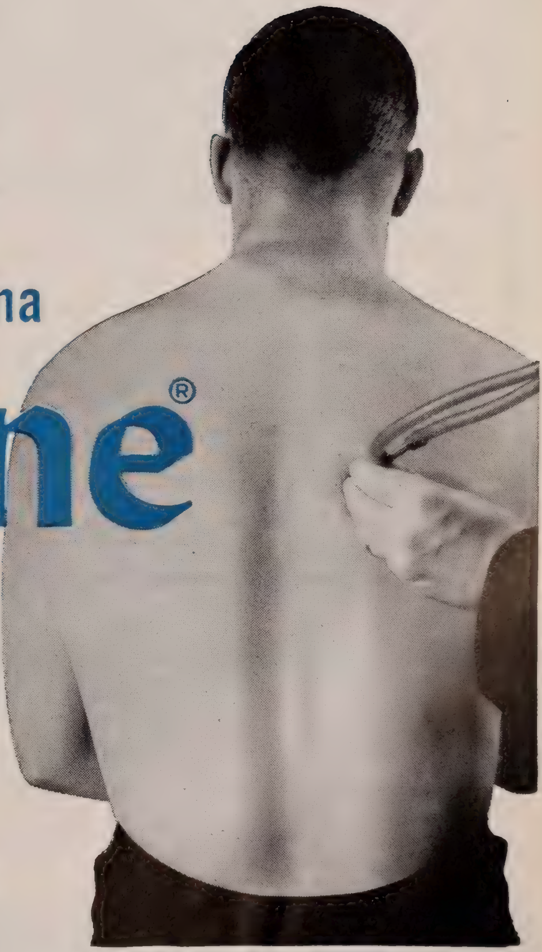

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1. Johnston, T. G., and Cazort, A. G.:
J. Allergy 27:90, 1956. 2. Schwartz, E.:
New York J. Med. 56:570, 1956.
3. Schiller, I. W., et al.: J. Allergy
27:96, 1956.

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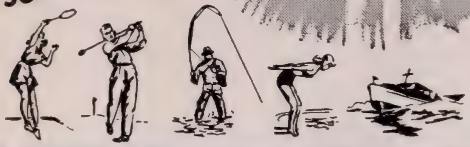

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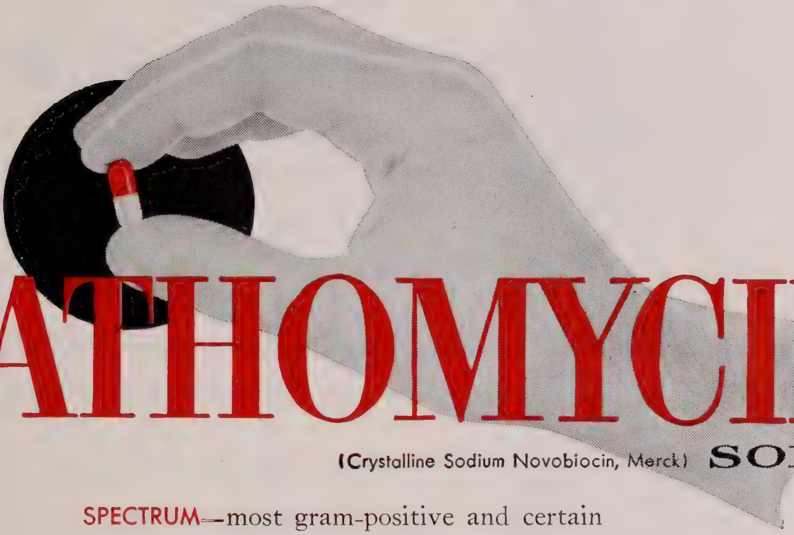

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*Silbert, N. E., Ciba Clinical Symposia; 6: 86; May 1954
Mechaneck, I., Annals of Allergy; 12: 164: March 1954
Rosen, F. L., J. Med. Soc. N. J.; 51: 110: March 1954
Mueller, H. L., & Hill, L. W.: N. E. J. of Med; 249: 726, 1953

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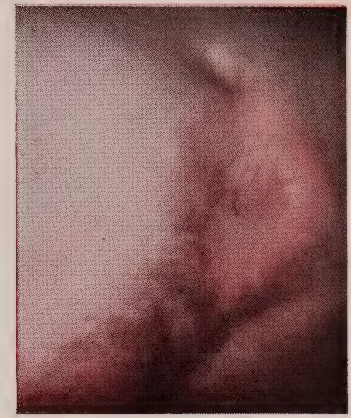

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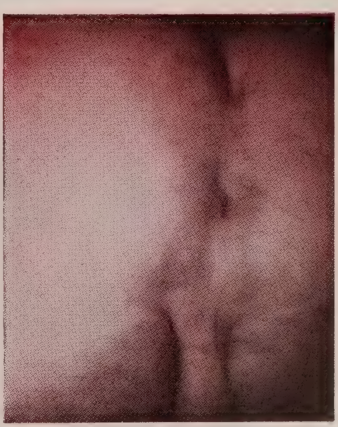

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REFERENCES:

1. Bodkin, L.G.: Amino Acid Therapy for Pruritus Ani, Am. J. Surg. 82:557 (Nov.) 1951.
2. Bodkin, L. G., and Ferguson, E. A., Jr.: Successful Ointment Therapy for Pruritus Ani, Am. J. Digest. Dis. 18:59 (Feb.) 1951.
3. McGivney, J.: Recent Advances in Proctology, Texas J. Med. 47:770 (Nov.) 1951.

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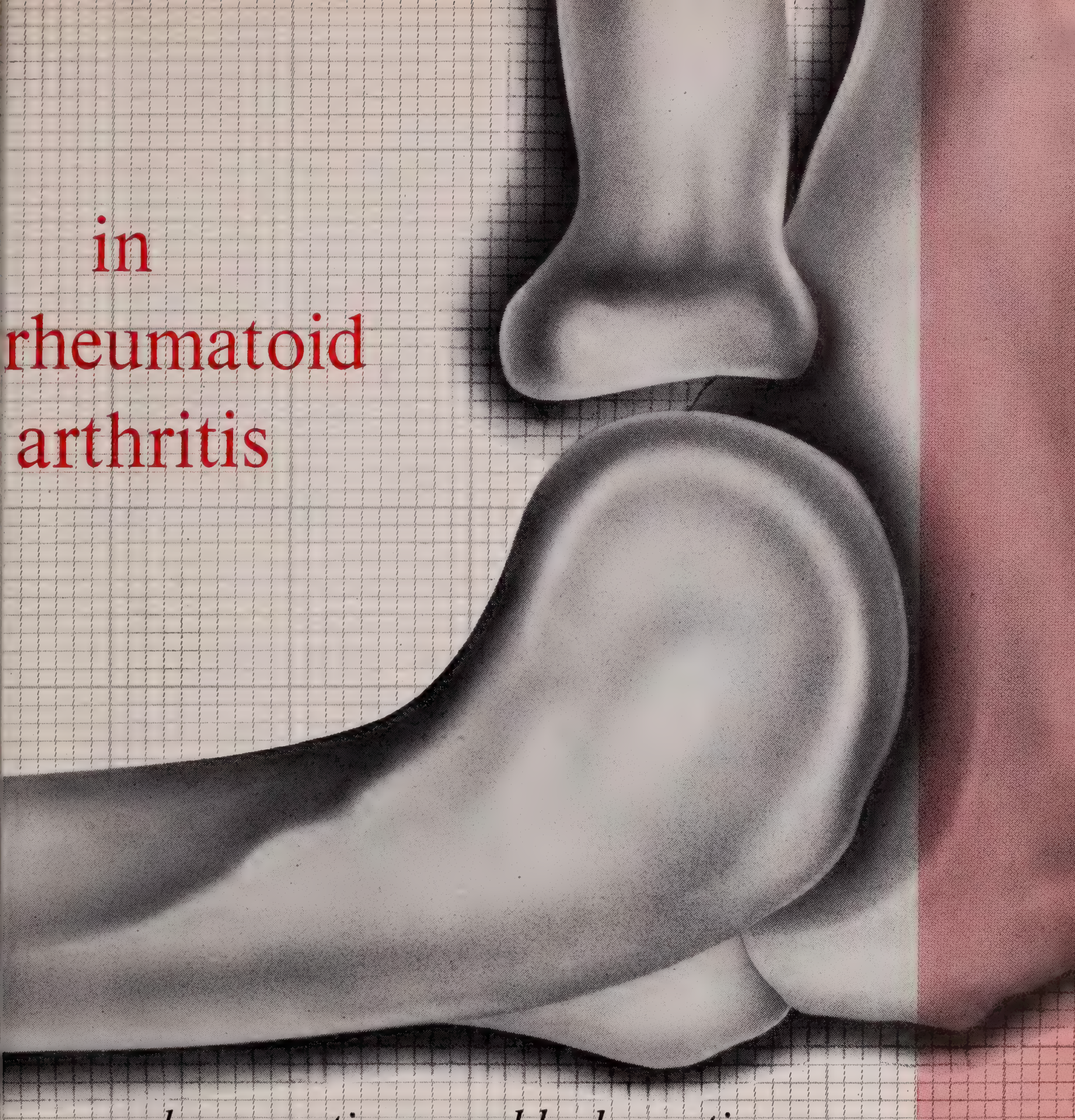

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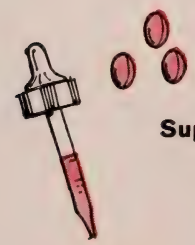

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†Antos, R. J.: A New Approach to the Treatment of Severe Constipation, Southwestern Medicine 37: 236-237 (April) 1956.

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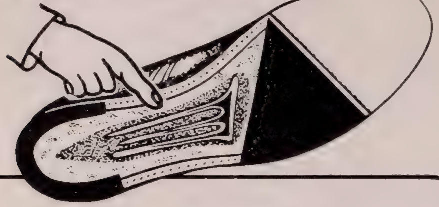

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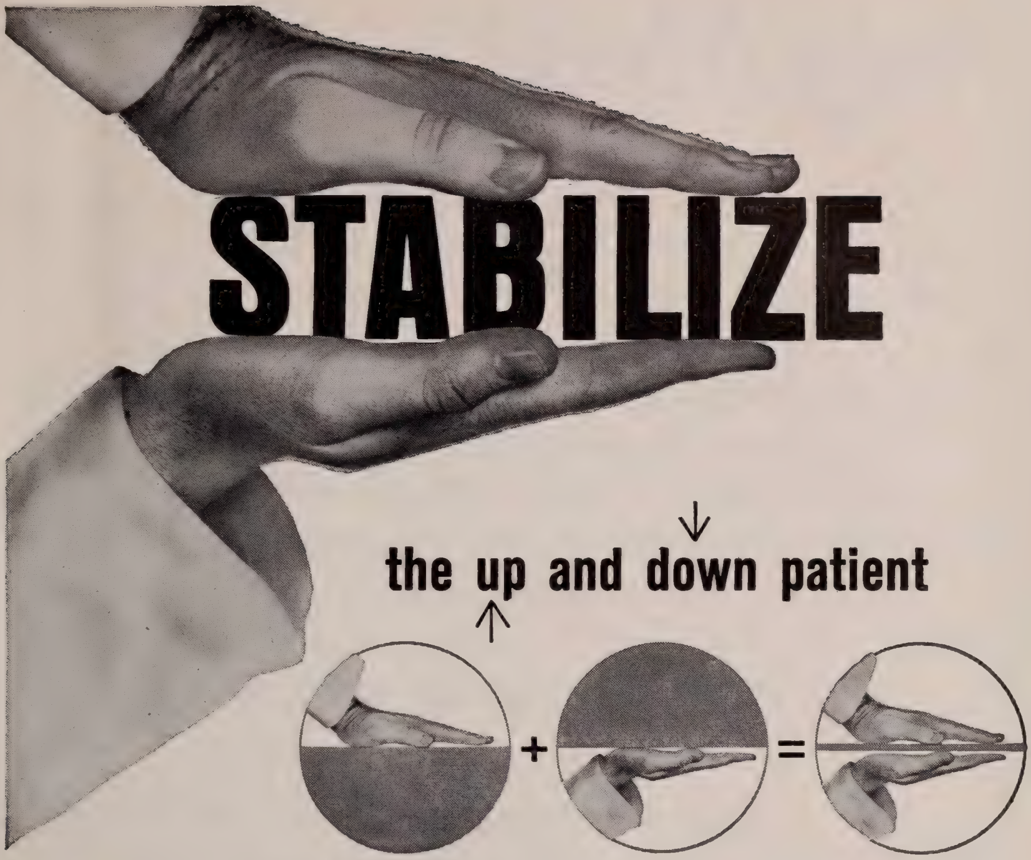
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1. Arnoff, B.: Personal communication. **2.** Lazarte, J. A., and Petersen, M. C.: Personal communication.
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Suppose we suddenly found ourselves in a "Brave New World," in which all the rich protein, the B vitamins (including the important B_{12}), the minerals, and all the other nutrients of a juicy steak or a succulent pork chop could be compressed into a capsule. Suppose we were to take one or two such capsules each day. What would happen?

Would we be just as healthy? Would we be as happy?

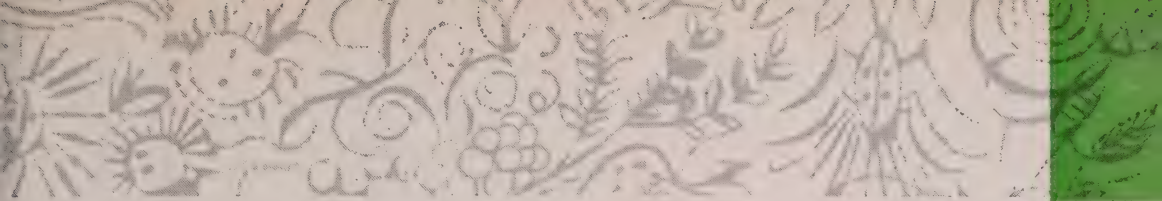
There is something about man's wish for meat that cannot be satisfied by chemical or mathematical analyses. The feeling of satisfaction, the downright enjoyment of biting into and chewing, the pleasurable effect of having eaten well . . . all these make meat more than just an impressive list of essential nutrients. Long before man knew anything about the science of nutrition he knew meat was part and parcel of his health and his joy of eating and of living.

Other foods may be fortified and enriched, *but none can ever take the place of meat.*

Only meat is meat.

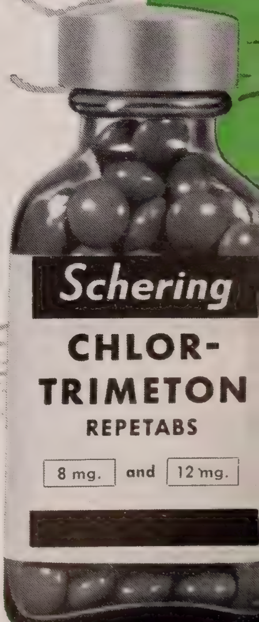
The nutritional statements made in this advertisement have been reviewed by the Council on Foods and Nutrition of the American Medical Association and found consistent with current authoritative medical opinion.

American Meat Institute
Main Office, Chicago . . . Members Throughout the United States



plateau therapy*...

for hay fever and other allergies



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REPETABS, 8 and 12 mg.

*Because they quickly attain and maintain a prolonged, therapeutic plateau, CHLOR-TRIMETON REPETABS avoid the wave-like levels which may be produced by multiple-release granules or t.i.d. medication ...affording optimal patient comfort.

CHLOR-TRIMETON® Maleate, brand of chlorprophenpyridamine maleate.
REPETABS,® Repeat Action Tablets.
CT-J-766

new

Against Pathogen & Pain

in urinary tract infections

Azo Gantrisin combines the single, soluble sulfonamide, Gantrisin, with a time-tested urinary analgesic - in a single tablet.

Prompt relief of pain and other discomfort is provided together with the wide-spectrum antibacterial effectiveness of Gantrisin which achieves both high urinary and plasma levels so important in both ascending and descending urinary tract infections.

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HydroCortone® -T.B.A.

(HYDROCORTISONE *TERTIARY*-BUTYLACETATE, MERCK)

produces superior results — greater symptomatic relief and longer-lasting remissions — in both rheumatoid arthritis and osteoarthritis.

SHARP & DOHME

SUPPLIED: SALINE SUSPENSION HYDROCORTONE-T.B.A.—25 MG./CC., VIALS OF 5 CC.

References: 1. Hollander, J. L., *Ann. New York Acad. Sc.* **61**;511, May 27, 1955.

Philadelphia 1, Pa.

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dry-filled sealed capsules

[1] Albertson, H. A. and Trout, H. H., Jr.; Antibiotics Annual 1954-55, Medical Encyclopedia, Inc., New York, N. Y., 1955, pp. 599-602.

[2] Prigot, A.; Whitaker, J. C.; Shidlovsky, B. A., and Marmell, M.: *ibid*, pp. 603-607.

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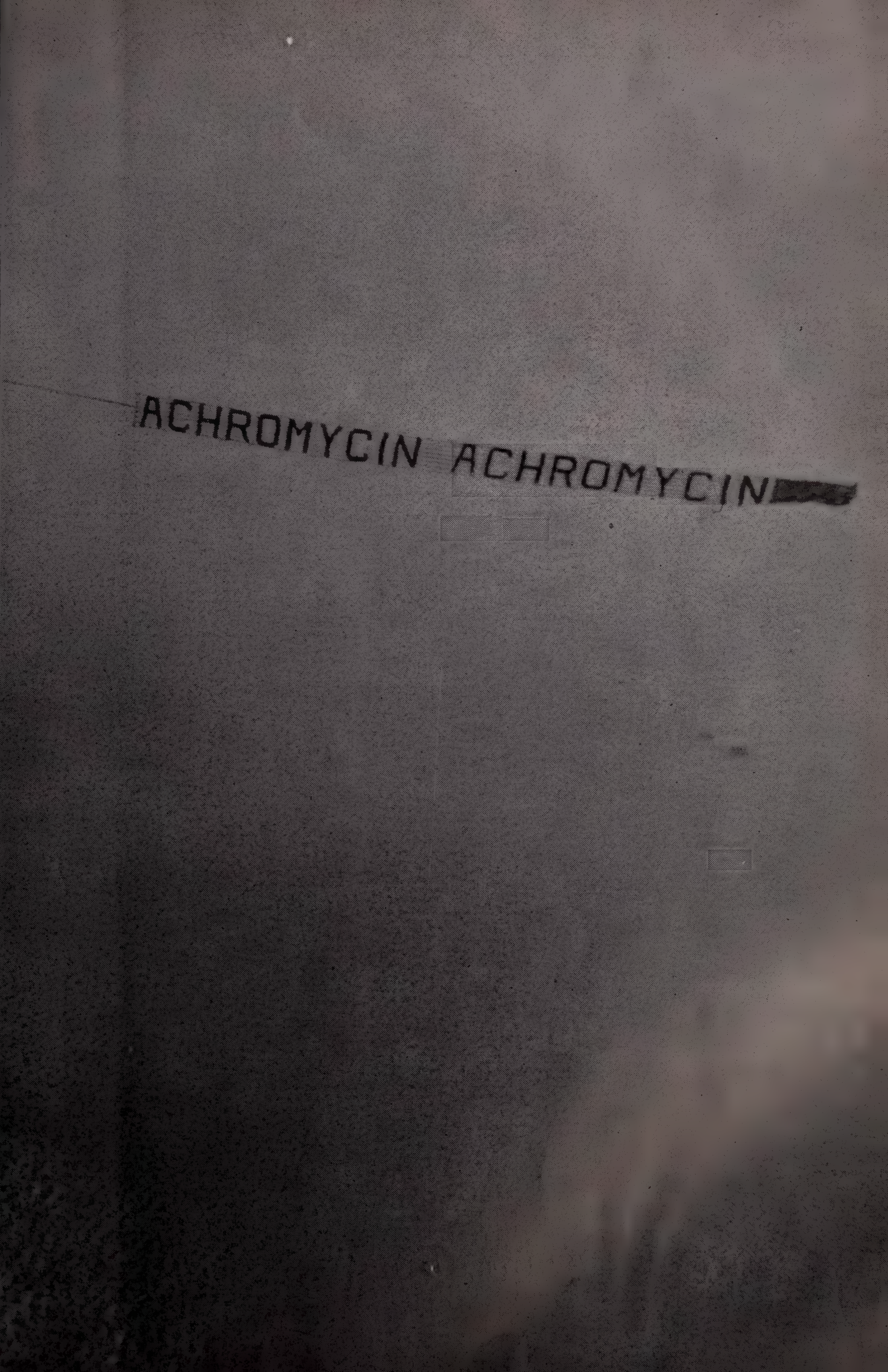
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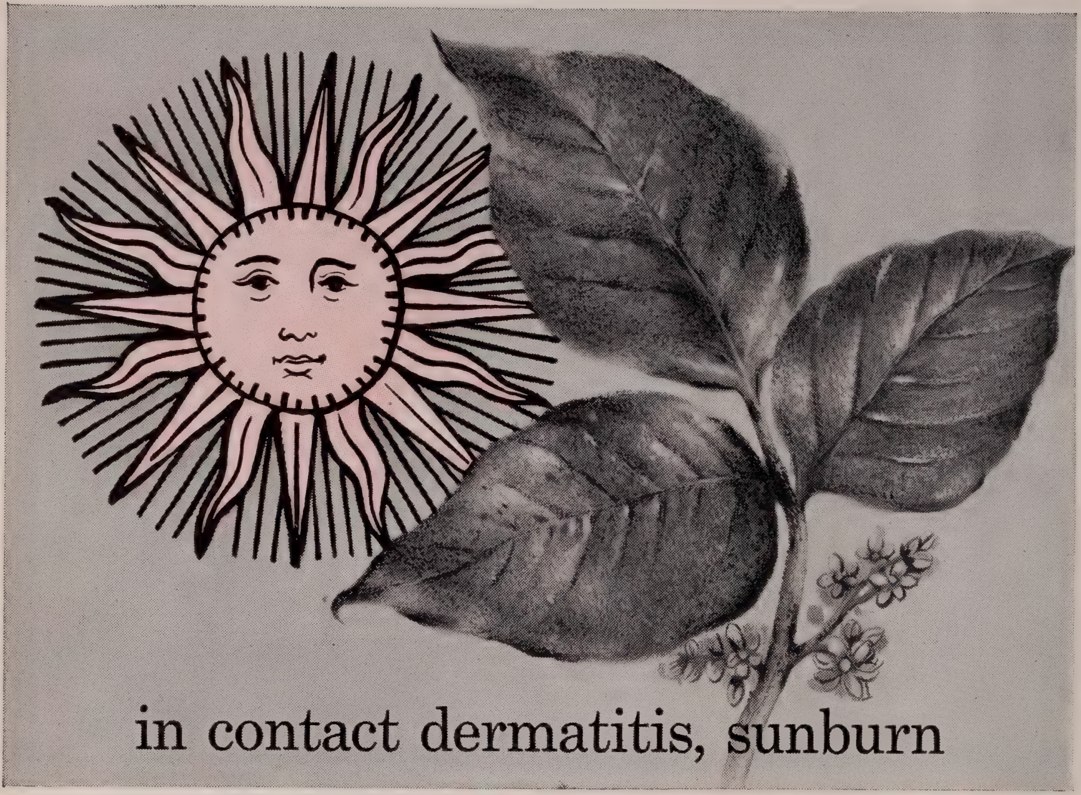

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. . . speeds healing, controls itching and pain

'Surfadil' lotion combines the time-proved topical anesthetic, 'Surfacaine' (Cyclomethycaine, Lilly); an effective antihistaminic, 'Histadyl' (Thenylpyramine, Lilly); and the protective adsorbent, titanium dioxide. 'Surfadil' lotion controls pain and itch, combats extravasation of fluids, adsorbs moisture, and deflects the sun's rays.

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EDITORIALS

The Annual Meeting

The Annual Meeting of the Medical Society of the State of New York was held at the Hotel Statler, New York City, May 7 to 11, 1956. Dr. James Greenough was inducted into office as president, and Dr. Thurman B. Givan as president-elect. The detailed minutes of the House of Delegates will be published as Part II of the issue of September 1 of the NEW YORK STATE JOURNAL OF MEDICINE, as in previous years. Again the secretary and the speaker of the House deserve the thanks of the membership and particularly of the delegates for the expeditious conduct of the Society's business.

Attendance at the meeting was good.

Doctors of medicine	3704
Others	2359
Total	6063

The banquet and dance on Wednesday night was well attended, as were the scientific exhibits and the commercial displays. It is always a matter for regret that more time is not available to the hard-working delegates and officers of the Society to view the scientific exhibits, to attend the meetings of the various sections and sessions, and to see the commercial exhibits during the first three days of the meeting. Perhaps some way can be devised to bring this about in the future.

Medical information broadcasts on television and radio were arranged by the Public and Professional Relations Bureau Sunday through Friday. Altogether 13 programs in which 23 physicians participated were seen or heard through the splendid cooperation of these media. This was in addition to the coverage of the meeting by the press.

The Sesquicentennial Year 1807–1957

At the close of the Annual Meeting, 1956, the Sesquicentennial of the Medical Society of the State of New York commenced and will carry through until after the meeting of the House of Delegates, 1957.

Legislation calling for the founding of the State Society was passed by the Honorable, the Legislature of the State of New York in 1806, but the actual founding convention was not held until February of the year 1807 in Albany.

Normally, the rotation of annual meetings would cause the Society to meet in Buffalo in 1957, but actually by action of the House of Delegates the Sesquicentennial Meeting will be held at the Hotel Statler, New York City, with a dinner at the Waldorf-Astoria in February, 1957. The scientific sessions and exhibits and dinner will all be in New York City. Also by action of the 1956 House of Delegates, the House will meet at the Hotel Statler in New York City in May of 1957. By reason of this procedure, the officers of the Society elected at this meeting will assume their duties at the usual time.

The Sesquicentennial Issue of the NEW YORK STATE JOURNAL OF MEDICINE containing the program of the meeting and many special features is projected for February 1, 1957. It would be well for all concerned to note *now* the closing date for the Convention issue of the NEW YORK STATE JOURNAL OF MEDICINE, December 15, 1956.

It may be argued that we are beating the drum too early, but we are mindful of the old saying that "the squeaking wheel gets the grease." Also that much midnight oil must be burned, metaphorically speaking, by many men in advance of the celebration to plan and execute so large an undertaking.

We urge our membership to keep in mind the change in schedule of the meetings to be held in 1957. The cooperation of the several county societies and the district branches will undoubtedly assist materially in making this Sesquicentennial memorable.

Career Incentive for Military Physicians

There is at present a bill (H.R. 9428) designed to encourage physicians to choose a military career which has been passed by the House of Representatives. It is currently in the Senate Armed Services Committee which is holding hearings. The bill provides in addition to the present $100 per month special pay, three other increases of $50 each—at the end of three years, at the end of six years, and a third at the end of ten years. In addition, time spent in medical school and internship would be considered time spent in military service for the purpose of rank, pay, and promotion.

The American Medical Association worked with the armed services on this legislation and supports it but believes that "the first pay increase should be $100 instead of $50 and come at two years."[1] It is gratifying that some progress seems to be in the making to provide some financial incentive for a career in military medicine. No one questions the right of the men in the armed services of this country to the best obtainable medical service. But that service is created by the medical men who implement it.

The armed forces must compete, in any realistic appraisal of the current situation, with the career opportunities afforded by civilian practice. Certain advantages other than financial exist to make a career in military medicine a desirable one. In this beginning of the atomic era some of the problems posed by the use of lately developed weapons and high-speed and high-altitude flight, as well as the older problems of maintenance of the highest possible efficiency in the armed services from the standpoint of health, offer a challenge to medical men which should make a career in military medicine of outstanding fascination. However, career medical men in the armed services should not be penalized financially. In the interest of the best possible medical service by the best trained and qualified medical men on a career basis, we hope the bill under discussion is passed by the Congress.

---

[1] A.M.A. Quarterly Legislative Review, Special Report 84-20, Apr. 9, 1956, p. 3.

Paying for Medical Education

By calling public attention to the financial needs of the nation's 81 accredited medical schools, of which there are ten in this State, the recent Medical Education Week[1] has done a much needed service to the cause of wider financial support for the universities and schools of medicine of the country.

If the highest type of medical service to the public is to be maintained, the legitimate costs of production of that service must become a matter of public comprehension and realization. It is gratifying, therefore, that the press of the nation is doing its part in bringing to public attention the facts concerning the grave problems facing the universities and their medical schools.

Says the New York *Herald Tribune* editorially:

> The National Fund for Medical Education,

---

[1] April 22 to 28, 1956.

which campaigns for support for the 81 accredited medical schools in the country, has been promised $10 million in grants by the Ford Foundation. Since its establishment in 1949 the fund has tried to raise $10 million annually from industry, a sum that has proved beyond its reach and would in any case be insufficient to keep up with the growth of medical education in the United States. The Ford Foundation's generous gift, which is made on a matching basis and is to extend over no less than five and no more than ten years, should stimulate the flow of private support to the medical schools and go far to realize the fund's endeavors. . . .

Recent figures show that more than 21,000 out of 28,000-odd medical teachers in the nation are serving without pay. Generous contributions from the Ford Foundation, the Commonwealth Fund, the Mellon family foundation, and other sources have helped greatly, but even these are not enough to pay the bill. Meanwhile, the drain of medical schools on university budgets has put a severe burden on the entire system of American higher education. When the National Fund for Medical Education was organized, President Eisenhower (then president of Columbia University) declared: "It falls upon American business to assume a greater share of the responsibility for maintaining the institutions essential to our national health." The urgency of this appeal has not diminished in the years between.[2]

According to *Medical Economics*[3] there were last year 14,500 candidates who applied for admission to medical school. "Fifty-two per cent were promptly accepted and admitted. Another 30 per cent weren't seriously in the running. . . . That leaves only 18 per cent who were first-time applicants and who didn't get in." These statistics are here quoted to help dispel a somewhat persistent rumor that it is difficult to enter a medical school. When that misconception is dispelled and qualified young men and women learn the facts, it seems to be a certainty that applications will rise for admission to the schools.

As a result of this probable increase, an added burden will be laid on the backs of the institutions and faculties and at the doors of the teaching hospitals already hard put to meet current needs. However, with adequate and continued publicity it should be possible to bring about a realization on the part of individuals, industry, business, and the medical profession itself of the needs of the "system of American higher education" and particularly of the medical schools.

Again we appeal to individual members of the profession to make these needs known to those of their patients who are receiving the benefits of the best medical training our schools can devise. If the profession itself will assist the media of public information to disseminate the facts, it would materially assist in reaching the necessary financial goals. True, Medical Education Week is over for this year, but the need for continuing publicity is not. Let every physician assist by his or her personal donation to the American Medical Education Foundation and by acting himself as a medium of public information.

---

[2] New York *Herald Tribune*, Apr. 21, 1956, p. 8.

[3] *M. Economics* 33: 92 (Apr.) 1956.

The rung of a ladder was never meant to rest upon, but only to hold a man's foot long enough to enable him to put the other somewhat higher.—ALDOUS LEONARD HUXLEY

MEDICAL SOCIETY OF THE STATE OF NEW YORK

SESQUICENTENNIAL CONVENTION

- **Banquet at Waldorf-Astoria**
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- **Technical Exhibits**

February 18 to 21, 1957

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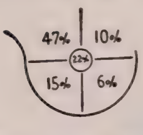
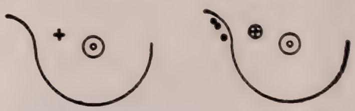
DETECTION OF EARLY BREAST CANCER

Results of treatment



No axillary glands
70 to 80 per cent—
five-year survival

Comparative frequency



Axillary glands or fixation of
tumor 20 to 30 per cent—
five-year survival

TO IMPROVE THE RESULTS OF TREATMENT OF BREAST CANCER

Investigate

*Bloody, serous, grumous discharge from nipple with or without palpable mass.

Tiny lump.

Minimal localized thickening.

Persistent fissure, ulceration and scaling of nipple.

Slightest dimpling of overlying skin.

Nontender axillary gland.

Don't WATCH and WAIT for

OBVIOUS lump.

OBVIOUS fixation or retraction of skin, areola, nipple, or chest wall.

OBVIOUS fixed axillary and supraclavicular nodes.

OBVIOUS ulceration of skin.

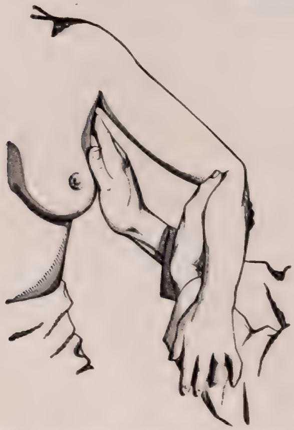
OBVIOUS bleeding from palpable duct tumor.

OBVIOUS tense orange peel skin.

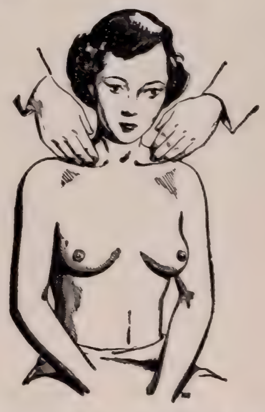
OBVIOUS edema of arm.

OBVIOUS pain from metastasis to bone.

POSITION FOR EXAMINATION OF AXILLA

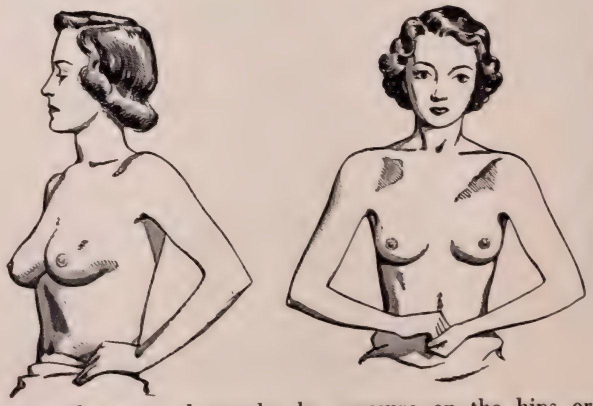


The arm is relaxed so that the examiner can palpate the axilla, apex, lateral chest wall, upper, outer, and lower quadrants of the breast.



The physician should stand behind the patient to examine for supraclavicular nodes and for a breast tumor.

Raising the arms demonstrates the dimpling and fixation of the tumor to the skin.



Tensing the pectoral muscles by pressure on the hips or tightly clasping the fingers shows fixation of the tumor to the skin, pectoral fascia or muscle.

*Express a few drops of discharge from nipple on a glass slide and fix wet slide in mixture of 95 per cent alcohol and ether for cytologic examination.

(Prepared by the Subcommittee on Cancer, Medical Society of the State of New York)

DRAMAMINE® IN VERTIGO

1. Bárány Pointing Test. *The patient points at a stationary object, first with his eyes open and then closed. A constant error in pointing (past pointing) with his eyes closed in the presence of vertigo indicates peripheral labyrinthine disease or an intracranial lesion.*

2. The Caloric (Bárány) Test. *The patient sits with his eyes fixed on a stationary object and the external ear canal is irrigated with hot (110 to 120 F.) or cold (68 F.) water. If the vestibular nerve or labyrinth is destroyed, nystagmus is not produced on testing the diseased side.*

3. The Rotation (swivel chair) Test. *The patient sits in a swivel chair with his eyes closed and his head on a level plane. The chair is turned through ten complete revolutions in twenty seconds. Stimulation of a normal labyrinth will cause nystagmus, past pointing of the arms and subjective vertigo.*

Notes on the Diagnosis and Management of "Dizziness"

Vertigo

The term "dizziness" (vertigo) should be restricted to the sensation of whirling or a sense of motion.[1] This sensation is usually of organic origin and is the tangible symptom of a specific pathology.

Moderate vertigo, with a sense of motion and a whirling sensation, may be produced by infection, trauma or allergy of the external or middle ear. Examination of the ear will usually disclose the abnormality.

Severe vertigo, which will not permit the patient to stand and causes nausea and vomiting, indicates an irritation or destruction of the labyrinth. The specific condition may be labyrinthine hydrops, an acute toxic infection, hemorrhage or venospasm of the labyrinth or a fracture of the labyrinth. Multiple sclerosis and pathology of the brain stem should be considered also.

It is important to learn if the patient's sensation is continuous or paroxysmal.[2] Paroxysmal vertigo suggests specific conditions: Ménière's syndrome, cardiac disease and epilepsy. Continuous vertigo without a pattern may be due to severe anemia, posterior fossa tumor or eye muscle imbalance.

Dramamine® has been found invaluable in many of these conditions. In mild or moderate vertigo it often allows the patient to remain ambulatory. A most satisfactory treatment regimen for severe "dizziness" is bedrest, mild sedation and the regular administration of Dramamine.

Dramamine is also a standard for the management of motion sickness, is useful for relief of nausea and vomiting of radiation sickness, eye surgery and fenestration procedures.

Dramamine (brand of dimenhydrinate) is supplied in tablets (50 mg.) and liquid (12.5 mg. in each 4 cc.). G. D. Searle & Co., Research in the Service of Medicine.

---

1. Swartout, R., III, and Gunther, K.: "Dizziness:" Vertigo and Syncope, GP *8:*35 (Nov.) 1953.

2. DeWeese, D. D.: Symposium: Medical Management of Dizziness: The Importance of Accurate Diagnosis, Tr. Am. Acad. Ophth. *58:*694 (Sept.-Oct.) 1954.

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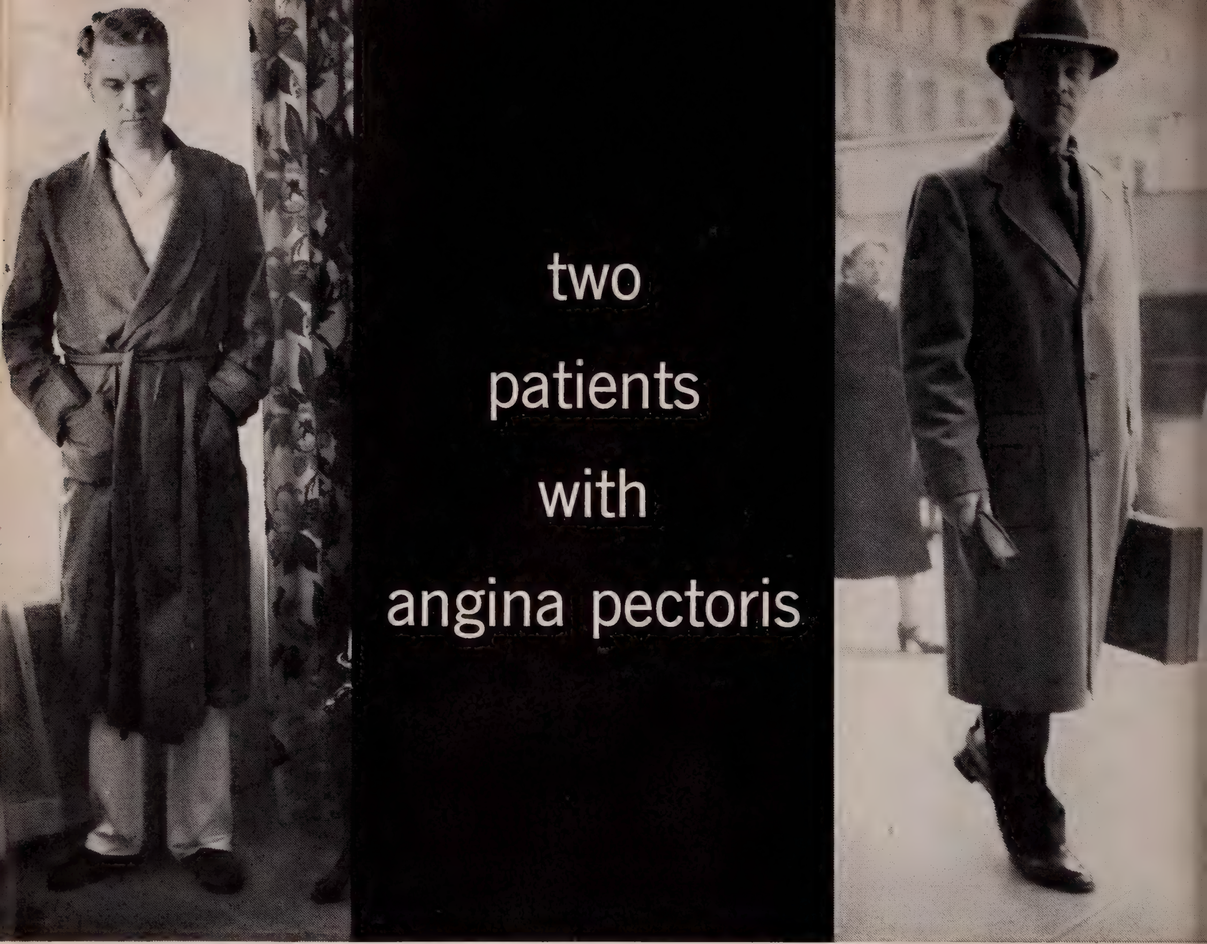

. . . your treatment can make *the difference*

In angina pectoris: ". . . the difference between complete, or almost complete, absence of symptoms, or a prolonged illness with much suffering" may lie in routine prophylaxis with Peritrate.[1]

New studies continue to confirm the effectiveness of this long-acting coronary vasodilator. "Impressive and sustained improvement" is observed in patients on Peritrate therapy.[2]

Simple prophylaxis: Peritrate is not indicated to abort the acute attack (nitroglycerin is still the drug of choice). However, you can reduce or eliminate nitroglycerin dependence and provide continuing protection against attacks of angina pectoris with Peritrate. Prophylaxis is simple: 10 or 20 mg. of Peritrate *before meals* and at bedtime. Maintenance of a continuous daily dosage schedule is important for successful therapy.

Peritrate has been demonstrated to prevent or reduce the number of attacks, lessen nitroglycerin dependence, improve abnormal EKG findings and increase exercise tolerance.[3,4,5]

The specific needs of most patients and regimens are met with Peritrate's five dosage forms: Peritrate 10 mg. and 20 mg. tablets; Peritrate Delayed Action (10 mg.) for continuous protection through the night; Peritrate with Phenobarbital (10 mg. with phenobarbital 15 mg.) where sedation is also required; Peritrate with Aminophylline (10 mg. with aminophylline 100 mg.) in cardiac and circulatory insufficiency.

Usual Dosage: 10 to 20 mg. *before meals* and at bedtime.

References: **1.** Rosenberg, H. N., and Michelson, A. L.: Am. J. M. Sc. *230*:254 (Sept.) 1955. **2.** Kory, R. C., *et al.*: Am. Heart J. *50*:308 (Aug.) 1955. **3.** Winsor, T., and Humphreys, P.: Angiology *3*:1 (Feb.) 1953. **4.** Plotz, M.: New York State J. Med. *52*:2012 (Aug. 15) 1952. **5.** Dailheu-Geoffroy, P.: L'Ouest-Médical, vol. 3 (July) 1950.

Peritrate®

(brand of pentaerythritol tetranitrate)

WARNER-CHILCOTT

SCIENTIFIC ARTICLES

Obesity and Its Relation to Disease

MARTIN G. GOLDNER, M.D., F.A.C.P., BROOKLYN, NEW YORK

(*From the Departments of Medicine, Jewish Chronic Disease Hospital of Brooklyn and State University of New York College of Medicine at New York City*)

OBESITY has been called the "number one enemy of public health"—at least in the overfed countries of North America and Western Europe. It is a matter of record and does not need any re-emphasis here that overweight goes hand in hand with a high morbidity and with shortened life expectancy.

Figure 1 shows the death rates of overweight American men expressed as percentage of the death rate of men of normal weight. The table is taken from life insurance statistics and demonstrates that the death rate rises markedly with increasing degrees of overweight.[1] It is 74 per cent higher for men 25 per cent overweight or more than for normal men.

Life insurance statistics also demonstrate the increased death rates of specific diseases[2] when associated with overweight. This is shown in Table I, which lists the causes of death in a group of men who had been rated substandard insurance risks because of excess weight. If the mortality of any of these diseases is set as 100 per cent for the general population, then the death rate for coronary heart disease and for cerebral hemorrhage (that is, for diseases mainly

TABLE I.—DISEASES RELATED TO OBESITY

PERCENTAGES SHOWN WITH EACH DISEASE REPRESENT THE INCREASED MORTALITY RATES (STANDARD MORTALITY IS 100 PER CENT) FOUND IN A GROUP OF MEN RATED SUBSTANDARD INSURANCE RISKS BECAUSE OF OVERWEIGHT (DATA FROM METROPOLITAN LIFE INSURANCE COMPANY)

Disease	Per Cent
Coronary heart disease	142
Cerebral hemorrhage	159
Chronic nephritis	191
Diabetes	383
Cirrhosis of liver	249
Biliary disease	152

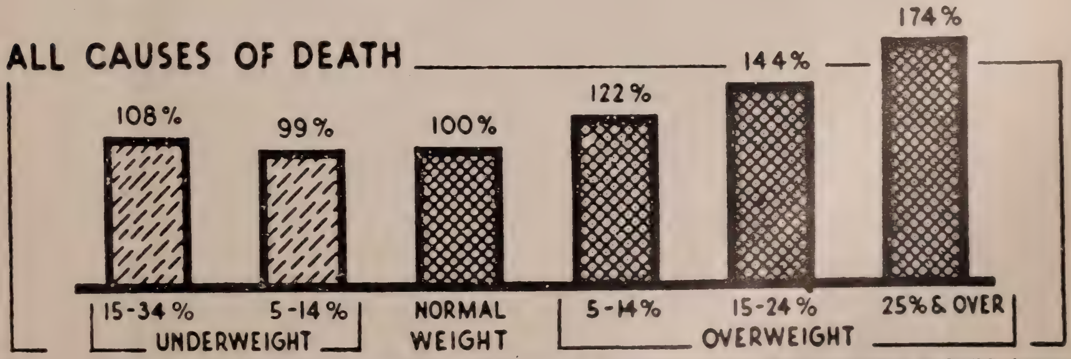

FIG. 1. Influence of body weight in mortality. Subsequent mortality among men, according to build classes, expressed as percentage of death rate of normal weight men.

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due to atherosclerosis) is 142 per cent and 159 per cent, respectively; for chronic nephritis 191 per cent; for diabetes 383 per cent, etc. But the health hazards of overweight are not limited to these diseases. Their wide spectrum may be represented if we call attention to the greater incidence of osteoarthritis and of emphysema and pulmonary embarrassment among overweight individuals; to their greater surgical, gynecologic, and obstetric risks; to their reported proneness to accidents, and to the higher rate of some malignancies and the occurrence of polycythemia in association with obesity.[3,4] Thus it appears that we indeed pay with extra days for excess pounds.

Can we hope to stop this process, and can we expect to prolong life and restore better and longer health if we prevent obesity? This is to ask for the pathologic and physiologic significance of the statistical relationship between morbidity and mortality, on the one hand, and overweight and obesity, on the other. Is this a simple cause-and-effect relationship; is overweight indeed the root of all the evil which appears in its wake? If we attempt to analyze the available data from this point of view, we find that wishful thinking and generalization or simplification seem to obscure the facts as well as the lack of information and that new questions confront us where we hope to find clear-cut answers. The purpose of this presentation is to demonstrate that much more careful work must be done before we can hope to unveil the truth behind the problem of the relationship between obesity and disease. This is not to say that we should not enforce weight reduction programs as vigorously as possible, but we must try to clear our view, assess our aims, and be realistic in our expectations.

There is first the question of obesity itself. Obesity by definition is the excessive deposition of fat in the body. Yet, by using the scale and standard tables of weight in measuring obesity, as we commonly do, we overlook the fact that overweight might as well be caused by edema, by myxomatous fluid, by unusually strong bones, or by excessively developed musculature. Certainly, edema has a prognosis and health significance quite different from that of the heavy muscle mass of the athlete. Moreover, even adiposity may well differ in its significance, depending on its distribution or its duration. A person who has been obese all his life may be able to handle his overweight differently from the one who is getting obese in advanced age. Stable obesity, that is, persistent overweight without fluctuation, may not have the same meaning as labile obesity where the weight fluctuates continuously up and down. And there is the question of body build versus body weight and the relationship of specific diseases to body build.[5] It has been said that shape rather than weight may be the cause of some of the hazards presently ascribed to obesity.[6] Much work is being done presently to develop better means for measuring fat tissue and to relate body build to diseases, and we shall have to wait for definitive results.[7] In short, overweight is not always synonymous with obesity, and various types of adiposity may well have different significance for life expectancy and morbidity.

Time does not permit us to go into the problem of the etiology of obesity. Suffice it to say that it is now well established that obesity does not defy the laws of preservation of energy and that only overeating, only the intake of excess calories, can lead to the excessive deposition of fat. Excessive appetite and disturbances of the feeling of satiety with craving for food, bulimia, may be caused by a multiplicity of factors, such as endocrine, neurologic or emotional, and toxic or environmental, but these can produce obesity only if the desire for eating is satisfied and excess food is made available.[8] Thus, obesity is always exogenous.

Next is the important question about the epidemiology of obesity. Here too we find ourselves on rather uncertain ground. We have had reliable morbidity and mortality statistics for many decades, but we have only a few and scattered data on the incidence of obesity, here or abroad. Again the best figures are offered by the life insurance companies, but they are based on limited and selected material. Such figures are shown in Fig. 2, and although they were published about twenty years ago, it is generally assumed that they are as valid for today as for then and for the beginning of the century.[9] They are broken down for both sexes and various age groups, but not for degree of obesity, and demonstrate that American females have a far higher incidence of obesity with advancing age than the American male, the ratio being about 50 per cent to 35 per cent. This figure assumes significance in our problem if we compare it with the life expectancy of our population, which is about

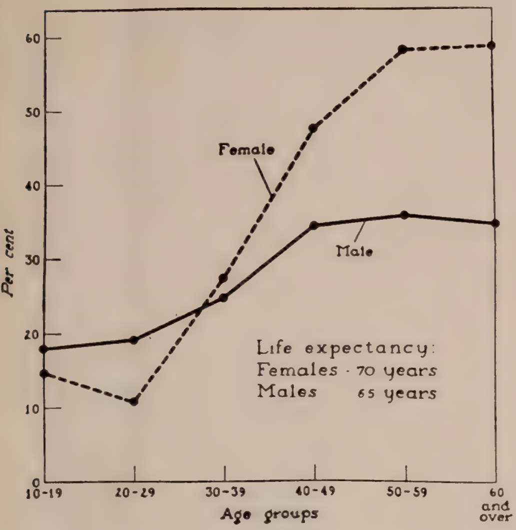

FIG. 2. Incidence of obesity in the American male and female in relation to age.

five years greater for the American female than for the male. It should be stated that the nonobese female appears to have a greater longevity than the obese. Nevertheless, it is important to note that the obese female can look forward to a greater life expectancy than even the nonobese male. Must we not conclude from this that sex modifies rather significantly the hazard of obesity in respect to life expectancy?[10] We shall see that this sex difference also manifests itself in the relationship of obesity to diseases, to which we now turn.

Offhand, three different relationships between obesity and disease are possible: (1) Disease may cause obesity, (2) disease and obesity may coexist and influence each other, and (3) obesity may cause disease. We can easily dispose of the first possibility. We have mentioned above that all obesity is due to overeating. There are certain diseases, particularly endocrine conditions and emotional disturbances, which are frequently associated with obesity. They cause either increased appetite or decreased body activities. If the food intake is properly adjusted to energy expenditure, obesity will not develop in any of these conditions. Thus, obesity is not a sign of these diseases or an unavoidable complication. It is only indirectly related to them. Indeed, there does not appear to exist any endogenous disease which by itself causes obesity.

More must be said about the second possibility: the influence of obesity on pre-existing or complicating diseases. There can be little doubt that here obesity can exert a very deleterious influence. A cardiac patient who is or becomes obese undoubtedly puts an extra burden on his weakened heart, which is as hazardous as overexercise; a diabetic patient who overeats will certainly aggravate his diabetes; arthritic processes, particularly of the spine and the lower extremities, will be accelerated by overweight; the obese patient who undergoes abdominal surgery will be a poorer risk because of the greater difficulties in exposure and wound closure, and mechanical reasons also seem to be mainly responsible for the greater gynecologic and obstetric hazards in obese women. Likewise, enforced inactivity by heart disease, arthritis, or neurologic conditions may initiate a vicious cycle of overeating, obesity, and aggravation of the underlying disease. It is here that strict enforcement of weight reduction and of prevention of obesity has its clearest indication and will do most good. The result can be prolongation of life, prevention of complications, and retardation but not elimination of disease.

What do we know about the third possible relationship, the causation of diseases by obesity? This group leads us back to our original question: Can we hope to eliminate disease and restore greater health by preventing obesity? The high incidence of atherosclerotic cardiovascular disease, hypertension, and diabetes in obesity makes us suspect and hope for such a relationship. The great campaign for weight reduction is certainly prompted by such hopes. What is the available evidence? On one hand, we are encouraged by reports that weight reduction has enhanced the life expectancy of people who were poor insurance risks because of their original overweight,[11] that the incidence of coronary heart disease is low in areas where undernutrition prevails,[12] and that diabetes is less frequent among lean people than among obese.[13] A direct causal relationship seems to exist in the recently described syndrome of polycythemia of obesity.[3,4] The high diaphragm and the emphysema of the obese cause poor pulmonary ventilation and depression of the oxygen saturation, which in turn leads to secondary polycythemia. The condition is rare, however, even among the very obese, but prevention or control of obesity will abolish and cure the polycythemia.

On the other hand, there are data which cast reasonable doubt on such a simple cause-and-

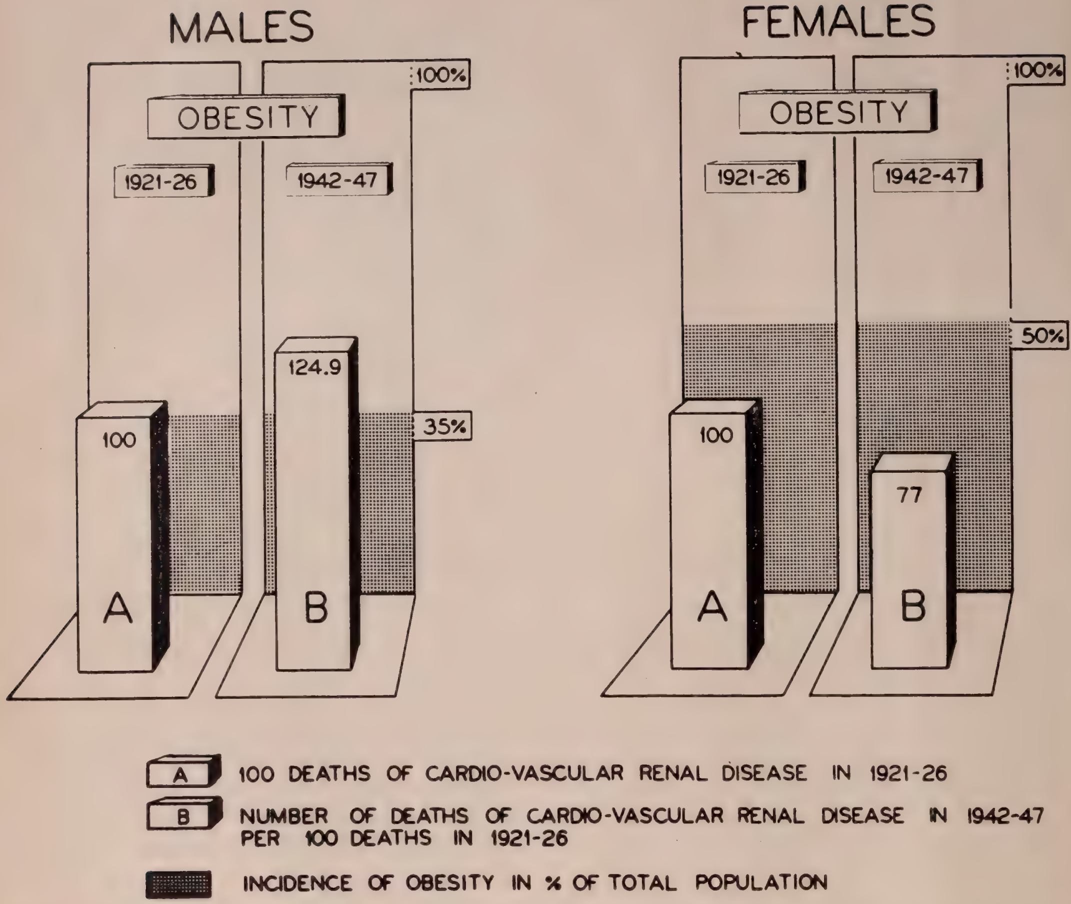

FIG. 3. Changing mortality rates for cardiovascular-renal disease during the past twenty years in the United States as compared with the incidence of obesity. (Based on data from Kaufman and Woolsey[18])

effect relationship for diabetes as well as for degenerative vascular diseases. Diabetes is, in the vast majority of cases (some even believe in every instance), a genetically determined condition. Obesity may, as we stated, accelerate the manifestations of diabetes; it may turn it from the anlage to the manifest disease and will certainly aggravate it. But can obesity by itself cause diabetes? Neither animal experimentation with forced feeding nor human experience seems to provide us with a clear answer. It is true that some obese diabetics can control their hyperglycemia and glycosuria simply by reducing weight and will then develop normal glucose tolerance tests.[14] It is true also that abnormal glucose tolerance tests are more often found in obese people than in nonobese[15] and particularly during the active phase of gaining weight.[16] Yet there are many more obese persons who never show abnormalities in their blood sugar homeostasis. Let us remember only that we have in this country at least 30 million people who are more than 15 per cent overweight and that the highest estimate of the number of actual and potential diabetics in the United States is about three million. Moreover, there does not seem to be any relationship between diabetes and the duration or the degree of the associated obesity.[17] Indeed, it appears that individuals with monstrous obesity as well as obesity existing from early childhood seldom develop diabetes, as should be expected if diabetes is "the punishment for obesity."

The situation is even more complicated in regard to atherosclerosis and coronary disease. We all know that the degenerative cardiovascular diseases have markedly increased in this country during the past several decades. The incidence of obesity, on the other hand, has probably remained the same. We should hope that it has decreased somewhat in response to our efforts in weight reduction programs; it is unlikely that it has increased. Can the increase of the disease then be solely due to obesity? Unlikely as this is, it becomes even more unlikely if we consider in Fig. 3 the trend of the mortality rates due to cardiovascular renal diseases during the past twenty years. This figure compares the mortality rates of both sexes for the five-year periods of 1921–1926 and 1942–1947. It demonstrates that the increase in death rate occurred only among the males, while there was a rather significant decrease among the females.[18] The females, however, still have the higher incidence of obesity. It may be then that the increase of atherosclerosis in our population is related to still other factors than obesity. One of these factors may be the estrogens which already have been recognized as influencing fat metabolism and as being effective in the prevention of coronary disease.[19] We know that coronary disease among females is rather rare prior to the menopause. We also have learned that the blood cholesterol level in the females is on almost the same level from menarche to menopause and rises only afterwards, while it continuously rises in the American male from childhood to old age.[20]

Let me list a few other data. It has been shown by Keys[21] that degenerative heart disease is far less frequent in some European countries than in the United States, although the incidence of obesity differs only slightly. It has been found that the incidence of obesity was about the same among a group of young American soldiers who died suddenly during World War II from acute coronary disease as among a group of otherwise comparable soldiers who had been killed in action or by accident.[22] A high incidence of atherosclerosis, regardless of weight, was found also during the Korean conflict in American soldiers killed in action, while a comparable group of Korean soldiers showed far less evidence of degenerative vascular disease.[23] From the Mayo Clinic it has been reported that the five and ten-year survival rate of coronary patients was better for those who were overweight than those of normal weight,[24] and other statistics show that the incidence of obesity among middle-aged patients with myocardial infarction was about the same as in the general population and that the immediate mortality among the obese patients was not so high as among those who were underweight.[25] In a large survey of more than 20,000 army officers, there was a higher retirement rate among the obese group because of cardiovascular disease and hypertension, but obesity did not significantly alter the death rate from cardiovascular diseases, nor did there appear to exist any relationship between obesity and coronary disease.[26] Finally, an equally high rate of overweight was found in two groups of men under forty years, one consisting of patients who had sustained myocardial infarctions and the other of healthy men.[27]

Let us now turn to the experiences during the so-called hunger period in Europe, particularly in the Scandinavian countries during World War II, when the coronary death rate showed a sudden and significant drop, only to return to its old height when abundant food became available again. These data are often cited as evidence that obesity causes disease. An analysis of the data of the Scandinavian authors[28–30] shows that during these "lean years," as they call them, the caloric restriction was rather minimal since starchy food remained available, but the fat ration was cut considerably. The daily fat allowance fell by more than 50 per cent, from 160 to 70 Gm.[29] This figure becomes even more significant when we realize that the decrease in coronary disease and thromboembolic phenomena and the subsequent increase affected the nonobese population as well as the obese.

Must we not conclude from such data that it is indeed unlikely, or at least not proved, that overweight is the direct cause of many of the diseases so frequently found associated with it? Yet, disappointing as these findings seem to be, they direct our attention to a new problem. Could it be that the fat content more than caloric value of the diet is related to the high incidence of degenerative vascular diseases among the obese as well as the nonobese population? Certainly a high-caloric diet is high in fat, and thus obese people may be affected more, but a normal diet may be rich in fat too. Indeed, there is good evidence that the American diet has undergone a considerable change during the past fifty years.[31] While the per capita consumption of starchy food has decreased, the fat consumption has increased. This greater fat content may be one and perhaps an important factor for the high incidence of atherosclerosis among the American population and for the differences found between American and Korean soldiers and between obese American people and obese Italians and Spaniards whose diet is relatively poor in animal fat.[21] There may be other factors. The effect of sex has been mentioned already; the stressful life situation of our times may be another.

A discussion of fat metabolism is beyond the scope of this paper. It should be mentioned, however, that as yet there is no evidence of a specific metabolic disturbance in obesity.[32] Pennington's[33] suggestion of a metabolic block in fat utilization has not been confirmed as yet.[34] The recently described and much discussed changes in the lipoprotein associated with atherosclerosis[35,36] are found in the obese as well as the nonobese patient with degenerative vascular disease. While the question about their significance for atherosclerosis is still open,[37] it can be assumed that they play a role in fat transport. Some evidence has been presented that they are related to dietary fat. Thus, in an interracial survey in the Cape Peninsula,[38] it was found that the dietary intake of fat had greater influence on the blood cholesterol and beta lipoprotein level than racial or genetic factors and, in turn, may be one of the major factors influencing the pathogenesis of coronary heart disease. Moreover, suggestive evidence is accumulating gradually that various dietary fats differ in their effect on endogenous lipid metabolism; thus, unsaturated fatty acids, which are abundant in vegetable and fish oils, do not seem to raise the blood lipids as do the more saturated fatty acids, which are mainly present in the commonly used animal fats.[39–41] Although animal observations are not always applicable to men, it might be of interest in relation to obesity that rabbits on severe caloric restriction developed the same degree of atherosclerosis as the adequately fed control animals as long as both groups received the same amount of cholesterol.[42] Since our means to control the endogenous factors of atherogenesis are still limited and uncertain at the present time, it seems justified to emphasize the possibility of minimizing the danger of lipids by restricting both calories and fats in obesity. But should we not recommend a fat-poor diet for the population in general, particularly since it may not be necessary to eliminate all fats but may suffice to restrict only certain types?

Finally, a few words on treatment. Obesity can be treated only by adjusting the caloric intake to the caloric output—by dietary restrictions, on the one hand, and increased exercise, wherever possible, on the other. The value of exercise needs special emphasis since it has long been overlooked.[8] Reducing diets should not be starvation diets which can be used for short periods only because of their deficiencies in essential nutrients, minerals, and vitamins. Reducing diets should be designed for gradual weight loss. It takes time to put on fat; it should take not much less to lose it. Rapid weight loss may be fraught with danger, particularly in the aged, and frequently is followed by another bout of overeating when the diet is liberalized. More difficult than the prescription of a diet is keeping the patient on the prescribed program. This requires good motivation on the part of the patient and understanding and tactful support by the physician; only occasionally may drugs be of help. If weight-reducing programs lead to faddisms and anxieties, they may be doing more harm than good. The same William Shakespeare who once recommended, "Leave gourmandizing, know that the grave doth gape for thee thrice wider than for other men," also had this to say, "Let men about me that are fat, sleak headed men who sleep at night."

Summary

1. Obesity is accompanied by a shortened life expectancy and a high morbidity, particularly from degenerative cardiovascular diseases, diabetes, and biliary diseases.

2. To evaluate the relationship of obesity to diseases, better means must be developed to assess obesity in its various aspects.

3. Obesity aggravates pre-existent and independently developing diseases.

4. The high fat content rather than the high caloric content of the diet may contribute to the development of degenerative vascular diseases in obesity, as well as in the nonobese population.

5. Dietary restrictions and exercise are the only treatment of obesity. Patients need emotional support to adhere to a reducing program.

86 East 49th Street

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ANNOUNCEMENT

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MEDICAL SOCIETY OF THE STATE OF NEW YORK

Applications for space for the scientific exhibits should be made directly to the Chairman of the Subcommittee on Scientific Exhibits of the Convention Committee:

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The Sesquicentennial Convention will be held February 18 to 21, 1957, at the Hotel Statler, New York City.

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There will be two groups of awards:

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W. P. Anderton, M.D., *Secretary*
Medical Society of the State of New York

The Licensing of Foreign Physicians in New York State and in the United States

DOMINICK F. MAURILLO, M.D., BROOKLYN, NEW YORK

(*Chairman, Committee on Licenses, Board of Regents of the State of New York*)

It is a privilege and an honor to address this very large group of professional people for three reasons. I believe that I am the first Regent of New York State to be invited to talk to your members. I am and have been a member of the New York State Medical Society for twenty-nine years, and third, I am sincerely interested in medical educational problems. My fellow Regents have asked me to convey to you their best wishes and to tell you that they have an earnest desire to help and protect the medical doctors of New York State, as well as the doctors of other states, and all the foreign doctors who are qualified and wish to practice in New York.

Licensing of foreign doctors has reached the stage of great importance in our larger states. It has aroused the interest of many different groups of people. Some are for and some are against the admission of these physicians to the practice of medicine. Today the problem is very critical because of the shortage of doctors throughout the United States. There are now about 5,500 unlicensed foreign doctors working either as interns or residents in hospitals in the United States. About 30 per cent of these doctors are in New York State hospitals. These foreign doctors are either invited to this country, or they are sent here as exchange visitors to study American medicine for one or more years, or they come here to stay under the quota system. It has been shown that most of these doctors remain in the United States and that less than 10 per cent return to their native lands.

Today there is a need for more than 14,000 interns because of the tremendous hospital building in the last eight years and because many residencies have been established in our larger hospitals. Last year our medical colleges graduated less than 7,000 doctors. All of these doctors are serving their internship, but this still leaves a shortage of 7,000 interns. With the supply so small and the need so great, is there any wonder that hospitals are desirous of employing foreign doctors, even though their medical education is unapproved by the state authorities? In fact, some hospital administrators or their representatives travel to European and Asiatic countries to invite doctors for the purpose of interning in their hospitals. These foreign doctors work on an equal basis with graduates of our medical colleges, and they carry out the same duties and have the same responsibilities. Because of this equal status some administrators and doctors who have worked with these foreign physicians and who have formed a favorable opinion as to their abilities protest vehemently against the procedure of licensing foreign doctors. They cannot understand why some states deny these physicians the right to take medical licensing examinations.

New York State has been and is the leader in the admission of foreign doctors to its medical licensure examination. In the five years before World War II (1937 to 1941), 5,055 out of a total of 7,527 foreign trained physicians were admitted to examination in New York. This is more than 67 per cent. From 1950 to 1954 New York State admitted 2,271 foreign doctors to its medical examination out of a total of 6,278 foreign trained physicians, or more than 36 per cent. The foreign doctors admitted before World War II came mostly from Germany, Poland, and Austria. Today they come from all over the world with the greater number from Europe, South America, and Asia.

New York State has the most experienced and best trained professional educational department in the United States. It supervises and administers all the professions except law, with special emphasis on the professions dealing with healing arts. Screening and evaluation of medical education is done by Dr. Stiles D. Ezell, secretary of the Board of Medical Examiners, with a very capable and competent staff under the direct supervision

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Presented at the 150th Annual Meeting of the Medical Society of the State of New York, New York City, General Sessions, May 8, 1956.

of our Assistant Commissioner for Professional Education, Robert C. Killough, Jr.

The procedure necessary for a foreign doctor to obtain a license to practice medicine in New York is very simple. An applicant writes to the Assistant Commissioner for Professional Education, to the secretary of the Medical Board, or to the State Education Department, Albany, New York, for information and application blanks. These will be delivered immediately. He must comply with the directions by submitting all the required data. His records are then thoroughly evaluated by the department. If his credentials meet our requirements, he is allowed to take the medical licensing examination. If his records fail to meet our requirements, they are then presented to the Regents' Licensing Committee under Section 211 of the New York State Education Law.

Before I continue, I will explain this very important Section 211. It was passed as Section 51 by the New York Legislature in 1917 and was added to the then existing education laws. Many amendments have been added to this law since then. In 1947 Section 51 was recoded as Section 211, and it is so called today. The legislators had real vision and understanding when they passed this law and improved it year after year with many amendments. Because of Section 211 many thousands of foreign doctors were and are able to obtain a license to practice medicine and surgery in New York State. These doctors may qualify for endorsement in other states, representing 80 per cent of the population of the United States on the basis of their New York license, on meeting the requirements for endorsement in such states. It should interest you to know that many decisions rendered by the courts interpreting Section 211 have favored and sustained the Regents' actions thereunder.

I shall read you part of Section 211:

> Conformably to law, the Regents may supervise the entrance regulations to, the licensing under, and the practicing of the profession of medicine and all other professions except law and members of any other profession which may hereafter come under the supervision of the Board of Regents.
>
> The Regents may by rule or order accept evidence of preliminary and professional education and where practice is a prerequisite to licensure may receive evidence of such practice in whatever state or country the same may have been obtained or engaged in, for licensing a candidate to practice any such profession in lieu of that prescribed by the laws provided it shall appear to the satisfaction of the Regents that such candidate has substantially met the requirements of such laws.
>
> The Regents shall have further power to endorse a license issued by a legally constituted board of examiners in any other state or country upon satisfactory evidence that the requirements for the issuance of such license were substantially the equivalent of the requirements in force in this state when such license was issued and that the applicant has been in the lawful and reputable practice of his profession for a period of not less than five years prior to his making applications for such endorsement. When the evidence presented is not satisfyingly sufficient to warrant the endorsement of such license, the Board of Regents may require that the candidate for endorsement shall pass such subjects of the licensing examination specified by statute or Regents' rule as should be required of the candidate to establish his worthiness to receive such endorsement.

This is Section 211 in part. Under their rules the Regents have broad discretionary powers to judge the fitness of foreign medical school graduates for licensure in New York State. Any physician can request a hearing of his case before the Regents' Committee on Licenses, which is a standing committee of three members appointed by the Chancellor of the Board of Regents. If there is a medical doctor on the board, he is always appointed to the committee and generally, as at present, the doctor is appointed chairman. Its purpose is to help and advise him and recommend what is needed to meet our requirements. The committee is presented with all the records of the applicant. These records include elementary, high school, college, and medical college education, plus postgraduate work in hospitals, plus the years in practice if any, and also letters of recommendation. The license committee reviews the record of each applicant and then makes a recommendation to the full Board of Regents which consists of 13 members. The entire board makes the decision, and action is final. Regents decisions can only be reversed by the courts.

If an applicant has been denied admission to examination by the Regents, he may request another hearing before the license committee. It will be granted if he can present new evidence of his qualifications, if he has passed additional medical educational courses, or if he has served more internship or residencies since the denial of his previous application.

The Regent's policy is to protect the health of the people of New York State by admitting only competent doctors to the licensing examinations. If any doctor meets our requirements, you can be sure that the Regents will see to it that he or she will be allowed to practice medicine and surgery in New York State.

The Regents have often been asked how they obtained their information about medical education in foreign countries so as to be able to judge the cases that are presented before them. Before World War II we obtained a great deal of valuable information from the American Medical Association. We also received information from many of our doctors who continued their postgraduate education in European medical centers. From 1920 to 1939 New York State had a working agreement with some of the European countries as to licensure.

The Regents received reports that medical education was deteriorating in quality in Germany, Italy, Austria, and Hungary after Hitler and other dictators came into power. Prior to World War II, during the war, and for some years thereafter, medical education was at its lowest ebb in some countries of Europe and certain parts of Asia Minor and Asia. Large numbers of the medical faculties were drafted into the armed services and essential industries. Many medical colleges were destroyed in the wartorn countries. Medical education could not be taught under such impossible conditions. It was very difficult for the Regents to obtain accurate information about the quality and extent of medical education in these countries. We received some information that diplomas of medicine could be easily obtained.

Because of these many reports, some very conflicting in their analysis, the Regents' Committee on License had a very difficult job on its hands reviewing and judging hundreds of cases presented before them from 1945 to 1951. A very large number of foreign graduates were denied admission to examination. It was the opinion of the committee during those years that they recommend denial and be safe in their judgment rather than to admit an incompetent doctor to practice medicine. Can you imagine the great deal of criticism received by the Regents as a result of these denied decisions? I should like to state for the record that some of this criticism was absolutely correct.

In 1947, 1948, and 1949 about 300 veterans of World War II who could not gain admission in the United States medical colleges traveled to Switzerland, Italy, France, and Holland for their medical education. Most of these students lived in New York State. Since the Regents were denying applicants from these countries, the veterans and their families were worried about their status after their graduation from foreign medical colleges. Happily for them, the Regents have the power under the law, Section 210, to evaluate, appraise, and register medical education in any state or foreign country.

In January, 1950, the Board of Regents received an invitation from the Ministers of Education of Italy and Switzerland to send a Regents' committee to evaluate and approve their medical education. Our Chancellor appointed a committee of three for that purpose, making me its chairman. In 1951 another invitation was received from the French Minister of Education to evaluate medical education at the University of Paris. I was chairman of that committee. As a result of the committee's work the Regents approved the medical education of 11 medical colleges in Italy, five in Switzerland, and the University of Paris (Sorbonne) Medical College.

In order to obtain more knowledge of medical education in Europe, in 1952 I visited Holland, England, and Sweden to study their system of medical education. In 1953 I attended the World Conference on Medical Education in London and obtained from the deans of medical colleges in the countries in which the license committee was interested a great deal of information about their respective systems of education. During the same year I visited and studied medical education in the principal German universities. In 1954 I studied medical education in Greece, Turkey, and Lebanon and in the same year was invited by the Minister of Education of Israel to appraise the medical education in Jerusalem. In my talks with the deans and professors of these European medical colleges, I learned interesting facts about medical education behind the "Iron Curtain." Because of the increasing number of applications received by the licensing committee from doctors from Central American countries, I decided in 1955 to evaluate medical education in Mexico, Cuba, and Venezuela. In six years I studied medical education in 38 universities of Europe, Asia Minor, and Central America.

The Regents had to solve the big problem of what action to take on physicians who came from unapproved medical colleges and who were working as interns or residents in our approved hospitals. In 1951, with the help of Dr. Boggs, the former dean of New York University Post-Graduate Medical School, our License Committee approved a course which we called "Comprehensive Medicine." It consists of one year of intensive review of medicine involving the entire curriculum of a medical college. It is practically all didactic work in the basic sciences. The clinical courses involve thorough bedside teaching and examinations. It is a very good review of a four-year medical curriculum. The following year New York Polyclinic Postgraduate Medical School was also approved for this course because New York University could not handle the large number of candidates required by the Regents to take additional supplementary study.

Since April, 1951, the Regents have recommended that most foreign doctors with an unapproved medical education must complete (1) one-year "comprehensive course of formal study," (2) a one-year A.M.A.-approved rotating internship, and (3) a one-year approved internship or residency in either surgery, medicine, obstetrics and gynecology, or pediatrics, in order to take the New York State medical license examination. New York is the only state which prescribes these conditions, and most of the foreign doctors are very pleased with these requirements. They now have a better chance of passing our license examination, and more important they feel confident of practicing good medicine in any community of the State. Reports have come to the Regents proving these facts.

It is estimated that only 25,000 doctors out of 32,000 licensed and registered doctors in New York State are practicing medicine. More than one fifth of the practicing doctors or, to be more accurate, 5,061 are foreign-trained doctors. I would say that more than a third of the doctors doing general practice have been educated in foreign countries. Practically all of them are prospering and are a credit to the communities in which they live and practice.

On a nation-wide basis this is what has happened during the last five years: 799 foreign doctors were admitted to examination in 1950; 1,066 in 1951; 1,463 in 1953; 1,642 in 1954, and I am sure that not less than 2,000 were admitted in 1955, and probably 2,500 will be admitted in 1956. The figure for 1956 is likely to be more than a third of what our medical colleges will graduate this year. To put it differently, this number of doctors will exceed the product of 20 of our largest medical schools. We can expect this number of foreign doctors to increase each year unless something is done to increase the number of doctors graduating from American medical colleges.

In 1955 Seymour B. Foreman of our research department reported to the Board of Regents some very interesting facts and future predictions in the medical field for New York State. He stated that next to the District of Columbia, New York State has a larger number of physicians for its population than any other state for the year 1954. Its 32,000 registered physicians provide a ratio of 450 people to one doctor, but since only about 25,000 physicians are in active practice, the ratio is 625:1. However, the distribution of physicians varies widely from 280:1 in New York County, while Lewis County has a ratio of 1,500:1. Foreman stated that New York would need 4,475 more physicians to bring down to the State average those counties that are above the State average. It would also require about 296 additional physicians to bring those counties having a ratio above the national average to the national average of 900:1.

His report continued with the fact that in 1945–1946, 5,826 doctors were graduated in the United States and that in 1953–1954, after nine years, only 6,861 doctors were graduated. This is an increase of 1,035 doctors, while the population of the United States increased by 18 million. He stated that in 1953–1954 there were 3,555 enrolled medical students in New York State medical colleges and 819 graduated as physicians. He predicts that in 1960 (all things being equal) 4,100 students are expected to be enrolled with 940 graduating; in 1965, 5,300 students with 1,220 graduating; in 1970, 6,220 students are expected to enroll with 1,445 graduating. Now this next prediction should be of great interest to the deans of the medical colleges. He estimates that with the great increase in college enrollment expected for the years from 1956 to 1970, 3,200 capable, above-average students will not be admitted to New York medical colleges. If calculated on a nation-wide basis, more than 25,000 "B" or better students will be kept out of medical colleges in the United States by 1970. Even today, there are more than two students available for every one accepted in the United States and more than a 3.5:1 ratio for New York State.

I have quoted the above facts and figures in order to explain why more than 2,000 students are forced to study medicine outside the United States, of whom just less than half are from New York State. The students attending the Italian, Swiss, and University of Paris medical colleges must have a college degree (B.S.) with a "B" or better average in order to be admitted. They must take a five-year course for their medical degree, and then, if they desire to take the New York State medical examination, they must first complete a one-year A.M.A.-approved rotating internship. The Regents' committee which evaluated and approved medical education in these countries suggested the above qualifications to the authorities of the respective medical colleges, and these rules are strictly enforced. Let me emphatically state that these students receive good medical training. The deans of the medical colleges are very well satisfied with the work of the American students. In fact, they are in the upper half of their classes scholastically. I am certain they will make good doctors. Today some of these graduates are making their appearances in our New York hospitals. My colleagues report that Americans educated abroad are holding their own with graduates of our medical colleges. I am very proud of being the chairman of the Regents' committee which has made possible this education for such large numbers of American students.

I have three concluding statements:

1. It is evident that the present policy of limiting the number of students for admission to our medical colleges is responsible for (*a*) the very great increase in foreign doctors in the United States, (*b*) the 2,000 or more American students studying in foreign countries, (*c*) the growing shortage of general practitioners, and (*d*) the discouragement of many potential medical students from studying medicine.

2. The United States Congress should pass a law creating a commission of experienced persons in this field to study fully this problem and make a substantial grant of the necessary funds available to the commission. Such study should be comprehensive, realistic, unhampered, and unbiased and should cover all phases of medical education.

3. The Regents of New York State have satisfactorily solved the problem of licensing foreign doctors under the powers granted them in the Education Law of the State of New York.

12 SCHERMERHORN STREET

Cold Study—Students

Temperature change, wet weather, or stress haven't much to do with catching a cold, according to a four-year study of Cornell students' sniffles. Dr. Ralph W. Alexander, physician, and Dr. John Summerskill, psychologist, in the University Clinic, Ithaca, traced the colds that one class of students had during their four years in college, and report their findings in the April issue of Student Medicine magazine.

Week-by-week graphs showing how many students visited the Cold Clinic follow nearly the same pattern each year. There's a peak after each vacation period, with the biggest peak of all at the beginning of the school year when the weather is usually good.

The suggested explanation is that during vacations the students lose their immunity. They come back especially susceptible to viruses that other students bring back from other areas, but after a while build up immunity to them. Immunity to cold viruses is very short, the authors explain.

Periods of stress in the students' life—before and after examinations, during fraternity rushing periods—produced hardly any more colds than "nonstressful" periods.

The study showed almost exactly the same number of colds at opposite extremes of weather conditions—on the hottest and coldest days, the wettest and driest, or days with the greatest and least temperature change.

It also compared the number of colds reported by students with the best grades vs. students on probation, campus leaders vs. students with no outside activities, athletes vs. nonathletes. There was no difference, except that students who were visiting the psychiatric clinic reported more colds, as they did more illnesses of all types.

The students made a good group to study, being generally similar in age, intelligence, and economic background. With a prepaid medical service, used by 95 per cent of the student body, and a special Cold Clinic, the authors explain, more students get medical care for colds than would be true in the general population.

Hemoptysis—A Diagnostic Problem

JOHN F. DALY, M.D., NEW YORK CITY

(*From the Department of Otolaryngology, Bellevue and University Hospitals and the Department of Otorhinolaryngology, New York University Post-Graduate Medical School*)

THE clinical significance of hemoptysis as a symptom of serious pulmonary pathology has undergone a gradual but definite change during the past ten years. This is due in part to the altered pattern of disease in the population, as reflected in mortality statistics. Tuberculosis is no longer the number one cause of death. Instead, heart disease and cancer have risen to first and second place. The continuing increase in lung cancer has been a cause of great concern to both the medical profession and the general public. The change is due in part to the availability of improved methods of diagnosis, which make possible earlier detection of lung pathology. These are the cytologic study of sputum and bronchial secretions and new technics in bronchology. The change has been further influenced by the technical advances made in thoracic surgery. However, a wide gap separates the promise of thoracic surgery and the realization of a satisfactory cure rate. The cure rate for lung cancer can be improved if the diagnosis is made early, and hemoptysis is one symptom which brings the patient to the physician without delay.

Hemoptysis for which no cause can be established has always been a problem in diagnosis. In the past, when the incidence of tuberculosis was high, not a few patients were treated and hospitalized for tuberculosis on the basis of this symptom alone. Today unexplained hemoptysis is still a serious problem but now in relationship to malignancy. It raises the very practical problems of how far the search for cancer should be carried and at what point the patient can be given assurance that malignancy does not exist. These are practical considerations which suggest a review of hemoptysis as a diagnostic problem.

The incidence of hemoptysis in the general population is unknown, but if we accept the simple definition "spitting of blood," it must be common. Most of these events do not come to the attention of the medical profession. It is only when the appearance of blood raises in the mind of the patient or the physician the possibility of hidden disease that hemoptysis becomes a medical problem. The term is used in medical literature both in a broad sense, referring to bleeding from the upper air and food passages and also the lower respiratory tract, and in a limited sense, referring to bleeding from the lower respiratory tract alone. The latter, or limited sense, is most frequently used. For instance, all available information on the incidence of hemoptysis refers to bleeding from the tracheobronchial tree and lung. The figures vary considerably among the groups reporting, according to the basis for their selection. Thus, in 3,945 cases reviewed by Boucot[1] from the Philadelphia Chest Survey, the incidence of hemoptysis was 5 per cent. Chaves[2] found the incidence of hemotysis in 4,771 patients attending a free diagnostic service of a health center chest clinic to be 6.8 per cent. As would be expected, statistics from hospital chest services indicate a much higher incidence. In the group of 1,316 cases reported by Abbott and Hopkins,[3] the incidence of hemoptysis was 37 per cent. Moersch[4] reported 200 cases of hemoptysis, 29.8 per cent, in the 670 cases which were examined bronchoscopically. Thus, hemoptysis occurred in about 5 per cent of the cases in a general chest survey but in over 30 per cent of the cases admitted to a general chest service.

The causes of hemoptysis are so numerous that listing them would include most of the conditions that directly or indirectly involve the bronchopulmonary system. Abbott[3] listed 50 causes. Cancer of the lung, bronchiectasis, tuberculosis, chronic bronchitis, pulmonary abscess, and mitral stenosis are the most frequent causes and account for more than half of the cases.

Grouping the causes according to broad categories provides a simple classification:[5]

I. Cardiovascular diseases
    A. Mitral stenosis
    B. Hypertension in lesser circulation
    C. Pulmonary infarcts

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- D. Aortic aneurysms, rupture of
- E. Pulmonary arterial aneurysm or arteriovenous aneurysm
- F. Telangiectasias, hereditary form

II. Bronchopulmonary diseases
- A. Infection
  1. Bacterial
  2. Viral
  3. Fungous
  4. Parasitic
  5. Rickettsial

  Pathology—pneumonitis and/or tracheobronchitis. Tuberculosis and pyogenic lung abscess are the most common causes of hemoptysis in this group.
- B. Neoplasms
  1. Primary—bronchogenic carcinoma, alveolar carcinoma, bronchial adenoma
  2. Secondary
     - (*a*) Metastatic
     - (*b*) Invasive from thyroid and esophagus, pleura, and mediastinum, etc.
- C. Bronchiectasis
- D. Broncholithiasis
- E. Pulmonary fibrosis
- F. Injury
  1. Trauma to chest
  2. Foreign body
  3. Inhalation of fumes

III. General diseases
- A. Blood dyscrasias
  1. Leukemia
  2. Polycythemia
  3. Purpura
  4. Hemophilia
- B. Uremia
- C. Sarcoidosis

IV. Undetermined—Idiopathic, benign bronchial bleeding. Hemoptysis without roentgen, bronchoscopic, bacteriologic, or cytologic evidence of disease.

The number and variety of the causes of hemoptysis should not be discouraging to the clinician since a careful history and physical examination with roentgenograms of the chest and routine laboratory tests will, in most instances, indicate the diagnosis or suggest a practical course for clinical investigation.

History

From the history can be learned the color, frequency, and quantity of the blood-spitting. At times the patient may be able to give accurate information, even indicating from which side of the chest the bleeding came. Usually, he is only aware of a salty taste and the presence of blood in his sputum. An accurate correlation cannot be made between the quantity of bleeding and the seriousness of the pulmonary pathology. Repeated streaking of sputum is frequently seen in bronchogenic carcinoma, and a large hemorrhage may occur when no disease can be detected.

Physical Examination

The exclusion of the upper air and food passages as a source of bleeding depends on a careful inspection of these structures. This should include a mirror examination of the nasopharynx and laryngopharynx. Neoplasms arising in these areas frequently manifest themselves by bleeding. Any suspicious area should be biopsied.

A word of caution should be mentioned about accepting a possible source of bleeding as the actual cause. Small ulcerations and varices are quite common in the nose and throat. Dilated veins at the base of the tongue have often been singled out as the cause of the bleeding. Unless the actual bleeding from the varix is observed, it should not be accepted as the source. This happens so infrequently as to cast doubt on the validity of such a diagnosis.

The general physical examination will provide evidence of pulmonary, cardiovascular, or systemic disease. Rhonchi and wheezing, when present on one side of the chest, are important localizing symptoms.

Roentgenographic Examination

This is the crucial part of the study of the patient with hemoptysis because the findings will provide the basis for a diagnosis or suggest leads for further investigation. Chest plates should be studied with the complete clinical picture in mind and restudied when additional information has been obtained. A great deal depends on the judgment of the roentgenologist because not all the findings are clear-cut. First, there is the interpretation of so-called nonsignificant shadows in various age groups. Second, there is the distinction between tuberculosis and cancer, which is not always possible on x-ray findings alone. Even finding tubercle bacilli in the sputum does not resolve the question, for both diseases may exist at the same time, as pointed out by Fried and others.[6] Boucot *et al.*[7] found active tuberculosis in 10 per cent of the cases of proved lung cancer. Third, a negative x-ray does not exclude the possibility of a tumor in a main bronchus. Mac Hale[8] bronchoscoped 71 patients with hemoptysis whose roentgenograms were normal and found four patients with tumors of the main bronchi. Three of these were benign, and one was malignant. The roentgenologist is in a key position for suggesting further investigation when x-ray findings remain uncertain.

Laboratory Examination

Examination of sputum should be done in all hemoptysis cases. This should include not only smears stained for acid-fast organisms, but also Papanicolaou stains for tumor cells. Culture of sputum and gastric washings for tubercle bacilli should be done when indicated. Examination for fungi should also be included.

Bronchoscopy and Bronchography

Bronchoscopy is an essential step in arriving at a diagnosis in hemoptysis because it gives direct information about the tracheobronchial tree and provides the means of obtaining tissue for microscopic section and secretions for cytologic and bacteriologic examination. Improvements have increased the value of bronchoscopy as a diagnostic tool. Bronchoscopic telescopes have extended the field of vision to the segmental bronchi, making it possible to localize pathology more exactly. The technics of scraping biopsy and bronchial washings have increased the number of positive biopsies.

Bronchoscopy should be delayed when bleeding is profuse. A procedure done when the tracheobronchial tree is filling with blood yields very little accurate information and only adds to the patient's jeopardy. However, it can and should be done before blood has disappeared from the sputum. This permits the bronchoscopist to trace the bleeding to its source or to identify the pulmonary segment involved.

The value of positive bronchoscopic findings in arriving at a correct diagnosis and prognosis is obvious, but a negative examination can also be important. In a proved case of lung cancer, a negative bronchoscopy means a better prognosis for resectability and cure. A negative bronchoscopy is essential in establishing the diagnosis of idiopathic hemoptysis.

Bronchography is indicated when bronchiectasis is suspected. Instillation of the radiopaque media should be delayed until the bleeding has stopped. When the source of the bleeding has been observed through the bronchoscope, bronchograms can be directed towards that area. In one of our patients bronchoscopy and bronchography were done on two occasions after the bleeding had stopped without success in demonstrating any pathology. During the third admission the bronchoscopy was done during the active bleeding, and the source was identified. A bronchogram directed to the involved lobe outlined a small segmental area of bronchiectasis which had been missed before.

Differential Diagnosis

The differential diagnosis of hemoptysis is dominated by the question of malignancy. This is due to the continued rise in lung cancer and its poor prognosis unless it is diagnosed early. The prevalence of lung cancer in the male population over forty-five increases the significance of hemoptysis and any other respiratory symptoms in this age group.[9] Cough, hemoptysis, and an abnormal roentgenogram should be considered as presumptive evidence of malignancy until proved otherwise. When bronchoscopy and cytology of sputum and bronchial secretions do not produce positive evidence of the nature of the pulmonary lesion, exploratory thoracotomy should be done.[10] It is better to resect an innocent lesion than to wait until the diagnosis has become definite and then find that the lesion is no longer resectable.

Idiopathic Hemoptysis

A complete and thorough study of the patient will establish the cause of the bleeding in the majority of cases. There is one group of hemoptysis cases with normal roentgenograms and no other clinical, laboratory, or bronchoscopic evidence of disease. They make up less than 10 per cent of the cases (7.8 per cent in Jackson and Diamond's series[11] and 5.5 per cent in Moersch's[4]). This group of unexplained hemoptysis cases constitutes a definite clinical entity. Various names have been assigned to it, such as idiopathic hemoptysis, essential hemoptysis, and benign bronchial bleeding. Idiopathic hemoptysis is the term which has had widest acceptance. This type of bleeding occurs twice as frequently in the male and has its greatest incidence in the age group from thirty to fifty years. Hemoptysis occurring in the female about the time menstruation belongs in this group since the connection with menstruation has not been established.

In idiopathic hemoptysis there are only one or two bleeding episodes. When hemorrhages are recurrent, serious pulmonary pathology should be suspected and the patient restudied. The bleeding may come from a small ulceration or a rupture of a small pulmonary vessel. The bleeding point is rarely seen through the bronchoscope.

It is difficult to eliminate all doubt about such a diagnosis. How often does pulmonary pathology become manifest in cases diagnosed as idiopathic hemoptysis? In 15 cases which we followed for three to five years, there was no instance of pulmonary pathology that subsequently developed. Douglass and Carr[12] followed 55 cases. Ninety per cent lived five or more years. There were eight deaths. Three were known to have been due to pulmonary disease. One case of bronchogenic carcinoma was probably present at the time of the first examination. In 67 cases of idiopathic hemoptysis followed for one to four years by Mac Hale,[8] one case of carcinoma of the bronchus was discovered during the follow-up period.

The diagnosis of idiopathic hemoptysis can be made with confidence when the study has been complete. Since the possibility of error, although small, cannot be entirely eliminated, it would seem wise to keep these patients under observation for at least twelve months, repeating the chest films at three to six-month intervals.

Summary

Hemoptysis is an important symptom of serious lung pathology. Carcinoma, bronchiectasis, lung abscess, chronic bronchitis, and mitral stenosis are the most frequent causes of bleeding. Each case requires a thorough study. Elimination of sources of bleeding in the upper air and food passages is the first step in clinical diagnosis. When the source of the bleeding has been localized to the lower respiratory tract, roentgenograms, study of sputum for acid-fast organisms and neoplastic cells, bronchoscopy, and bronchography will establish a definite diagnosis in the majority of cases. In a small group with an undiagnosed pulmonary shadow, thoracotomy should be done. Benign, idiopathic bronchial bleeding is a definite clinical entity which accounts for about 10 per cent of the cases of hemoptysis. The diagnosis can be made with confidence when the study has been complete. However, since error cannot be completely eliminated, these patients should be followed for a period of twelve months, repeating the chest films at three to six-month intervals.

140 East 54th Street

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Adjunctive Anticholinergic Treatment with Homatropine Methylbromide

Reinvestigation of an old drug, homatropine methylbromide, has established its value as an effective cholinergic blocking agent. It has been accepted by the Food and Drug Administration as a new drug (Malcotran, Maltbie Laboratories) with a new dosage. Dr. A. L. Cantelmo presents a series of case summaries in which it was used for severe chronic gastric or bladder spasm due to a variety of causes, including peptic ulcer. This drug is not to be confused with the tertiary ammonium compound, homatropine hydrobromide, used in ophthalmology as a cycloplegic and mydriatic. Although the name suggests a similarity to atropine, homatropine methylbromide is not in any way related to that drug. In his own experience, the author's observations on the use of this agent support those of other investigators.—*Journal of the Medical Society of New Jersey, September, 1955*

Leukemia in Childhood

*Current Therapeutic Considerations**

HAROLD W. DARGEON, M.D., NEW YORK CITY

(*From the Pediatric and Chemotherapy Services of Memorial Center for Cancer and Allied Diseases*)

THE management of almost any serious disease in which some dramatic therapeutic advance suddenly occurs undergoes a period of enthusiastic optimism, then a reaction of rejection, and finally a recognition of the true values and limitations of the procedures under study. This has occurred within the memory of most of us with such diseases as pernicious anemia, diabetes mellitus, tuberculosis, and arthritis.

It is not my purpose to presume to forecast what the ultimate position of chemotherapy will be in the treatment of leukemia. There is no doubt, however, in reviewing the events of the last nine years that advances have been and are continuing to be made. Cures have not been accomplished. Life—and in many cases a happy comfortable life—for the leukemic child has been prolonged by the intensive use of supportive measures and recently developed chemical agents.

Before discussing the details of treatment it is appropriate to mention several important considerations which all experienced observers in this field have emphasized:

1. Diagnosis: Early leukemia simulates many other illnesses of children, including lymphadenitis, anemias, marrow hypoplasias and aplasias, purpura, infectious lymphocytosis, and infectious mononucleosis. The clinical findings may be meager, and suspicion of leukemia is aroused because of an unusual or indeterminate hemogram or bone marrow study. The steroids and antimetabolites should not be employed under these circumstances because their use may mask the correct diagnosis, and furthermore, the drugs themselves may have serious direct as well as side-effects on the patient. It is known that in some instances a diagnosis of leukemia cannot be made for many weeks—in one of our cases it took four months—even though such a diagnosis is suspected from the beginning of the period of observation.

2. Since the interest in leukemia has been increasing, there have been more patients observed in whom leukemia was initiated clinically in a highly fulminating manner. We now not infrequently see children who are critically ill with leukemia who, as far as we can determine, have authentic histories of less than two weeks. These children may succumb rapidly unless therapy is prosecuted very vigorously.

3. The presence (or absence) of respiratory tract infection and the state of renal function are to be determined prior to treatment. The cardiac, hepatic, and electrolyte status will also at times require detailed study at different stages in the therapy.

Several factors determine the method of treatment employed:

1. The physical state of the patient and the degree of severity of the disease.

2. The type of leukemia. Most children's cases are of the acute or "stem" cell variety. Only very rarely (in less than 10 per cent) are monocytic or chronic granulocytic leukemias encountered.

3. The response, or lack of it, to measures instituted initially.

Prophylaxis

As in all diseases, the first aim in therapy is that of prevention. Although there are inherent difficulties in attempting to prevent diseases whose causes are unknown, there are often some considerations worthy at least of speculation. Many hypotheses concerning the etiology of leukemia continue to occupy our interest, and because no factor or factors are definitely incriminated, we appear to have made little or no progress in the realm of prophylaxis.

Presented at the 150th Annual Meeting of the Medical Society of the State of New York, New York City, General Sessions, May 7, 1956.

* There is now a very formidable list of investigators who have made significant contributions to the therapy of leukemia.[1-13] The writer wishes to express his appreciation to many colleagues at Memorial Center and elsewhere for their assistance in this presentation, particularly to Dr. Joseph Burchenal and Dr. David Karnofsky.

						Therapy		
Case	Sex	Age	Race	Onset prior to Therapy (Mo.)	Site	Definitive	Chemotherapy (Mg.)	Survival in yrs.
1	M	11	W	4	Rt. C. Node	Rt. Rad. Neck	Hydrocortisone, $\frac{40 \times 3 \text{ days}}{0 \times 4 \text{ days}}$ Methotrexate, 2.5 6-MP, $\frac{50 \times 20 \text{ days}}{0 \times 7 \text{ days}}$	$2\frac{1}{4}$ After onset 2 After treatment
2	M	3	W	2	Nasopharynx	HN_2 - Radiotherapy	Methotrexate, 1.25 - 2.5, Constant	2 After onset $1\frac{3}{4}$ After recurrence
3	M	6	W	6	Rt. C. Node Rt. C. Node *Rt. cervical adenopathy recurred 1 yr. after initial therapy. Biopsy not obtained.*	HN_2 - Radiotherapy Radiotherapy	Methotrexate, $\frac{2.5 \times 14 \text{ days}}{0 \times 14 \text{ days}}$	$3\frac{1}{2}$ After onset $1\frac{1}{2}$ After recurrence $2\frac{1}{2}$ After treatment
4	M	8	W	6	Rt. C. Nodes	Rt. Rad. Neck	Hydrocortisone, $\frac{120 \times 4 \text{ days}}{0 \times 3 \text{ days}}$ Methotrexate, $1.25 - \frac{2.5 \times 20 \text{ days}}{0 \times 10 \text{ days}}$	Leukemia 6 mos. later

FIG. 1. Chemotherapy in lymphosarcoma.

Belief in the influences of environmental agents in etiology is encouraged by the consideration that a huge quantity of diverse noxious agents constantly enters the respiratory and gastrointestinal tracts of the average American child. From the crawling age to kindergarten he ingests and inspires many materials—chemicals, foreign bodies, and microorganisms from the floor of his home, the streets in his neighborhood, the house pets, the fowls and stock if on a farm, and the grass, foliage, and soil, to mention only a few of his many environmental hazards. These exposures will continue in variable degrees as age advances.

He is often subjected to numerous x-ray examinations, sometimes beginning in prenatal life by diagnostic or therapeutic x-ray procedures on the pregnant woman, as well as throughout infancy and childhood.

The frequency of leukemia among radiologists was found to be eight times that of other physicians by March[14] and Ulrich,[15] suggesting that this effect may result at least in part from frequent "small" x-ray exposures. A single high-dosage exposure to ionizing irradiation, as happened from the atomic bomb blast in Japan, was found by Amano[16] to show a 13 per cent increase in the incidence of leukemia among those in the "epicenter" of the explosion—more than those at the periphery. The incidence of leukemia about Hiroshima was eight times higher than that of Japan generally.

However, in the 418 children we have treated for leukemia at Memorial Center, no etiologic common denominator has been demonstrated, although we continue to search for possible causes.

There is another area in which considerations of prophylaxis of leukemia are particularly arresting, namely, in lymphosarcoma. A significant number of children with lymphosarcoma succumb to leukemia as well as generalized lymphosarcomatosis. In reviewing our cases of lymphosarcoma in 1950,[7] we found that of 43 children initially diagnosed as lymphosarcoma, 16 (26 per cent) died ultimately of leukemia. It seemed of interest to determine whether, following conventional therapy for local lymphosarcoma, a further attack on the disease might be made by the prophylactic use of the compounds employed in the active therapy of leukemia. It was recognized that definite evaluation was not possible inasmuch as there are known cures of lymphosarcoma in children by surgery or radiotherapy. In the last three years four patients with proved lymphosarcoma have been so treated following definitive surgery or radiotherapy (Fig. 1). Three are living (one to three years) without evidence of leukemia. One had suggestive evidence of recurrence a year after initial therapy, but after a second course of radiotherapy and continued

Therapy, General Indications			
?Prophylactic?	Active*		
	Emergency	Symptom	Non-emergency
Environmental	+	Anemia	±
Chemical	>25,000 < 2,000	Leukocytes	6,000-25,000
Physical	±	Purpura (hemorrhage)	0
Microbial			
--------	±	Infection	0
Lymphosarcoma			
	±	Shock	0
	±	Adenopathy	±
	±	Splenomegaly	±
	±	Hepatomegaly	±
	±	Infiltrations (Pharynx, Thorax, Abdomen)	±
	±	Bone Pain	±
	±	Fever	±
	±	C.N.S.	±

* *There are no inflexible criteria which in all patients will determine the "emergency" or "non emergency" nature of the case.*

FIG. 2. General indications for therapy of leukemia in children.

TABLE I.—EMERGENCY TREATMENT*

1. ACTH intravenously by continuous infusion: 25 mg. daily.
2. Hydrocortone, 50 to 200 mg., or Meticorten, 40 to 100 mg., given orally in divided doses. Hydrocortone, 25 to 100 mg., may be given intravenously if oral medication is impractical.
3. Transfusion—whole blood, 10 cc. per pound, or packed red cells. Frequent small transfusions if bleeding is serious.
4. Antibiotics—tetracycline to start, in the absence of bacteriology reports. Subsequent to the laboratory reports the appropriate agent or agents are used.
5. Sedation as required.
6. Fluid and electrolyte balance to be maintained.

An effect is usually evident in 2 to 5 days. The intravenous therapy is gradually reduced to 0 as the oral or intramuscular routes permit adequate medication.

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* This outline is simply a guide. All these measures will not be required in every case.

"cyclic" chemotherapy, he has been well twenty-one months. The fourth developed leukemia six months after the beginning of our supervision.

These cases are mentioned for only one reason. Lymphosarcoma is an uncommon cancer in children, and it will take many years to assess properly the possible value of chemotherapy in the prevention of leukemia in such diseases. Only a cooperative approach will provide the information we need in this important area, and for that reason I am submitting this admittedly incomplete data to you in the hope that pooled experience in this approach to control of some leukemias may give us some positive answers in the next ten years.

Active Treatment

Briefly, the child will be considered to be in an *emergency* or *nonemergency* state when the leukemia has become clinically manifest. Figure 2 indicates the usual findings in these categories.

EMERGENCY.—Immediate treatment of the emergency case is an urgent necessity to preclude prompt demise. The treatment recommended by us is given in Table I. Improvement is often noted within forty-eight hours, and a remission may occur within three weeks.

NONEMERGENCY.—Following the emergency period (or in the case of the child who is in reasonably good condition when initially seen), antimetabolite therapy is instituted (Fig. 3). It is

AGENT	DOSAGE (daily)	EFFECTIVENESS						TOXIC AND SIDE EFFECTS	SUPERVISION	
		Acute	Myeloid	Monocytic	% cases	Within	Duration		Medical	Psychological
STEROIDS Cortisone Hydrocortisone Meticorten	50 - 200 mg. 25 - 100 mg. 10 - 80 mg. in divided doses	Good	Good ±	±	50-70	1-3 wks.	½ - 9 mo.	Fluid and Na retention. Hypokalemia. Hypertension. Hyperglycemia. Infections. Psychoses. Cushing's Syndrome.	Rx: KCl; 1-3 gm. daily EKG periodically if therapy is continuous	+
ANTIMETABOLITES 1. Folic Acid Antagonists Methotrexate Aminopterin	1.25 - 5.0 mg. 0.25-1.0 mg. in one dose	Good	?	0	Partial: 30-50 Complete: 20-30	3-8 wks.	1-14 + mos.	Marrow hypoplasia. Megaloblastosis. Anorexia. Oral ulcerations. Diarrhea. Melena Alopecia. Dermatitis. Hyperpigmentation.	No Vitamin B during therapy. Observe Hgb and WBC 2-3 times weekly initially. Marrow 1-2 times monthly.	+
2. Purine Antagonists 6-Mercaptopurine	2.5 mg./Kg. (25-150 mg.) in one dose	Good	Good ±	±	Partial: 18 Good: 47	3-8 wks.	5 mo.	Marrow hypoplasia. Leukopenia. Rarely, Oral or gastro-intestinal lesions.	As with anti-folics	
Plus										+
3. Glutamine Antagonists Azaserine	1.25-2.5 mg./Kg. in one dose	Good comb. with 6-MP	?	?	Complete: 20/28 cases	3-8 wks.	1+-18+ mos.	Marrow hypoplasia rare. Oral, buccal redness. Rare gastro-intestinal lesions.	As with anti-folics	

FIG. 3. Maintenance therapy of leukemia in children.

believed that steroid therapy, which usually gives a very prompt response but not so long a remission as the other agents, should be reserved for refractory, emergency situations and complications. It is known, however, that some very prolonged clinical remissions have occurred following the use of steroids.

The antimetabolite drugs now in use are methotrexate and 6-mercaptopurine (Purinethol) and, in combination with the latter, Azaserine. Clinical improvement and, in 30 to 60 per cent, remissions may occur, but the time period required for such results is seldom less than three weeks and is frequently longer. The patient taking these compounds must be examined regularly for oral and cutaneous signs of toxicity from the drugs as well as to observe his physical and hematologic state. The peripheral white count and hemoglobin are noted once or twice weekly, and a marrow examination is required approximately once a month. Sooner or later the leukemic cells become resistant to the drug in use, even when the dosage has been advanced to toxic levels. A change to steroids or another antimetabolite may bring about another remission, subsequent to which resistance to the first drug may occasionally be much less. There are frequent infections in these children which require intensive antibiotic and supportive therapy. Other complications, such as massive leukemic infiltrations in the pharynx, kidneys, and liver, are so severe at times that radiotherapy to these sites in small doses, 50 r two to three times, is justified.

A curious complication which we have observed with increasing frequency in the last two years is cerebrospinal meningeal involvement in the presence of a normal hemogram, normal marrow, and normal physical findings apart from the signs in the central nervous system. There are usually typical signs of meningeal irritation: headache, papilledema, nuchal rigidity, and positive Kernig and Brudzinski signs. The spinal fluid is under increased pressure, the cell count and protein elevated, and the glucose low, very low in some cases. The reason for this apparently paradoxic state probably is explained by the observations of Hamilton and Elion[18] that the concentration of 6-mercaptopurine in the spinal fluid is about one-tenth that in the peripheral circulation. Murphy and Hutchinson[19] have observed a greater disparity between the spinal fluid and blood with methotrexate. Improvement in these symptoms is usually obtained by radiotherapy, 50 r for two or three treatments to the skull.

As with other diseases which produce profound systemic disturbance, the fluid and electrolyte balance may be affected in various degrees. The blood urea and uric acid may reach unusually high and dangerous levels very insidiously. The child's nutrition and physical and social activity should be maintained as nearly normal as possible. The use of vitamins of the B group, except for B_1 and B_{12} (and perhaps these also), should be proscribed because of their possible interference with the activity of the antimetabolites.

The care of any child who is chronically, critically, or fatally ill cannot be considered complete if therapeutic emphasis is restricted to the purely physical aspects of the treatment. A considerable amount of interest in "total" care of the patient has been manifested in this country in the last few years, a feature that would probably astonish our medical fathers who assumed that a comprehensive therapeutic approach was a routine matter of medical care. It is clearly recognized that a family facing the inevitable catastrophe of the loss of a child is in need of sympathetic support—great support in some instances—to withstand the impending disaster. The increasing emotional stress endured by parents of leukemic children often produces serious psychologic ramifications, and the frequently grave results are visited not alone on the patient but also on other siblings. These considerations are mentioned because of the extraordinary and important role the physician must play in this long period of family distress. A psychologic study undertaken on our service in 1950 by Bozeman, Orbach, and Sutherland[20] revealed many surprising and disturbing deviations in parental attitudes during the illness of the leukemic child. Not the least of these was the overwhelming resentment of the mothers toward any physician who had told them not to do anything for their child, that he had an incurable disease. We have not yet encountered any mothers who would tolerate such a recommendation.

A review of the 174 cases treated at Memorial Hospital from June 1, 1952, to March 1, 1955, shows a survival time of twelve months for 50 per cent of the children and twenty months for 10 per cent. Some few children have survived up to thirty-five months after the diagnosis was established.

This compares with the results in 208 "untreated" cases reviewed by Tivey[21] in which 50 per cent survived 3.9 months and 10 per cent survived eleven months.

Summary

The use of new chemical agents for the treatment of leukemia in children has induced temporary remissions but no cures in this important cause of childhood mortality. Over half of the children now receiving therapy will survive at least one year from the date of clinical recognition of the illness. These powerful and potentially toxic agents must be used with caution. The search for the etiology of leukemia is continuing. Meanwhile, it is suggested that the use of chemotherapeutic agents in lymphosarcoma after the conventional definitive treatment be further explored as to their possible value in preventing leukemia in such patients.

112 East 74th Street

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Why Young Men Die

A Review of Deaths Occurring in a Group of Air Force Recruits

JAMES L. TOBIN, COL., USAF (MC), SAMPSON, NEW YORK

(*From the Medical Service, Sampson Air Force Hospital, Sampson Air Force Base*)

Not very many young men die in the age group from seventeen through twenty-two years. It seemed of interest to examine the causes of death for those who do die in this vigorous period. From January 1, 1951, about the time this Air Force Recruit Training Base opened, until January 31, 1955, there were 45 deaths of trainees in this age group. Although the number of deaths is small, the group in which they occurred is a large one since approximately 240,000 young men have received training here, each for a period of about three months. This number of young men represents these ages in a population segment of about five and a half million.[1]

Although the mortality rate from any cause is low among these young men, the morbidity rates are not necessarily low, for during this period there were over 50,000 hospital admissions. Of course, many more are admitted to the hospital under military conditions than would be sent to a hospital in civilian life because certain basic care is not available elsewhere. For example, an airman must be admitted to the hospital if he is unable to walk to the mess hall or if he has a disease which could be spread to the other men in his barracks.

The causes of deaths have changed rather rapidly in the past forty years. Before World War I young people died of such diseases as typhoid, tuberculosis, and pneumonia. Infections have dropped off as a cause of fatality, only to be replaced by accidental deaths.

In this series of 45 cases violent and sudden deaths accounted for two thirds of the deaths, while diseases which could cause fatalities at any age brought about the remaining third. Table I lists deaths not due to natural causes.

TABLE I.—Death Not Due to Natural Causes

Cause	Number
Automobile accidents	9
Falls	2
Asphyxiation by smoke	2
Accidental gunshot wound	1
Drowning	1
Anesthetic accident	1
Suicide	2
Total	18

The automobile accident deaths represent the results of six accidents in which cars struck other cars or some immovable object. Drinking was not a contributing factor as is often the case in older age groups. Almost all the accidents happened when the men were returning from leave or pass, which they wished to enjoy to the last minute. Fatigue was the main cause. The driver fell asleep and drifted off the road into some solid object. In one instance a man fell off a truck and was run over by one of its wheels.

Falls resulted in deaths twice. A running man tripped, fell, struck his right side on a projecting tree root, and ruptured his liver. A second man who had overstayed his pass attempted to elude the Air Policeman at the gate. Cutting across country, he fell in a ravine and fractured his skull.

Two asphyxiations by smoke occurred in a barracks fire. One accidental drowning apparently resulted when an airman, alone in a motor boat, was thrown out on a sudden maneuver when he was too far out in the lake to swim to shore.

The death from gunshot wound was the coincidence of three unlikely happenings. On a black night, during a field exercise, a squad leader fired a shot as a signal up out of a gully. Blanks were used on such exercises, but in this instance a stray live round was in the gun. The airman, who should have been lying on the ground, anticipated the signal and jumped up. The bullet struck him in the abdomen, piercing the aorta.

The anesthetic accident occurred at intubation of the trachea after intravenous Pentothal when the patient, who had been doing well previously, had cardiac and respiratory failure.

In both instances of suicide by hanging, the airmen had not been noted to be having any particular difficulty by their fellows. However, the character of the note left by one and the history obtained on later investigation of two previous suicidal attempts in the other indicated psychiatric abnormalities. These last two instances

TABLE II.—Deaths Due to Disease

Disease	Number
Meningococcus meningitis	6
Peritonitis	2
Glomerulonephritis	2
Pneumonia	2
Ventricular fibrillation	1
Regional ileitis	1
Encephalitis	1
Ulcerative colitis	1
Total	16

point up the difficulty of picking up depressions by appearances or psychiatric screening.

Table II lists deaths due to a variety of pathologic conditions. Among the 16 deaths from disease the chief offender was meningitis, which caused six deaths. Four of these were of the Waterhouse-Friderichsen type. One of these four survived the first five days only to die from a massive gastrointestinal hemorrhage. The sixth case did not suffer a fall in blood pressure but after twenty-four hours developed a sudden fatal pulmonary edema.

One airman entered the hospital with acute nephritis and pneumonia. On the second hospital day he developed a rash and stiff neck. A meningococcus was isolated from the blood and spinal fluid, which was proved by fermentation and classified serologically as Type II. He was treated with large doses of penicillin but died on the sixth hospital day.

Meningitis has always occurred here as sporadic cases, usually at the end of winter, but new cases have been seen in every month of the year. Pulmonary edema has been a cause of death in a number of cases of meningitis, as reported by Moritz and Zamcheck.[2]

Two men died from peritonitis following ruptured appendices. The first had pain some thirty hours before being seen at the hospital and died soon after operation. The second case had very few symptoms but came to the hospital because of anorexia and weight loss. He was found to have an old, large pelvic abscess which was drained. Following this, he developed intestinal obstruction and was operated on again, only to die of multiple pulmonary infarcts originating from thrombophlebitis of the pelvic veins.

In this region where streptococcus is common, in some years acute nephritis occurs as commonly as rheumatic fever, depending on the streptococcus type prevailing. In two instances acute nephritis progressed to uremia and death.

Pneumonia is a very common disease in this northern area, but over 90 per cent of the cases are of the primary atypical variety. There are frequent bacterial bronchopneumonias and a few classic cases of lobar pneumonia. One case is commented on later in this paper. The other was a progressive severe bronchopneumonia due to a hemolytic Staphylococcus aureus which was insensitive to all the antibiotics available.

One airman, after a prolonged hospitalization because of a subacute bacterial endocarditis due to Streptococcus fecalis, developed a severe chronic glomerulonephritis during the course of his illness. The blood cultures finally became negative after lengthy treatment. The patient then developed a cardiac arrhythmia. Runs of ventricular tachycardia were seen in the electrocardiographic tracings. He was treated with Pronestyl, seemed to improve for a few days, but then died suddenly, presumably of ventricular fibrillation.

A widespread regional ileitis resulted in the death of an airman a few days after an acute exacerbation of the disease.

One man died of an encephalitis, the origin of which was not determined. No serologic identification could be made, and it occurred a month after his smallpox vaccination and routine inoculations. Vaccination as a cause could neither be proved nor disproved.

One airman developed ulcerative colitis shortly after entering the service. Several cases have had their original onset in a like manner, and it is possible that the stress of a closely directed routine away from friends and family precipitates it. In this instance continual severe hemorrhage and no response to medical therapy led to surgery. Because of the friability of the bowel only about two thirds of the colon could be removed. With the remaining segment continuing in active disease, the airman died in a few weeks.

There is no particular pattern in these deaths except for those from meningitis. The other diseases can be fatal at any age.

Sudden Death

Sudden death in young men from natural causes is seldom seriously considered; yet it occurs. It is particularly shocking when it strikes young men in the seventeen to twenty-year age group. Relatives have a difficult time understanding why a young man, who recently left home in the best of health and was examined and accepted for military service, should die.

TABLE III.—Sudden and Unexpected Deaths Due to Natural Causes

Case	Age	Time Symptomatic	Diagnosis
1	19	8$^1/_2$ hours	Ruptured aneurysm, circle of Willis
2	20	4 hours	Ruptured aneurysm, circle of Willis
3	19	$^1/_2$ hour	Aspiration of vomitus in grand mal seizure
4	17	Found dead	Cyst of third ventricle blocking foramen of Monro
5	20	18 hours	Bilateral pneumonia due to pneumococcus
6	17	4 hours	Waterhouse-Friderichsen syndrome
7	19	$^1/_2$ hour	Septal myocarditis
8	20	$^1/_2$ hour	Hemorrhagic bronchopneumonia
9	19	$^1/_2$ hour	Unexplained cerebral edema
10	20	Found dead	Exhaustion from acute psychosis
11	19	About 8 hours	Diabetic coma

This unpleasant explanation has had to be made 11 times in the past four years at this base. In most instances the pathologic condition was beyond remedy, or death occurred before any benefits from treatment could be expected. In five instances the diagnosis was suspected before death. In three cases the cause seemed clear at autopsy, but in the remaining three cases postmortem examinations did not give a completely satisfactory explanation. Table III summarizes the 11 cases, some of which are briefly presented below.

Although two cases of subarachnoid hemorrhage due to ruptured aneurysm of the circle of Willis occurred, this is not especially a disease of the young, as is pointed out by Helpern and Robinson[1] whose review of a large series of sudden death shows it occurring in people from twenty to sixty-nine.

Two cases in this list of sudden and unexpected deaths were infections and were placed there because of their rapid, fatal course.

Case 5.—In the case of L. L., he was ambulant and feeling well at 10 p.m., was dyspneic at 2 a.m., cyanotic at 6 a.m., comatose at noon, and dead by 4 p.m. At autopsy a Diplococcus pneumoniae was cultured from his lungs, of which all lobes were involved. He represented an instance of the fatal combination of virulent organism and susceptible host.

Case 6.—The airman G. H. ran the rapidly fatal course of Waterhouse-Friderichsen syndrome with rapidly coalescing petechiae and a sudden fall in blood pressure which failed to respond to norepinephrine, intravenous serum albumin, or cortisone. At autopsy extensive bilateral adrenal hemorrhage was found. The spinal fluid was clear, and no microscopic evidence of meningitis was found. This case is cited because of the patient's sudden death, which occurred before meningitis developed.

Diabetic coma is rather uncommon at this hospital, probably because the induction physical examination eliminates those with glycosuria. The death from diabetic coma (Case 11) listed here occurred in a man not known to be a diabetic. His complaints of abdominal pain were believed to be a recurrence of peptic ulcer symptoms, and he was sent to the hospital from his detachment some distance away for a gastrointestinal series. Sometime during the ambulance trip of about three hours, he lost consciousness and was in deep coma on arrival. Although he seemed to respond to treatment after about four hours, at the end of six hours he developed a tachycardia and died. No electrolyte imbalance was discovered by blood chemistry or electrocardiogram.

The following cases are reported briefly: one because of an unusual myocarditis; the others because autopsy failed to give an entirely satisfactory explanation of the cause of death.

Case 7.—J. G., a nineteen-year-old man, came to this base on the first of December to take examinations for a place as air cadet. He signed a statement that he was in good health and knew of no defects or abnormalities. He passed a physical examination, of which an electrocardiogram was not a part. His friends stated that he slept a lot during his free time and had not gone out at night.

On the morning of December 5, he left the barracks to go to breakfast at 7:15 a.m. and at 7:30 a.m. was found lying beside the road unconscious. He was dead when the ambulance brought him to the hospital at 8 a.m.

The findings at autopsy were not remarkable except for those in the heart. The organ weighed 500 Gm. The septum was 2.5 cm. thick. The muscle was pale, pinkish-tan and contained numerous yellow-white scars. The muscle of the left ventricle appeared normal and was 1.2 cm. thick. The coronary ateries were thin-walled and patent. The valve leaflets appeared normal. Bacteriologic examinations were negative.

Microscopic sections of the septum showed large areas of scar, consisting of dense fibrous tissue. In many areas the muscle fibers were hypertrophied with interstitial edema and cellular infiltrate consisting of lymphocytes and plasma cells. There were areas of collagenic degeneration near blood vessels with surrounding histiocytes. There were localized areas of fibrosis of the endocardium. The blood vessels proper did not appear abnormal.

The pathologic diagnosis was chronic recurrent myocarditis and myocardial hypertrophy.

From the examination of the slides, the myocarditis appeared to be chronic, but no information was ever obtained to indicate the man had symptoms. Probably such wide septal involvement blocked conduction, and fatal asystole resulted. The process was entirely limited to the septum.

CASE 8.—A twenty-year-old airman, P. S., collapsed while lining up for a morning detail and was dead in a few minutes. The day before he had been on pass and had had a moderate amount of alcohol. He was apparently well when he got up but had been noticed to cough and expectorate a small amount of blood before leaving the barracks. This had not been in evidence before that day. The man had no history of poor health and had not been to see a doctor in the two months he was at this base.

A careful autopsy was normal except for an examination of the lungs. The left lung weighed 425 Gm., and the right lung weighed 475 Gm. In the posterior portion of the left lower lobe there was a 7 by 3-cm. area of hemorrhage seen through the pleura. The vessels did not reveal thrombi on careful sectioning. Some of the bronchi contained a small amount of blood.

The large hemorrhagic area was firm and wedge-shaped. The alveoli in this part contained no air, and cut section was wet and bloody. The right lung had a similar area in the posterior aspect of the right middle lobe.

The microscopic examination of the affected areas showed filling of the alveoli with blood and polymorphonuclear leukocytes. The edge of these lesions showed some alveoli containing edema fluid. In the area of the hemorrhagic lesions were bronchi in which part of the wall had been eroded by masses of polymorphonuclear leukocytes which protruded into the lumen. No thrombi were seen in the blood vessels.

The pathologic diagnosis was bilateral hemorrhagic bronchopneumonia. From the relatively small areas of lung involved, the mechanism of sudden death was not fully understood.

CASE 9.—A nineteen-year-old airman, O. S., who was cleaning his room with five of his fellows at 8:45 P.M. became engaged in a minor scuffle. One of his barracks mates accused him of not scrubbing well and grabbed his arm behind his back, intending to force him to the floor. The grip was not a strong one, and the airman was able to jerk his arm free and shove his assailant away. He then walked over to his double deck bunk apparently ready to climb into it. The man was noticed a few moments later to have a glassy stare. His eyes rolled upward, and he fell to the floor. The airman had no convulsions, but his head and hands twitched. He was not breathing, so one of his barracks mates gave artificial respiration. The ambulance was called and arrived in about fifteen minutes. Artificial respiration was continued, but the airman was deeply cyanotic and pulseless. He was dead at 9:30 P.M. when first examined by a doctor.

At autopsy there was no evidence of injury, except in the posterior left side of the cheek where there were four small abrasions, 0.4 cm. long, suggesting biting of the cheek. The heart (350 Gm.) was normal; the chambers were of normal size and the coronary vessels normal. The lungs were normal. The carina and both main bronchi were filled with blood-stained mucus which occluded both main branches. All the other organs were normal with the exception of the brain. The sulci were obliterated and the gyri flattened. At the base of the brain there was a bilateral uncal herniation over the edges of the tentorium. There was definite cone formation of the cerebellum around the medulla, measuring 1.5 cm. in depth. The ventricles were not dilated.

It was first considered that exertion may have precipitated a fatal ventricular fibrillation, but on careful questioning of the witnesses, the effort of the struggle seemed too slight. Although there was no previous evidence of epilepsy, the movements of the patient and intense cyanosis suggested an epileptic attack with aspiration of blood and mucus from the cheek bite. There was blood and mucus in the main bronchi but not sufficient to accept this as the cause of death. The important finding was cerebral edema and uncal herniation, but no satisfactory explanation for the edema of the brain was discovered.

CASE 10.—A twenty-year-old airman, D. S., was admitted to the seclusion ward with an acute, catatonic type schizophrenic reaction. The disturbance began suddenly on the morning of admission. He was given 6 cc. of paraldehyde intramuscularly. The patient remained out of contact for the next two days and was spoon-fed with good appetite. On February 6 he required 7$^1/_2$ grains of Sodium Amytal. His appetite was poor for the next three days, and he was given fluids by gavage on two occasions. On February 11 he required 7$^1/_2$ grains of Sodium Amytal. His temperature, blood count, and electrocardiogram were normal on this date.

His condition appeared the same on the following day, February 12. In the evening he was fed 750 cc. of egg and milk by gavage, which he tolerated well. During the night he was overactive, noisy, and hallucinating. He made frequent gestures and had disconnected, irrelevant speech.

At 6 A.M. on February 13 he was seen by the nurse, and his condition was unchanged. At 6:55

A.M. he was found dead beside his bed. No sedative had been given for thirty-six hours.

Autopsy showed a poorly nourished young man with no signs of injury. On opening the anterior portion of the mediastinum, about 10 cc. of air were found. The heart was normal, the chambers of normal size, and the coronary vessels widely patent throughout. The intimal lining was intact throughout and free of plaques. The esophagus contained some coffee-ground material. About 200 cc. of the same material were present in the stomach. There were no mucosal defects, and the intestines were normal. The adrenals were normal. The brain and other organs were normal, and all microscopic sections were normal.

The first thought was the possibility of oversedation or poisoning, but toxicologic analysis did not confirm this.

Comment

When one hears of a case of sudden death other than by violence, the first thought is usually of some heart disorder. In this series only one death was due to a heart disorder, and that was of an unusual sort. In addition, many instances of atherosclerosis of the coronary arteries have been reported in young soldiers who died from wounds. In this small group the coronary circulation was always normal. In a series of sudden deaths reported by Moritz and Zamcheck,[2] Haman,[3] and Rabson,[4] heart disease is a prominent cause. Haman's series of cases of sudden deaths in people of all ages reported in England and the United States from 1910 to 1934 shows that 62 per cent were caused by heart disease, and 22 per cent of these were due to aneurysm of the aorta. In 8 per cent of the cases of his series, no ready explanation for the cause of death was found at autopsy. He felt that at least some of these were explainable on the basis of ventricular fibrillation.

In an analysis of unexpected natural deaths by age and sex of 2,030 persons autopsied in Manhattan, New York City, from 1937 to 1943, Rabson attributed 45 per cent of the deaths to disease of the heart and aorta. The lower rate than in Haman's series seems to be due to a great drop in luetic aneurysm. There were only 12 sudden deaths in males of fifteen to nineteen years among this large group. Of these 12, disease of the heart and aorta accounted for 25 per cent, disease of the respiratory tract 33 per cent, and of the nervous system 16 per cent. In the next age group of twenty to twenty-four years, there were 48 deaths. Disease of the nervous system led the list with 37 per cent because of the increased number of cases of ruptured congenital aneurysm. Diseases of the heart and aorta accounted for 14 per cent of the deaths and those of the digestive tract 12 per cent.

In approximately 1,000 sudden deaths in soldiers eighteen to forty years of age reported by Moritz and Zamcheck,[2] more than one-third died from previously unrecognized heart disease. About 75 per cent of these deaths were due to coronary arteriosclerosis. Only 8 per cent of the cardiac deaths were in men less than twenty-five-years old. The second most common cause was meningococcus infections. About one third of these cases died within twenty-four hours of the onset, and the younger the man, the more fatal the disease. In this same series of soldiers eight deaths were preceded by an acute psychotic disturbance with violent emotional and physical agitation. In ten cases there was a previous suggestion of convulsive seizures. When these cases were examined after death, little or no pathologic disorder was found. In fact, in more than 10 per cent of the cases in their series, no satisfactory explanation of the cause of death was found.

Summary

Over a period of four years 45 deaths occurred in trainees at an Air Force recruit training base. Approximately 240,000 young men between the ages of seventeen and twenty-two years were stationed here in this time, each for a period of about three months training. There were 18 deaths by accident, nine of which were due to automobiles. Twenty-seven deaths were due to disease, of which meningococcus meningitis was the most frequent single cause. Eleven cases of sudden and unexpected death occurred. Of these, three died from intracranial lesions, two from acute infections, one from a heart lesion, one diabetic coma, one from asphyxia, and three had inconclusive findings at autopsy.

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The Surgical Treatment of Cerebral Infarction

ROBERT A. HERFORT, M.D., F.A.C.S., WHITE PLAINS, NEW YORK

(*From the Surgical Service of St. Agnes Hospital*)

THE early and late management of patients with cerebrovascular accidents is a common and frequently discouraging dilemma. The presence of over one million hemiplegic persons in the United States today attests to the magnitude of the problem.[1] In this group the difficulty inherent in differentiating between cerebral thrombosis, hemorrhage, and embolus justifies the use of the inclusive term, infarction.[2]

In the patient with acute cerebral infarction the evaluation of any therapeutic modality is fraught with error by reason of the frequency with which spontaneous improvement is seen up to two to three years later. Hence, Alvarez[3] has advocated a philosophy of expectancy, anticipating some degree of spontaneous neuromuscular recovery. Gilbert and DeTakats,[4] however, have advised early stellate ganglion block in acute embolic encephalopathy and in certain instances of thrombosis. The ultimate value of this procedure still remains to be determined. After an initially favorable report of the value of stellate block in 1950,[5] Adams[6] in 1954 stated that the long-term results have not been encouraging. White[7] at the Massachusetts General Hospital also failed to find any value in stellate ganglion block. Adams[6] reported no significant benefit from stellate ganglionectomy or cervical sympathectomy in some 30 patients. Vasodilator drugs, notably papaverine, have been advocated where neurologic findings are due to transient vasospasm in the intracranial arterial tree.[8] More recently, Russek and his colleagues[9] have reported most encouraging results with cortisone in the immediate treatment of embolism and thrombosis; patients with cerebral hemorrhage or with complete flaccid hemiplegia did not appear to benefit from the early use of the corticosteroid. The most potent cerebral vasodilator, 5 per cent carbon dioxide, has been employed by White[7] without significant improvement in patients with acute cerebral thrombosis and embolus.

In the treatment of the late neurologic residua of cerebral infarction, somewhat less interest has been evinced in active therapy. It has been advised that after two weeks of complete rest the patient with a recent cerebral infarct be given the benefit of rehabilitative technics in the form of passive and active motion, massage, and electrical stimulation of paretic muscle groups.[10] Speech training of those patients with aphasia and dysarthria similarly has been employed where specialized facilities are available.[10] Stellate ganglionectomy is of no value in patients whose cerebral infarction occurred any length of time before.[5] Russek[11] who employed cortisone in the late rehabilitation of hemiplegic and aphasic patients, reported euphoria, improved motivation, stimulated psychomotor activity, and diminished pain. McKhann and Beck[12] used a surgical technic of arterialization of the internal jugular vein through a carotid-jugular anastomosis in 15 patients suffering from old cerebral infarctions. The procedure was abandoned because of the morbidity and mortality of delayed intracranial hemorrhage from the arterialized venous channels.

This present report presents the histories of three patients who apparently improved after a surgical procedure of cerebral revascularization entailing cervical sympathectomy with ligation of the external carotid artery and internal jugular vein. Two of these patients displayed late neurologic signs from old infarctions, and the third patient was seen and operated on in the acute phase of the disease.

The operative procedure, identical in all three patients, is essentially an adaption of technics previously employed in the treatment of peripheral vascular insufficiency. The operation consisted of the following: (1) complete sympathetic cervical ganglionectomy encompassing superior, intermediate, and inferior ganglia, (2) periarterial stripping of the adventitia of the common carotid artery, (3) ligation and division of the external carotid artery, and (4) ligation and excision of the internal jugular vein proximal to the jugular foramen. Resection of the cervical sympathetic ganglia and paravertebral trunk and also of the pericarotid plexus is designed to interrupt efferent vasoconstrictor impulses in their cephalad ascent. The external carotid artery ligation must be preceded by careful palpation or aspiration of the internal carotid artery up to the carotid canal at the base of the skull. Should thrombosis of the internal carotid be found, ligation of the external carotid vessel is contraindicated; occlusion of the ophthalmic artery with blindness would ensue. In the absence of internal carotid thrombosis the external carotid artery ligation and division serves to divert blood, previously flowing into the extracranial circulation, into the denervated internal carotid tree. Ligation of the internal jugular vein theoretically produces an increase in intracranial venous pressure with reshunting of blood into formerly ischemic areas of high vascular resistance.[12]

Postoperatively all patients received ACTH for a period of two weeks for the purpose of decreasing inflammatory edema in the mobilized but previously contracted muscles and tendons. Moreover, a theoretic rationale for the use of ACTH in acute cerebral infarction may be provided by Windle's[13] observation of the effect of ACTH in preventing cerebral gliosis with scarring in animals and thereby permitting axonal regeneration. All patients were made ambulatory on the first postoperative day with the necessary assistance. Physiotherapy in the form of active motion was encouraged as muscle groups gave evidence of innervation.

Case Reports

Case 1.—J. D., a seventy-four-year-old, white male (patient of Dr. Henry Gann), was first seen on July 11, 1955, in a nursing home. He presented a picture of motor aphasia with a right spastic hemiplegia of twelve months duration. These complaints dated from a cerebrovascular accident, presumably a hemorrhage from the left middle cerebral artery, in July, 1954.

Examination revealed totally unintelligible speech with frequent bouts of weeping; the right upper extremity displayed severe spastic flexion deformities at the elbow, wrist, and interphalangeal joints. Attempted passive motion at the right shoulder, elbow, wrist, or fingers was painful and unsuccessful. The upper and lower right extremities displayed hyperreflexia with positive Babinski and Hoffmann signs. Abdominal reflexes were absent on the right. There was moderate spasticity of all muscle groups in the right thigh and leg; ankle clonus was present. Patient could not stand or walk.

On July 18 this patient was admitted to St. Agnes Hospital where diagnostic studies revealed blood pressure of 200 to 240/110 to 140, nonprotein nitrogen 50 mg. per cent, and residual urine volume 220 cc. The electrocardiogram revealed right bundle branch block. Digital examination of the rectum revealed a firm, enlarged prostate. The clinical impression was benign prostatic hypertrophy, hypertensive arteriosclerotic cardiovascular disease with right bundle branch block, and residua of an old hemorrhage from the left middle cerebral artery.

On July 26, under endotracheal inhalation anesthesia, cervical sympathectomy with ligation and division of the external carotid artery and internal jugular vein was carried out on the left side. When the patient reacted from anesthesia, it was noted that the right upper extremity was completely flaccid with full passive range of motion at all joints. The patient could also say simple sentences intelligibly with noticeable dysarthria, however. In the immediate postoperative period a left-sided Horner's syndrome was also noted. On the second postoperative day minimal biceps and triceps motion were found in the right arm; on the following day discernible active flexion of the right fingers was noted. The blood pressure for three weeks postoperatively was 135 to 145/75 to 85; at the end of this period it began to rise. Serpasil was administered with return to the level noted in the immediate postoperative period.

The patient was transferred to a rehabilitation center on October, 24, 1955. Examination on April 14, 1956, revealed that the patient can rise from a chair, stand, and walk without assistance. Speech is intelligible for two to three minutes of a conversation and then becomes slurred. There is no evidence of spasticity in the extremities on the right; there is minimal but evident motor power in the right biceps, triceps, and digital flexors. There is no limitation of passive motion at the right shoulder, elbow, wrist, or interphalangeal joints.

Case 2.—C. D., a sixty-six-year-old, white female (patient of Dr. Samuel Haskel), was first seen on August 21, 1955. She had suffered a cerebral infarction in March, 1949, some six years previously, presumably on the basis of embolus. Examination on August 22 by Dr. E. L. Demuth, consultant in neurology, revealed residua of a right-sided middle cerebral artery lesion with a left spastic hemiplegia and a blood pressure of 180/90. The patient displayed a spastic gait and employed a crutch on the right with an attendant helping on the left. She swung her left leg from the hip and did not bend her left knee or ankle. When examined in bed, she was unable to move her left lower extremity other than in minimal rotation at the hip. She could flex her left elbow slightly and could abduct at the shoulder but had no movement at the wrist.

The fingers of the left hand were held in marked contraction with the thumb adducted into the palm. Tendon reflexes were hyperactive on the right side but even more so on the left with clonus of the left wrist and left ankle. There was a left Rossolimo reflex but no Babinski, Chaddock, or Oppenheim signs. The left Hoffmann sign was strongly positive. Diagnostic workup revealed rheumatic heart disease with mitral stenosis and insufficiency and marked cardiomegaly.

On August 25, under endotracheal inhalation anesthesia, a right cervical sympathetic denervation with ligation of the right external carotid artery and internal jugular vein was carried out. At the termination of the procedure the contracted fingers of the left hand could be passively extended and the thumb passively abducted; chronic subluxation of the interphalangeal joints was also noted. On the first postoperative day a right Horner's syndrome was present, and the patient could walk unassisted with one crutch. On the following day she discarded the crutch and walked with a cane unassisted. On the second postoperative day the patient could partially actively extend the fingers and abduct the thumb of the left hand; wrist clonus was less. There was a normal range of motion at the left elbow. On August 29 the patient was provided with an aluminum cockup splint with a rubber band abduction traction device for the thumb; she continues to wear this at night in bed.

She was discharged from the hospital on September 3, 1955. When seen in the author's office on December 10, the operative wound was well healed, and the blood pressure was 170/80. She could walk unassisted with a cane; the fingers could be actively extended and the thumb abducted in the left hand with minimal wrist clonus. There was no limitation of motion at the left elbow. She was receiving occupational therapy for the left hand.

Case 3.—N. C., a sixty-six-year-old, white male, suffered an acute cerebral infarction on August 29, 1955. Neurologic consultation on September 1 revealed findings suggesting hemorrhage from the left middle cerebral artery. The patient had a complete right flaccid hemiplegia, right facial paralysis of the central type, and marked dysarthria. There was hyperreflexia on the right with a positive Babinski sign but no Hoffmann sign. The abdominal reflexes were absent on the right; blood pressure was 160/80. There was no significant change in the neurologic picture in the next three days. On September 4, under endotracheal inhalation anesthesia, a left cervical sympathetic denervation with ligation of the external carotid artery and internal jugular vein was carried out. On the first postoperative day a left Horner's syndrome was noted, and the facial palsy was less marked. On the second postoperative day speech was normal, and the facial paralysis had almost completely subsided; also active movement at the right shoulder, elbow, hip, and knee was noted. On the third postoperative day the patient could get out of bed with assistance but could stand unaided. On September 17, the thirteenth postoperative day, the patient could get out of bed unassisted, stand, and walk with a cane; speech was normal, and the facial paralysis had disappeared. A left-sided Horner's syndrome was present. He could actively abduct at the right shoulder and flex and extend at the right elbow. The right wrist and fingers were immobile. The blood pressure was 162/88. He was discharged from the hospital on September 17 to his home and was to receive physiotherapy on an outpatient basis at a rehabilitation center, Mobility Incorporated.

Examination on February 18, 1956, revealed return of motor power to all muscle groups in the right upper and lower extremities. The grip in the right hand was weaker than the left. The patient walked by himself, using a cane. Speech and facial movements were normal.

Comment

Although at this juncture the physiologic effects of this operative procedure on the cerebral circulation are conjectural, some pertinent observations by previous investigators may be of value. It is thought that there is a circumferential zone of edema about the periphery of an acute cerebral infarct.[3,9] The spontaneous recovery so frequently seen in these patients would appear to be associated with progressive subsidence of the edema and consequent improvement in blood supply. Whatever the etiology within the area of infarction—hemorrhage, embolus, or thrombosis—ganglion cells and nerve fibers are destroyed and transformed into lipoid collections.[14] This central zone, therefore, in time contains no ganglion cells or nerve fibers and is transformed into a glial scar.[14] About the peripheral zone of gliosis, Penfield and Erickson[15] have demonstrated a diminution of capillary bed where viable but nonfunctioning ganglion cells are found among the glia. Similarly, about the margins of cerebral infarcts in animals, Villaret and Cachera,[16] employing a brain window, noted a zone of vasospasm. Shenkin,[17] using the nitrous oxide method of Kety and Schmidt,[18] demonstrated increased cerebrovascular resistance in a patient two years after cerebral infarction.

These observations would suggest that the immediate and residual disabilities found in these patients are functions of the extent of the irreversibly infarcted area and of the peripheral zone in which viable but nonfunctioning cell bodies exist in an ischemic, hypoxic state. Where the tissue changes in the infarct are permanent, those in the peripheral zone are potentially reversible. It would appear that recovery of neuromuscular activity could be achieved to the extent that the viable cells in the peripheral zone could be restored to their function of transmission of nerve impulses. The operative procedure employed in the three patients herein described represents an attempt to relieve the vasospasm and heightened vascular resistance so as to allow for the return to function of those viable ganglion cells in the peripheral zone.

In subsequent patients preoperative and postoperative determinations of cerebral blood flow and cerebrovascular resistance will be carried out to determine what effect the operation has on the mechanisms of blood flow to the brain. Evaluation of the role which surgery of this type will have in the treatment of acute cerebral infarction is difficult and must await more extensive experience and observation. The single patient operated on in the acute phase (Case 3) might well have shown the observed neurologic improvement without surgical intervention. The prompt improvement in the other two patients, twelve months and six and one-half years after the acute episode, can more readily be attributed to the surgery. However, in this group also the statistical significance of conclusions on the value of the procedure can only be enhanced by a larger series of patients. Additional problems to be investigated are the indications for the procedure in acute infarction and also investigation of the effect of the surgery on the blood pressure of these patients.

Summary

The histories of three patients with cerebral infarction who appeared to improve clinically after a surgical procedure of cerebral vascularization are presented. The operative procedure in all patients consisted of cervical sympathetic denervation with ligation of the external carotid artery and internal jugular vein. The patients were operated on twelve months, six and one-half years, and five days, respectively, after the acute cerebrovascular episode. A theoretic rationale in cerebrovascular physiology for the use of this surgical technic in early and late infarctions is suggested.

5 Old Mamaroneck Road

Addendum

An additional five patients with cerebrovascular accidents have undergone this surgical procedure since the report was submitted. All eight patients noted neurologic improvement, and in seven patients the change was of functional import. ACTH has not been employed in the last five patients in this group since this medication does not appear to contribute anything to the postoperative rehabilitation of these people.

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Health is the second blessing that we mortals are capable of—a blessing that money cannot buy.—Izaak Walton

Treatment of Edema Caused by Chronic Phlebothrombosis and Other Peripheral Vascular Diseases with Hyaluronidase

ISIDOR MUFSON, M.D., LAZARI GOLDMAN, M.D., LUCIA RADLE, M.D., AND MILTON SHEIMAN, M.D., NEW YORK CITY

(From the Department of Medicine, College of Physicians and Surgeons of Columbia University, and the Peripheral Vascular Clinics of Presbyterian Hospital and the Hospital for Joint Diseases)

Chronic edema due to venous stasis and edema due to lymphatic stasis present baffling problems because they resist cure by traditional methods. Edema persists indefinitely after phlebothrombosis unless the thrombi are spontaneously resorbed or collateral circulation becomes adequate. Edema of chronic venous disease is almost inevitably cumulative because of the repetitive and relapsing nature of its course. After extirpation of veins by excision, ligation, or sclerosing therapy, although therapeutically indicated, the insufficiency of venous flow is often compounded when collateral veins become incompetent while they undergo compensatory dilation. Edema complicating peripheral arterial obliterative disease jeopardizes the success of its treatment.[1] Fluid accumulating within unyielding areas compresses the minute vessels to cause ulceration and gangrene. The cosmetic effect of unilateral edema presents a social problem. Aside from optional local venosurgery by numerous technics of controversial effectiveness, there is general agreement that the basic treatment of all edema of vascular origin includes prolonged bed rest, elevation of the limb, and compression bandaging. These procedures, however, are not suitable for the patient who must work, nor are they acceptable for esthetic reasons. Lumbar sympathectomy, in vogue until recently, is no longer being advised because of its failure to help and the possible harm it may do.[2]

Since October, 1953, we have followed a regimen which is based on that pharmacologic activity of the enzyme, hyaluronidase,* which enables it to mobilize water. By administering the enzyme subcutaneously and not directly into the edematous tissues, we have been able, almost consistently, to reduce edema due to venous stasis. The edema which results from lymphatic and other types of vascular diseases has not been similarly helped. It is the purpose of this communication to describe the technic employed and the physiologic basis for failure and success and to report the results of treatment.

TABLE I.—Causes of Edema in 50 Patients Treated with Hyaluronidase

- A. Insufficiency of venous circulation caused by
    - 1. Varicosities of superficial communicating and deep veins
    - 2. Chronic thrombophlebitis
        - (*a*) Phlebothrombosis—postpartum, operation, trauma
        - (*b*) Varicose veins
        - (*c*) Thromboangiitis obliterans
        - (*d*) Atherosclerotic peripheral arterial obliterative disease
- B. Insufficiency of lymphatic circulation
    - 1. Congenital lymphangiectasia
    - 2. Infectious lymphangitis
- C. Destruction of interstitial tissue matrix
    - 1. Chronic relapsing periphlebitis
        - (*a*) Aseptic necrosis
        - (*b*) Infectious necrosis

Material

Patient material consisted of a group of 50 patients whose presenting problem was edema of one or both lower extremities, in part or entirety, due to one of the causes listed in Table I. In no patient was it due to cardiac or renal disease, to a derangement of the serum electrolytes, or to a reversal of the normal relationship between the serum osmotic pressure and capillary blood pressure. A spontaneous complete remission of edema when caused by thrombophlebitis is rare after having been present for a year. Since the edema of all our cases was present for much longer than one year, we felt that this period before treatment could be used as the control.

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* The hyaluronidase used in these studies was Diffusin in 1,500-turbidity-reducing-unit vials generously supplied by the Ortho Pharmaceutical Corp. of Raritan, New Jersey, and Hyazime in 150-turbidity-reducing-unit vials supplied by Abbott Laboratories, Chicago.

Method of Treatment

The enzyme hyaluronidase is commercially available as a lyophilized powder standardized in turbidity-reducing units. Dissolved in small amounts of sterile normal saline, it was given subcutaneously in the gluteal region where there was no edema.

Treatment was started with dosages of 150 to 750 units, depending on the apparent weight of the patient and the severity of the edema. If after the fourth or fifth injection the response was poor, the dosage was raised to between 750 and 1,500 units. If leg volume had not decreased at least 300 cc. after 15 injections, treatment was stopped and classed as a failure. If edema did recede 300 cc. or more, treatment was continued until no further improvement or complete clearing resulted. A maintenance dosage with longer intervals elapsing was used.

When severe peripheral obliterative arterial disease was present, it was clear from earlier studies[1] that subcutaneous administration of the enzyme could not deliver the hyaluronidase locally in effective concentrations. These same studies had shown that only by direct arterial introduction could systemic dispersal of the material be obviated. When accumulating edema and rising tissue pressure were added to the arterial insufficiency, making amputation of a limb imminent, the arterial introduction of hyaluronidase became justifiable. The enzyme was added to an infusion bottle containing 300 cc. normal saline or 5 per cent dextrose and the vasodilator histamine and infused slowly into the femoral artery of the edematous limb. The technic of an arterial infusion of histamine has been described elsewhere.[1] Any hesitation in using this direct route stemmed from the possibility of a rapid allergic reaction since the enzyme is a complex protein mixture. To guard against this, routine intracutaneous skin-testing was carried out before and during the course of treatment. A wheal with pseudopodia contraindicated its further use. Erythema alone was not significant. Nausea and weakness during an infusion were contraindications even when there was no local skin reactivity.

When venous edema was complicated by a local infection, antibiotic therapy was instituted at the same time as enzyme therapy. The enzyme can enhance the "spreading factor" of some microorganisms[3] and thus increase the extent of the infection. Edema primarily due to infection must not be treated with hyaluronidase.

Since the success of treatment was judged by the persistence or disappearance of the edema, we needed a method which could measure these changes quantitatively. This was done by immersing the limb in a knee-high pail of water until the foot rested on its bottom. The amount displaced from this pail, filled to the brim with water, was recorded as the volume of the limb. The meniscus formed at the water's surface could be a source of inaccuracy. If the container is not much longer than a size 13 foot, the degree of error is lessened.

Results

Varicosities of Superficial Communicating and Deep Veins.—In this group edema was the result of venous stasis due to valvular incompetence of the venous circulation without thrombosis. These patients are not treated with the enzyme unless they refuse ligation, stripping, or sclerosing therapy. None of our patients refused; therefore, none received the enzyme. If edema persisted or worsened after these treatments, hyaluronidase was used, but the result was now evaluated under the next group because occlusive disease of the veins was now present.

Chronic Phlebothrombosis.—These patients had edema of their legs because of a block in their deep venous systems. In most of the patients the onset of a venous thrombosis was associated by history with an operation, pregnancy, trauma, or perhaps an emotional state. In others it followed ligation and stripping of veins. In a few a congenital defect, atresia of the vein, was suspected. In four patients whose edema reached the thigh and buttock, the femoral vein pressures were measured and reached as high as 20 cm. of water. Blocks of the iliac veins in these patients were demonstrated by phlebogram. All patients in this group were entirely free from secondary infections localized about the ankle or elsewhere in the limb. No change in their usual daily routine was ordered. All were ambulatory and received no drugs other than the hyaluronidase.

Twenty-seven patients treated with the enzyme in the manner outlined above were first evaluated four weeks later after they had received 15 injections. Edema disappeared or became minimal enough to satisfy the esthetic desires of the patient in 24 cases and incompletely so in three. In some the rate of its reappearance was so slow that further treatment was not needed. In others control of the edema was maintained by the injection of hyaluronidase only once a week or once a month. One patient who had a four-year-old sinus of the sole of his foot leading to the second and third metatarsals noted that leakage from this perforation was promptly and markedly diminished by the use of the enzyme and returned at the original rate after two weeks if he did not receive the enzyme. The reductions in the volumes of the edematous limbs in this group ranged from 300 to 1,600 cc. after treatment with hyaluronidase.

Case 1.—An interesting and representative example in this group was a fifteen-year-old girl who had had edema of one leg and thigh for as long as the family could remember. The marked difference in size and appearance between the two legs made her very unhappy. She shunned her friends, was depressed, and refused to go to school dances. The skin of the edematous leg was dry and thick and had a crackled mosaic pattern. She was given 500 units of hyaluronidase three times weekly while she kept going to school. By the sixteenth injection leg volume to the knee was reduced 500 cc., and there was little difference between the two legs. After three months without treatment the texture of the skin was still normal. There was by this time a slight return of the edema, but she felt that it was not enough for her to return for maintenance therapy. Eight months later the patient was still undisturbed by the moderate recurrence of her edema.

INFECTIOUS PERIPHLEBITIS, LYMPHANGITIS, AND DESTRUCTION OF INTERSTITIAL TISSUE.—These conditions are grouped together because they represent the various stages in the not uncommon progressive evolution of varicose veins located closely together in and about the lower third of the leg. The varicosities may be the result of a primary valvular defect or a compensatory dilatation of veins following a femoral or iliac venous thrombosis. These veins first become occluded partially or wholly by a chronic thrombophlebitis which persists in varying stages of activity. The infectious process next spreads slowly from the adventitia into the adjacent areolar tissues, there destroying the delicate fibrils and their matrices, matting the heavier collagen fibers and fascial planes, the minute vessels and lymphatics into an indurated mass attached to the periostium and other deep structures. The overlying skin may ulcerate and become secondarily infected. Edema of the limb is due (1) to venous occlusion, (2) to a loss of the normal interstitial matrix, and (3) to a blockade of lymphatics.

All 11 patients in this combined grouping received hyaluronidase in 300 to 750-unit doses, three times a week. When the infectious process was active, antibiotics were used, and the enzyme was first given in small doses until it was certain that it did not cause a spread of the infection. If ulceration was present, the area was washed daily with a bland soap or one containing hexachlorophene and covered with an antibiotic in dusting powder, ointment, or solution. The response to enzyme therapy was very poor in eight, while in three whose areolar matrix was not too severely destroyed, the edema receded moderately.

THROMBOANGIITIS OBLITERANS AND ATHEROSCLEROTIC PERIPHERAL ARTERIAL OBLITERATIVE DISEASE.—These two types of patients are consolidated because, in addition to their venous disease, they had peripheral arterial obliterative disease. The phlebitis of our patients with thromboangiitis subsided completely, we believe, when smoking was stopped. The venous block and its secondary effects persisted, however. The venous insufficiency in the patients with arteriosclerotic disease was due to their longstanding varicosities and thrombophlebitis. Five patients received the enzyme subcutaneously. In only one did the edema clear completely. The remaining four and five others, a total of nine patients, received the enzyme by arterial infusion together with histamine. Their severe pain, which was due to the arterial insufficiency, was causing amputation to be seriously considered. In these nine cases the treatment cleared the edema completely in two, only moderately in two, and was of no help for five patients.

The case report which follows will illustrate the problems presented in the care of these two arterial groups where edema was present. This patient's varied responses to treatment with the enzyme while under the care of one of us (I. M.) became the basis of the regimen described under "Treatment."

Case 2.—J. H., age forty-five, had had active thromboangiitis obliterans for twenty years, active because he had constantly ignored all warnings and orders to stop smoking cigarets. Amputation of one leg above the knee did not act as a deterrent. The remaining leg had severe arterial insufficiency, no popliteal pulsation, and an oscillometric reading of 0 in its upper half. When he was originally seen four years earlier because of intermittent claudication, he received arterial infusions of histamine which improved his walking tolerance. However, his smoking had since caused repeated episodes of phlebitis in this leg and foot. Ankle edema had developed during the past year.

During one of these episodes the lower end of the long saphenous vein became involved, and an ulceration just above the ankle followed. It resisted all the usual modes of therapy: antibiotics, bandaging, and bed rest. To obtain healing he was hospitalized, and the surgeons performed a phlebectomy. During this hospital stay the ulcer healed, and the edema disappeared. Immediately on discharge the edema returned fourfold and could no longer be controlled by elastic bandages. The ulcer reopened and was deep and painful. The edema was so massive that the skin of his foot and the webs of the toes oozed. These areas became macerated and infected. Pain increased in severity. Amputation seemed imminent.

Readmitted to the hospital, he received a variety of prescriptions, rest, and antibiotics locally in wet dressings and parenterally. In addition, for the first time he was given subcutaneously in his buttock 150 units of hyaluronidase daily. After four weeks the edema receded, the infection subsided, and the pain lessened, but the ulcer remained open. On his return home all his earlier symptoms and signs promptly recurred. Narcotics were again required for his pain. The treatment he received while in the hospital was repeated but on an ambulatory basis. The hyaluronidase was given subcutaneously in doses of 150 units three times weekly. The clinical picture, however, worsened during the next two weeks.

Our earlier studies which had proved that the subcutaneous or oral administration of drugs in the presence of severe arterial insufficiency was ineffective led us now to incorporate 150 units of enzyme in a dilute solution of histamine and erythromycin (Ilotycin, Lilly) and give this mixture by infusion into the femoral artery. By the fourth infusion, pain had subsided, the edema had receded, and the volume of foot and leg was reduced 700 cc. The ulcer became smaller and more shallow. Unfortunately, he developed a wheal with pseudopodia when skin tested, and arterial infusions were discontinued. The edema has since remained minimal, however, and is easily controlled by an elastic bandage.

Congenital Lymphangectasia.—This group consists of only three patients who had congenital lymphangiectasia involving the groin, thigh, and leg. Diagnosis was corroborated by finding a normal blood pressure in their femoral veins and no venous obstruction of the pelvic veins or vena cava by venogram. Dosages of enzyme as high as 1,500 units three times weekly had no effect on their lymphedema.

Comment

Edema will develop in a limb when an imbalance in the interchange of water, i.e., when removal is slower than supply, takes place within the areolar interstitial tissues. Water supplied by the arterial capillary is removed by the embryologically related venous and lymphatic capillaries. The venous limb accepts water at a rate determined by the excess of serum osmotic pressure over venous capillary blood pressure,[4] the lymphatics at a rate determined by the amount of hyaluronic acid in the areolar matrix cement substance and the chondroitin sulfate.[5,6] Day[7] characterizes hyaluronic acid as a waterproofing barrier which prevents unhindered passage of water through the areolar tissues to the lymphatics.

When the large veins are blocked, venous capillary pressure rises above the osmotic pressure, and "venous" edema follows. If lymphatic flow is delayed, "lymph" edema results. When the matrix is destroyed, fluid mobilization is deranged. At present all are treated similarly. Venous and lymphatic pressures are reduced by elevation, and tissue tension is counteracted by bandaging. These methods are too often unsuccessful or unacceptable to those who must be active. Meyer[5,6] and others[3,7] have shown that water is mobilized through the enzymatic action of hyaluronidase. In annotations on the clinical usages of hyaluronidase, Britton and Habif[8] are reported to have reduced the edema of upper extremities, which had become edematous after radical mastectomy, by the direct injection of the enzyme into the edema mass. They made no mention of any indirect method of giving the enzyme to reduce edema. To have used the direct method in our cases of diffuse edema would have been physically impossible and in the ankle region much too risky. When arterial insufficiency was also present, even slight local trauma could provoke gangrene.

Our results have demonstrated that the indirect and the arterial introduction of the enzyme will reduce edema caused by some of the peripheral vascular diseases. This negates studies[9] which claimed that serum inhibited the action of the enzyme. Success of treatment was found to depend rather on the etiology and was most effective when edema was due to an uncomplicated venous obstruction.

These clinical results are congruent with experimental observations made by Day.[7] Their correlation should further clarify the enzyme's mode of action in our patients. The fibrillary network and the matrix constituting the areolar tissues are pictured by Day as a macromolecular sieve waterproofed by hyaluronic acid. When he reduced the hyaluronic acid content of his experimental fascial membrane with hyaluronidase, water moved through at a greatly increased rate. Similarly in our phlebothrombosis patients whose edema was caused by venous obstruction alone, the enzyme presumably removed the hyaluronic acid and permitted water to reach the lymphatic capillaries to be carried off by the patent lymphatics. Disappearance of the edema was further accelerated by the local presence of a high tissue pressure.

The failure of hyaluronidase to help the patients in whom edema was associated with severe changes in tissue morphology is explained by another experiment of Day's. He depleted the areolar tissue of hyaluronic acid and replaced it with starch, thereby blocking the fibrillary sieve with an inert substance. The use of hyaluronidase now failed to increase movement of water. Next he removed the starch by digestion with amylase, permitting reconstituted hyaluronic acid to be acted upon again by the enzyme, and the rate of water transit was augmented. In our patients the exudative products, ulceration, and extensive fibrosis presumably acted like the starch barrier, and the edema became unresponsive to the action of hyaluronidase.

When the lymphatics were functionally incompetent because of obstruction or valvular incompetency, use of the enzyme was futile. It was not a problem in fluid mobilization but one of transport. For similar reasons the edema caused by forced dependency occurring in severe peripheral arterial insufficiency cannot be helped. Only an improved arterial circulation will permit the leg to be kept in bed and relieve the edema.[1]

Although it is not within the scope of this paper, we have also found the enzyme effective in reducing the extent of the edema caused by acute deep thrombophlebitis. Concomitant reduction of pain can be accounted for by the decrease in tissue pressure. No lytic effect on the primary thrombosis was noted.

Conclusion

1. Parenteral administration of the enzyme hyaluronidase has successfully reduced the edema caused by stasis of the venous circulation following unresolved thrombophlebitis of large veins.
2. Edema caused by diffuse lymphatic obstruction or edema associated with the destruction of the areolar tissues by chronic fibrosing periphlebitis was not reduced by hyaluronidase.
3. When the peripheral arterial blood flow is greatly reduced by obliterative disease, edema due to uncomplicated venous stasis was relieved if the enzyme could reach the edematous tissues. Arterial infusion of the enzyme together with the vasodilator histamine in some instances was able to accomplish this when subcutaneous administration failed.
4. Admixture of the enzyme with the patient's blood did not inactivate the ability of the enzyme to mobilize body water which accumulated in a limb because of venous stasis.

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If you pick up a starving dog and make him prosperous, he will not bite you. This is the principal difference between a dog and a man.—MARK TWAIN

Clinical Value of Hydrocortisone-Oxytetracycline Topical Ointment

CHARLES S. MILLER, M.D., FLUSHING, NEW YORK

THE anti-inflammatory action of hydrocortisone is already well documented. It has been used successfully in the therapy of many skin disorders refractory to other agents,[1–11] although its mechanism of action remains obscure. When used topically, its activity permits it to be employed without fear of untoward systemic reactions since it is known to be only negligibly absorbed from the skin.[12]

Hydrocortisone does not, however, promote healing in lesions that become infected or are primarily due to bacterial infection. It is rational, therefore, to combine hydrocortisone therapy with an antibiotic that can combat infections likely to be encountered as complications of primary skin disorders. Oxytetracycline is known to be effective as an ointment[13–18] and does not cause sensitization to subsequent systemic use.[19]

Materials and Methods

A commercial preparation (Terra-Cortril Topical Ointment*) consisting of hydrocortisone 1 per cent and oxytetracycline 3 per cent in petrolatum was used in 84 patients seen in office practice. A number of disorders was represented, of which the most frequent were dermatitis venenata due to various agents, neurodermatitis disseminata, and eczema.

The ointment was applied twice daily to the affected area, and treatment was continued until the lesions were cleared or indefinitely when the condition was improved during therapy. If no beneficial result was noted within a week after beginning therapy, the medication was generally discontinued since it is our experience that the effects of hydrocortisone are observable within that time.

Patients who were treated but whose progress was not thoroughly followed are not included in the present study.

TABLE I.—SUMMARY OF RESULTS IN 84 CASES

Diagnosis	Number of Cases	Results			
		Excellent	Good	Fair	Poor
Dermatitis venenata	32	15	11	3	3
Neurodermatitis disseminata	21	11	4	3	3
Eczema	10	4	5	..	1
Nummular eczema	6	3	2	1	..
Dermatitis seborrheica	5	4	1	..	..
Psoriasis	4	..	..	1	3
Folliculitis (face)	2	2	..	..	..
Erythema multiforme (perstans)	1	..	1	..	..
Pustular bacterid	1	..	1	..	..
Necrobiosis lipoidica diabeticorum	1	..	..	1	..
Erosio interdigitalis	1	..	..	..	1
TOTAL	84	39	25	9	11

In evaluating the results of this test, therapy was considered excellent when it effected complete cure of the dermatosis, good when lesions were benefited only during therapy, fair when some improvement was noted, and poor if therapy produced no effect or irritated the condition.

Results

On the basis of the criteria outlined above, Terra-Cortril was shown to have some beneficial effect in 87 per cent of the 84 cases and effected complete cure in about 64 per cent. The results are summarized in Table I.

When the various disorders are considered separately, the substantial number of cases of dermatitis venenata and neurodermatitis disseminata permit a critical judgment of the effect of the therapy. Both disorders were completely cured by Terra-Cortril in just under half the cases, and the ointment was without beneficial effect in less than 10 per cent of the cases. Terra-Cortril therapy was generally successful in the other disorders seen in the series with the exception of psoriasis, where it failed to give any relief in three out of four patients, and erosio interdigitalis, where the one case seen was not improved. In six of the 84 patients the ointment irritated or aggravated lesions. In these cases therapy was discontinued and the result judged poor.

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* Terra-Cortril Topical Ointment, containing 3 per cent oxytetracycline hydrochloride and 1 per cent hydrocortisone in petrolatum, was kindly supplied for this study by Dr. M. William Amster, Medical Department, Pfizer Laboratories, division of Chas. Pfizer & Co., Inc., Brooklyn, New York.

The effect of this treatment on chronic lesions which had resisted other therapy is noteworthy. Of the 84 cases 33 had persisted longer than one year before being treated with Terra-Cortril in the present study. Excluding the four cases of psoriasis, all of which were of long duration and none of which responded well to this therapy, the remaining 29 were dramatically improved. Complete cure was effected in 14, and improvement was noted in all but one of the rest.

In none of the cases seen during this trial was there evidence of pyogenic or other secondary infection during the course of therapy.

Summary and Conclusions

This clinical study was made to test the rationale of employing hydrocortisone together with a broad-spectrum antibiotic in the topical therapy of common dermatoses. The results in 84 patients are consistent with the idea that skin disorders refractory to many agents may be cured or managed by hydrocortisone and may be effectively protected from secondary bacterial infection by oxytetracycline. The fact that this therapy was effective in 87 per cent of the cases studied, while in no case was bacterial infection superimposed on lesions during therapy, justifies the conclusion that Terra-Cortril is a superior agent for use in these conditions.

147–32 SANFORD AVENUE

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Neurosurgical Conditions Masquerading as Psychiatric Diseases

Psychiatric symptoms may be the only early evidence of the presence of an intracranial space-taking lesion. In this paper Dr. William R. Chambers indicates that a more acute awareness of this fact might help save many lives. Erroneous conclusions emerging from the presently popular psychosomatic approach result in misdiagnoses which are often maintained just long enough to endanger the outcome. In addition to numerous studies reported in the literature; the author summarizes eight case histories wherein neurosurgical conditions masqueraded as psychiatric diseases. He points out that in mental institutions it has been shown that incidence of brain tumor at autopsy averages about 3.45 per cent, about a third of which are benign.

Unfortunately, it is the benign lesion, and those lesions most suitable for surgery, that have the most obscure and insidious onsets. Agreeing with other investigators that most patients with brain tumors reach the hospital at a late stage in their illness, he suggests that it would be desirable to have at least one neuropsychiatrist examine such patients before commitment to mental institutions, and perhaps even a neurosurgeon.—*American Journal of Psychiatry, November, 1955*

The Office Diagnosis of Moniliasis

MILTON S. WEINBERG, M.D., JACKSON HEIGHTS, NEW YORK, AND RAMONA JALANDONI, M.D.,
MANILA, PHILLIPINE ISLANDS

THE presence of Candida, or Monilia, infection[1] of the vulva and vagina was first described by Wilkerson in 1850. In the patient with acute symptoms of this disease, which include severe itching, hyperemia, and curdlike discharge, the diagnosis is easily made. The purpose of this paper is to show the number of asymptomatic cases which can be discovered by means of vaginal culture that requires no special apparatus for incubation.

As early as 1916 Castellani[2] showed that the Monilia organism can be present in the vagina without symptoms. Campbell[3] estimated that 10 per cent of the female population harbor the yeast infection and that the majority have no symptoms. Of those patients who present themselves to the gynecologist complaining of discharge and pruritus, 20 per cent have Monilia infection. If all cases of so-called idiopathic pruritus vulvae were carefully investigated, including cultures, more cases would be found to be mycotic and fewer idiopathic.[4] Diabetic vulvovaginitis[5] is the result of an infection and rarely, if ever, is caused by irritation from the products in the urine. In normal vaginal secretion Monilia are not found usually in smears or cultures.[6]

Candida (Monilia) are yeastlike fungi. They reproduce by budding and at times by the formation of mycelia. On microscopic examination Candida albicans appears as a combination of budding yeast cells and elongated filaments (Fig. 1). How these fungi become pathogenic is not known.

Previous articles[7,8] on the subject generally expressed the fact that diagnosis of mycotic infection is defeated by the lack of a simple technic which will demonstrate the presence of the fungi. The medium used in this series, Nickerson's medium,* is type specific or Candida and can be used in any doctor's office without the need for special precautions or incubator. A simple method such as this can be used to discover the asymptomatic or atypical case as well as the typical one. This procedure can also be used to determine when the patient has been cured following treatment.

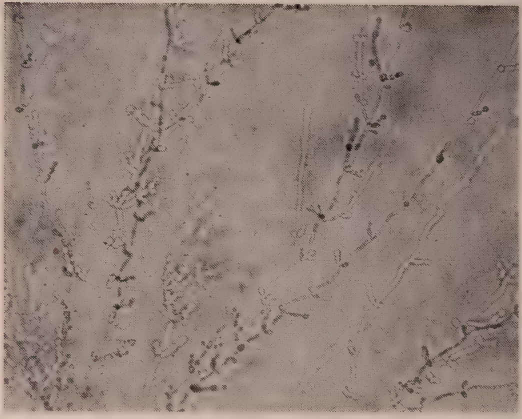

FIG. 1. C. albicans (Monilia).

In this series cultures were performed on 93 women who came to our clinic because of pregnancy or gynecologic complaints. Each woman had a vaginal smear performed which was examined at our laboratory for Monilia and was reported as negative. At the same time a culture on Nickerson's medium was performed by using a sterile applicator to take secretion from the posterior fornix, cervix, and vagina and applying it to the surface of the medium, which was allowed to stand with the cap partially opened at room temperature for seven days. Positive cultures were characterized by brown to black colonies scattered on the surface of the culture medium (Fig. 2). Since there were no positive findings in the stained smears and there were 24 positive cultures, it was decided to check the cultures to rule out errors. Smears were taken from the colonies found on the culture medium and stained in the same manner as the previous smears. All of these showed the typical Candida under the microscope.

Of the 93 patients studied, 55 were pregnant, and 38 were from the gynecologic clinic. For the most part these patients were taken consecutively, and no case was used that showed gross evidence

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* The Nickerson's medium used in this study was supplied by the Ortho Pharmaceutical Corporation, Raritan, New Jersey.

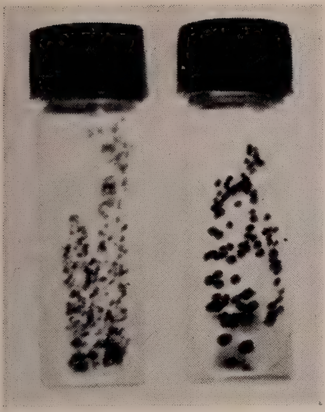

FIG. 2. Typical colonies of C. albicans grown on Nickerson's medium following five days incubation at room temperature.

TABLE I.—INCIDENCE OF MONILIA BY CULTURE ACCORDING TO PATIENT TYPE

Type	Number of Patients	Number of Positive Cultures	Per Cent Incidence
Obstetric	55	18	32
Gynecologic	38	6	16

TABLE II.—POSITIVE CULTURE INCIDENCE FOR MONILIA BY SYMPTOMATOLOGY

Type	Number of Patients	Number of Positive Cultures	Per Cent Incidence
Asymptomatic	55	10	18
Symptoms other than those of moniliasis	38	14	34

TABLE III.—PATHOLOGY PRESENT OTHER THAN PREGNANCY AND CULTURES FOUND

Pathology	Number of Patients	Number of Positive Cultures	Per Cent
Cervical erosion	44	17	34.0
Pelvic inflammatory disease	8	1	12.8
Uterine myoma	3	2	66.7
Primary dysmenorrhea	3	1	33.3
Menopause	1	1	100

of Monilia. In the 55 obstetric patients 18 cases or 32 per cent had positive cultures, and in the 38 gynecologic patients there were 6 or 16 per cent positive cultures (Table I). There were ten or 18 per cent positive cultures in 55 women who had no symptoms of any kind. Of the 38 women who had symptoms referable to the genital tract, 14 or 34 per cent showed positive cultures. The symptoms ranged from leukorrhea to dysmenorrhea and irregular vaginal bleeding. In other words, the symptoms were not those typical of Monilia infection (Table II).

The patients in whom additional pathology was found were distributed in the following manner: Cervical erosion was found in 44 women, 17 or 34 per cent of whom harbored Monilia. In eight patients in whom pelvic inflammatory disease was the diagnosis, one or 12.8 per cent was positive for Monilia. There were three cases of uterine myoma, in two of whom were positive cultures, and three cases of primary dysmenorrhea, one of whom had a positive culture for Candida. The only menopausal case in the group had a positive culture for Monilia. These findings are summarized in Table III.

Comment

From these findings of 24 positive cultures, 25.8 per cent, in 93 patients who had no symptoms of moniliasis and who showed a negative direct smear, it is evident that many cases of Monilia infection are undetected.

Gardner[4] claims that even in the best hands the wet smear method of diagnosis is unsatisfactory, even when the debris has been dissolved by sodium hydroxide. Other forms of culture media also grow organisms other than Candida and require expert training to differentiate the colonies. The Nickerson's medium used in this series is type-specific for this one type of Monilia. Thus, when a colony appears on the culture medium, it can be nothing else but Monilia.

No case should be diagnosed as idiopathic pruritus until cultures have been used to rule out Candida.

Conclusion

1. The results of random culture of 93 women are presented. Of these, 24 patients or 25.8 per cent were positive for Monilia, even though they had no clinical manifestation of the disease.

2. Emphasis is placed on an easy method of culturing the Candida without the need for special laboratory facilities.

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CLINICOPATHOLOGIC CONFERENCE

STATE UNIVERSITY OF NEW YORK COLLEGE OF MEDICINE AT NEW YORK CITY AND THE UNIVERSITY DIVISION-MEDICAL SERVICE, KINGS COUNTY HOSPITAL, BROOKLYN, NEW YORK

Conducted by PERRIN H. LONG, M.D.

DECEMBER 9, 1954

Clinical History

The patient, a sixty-seven-year-old, American-born dockworker, entered the hospital because of left-sided abdominal pain of two days duration. The patient's confused mental state precluded an adequate history, but it appeared that he drank liberal amounts of beer and other alcoholic beverages. He described a reasonably good diet including a great deal of milk. There had been an indefinite amount of weight loss in the year prior to admission and vomiting for two days before admission. There was a history of intestinal obstruction in the past, "presumably due to ruptured viscus."

Physical examination on admission showed a thin, dirty, white male, appearing chronically ill. Temperature was 102 F., pulse 90, respirations 24, and blood pressure 110/70. The anteroposterior diameter of the chest was increased. The abdomen was distended and tympanitic with the liver enlarged 3 cm. below the costal margin. The prostate was symmetric and enlarged 2 plus. There was 3 plus ankle edema. The remainder of the physical examination was within normal limits.

Hospital Course.—The persistence of fever, vomiting, and leukocytosis with the appearance of blood about the head on the second day were indications for a lumbar puncture, which revealed normal pressure, color, cells, and Pandy. The patient slept most of the day. Distention of abdomen and axillary veins was noted. A bone marrow aspiration was done on the eleventh day and showed only myeloid hyperplasia (20:1). Despite treatment with penicillin from the second to the ninth day, fever continued (100 to 102 plus F.). On the eleventh hospital day a hemoglobin of 6.6 Gm. was noted. Penicillin and streptomycin were started on the twelfth day, and a Miller-Abbott tube was passed when hyperactive bowel sounds were noted. The patient was transferred to the Surgical Service on the thirteenth day.

He was treated with parenteral fluids with added potassium chloride and vitamins, nasogastric suction, Harris irrigations, and, starting on the seventeenth day, clear fluids by mouth. The penicillin was discontinued on the fourteenth day and Terramycin begun. On the Surgical Service the temperature gradually declined from 102 plus F. on the thirteenth day to 100 F. on the nineteenth day, at which level it remained until the twenty-second day. He remained afebrile until the twenty-seventh day when the temperature gradually increased to a peak of 103 F. on the twenty-eighth day. From the thirtieth to the thirty-eighth day the patient remained essentially afebrile with the exception of occasional rises to 100 F. The semistuporous state, anemia, and leukocytosis continued, and on the twenty-ninth day the patient was found to be unresponsive to vocal stimuli.

He was transferred back to the Medical Service on the thirtieth day. At this time flattening of the right nasolabial fold, unequal pupils (left greater than right), spastic right hemiplegia, but absent Babinskis and diffuse rhonchi were noted. On the thirty-first day bronchial breath sounds were observed in the left axilla, along with spasticity of the left limbs and firm, enlarged nodes in the axilla, neck, and supraclavicular area on the right. The liver was enlarged two fingerbreadths below the costal margin. A clonic convulsion involving the left arm and left side of the face occurred, lasting forty-five to sixty seconds. On the thirty-third day the urine urobilinogen was

TABLE I.—Laboratory Data

	Hospital Day											
	1	2	3	4	10	11	12	14	16	17	21	29
Hemoglobin	13.8	...	...	...	..	6.7/6.6	7	...	...	...	...	...
White blood cells	50,000	46,600	37,600	47,400	..	27,300	32,000	...	...	...	...	...
Polymorphonuclears	84%	90%	...	...	..	87%	...	...	...	...	...	...
Lymphoctyes	15%	15%	...	...	..	11%	...	...	...	...	...	...
Erythrocyte sedimentation rate	18/60	...	...	...	..	24/25	...	...	...	...	...	...
Urine												
Specific gravity	1.008	1.020	...	...	..	quantity not sufficient	...	...	...	...	...	1.012
Microscopic	0	0	...	...	..	0	...	...	...	...	...	...
Bile	...	...	...	...	..	...	...	...	...	...	...	+
Urobilinogen	...	...	...	...	..	1:20	...	...	...	...	...	1:160
Mazzini	...	...	0*	...	..	...	...	...	...	...	...	...
Enteric agglutination	...	...	0	...	..	...	...	...	...	...	...	...
Nonprotein nitrogen	...	...	15	...	15	...	...	15	...	...	9	...
Fasting blood sugar	...	...	...	...	..	...	...	80	...	...	...	...
Total protein	...	...	5.2	...	..	...	...	...	4.8	...	...	...
Albumin-globulin ratio	...	...	2.7/2.5	...	..	...	...	...	2.8/2.0	...	...	...
Alkaline phosphatase	...	...	4.1	...	..	...	...	...	...	...	...	...
Bilirubin	...	...	0.5	...	..	...	...	...	...	...	...	...
Bromsulfonphthalein	...	...	13% (45 minutes)	...	..	...	...	...	...	...	...	...
Cephalin flocculation	...	...	0	...	..	...	...	...	...	...	...	...
Amylase	...	...	...	...	27	...	...	...	...	...	...	...
Sodium	...	...	...	...	..	...	...	130	130	133	137	...
Potassium	...	...	...	...	..	...	...	2.9	3.3	3.7	3.6	...
Chloride	...	...	...	...	..	...	...	99	104	105	97	...
Carbon dioxide combining power (volumes per cent)	...	...	...	...	..	...	...	39	...	46	...	...

* Cerebrospinal fluid also Mazzini negative on third day.

1:160, white blood cells 32,000, hemoglobin 6.5. Abdominal fluid removed from the right upper quadrant contained much protein, 400 lymphocytes per cu. mm., no bacteria on smear or culture (including acid-fast bacilli). A repeat lumbar puncture revealed 10 red blood cells. In the ensuing five days the patient became hypotensive and even less responsive and quietly expired on the thirty-eighth day.

Treatment in the hospital had consisted of parenteral fluids, gavage, digitalis, Mercuhydrin, vitamins, penicillin, streptomycin, Achromycin, and potassium chloride.

Laboratory Data.—Results of laboratory examinations are given in Table I. Chest x-ray on the second day showed elongation and tortuosity of the aortic arch and interstitial changes in the right base with blunting of the right costophrenic sinus; the abdomen showed gas in the large bowel. On the eleventh day the chest x-ray showed free air beneath the diaphragms, and the abdomen showed air in the small and large bowel and a pattern of acute intestinal obstruction. On the thirteenth day there was moderate distention of the small and large bowel and adynamic ileus. On the sixteenth day there was no recent pulmonary pathology visible on the chest x-ray, but there was a moderate amount of gas in the small and large bowel on x-ray of the abdomen, as well as obscuring of the kidney and psoas shadows and properitoneal fat line.

Barium enema on the nineteenth day revealed stoppage of barium near the splenic flexure and slight gaseous distention of the right half of the colon. There was no free air under the diaphragms on chest x-ray. Gastrointestinal tract x-ray on the twenty-third day revealed extrinsic pressure effect on the duodenal sweep; there was no intrinsic lesion in the esophagus, stomach, or duodenum. Chest x-ray on the thirty-fourth day showed pleural effusion on the right; abdominal x-ray showed abdominal effusion and intestinal loop in right iliac fossa.

Three blood cultures were all negative (on second, fifth, and eighth hospital days). On the second hospital day cultures of the urine and cerebrospinal fluid were negative, but throat cultures showed Staphylococcus albus. There was also a negative stool culture on the twelfth day. The culture of abdominal fluid was negative on the thirty-third day.

Cerebrospinal fluid examinations showed protein 13 and sugar 85 on the third hospital day and protein 31, sugar 90, and chloride 115 on the thirty-third hospital day.

Discussion

Chairman Perrin H. Long: It is with real pleasure that I am going to be able to present to you, who do not know him, Dr. Max Michael, Jr., who is Professor of Medicine in our college and Director of the Medical Services at Maimonides Hospital. He will discuss the clinical side of the Clinicopathologic Conference of the University Medical Division.

Dr. Max Michael, Jr.: I will try to summarize the problem as I see it. This is a sixty-seven-year-old, American dockworker who was admitted with left-sided pain of two days duration. He allegedly had a strong alcoholic history and allegedly had a good dietary intake. We are told that he drank a good deal of milk during this time, which to me means only one of three things: he had an ulcer and needed milk for relief of pain; or else he was quite dependent on his mother, or third, he liked milk. He had lost weight in the year before admission, which I think is important, and two days before entry he had vomited considerably. We are told that there was a history of intestinal obstruction, presumably due to ruptured viscus in the past. What sort of information do we have on that?

Ward Resident: We don't have any other, none mentioned.

Dr. Michael: We find the temperature is 102 F.; he is chronically ill; the liver is enlarged; the abdomen distended, tympanitic, not too tender; 3 plus ankle edema. The remainder of the physical examination was negative. Of interest in the laboratory data is the hemoglobin of 13.8. Was the man hemoconcentrated from dehydration at that time because we have a rather precipitous fall in hemoglobin the next time it was determined?

Ward Resident: The white count was listed as 50,000.

Dr. Michael: Was he markedly dehydrated with dry lips and tongue?

Ward Resident: There is no mention of it.

Dr. Michael: That does not help us. The urine is negative. There is no mention of albumin. We assume that it was absent. The persistence of fever, the vomiting, and leukocytosis with the appearance of blood about the head were indications for lumbar puncture. Now where was the blood? The lumbar puncture at any rate was normal, and the white count on the second hospital day was essentially the same except for a slight increase in the polymorphonuclear leukocytes. The urine culture, spinal fluid culture, and blood culture taken on the second hospital day were subsequently negative. The distention of the abdomen was noted, and the axillary veins presumably became distended. The bone marrow showed only myeloid hyperplasia. Despite treatment with penicillin the fever continued from the second to the ninth day.

Here is our first big problem: On the eleventh hospital day his hemoglobin had fallen to 6.6 and stayed in that range. We are not told whether there was blood in the stools, which is certainly the first thing to look for with the drop in hemoglobin—it is presumed that this is not a laboratory error. But a sudden drop in hemoglobin such as this brings to mind several things: First of all, the patient has lost blood, and the gastrointestinal tract would be the most likely site. Second, he may bleed into the abdomen. Third he may bleed into the chest. We have no information that really directs us into any of these channels. In addition to blood loss there can be hemolysis. Hemolysis can be a subtle affair such as may take place in patients with a variety of neoplasms, particularly those with lymphomas. It can also be seen in the course of certain infections. You will recall the hemolysis of the blood agar plate inoculated with the beta hemolytic streptococcus. It is often thought patients who have overwhelming hemolytic streptococcal infections do the same thing and hemolyze their blood. Actually that is quite rare. The infection which is most apt to produce an overwhelming hemolysis with a rapid drop in hemoglobin is that caused by Clostridium welchii. We have no evidence of that here. He did not suddenly go into collapse as occurs in that overwhelming, fulminating infection with rapid exitus.

He became more and more distended. Penicillin and streptomycin were started. A Miller-Abbott tube was passed, and it was presumed that he was developing ileus. He was treated with parenteral fluids and Harris irrigations and gradually became afebrile. During this period the difficulty seems to have been intra-abdominal. He seems to have developed peritonitis or ileus, and x-ray evidence, which we will come to in a moment, corroborates that. The brisk leukocytosis continued during this entire period.

He then developed neurologic signs, first of a right-sided hemiplegia. Then he developed a convulsion involving the left arm and left side and then left-sided signs. A word is in order about the clonic convulsions involving the left arm and left side of the face lasting forty-five to sixty seconds. These might be called focal, or they might be called Jacksonian. In the strictest sense these are focal seizures. One area was involved. In this instance the left arm and the left side of the face were involved, and there the convulsions remained. The true Jacksonian, as you know, is a march; it begins, let us say, in the fingers, then the arm twitches, and gradually it progresses to involve that side of the body. What is the point of differentiation between the two? In general, a focal seizure is more indicative of an intracranial lesion such as neoplasm than is the Jacksonian seizure, although the Jacksonian seizure certainly can be seen with neoplasm. The focal seizure, however, according to Lenox, is more indicative of an irritative phenomenon such as a neoplasm.

At that time his lumbar puncture still was unrevealing. In the next five days he became hypotensive, less responsive, and quietly expired.

May we see the x-rays at this time? Is that permissible?

Chairman Long: Certainly. Dr. Silverstein will present the x-rays.

Dr. I. S. Silverstein: The x-rays will be presented in chronologic order. The first one was taken on March 23 and shows a mildly enlarged heart with wide vascular pedicle and some congestive signs, particularly in the right base (*film*). The flat film taken the same day shows some gaseous distention throughout the colon proper with no definite signs of either paralytic ileus or any obstructive lesion on this examination (*film*). If you notice, on this film there is some gas in the left upper quadrant as well as near the pelvis (*film*). If you also notice, there is a straight line fluid level which suggests possibly some questionable obstruction although not definite.

Again we see gaseous distention both in the small gut as well as in the large gut (*film*). In this particular case the distribution of the gas throughout the intestinal tract, both small and large, would tend to favor a dynamic force, one of the ileus type, rather than mechanical intestinal obstruction.

Once again we see the pattern which is so common in intestinal obstruction (*film*). You will notice the Kirkring folds becoming exaggerated with prominence of the colonic markings. The fact that there is an even distribution of air throughout the entire intestinal tract would tend to favor a paralytic ileus.

At this sitting you notice there is some diminution of gas distention (*film*). The Miller-Abbott tube has been used, and some evacuation of the gas contents has taken place.

This is a study of the esophagus and upper gastrointestinal tract in which we see the esophagus outlined well with no gross deformity, the stomach and the duodenum well visualized, and no evidence of ulceration, although with a history of perforation we would probably expect to find either some deformity, suggested perforation, or some existing ulcer (*film*). On one of the films that we will come to in a moment, we will see free air under the diaphragm which indicates the presence of a rupture of hollow viscus.

If you notice there, the duodenal cap still outlines well (*film*). The duodenal sweep, however, is somewhat widened with increased prominence, near the prominence of Vater, the so-called inverted three, which we shall show as we go along. If you notice, the entire duodenal sweep is quite widened with the so-called inverted three still seen, with the narrow portion near the ampulla of Vater well visualized (*film*). This has been considered by some as a diagnostic feature like positive enlargement of the head of the pancreas. These small cone films show the extent of the enlargement of the duodenal sweep (*film*).

If you will notice in presenting the duodenal sweep, in the upper right-hand corner of the film there is some indentation, particularly in the upper part of the second portion of the duodenum, which most likely suggests the possibility of some extrinsic pressure diminishing the caliber of the lumen in that region (*film*). Once again you see the entire duodenal sweep with points of extrinsic pressure, both in the upper portion of the curve as well as near the fourth portion (*film*).

Chest film taken at this time showed marked clouding of the dependent portion of the right lung field, the concave upper border suggesting pleural effusion—secondary, sympathetic in character to some pathology in the abdomen (*film*).

This is a flat plate (*film*). There is homogeneity of the abdomen suggesting the possibility of fluid in the abdomen. Only a small collection of gas is noted in the lower right quadrant. We do have a film showing definite air beneath the diaphragm, suggesting there has been definite evidence of ruptured viscus (*film*). If you notice beneath the left diaphragm (*indicating*), the arrow points to the free air under the diaphragm; that suggests the existence of a ruptured hollow viscus (*film*).

Chairman Long: Dr. Michael, before you continue, I would just like to report to the group that Dr. Austrian made a remark that this is very good evidence that roentgen rays do not depress the bone marrow.

Dr. Michael: In approaching a difficult diagnostic problem, as this one is, with many facets and many seemingly unrelated features, it is always best to try and tie them together into one group. Usually, we would be right to come up with one diagnosis rather than two or three seemingly unrelated ones, although if we stick to one, we often do make mistakes as happened to me very recently.

Before we go on, did you have any information for me?

Ward Resident: The blood you asked about seemed to be coming from the nose. Old clotted blood was both in the nose and on the face. A proctoscopy was done. Brown feces were noted. The guaiac test was 1 plus.

Dr. Michael: When was that? In relation to what day was it lost? Between the first and eleventh is when we had the astronomic drop.

Ward Resident: On the twelfth day.

Dr. Michael: Which was after the drop had occurred, so the patient could have bled considerably during that period of time. and the positive guaiac could have disappeared. I don't think we can put too much stock in a 1 plus guaiac.

Then what we are trying to fit together is an elderly gentleman who has a sudden onset of pain in his abdomen; who has a past history of "intestinal obstruction" which I am inclined to discount; who has a story of weight loss, sudden onset of two days of pain in the abdomen, a brisk leukocytosis, evidence of perforation of a viscus; who develops anemia, later neurologic signs indicating involvement of the brain; who is subsequently noted to develop enlargement of the axillary, supraclavicular, and cervical lymph nodes, from whom an abdominal fluid containing principally lymphocytes and high amount of protein is obtained, and who subsequently dies. One other comment—the barium enema we are told showed stoppage of barium near the splenic flexure.

How are we going to try to put all of this together? I believe that this man has a new growth somewhere in his body. The new growth can be neoplastic, or it can be a granulomatous or multiple granulomatous lesion. One of the first of this latter group that comes to mind is tuberculosis. We know there is a higher incidence of tuberculosis in alcoholics. We know that tuberculosis can do many and bizarre things. In this patient we could say that he has tuberculous peritonitis and that the lesion in the colon was a tuberculoma which later perforated, or we could say that he had tuberculous peritonitis several years ago and ended up with a solitary tuberculous granulomatous lesion of the colon. But there are several things that are rather difficult to explain on that basis; the absence of findings in the chest film does not disturb us because we know that the pulmonary lesions can be fairly well healed at the time extrapulmonary tuberculosis is still present. There are two things that disturb me most of all. First, is the presence of these nodes in the right side of the neck. True, they do occur with tuberculosis, but it is usually early in the course of tuberculosis. Rarely is it a terminal affair such as this, and they are most often bilateral. Second, if we want to say that the man's difficulties in his head were due to space-occupying lesions, rather than the common garden variety of cerebral thrombosis or cerebral hemorrhage, if we don't want to attribute it to tuberculosis, then I think it would be most unusual to put two tuberculomas in his head, a granulomatous tuberculous lesion in the colon, and subsequent tuberculous peritonitis. Mainly because of the development of the nodes in the neck and the subsequent intracerebral symptomatology, I am inclined to discard tuberculosis as playing a role in this man's illness.

Although it is very appealing and could account for many of the things, I will pass over duodenal ulcer rather rapidly. Although a ruptured duodenal ulcer could produce much of the peritonitis, obviously it could not give him cervical nodes, intracerebral disease, and many of the other features.

As far as carcinomatous or neoplastic disease is concerned, there are many and various ones that could be responsible for this picture. First, what about carcinoma of the colon? We are told he had a lesion in the splenic flexure. Could not this man have had a carcinoma of the colon which subsequently ruptured and produced this whole train of events? He could. It would account for the presumed drop in hemoglobin due to bleeding in the gastrointestinal tract, but it is rather difficult to account for nodes in the neck and presumably something in the head. Carcinoma of the colon can metastasize to many places, but from what I can gather it is highly unlikely that it would metastasize to the cervical region. Perhaps I am putting too much stock in those nodes, but I don't think we can discount them.

Similarly, carcinoma of the stomach, as we know, oftentimes goes to the neck, usually however to the left side. This was in the right side, and his history is really not too good for carcinoma of the stomach.

Carcinoma of the lung is a quite appealing entity. First off, you can say the chest film is clear. How could we have carcinoma of the lung? The patient can have a very small lesion in one of the bronchi that does not show up on x-ray and, furthermore, does not show up on bronchoscopy, and yet he could have widespread metastatic disease. Where does carcinoma of the lung go? Anywhere. Commonly it goes to the brain. It commonly goes to the cervical nodes. It can go to the abdomen and can implant in the pancreas, to give the wide sweep. It could implant on the colon, and it could implant diffusely throughout the peritoneal cavity. Carcinoma of the lung also metastasizes to the adrenals, and it is rather an attractive thing to say that he had widespread metastasis to his adrenals which accounted for—with a complete ablation of the adrenals—complete collapse which persisted for some five days. There is another intriguing item that points slightly toward carcinoma of the lung, and that is the rather brisk leukocytosis. A leukemoid reaction does occur with carcinoma of the lung and a bit more frequently than with other carcinomas.

Where else could this carcinoma have arisen? It could have arisen from the pancreas, which we know can metastasize anywhere. It can do strange things. I believe that metastasis to the brain is a little unlikely in carcinoma of the pancreas. Similarly, the presence of the lesion in the right side of the neck could be unlikely.

Finally we are left with our friend—lymphoma, lymphosarcoma, Hodgkin's disease—all of which can do anything. It can produce any train of events and can account for most of this picture. I am inclined to discount that for really very insignificant reasons. One is age, but we know that the lymphosarcomas can occur in any age group, but I am inclined to discount it for that reason as much as for any.

To sum it up, I think this man has a carcinoma of the lung with metastases to the abdominal viscera, with metastases to the colon, subsequent perforation with metastases to the pancreas, the brain, and the right side of the neck.

There are several things that I am unhappy about because they cannot be explained on this basis. First the abdominal fluid which contained 400 lymphocytes and nothing else. If that fluid were the result of perforated viscus, there should not be 400 lymphocytes unless infection were well under control. I am a little hazy about whether it was under control at that time. I am a little disturbed because of the absence of anything in the chest x-ray. The drop in hemoglobin is disturbing with carcinoma of the lung. Assuming first that the hemoglobin is correct, I think we can say that the hemoglobin fell either (1) through hemolysis, as with any carcinoma, or (2) because of a lesion in the colon which may have ulcerated and bled and caused that fall in hemoglobin.

Putting it all together, the diagnosis I am the happiest with is carcinoma of the lungs with metastases to the adrenal, abdominal viscera, cervical lymph nodes, and the brain. Right behind that would have to be carcinoma of the pancreas, and I believe my third choice would be tuberculosis involving the abdominal viscera and perhaps the brain.

CHAIRMAN LONG: Thank you very much, Dr. Michael.

I would like to report for the record that our students who studied this protocol reached the following conclusions: 22 of our students made a diagnosis of carcinoma of the colon; five lymphosarcoma; three carcinoma of the pancreas; two carcinoma of the stomach; one Hodgkin's disease, and one infarction of the left colon.

Dr. Siegel, will you take up the autopsy material.

Pathologic Report

DR. H. SIEGEL: Dr. Liebermann will present the gross findings.

Dr. Liebermann: The body was that of a well-developed, white male, about sixty-five years of age, 5 feet, 9 inches, and weighing about 145 pounds. The peritoneal cavity contained about 500 cc. of clear, yellowish liquid. Each pleural cavity contained about 500 cc. of similar liquid. Each lung weighed 500 Gm. They were subcrepitant and on cut section revealed grayish-red areas against the reddish background. The liver was of normal size and shape and was congested. Just beneath the capsule of the anterior surface of the right lobe there was a small, 2-mm., yellowish nodule. The spleen was slightly enlarged, of normal shape, weighed 300 Gm., and felt shotty. On cut section the normal architecture could not be made out. There were numerous, whitish, small nodules varying from 2 to 5 mm. in diameter and one large subcapsular nodule, 1.5 cm. in diameter.

The adrenals were of normal size and shape. However, multiple sections revealed a few small, whitish nodules. The kidneys were slightly enlarged. The right weighed 240 Gm. and the left 250 Gm. Both cortices were slightly widened. The capsules stripped with ease leaving moderately granular surfaces. The right renal pelvis was slightly dilated and contained some yellowish, cloudy, thick liquid. On cut section there were numbers of fine, scattered, whitish, linear areas noted. The ureters were grossly normal. The mucosa of the bladder was slightly thickened, markedly hemorrhagic, and covered by pink, thick, mucoid material. The prostate was slightly enlarged but otherwise normal.

The cancellous bone of the lumbar vertebrae contained a number of whitish, firm, round nodules measuring up to 1 cm. in diameter. The brain weighed 1,430 Gm. In the frontal lobes the gyri were somewhat narrowed and the sulci somewhat widened. The vessels at the base of the brain were thin and pliable, revealing only a minimal degree of atherosclerosis. The entire group of the mesenteric lymph nodes, as well as periaortic nodes and peripancreatic nodes, were markedly enlarged, firm, and discrete. On section the tissue was uniformly light gray. Some of these nodes measured up to 6 cm. The tracheobronchial lymph nodes were slightly enlarged, firm, discrete, and gray speckled with black with a few foci of calcifications.

Dr. Siegel: The pathologic changes may be segregated into three groups. The first group comes under the heading of red herring; the second, the terminal infection, and the third, the basic lesion.

In the red herring group are the alterations in the brain. There was a mild degree of atherosclerosis of the vessels at the base of the brain. There were several microscopic areas of softening in the basal ganglia. Areas of early softening were present in both frontal cortices. These areas of softening are probably related to the arteriosclerosis.

In the terminal infection group may be listed the changes in the lungs and in the kidneys. The first slide is the actual histologic preparation and, therefore, represents a very low magnification (*slide*). The partial diffuse atelectasis is quite evident as well as the small foci of bronchopneumonia.

This illustrates the urinary tract infection (*slide*). The marked thickening of the mucosa is due to an inflammatory exudate and tremendously dilated blood vessels. The white areas observed in the kidney represented foci of inflammatory cells, mainly polymorphonuclear leukocytes and lymphocytes (*slide*). The urinary tract lesion is, therefore, a severe cystopyelonephritis.

This slide is also the actual histologic preparation from a tracheobronchial lymph node (*slide*). Between the foci of hyalinized compact fibrous tissue and calcification is a markedly cellular tissue which on higher magnification (*slide*) reveals that the typical architecture of the lymph node is completely destroyed by a cellular tissue with a characteristic pleomorphic cell picture, containing, among other cells, multilobulated giant cells and (*slide*) rather typical Reed-Sternberg cells. There are also many lymphocytes, reticulum cells, and fibroblasts. The white nodule in the liver is a typical Hodgkin's granuloma with a prominent fibrous element (*slide*).

The nodules in the spleen are likewise Hodgkin's granulomas (*slide*). Surrounding many of these granulomas are thin layers of brown pigment which, with an iron stain (*slide*), proved to be hemosiderin. This hemosiderin is the anatomic counterpart of the hemolytic anemia that this patient had.

The bone marrow is rather interesting. This section was made from the fourth lumbar vertebra (*slide*). Note that the marrow is tremendously hyperplastic and that the bony trabeculae are atrophied. With this very low magnification (*slide*) also note that there are lighter cellular areas in the marrow and that in these areas the bony trabeculae are somewhat more atrophied than in the surrounding areas. If the loose network of bony trabeculae are likened to a mere mesh, it becomes apparent that the meshwork in the paler areas is wider apart than in the remainder of the tissue. In other words, one gains the impression at this low magnification that there is something actively pushing aside the bony trabeculae. So there is, because with a higher magnification a Hodgkin's granuloma is evident, whereas the adjoining areas are the seat of a marked myeloid metaplasia.

In summary, this patient had Hodgkin's disease involving the lymph nodes, spleen, adrenals, bone marrow, and liver; an acute infection of the urinary tract; an early bronchopneumonia; ascites, and pleural effusion. The neuropathologic changes were on an arteriosclerotic basis. The cause of death was Hodgkin's granuloma, acute cystopyelonephritis, and early bronchopneumonia.

CHAIRMAN LONG: Thank you very much, Dr. Siegel. Dr. Michael, would you like to say anything toward the end of this?

DR. MICHAEL: There is nothing I can say at this point.

CHAIRMAN LONG: Does any other member of the group wish to make any comment?

DR. I. ABRAHAMS: Were any lesions described in the stomach or intestine?

DR. SIEGEL: No, there were not.

DR. ABRAHAMS: No perforation?

DR. MICHAEL: No.

CHAIRMAN LONG: Is there any other question or comment?

DR. J. COLSKY: I wonder whether the air under the diaphragm was free air, or was it just the stomach giving the appearance of free air.

CHAIRMAN LONG: Dr. Silverstein, would you like to answer that?

DR. SILVERSTEIN: I did not hear that.

CHAIRMAN LONG: Was that free air under the diaphragm or a gas bubble?

DR. SILVERSTEIN: The free air under the diaphragm was secondary to ruptured hollowed viscus, as evidenced by the straight line with air above it, and beneath the dome of the diaphragm, with the air bubble absolutely out of range of the stomach.

CHAIRMAN LONG: It would be nice to know where that air came from. May I ask, for the record, Dr. Malach, could there have been any possible connection between the abdominal paracentesis and the air up under the diaphragm?

WARD RESIDENT: The paracentesis was much later.

DR. M. MALACH: The only thing it could have been was the proctoscopy.

DR. LONG: I might ask Dr. Siegel how he explains the normal alkaline phosphatase in view of the osseous lesions.

DR. SIEGEL: It does not always have to be elevated.

CHAIRMAN LONG: Are there any other questions or comments?

DR. P. B. ROSS: One of the confusing features in this case was the drop in hemoglobin from an initial 13.8 to 6.6 sometime later. I wonder just how much severe dehydration can cause the hemoglobin to change, whether it can cause the hemoglobin to change more than 2 or 3 Gm.

CHAIRMAN LONG: Dr. Kydd, would you like to answer that?

DR. D. M. KYDD: It would take very extreme dehydration to alter it as much as this was altered. I don't believe it would do it that much. I would be inclined to say about 4 or 5 Gm. or so.

CHAIRMAN LONG: Dr. Malach, what time of the day did this patient arrive at the hospital?

DR. MALACH: About 11:50 A.M.

CHAIRMAN LONG: The hemoglobin should have been done in the daytime. Occasionally at night you may have variations because of the yellow light in some of our wards.

DR. KYDD: This patient's blood hemolyzed.

DR. MALACH: There is one point. The hemoglobin of 13.8 which was followed by a determination of 6.7 is also accompanied by a 50,000 white count, which then dropped to 27,000.

DR. WILLIAM DOCK: There was a ten-day interval, so that between the clearing of his dehydration and ten days of further progress of his anemia, I think this could have happened.

CHAIRMAN LONG: Are there any other questions or comments?

DR. W. M. AWAD, JR.: It was mentioned here that the specific gravity of the urine was 1.008. Would not that rule out marked dehydration?

DR. KYDD: Not necessarily so.

DR. MALACH: The next day it was 1.020.

DR. MICHAEL: I am under the impression that with severe distention of the bowel, as produced artificially by insufflation or naturally occurring in the course of disease, one may get leakage and air under the diaphragm. Dr. Siegel, must there be overt perforation?

Dr. Siegel: We cannot deny or substantiate whether air was present in the peritoneal cavity at autopsy. The demonstration of such air, especially if present in small amounts, requires a special modification of the routine autopsy technic. In the present case this technic was not applied.

In the past few years we have presented at least two other cases of Hodgkin's disease in which the first symptoms were referable to a hemolytic anemia.

Dr. S. M. Fierst: The occurrence of air under the diaphragm without overt perforation is known. We have reported pneumoperitoneum, mediastinal emphysema, and subcutaneous emphysema without perforation after gastroscopy. This syndrome is usually associated with a massive pneumoperitoneum without any symptoms whatsoever and no perforation demonstrated by the surgeon. Fine reported this from Cincinnati following barium air contrast enema examination. Just through inflating the colon they got some air into the peritoneum.

It also may occur after sigmoidoscopy with air installation.

I wonder whether the shadow interpreted as air under the left diaphragm is not the shadow one sees in a stomach which is full of fluid associated with a paralytic ileus and with a small collection of air above it. There is too much space between the upper limits of the shadow and the diaphragm.

Second, the occurrence of left-sided air under the diaphragm most often occurs only with the perforation high up under the left dome of the diaphragm, usually from a fundal lesion of the stomach. Most of the time you will see air first on the right side of the diaphragm where the density of the liver is such as to make the decreased density of the air more apparent.

Chairman Long: Thank you, Dr. Fierst.

Hookworm Treatment of Polycythemia Vera

Although several reports of hookworm treatment of polycythemia vera have come from abroad, this probably is the first case in which the therapy has been tried in America. The rationale of the treatment is the low-grade symptomless blood loss consequent on infestation with intestinal parasites. In this instance a middle-aged woman who had been treated for polycythemia for many years with phenylhydrazine and venesection was inoculated with Ancylostoma duodenale. After about three months of various intestinal and respiratory complications, the situation became stabilized with apparently satisfactory results. After fourteen months of observation, the patient is well and pleased with the treatment. The hematocrit has remained constant without the necessity of venesection. Advantages of the treatment as summed up by the authors are that it is simple, inexpensive, and does not require the supervision or special equipment needed in isotope therapy or venesection. The patient remains ambulatory and there is a slow, regular fall in red cell count. Therapy lasts five to six years and can be terminated at any time. The disadvantages are the diarrhea in the early period although this can be controlled with paregoric. In this instance there was a severe cough which persisted for about two months.

This may have been due, in this case, to a separately incurred pneumonia combined with the migration of the parasites through the lungs.—*James Myhre, M.D., and Franklin Wallace, Ph.D., Minnesota Medicine, February, 1956*

CASE REPORTS

Pneumatosis Cystoides Intestinalis

FREDERICK ELIAS, M.D., MONTICELLO, NEW YORK

(*From the Department of Radiology Monticello Hospital*)

PNEUMATOSIS intestinalis may be defined as a condition in which gas is formed within the walls of the intestine, either in the submucosa or in the subserosa. The ileum is the usual site of occurrence with the sigmoid, cecum, colon, and jejunum next in order of frequency. The stomach is rarely involved.[1] Gas-filled cysts have also been found in the mesentery, the gallbladder, kidney pelvis, and ureter.

The disease is being more often reported and should no longer be considered rare. Bang[2] first described the condition as a clinical entity in 1876. Finney[3] reported the first case in 1908. Although Jackson[4] could report only the fourth American case in 1940, Sherwin and Messe[5] in 1952 found a total of 44 confirmed cases in the American literature alone. The growing awareness of the disease and its characteristic roentgen appearance are resulting in more frequent recognition. Lerner and Gazin[6] in 1949 reported the first proved case of pneumatosis cystoides intestinalis diagnosed preoperatively by roentgen examination.

Case Report

The patient was a white, married woman of thirty-eight. She had been well until June, 1952, when she had diarrhea for ten days. She then felt well and had no further attacks of diarrhea or constipation until April, 1953. One morning after a loose bowel movement she noticed a considerable amount of blood in the toilet. Her family physician referred her for a barium enema examination. Multiple translucent polypoid defects were seen, limited to the sigmoid colon and the descending colon up to the splenic flexure (Figs. 1 and 2). The filling defects were sharply defined and intraluminal and constricted the portion of the bowel in which they were present. The evacuation film showed air-filled cysts hugging the walls of the sigmoid colon and filling almost the entire bony pelvis (Fig. 3). The mucosal pattern of the affected bowel was not distorted. The rectum and transverse and proximal colon were not involved.

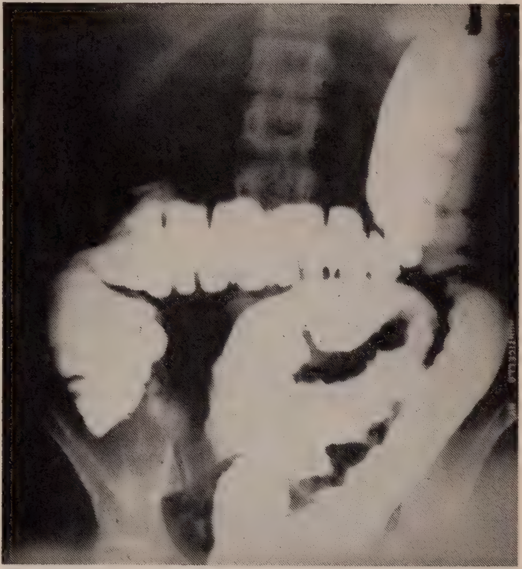

FIG. 1. Barium-filled colon showing redundant sigmoid loop with irregular, sharply defined radiolucent filling defects.

The patient was admitted to the hospital, and sigmoidoscopic examination revealed multiple polyp-like masses which filled the entire sigmoid colon. Biopsy was not attempted.

Physical examination disclosed a well-nourished, apparently healthy woman. Her blood pressure was 120/80, temperature 98.2 F., pulse 78, and respirations 18. The abdomen was soft and nontender, and no masses could be felt. Pelvic examination was completely normal.

Urinalysis, red blood count, bleeding time, and coagulation time were all normal. Examination of the stool for occult blood was positive.

When the abdomen was opened, the entire sigmoid colon was found to be enlarged and redundant. Polyp-like masses were felt throughout the sigmoid colon and descending colon up to the splenic flexure.

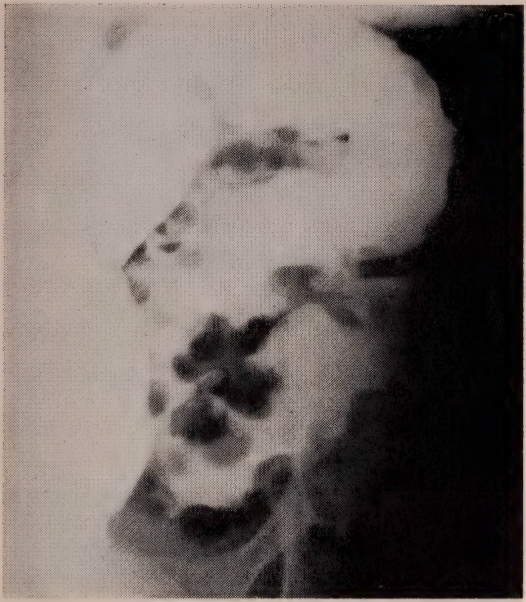

FIG. 2. Spot film of sigmoid colon showing gas-filled cysts within the lumen of the bowel.

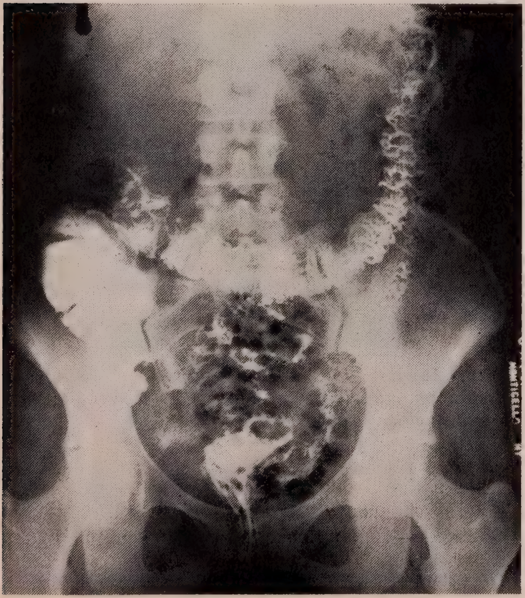

FIG. 3. Film after evacuation. Note gas-filled cysts hugging the walls of sigmoid and descending colon. Findings could be confused with gas in small bowel.

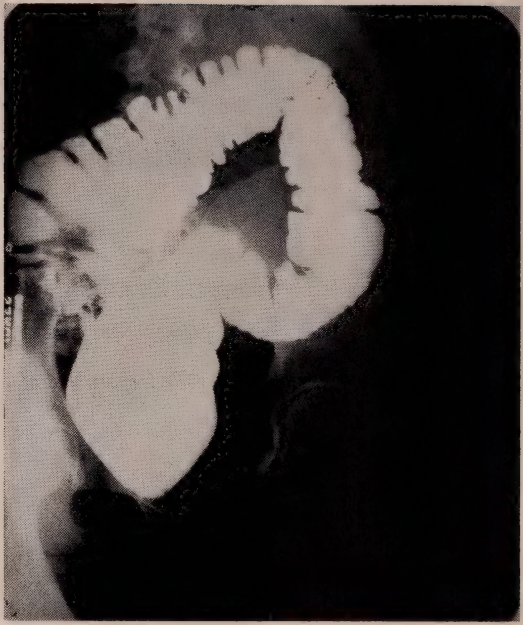

FIG. 4. Re-examination of the colon after resection showing normal rectum and remaining large bowel.

The rectum, transverse colon, ascending colon, and cecum were grossly normal. The entire sigmoid colon, descending colon, and the distal half of the transverse colon were removed. Transverse colon was anastomosed to the rectum. The patient made an uneventful recovery and was discharged after one week. Roentgen re-examination six months later failed to show any abnormalities in the small or large intestine (Fig. 4).

It is interesting to note that Mathews[7] has reported a case of pneumatosis cystoides intestinalis almost identical to this one in an apparently healthy married woman whose only complaint was bloody stools and whose cysts were limited to the sigmoid and descending colon.

PATHOLOGIC EXAMINATION.—The gross specimen showed the mucosa of the sigmoid colon and the descending colon up to the splenic flexure to be almost completely covered with nodules, varying in size from a few millimeters up to 1.5 cm. in diameter. These nodules lay beneath the epithelium and had no stalks. The cystic portions did not appear congested or inflamed, but the intestine between two cysts was greatly congested. No ulcerations or polyps were present, and the colon beyond the splenic flexure appeared normal.

Microscopically the sections showed the gas cysts to lie beneath the muscularis mucosa. They had no epithelial or endothelial lining but were covered with one or several layers of histiocytes. The stroma between was somewhat fibrous and edematous, but the edema did not appear to be due to acute inflammation. There were few cells except for a few histiocytes and small lymphocytes in the tissues.

The chemical composition of the gas in the cysts consisted primarily of nitrogen with about 1 per cent argon and 1.5 per cent carbon dioxide. These findings suggest that the gas was simply deoxygenated air or air from which oxygen had been absorbed, possibly by tissues.

Comment

There are two forms of pneumatosis intestinalis, the emphysematous and cystic. The former occurs in children and, according to Koss,[8] is often associated with ulcerative or nonulcerative ileocolitis. The gas is subserosal and infiltrates the tissues of the bowel wall in sheets. The cystic type of pneumatosis intestinalis is by far the more common condition. Here, the gas formations are encysted in the submucosa of the intestinal wall. These cysts vary in size from a few millimeters to several centimeters and tend to appear in local masses, which in turn may be multiple. They are similar in appearance to lymphangiomas having a thin translucent wall, and they are composed of delicate connective tissue lined by endothelium with evidence of giant cell formations.

There are several different theories which attempt to explain the gas formations, but none of these explanations is adequate. The neoplastic theory expounded by Bang[2] cannot be taken seriously since neoplastic cells have never been identified. The bacterial theory postulates a gas-forming microorganism but is invalid since the cysts are sterile and a specific bacteria has never been isolated. The chemical theory of Koss[8] suggests that the gases are formed by the altered metabolism of the cells due to a dietary deficiency. Although malnutrition has been reported in some cases of pneumatosis cystoides intestinalis, nevertheless, it also occurs in well-nourished individuals. The most commonly accepted explanation suggests that the gas is forced mechanically into the lymphatic channels through a mucosal ulceration at some point in the affected segments of the bowel. It is difficult to accept this thesis since the cysts are often found a considerable distance from the site of ulceration. In many cases, such as the one presented, no ulceration can be demonstrated.

Since none of the theories adequately explain a causative mechanism, one must look elsewhere for the cause. The cysts may well be congenital. They remain asymptomatic until one of the cysts ruptures and causes intestinal bleeding.

The greatest difficulty in diagnosis is the lack of familiarity with the condition itself. The radiolucent gas-filled cysts are demonstrable on the plain film of the abdomen, but they may be overlooked or misinterpreted as gas in the intestines. In the barium-filled colon the multiple, oval, sharply defined filling defects may be confused with polyposis. However, the evacuation film and the air-contrast films reveal radiolucent shadows rather than the increased soft tissue densities of polyps.

Ulcerative colitis and nonspecific ileitis do constrict the lumen of the bowel, but the changes in the mucosal pattern are markedly different from those of gas-filled cysts.

Summary

1. A case of pneumatosis cystoides intestinalis is presented.
2. The condition is discussed with reference to its etiology, pathology, and roentgenologic manifestations.

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Radioactive Iodine in the Treatment of Cardiac Disease of the Elderly

Masked hyperthyroidism is a frequent cause of disturbances of cardiac physiology in the older age groups. Regardless of age, however, any patient with recurrent or persistent tachycardia, auricular fibrillation, or congestive failure which fails to respond to conventional therapy should be considered thyrotoxic until proved otherwise. Drs. Joseph D. Croft and John Kearns discuss their experience with 55 thyrocardiacs in whom radioactive iodine was used both diagnostically and therapeutically. I_{131} was also used in 20 other patients with cardiac disease in whom the thyroid was normal. Although results of induced hypothyroidism in the smaller series were disappointing, therapeutic response in the larger series—composed of patients with thyrotoxicosis who do not show the obvious signs of the disease—were highly encouraging.

—*Quarterly Bulletin, Northwestern University Medical School, Fall, 1955*

Thrombocytopenic Purpura Following the Administration of Gantrisin

WARNER NASH, M.D., NEW YORK CITY

(From the Department of Obstetrics and Gynecology, College of Physicians and Surgeons of Columbia University, and the Sloane Hospital for Women, Columbia Presbyterian Medical Center)

GANTRISIN (3,4-dimethyl-5-sulfanilamidoisoxasole; sulfisoxasole; NU-455) has been used in the treatment of bacterial infections since 1946. It is highly soluble in neutral or slightly acid urine and is widely used in urinary tract infections.[1] A review of over 300 published papers on the use of Gantrisin reveals an impressive record of safety. Rare toxic phenomena are limited to reactions resulting from the use of sulfonamide compounds in general: dermatitis, nausea, vomiting, anorexia, crystalluria, and hematuria. Hematologic complications following sulfonamide administration include agranulocytosis, which has been reported after the administration of sulfadiazine.[2] Aplastic anemia due to sulfadiazine has also been noted[3] after prior sensitization to this agent.

The principal hematologic complications resulting from the administration of Gantrisin consist of leukopenia and granulocytopenia,[4,5] which are said to occur in 8 per cent and 2.9 per cent of cases, respectively. Kutscher[6] reviewed 2,010 symptomatic cases of Gantrisin toxicity and found not a single case of thrombocytopenic purpura or of thrombopenia. The observations of Yow[7] on the use of this agent confirmed the low hematologic toxicity in a series of 1,000 consecutive patients who received a total of over 23,000 courses of Gantrisin entailing more than one and one-half million grams of this drug. Not a single case of bone marrow depression was encountered in this study. However, a case of fatal aplastic anemia has been attributed to Gantrisin by Wall.[8] A history of urticaria following the use of sulfa crystals six years previously was present in this patient, who succumbed after a total dose of 7 Gm. of Gantrisin given over a week's period for an upper respiratory infection. Total aplasia of all bone marrow elements was found.

The occurrence of thrombocytopenic purpura following the administration of a total of 21 Gm. of Gantrisin over a seven-day period was reported by Geiger.[9] This report constitutes the only one found to date in the extensive literature on Gantrisin. Geiger states that his patient presented with hematuria, followed by epistaxis and melena. A drop in the platelet count to 40,000 was noted. A good response followed cessation of Gantrisin therapy, and bleeding ceased after administration of a platelet concentrate prepared from five 500-cc. units of fresh blood.

The following case is presented as an unusual complication in the treatment of a lower urinary tract infection.

Case Report

A forty-seven-year-old nullipara developed menorrhagia six weeks prior to admission on April 22, 1955. She had always been in excellent health and gave no history of allergy, abnormal bleeding, or chronic drug intake. Menses had begun at age ten and had remained normal until her presenting symptoms began. She first visited a physician three weeks prior to admission because of the persistance of menorrhagia and was treated with injections of testosterone, 50 mg. intramuscularly, and ergotrate, 0.2 mg. intramuscularly, on two occasions without relief in symptoms. No other medication was taken by the patient.

Past history revealed the occurrence of pneumonia in 1947 treated with sulfadiazine, 1 Gm. daily for fifteen days, without ill effect. Physical examination on admission showed a weak, pale, Negro female in no acute distress. Blood pressure was 145/100. Vital signs were normal. Conjunctivae were pale. Lymph nodes were not unusual. Lungs revealed vesicular breath sounds in both lung fields but no rales. The heart was of normal size clinically, and a normal sinus rhythm was present. A grade II systolic murmur was audible at the apex. Abdominal palpation showed deep left lower quadrant tenderness, but no masses were present. Pelvic examination revealed a hard nodular area of tissue surrounding a friable, exophytic, and bleeding lesion of the cervix uteri, and induration was present along the posterior vaginal wall and into the posterior fornix. On rectal examination the left uterosacral ligament felt indurated.

Laboratory studies on admission included a hemoglobin concentration of 6.9 Gm. per 100 cc., red blood cells 2,890,000, and white blood cells 7,900 with 69 per cent polymorphonuclear leukocytes. Urinalysis showed a specific gravity of 1.022; glucose negative; albumin 2 plus; 14 to 18 red and 9 to 15 white blood cells per high-power field. A Papanicolaou smear of vaginal and cervical secretions was positive for malignant cells. Biopsy of the cervix showed moderately well-differentiated squamous cell carcinoma.

On the basis of these studies the clinical diagnosis of carcinoma of cervix, stage II, led to an extensive evaluation of the patient in preparation for radical

TABLE I.—Blood Studies During Thrombocytopenic Purpura

	April 22	May 3	May 4	May 5	May 6	May 7	May 8	May 9	May 10	May 11	May 12
Hemoglobin (Gm.)	6.9	12	7	8.1	9.2	7.7	7.5	13	11.4	12.8	11.7
Red blood cells (millions)	2.9	4.1	2.9	...	...	...	...	4.5	...	...	...
White blood cells	7,900	13,950	13,650	13,000	...	...	...	...	...	...	...
Platelets	...	...	60,000	30,000	10,000	10,000	...	24,000	14,000	18,000	50,000
Bleeding time (minutes)	...	...	26+	...	...	...	...	...	...	...	...
Clotting time (minutes)	...	...	16	...	...	...	...	...	...	...	...
Prothrombin time (seconds)	...	...	14.2	...	...	...	...	...	...	...	...
Tourniquet test	...	...	Positive	...	...	Positive	...	...	...	...	...
Clot retraction	...	...	Absent	...	...	Absent	...	...	...	...	...
Hematocrit (per cent)	...	...	26.5	...	...	...	...	39	...	38.5	...
Transfusions (cc.)	1,500 (in 3 days)	...	1,000	500	500	1,000	1,000	...	...	...	...

	May 13	May 14	May 16	May 17	May 18	May 21	May 24	May 28	May 31	June 14
Hemoglobin (Gm.)	12	12.7	11.5	11.3	11.7	...	12.2	11.3	7.8	11.1
Red blood cells (millions)	...	...	...	...	...	...	4.5	...	2.8	...
White blood cells	...	...	...	...	...	...	9,500	...	...	...
Platelets	72,000	91,000	110,000	122,000	200,000	270,000	256,000	226,000	228,000	302,000
Bleeding time (minutes)	3	...	...	...	...	...	3	...	...	...
Clotting time (minutes)	...	...	...	...	...	...	...	...	...	...
Prothrombin time (seconds)	...	...	...	...	...	...	...	...	...	...
Tourniquet test	Negative	...	...	...	...	...	...	...	...	...
Clot retraction	Present	...	...	...	...	...	Present	...	...	...
Hematocrit (per cent)	...	...	...	...	...	36	39	36.5	...	...
Transfusions (cc.)	...	...	...	...	...	500	...	1,000 (surgery)	500	...

hysterectomy and retroperitoneal lymph node dissection. She received three whole blood transfusions on April 25, 26, and 27, which raised her hemoglobin concentration from 6.9 to 12 Gm. per 100 cc. During the following six days bleeding subsided almost entirely. Urine culture revealed Staphylococcus albus, Bacillus pyocyaneus, and an atypical gram-negative bacillus. Gantrisin was administered, 2 Gm. daily in four divided doses beginning on April 24, 1955. On April 29 cystoscopy and urinary function studies were performed. Following this procedure the patient spiked a temperature to 103 F. Gantrisin was increased to 4 Gm. daily, and Achromycin was added, 1 Gm. daily from April 29 to May 3. On this regimen the temperature fell to normal within forty-eight hours. Vaginal bleeding had been minimal since admission, and the hemoglobin remained in the range of 12 Gm. per 100 cc.

During the late afternoon of May 3, 1955, after a total dose of 28 Gm. of Gantrisin over a nine-day period and after 4 Gm. of Achromycin over a four-day period, the patient suddenly began to bleed profusely from the gingivae. Soon afterwards vaginal bleeding recurred, requiring packing on several occasions. By the following morning gross hematuria, gastrointestinal bleeding, and purpura were evident, the hemoglobin dropping precipitously from 12 to 7 Gm. per 100 cc. in a period of twenty-four hours (Table I). Platelet count at this time was 60,000. Bleeding time was prolonged to over twenty-six minutes. Clot retraction failed to occur, and the tourniquet test was strongly positive with more than 50 petechiae per 5 square centimeters. Venous clotting time, prothrombin time, and fibrinogen level all remained normal. White blood count showed 13,650 cells per cu. mm. with 85 per cent polymorphonuclear leukocytes and a shift to the left. No abnormal white blood cells were seen on a peripheral smear. Serum proteins were normal. A lupus erythematosus preparation was negative.

Bone marrow aspiration revealed aplasia of megakaryocytes, but plasma cells were normal.

Gantrisin and Achromycin were immediately discontinued, and penicillin and streptomycin were given. Over the next five days the patient continued to bleed profusely from all orifices and required a total of eight blood transfusions to maintain her hemoglobin in the range of 8 Gm. per 100 cc. She was given ACTH, 50 mg. intravenously in 1,000 cc. 5 per cent dextrose and water daily, and Meticorten was begun after she appeared to continue her bleeding unabatedly. Platelet count dropped to a low of 10,000 and stayed in this range for five critical days during which bleeding persisted despite transfusions which included fresh blood in plastic bags. Coincident with the beginning of massive steroid therapy (Meticorten 250 mg. orally four times a day), bleeding ceased as suddenly as it had begun, but platelet count remained depressed to 10,000. A repeat bone marrow study now showed a moderate number of mature megakaryocytes. Since a remission appeared to have begun, with a slow rise in the platelet count to more normal levels as well as a return of the bleeding time to normal, steroid therapy was gradually decreased. Following cessation of steroid therapy bleeding did not recur,

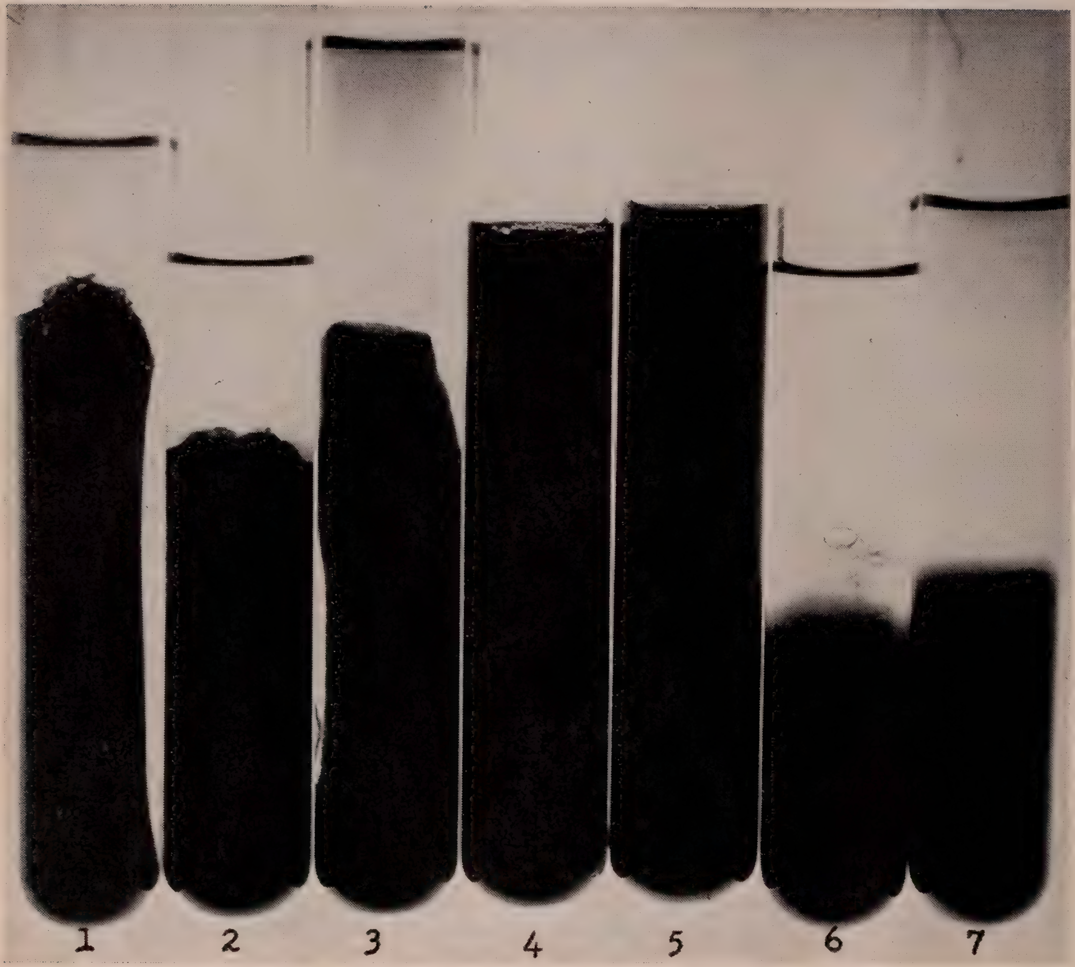

Fig. 1. Clot retraction and inhibition of clot retraction with addition of Gantrisin: *Tube 1*—Patient's venous blood alone; normal clot retraction. *Tube 2*—Patient's venous blood plus 0.1 cc. of normal saline; normal clot retraction. *Tube 3*—Patient's venous blood plus 1 cc. of normal saline; normal clot retraction. *Tube 4*—Patient's venous blood plus 0.1 cc. of 0.2 Gm. per cent solution of Gantrisin; inhibition of clot retraction. *Tube 5*—Patient's venous blood plus 1 cc. of 0.2 Gm. per cent solution of Gantrisin; inhibition of clot retraction. *Tube 6*—Venous blood of normal control plus 0.1 cc. of 0.2 Gm. per cent solution of Gantrisin; normal clot retraction. *Tube 7*—Venous blood of normal control plus 1 cc. of 0.2 Gm. per cent solution of Gantrisin; normal clot retraction.

and platelet counts and hemoglobin level remained normal.

On May 27, 1955, a radical hysterectomy, bilateral salpingo-oophorectomy, and bilateral retroperitoneal lymph node dissection were performed. Bleeding at the time of surgery was not abnormal, and none occurred postoperatively. The patient made a satisfactory and uneventful recovery. Platelet count, bleeding time, and hemoglobin concentration were normal six weeks later.

Comment

The diagnostic possibilities in this patient with carcinoma of the cervix and the described bleeding dyscrasia include (1) idiopathic thrombocytopenic purpura, (2) bone marrow replacement by metastatic disease, and (3) Gantrisin toxicity.

According to Wintrobe,[10] idiopathic thrombocytopenic purpura is most frequent in children and young adults, 88.7 per cent of cases occurring under the age of twenty-four years. He further states that this disease is uncommon among Negroes. Purpura as a complication of sulfonamide therapy is rare but accompanied by a high mortality in the reported cases.[11-13]

The onset of idiopathic purpura is usually less sudden than in the present case, and this disease entity does not respond as dramatically to therapy. Bone marrow replacement by metastatic disease without radiographic or histologic evidence and without other symptoms, such as pain or fractures, is likewise deemed extremely rare. Thrombocytopenic purpura secondary to Gantrisin administration has been reported once, as mentioned above,[9] and the course of our patient suggested this agent as an etiologic factor.

In an attempt to clarify the presumptive diagnosis, a provocative test was performed according to the method described by Bolton.[14] Six weeks after remission 0.1 ml. of a 0.2 Gm. per cent solution of Gantrisin in normal saline was added to the patient's platelet-rich plasma collected in waxed glassware. The platelet count fell from a normal of 240,000 to a low of 40,000 in the in vitro counts.

Platelet agglutination and lysis were seen on smears after thirty minutes and were not noted in platelet plasma to which saline alone had been added. Following a method described by Larson,[15] in vitro inhibition of clot retraction was produced after remission had occurred. This was done by adding venous blood, collected in waxed tubes, to a 0.2 Gm. per cent solution of Gantrisin in normal saline. A tube containing only saline and venous blood showed normal retraction of the clot, as did venous blood of a normal control to which Gantrisin had been added (Fig. 1).

Summary

Thrombocytopenic purpura following Gantrisin administration is extremely rare in spite of the widespread use of this drug. The present case constitutes the second report of this entity. Diagnosis is one of exclusion but was supported in our study by a number of provocative tests on the patient's platelets six weeks after remission. The case presented was unusual in that it occurred in a woman with known carcinoma of the cervix who developed purpura after receiving a total of 28 Gm. of Gantrisin over a nine-day period and without known sensitization to any sulfonamide compound. The severity of bleeding and the sudden cessation shortly after onset of steroid therapy were likewise unusual. No signs of a relapse of the blood dyscrasia were noted following radical surgery for the patient's primary disease which was undertaken after she had attained a complete hematologic remission.

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Agammaglobulinemia: An Approach to Homovital Transplantation

The immunologic defect known as agammaglobulinemia gave these investigators an opportunity to test the immunologic theory of host rejection of homografts. Their experiments involved eight subjects: two with congenital agammaglobulinemia, one with acquired partial agammaglobulinemia, and one with a transient form of this immunologic defect. The other four subjects were immunologically normal recipients of skin grafts from donors with immunologic defects. The latter four were observed both as donors and hosts, receiving grafts from normal donors. In the two children with congenital agammaglobulinemia, the grafts have survived an entire year up to the time of reporting and appear to be growing. In those trials in which the host was normal immunologically, skin grafts from agammaglobulinemic patients were rejected by the host in periods from twenty-four to thirty-seven days. The authors emphasize their conclusion that they consider the prime factor in the ultimate successful transplant of a homograft to be incapacity of the host to respond specifically to the antigens of the homograft.

—Richard L. Varco, M.D., Lloyd D. McLean, M.D., Joseph B. Aust, M.D., and Robert A. Good, M.D., Annals of Surgery, September, 1955

Respiratory Obstruction Caused by Acute Tonsillitis and Acute Adenoiditis

SIDNEY SPECTOR, M.D., AND ARISTON G. BAUTISTA, M.D., BROOKLYN, NEW YORK

(*From the Department of Otolaryngology, State University of New York Medical Center at New York City*)

RESPIRATORY obstruction in children during an acute upper respiratory infection is usually due to edema of the larynx as part of an acute laryngotracheobronchitis. The site of the obstruction in these patients is in one or more of the laryngeal structures, such as the epiglottis, aryepiglottic folds, ventricular bands, true vocal cords, arytenoids, or subglottic mucosa. The usual history is one of an upper respiratory infection followed, within several hours to several days, by evidence of obstructed breathing, including stridor, suprasternal and epigastric retractions, restlessness, cyanosis, and hoarseness if the normal movements of the vocal cords are impeded by either edema or inflammatory spasm of the muscles that govern vocal cord action.

Recently, we encountered two cases of respiratory obstruction in children during the course of an acute upper respiratory infection in which the obstruction was not situated at the larynx or in one of the laryngeal structures but was due to marked enlargement of the tonsils and adenoids. This type of obstruction is very unusual, and a search of the literature of the past five years failed to reveal similar cases. The tonsillar enlargement was such as to block off completely the entrance of air through the mouth, and the adenoid enlargement was such as to preclude the possibility of air entering through the nose. Both cases occurred in children under two and one-half years of age which is a common age group for acute inflammatory laryngeal obstruction.

The mode of onset and the characteristics of the respiratory obstruction in both cases were typical of croup or acute inflammatory laryngeal obstruction. The diagnosis was made by examination of the nose, nasopharynx, and throat, and laryngeal obstruction was ruled out by direct laryngoscopy and bronchoscopy, which revealed essentially negative larynges and tracheobronchial trees. Tracheotomy relieved the obstructed breathing immediately.

Case Reports

CASE 1.—L. F., a Negro female, age eighteen months, became ill with a temperature of 103 F. and rapidly developed a "heavy" type of breathing. The mother became concerned about the breathing and brought the child to the hospital on the next day. On admission the patient presented a picture of acute respiratory distress manifested by marked stridorous respiration, severe suprasternal and epigastric retractions, a respiratory rate of 60 per minute, and rapid pulse. Cyanosis of the lips and oral mucosa was apparent. The temperature was 103.4 F. The cry was not hoarse.

She was seen by a laryngologist who noted that the tonsils were so markedly enlarged that they met in the midline and, except for a very small crescentic area at the base of the tongue, occluded the oropharynx so that the oral airway was almost completely obstructed. The tonsillar crypts were filled with a gray exudate, but no membrane was present. Both nasal fossae were completely occluded with thick, yellow mucopus, and the adenoids were markedly enlarged so that the nasal airway was completely obstructed.

The nasal fossae were suctioned clear of the mucus without any improvement in respiration. The child was laryngoscoped and bronchoscoped, and the findings were an ample glottis, mildly injected vocal cords, and a normal trachea and bronchial tree. The diagnosis was acute upper respiratory obstruction caused by inflammatory enlargement of both the tonsils and adenoids. She was given Crysticillin, placed in a steam oxygen tent in a sitting position, and an emergency tonsillectomy was recommended if these conservative measures failed to relieve the obstruction.

After one to two hours the child's respiratory retractions became more marked, cyanosis developed in the oxygen tent, and she appeared exhausted. One of us (S. S.) was called to see her, and the child presented a picture of exhaustion. She was apathetic and had a rapid, irregular pulse. Dyspnea was marked, and sweating and pallor of the skin were noted. A rapid examination of the throat and nose confirmed the findings of the previous examination, and the child was immediately bronchoscoped. The larynx was slightly injected, but the glottis was ample. The trachea and bronchi were essentially negative.

A low tracheotomy was done with the bronchoscope in place, and the respirations immediately improved with a return of the child's color to normal. Medication consisted of Crysticillin intramuscularly and 0.25 per cent Neo-Synephrine drops intranasally every four hours. The temperature returned to normal within the following four days.

The tonsillar enlargement regressed as the infection subsided, and when complete regression occurred, the tonsils were noted to be quite small. Similarly, the adenoid enlargement subsided so that a fair nasal airway was present. Culture of the tonsillar exudate was negative for diphtheria bacilli.

The tracheotomy tube was removed after ten days, and the child was discharged with instructions to the mother to return her for a tonsillectomy and adenoidectomy within a month.

Case 2.—M. S., a two-and-one-half-year-old Negro male, was admitted to the Kings County Hospital complaining of difficulty in breathing and a high temperature. Three days prior to admission the child developed an upper respiratory infection characterized by nasal congestion, sore throat, and anorexia. The child was examined by the family physician who prescribed aspirin and nose drops. These medications did not afford any relief, and the following night the patient was brought to the Emergency Room with marked difficulty in breathing, slight cyanosis, and an appearance of exhaustion.

He was admitted to the Pediatric Service with a diagnosis of acute laryngotracheobronchitis. One of us (A. B.) was called to see the patient several hours later because of the dyspnea which was becoming progressively worse despite steam inhalations and antibiotics. The child was in a semi-sitting position with marked suprasternal and epigastric retractions. His eyes were observed to be sunken, there was flaring of the ala nasi on respiration, and with inspiration a gurgling sound, emanating from the pharynx, was heard. The child was apprehensive and restless and slept for only several minutes at a time. The respiratory rate was 45, and the pulse was 144. There was no history of cough or hoarseness.

Physical examination showed both nasal fossae to be filled with thick, white, mucoid secretion which was aspirated with some difficulty. The pharynx showed marked enlargment of both faucial tonsils with marked hyperemia and the presence of yellowish exudate. The pharynx and uvula were similarly hyperemic, and it was noted that the tonsils met in the midline. Except for a very small space just above the tongue base, it was quite impossible for air to enter via the oropharynx. A moderate amount of mucus was present in the hypopharynx which the child was not able to swallow or expectorate. Because of the progressive character of the dyspnea and the circumoral cyanosis, which was apparent at this examination, a direct laryngoscopy and bronchoscopy were done in an effort to determine whether any laryngeal obstruction was present.

The larynx was exposed with a child-sized laryngoscope. The child offered little resistance to this procedure, and as soon as the larynx was exposed, the respirations improved, and he fell asleep. The laryngeal mucous membrane was slightly hyperemic, but there was no edema. The glottis was ample. The trachea and bronchi were essentially negative. It was obvious that the respiratory obstruction was due to the great enlargement of the tonsils and adenoids.

Because of these findings, it was decided to postpone a tracheotomy and give the child more time for the steam environment and antibiotics to relieve the inflammation. However, as soon as the laryngoscope was removed, the retractions reverted to their former severity, and the child became restless and cyanotic with marked stridor. Therefore, the bronchoscope was inserted again, and a low tracheotomy was done. A number 2 tube was inserted into the trachea. The breathing immediately became easier, the cyanosis was relieved, and the patient fell into a quiet sleep. He was placed in a steam oxygen tent and given both penicillin and Achromycin.

The postoperative course was uneventful, and the temperature returned to normal within five days. The hyperemia and hypertrophy of the tonsils gradually subsided during the next five days, and the child was playful and alert. Two weeks later a tonsillectomy and adenoidectomy were performed, and the child was decannulated without any difficulty. Throat cultures showed hemolytic streptococci.

Comment

It is unusual for inflamed tonsils and adenoids to cause acute upper respiratory obstruction. Usually, in such obstruction one finds the cause to be laryngeal edema, either inflammatory or allergic, foreign body, trauma to the larynx, congenital laryngeal deformities, and suppurations of the neck. In these conditions a tracheotomy is definitely indicated.

However, in the two cases reported, if a tonsillectomy had been done, a tracheotomy would have been unnecessary. A tonsillectomy under circumstances such as were encountered would have involved risks not ordinarily present in the routine operation. First, there would have arisen the problem of general anesthesia in a child who is toxic and almost exhausted from severe respiratory efforts. Second, the excision of tonsils that are acutely inflamed gives rise to the probability of opening up vessels and tissue spaces for the systemic spread of infection. Finally, the great inflammatory hyperemia of the tissues in the tonsillar fossae would increase the risk of post-tonsillectomy hemorrhage.

An immediate emergency tonsillectomy or even a unilateral tonsillectomy to provide an airway was considered, but for the reasons stated, it was considered to be more prudent to do a tracheotomy in order to assure the airway and then, after the infection had subsided, to proceed with a tonsillectomy and adenoidectomy.

Prudery is a kind of avarice, the worst of all.—"Stendhal"

Volvulus of the Cecum Associated with Acute Suppurative Appendicitis

FRANK RICHARD COLE, M.D., F.A.C.S., FLUSHING, NEW YORK

(*From the Forest Hills General Hospital, Forest Hills, New York*)

VOLVULUS of the cecum as a cause of intestinal obstruction occurs in probably less than 1 per cent of all cases of intestinal obstruction. The etiologic process probably arises from anomalies of intestinal rotation of the ascending colon and cecum from the lower left quadrant to the region of the subhepatic space and then to the right lower quadrant. This progress may halt at any point in the normal course of events. With this failure of rotation the incidence of volvulus increases. An avascular membrane from the lateral peritoneal surface on the right side acts as a pivot on which the cecum and ascending colon may twist in a clockwise fashion. Thus, we see that a congenital anomaly is the cause of this rather unusual condition.

It is not uncommon to find associated with volvulus of the cecum a rather long, retrocecal appendix. However, the concomitant relationship of acute appendicitis is not common. The finding of these two pathologic entities poses a problem of treatment to the surgeon. The removal of the appendix is mandatory. If the volvulus is acute, simple cutting of the band and allowing the ascending colon and cecum to fall back after undoing the torsion are in order. If the condition is a chronic vovulus with hypertrophy of the terminal ileum and cecal wall, cutting of the band and suture of the cecal wall to the lateral peritoneal wall should be done. An acute volvulus with gangrene would do best with exteriorization of the mobile cecum and ascending colon as an emergency measure.

Case Report

R. S., age seventeen, was seen on the night of September 13, 1955. The patient complained of pain in the right lower quadrant for the past twenty-six hours associated with nausea and vomiting. He had had a laxative of citrate of magnesia seven hours previously. The patient stated that the day before he had had rather a strenuous day at sports. There was a previous history of pain in the same region off and on for the past several years. He had remarked to his mother that it usually came on after vigorous exercise.

Laboratory work revealed 1 plus acetone in the urine and a white count of 17,600 with 88 per cent polymorphonuclears. A provisional diagnosis of acute appendicitis was made. The patient was prepared with 1,500 cc. of 5 per cent glucose in saline and penicillin 600,000 units, and a Miller-Abbott tube was inserted.

Since our diagnosis was appendicitis, a McBurney incision was made. The abdomen contained a clear fluid, probably 300 to 500 cc. The cecum, ascending colon, and terminal ileum were found to be reddened. The appendix was retrocecal and could not be removed. A Weir incision was made, and a prolongation of the incision cephalad had to be done, resulting in a modified Gibson incision. A band was found to come down from the subhepatic region enclosing the ascending colon, cecum, and terminal ileum. The cecum and terminal ileum were dilated and the wall thickened and reddened. The region was excessively mobile, and the mass could be extruded from the abdomen easily. The appendix was retrocecal, about 5 inches long, suppurative, and with a bulbous tip. Although an actual volvulus was not seen, the band was thickened and edematous and, along with the observation of the large bowel and ileum, pointed to a partial chronic volvulus which reduced itself in manipulation.

The heavy Jackson's membrane was cut. The appendix was removed in the usual fashion without inverting the base. The cecum was tacked down with three interrupted number 1 chromic sutures, and the abdomen was closed. The patient made an uneventful recovery and was discharged on the eighth postoperative day.

Comment

This case is reported because of the unusual problems presented in operative management. A perusal of the literature has revealed no cases of this complication of appendicitis.

144-21 SANFORD AVENUE

It Just Isn't Done

A white-haired old lady bouncing along in an antiquated automobile through Massapequa, New York, made an illegal turn. The traffic cop had to blow his whistle vigorously and repeatedly before she came to a stop. "Didn't you hear me whistle?" he asked.

She looked at him, wide-eyed and innocent. "Yes, indeed," she said, "but I never flirt while driving."

The smiling cop waved her on.—F. B. JAMES

FUNDAMENTALS OF MODERN ALLERGY

A series of special articles sponsored by the New York Allergy Society and written by its members

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Urticaria and Angioedema

AARON D. SPIELMAN, M.D., NEW YORK CITY

(*From the Allergy Clinic of the Beekman-Downtown Hospital*)

URTICARIA and angioedema belong to the group of skin diseases known as allergic dermatoses. This group of dermatoses have been placed together because of their common allergic etiology. The allergic dermatoses include, in addition to urticaria and angioedema, relatively common diseases, the less common manifestations of purpura and erythema, the latter well illustrated by erythema multiforme. Osler in the early 1900's called attention to the frequent association of these diseases with visceral lesions. He predicted that a common cause would be found for these diseases, probably hypersensitivity.

Hypersensitivity has been increasingly recognized, since Osler's prediction, as the probable basis for this entire group. Many of these patients have a positive family and personal history of allergy. Most of these patients have been made ill by very similar causes: an allergic reaction to a drug or food or the presence of infection. Moreover, it is quite common to see in the same patient lesions of several of the allergic dermatoses at the same time, with complications in any one of them involving the gastrointestinal tract, the kidneys, and the joints.

That urticaria is a common disease is overlooked because it frequently is mild and disappears rapidly. Its frequency was clearly demonstrated by Sheldon and his colleagues[1] who found "that 15.7 per cent of 1,424 college students had at least one bout of hives." Swinny[2] likewise showed that in a group of 1,000 patients studied, the incidence of urticaria was 23.6 per cent and a history of urticaria was almost two and one-half times as common in patients who had had asthma or hay fever as in those who had not.

Clinical Appearance

The two common members of this group of diseases, urticaria and angioedema, will be considered in detail. Urticaria frequently must be differentiated from the lesions of the erythema group, such as erythema multiforme. In urticaria the itching is much more marked, and in erythema the lesion is more persistent and often painful. Urticaria responds promptly to a subcutaneous injection of epinephrine 1:1,000 solution with quick fading of the lesions.

Wheals, the typical lesion of urticaria, have several easily recognizable characteristics. They vary in size, are surrounded by a zone of erythema, and itch intensely. They may be present only over a small area or over the entire body. In acute urticaria they tend to disappear even as new wheals are erupting, and in chronic urticaria they recur periodically and may last for hours or days.

The lesion of angioedema involves chiefly the eyes, tongue, lips, hands, feet, and larynx. This lesion, because it originates in the deeper subcutaneous tissues of the skin, shows greater edema and is less circumscribed and defined than the urticarial wheal. Itching is not so pronounced, and there is a stinging and burning sensation instead. Attacks of angioedema may last from one to four days and are likely to recur at irregular intervals. When the larynx is involved, the patient may be in danger of strangulation. Eosinophilia is usually absent in angioedema and urticaria.

Pathology

The pathology of urticaria involves the upper papillary layer of the cutis, whereas the pathology of angioedema occurs in the deeper subcutaneous tissue. The urticarial wheal is characterized mainly by exudation of serum. This exudation of serum through the capillary wall follows a dilatation of the capillaries in the cutis. In angioedema the arterioles as well as the capillaries become dilated, causing a greater exudation of serum. Because of this, the lesion of angioedema is larger and less localized, particularly at a mucocutaneous junction.

It is generally accepted that the pathology of urticaria and angioedema is due to the liberation of histamine or an H-substance at the affected site. This is a completely reversible reaction. Proof of the histamine theory is based on the elicitation of a similar response on injection of histamine into the skin. It is also based on the ability of antihistaminic drugs to inhibit the production of this lesion by the injection of histamine or of allergens, such as pollens.

Etiology

The basic factor in the majority of these patients is the presence of an allergic constitution. Almost 50 per cent of them give a family and/or personal history positive for allergy. The main etiologic factors in urticaria and angioedema are drugs, foods, and foci of infection in that order of importance. Emotional stress and other psychogenic factors undoubtedly play an important role. Patients develop urticaria in a setting of emotional stress. They also have persistence of urticaria under emotional stress long after the specific antigen has been eliminated. While it is difficult to prove that urticaria may have a purely emotional etiologic basis, often enough the evidence strongly favors such a conclusion.

The role of food allergy may have been overemphasized. In the period prior to the antibiotic age, food allergy was suspected in about one third of the cases of urticaria and angioedema, but proof of such a relationship could be elicited in only 15 per cent. Since the advent of the antibiotic age the incidence of drug urticarial reactions has increased tremendously, and this increase, to a great degree, has been due to the use of penicillin. Indeed, many allergists feel that drug reactions probably account for more than 50 per cent of the cases of urticaria.

There are numerous other causes of urticaria and angioedema. Some are so rare, however, that they need only be mentioned for completeness. They are inhalants, such as pollens or animal danders; contactants, such as wool, nylon, or animal saliva; physical agents, such as cold, heat, ultraviolet light, and exercise; endocrine products, and insect bites. The specific etiology, in spite of all the possible causes of urticaria and angioedema listed above, is often difficult to detect in as many as 50 per cent of the cases.

Skin Tests

Skin tests are widely used in determining the etiology of urticaria and angioedema. However, great caution is required in the interpretation of these tests. It is true that if one tests these patients, 60 to 75 per cent of them will show definitely positive skin tests to foods, inhalants, and pollens. It must be stressed, nevertheless, that these positive reactions may actually yield little information on the specific cause of the urticaria. It is necessary in any case of a positive skin test, therefore, to prove the clinical importance of the skin reaction.

Unless elimination of the substances giving a positive skin test is followed by clinical improvement, these positive tests may simply indicate past or future sensitivities rather than present ones. Because of these difficulties food tests should play a secondary role to information obtained from a detailed history or by carefully kept food diaries.

While patients are being skin tested, antihistaminic and other antiallergic remedies should be withheld since these may suppress the skin test reaction and result in false negatives.

Complications

Urticaria and angioedema frequently may be accompanied by complications, some of a very serious character. Osler was the first to be impressed by these complications, and many investigators have since pointed out the numerous visceral manifestations.

The less serious complications, such as vomiting, colic, and diarrhea, frequently go unrecognized. However, the most serious complication, laryngeal edema, may be fatal if not promptly treated. There are numerous reports in the literature of serious complications involving the heart, lungs, kidneys, and brain, particularly following the urticaria associated with serum sickness. Urinary studies in these patients may show albumin and red blood cells; the electrocardiogram may show changes indicative of profound myocardial involvement, and x-rays of the lungs may show migratory pulmonary infiltrations. An awareness of such possible complications is important in the treatment of the patient with urticaria and angioedema.

Treatment of Specific Type

In the uncomplicated acute cases of urticaria and angioedema, treatment is not difficult. However, in the chronic cases management may require all the patience and knowledge a physician can command. Treatment should aim primarily at elimination of the offending agent and not merely at symptomatic relief.

For these reasons treatment should be guided by the findings elicited from a detailed, careful history and from a complete physical examination. This approach to treatment will often prove that the patient himself is familiar with the inciting cause of his urticaria or angioedema. A careful recording of the patient's daily food and drug intake may indicate a relationship to the onset of his urticaria and corroborate the patient's history.

When indicated, revisits with the patient after he has been placed on a special elimination diet and all drugs have been discontinued will be necessary to determine the causal factors. The chief foods which commonly cause urticaria are those most frequently eaten, such as banana, orange, strawberries, beef, chicken, egg, fish, lobster, oyster, chocolate, peanut, tomato, green peas, potato, corn, wheat, and milk. Likewise, the chief drugs usually involved are the commonly used ones, such as aspirin, cathartics, sedatives, antibiotics, hormones, and vaccines.

The incidence of urticaria and angioedema due to drugs has increased so greatly since the introduction of antibiotics that one must inquire into this part of the patient's history first. Any drug the patient is taking should be suspected, even though he has taken it before his symptoms developed. A patient may become sensitized to any drug or biologic preparation administered over long periods of time, such as liver extract, insulin, thyroid extract, and phenobarbital. Proof of such a drug relationship may be established by administering the suspected drug and reproducing the symptoms. This is not always advisable, however, since very dangerous reactions may occur.

Since less than 10 per cent of patients with urticaria and angioedema can be shown to have food allergies, one should not make use of too restricted a diet. It is best to start by putting these patients on a sensible hypoallergic diet, which means omitting such common allergens as chocolate, nuts, eggs, fish, milk, and berries. If improvement occurs on this diet, one new food is added at a time and after a lapse of one week. Should such a conservative elimination diet not prove successful, the patient could then be tried on more restricted diets containing a few simple, basic foods.

Patients under treatment in whom neither drugs nor foods have been implicated should have a thorough survey of all foci of infection and then should be studied for possible psychogenic disturbances. Foci of infection may be found in the sinuses, teeth, tonsils, chest, gallbladder, and genitourinary tract. Psychogenic disturbances are becoming more and more prominent, and they play an important role in a good many cases which formerly remained undiagnosed.

To summarize, specific treatment should be aimed primarily at removing the offending agent from the patient's environment, be this a drug, food, inhalant, or contactant. In addition, all possible foci of infection, including intestinal parasites, should be sought for and treated. Finally, specific treatment should include a sympathetic appraisal of any emotional problem or life stress from which these patients may be suffering.

Treatment of Symptomatic Type

Symptomatic treatment can be used in the period between the elimination of the specific offending agent and improvement resulting therefrom. This is well illustrated in cases of penicillin urticaria, which will often improve as soon as the penicillin has been eliminated from the body. Symptomatic treatment is necessary in those patients in whom no causal factor can be determined.

The severe acute attack of urticaria can often be terminated by the subcutaneous injection of epinephrine hydrochloride 1:1,000 solution or by the sublingual administration of Isuprel. Patients suffering from chronic urticaria can be given continuous relief by the use of an antihistaminic drug. These drugs are effective in a majority of the patients. The one serious side-effect of most antihistaminic drugs, drowsiness, needs careful watching. It is best to give those antihistaminic drugs with the least tendency to cause drowsiness during the working part of the day. At night a drug with a tendency to cause drowsiness might be desirable. There are many antihistaminic drugs now available from which one may choose. An effective daytime drug of this group, is Plimasin, which combines 25 mg. of pyribenzamine with 5 mg. of Ritalin, an excellent, mild psychomotor stimulant.

For the minority of patients with urticaria and angioedema who do not respond to specific or symptomatic treatment as outlined above, it may be necessary to consider the use of steroid hormones. However, one should approach such treatment with careful consideration of its possibly serious side-effects. Steroid hormones are usually very effective, but not curative. In chronic cases of urticaria their administration may be necessary for long periods of time. Fortunately there are now available new steroid hormones with less serious side-effects than those experienced with cortisone and hydrocortisone. Prednisone and prednisolone both have much less tendency to produce salt retention, moon face, hypertension, and hyperglycemia. Nevertheless, their administration must be carefully watched and the dosage kept to a minimum.

Summary

Of the group of diseases known as allergic dermatoses, urticaria and angioedema are the two most common. Histamine or H-substance liberated at the affected site is presumably responsible for the disturbed physiopathology in both conditions. The characteristic lesion results from a dilatation of the capillaries and small arterioles with exudation of serum.

More than 50 per cent of these patients have a positive family and personal history of allergy. The role of food allergy in these patients has been overstressed, and drug allergy has come to be recognized as one of the main causes.

Skin tests, although widely used, must be interpreted carefully since a positive test may not be of any clinical importance.

Patients with urticaria and angioedema may infrequently have serious visceral complications which may involve the heart, lungs, or kidneys. One must be aware of this possibility.

Treatment should aim primarily at elimination of the offending agent, whether it is a drug, food, inhalant, contactant, infection, or emotional stress. When specific treatment is not possible, symptomatic treatment becomes necessary.

Symptomatic treatment can be successfully managed in many of the patients with antihistamines alone. In a minority of the patients it may be necessary to resort to the use of steroid hormones. This decision must be made carefully with full knowledge of the possibly serious side-effects which may follow long-term steroid therapy.

141 East 56th Street

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CLINICAL ANESTHESIA CONFERENCE

A series of conferences on medical emergencies
in the operating room including causes of death
during anesthesia

Prepared by the Anesthesia Study Committee of the
New York State Society of Anesthesiologists

MEREL H. HARMEL, M.D., *Chairman*

Intubation of the Trachea Does Not Absolutely Insure a Patent Airway

The increasing use of muscle relaxant drugs and the magnitude and types of operative procedures have made endotracheal intubation commonplace today. While the indications for intubation are clear-cut and the occasions for its use and usefulness manifold, blind faith in its efficacy in providing a patent airway must be tempered by a realization that certain hazards may exist and that the anesthesiologist must be not only eternally vigilant but also sensitive to respiratory inadequacy, as the following case illustrates.

Case Report

The patient, a forty-seven-year-old, white male, was admitted to the hospital in what was presumed to be an alcoholic stupor. In addition, there was an extensive laceration of the right frontoparietal area which was sutured. Subsequently, the patient was seen in the neurosurgical clinic complaining of pain and inability to use his left arm. It was then discovered that he had sustained a traumatic avulsion of the fourth to eighth cervical nerve roots in the past. It was suggested that disarticulation of the shoulder was the procedure of choice, to which the patient assented. He was accordingly admitted to the hospital. Besides the history of alcoholism it was discovered that the patient had electrocardiographic evidence of myocardial damage, although no history of failure could be elicited.

Preoperative medication consisted of Demerol 100 mg. and atropine 0.4 mg. The effect of the medication was satisfactory. Induction of anesthesia was carried out under thiopental anesthesia, and intubation with a cuffed endotracheal tube was readily accomplished with a muscle relaxant. Intubation was followed by a noticeable depression of respiration, which occasioned some concern. However, the anesthesia was continued, and ether-oxygen was administered via the endotracheal tube. It was necessary to assist respiration throughout. Twenty-five minutes after intubation and ten minutes after the beginning of operation, the surgeon noted that the blood was dark. The anesthesiologist then observed that the face was deeply cyanotic. No heart beat could be heard on auscultation. Within three minutes the chest was opened, and the heart was found to be in standstill; cardiac massage was begun and calcium gluconate injected into the left ventricle. It was then noted by the senior anesthetist, who had been called, that it was most difficult to inflate the lung. The left lung was partially collapsed and could not be inflated. Efforts to remedy this situation were unavailing, and in spite of further resuscitative efforts no sustained heart beat could be achieved. Further efforts were abandoned thirty-eight minutes after the chest was opened. Up until the onset of the catastrophe the blood pressure was well maintained. There had been a persistent and consistent tachycardia, however.

On removal of the endotracheal tube it was discovered that a bolus of air had been trapped in the distal portion of the cuff in such manner that even though the inflation tube was open, air could not escape from the cuff. The bolus of air was so placed that it was able to occlude partially the end of the endotracheal tube itself and also probably occluded the left main bronchus as well.

Comment

It appears clear that the basis of this catastrophe was anoxia which, imposed on an already damaged heart, markedly diminished any chance for resuscitation. The anoxia in this instance was undoubtedly related to the bizarre accident to the endotracheal cuff. Whenever one cannot be certain why an endotracheal tube does not provide a clear airway, it is wise to consider removal of the tube. Had this been done early enough in this case, the tragic course of events might have been averted.

Whenever endotracheal tubes are in place, one cannot take for granted that the patency of the airway is assured. A kink in the tube is not uncommon. This may be ascertained by exploring the course of the tube in the pharynx with a finger or by inserting a suction catheter through its lumen. In addition, the tube itself may be blocked by a foreign body. It is always good practice to look through the endotracheal tube before inserting it in order to be sure that it is clear throughout. It is possible that in the passage of an endotracheal tube, especially through the nose, tissue may be picked up which can occlude the end of the tube. A remarkable instance of this kind of accident was observed, in which a nasal choanae was removed and completely blocked the endotracheal tube. It is not an uncommon accident for the endotracheal tube to be inadvertently inserted too great a distance into the trachea, resulting in intubation of the right main bronchus. This of course leads to atelectasis of the left lung. After the passage of the endotracheal tube, therefore, it is wise to observe the movement of both sides of the chest and also to listen to the chest with a stethoscope to determine whether or not there is free movement of air, particularly on the left side.

Meticulous attention to detail and close observation of the patient are the safeguards which the anesthetist must give the patient when endotracheal technic is selected. Endotracheal intubation marks the beginning and not the end of the anesthesiologist's efforts to control or safeguard the airway. While the advantages of intubation are unquestioned, the occasional hazards, some of which have been detailed, do not detract from its great usefulness. Even these hazards may be avoided in large measure by astute clinical practice.

(*Number twelve in a series of Clinical Anesthesia Conferences*)

Trichomoniasis in the Male

It has become evident that trichomonads are present in the male genital tract more often than formerly realized; anywhere from 5 to 15 per cent of the male patients of a private practice or a urologist's clinic show evidence of these parasites. They may be found in the anterior urethra, the posterior urethra, the prostate, the bladder (less commonly), and the upper tract (rarely). Very often these men are asymptomatic and finding the trichomonads presents difficulties. Moreover, treatment is frequently disappointing. Dr. John W. Draper outlines microscopic technics calculated to facilitate case finding and gives some suggestions on treatment. —*Internat. Rec. M. and GP Clin., September, 1955*

SPECIAL ARTICLE

Physicians and the Public Welfare Recipient

I. JAY BRIGHTMAN, M.D., ALBANY, NEW YORK

(*From the New York State Departments of Health and Social Welfare*)

THROUGHOUT the history of medicine the practicing physician has had a noble relationship with those unfortunate members of society who cannot pay for necessary medical services. The profession has prided itself on its traditional willingness to provide medical care for all regardless of ability to pay. The biographies of medical luminaries relate tale after tale of the devotion of these physicians to the care of the poor in clinics, in hospitals, or even in their own offices, without any consideration of recompense. This relationship has indeed been one of the glories of medicine.

With the development of modern social concepts and the establishment in the 1930's of more highly organized services for the indigent, there has been an increasing trend toward payment of physicians by public welfare agencies for medical services rendered to recipients of public assistance in the home or office. This new concept has been considered as fair and desirable by social welfare and medical professions alike and in many areas is now accepted as standard operating procedure. While, for the most part, the relationships between the welfare agencies and the practicing physicians have been cordial and at a high professional level, there have developed certain areas of controversy, misunderstanding, or confusion which have proved unnecessarily irritating to both parties concerned.

Since the social welfare and the medical professions are both dedicated to the welfare of the sick indigent person as well as of all members of the community, it is important that there be a common understanding of the over-all problem, a mutual trust in the integrity of each group by the other, a clarification of all basic issues, and a joint study of those perplexing areas which do not lend themselves to immediate solutions.

It is the purpose of this paper to point up some of these problem areas and to indicate the reasoning which, in the opinion of the author, should guide the approach to solution or further study. This opinion is based on the experience of the author during the past four years during which, as an assistant commissioner in the New York State Department of Health, he has served as medical director for the New York State Department of Social Welfare. It is recognized that many of the ideas expressed herein may not be applicable in other states.

The article will be concerned only with that approach to welfare medical care in which recipients of public assistance are cared for through the regular medical resources of the community and in which payments for physicians' services are made by the public welfare agencies on a fee-for-service basis. It will not deal with problems concerned with special arrangements, such as employment of salaried physicians or contracts with medical societies or insurance agencies for the provision of medical care.

Defining the Problem

The public welfare recipient is a person who, as an individual or as a member of family group, is dependent on a public welfare agency for financial assistance to meet the basic necessities of life, including food, rent, fuel, clothing, and medical care. This dependency may be complete or partial and at times may be limited to medical care only, the individual or family income being sufficient to take care of the other items. The term "welfare medical care" may be defined as the provision of medical care to public welfare recipients, including physicians' services, nursing services, hospitalization, drugs, laboratory services, and all other items required for definitive, preventive, and rehabilitative medicine.

The source of payment for these services is obviously tax money. Although programs are administered through a local public welfare agency, the tax funds are collected, budgeted, and redistributed at local, State, and Federal levels, depending on the category of assistance in which the public assistance recipient is placed. The Federal government may reimburse the states, and the states may reimburse the localities, according to established formulas for each assistance category. The important point to remember is that these processes of collection, budgeting, and distribution of tax funds are the responsibilities of the legislative bodies at each of the three levels of government. These bodies are responsible to the electorate for

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This paper is based on presentations made before various county medical society meetings in New York State in 1954 and 1955.

keeping taxes at the lowest possible level (not ever low enough), for limiting governmental operation to those fields where it is absolutely necessary, and for seeing that every tax dollar is judiciously spent. All decisions in regard to these responsibilities must be made with due consideration of the general welfare of the citizenry.

The Parties Concerned and Their Attitudes

In some areas public welfare agencies may include a small extra amount in the cash grant to recipients to cover medical costs; the recipients must then pay for their medical care themselves. In other places the agency may include in the cash grant for a given month the amount incurred by the recipient for medical expenses during the previous month, as indicated by submitted bills; again the recipient pays the physician directly. For the most part, these practices have been abandoned in New York State as being unsatisfactory to all parties concerned. Experience here indicated that physicians often had to make one or more extra calls in order to collect their money and in many instances never received payment from the patient at all.

Therefore, this discussion will be limited to programs in which payments for medical services are made directly by the public welfare agencies to the vendors of such services, the latter including physicians, hospitals, and druggists, among others. Thus, we are dealing here with a three-party system of medical care: the patient, the physician, and the paying agency, namely, the public welfare agency.

It may be of interest to attempt to identify the varying attitudes shown by members of the three parties concerned in welfare medical care. The following is simply a summary of the impressions of the author. The material is not subject to statistical evaluation. Such an evaluation would require a large series of detailed interviews, and it may be doubted that it would be valid for any length of time. Changes in attitude appear to occur frequently, either as a result of educational activities by supervisors or consultants or as a result of the individual's own experiences.

ATTENDING PHYSICIANS.—The attitudes of the personal or family physicians of the public welfare recipients may be classified as follows:

1. Benevolent: Here the physicians appeared to be glad to take care of the welfare recipients on a purely personal basis without regard to whether payment was made or what such payments might be. Very often the welfare recipients were formerly self-paying patients of the physician, and it was his desire to take care of them regardless of their change in economic status. However, this was not necessarily so. These physicians either did not submit bills to the welfare department or accepted welfare payments without question, looking upon such payments simply as a windfall.

2. Medical and social challenge: Here the physicians appeared to accept the public assistance recipient as a community problem and a real challenge both clinically and socially. They appeared anxious to work with the public welfare agency in meeting the patient's needs and in restoring him to as independent an existence as possible. The physicians worked well with the case workers of the agency, trying to analyze the social backgrounds of the individuals and to utilize every possible resource which might be helpful in the social and medical rehabilitation of the recipient and his family.

3. Strictly business: Here the physicians felt that the public welfare agency should accept complete responsibility for the public welfare recipients and provide full payment for their care in accord with prevailing fees for private patients. The attitude was that the public assistance recipient should not be considered as indigent since the welfare department had sufficient government funds behind it to allow it to pay in full any fees billed by the practicing physician. If this could not be granted in toto, the physicians expressed their preference not to care for public assistance recipients. The number of physicians in this group is believed to be few.

4. Chore or nuisance: Here the physicians appeared to express an attitude that the public welfare recipients are undesirable patients, apparently a throwback to the Elizabethan Poor Laws which considered all such recipients as unworthy, in accord with the definition of a pauper. The physicians expressed the feeling that they did not wish to take care of these patients and wanted to have nothing to do with the administrative "red tape" in requesting authorizations or billing for payments. If they did take care of public welfare recipients at all, they considered any invitation to cooperate with the public welfare agency in planning for the rehabilitation of the patient as gross interference with their practices.

The above attitudes did not appear to be necessarily mutually exclusive. Also, physicians who took a strong attitude in one direction at one time might change completely to another attitude in the course of a few months. The course might be in a direction more favorable to the welfare recipient if the physician had had satisfying relationships not only with the patient but with the public welfare agency; it might be in the opposite direction if the relationships were less satisfactory and particularly if they were bogged down with administrative "red tape."

THE PATIENTS.—Public welfare recipients appeared to fall into three groups, according to their attitudes as patients:

1. Grateful, respectful, and appreciative of all services rendered.

2. Abusive, shopping around from physician to

physician, or taking advantage of their status by demanding excessive and unnecessary medical attention.

3. Disinterested in medical problems, apathetic, or lacking in motivation to accept medical care.

One may well raise the question as to whether the second attitude would be found with a significantly higher frequency among welfare recipients than among higher economic groups. Insurance companies have found that there appears to be some excessive demand for medical attention during the first year of an individual's medical care policy but that this demand tapers off as a person gets used to his insured status. The same may apply to a considerable number of welfare recipients.

Actually, one of the more frequent problems in welfare medical care is to get patients to secure the medical service they need. In many instances their indigent status is due to earlier neglect of medical problems, and the availability of medical care under the public assistance program does not by itself motivate them to seek or to accept needed medical services.

LOCAL WELFARE OFFICERS.—Local welfare officers, including commissioners, their deputies, and case supervisors, appeared to have attitudes which might be grouped as follows:

1. *Toward physicians.*—(*a*) Respectful and trusting: Here the officers appeared to have the utmost confidence in the attending physicians serving their community. Thus, administrative controls were limited to the minimum compatible with legal requirements.

(*b*) Distrustful: Here the officers complained that the physicians either pay too little attention to the public assistance recipients or take advantage of the situation by making excessive calls. In some instances these grievances were directed at just one or two physicians, while in other instances the entire profession was subjected to their criticism.

It might be stated that here again it has been possible to observe changes in the attitudes on the part of these officers in the course of events over several months or a few years. Changes, where they have occurred, have been almost uniformly toward a more favorable attitude toward the medical profession. Most of these changes have occurred in those instances where a socially minded physician has accepted appointment as medical consultant to the agency, where the medical society has taken an interest in the program and offered its cooperation through a welfare medical care advisory committee, and where the entire profession has joined with the welfare agency in accepting the public welfare recipient as a clinical and social problem who can in many instances be helped to a better and possibly more self-sufficient life.

2. *Toward recipients.*—(*a*) Constructive: Here the commissioners and their staffs accepted their positions as social responsibilities and recognized as their objectives the maximal social and medical rehabilitation of the recipients. They recognized that the public assistance rolls contain many social misfits who reject or are not capable of accepting help. However, they also recognized that there are others among their recipients whose indigent status has been attributable to social or medical catastrophes beyond their control and who desire or who can be motivated to accept assistance toward a better way of life. It was on the latter group that they concentrated their efforts.

(*b*) Niggardly and disdainful: Here the commissioners and their staffs have operated under the attitude of the old Elizabethan Poor Laws which, as noted above, looked upon any poor person as a worthless individual. The objective of these welfare officers was to meet the legal requirement for providing for the poor by spending the least amount of money possible. Social and medical rehabilitation played no part in their program.

Fortunately, the latter attitude is being encountered less frequently among welfare officers today. There is an increasing tendency to appoint or nominate for the position of welfare commissioner men or women whose previous experience or training has been contributory to a proper understanding and sympathy for the problems involved. The outright political appointment or nomination without regard to qualifications or attitudes is gradually disappearing.

Areas of Controversy

Ideally, welfare medical care on a free-choice-of-physician, fee-for-service basis should operate as smoothly as the private practice of medicine. The patient should simply call the physician as needed; the latter should make as many calls as are clinically indicated, and the bill should be sent to the local welfare agency at the end of the month instead of to the patient. However, there are several factors which tend to limit this smooth flow of operations. These factors include among others: (1) a third party is paying the bills and has the responsibility of knowing what it is paying for; (2) the funds are tax derived, and the public welfare agency thus has responsibility to the taxpayers to account for all payments; (3) legal provisions controlling government operations may call for prior authorization of all services for which the agency is responsible, except clearly defined emergencies, and (4) adverse social factors, which have helped to bring the patient or his family to the indigent status, may seriously interfere with medical planning.

These factors have led to several areas of controversy in the administration of welfare medical care, some of which may be identified as follows:

NEED FOR PRIOR AUTHORIZATION FOR PHYSI-

CIANS' SERVICES.—Allowing that any first request for a physician's service may be considered an emergency in that the physician should see the patient promptly without any prior approval from a public welfare agency, government regulations may call for prior authorizations of all subsequent calls. The basis for this is entirely in the field of administrative control, in accord with a policy which states that a governmental agency cannot be made responsible for something which it has not ordered. Actually, there is an indirect advantage to physician and patient in this procedure, undesirable as it might appear. The physician is either assured that the patient is on the welfare roll and that the public welfare agency will assume responsibility for payment, or he is informed immediately that the patient is no longer on public assistance and that no responsibility for paying for his care will be accepted by the agency. In the latter instance it is up to the physician to determine under what circumstances he wishes to continue with the care of the patient.

From the viewpoint of the patient's welfare the authorization request by the physician informs the case workers of the agency of the occurrence of the illness and of the general nature of that illness. Having a good background of the social problems of the family, the case workers will know whether additional assistance will now be required and whether an immediate visit to the family is indicated. They will also know whether available social or public health resources should be called upon to help the patient and physician in the management of the disease. The resources may be in the form of proper care of young children during a mother's illness, homemaker services, public health nursing services, and family counseling.

This is a very important aspect in the provision of medical care for public assistance recipients. Social implications are important for patients at all economic levels, particularly in the case of long-term illness. It is particularly important in the public assistance group because of their low economic status and frequent lack of family resources.

PROCEDURES TO CONTROL POSSIBLE ABUSES OF PROGRAM BY PHYSICIANS.—The extent of these procedures will be determined by the attitude of the welfare officers and their staffs, as indicated above. Untrusting officials may institute rigid regulations. They may try to control medical care to patients while it is being given by means of (1) requiring prior authorizations for each visit made, (2) narrowly limiting the number of calls which may be made by a physician under a single authorization, or (3) requiring a detailed justification for any renewal of that authorization. On the other hand, more trusting officials are convinced that physicians' ethics will permit no significant difference in the frequency of physicians' visits under third-party payment programs as compared to private practice; controls will be limited accordingly.

Accepting the fact that prior authorizations for nonemergency care may be unavoidable, there would appear to be no point in not permitting the authorization to cover as many calls as would appear necessary to care for most ordinary types of illness. Accounting procedures do require that the number of calls be limited, but for acute cases this limit need not be set lower than five or ten calls depending on the wishes of the agency and the profession. The medical and social needs of the patient should again be reviewed when that number of calls has been made. Additional calls may be authorized as indicated. For the long-term care of chronically ill patients, the number of monthly visits authorized may be based on the individual considerations of the patient's needs.

Our experience has been that abuse of welfare programs by physicians is relatively infrequent. However, it does occur from time to time and proves distressing to medical profession and welfare agency alike. It cannot be detected by challenging any given physician regarding the care currently being given to an individual patient. No one but the physician in charge of the patient can determine the amount and type of care that the patient needs. However, an abuse can be quickly detected by studying the pattern of welfare medical practice in the entire welfare district.

Such a study is easily done by analyzing a three or six-month experience of all of the participating physicians. The average number of calls made by these physicians for different types of cases can be easily determined. The experience of the individual physician can be checked against the average, allowing for variations in types of practice and individual preferences. If the experience of any one physician with a reasonably large number of patients is significantly different from that of the average for the community, certainly the situation deserves exploration. Such deviations may be readily explainable, or they may not be. If the medical consultant of the agency, after informal conversations with the physician concerned, cannot identify a satisfactory reason for the deviation, he should refer the matter to the grievance committee of the county medical society for further study. This has been done in several instances in New York State, much to the satisfaction of both the medical profession and the public welfare agency. In one instance it was the recommendation of the county medical society committee that the physician in question be excluded from further participation in the welfare medical care program. In most instances the matter may be resolved on a more acceptable basis.

Procedures for Control of Abuse of Program by Patients—Possible abuse of the program by patients has been referred to above in the discussion of attitudes. Actually, we have seen relatively little of this. At least it has not seemed out of proportion to what happens in private practice. True, there is the problem of patients who shop around from doctor to doctor and even call upon several physicians in one day, something they would be most unlikely to do on a self-paying basis. Here the procedure of prior authorization for further calls may act as a brake on this practice, although it may not control it completely. When abuse of the program becomes evident, counseling by the caseworker may be undertaken in an attempt to control the recipient's future behavior through an educational process. Actually, a more frequent problem in welfare medical care is to get patients to the physicians sufficiently early in the course of an illness.

Rate of Payment.—In general, fees paid by welfare agencies for medical care to welfare recipients are lower than those being received by the private physicians from self-paying patients. In most areas this has been accepted on the basis that the payable fees at least cover the physicians' expenses and that the system has come a long way since doctors received no payment whatsoever for medical services to indigent persons. Having always reduced their charges to individual self-paying patients who could not make full payment, these physicians have recognized that public welfare agencies should not be expected to pay more than the minimum at which adequate services might reasonably be provided.

In other areas there have been expressions of dissatisfaction with the concept that welfare fees should be lower than those prevailing for self-paying patients. It has been brought out that welfare departments do not negotiate the price of a ton of coal or of a package of groceries; rather, they pay the market price without question.

It is quite true that welfare districts do not bargain with suppliers of food, clothing, fuel, or other supplies required by public assistance recipients for their basic needs. However, these needs are predictable, and the welfare agency determines the minimal amounts of each item which are necessary to meet the recipient's requirements. Definite standards of assistance have been established whereby, considering the number of members in the family, their ages, and other personal characteristics, the minimal amounts required for rent, fuel, clothing, and food are calculated and form the basis for the determination of the monthly financial grant. Thus, while the price of these commodities is not controlled, the quantity permitted is rigidly restricted.

On the other hand, the welfare agencies recognize that the amount and type of medical care required by the recipient are unpredictable and can be determined only by the medical profession. More and more agencies are employing medical consultants on their staffs to direct medical policy and guide the welfare medical program, and these are often assisted by a medical advisory committee of the county medical society. This combination of (1) determination by the attending physician of the amount of care required and (2) direction of the program by members of his own professional group is unique in the welfare field. It must be preserved.

There is no doubt that the costs of older methods of providing care for the indigent through salaried physicians or special clinics could be more readily controlled than the costs of a free-choice-of-physician, fee-for-service program. Likewise, the payment of individual physicians on a per capita basis for the care of welfare patients results in predictable and controllable costs to the welfare agency. Both systems are easier to administer.

As taxpayers, we must grant that it is the responsibility of the public welfare official to procure services at the lowest possible cost. As physicians, we may question the quality of care given under these other methods of administration. However, it may be quite difficult to convince a board of supervisors or a city council that a free-choice-of-physician, fee-for-service program, costing very much more than programs utilizing salaried physicians, clinics, or per capita payments, necessarily produces a correspondingly higher level of quality of medical care.

If the practicing physician will be satisfied with a welfare fee schedule which, while lower than that charged to his self-paying patients, still permits a reasonable return for his efforts, it is believed that the present system may be maintained, even though it may be somewhat more costly to the welfare agency. However, if the costs of welfare medical care become unduly high, we may well see strong efforts on the part of government agencies directed toward a return to the earlier methods of providing care.

It seems important to emphasize that in New York State physicians are certain of payment for all emergency calls and for all authorized subsequent calls in accord with the scheduled rates. In contrast, in two other plans, where the operations of the medical programs were transferred outside the welfare department, fixed sums were made available to the operating agencies to cover the costs. On repeated occasions these sums have proved insufficient to meet the physicians' bills based on the number of calls made at existing fee schedules, and it has been necessary to prorate deductions. Under the circumstances the actual amounts paid per call were considerably less than provided by the fee schedules.

PAYMENT FOR PHYSICIANS' SERVICES FOR HOSPITALIZED PATIENTS.—While, as indicated above, the payment of physicians for services rendered to public assistance recipients in the home and office is now an accepted practice in many areas, the same does not apply to payment to physicians for services rendered to patients in hospitals with organized house staffs. This is consistent with the American College of Surgeons' report on medical service (1934) which stated: "The care of the indigent sick should be a direct obligation upon the community and (unless otherwise compensated by intangible benefits such as staff and teaching appointment, opportunity, and experience) physicians fulfilling this public service should receive remuneration."

In those hospitals with organized ward service and attending and resident or intern house staffs, the position of attending physician has long been highly coveted by most physicians practicing in the community. This applies alike to large hospitals associated with teaching centers or medical schools and to smaller community hospitals, provided they are approved by the American Medical Association's Council on Medical Education and Hospitals for the training of interns or resident physicians. The position of attending physician gives the physician the opportunity to (1) gain professional prestige, (2) add to his clinical experience while caring for the service patients, (3) participate in the hospital teaching program, and (4) undertake some clinical investigation.

In addition to these professional although "intangible" advantages of an attending staff appointment, the hospital offers the physician a very material service for his private patients which is unique among all professions and trades. It gives him a place to do his private work without any charge to him. The physician must equip his own office and pay for its overhead and operating costs. The community, through funds raised through voluntary contributions or taxes, provides him with a hospital where he may treat his patients who are more seriously ill or who require special diagnostic or therapeutic technics. The patient, or someone in his behalf, pays for the overhead and operating cost of the hospital services received, but the facility and the equipment were made available to the physician and patient by the community as a whole. From this viewpoint the free service given by the attending physician to indigent patients might be considered as a gracious contribution in exchange for the courtesy of the community in providing him with a place to treat his private patients.

Public welfare programs were established to provide essential commodities and services to indigent persons who were not otherwise provided for. They were not intended to replace community resources which were already serving the indigent. The medical care of indigent patients in hospitals with organized ward services has always been considered as a community resource.

Yet, in some areas there have been rumblings of dissatisfaction from attending physicians who believe that the public welfare agency should pay them a fee for any care extended to a public assistance recipient admitted to their service. Apparently they consider that the prestige, the experience, the teaching and research opportunities, and the community provision of a facility for the care of their private patients are no longer sufficient compensation for the care of indigent patients. This calls for a change in a longstanding medical tradition which must not be undertaken lightly. If an appointment as attending physician is not to carry the responsibility of providing medical care for the service patients with the consequent teaching and research opportunities, the question arises as to what such an appointment really means, other than courtesy privileges for private patients. This is a very important question which is of equal concern to the medical profession and the community which has provided the hospital.

In one instance attending physicians have expressed their willingness to treat local patients without charge but believed that they should be paid for services rendered to out-of-county patients hospitalized at their institution. Why the residence of a patient is of concern to an attending physician is not clear. This particular issue is of considerable distress to the medical school of which the hospital is a teaching unit since the school requires the out-of-county referrals in order to have a sufficient number of patients to whom students may be assigned for teaching purposes.

DRUGS.—It would be expected that drug costs for welfare patients as well as for the general public would be rising considerably during recent years. These increases are largely attributable to the introduction of many new so-called miracle drugs as well as to the refinement of many older drug preparations. Such increases must be understood by the local public officials and the legislative bodies and can best be explained through the agency's medical consultant and his advisory committee.

However, recent audits of prescriptions billed to welfare agencies have revealed many areas in which the cost of drugs might be curtailed to a moderate extent. These areas include the following:

1. The use of high-priced proprietary preparations when simple U.S.P., N.F., or N.N.R. drugs will suffice: Let it be granted that individual patients may react better to a proprietary medication than to a standard U.S.P. drug or that an individual physician may sincerely believe that he secures generally better results with the proprietary

material. In such instances the proprietary medications should be allowed. Nevertheless, our drug audits have indicated that costs of drugs can be reduced by 10 to 20 per cent by more general awareness of the value of some of the simpler, older, and less costly preparations.

Several areas have had favorable experience with the use of a formulary which stresses the use of U.S.P., N.F., and N.N.R. drugs but is sufficiently flexible to allow the addition of new proprietary drugs found useful by the physicians in the community. The use of this formulary prevents the immediate utilization of every new product placed on the physician's desk by well-meaning but over-energetic detail men. Before any new item is added to the formulary, it should be reviewed by a formulary committee made up of physicians and pharmacists of the community. Indeed, in areas where a formulary has been established, physicians have reported that it has been useful in private practice as well as in welfare medical care.

2. Prescribing of excessive amounts of drugs: Surprising as it may seem, this is a phenomena which is fairly frequent and difficult to understand. It involves the issuing of "repeat" prescriptions for a drug long before sufficient time has elapsed for the full utilization of the original prescription. One wonders why physicians fail to check on an item of this type and what patients do with the extra amounts of drugs. Actually the added expense is only a minor, unfavorable aspect of this practice; the major one is the danger of toxic dosage. Indeed, to avoid toxic dosage the patient would either have to discard the previous prescription, stock it as a reserve, or give it away to someone else; obviously all of these outlets are to be avoided.

Prolonged Hospitalization.—It is obvious that the public welfare agency will begin to wonder about a patient who has been in the hospital for several months and will wish to inquire whether another disposition might possibly be made. With the assistance of good social planning the patient might be returned to his or her own home, to the home of relatives, or to a boarding home, with necessary services being provided under some home-care program. On the other hand, placement in an infirmary or private nursing home might be a better disposition. With either approach there would result a considerable saving to the welfare department as well as a more satisfying environment for the patient.

Most physicians welcome such discussion with the case workers of the agency or with the medical consultant. Others regard it as gross interference with their medical management of the patient. Possibly an indiscreet or tactless approach by an agency staff member may well have been interpreted in that way.

Certainly, it would appear that a reasonable, cooperative approach by members of the welfare and medical professions would lead to the best plans for the patient's health and welfare, particularly in instances of long-term illness.

Supervision of Welfare Medical Care

With medical costs amounting to between 20 and 30 per cent of the total public assistance costs incurred by the public welfare agency and with about 43 per cent of the persons on public assistance having some type of chronic illness or disability (73 per cent of recipients are indigent because of illness or disability in themselves or in the breadwinner of their families), it is imperative that adequate supervision be provided for the welfare medical care program.

Much of the administrative side can be provided by clerical personnel, and general supervision can often be given by persons with a social work background.

The medical aspects of the program certainly call for supervision by a physician. There are many medical policies to be determined. It is necessary to interpret carefully these policies to the practicing profession. It is necessary to make decisions regarding the medical plans for a particular patient after consultation with the attending physician.

No one but a physician is capable of doing this work for the local welfare agency. On the other hand, if no physician in the community is willing to accept this responsibility, there will be many other groups only too willing to take it over.

The question then arises as to just what are the specific responsibilities of the medical consultant to the public welfare agency. However, it might be important to stress two things he is not. First, he is definitely not the welfare commissioner's gauleiter to control the medical profession. It is the understanding and cooperation of the medical profession that he seeks to procure; there is no reason to control it. Second, he is not the great protector of the medical profession. He is not placed in his position primarily to defend the rights of doctors and to get them the best possible deal. The physicians are not interested in a deal. They wish to do a good job and to receive fair treatment.

The responsibilities of the medical consultant may be defined as twofold: (1) to establish and maintain a high quality of medical care to cover not only definitive or curative medicine but to include a well-defined program of preventive medicine and rehabilitation service and (2) to maintain that high quality of care at the most reasonable cost.

In the New York State *Manual on Welfare Medical Care* the basic methods of meeting these responsibilities include the following functions of the medical consultant:

1. Advise the local welfare official on all aspects

of medical care for which the local welfare agency is responsible.

2. Give professional direction to the medical program.

3. Be responsible for approving certain extraordinary or unusually expensive types of services requested in individual cases. This excludes the necessity for the medical consultant specifically approving authorizations for routine care by attending physicians. The approval of the medical consultant is limited to those instances where more than five or ten calls have already been made in a single month, depending on the limits set by the agency or where some special service is recommended by the attending physician and the possibility exists of procuring an equally effective service on a less expensive basis. These items may be immediately approved by the medical consultant if they appear reasonable. If there is any question about them, the medical consultant should discuss the case with the attending physician.

4. Consult with the social service staff of the agency on medical or related problems of individual patients and interpret to such staff the medical significance of such problems. This is one of the most important functions of the medical consultant. Social workers and case workers may often stumble in the dark in reference to their social planning for an individual recipient because of their lack of knowledge of the medical factors involved.

5. Review of medical information submitted by attending physicians in connection with disabled persons applying for the category of Aid to the Disabled. A primary reason for this is to determine whether the information is adequate so that a disability determination can be made by the State review team. However, equally important is the opportunity to institute promptly any rehabilitation procedures that may be indicated on the basis of the medical findings.

6. Periodically review the medical records of welfare recipients to determine whether the amount or type of medical care previously authorized appears to be consistent with good medical practice and best meets the needs of the patient at the most reasonable cost. If there is any suggestion that a new approach may be indicated, the medical consultant may then discuss the case with the attending physician and the social service staff. In reviewing these records he should determine not only whether there appear to be too many calls in relation to the diagnosis but also whether there are sufficient calls being made, sufficient consultation being called upon, laboratory services being used as indicated, and certain community resources, such as visiting nurse service and physical therapists, being called upon as necessary. It has been a very common occurrence for our field office social workers to come across patients in nursing homes who have not been seen by physicians for periods of three months or more.

There are many other responsibilities and functions which may be recommended for the medical consultant, depending on the amount of time that he has available (two or more physicians may be required) and depending on the specific problems of the agency. These may be in reference to any of the problems outlined above under areas of controversy. However, it is important to emphasize that it is not necessary for the medical consultant to tackle immediately every single problem encountered by the welfare agency in the medical field. His development of sound medical policy to guide the commissioner and case workers will do much to raise the performance of the agency on a general level.

Medical Advisory Committee

It is unfair to expect any one physician, no matter how interested and qualified, to bear the entire brunt for determining and carrying out the medical policies relating to the welfare program. It is important for the medical consultant to know that he has the backing of a respected group of his medical colleagues. To achieve this purpose, it seems best that a medical advisory committee be appointed.

The commissioner of welfare may request the county medical society to appoint such a committee, or he may request the society to nominate a list of representatives from whom he may appoint the committee himself. The important thing is that the committee members be interested in the program from a medical and community point of view. They should be prepared to advise the medical consultant in the formulation of medical standards and procedures, to help him in the evaluation of the agency's medical care program, and to interpret that program to the medical profession. The committee should review special problems presented to it by the medical consultant, particularly with reference to physicians and related personnel, and should make recommendations in situations involving questionable practices.

Summary

In this article an attempt has been made to define the problem of welfare medical care as it concerns the practicing physician. The attitudes of the parties concerned in this form of three-party payment have been outlined. Certain areas of controversy have been reviewed, and an attempt has been made to present the reasoning behind the present-day approaches to these areas. Finally, the importance of a medical consultant to a public welfare district has been emphasized and his responsibilities outlined with emphasis on the supporting role of the medical advisory committee.

HISTORY OF MEDICINE in New York State

Editor
SAUL JARCHO, M.D.

Roundup of Illicit Practitioners of Medicine During Theodore Roosevelt's Police Commissionership of New York City

MAURICE J. LEWI, M.D., NEW YORK CITY

(*President, New York College of Podiatry*)

THEODORE Roosevelt never lost a trick. In his autobiography, published in 1919, page 207, he made reference to a plan proposed by the writer to rid New York City of quacks who were playing on the credulity of the public. "Teddy" fairly jumped at the opportunity to cooperate in driving out the city's illicit practitioners of medicine. When informed that the State Medical Society had no funds to defray the cost of printing, etc., the Commissioner vehemently declared that all separate expenses incurred in such an undertaking were inherently a charge against the city.

Through "Teddy's" active assistance, the writer, who at the time served as secretary of the New York State Board of Medical Examiners, with the legal guidance of Almuth C. Vandiver (of O'Gorman, Battle, and Vandiver) developed and made effective a program whereby every one of the illegitimate practitioners fled the city or was apprehended. The plan was so systematically drawn that the essential data for its execution took but one hour, and its enforcement became factual within twenty-four hours.

Early we learned from the officials of the New York County Medical Society of the difficulties they were experiencing in bringing to book the increasing number of quasi-medical men and women who were practicing medicine in one form or another. They stated that convictions would be secured, but the usual punishment consisted of a monied fine which, after being paid, would free the culprit, who would continue on in his erstwhile career and would be again apprehended and fined as before without any letup in his violation of the law.

The jurisdiction of such cases rested in the Board of Magistrates, all laymen at that time. The chief member of this board was known as the "Little Judge"; his name was McMahon. Dr. William Geoghan, a former Albanian and a personal friend of the writer, was a member of the Democratic Club of which the "Little Judge" was president. An arrangement was made with Dr. Geoghan whereby an interview was procured with the "Little Judge."

One bitterly cold winter's night, Dr. Geoghan escorted me to the club in question, which was located in 58th Street near Columbus Circle and next door to Reisenweber's Restaurant. Taken to the top floor, where a welcome grate-fire was consuming great logs of wood, I was introduced to McMahon.

Promptly I began a recital of existing conditions, employing every argument that I could muster to win him to us in cleaning the Augean stables. He was sympathetic to our viewpoint since it bore upon the disgrace of the situation to the fair name of our city. But what was to be done? These violators of the law were members of the political clubs in the locality of their "offices," contributed largely to the funds of their clubs, could be relied upon as "regulars," and in the main constituted a bulwark of strength to the party and to the club.

I felt that I was not making much headway and decided to use an "argumentum ad hominem." Having learned that the judge had recently married and was deeply smitten with his spouse, I said, "Judge, I am told that you are a married man and that you are happy in this estate. Now let us suppose, God forbid, that on your return to your home (it was almost midnight) you found your wife unconscious. Startled but self-possessed, knowing that your family doctor lives miles away, you recall seeing a doctor's sign across from your home. Your rush to his office, rouse him, and he responds, but your wife dies before daylight. Suppose further that after the funeral you learn that this "doctor" is a pretender. How would you feel?"

He said, "I would kill the . . . .!"

"Thus," I told him, "you would realize what a menace these people are and how necessary it is to rid the community of them."

He agreed that hereafter the Board of Magistrates would deal severely with them until they were cleaned out of the city.

So assured, I made an appointment with "Teddy" Roosevelt who was then the New York City Police Commissioner. He was promptly cooperative, and the full program was formulated.

Sheets of paper marked "Personal, Important, and Confidential" were sent to each sergeant of police in every precinct in New York City, with instructions that the sergeant should arrange that at the 5 A.M. hour when the group of policemen were sent to their respective beats, before performing their customary duties, they should take the name and address of any person who exhibited a sign that he or she was engaged in any occupation that might have been coupled with health measures. This was to include all signs bearing the words "M.D.," doctor, or any other insignia that invited consultation and was made to encompass beauty parlors, cosmetic centers, bathhouses, and everything akin to what was being sought.

The individual policeman was to go over his beat at once, and when he had gathered and noted the data requested, he was to return to his headquarters, hand in the filled-out sheets, and return to his beat, being impressed with the importance of keeping his work confidential. The sergeant was directed to place the returns in a sealed envelope and to provide that before nightfall these reports were to be in the Police Commissioner's office.

All of this became effective, and the following day Mr. Vandiver, the counsel of the New York County Medical Society, checked with the data he had in his possession from the New York State Department of Education (office of the State Board of Medical Examiners), and the wheat was thus separated from the chaff. Within the next twenty-four hours scores of illicit practitioners hauled down their signs, and some of them fled the city. Those remaining who had been flouting the law were prosecuted, and many of them were convicted.

In Mr. Roosevelt's autobiography it would appear that my first acquaintance was made with him through a letter of introduction, but such was not the case since the writer had been on friendly terms with "Teddy" long before this, the acquaintanceship beginning when the well-beloved "Teddy" was an assemblyman in Albany.

The above recountal is not alone based on memory, but as well on data now on file in this office. The writer is wondering if a like procedure carried on in this year might not be productive of favorable results to the welfare and the health of Greater New York.

53-55 East 124th Street

Carcinoma of the Stomach: Need for Earlier Diagnosis and More Adequate Therapy

In a series of 258 cases of primary gastric malignant disease, exploration was carried out in 80.3 per cent and gastric resection in 37 per cent. Surviving the resection were 32.4 per cent, and only 7.2 per cent were alive at the end of five years. Disappointed with these results, Drs. Alton Ochsner and John Blalock explore the reasons why such a common lesion, about which so much is known, should not be more amenable to curative therapy. The principal factor, they conclude, is the time lag between the onset and definitive therapy, with other lesions being diagnosed when gastric cancer should be suspected. They believe that physicians should consider the possibility of cancer in all cases where there is persistent gastric distress which defies therapy, especially in men over forty.

—*Journal of the Florida Medical Association, August, 1955*

NECROLOGY

Nathan Cohen, M.D., of Elmira, died on May 2 at the age of sixty-five. Dr. Cohen graduated from Syracuse University College of Medicine in 1917. He was a consulting physician at Arnot-Ogden Memorial and St. Joseph's Hospitals and had served for thirty years as school physician in Elmira-Heights. In 1952 he was honored by a community-wide tribute in recognition of his work as general practitioner and obstetrician. Dr. Cohen was a member of the Chemung County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Thomas Charles Fry, M.D., of Brooklyn, died on May 18 at the age of fifty-four. Dr. Fry graduated from Columbia University College of Physicians and Surgeons in 1929. He was an associate in pediatrics at Kings County Hospital Center and at St. Mary's and Carson C. Peck Memorial Hospitals. Dr. Fry was a member of the Brooklyn Academy of Pediatrics, the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Robert Bertine Hammond, M.D., of Bradenton, Florida, formerly of White Plains, died on June 1 at the age of seventy-three. Dr. Hammond graduated in 1908 from Long Island College Hospital School of Medicine and interned at Knickerbocker Hospital. Until he retired in 1950 he had served as a consultant in anesthesia at White Plains Hospital, Grasslands Hospital, the Ossining Hospital, now Phelps Memorial Hospital Association, and the New York Hospital, Westchester Division, Tarrytown Hospital, and United Hospital, Port Chester. He was a Diplomate of the American Board of Anesthesiology, a Fellow of the International College of Anesthetists and of the American College of Anesthesiology, and a member of the American Society of Anesthesiologists, Inc., the New York Academy of Medicine, and an honorary member of the Westchester County Medical Society and the Medical Society of the State of New York.

John A. Hill, M.D., of Allenhurst, New Jersey, formerly of New York City, died on May 28 at the age of eighty-four. Dr. Hill graduated in 1894 from Columbia University College of Physicians and Surgeons. He had formerly been an instructor in the Eye Department of the Post-Graduate College and surgeon-in-charge of the Eye, Ear, and Throat Department at the Harlem Dispensary, and a member of the Harlem Medical Association.

Eugene M. Lath, M.D., of Rochester, died on May 15 at the age of seventy-nine. Dr. Lath graduated from the University of Buffalo School of Medicine in 1907. He was an attending physician at Park Avenue Hospital, Rochester. Dr. Lath was a member of the Rochester Academy of Medicine, the Rochester Pathological Society, the Monroe County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Joseph Herman Mittelman, M.D., of New York City, died on May 29 at the age of ninety-six. Dr. Mittelman graduated from New York University Medical College in 1894.

Willis Clarke Noble, Jr., M.D., of New York City and Montclair, New Jersey, died on May 24 at the age of seventy-one. Dr. Noble graduated in 1925 from New York University and Bellevue Hospital Medical College. For many years, 1925 to 1955, he was supervisor of the biochemical laboratory of the Metropolitan Life Insurance Company. He had also been bacteriologist in charge of the Division of Laboratories and Research, New York State Department of Health, assistant director of research, New York City Health Department, and assistant professor of bacteriology at the New York University and Bellevue Hospital Medical College.

Thomas A. C. Rennie, M.D., of New York City, died on May 21 at the age of fifty-two. Dr. Rennie graduated in 1928 from Harvard University Medical School. He was an attending psychiatrist at New York Hospital and consultant in psychiatry at the Veterans Administration Hospital, Montrose. Previously he had done teaching and research in psychiatry at the Universities of Pittsburgh and Michigan, and at the Veterans Administration Hospitals in the Bronx and Montrose. He was on the Mellon Advisory Committee of Vassar College and on the technical advisory board of the Millbank Memorial Fund. Chairman of the New York City Community Mental Health Board, he was a member of the board of the American Foundation for Mental Health and a member of the social science research council of the Committee on Research in Psychiatry. He served on the advisory board of *Psychosomatic Medicine,* as contributing editor to the *International Journal of Group Psychotherapy,* and as coeditor of the *International Journal of Social Psychiatry.* He was a Fellow of the American Psychiatric Association and a member of the American Psychopathological Association, the Association for Psychoanalytic Medicine, the New York Academy of Medicine, the New York Society for Clinical Psychiatry, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Frederic John Resseguie, M.D., of Saratoga Springs, died on May 12 at the age of eighty-one. Dr. Resseguie graduated from Albany Medical College in 1895. He was an honorary surgeon at Saratoga Hospital and a consultant in surgery at Benedict Memorial Hospital, Ballston Spa. Dr. Resseguie had practiced in Saratoga Springs for sixty years. He was one of the founders of the Saratoga County Laboratory and was the first president of its board of managers in 1922. He had served as health officer for the city of Saratoga Springs and was long an examining physician for the Delaware & Hudson Railroad. A Fellow of the American College of Surgeons, in 1954 Dr. Resseguie received the scholastic honor of Alpha Omega Alpha. He was a member of the Saratoga County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Frederick Pratt Reynolds, M.D., of Santa Barbara, California, formerly of White Plains, died on May 19 at the age of eighty-eight. Dr. Reynolds graduated from the University of Pennsylvania School of Medicine in 1890. He retired in 1923 from the U.S. Army Medical Corps after thirty years of service and then served for twelve years as executive secretary of the committee on medical education of the New York Academy of Medicine. Following World War I he was appointed surgeon and professor of military hygiene at the United States Military Academy. Dr. Reynolds was instrumental in organizing the "Graduate Fortnight" at the New York Academy of Medicine. He was an honorary fellow of the Academy.

Dwight M. Sawyer, M.D., of Glens Falls, died on May 7 at the age of seventy-three. Dr. Sawyer graduated in 1911 from Johns Hopkins University School of Medicine. He had practiced medicine for over forty years and was a consulting physician at the Glens Falls Hospital. He was a former president of the Glens Falls Hospital staff and a past president of the Warren County Medical Society, of which he was a member. He also belonged to the Medical Society of the State of New York and the American Medical Association.

Peter C. Ten Eyck, M.D., of Syracuse, died on February 29 at the age of eighty-five. Dr. Ten Eyck graduated from Syracuse University College of Medicine in 1897. He was an honorary physician at the Crouse-Irving Hospital. Dr. Ten Eyck was a member of the Syracuse Academy of Medicine, the Onondaga County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

MEDICAL MEETINGS

Postgraduate Gastroenterology

The American College of Gastroenterology will hold its annual course in postgraduate gastroenterology at the Roosevelt Hotel in New York City on October 18, 19, and 20. Dr. I. Snapper, director of medical education, Beth-El Hospital, Brooklyn, will serve as medical co-ordinator. For further information and enrollment write to the American College of Gastroenterology, Department P.G., 33 West 60th Street, New York 23, New York.

Postgraduate Course in Pediatric Allergy

The New York Medical College, Flower and Fifth Avenue Hospitals, division of graduate studies and Department of Graduate Pediatrics will hold a postgraduate course in pediatric allergy under the direction of Dr. Bret Ratner, professor of clinical pediatrics and associate professor of immunology, from November 7, 1956 to May 29, 1957.

Sessions will be held Wednesdays from 9 A.M. to 4 P.M. The course consists of lecture-seminars, laboratory and clinical procedures, clinic work, ward rounds and animal experimentation covering principles of diagnosis and treatment of allergy in children.

Applicants must be certified in pediatrics or have the requirements for certification. Apply to the Office of the Dean, New York Medical College, Fifth Avenue at 106th Street, New York 29, New York.

MEDICAL NEWS

American College of Physicians—The American College of Physicians held its 37th annual session at Los Angeles, California, April 16 through 20. Newly elected fellows of the College from New York State include: Drs. V. Charles Ancona, Hyman Arenberg, Allan Russell Aronson, Morton Samuel Bryer, Saul Jarcho, Eugene Clifford Klein, Calvin Hastings Plimpton, Norbert Joseph Roberts, Leon Joseph Spitz, Murray Weiner, Laurence Goddard Wesson, Jr., Seymour Koeppel Fineberg, Henry Hirsch Kalter, Herbert Jay Kayden, Samuel Kenigsberg, and Arthur Robert Wertheim, New York City; Dr. Hyman Belsky, Mount Vernon; Dr. Robert Daniel Epstein, Yonkers; Dr. Thomas Price Jacobs, New Rochelle; Dr. Nathan Schellenberg Kline, Orangeburg; Drs. Irving George Kroop, Leon M. Levitt, and Leon Lawrence Wiesel, Brooklyn; Drs. Frederic Dennis Regan and William Weingartern, Staten Island; Dr. Alfred Stanley Dooneief, Bedford Hills; Dr. Maxwell Jerome Marder, Forest Hills; Dr. Harvey Poliakoff, Rockville Centre, and Dr. Simon Rodbard, Buffalo.

Graduate Course in Cancer Diagnosis—A three-day postgraduate course in early cancer diagnosis and management was given at Memorial Center for Cancer and Allied Diseases in New York City, April 18 through 20. The course was conducted by members of the Center's Department of Preventive Medicine and the Sloan-Kettering Division of Cornell University Medical College. Participating New York State physicians included Dr. Hugh G. Henry, Germantown; Drs. Robert C. Fisher and Alexander L. Mancini, New York City; Drs. Robert H. Alterman, Maurice Kershner, and Nathaniel Pearl, Long Beach; Dr. Manuel Green, Schenectady, and Dr. Frank Meola, Syracuse.

Gift to Hospital—Lenox Hill Hospital, New York City, has received $650,000 in cash from the estate of Dr. Max Einhorn, a gastroenterologist and inventor of surgical instruments, who died in 1953. Income from the gift is to be used for furthering research in the fields of gastroenterology. It will also be used to maintain the Max and Flora Einhorn Building donated by Dr. Einhorn in 1937, which includes an auditorium and wards for patients with gastroenterologic ailments.

Applications for Research Awards—Applications by research investigators for support of studies in or related to the cardiovascular field are now being accepted by the American Heart Association. The awards would be for the fiscal year beginning July 1, 1957. Application deadline for research fellowships and established investigatorships is September 15, 1956. For grants-in-aid, applications must be made by November 1, 1956.

Further information and application forms are available from the Medical Director, American Heart Association, 44 East 23rd Street, New York 10, New York.

Science of Allergy Commemorated—Exercises commemorating the fiftieth anniversary of the founding of the science of allergy were held on May 23 at the Mount Sinai Hospital in New York City by the board of trustees of the Mount Sinai Hospital and the New York Allergy Society. Speakers included Dr. Bela Schick, consulting pediatrician to the Mount Sinai Hospital, New York City, and Dr. Robert A. Cooke, director of the Institute of Allergy, Roosevelt Hospital, New York City.

Jefferson County Medical Society—The regular monthly meeting of the Jefferson County Medical Society was held on May 15 at the Black River Valley Club in Watertown. Subject of the program was "Symptoms of Poliomyelitis." Dr. Philip M. Stimson, professor of clinical pediatrics at Cornell University Medical College, discussed the clinical aspects. Dr. Morton B. Hoberman, assistant clinical professor of physical medicine and rehabilitation at Columbia University College of Physicians and Surgeons, spoke on rehabilitation. The symposium was provided by the Council Committee on Public Health and Education of the Medical Society of the State of New York with the cooperation of the New York State Department of Health.

Yonkers Academy of Medicine—Officers of the Yonkers Academy of Medicine were elected on May 16. They include: Dr. Nicholas R. Locascio, director of the Department of Neuropsychiatry of St. Joseph's Hospital, president; Dr. David Ramsay, attending surgeon and former chief of staff of St. John's Hospital, president-elect; Dr. Joseph Atkins, attending dermatologist at St. Joseph's Hospital and Yonkers General Hospital, vice-president; Dr. Thomas Broderick, deputy health commissioner and attending surgeon at St. Joseph's Hospital, recording secretary; Dr. Rudolph H. Pelzer, chief of plastic surgery at St. Joseph's Hospital, corresponding secretary-treasurer, and Drs. Robert B. McKittrick, Dante H. Catullo, and Robert R. Onorato, councillors.

Hill-Burton Grants—The Department of Health, Education, and Welfare reports that as of April 30 the status of all Hill-Burton grants for the State of New York is: Approved, but not yet under construction, 77 projects at a total cost of $81,027,100, including $22,221,007 Federal contribution and designed to supply 4,364 additional beds. Under construction are 16 projects at a total cost of $51,015,579, including Federal contribution of $7,408,912 and designed to supply 1,541 additional beds. Completed and in operation are 12 projects at a total cost of $14,336,485, including Federal contribution of $4,045,292 and supplying 780 additional beds.

Medical School Grants—Unrestricted grants of $4,850,000 to seven university medical schools have been announced by the Commonwealth Fund. These awards may be used in whatever ways the schools consider most effective to improve their problems of medical education.

Among the schools receiving the grants are the Albany Medical College of Union University and the University of Rochester School of Medicine and Dentistry.

In 1955 the Fund announced similar unrestricted appropriations to medical schools, including Columbia, Cornell, and New York University.

American Medical Education Foundation—New York State contributors to the American Medical Education Foundation for the month of April were: *Albany*—Dr. Marvin B. Rodney; *Astoria*—Drs. Daniel Chillag, Bruno Grossman, N. Iannotti, Abraham Jackson, Philip L. Kaye, Joseph V. Lanza, Isidore Miller, and Harry A. Schwartz; *Bayside*—Drs. David Diamondstone, Herbert Mendel, and Michael Smitonick; *Beacon*—Dr. J. A. Astone; *Big Flats*—Dr. Otto Lederer; *Binghamton*—Drs. Rolland C. Bates, F. Fenning, Howard P. Griffin, Vernon C. Lubs, Charles H. McElwee, Ralph J. McMahon, Manuel M. Monserrate, Emil C. Mrozek, Leon G. Payes, Alfred E. Peterson, Thomas H. Phalen, Dean D. Smith, Richard C. Stevens, Harry G. Walling, F. E. Warner, Irving Werner, and James B. Woodruff; *Brockport*—Drs. Wilfred H. Ferguson and Carl C. Sansocie; *Bronx*—Dr. Marcus D. Kogel; *Bronxville*—Dr. Henry W. Kaessler; *Brooklyn*—Drs. Herman Mautner, Harold Neuhof, and Alois B. Schwarz; *Buffalo*—Dr. Robert H. Huddle; *Cambria Heights*—Dr. Hans Schleimer; *Camden*—Dr. Daniel Simmons; *Canandaigua*—Dr. George Gillmore; *Chenango Bridge*—Drs. Jean C. Smith and Robert W. Smith; *Churchville*—Dr. F. W. Dietel.

Also: *Cooperstown*—Drs. Francis F. Harrison, James Mithoefer, and Olaf J. Severud; *Corona*—Drs. Arnold E. Aszody and Joseph D. Micelotta; *Cortland*—Drs. D. W. Anderson, E. P. Cummins, H. Frail, N. J. Gabriel, D. R. Gibbs, F.I. Jacobus, F. A. Jordan, Jr., W. J. McAuliffe, G. F. Nevin, George Primanis, and W. A. Wall; *Dobbs Ferry*—Dr. James R. Clarkin; *Earlville*—Dr. Willis E. Hammond; *Elmhurst*—Dr. Jessie Labanowski; *Elmira*—Drs. George T. Bartlett, Fred W. Barton, Erika Baskis, Andrew A. Blash, Leonard J. Bolton, Hobart A. Burch, John H. Burke, Jr., M. F. Butler, Francis W. Chamberlain, Nathan Cohen, Stuart V. Collins, Gerald T. Connelly, William J. Cusick, Charles S. Dale, C. E. Erway, J. G. Gladston, Robert E. Good, Irving L. Handin, F. S. Hassett, F. V. Hertzog, A. H. Hillman, L. L. Hobler, Ross E. Hobler, Charles M. Hower, R. S. Howland, J. H. Hunt, David Kaplan, B. H. Kaufman, William M. Kelly, Charles H. Kinley, J. L. Kinner, Charles H. Kosmaler, Swen L. Larson, Robert D. Leonard, Samuel N. Levine, L. W. Linderbery, Ping P. Liu, Alfred W. Lucas, Henry B. Marshall, K. D. Maynard, Stuart J. Miller, Alfred A. Mitchell, Richard O. Monohan, George R. Murphy, Stuart E. Peterson, William R. Phillips, Earle G. Ridall, John C. Roemmelt, Gerald P. Schneider, Arthur C. Smith, Arthur C. Smith, Jr., Arthur D. Smith, Earl D. Smith, and King R. Snyder.

Also: Drs. Edward F. Steele, Raymond H. Stoddard, Jack E. Thomas, Donald J. Tillow, Gideon Tropp, Charles H. Vorhees, and David Wladis; *Elmira Heights*—Dr. Clyde L. Nagle; *Endicott*—Dr. John A. Kalb; *Fairport*—Drs. John Kraai and John N. Eachren; *Far Rockaway*—Dr. Harry Richman; *Fayetteville*—Dr. Clara H. Gregory; *Flushing*—Drs. Joseph F. Ascione, Julius Blankfein, Angelo Bologna, Sidney Cohen, Harry Erterl, William Feiring, R. V. Grieco, Daniel R. Kaufman, Charles R. Marks, Charles S. Miller, Kate F. Miller, Arthur Reich, B. Shankman, Leo P. Skolnick, and R. R. Yanover. *Forest Hills*—Drs. Leon Falik, Leo A. Green, Vincent D. Larkin, Albert Lesser, Carl C. Mandelbaum, Karl M. Neimand, Bruno Rosenhain, and Edward L. Seretan; *Frankfort*—Dr. George H. Frank; *Fresh Meadows*—Dr. Norton M. Luger; *Geneva*—Dr. Kenneth T. Fairfax; *Glendale*—Dr. William G. Lynch; *Gloversville*—Drs. Michael Palamar and Robert C. Warner; *Herkimer*—Dr. Harold T. Golden; *Hilton*—Dr. Charles R. Keller; *Hollis*—Drs. Harold A. Goldberger and Percy S. Rowe; *Honeoye Falls*—Dr. Niels G. Madsen; *Hoosick Falls*—Dr. C. E. Shaw; *Hopewell Junction*—Dr. Albert I. White; *Horseheads*—Drs. Walter Impert, C. F. Leet, and Charles L. Palmer; *Ilion*—Dr. L. Merson; *Ithaca*—Drs. Edward F. Hall, Henry D. Humphrey, Noah J. Kassman, and Eben D. Tisdale; *Jackson Heights*—Drs. Ralph DeNicola, Leo V. Rooney, Carl C. Salzman, and Kurt Walder; *Jamaica*—Drs. Martin H. Jacobs, Saul Miller, Joseph S. Mulle, Daniel Porte, Eugene B. Riley, James V. Rizzi, T. Schneller, and P. H. Waldman.

Also: *Jamaica Estates*—Dr. R. C. Ryan; *Johnson City*—Dr. N. R. Occhino; *Kew Gardens*—Drs. A. X. Rossien and Curt A. Schmeidler; *Lake Placid*—Dr. Herbert M. Bergamini; *Larchmont*—Drs. Hugh McHugh and William P. Reed; *Laurelton*—Dr. Felix Schwarz; *Leonardsville*—Dr. Eugene E. Evans; *Little Falls*—Drs. George A Burgin, Bernard J. Burke, and William A. Jarrett; *Long Island City*—Drs. Eric G. Altschul, M. E. Cytryn, Maxwell Lipton, Adrian Neumann, William E. Robinson, Arthur Schneller, Joseph Shapiro, and Robert H. Smith; *Malone*—Dr. Monroe M. Kissane; *Mamaroneck*—Drs. Francis R. Hunter and C. N. Jeffries; *Maspeth*—Drs. Anthony C. Reiger and Victor E. Rosenfeld; *McGraw*—Dr. Zanta Krauklis; *Mo-*

hawk—Dr. William J. MacDonald; *Monticello*—Drs. Morris A. Cohn and Julius Schwarz; *Morrisville*—Dr. Frank Matthias; *Mount Vernon*—Drs. William M. Affelder, Hyman Belsky, Santino J. Catanzaro, William P. Clark, David M. Gordon, Francis T. Rogliano, Bernard M. Scholder, and W. J. Van Wie; *Mummsville*—Dr. Fred Feldman; *New Hyde Park*—Drs. Anthony N. Fazio and E. D. Rosenfeld; *Newport*—Drs. Leo L. Heller and Timothy J. Howard.

Also: *New York City*—Drs. R. M. Abrams, F. H. Amendola, Shepard G. Aronson, B. I. Ashe, Leon Bader, Vitus W. Badia, Sara Bass, Julius W. Bell, Rose C. Boyer, Paul H. Brauer, Walter Breuck, Marvin Brodey, I. A. Brunstein, U. I. Carrington, Anthony C. Cipollaro, Onofrio Cirillo, Lester Clahr, Edward C. Coats, John R. Cobb, John G. Codik, William Cooper, Albert Cornell, George N. Cornell, Maurice J. Costello, F. S. Craig, Robert L. Craig, Francis M. Cummins, Douglas Damrosch, Arthur M. Davids, Hugh P. Davis, Vito W. Dilluvio, Wilhelm Eilbott, Arnold Eisendorfer, William D. Eller, Emil Endreny, Maurice J. Feder, Jose M. Ferrer, Jr., Samuel Z. Freedman, Max Frick, Paul Friedman, Oscar Glassman, Morton B. Glenn, Myer B. Golan, Meyer E. Golob, Saul Gordon, Emil Granet, B. B. Greenberg, Arthur J. Greenberger, Leonora L. Greteman, F. W. Grossmann, Halford Hallock, Jean Henley, Herman Hennell, Jacob Hurowitz, George H. Hyslop, Charles H. Immordino, Max Jacobson, A. W. Jones, Henry Jordan, Edward E. Kaplan, Harry Kassop, Elihu Katz, John A. Kelly, John C. Kilroe, Emory Klein, Edward W. Klotyk, Edmund F. Kohl, L. S. Kubie, Marion D. Laird, Ernest W. Lampe, Raphael Landau, Jules Landowsky, Samuel Lanes, John K. Lattimer, Thomas E. Lee, and Maurice Lenz.

Also: Drs. Paul J. Lepore, Stanley R. Lesser, Leon I. Levine, Milton I. Levine, Philip A. Lief, Robert K. Lippmann, Moses Lobsenz, Leo Loewe, Giorgio Lolli, Alfonso Lombardi, Luckle Loseke, Joseph M. Lubart, Charles L. Lumb, M. S. Mahler, Melvin M. Malen, Maxwell Maltz, Irving Markowitz, Nina M. Mazzola, F. F. McAllister, Marsh McCall, Robert B. McGraw, William T. Medl, James Meer, Walter L. Mersheimer, Samuel Milbank, Isidore Miller, T. R. Miller, Howard Millstein, Julius Miltz, David T. Mintz, Bela Mittlemann, Erika Mohr, Joseph F. Montague, Vincent J. Morrissey, Harry Most, R. S. Mueller, Samuel Mufson, Thomas M. Mulcahy, Daniel A. Mulvihill, John R. Murphy, Peter M. Murray, Henry B. Nachtigall, Abraham I. Needles, Arthur E. Neergaard, Arthur Nilsen, William S. Norton, Joseph H. O'Connell, Kermit E. Osserman, Julius G. Ottenheimer, Karl R. Paley, Harold E. Pardee, Z. R. Parker, Howard A. Patterson, Myron C. Patterson, Robert L. Patterson, Jr., B. Payne, George E. Peabody, Samuel M. Peck, Hugo Peiser, M. M. Peshkin, A. R. Peskin, Nancy M. Peters, Richard U. Peterson, T. Pick, Bernard J. Pisani, John L. Pool, Robert T. Porter, Kathryn F. Prescott, Pro V. Prewitt, Rudolf Radna, Leonard J. Raider, Loton H. Rasmussen, George G. Reader, John B. Rearden, Samuel Reback, Charles R. Rein, Elise Renning, Alfred A. Richman, Hector J. Ritey, Guy F. Robbins, Nathan Robbins, Leonard M. Roberts, Nathan N. Root, James A. Rosen, Maurice S. Rosen, Salo Rosenbaum, Albert Rosenblatt, Seymour E. Rosenthal, A. I. Rosentstein, N. Ross, Herman S. Roty, Milton Rothman, Undall J. Salmon, Thomas V. Santulli, Albert C. Santy, Irving A. Sarot, Leo M. Satlof, and Theresa Scanlan.

Also: Drs. Lewis Schachne, Albert J. Schein, A. Schiff, Arthur Schifrin, Robert C. Schleussner, Herman Schneck, Sigmund Schutz, Irving Schwartz, Alfred Schwarz, Charles D. Schwarz, Emil Schwarzmann, David Schwimmer, Headley L. Scott, T. R. Seidman, W. Seligmann, Edward Schedkman, Robert S. Sherman, Henry Silver, Sidney M. Silverstone, Michael Silvert, Ellen I. Simon, Norman Simon, Eli Sinins, Irwin E. Siris, Beverly C. Smith, Carl A. Smith, Harry P. Smith, Henry T. Smith, James J. Smith, Harry A. Solomon, Anthony Spinelli, Sophie Spitz, Andrew Sporer, J. J. Squire, Julian L. Stamm, Edward F. Stanton, Aaron Stein, Edward Stern, Alice H. Stewart, Charles F. Stewart, George J. Stivala, C. R. Straatsma, Lee R. Straub, John L. Sullivan, Raymond P. Sullivan, Carl F. Sulzberger, Ralph M. Sussman, Arthur M. Sutherland, Joseph F. Szoo, Henry M. Taterka, Henry K. Taylor, John A. Taylor, Irving Terman, Samuel F. Thomas, Clara Thompson, Walter A. Thompson, A. E. Timpanelli, Morris Touriel, Harold B. Trachtenberg, Morris Turell, Arnold Turtz, Charles A. Turtz, Lester J. Unger, William M. Unobskey, Samuel Untracht, Jerome A. Urban, B. M. Vance, Ilona Vass, Louis Venet, John J. Vetter, Alfred J. Vignec, Diodato Villamena, Peter Vogel, William G. Von Stein, Anthony S. Votos, Rudolph Wagner, David P. Waldman, Bettina Warburg, Rubin Wasserman, David M. Weeks, Harry I. Weinstock, Jerome Weiss, H. L. Wenger, Paul Wermer, Charles A. Werner, Felix Widder, Byard Williams, Barbara Wilson, Philip D. Wilson, Philip D. Wilson, Jr., Samuel E. Witt, James A. Wolff, Paul M. Wood, William R. Woolner, Irving S. Wright, Myron Wright, Helen Yarnell, Herbert Zerner, Angelo A. Zingaro, and Gary Zucker.

Also: *Oneida*—Drs. Howard Beach, Wallace B. Nixdorf, Richard J. Rebasz, and J. F. Rommel, Jr.; *Oneonta*—Drs. John M. Constantine, Joseph T. Eagan, and C. R. Tuthill; *Pawling*—Dr. Milnor B. Morrison, Jr.; *Pelham Manor*—Dr. George S. Cowan; *Penfield*—Dr. E. S. Deuel, *Perrysburg*—Dr. Joseph W. Todd; *Pine Plains*—Dr. Walter W. Wicks; *Plattsburgh*—Drs. P. C. Pulrang, E. R. Raymaley, Jr., Leonard J. Schiff, H. L. Schlesinger, and R. P. Smith; *Pleasantville*—Dr. Joseph A. Porcello; *Port Chester*—Dr. Arthur H. Diedrick; *Poughkeepsie*—Drs. Jerome Lehner, William H. Liesenbein, Frank C. Starpoli, and Willis E. Travis; *Queens Village*—Drs. Sheldon Schwartz and Paul J. Tomlinson; *Redwood*—Dr. Joseph R. Recupero; *Rego Park*—Drs. Arthur Biezunski, Milton Dillon, and Oscar Schneller; *Rensselaer*—Dr. B. W. Wilke; *Richmond Hill*—Drs. Isaac E. Edelman, Robert E. Getting, Saul Lustig, Joseph J. McEvoy, Charles F. Meierdiercks, and Ezeral J. Patterson; *Ridgewood*—Dr. John F. Wolfram; *Rochester*—Drs. Ralph E.

Alexander, Russell G. Allenza, Barbara Arthur, Maurice A. Bernard, Wilford W. Berge, Mary J. Bird, Floyd E. Bliven, Jr., George R. Bodon, Richard J. Brzustowicz, Stearns S. Bullen, Sr., Elsa K. Chaffee, John W. Colgon, John E. Connor, Vincent J. Coviello, Jerome Cowen, Henry B. Crawford, Aubrey D. Crown, George Dacks, Michael T. DiRoberto, Alfred G. Ebel, Ward L. Ekas, George L. Emerson, Merle D. Evans, and B. V. Favata.

Also: Drs. Salamon S. Feldman, Ernest J. Field, Jean E. Foley, Fred J. Fumia, Michael J. Gerbasi, Louis A. Goldstein, Maurice J. Gormican, Joseph J. Hallett, Edward G. Hardenbrook, F. S. Hassett, Gordon M. Hemmett, Joseph P. Henry, William W. Howe, Jr., Isadore Hurwitz, Louis A. Iuppa, Richard C. Jaenike, John W. Jameson, Nolan L. Kaltreider, Robert E. Kennedy, Charles S. Lakeman, Joseph A. Lane, William A. Lange, Louis L. Lapi, C. G. Lenhart, Eli A. Leven, Joseph B. Loder, F. J. Martin, William S. McCann, E. F. Merrill, Isadore Messinger, Thomas W. Morgan, John F. Muxworthy, Jr., C. S. Nash, Edward B. Nugent, Elmer W. O'Brien, W. F. O'Connell, Norman J. Pfaff, Anthony J. Pizzarelli, Paul W. Preu, Michael E. Pulcino, Francis C. Regan, John Romano, Andries I. Rodenburg, Peter K. Sabey, John A. Schilling, Ellis B. Soble, Bernard P. Soehner, T. B. Steinhausen, E. E. Strobino, Abraham J. Tatelbaum, James W. Thomson, Alvin L. Ureles, Henry F. Usdin, Duane B. Walker, Jean D. Watkeys, James S. Watson, Maxwell Weingarten, F. J. Weismiller, Jr., Edward T. Wentworth, Jean G. White, Floyd S. Winslow, and Philip M. Winslow; *Roscoe*—Dr. Alfred A. Hesse; *Sackets Harbor*—Dr. Juda B. Bickel; *St. Albans*—Dr. Harold J. Egan; *Saranac Lake*—Dr. John N. Hayes; *Scarsdale*—Dr. Maurice L. Woodhull.

Also: *Schenectady*—Drs. Arthur Adams, Louis R. Biagi, Ernest A. Cirasano, John L. Clowe, Glen E. Cooley, Eugene Davidoff, D. A. DeLisa, Roland L. Faulkner, Jacob Frumkin, Gerald L. Haines, Seymour Horowitz, Ralph E. Isabella, Frank L. Maring, Raymond A. Maslyn, Stewart F. MacMillan, Stephen C. Meigher, Kurt H. Meyerhoff, Kencil L. Mitton, Preston W. Reynolds, Gomer Richards, John P. Rinaldi, C. G. Rourke, Hendrik M. Rozendaal, Joseph Slovak, Thomas Watson Smith, and Louis P. Tischler; *Springfield Gardens*—Dr. Rubin Solomon; *Staten Island*—Drs. Albert B. Accettola, Charles N. Accettola, Herbert Berger, Isadore E. Cooper, Anthony J. Cosentino, Louis A. D'Alecy, B. J. DeRespinis, William J. Frew, Alfred F. Granatelli, Ellen Jiroudek, Herbert S. King, Irving F. Klein, Edward D. Lucey, Waddie R. Procci, Herbert E. Schoen, Joseph F. Shanaphy, Joseph S. Sidoti, Raymond J. Stark, Michael Swick, Joseph P. Takach, Frank Tellefsen, L. E. Viola, Joseph F. Worthen, and J. Zoole; *Suffern*—Dr. Abraham Z. Freudenheim; *Sunmount*—Dr. M. Kingsbury; *Syracuse*—Drs. Wesley H. Bradley, David W. Brewer, Michael J. Elwood, Irving L. Ershler, R. D. Fairchild, Gordon D. Hoople, Robert H. Rowner, and Lee R. Stoner; *Troy*—Drs. R. F. Amyot, H. G. Anderson, S. Baer, C. E. Bessey, A. M. Chapnick, R. L. Colletti, Frank DeLucia, R. P. Doody, T. P. Engster, J. W. Fitzgerald, L. D. Freydberg, J. T. Gallo, J. P. Jaffarian, J. L. Lanzillo, S. W. McIlmoyl, E. Palmer, J. J. Squadrito, J. J. Talin, D. R. Tomlinson, W. Trotter, and W. B. VanAuken.

Also: *Walton*—Dr. Walter E. Eells; *Wappingers Falls*—Dr. Paul Jacobson; *Watertown*—Dr. Thomas N. Sickels; *Watervliet*—Dr. O. Loewy; *Webster*—Dr. Jason O. Cook; *Wellsburg*—Dr. M. E. Pittman; *White Plains*—Drs. James M. Greer, Burton P. Hoffman, R. R. McLaughlin, and Marcus Schwartz; *Whitestone*—Drs. Arthur Schwartz, William Sharkey, and Joseph Warshaw; *Whitney Point*—Dr. Vesta M. Rogers; *Woodhaven*—Drs. Roy G. Aiello, Charles F. Blazsik, and Anthony R. Palma; *Woodmere*—Dr. A. G. Silver, and *Yonkers*—Dr. Thomas C. Broderick.

Examination for Fellows—Examinations for qualified fellows of the International College of Surgeons will be held in Chicago, July 23 and 24 and October 29 and 30. Oral conferences will be held on August 6 and October 22.

For details, write to the Secretary of the Qualifications Council, International College of Surgeons, 1516 Lake Shore Drive, Chicago 10, Illinois.

Gift to Library—The library of the New York Academy of Medicine has received as a gift an original letter of Edward Jenner, English physician and discoverer of vaccination against smallpox, and a document written by his American contemporary, Benjamin Waterhouse, who first introduced Jenner's discovery in this country. The gift was announced by Dr. Howard Reid Craig, director of the Academy.

Personalities

Elected

Dr. Simon Dack, chief of the cardiac clinic at Mount Sinai Hospital in New York City, as president of the American College of Cardiology . . . Dr. Ambrose P. Merrill, director of St. Barnabas Hospital, New York City, as president of the Hospital Association of New York.

Appointed

Dr. Jack Black, New York City, to the staff of the clinical research division of Schering Corporation . . . Dr. Jack Gross of the Department of Anatomy, and Dr. Frank C. Hamm of the Department of Surgery, to full professorships on the faculty of the State University College of Medicine in Brooklyn . . . Dr. Bernard Levowitz, research assistant at the State University of New York College of Medicine in Brooklyn, as a cancer fellow in surgery at Kings County Hospital . . . Dr. Felix Marti-Ibanez as director of a new history of medicine department at

New York Medical College, Flower and Fifth Avenue Hospitals.

Awarded

Dr. Eugen Grabscheid, the Dr. Charles Bramman Meding Award at the Harlem Eye and Ear Hospital on May 21 in recognition of his outstanding clinical service at that hospital and for his presentation of programs of study in the interest of the advancement of the art of otolaryngology . . . Dr. Bela Schick, New York City, the Justice Louis D. Brandeis annual gold medal award on May 20 in New York City.

Speakers

Dr. Robert C. Batterman of Flower-Fifth Avenue Hospitals, New York City, before the Federation of American Societies for Experimental Biology in Atlantic City in May . . . Dr. Leona Baumgartner, New York City health commissioner, and Dr. Herman E. Hilleboe, New York State health commissioner, at the Second Congress of the World Confederation for Physical Therapy at the Hotel Statler, New York City, on June 18 . . . Dr. Herman M. Biggs, professor of preventive medicine at New York University and chairman of the Department of Preventive Medicine at New York University College of Medicine, New York City, before the hospital staff of the Veterans Administration Hospital at Northport on May 4, on "Significance of Parasitism of Importance in Mental Hospitals" . . . Dr. Maurice Bruger, associate professor of medicine at New York University Post-Graduate Medical School, before the Ulster County Medical Society on June 5 in Kingston on "Pre- and Post-Operative Water Balance and Electrolyte Requirements" . . . Dr. Robert Gregg, professor of surgery at the State University of New York College of Medicine at Syracuse, before the Tompkins County Medical Society on May 21 in Ithaca, on "Peripheral Vascular Diseases—Surgical Implications" . . . Dr. Charles W. Lloyd, assistant professor of obstetrics at the State University of New York College of Medicine at Syracuse, before the Steuben County Medical Society on May 17 on "The Present Status of Corticosteroids" . . . Dr. Basil C. MacLean, New York City Commissioner of Hospitals, before the Greater New York Hospital Association in the Roosevelt Hotel in New York City, on May 8 . . . Dr. H. Houston Merritt, director of neurologic service at the Presbyterian Hospital, Columbia-Presbyterian Medical Center, New York City, before the staff of the Veterans Administration Hospital at Northport on May 15 on "Subarachnoid Hemorrhage" . . . Dr. Samuel J. Prigal, associate professor of medicine of the New York Medical College, Flower and Fifth Avenue Hospitals, before the Pennsylvania Academy of Physical Medicine and Rehabilitation in Philadelphia on May 17 on "Aerosol Therapy" . . . Dr. Clifford J. Sager, director of therapeutic services, Postgraduate Center for Psychotherapy, Inc., New York City, before the staff of the Veterans Administration Hospital at Northport on April 26 on "Combined Group and Individual Therapy" . . . Dr. Thomas E. Turner, clinical associate professor of gynecology at the State University of New York College of Medicine at Syracuse, before the Mohawk Valley Gynecological and Obstetrical Society on May 29 in Utica on "Endometrial Carcinoma."

Honored

Dr. W. C. Jacobsen, as guest of honor at the annual meeting and dinner of the New York Academy of Gastroenterology in New York City on May 14 . . . Dr. Raymond Lease of Oyster Bay with a testimonial dinner given by the Medical Division of the Community Hospital at Glen Cove on April 7.

New Office

Dr. Frank E. Cormia, practice of dermatology in Chappaqua.

Discontinues Practice

Dr. H. F. Weinauer, of Hemlock, discontinuing the practice of medicine in that community as of April 14.

Artificial Hibernation

Gratifying results with artificial hibernation in 18 surgical cases and six cases of clinical experimentation stimulated this presentation of work based on the investigations of Professor Henri Laborit of France. By a combination of drugs and hypothermia, a diminished reactive state is induced in which noxious stimuli are unlikely to provoke a response sufficiently violent to be detrimental. Both the drug-induced neuroplegia and the refrigeration have similar actions, but the neuroplegia must go before to prevent a severe reaction to the cold. The brief experience of Drs. Edgar F. Berman, Howard H. Patt, and Leonard Akman, supports the conclusions of the European investigators that the method has considerable merit. Although routine use is not advocated, its greatest promise right now is for poor surgical risks. Also, it allows a a margin of safety greater than conventional forms of anesthesia in those procedures which may be associated with hypoxia because of the lower metabolic requirements during the state of hibernation.—*J. Internat. Coll. Surgeons, September, 1955*

THE MONTH IN WASHINGTON

As MIGHT be expected, a presidential commission's report on veterans' pensions that also goes into the subject of nonservice-connected medical benefits is stirring up another controversy.

The President's Commission on Veterans Pensions, headed by Gen. Omar Bradley, World War II leader and postwar Veterans Administrator, conducted a study covering more than a year in time and a wide range of subjects. It produced a 415-page report and a total of 70 recommendations.

The seven-man commission's report has this basic premise: military service in time of war or peace should be treated as discharging an obligation of citizenship and not of itself as a basis for future government benefits.

The commission made this additional point: ". . . under conditions of modern technology and warfare, the national defense might be served equally well by a civilian in a scientific laboratory or a war plant as by a uniformed serviceman—and in view of total war and atomic weapons, perhaps with greater personal hazard to the civilian. This further suggests that the special needs that veterans have because of military service should not be confused with the needs that all citizens have in common for such things as education, health services, and economic security."

With this in mind the commission proposes the gradual elimination of nonservice-connected benefits and observes: "Their justification is weak, and their basic philosophy is backward looking rather than constructive." Such benefits, it adds, should be limited to a minimum level and retained only as a reserve line for veterans who fail to qualify for basic protection under Old Age and Survivors Insurance (Social Security).

The commission then goes one step further by recommending an end to the present automatic "presumption of service-connection" procedure. Now, presumption of service connection is automatic and mandatory for certain diseases if the condition is diagnosed within a specific period of time following discharge. Instead, the commission would substitute medical determination for chronic and tropical diseases, psychoses, tuberculosis, and multiple sclerosis with each case decided on its own merits.

Other recommendations include (1) increased reliance on the OASI system for certain veterans benefits, (2) prompt counseling of all veterans placed on compensation rolls as to VA and Federal-state rehabilitation programs, and (3) requirement of reasonable medical or surgical treatment before payment of compensation.

Representatives of veterans groups called before the House Veterans Affairs Committee to comment on the Bradley study complained that some of its proposals would be "extremely destructive" to certain aspects of veterans compensation.

Notes

Two committees of Congress, after long studies of problems of narcotics, barbiturate, and amphetamine addiction, have come up with recommendations that the U.S. tighten penalties on narcotics peddling and smuggling, outlaw heroin, and set up a central unit in the Federal Bureau of Narcotics to keep track of known addicts. The proposals were made by the Senate Judiciary committee and a House Ways and Means subcommittee.

The House committee also suggested a law for more stringent controls over barbiturates and amphetamines.

The Senate committee rejected the proposal backed by the New York Academy of Medicine for "clinics" where known addicts could go for regular doses of narcotics.

U.S. Public Health Service is advising private physicians as well as health officers to increase their use of Salk poliomyelitis vaccine. Although supplies now lag behind demand, the expectation is that before the summer is out, the situation will be reversed. In line with this recommendation, PHS is urging that physicians use what supplies they have on hand immediately, depending on future production to take care of second and third shots.

Because the President signed the military career incentive bill promptly, physicians in uniform received their pay raises starting May 1. The minimum boost (after two years' service) is $50 per month, the maximum (after ten years) $150.

Private-profit nursing homes, hospitals, and some other medical facilities soon will have an opportunity to obtain U.S. loans from the Small Business Administration. The limit is $250,000 per project, the interest rate usually 6 per cent.

If there was any question about it, the AFL-CIO as a joint organization favors national compulsory health insurance, as each group did before the merger. The AFL-CIO stand was taken officially for the unions by Nelson Cruikshank in testimony before the House Ways and Means Committee on a bill for increased payments for the medical care of public relief recipients.

Prepared by the Washington Office of the American Medical Association, Washington, D.C.

CORRECTION

Minutes of the Council, February, 1956

Because of the omission of one page of the original copy, portions of the following material failed to appear in the minutes as published in the April 15, 1956, issue of the Journal. *The entire section is printed herewith for clarification.*

Economics.—Dr. John C. McClintock, chairman, presented the following report: The Economics Committee met on January 28, 1956, at the Fort Orange Club, Albany, New York. All members of the committee were present except Dr. Gerald B. Manley of Geneseo.

In accordance with instructions of the Council, the committee considered the proposal to provide medical care for dependents of members of the armed forces, as embodied in H.R. 7994, and approved the following telegram sent January 23 to Dr. George F. Lull, secretary, American Medical Association.

> Informal discussions with representatives from a few county societies in New York State indicate willingness to cooperate with Defense Department's Plan for medical care of dependents of service personnel in armed forces, providing: (1) maximum utilization wherever possible is made of existing civilian medical personnel and hospital facilities for dependent care with free choice of these by patient; (2) providing insurance type program be instituted whereby service man pays percentage of premium cost and nonprofit plans are used as Blue Cross and Blue Shield; (3) home-town care programs, while approved by the State Society for veteran's care, are objected to because of complete subsidization by government; (4) whatever program is adopted must not require increase in existing armed forces medical installation nor augment medical personnel in the services.
>
> Walter Anderton, M.D., Secretary

After considering resolutions from county medical societies, the Committee on Economics recommends Council approval of the following resolution:

> Whereas, the Department of Defense has asked the Congress of the United States to clarify and coordinate provision for the medical care of dependents in all the armed forces, the Coast Guard, Coast and Geodetic Survey and the Public Health Service; and
>
> Whereas, dependents have been clarified in the bill (H.R. 7994) to provide this legislation; and
>
> Whereas, Blue Cross and Blue Shield are willing to act as agents to implement this plan on a cost-plus basis; and
>
> Whereas, several of the component county medical societies have agreed in principle to the provision of medical care for dependents of service personnel; be it therefore now
>
> *Resolved*, that the Council of the Medical Society of the State of New York approve the principle of providing medical care for dependents of service personnel using civilian medical and hospital facilities wherever possible; and be it further
>
> *Resolved*, that this care be provided through nonprofit insurance for which the service personnel pays a per cent of the premium cost; and be it further
>
> *Resolved*, that Blue Cross and Blue Shield act as agents in providing this coverage; and be it further
>
> *Resolved*, that a copy of this resolution be sent to the president of all component county medical societies in the State of New York and to the general manager of the American Medical Association.

Your committee also recommends Council approval of the following resolution adopted by the New York State Blue Shield Plans, December 9, 1955, which was reviewed by the Subcommittee on Medical Expense Insurance at its meeting, January 12, 1956. The subcommittee is in accord with this resolution.

> Whereas, the public desires complete financial coverage for the services against which they are insured; and
>
> Whereas, the medical profession must decide what it wants to do to meet the needs and demands of the public if it wants the free practice of medicine to continue; and
>
> Whereas, the medical profession can best meet these demands through its own organization of Blue Shield, which must be the Doctors' Plan in fact as well as in name; and
>
> Whereas, controversy has arisen as to relative value of indemnity versus service benefit plans; and
>
> Whereas, Blue Shield does not nor does it desire to force any plan or schedule of fees on the practicing profession; and
>
> Whereas, the establishment of scheduled allowances is controlled by professional policies and the physicians who render the service; and
>
> Whereas, the people living in the area served by United Medical Service, Inc., Northeastern New York Medical Service, Chautauqua Region Medical Service, Inc., Genesee Valley Medical Care, Inc., and Central New York Medical Plan, Inc., are enthusiastically supporting the service benefit feature of Blue Shield; and
>
> Whereas, these Plans serve 85 per cent of the population of New York State; and
>
> Whereas, the medical societies of the counties of these areas have endorsed the service benefit principle; and
>
> Whereas, unless Blue Shield is enabled to write service benefits in all areas of New York State, both Blue Shield and the medical profession will suffer untold loss of prestige; and
>
> Whereas, service benefits, to be satisfactory to the public, must be at a realistic level and the scheduled allowances must be satisfactory to the physicians rendering service; and
>
> Whereas, commercial companies and panel plans cannot deliver the services of the vast majority of physicians, such a solution of the problem will inevitably lead to the eventual government control of medicine; therefore be it
>
> *Resolved*, that all Blue Shield Plans be strongly urged to take the necessary steps to institute a

$6,000 service ceiling program; and be it further

Resolved, that all members of the New York State Medical Society be asked to participate in making the $6,000 service ceiling program successful; and be it further

Resolved, that the New York State Medical Society recommend to each county society the activation of this resolution through its representative Blue Shield Plan without undue delay.

The committee reviewed the annual reports of its Subcommittee on Public Medical Care, Subcommittee on Medical Expense Insurance, and the Bureau of Medical Care Insurance.

Your committee considered the need for a uniform State-wide contract and heartily agrees with the reference committee's report favoring a uniform State-wide contract, combining indemnity and service, service benefits to be limited to certain income ceiling levels and benefits above those ceilings to be on an indemnity basis as approved by the 1955 House of Delegates.

Your committee recommends that the Council strongly urge all members of the Medical Society of the State of New York to participate in making the $6,000 service ceiling program available in all areas of New York State. Unless uniform benefits are made available on a service basis for State-wide groups in the near future, the medical profession is in danger of losing the civil service employes group of the State of New York since legislation has already been introduced to make this service available to them. Large State-wide industrial groups have already been lost to Blue Shield because of the lack of uniform benefits throughout the State on a service basis.

NEWS FROM THE MEDICAL SCHOOLS

Albany Medical College

Speakers—Dr. W. Brandon Macomber, associate professor of surgery and head, Sub-department of Plastic Surgery, and Dr. Mark K. Wang, assistant clinical professor of plastic surgery, presented a paper on "Congenital Deformities of the Lips" at a meeting of the American Association of Plastic Surgeons which was held in Toronto, Canada, in May.

Alumni—Annual Alumni Day was held on May 17 at the College. Included in the program was "Open House" at the College, golf at the Albany Country Club, and cocktails and dinner at the Aurania Club. Dr. Philip D. Allen, New York City, president of the association, presided at the business meeting. Other officers of the association present were: Dr. Walter S. Bennett, Granville, president-elect; Dr. John F. Filippone, Albany, treasurer; Dr. Thomas M. Aldrich, Rensselaer, corresponding secretary; Dr. Beverly L. Vosburgh, Schenectady, recording secretary, and Dr. Emerson C. Kelly, Albany, historian. Dr. John E. Gainor, Elsmere, assistant clinical professor of pediatrics, was chairman of the committee in charge of arrangements. Dr. Carter Davidson, Chancellor of Union University, spoke to the alumni and graduates. After dinner, awards were presented to fifty-year alumni, the winner of the Alumni Plaque was announced, and the members of the graduating class were presented to the alumni.

Postgraduate Lecture—The College's postgraduate education division sponsored a lecture on steroid therapy on May 31 at the Vassar Brothers Hospital, Poughkeepsie. Dr. Samuel R. Powers, assistant professor of surgery, and Dr. William P. Nelson, III, assistant professor of medicine, took part in presenting the lecture.

Graduation—Dr. Carl J. Wiggers, Cleveland, Ohio, delivered the address at the 126th Commencement on June 1, at which 48 members of the graduating class received the degree of Doctor of Medicine. Dr. Wiggers, professor and chairman, Department of Physiology, Western Reserve University for thirty-five years, was awarded the 1955

Albert Lasker Award of the American Heart Association for "distinguished achievement in the field of cardiovascular research."

Prizes awarded to the graduates were: Frederick R. Brandlin, Rochester, the Association of the Alumni Medal for outstanding qualities and meritorious work; Gerald Marvin Kotzin, Albany, the John Milton Bigelow Prize for the best examination in diseases of the nose and throat; Peter Paul Carbone, White Plains, the S. Oakley Vander Poel Prize for the best bedside examination in general medicine; Robert Harvey Randles, Albany, and David Corn, West Hartford, Connecticut.

The Daggett Trust for the two seniors who maintain the best deportment, and George Emmett Reardon, Hartford, Connecticut, William Augustus Peterson, Kingston, and James Thomas Maher, Jamaica, the Lamb Foundation Prizes to the three seniors for outstanding work in doctor-patient relationship.

State University of New York College of Medicine at New York City

Markle Scholar—Dr. Merlin K. DuVal, Jr., assistant professor of medicine, has been selected as one of 23 "1956 Scholars in Medicine" by the John and Mary R. Markle Foundation. The award of $6,000 a year for five years, which will be paid to the College, will be used to help support Dr. DuVal's continued research on inflammatory diseases of the pancreas.

American College of Surgeon's Research Scholarship—Dr. Sigmund A. Wesolowski, assistant instructor in surgery, has been awarded the third research scholarship of the American College of Surgeons. The award, which amounts to $20,000 over a three-year period, will be used to help support Dr. Wesolowski's teaching and research activities at the College. In addition, Dr. Wesolowski hopes to spend a year in England during the period of the scholarship to study cardiovascular surgery under Sir Russell Brock at Guy's Hospital, London.

Schering Award—Salvatore J. Leone, a third-year student, has received $250 for his coauthorship of a first-prize-winning paper in the Eleventh Annual Schering Award Competition. He wrote about "Recent Trends in the Clinical Use of Adrenocortical Steroids."

Visiting Professorship—Dr. Louis M. Hellman, professor and chairman, Department of Obstetrics and Gynecology, spent the month of May as visiting professor at Guy's Hospital Medical School in London, England. On May 25, he delivered the Green-Armytage Anglo-American Lecture on the subject "Tubal Plastic Operations." He also lectured on "Uterine Dysfunction" to advanced medical students at the University of London and on "Cervical Changes in Pregnancy as They Relate to Carcinoma in Situ" to the Postgraduate Institute of Obstetrics and Gynecology.

Research Grant—The Dr. Samuel Lubin Research Foundation has announced a grant of $3,000 a year to the College's Department of Obstetrics and Gynecology. The money will be used for research in fetal cardiography.

Parents Association—The College's Parents Association wound up its year's activities at its third annual Spring Festival in the Barbizon Plaza Hotel, New York City. Proceeds from the affair went to the Association's Student Loan and Fellowship Fund to help students who need financial assistance during the school year and to encourage and support student summer research projects at the College.

Alumni Day—Alumni Day was held on Saturday, June 2, in the new Basic Sciences Building. A scientific panel on "Coronary Artery Disease" moderated by Dr. William Dock, professor of medicine, was presented in the morning followed by a buffet luncheon in the cafeteria. In the afternoon an Alumni Memorial Convocation was held as well as a tour of the new Basic Sciences Building. The annual Alumni Dinner was held in New York City at the Roosevelt Hotel.

State University of New York College of Medicine at Syracuse

Fellowships—1956 summer fellowships from the National Foundation for Infantile Paralysis have been awarded to: Allen Ginsburg and Martin T. Steinberg, class of 1957, who will work under the supervision of Dr. George Raus, public health; Richard R. Dole and Robert Zechnich, class of 1957, who will be supervised by Dr. Paul F. Wehrle, pediatrics; and David N. Cheris and Sheldon P. Braverman, class of 1959, who will work under the supervision of Dr. Edward R. Perl, physiology.

New York University College of Medicine

Menas S. Gregory Lecture—Dr. Frank A. Beach, Sterling Professor of Psychology at Yale University, delivered the Menas S. Gregory Lecture on May 10. He spoke on "Theories of Sexual Motivation." This was the tenth of a series of talks on topics concerned with psychiatry which were made possible by the will of Dr. Menas S. Gregory who was professor and chairman of the Department of Psychiatry.

Promoted—Dr. Harry A. Feldman, chief of the section of preventive medicine, and Drs. Paul Bunn and Eugen L. Lozner, Department of Medicine, have been promoted to full professorship.

Woman's Auxiliary
to the MEDICAL SOCIETY OF THE STATE OF NEW YORK

A Message from the President

ON THIS twentieth anniversary of the Woman's Auxiliary to the Medical Society of the State of New York I am appreciative of the honor to have been elected president. Also I am cognizant of the challenge confronting me when I look at the record of accomplishments of the presidents who have preceded me. I wish to take this opportunity to pledge the whole-hearted support of the Auxiliary to the president and general membership of the State Medical Society.

While planning and evaluating the Auxiliary program for the coming year I realized that parts of it would of necessity be repetitious, but my officers and chairmen hope to inspire the general membership to take a renewed interest in the older projects by stressing new facets. We shall also emphasize the role of the county auxiliary with special attention to the role of the individual member.

Auxiliary members concur in the old axiom that in numbers there is strength, but as we strive to increase our membership we shall also strive to hold the members we already have. To do so we plan to assume the responsibility for keeping them interested and active so that they will not become just a name on our membership files. Belonging to a medical auxiliary is a distinct privilege afforded to but few, and we are proud and anxious to make the most of this privilege. We are all interested in working to have the profession continue on the same level of independence and progress, free of domination from forces outside.

In our endeavor to serve both the public and the medical profession, we try to be selective in adopting projects at the county level. Dr. Renato J. Azzari, immediate past-president of the Medical Society of the State of New York and present chairman of the advisory committee to the Woman's Auxiliary, has suggested that we concentrate our efforts in fields directly related to health and medical care.

The major part of our program and of our public relations projects is continuous, and all have been incorporated in our program in varying degrees. I shall mention a few which we plan to emphasize during the coming year.

Our projects will include public education in regard to mental illness; child safety, with greater activity in the GEMS (good emergency mother substitutes); promotion of the American Medical Education Foundation in the form of a Christmas card project along with an educational program in order to fully understand the necessity for the AMEF; and stressing the importance of the use of our voting franchise.

I speak for the officers, chairmen, and myself when I say that the Auxiliary welcomes your ideas, suggestions, and criticisms, all of which will point toward a greater understanding and unity of purpose in our Auxiliary work. We take pride in being an Auxiliary to the Medical Society of the State of New York and as such we like to remember the thought in these words: "Coming together is a beginning. Keeping together is progress. Thinking together is unity. Working together is success."

Mrs. Albert Vander Veer, II, *President*

270 Tudor Road
Albany, New York

Measles and the Central Nervous System

About half the children surviving central nervous system complications of measles have permanent residual damage, usually in the form of flaccid or spastic paraplegia, cerebellar ataxia, mental retardation, or emotional changes. While the frequency and relative severity of these complications vary greatly in different epidemics, Dr. Seymour F. Kuvin says that a diagnosis of measles should alert the physician to the possible involvement of the brain, meninges, or spinal cord. In presenting two cases with characteristic symptoms and physical findings of measles and meningoencephalomyelitis, the writer discusses symptomatology and treatment. Therapy, except for gamma globulin if it can be given early, is largely supportive.—*Journal of the Medical Society of New Jersey, October, 1955*

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DISADVANTAGES	**DISADVANTAGES**	
nausea and emesis in higher dosage some flatulence, nervousness and urinary frequency	slow acting not effective alone in moderate and severe hypertension may cause nasal stuffiness, weight gain...depression in some patients	

[1] Cohen, B.M.; Cross, E.B., and Johnson, W.: Am. Pract. 6: 1030, 1955.

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CORRESPONDENCE

The following communication addressed to Dr. Renato J. Azzari, president (1955–1956), Medical Society of the State of New York, is published herewith for the interest of our readers.

Dear Dr. Azzari:

May I take this opportunity, on the occasion of the annual meeting of the Medical Society of the State of New York, to express thanks from the National Foundation for Infantile Paralysis to the Society as a whole and its individual members for their excellent cooperation with the State Health Department and the National Foundation in the successful conduct of the poliomyelitis vaccine demonstration program in New York during 1955.

The chief beneficiaries of this program, of course, were the New York school children, mainly in the first and second grades, who received one or more injections of vaccine supplied by the National Foundation during the year 1955. A total of 1,249,440 cc. of vaccine was supplied.

You may be interested to know that, thanks to your help, 572,351 New York children received at least one inoculation; 523,666 received two inoculations, and 91,434 received a third (booster) inoculation with this vaccine up to April 1, 1956.

Approximately 52 per cent of the New York children in the five-to-nine age group, the age group most susceptible to paralytic poliomyelitis, thus obtained a high degree of protection against the disease in 1955 as a result of this program.

The cooperation of the Medical Society of the State of New York helped materially to account for this fine record.

While this is a formal expression of gratitude for your help, the real expression must come from the parents of those many children in New York who feel free from the threat of paralytic poliomyelitis in their families now that the 1956 poliomyelitis season is at hand.

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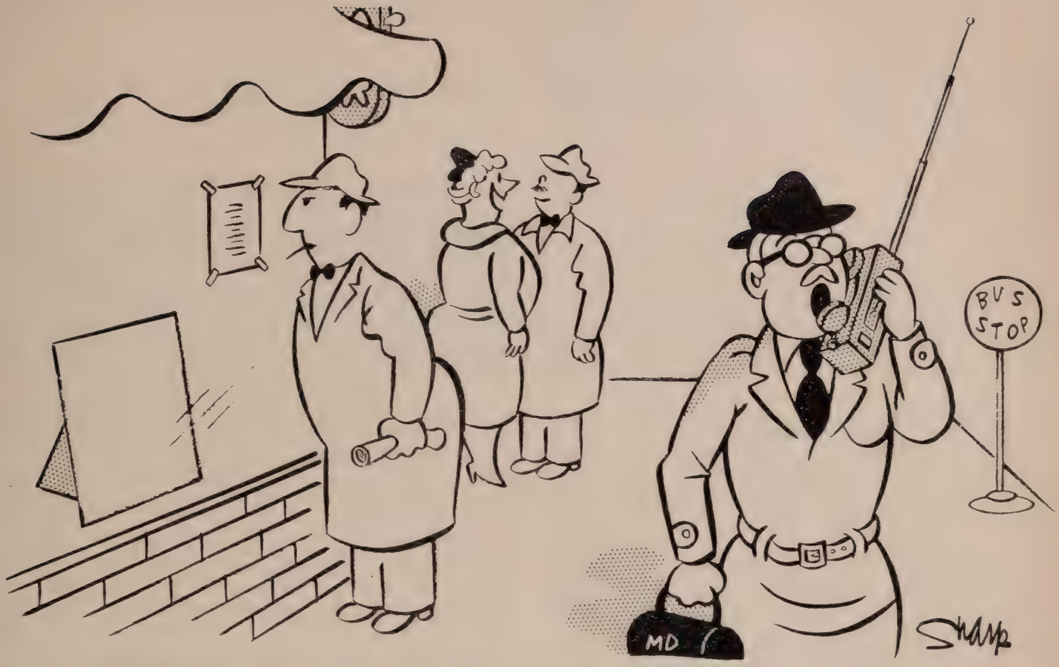
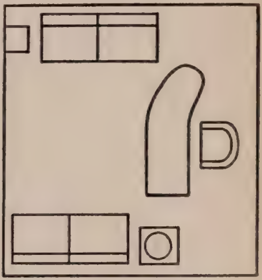
(3) An empty stomach is the only requirement for study of the upper GI tract. (4) In children a gas filled stomach will yield a more satisfactory intravenous pyelographic study than enemas and purgatives. (5) Postural drainage and good local anesthesia are required for bronchography. (6) Only an empty stomach and mild sedation usually are needed for special procedures such as angiocardiography, aortography, pneumoencephalography, or retroperitoneal air insufflation.—*Portland Clinic Bulletin, December, 1955*



"Give her some aspirin and cough syrup and let me know if her temperature goes up!"



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BOOKS RECEIVED

(The following books were received during the month of April, 1956)

Clinical Recognition and Management of Disturbances of Body Fluids. By John H. Bland, M.D. Second edition. Quarto of 522 pages, illustrated. Philadelphia, W. B. Saunders Company, 1956. Cloth, $11.50.

Fifth Annual Report on Stress, 1955-56. Edited by Hans Selye, M.D., and Gunnar Heuser, M.D. With 17 contributors. Octavo of 815 pages, illustrated. New York, MD Publications, 1956. Cloth, $20.

Electrocardiography. Fundamentals and Clinical Applications. By Louis Wolff, M.D. Second edition. Octavo of 342 pages, illustrated. Philadelphia, W. B. Saunders Company, 1956. Cloth, $7.00.

Migration and Mental Disease. A Study of First Admissions to Hospitals for Mental Disease, New York, 1939–1941. By Benjamin Malzberg, Ph.D., and Everett S. Lee. Octavo of 142 pages, illustrated. New York, Social Science Research Council, 1956. Paper, $1.50.

The Annual Survey of Psychoanalysis. A Comprehensive Survey of Current Psychoanalytic Theory and Practice. Volume III. 1952. Edited by John Frosch, M.D., and Nathaniel Ross, M.D., Sidney Tarachow, M.D., and Jacob A. Arlow, M.D. Octavo of 682 pages. New York, International Universities Press, 1956. Cloth, $10.

Gestation. Transactions of the Second Conference, March 8, 9, and 10, 1955, Princeton, N.J. Edited by Claude A. Villee, Ph.D. Octavo of 262 pages, illustrated. New York, Josiah Macy, Jr. Foundation, 1956. Cloth, $5.00.

1956 Medical Progress. A Review of Medical Advances During 1955. Edited by Morris Fishbein, M.D. Octavo of 389 pages. New York, The Blakiston Division, McGraw-Hill Book Company, 1956. Cloth, $5.50.

Diseases of the Nervous System. By Sir Russell Brain, Bt., D.M.(Oxon.). Fifth Edition. Octavo of 996 pages, illustrated. New York, Oxford University Press, 1955. Cloth, $10.50.

The Truth About Cancer. By Charles S. Cameron, M.D. Octavo of 268 pages, illustrated. Englewood Cliffs, N.J., Prentice-Hall, 1956. Cloth, $4.95.

The Flavonoids in Biology and Medicine. A Critical Review. By Maurice E. Shils, Sc.D., and Robert S. Goodhart, M.D. Octavo of 101 pages, illustrated. New York, National Vitamin Foundation, 1956. Paper, $2.00.

Cancer Cytology and Cytochemistry. By M. J. Kopac, Ph.D. (Conference Chairman), J. E. Ayre M.D., G. M. Bader, M.D., J. J. Beisele, Ph.D., *et al.* Octavo of 429 pages, illustrated. New York, New York Academy of Sciences, 1956. Paper, $4.50. (*Annals of the New York Academy of Sciences,* v. 63, Art. 6, pp. 1033–1462)

Ascites Tumors as Tools in Quantitative Oncology. By Theodore S. Hauschka, Ph.D. (Conference Chairman), C. M. Ambrus, M.D., J. L. Ambrus, M.D., D. B. Amos, *et al.* Octavo of 393 pages, illustrated. New York, New York Academy of Sciences, 1956. Paper, $4.50. (*Annals of the New York Academy of Sciences,* v. 63, Art. 5, pp. 637–1030)

The Rochester Regional Hospital Council. By Leonard S. Rosenfeld, M.D., and Henry B. Makover, M.D. Octavo of 204 pages, illustrated. Cambridge, Mass., Published for the Commonwealth Fund by Harvard University Press, 1956. Cloth, $3.50.

Psychoanalysis and Psychotherapy. Developments in Theory, Technique, and Training. By Franz Alexander, M.D. Octavo of 299 pages. New York, W. W. Norton & Company, 1956. Cloth, $4.75.

The Year Book of Neurology, Psychiatry and Neurosurgery (1955-1956 Year Book Series). Neurology edited by Roland P. Mackay, M.D., Psychiatry edited by S. Bernard Wortis, M.D., Neurosurgery edited by Percival Bailey, M.D., and Oscar Sugar, M.D. Duodecimo of 576 pages, illustrated. Chicago, Year Book Publishers, 1956. Cloth, $7.00.

Pulmonary Carcinoma. Pathogenesis, Diagnosis, and Treatment. Edited by Edgar Mayer, M.D., and Herbert C. Maier, M.D. Octavo of 540 pages, illustrated. New York, New York University Press, Distributed by J. B. Lippincott Company, 1956. Cloth, $15.

Laughter and the Sense of Humor. By Edmund Bergler, M.D. Octavo of 297 pages. New York, Intercontinental Medical Book Corporation, (New York, Grune & Stratton), 1956. Cloth, $5.00.

Collagen Diseases, Including Systemic Lupus Erythematosus, Polyarteritis, Dermatomyositis, Systemic Scleroderma, Thrombotic Thrombocytopenic Purpura. By John H. Talbott, M.D., and R.

[Continued on page 2154]

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[Continued from page 2152]

Moleres Ferrandis, M.D. Octavo of 232 pages, illustrated. New York, Grune & Stratton, 1956. Cloth, $6.50.

Gynecologic Cancer. Second edition. By James A. Corscaden, M.D. Octavo of 546 pages, illustrated. Baltimore, Williams & Wilkins Company, 1956. Cloth, $10.

Escape This Life Alive. By Niram A. Cromwell. Octavo of 312 pages. Boston, Bruce Humphries, 1955. Cloth, $3.75.

Modern Treatment Yearbook 1956. A Yearbook of Diagnosis and Treatment for the General Practitioner. Edited by Sir Cecil Wakeley, M.Ch. Octavo of 344 pages, illustrated. London, Baillière, Tindall & Cox, (Baltimore, Williams & Wilkins Company), 1956. Cloth, $6.00.

Police Drugs. By Jean Rolin. Translated by Laurence J. Bendit, M.D. With an Appendix on Narcoanalysis by Edward V. Saher. Duodecimo of 194 pages. New York, Philosophical Library, 1956. Cloth, $4.75.

Laboratory Tests in Common Use. By Solomon Garb, M.D. Duodecimo of 160 pages. New York, Springer Publishing Company, 1956. Paper, $2.00.

Bellevue Is My Home. By Salvatore R. Cutolo, M.D., with Arthur and Barbara Gelb. Octavo of 317 pages. Garden City, N.Y., Doubleday & Company, 1956. Cloth, $4.00.

Health and Travel. Proceedings of the First International Symposium on Health and Travel, held in New York City, June 23, 1955. Chairman: Félix Martí-Ibánez, M.D. Octavo of 70 pages, illustrated. New York, MD Publications, 1955, 1956. Paper, $3.00.

Textbook of Medical Physiology. By Arthur C. Guyton, M.D. Quarto of 1,030 pages, illustrated. Philadelphia, W. B. Saunders Company, 1956. Cloth, $13.50.

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn 16, New York. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selections for review will be based on merit and interest to our readers.

Neurologic Examination in the Office

Although the vast intricacies of neurology tend to intimidate the practitioner, many neurologic disorders may be identified at a glance, or at least their presence strongly suspected. In this paper Dr. Bertram E. Sprofkin does not indicate that there is any substitute for detailed neurologic examination, but he insists that the practitioner is not therefore completely disarmed. Thoughtful history taking—and, in the process—observation of the patient in action, often reveal the salient fact which may be missed in a detailed but purposeless examination. The author enumerates a series of these signs and symptoms which frequently offer the key to diagnosis of such disorders as Parkinsonism, myasthenia gravis, tuberous sclerosis, Mongolism, ocular muscle palsies, alcoholic neuropathy, etc. No attempt is made to discuss full scale neurologic examination.

—*Journal of the Tennessee State Medical Association, September, 1955*

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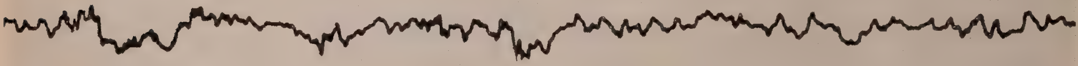

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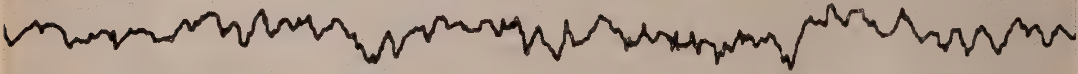

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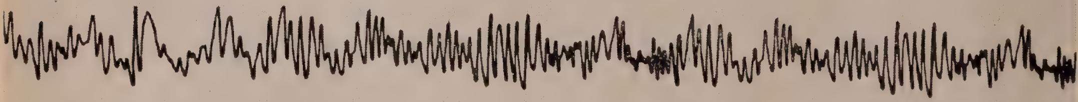

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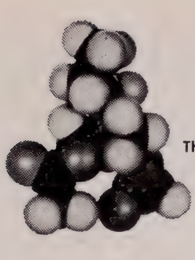

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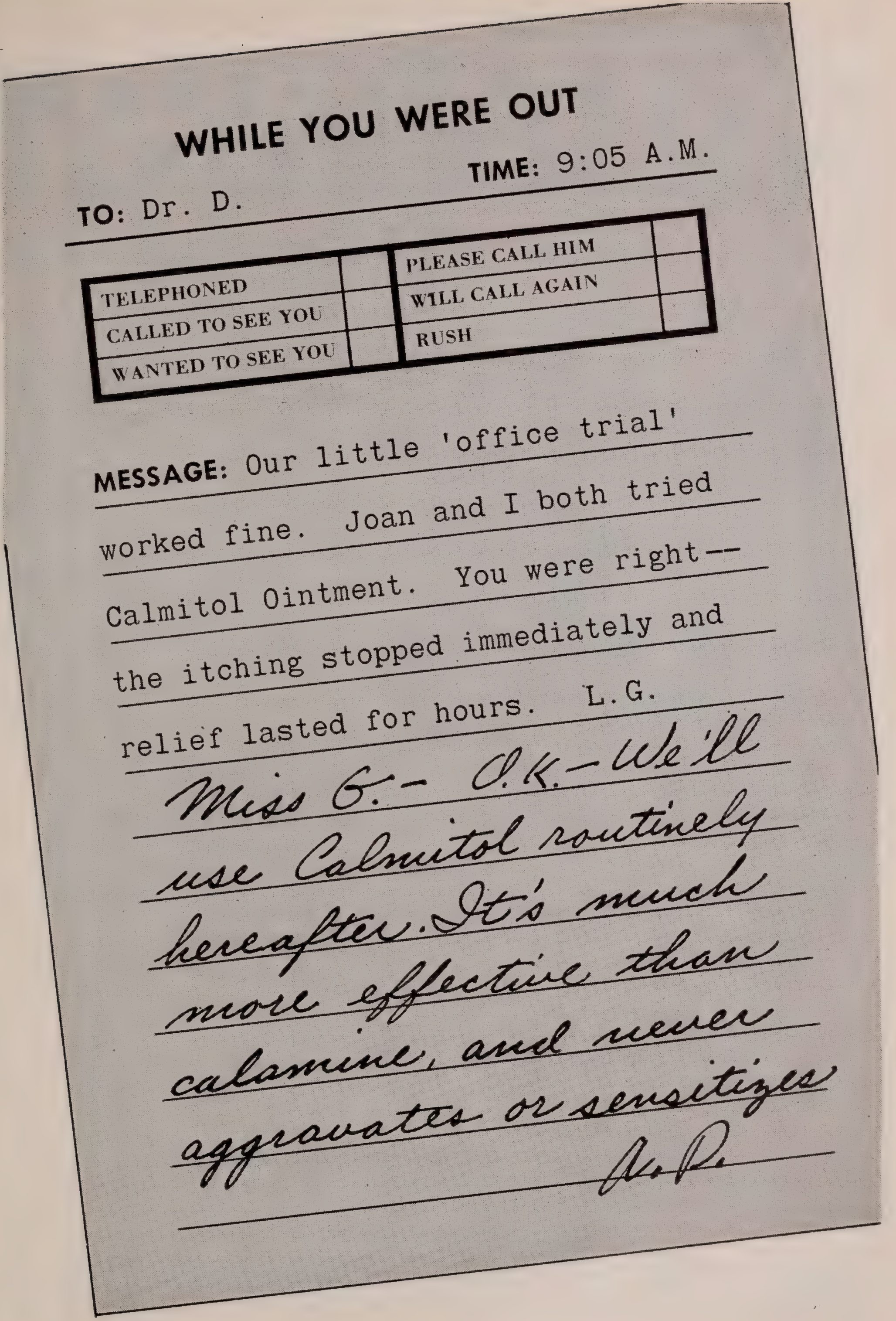

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quicker relief
and shortened disability
in Herpes Zoster and Neuritis

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. . . Five Year Clinical Evaluation

With only one to four injections of Protamide® prompt and complete recovery was obtained in 84% of all herpes zoster patients and in 96% of all neuritis patients treated during a five-year period by Drs. Henry W., Henry G., and David R. Lehrer (Northwest Med. 75:1249, 1955).

The investigators report on a total of 109 cases of herpes zoster and 313 cases of neuritis, all of whom were seen in private practice. All but one patient in each category responded with complete recovery.

This significant response is attributed to the fact that Protamide therapy was started promptly at the patient's first visit.

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. . . a product of *Sherman Laboratories*
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Start **Protamide®** *Promptly*

THE SOURCE OF
RE-INFECTION CAN BE

THE HUSBAND

IN VAGINAL
TRICHOMONIASIS

"The available evidence indicates that one of every four or five adult women harbor the parasite."[1] In many cases coitus must be regarded as a method of transfer.[2]

Infests the male, too—"The infestation in males is probably more common than realized and will more frequently be recognized. . . ."[3] Karnaky reports the infection in the urethra, in the prostate or under the prepuce of 38 among 150 husbands with infected wives.[4]

Symptoms often absent—In the female, trichomonas vaginitis is a well recognized condition . . . but in the infected males symptoms are usually absent.[2] Or the infection causes little concern because it is transient and mild.

Prevent re-infection—"Eradication of the parasites in both sexual partners is of course ideal . . . obviously a condom is the most effective mechanical barrier."[1]

Prescription of condoms—To prevent re-infection take special measures to win the co-operation of the husband when you prescribe a condom. Writing for *Schmid* condoms assures high quality, makes purchase less embarrassing.

If there is anxiety that the condom might dull sensation, prescribe XXXX (FOUREX)® membrane skins, premoistened, and like the patient's own skin. For those who prefer a rubber condom, prescribe RAMSES®—transparent, tissue-thin, yet strong. Suggest its use for four to nine months after the wife is trichomonad-free.

References: 1. Trussell, R. E.: Trichomonas Vaginalis and Trichomoniasis, Springfield, Ill., Charles C Thomas, 1947. 2. Lanceley, F., and McEntegart, M. G.: Lancet *1*:668 (April 14) 1953. 3. Strain, R. E.: J. Urol. *54*:483 (Nov.) 1945. 4. Karnaky, K. J.: Urol. & Cutan. Rev. *48*:812 (Nov.) 1938.

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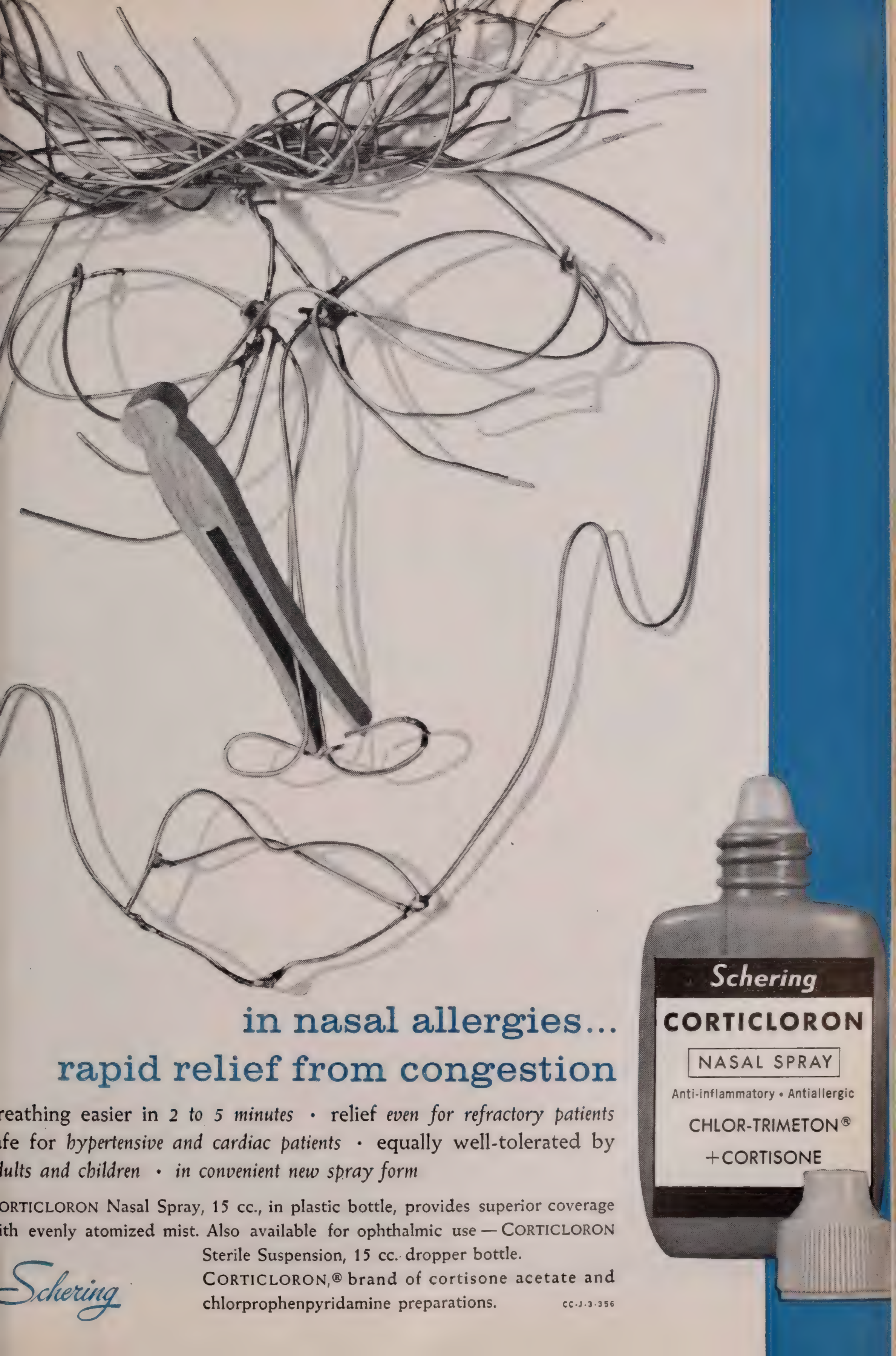
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CONTROL OF DIARRHEA

(whether toxic, neuromuscular or emotional in origin)

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- adsorbs toxins
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- neutralizes hyperacidity
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(DONNATAL WITH KAOLIN AND PECTIN COMPOUND)

Each 30 cc. of Donnagel contains:

Hyoscyamine Sulfate	0.1037	mg.
Atropine Sulfate	0.0194	mg.
Hyoscine Hydrobromide	0.0065	mg.
Phenobarbital (¼ gr.)	16.2	mg.
Kaolin (90 gr.)	6.0	Gm.
Pectin (2 gr.)	130.0	mg.
Dihydroxy aluminum aminoacetate (7½ gr.)	0.5	Gm.

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Ethical Pharmaceuticals of Merit since 1878

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"...The beneficial effects of Hydrocortisone appear to be enhanced by placing it in Acid Mantle Creme base, producing an acid preparation compatible with the normal pH of the skin. We have found that ½% Hydrocortisone in the above base is about as effective as 1% in most conditions treated. It has been particularly effective in atopic eczema of the skin.."

Lockwood, James H., Cmdr., MC, USN
U.S. Naval Hospital, San Diego, Cal.
Bulletin of the Association of Military Dermatologists, June 1955, p. 2

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Pruritus Vulvae and Ani,
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AVAILABLE
3 strengths: ½%, 1%, 2%
CREME (jars) ½ oz., 1 oz., 2 oz., 4 oz., 16 oz. LOTION (plastic squeeze bottles) ½ oz., 1 oz., 2 oz., 4 oz., 1 pint.

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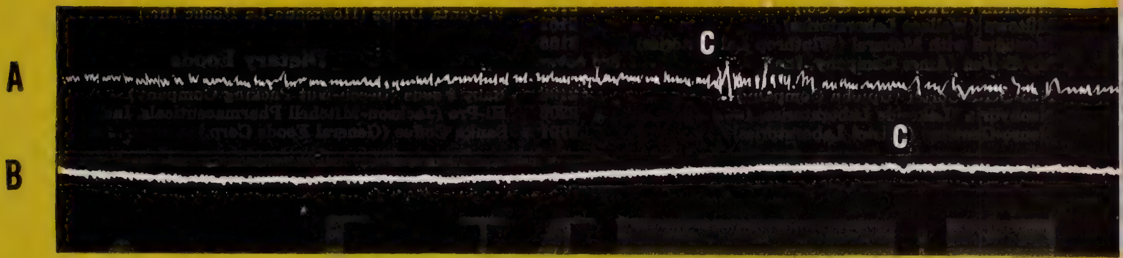
Reduces Muscular Tension

= Equanil*

MEPROBAMATE
(2-methyl-2-n-propyl-1,3-propanediol dicarbamate)
Licensed under U.S. Patent No. 2,724,720

Electromyography shows decisive response



Electromyographic study of neuromuscular hyperactivity in 42-year-old male with anxiety-tension syndrome. A, Before EQUANIL; action potential of high amplitude and frequency. B, After one week of ambulatory treatment with EQUANIL; showing definite reduction in tension, greater ability to relax, and marked improvement in muscular coordination. C, Point where patient makes effort to relax.[1]

The remarkable effectiveness of EQUANIL may be demonstrated in two ways. One is by its ability to relieve muscle spasm and neuromuscular tension.[1] The second is by its ability to relieve mental tension and anxiety.

Usual dosage: 1 tablet t.i.d. The dose may be adjusted either up or down, according to the clinical response of the patient.

Supplied: Tablets, 400 mg., bottles of 50.

1. Dickel, H.A., et al.: West. J. Surg. *64*:197 (April) 1956

anti-anxiety factor
with muscle-relaxing action
. . . relieves tension

Wyeth®
Philadelphia 1, Pa.

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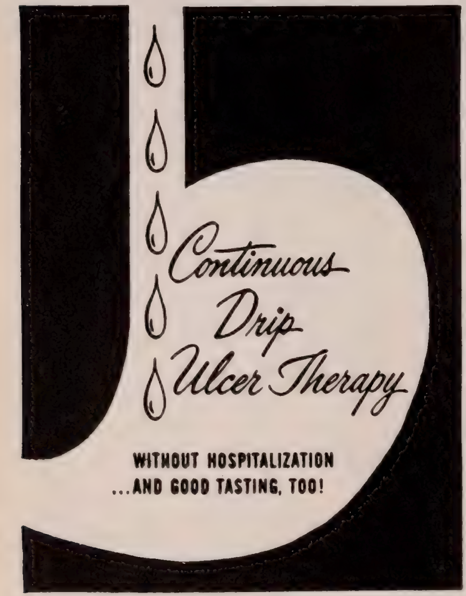

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A recent clinical study* of 46 ambulatory non-hospital patients treated with Nulacin† and followed up to 15 months describes the value of ambulatory continuous drip therapy by this method. Total relief of symptoms was afforded to 44 of 46 patients with duodenal ulcer, gastric ulcer and hypertrophic gastritis.

The delicately flavored tablets dissolve slowly in the mouth (not to be chewed or swallowed). They are not noticeable and do not interfere with speech.

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*Steigmann, F., and Goldberg, E.: Ambulatory Continuous Drip Method in the Treatment of Peptic Ulcer, Am. J. Digest. Dis. 22:67 (Mar.) 1955.

†Mg trisilicate 3.5 gr.; Ca carbonate 2.0 gr.; Mg oxide 2.0 gr.; Mg carbonate 0.5 gr.

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'CORTISPORIN'® *brand*

OTIC DROPS *Sterile*

to relieve bacterial or allergic otitis

when inflammation is prominent

open, sterility cannot be guaranteed.
This dropper has been sterilized.
When dispensing, place in vial under aseptic conditions.
If envelope is broken or open, sterility cannot be guaranteed.
5 cc.
CORTISPORIN
OTIC DROPS
STERILE
BURROUGHS WELLCOME
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gives prompt relief of:

inflammation,

edema,

exudation,

pruritus,

pain,

and early eradication of:

gram-positive and

gram-negative bacteria

containing: 'Aerosporin'® Sulfate Polymyxin B Sulfate, Neomycin Sulfate and Hydrocortisone (free alcohol).

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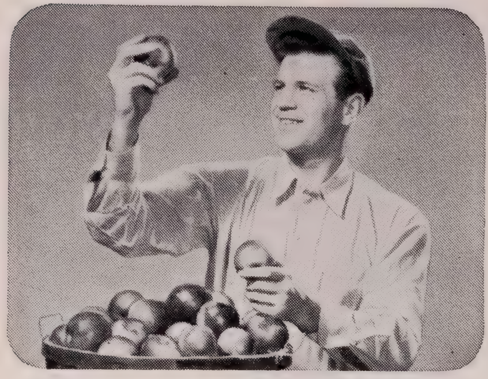

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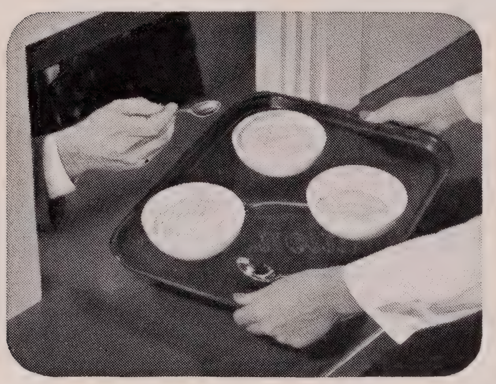

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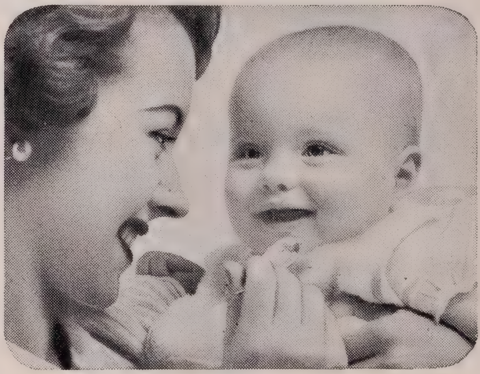

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VARIETY is the spice of Baby's life with Beech-Nut. There are 5 pre-cooked Baby Cereals, 28 Strained Foods, 26 Junior Foods.

Pediatricians know that Beech-Nut keeps up with the very latest scientific methods developed for taking better care of Baby. Also, the research department at Beech-Nut is continually searching for new ways to improve packaging, to guarantee important flavor control, to preserve all possible nutritional value. It's no wonder doctors recommend Beech-Nut Baby Foods to mothers for their babies.

Beech-Nut
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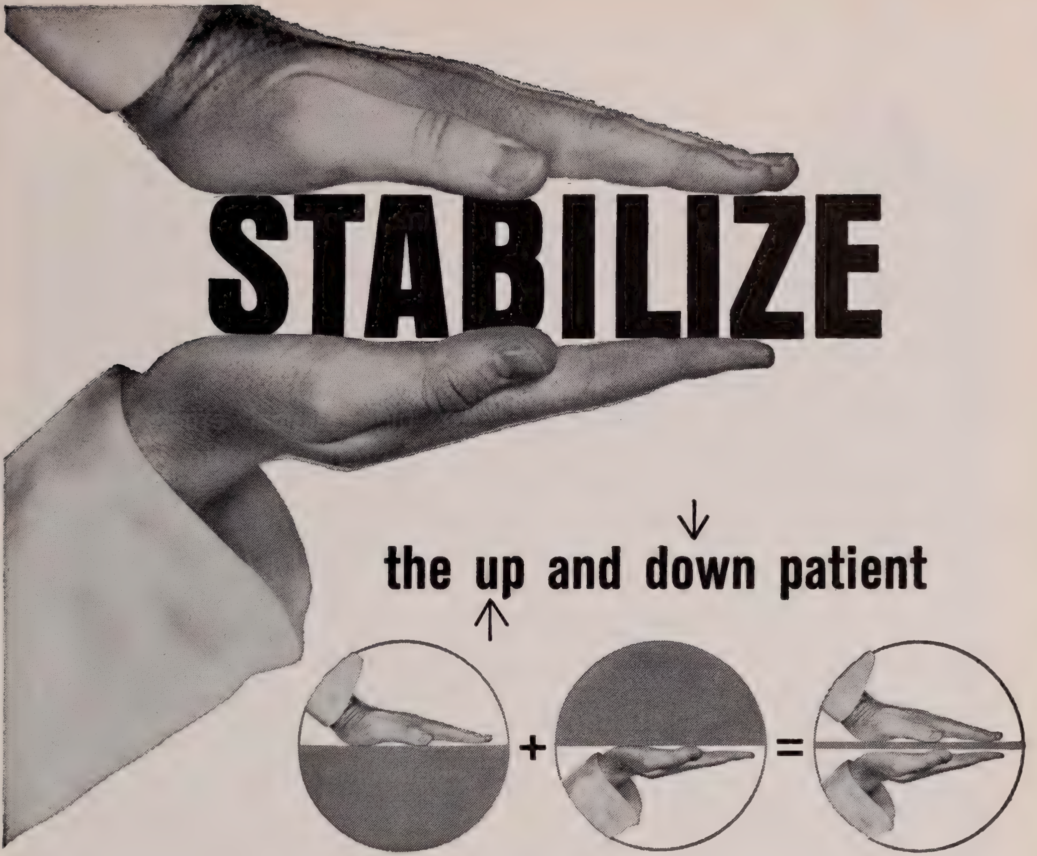
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the up and down patient
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Serpasil
tranquilizer

Ritalin
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Serpatilin
emotional stabilizer

To induce emotional equilibrium in those who swing from anxiety to depression, Serpatilin combines the relaxing, tranquilizing action of Serpasil with the mild mood-lifting effect of the new cortical stimulant, Ritalin. In recent months, numerous clinical studies have indicated the value of combining these agents for the treatment of various disorders marked by tension, nervousness, anxiety, apathy, irritability and depression. Arnoff,[1] in a study of 51 patients, found the combination of definite value in a variety of complaints, noting no effect on blood pressure or heart rate. Lazarte and Petersen[2] also found Serpatilin effective in counteracting the side effects of reserpine and chlorpromazine. They reported: "The stimulating effect of Ritalin seemed complementary to the action of reserpine . . . in that it brought forth a better quality of increased psychomotor activity."

1. Arnoff, B.: Personal communication. **2.** Lazarte, J. A., and Petersen, M. C.: Personal communication.
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(reserpine and methyl-phenidylacetate hydrochloride CIBA)

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2/2280M

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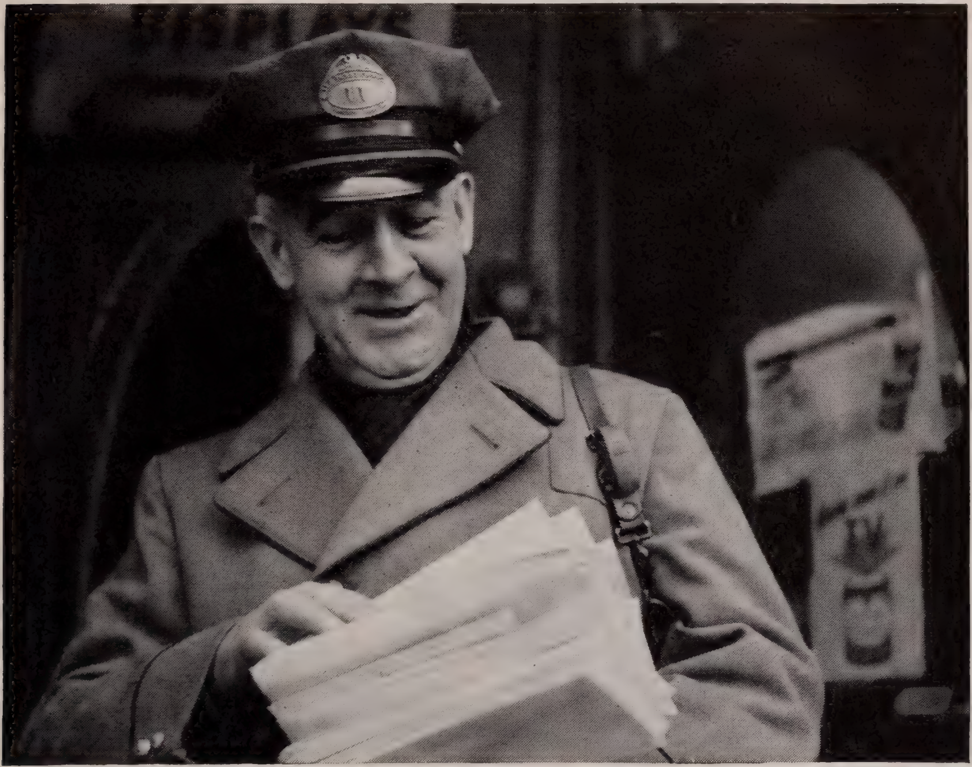
original alseroxylon	all the desirable alkaloids of India-grown Rauwolfia serpentina, Benth.
mutually potentiated action	high clinical efficacy because of interpotentiation of contained alkaloids
freed from undesirable alkaloids	yohimbine-like and other undesirable substances in the Rauwolfia root are removed
virtually no serious side actions	when side actions are encountered, they are notably mild
especially suitable for long-term therapy	no alteration in patients' tolerance, no chronic allergic toxicity, no latent undesirable actions
easy to prescribe	simple regimen—merely two 2 mg. tablets at bedtime; for maintenance 1 tablet usually suffices.

A FIRST THOUGHT IN HYPERTENSION
EVERY GRADE...
EVERY TYPE

Riker
LOS ANGELES

"Neither rain, nor snow, nor advancing years shall stay this courier!"



For persons past forty, good health is usually a source of great pride and satisfaction. Each succeeding year seems to heighten their delight and appreciation. To help these "senior citizens" maintain their vigor, prescribe GEVRAL, a comprehensive geriatric diet supplement that provides 14 vitamins, 11 minerals, and Purified Intrinsic Factor Concentrate—all in one convenient, *dry-filled* capsule.

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for more rapid and complete absorption, freedom from after-taste. A Lederle exclusive!

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all through the night—

one application of

DESITIN®

OINTMENT

helps protect the infant's skin against

diaper rash (ammoniacal dermatitis) • **irritation • excoriation**

DESITIN OINTMENT covers the infant's skin with a soothing, protective, healing coating which is largely impervious to and helps guard against irritation, rash, and maceration caused by urine, excrement, perspiration and secretions. This preventive action of Desitin Ointment *persists all through the night*... when baby is particularly vulnerable to painful skin excoriations.

Nonsensitizing, nonirritant Desitin Ointment.. **rich in cod liver oil** .... successfully used on millions of infants for over 30 years.

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OINTMENT
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Cod Liver Oil
Zinc Oxide
Talcum
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Manufactured by
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Providence, R. I.

- tubes of 1 oz., 2 oz., 4 oz.
- 1 lb. jars.

for **samples** *and literature please write....*

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1. Grayzel, H. G., Heimer, C. B., and Grayzel, R. W.: New York St. J. Med. 53:2233, 1953. **2.** Heimer, C. B., Grayzel, H. G., and Kramer, B.: Archives of Pediatrics 68:382, 1951. **3.** Behrman, H. T., Combes, F. C., Bobroff, A., and Leviticus, R.: Ind. Med. & Surgery 18:512, 1949. **4.** Turell, R.: New York St. J. Med. 50:2282, 1950. **5.** Marks, M. M.: Missouri Med. 52:187, 1955.

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DIAMOX is an inhibitor of the enzyme carbonic anhydrase; it is not a mercurial or xanthine derivative. It causes prompt, ample diuresis, but its effect lasts only six to twelve hours. As a result, the patient taking DIAMOX in the morning is assured a normal, uninterrupted night's rest.

Non-toxic
Non-mercurial
Simple, oral dosage

DIAMOX is not toxic, nor does it accumulate in the body, and patients are slow to develop a tolerance for it. This remarkable drug is therefore well-suited to long-term treatment. Dosage is simple and convenient: one tablet taken orally, each or every other morning.

Indications: cardiac edema, premenstrual tension, acute glaucoma, epilepsy, obesity, and the toxemia and edema of pregnancy.

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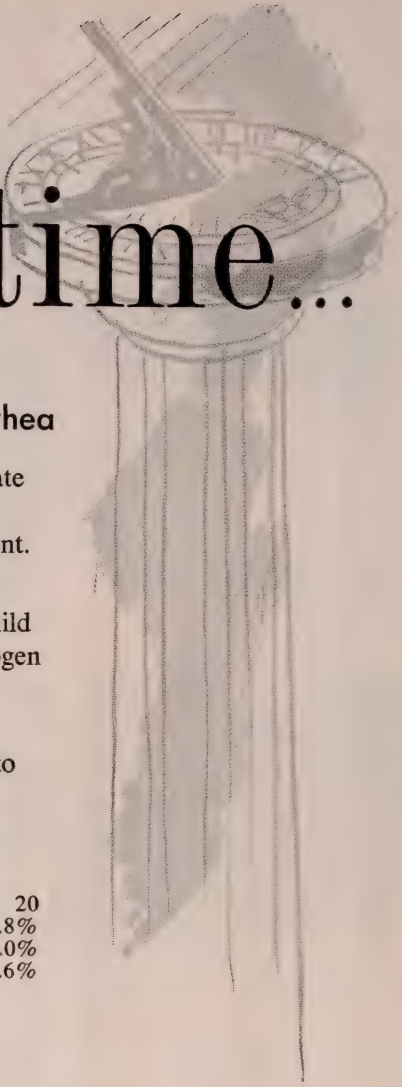

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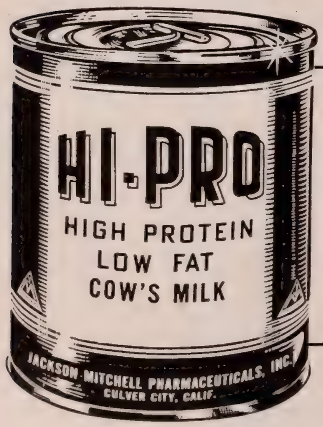
[1] Jeans, P. C. & Marriott W. McK. Infant Nutrition; 4th ed.
[2] Holt, E. M. Diseases of Infancy; 11. 223.



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1. Davidson, D. T., Jr.; Lombroso, C., & Markham, C. H.: *New England J. Med.* 253:173, 1955.
2. Zimmerman, F. T.: *New York J. Med.* 55:2338, 1955.

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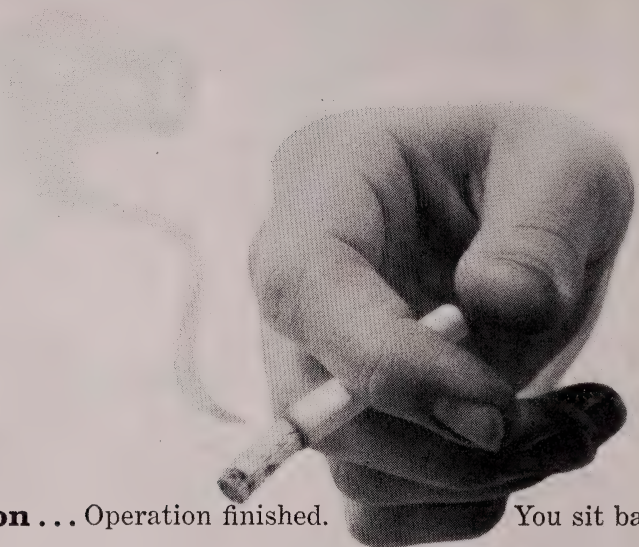

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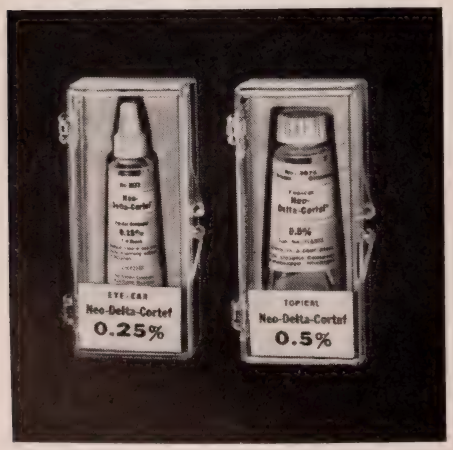

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1. Smith, R. T.; Kron, K. M.; Peak, W. P., and Hermann, I. F.: J.A.M.A. 160:745 (Mar. 3) 1956.
2. Rodriguez-Gomez, M.; Valdes-Rodriguez, A., and Drew, A. L.: J.A.M.A. 160:752 (Mar. 3) 1956.

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‡**Lissive:** Relief of skeletal muscle spasm without interference with normal function.

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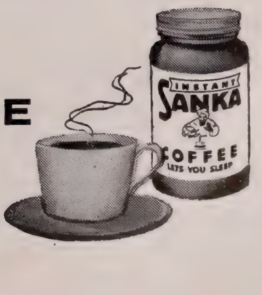

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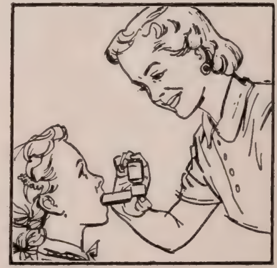

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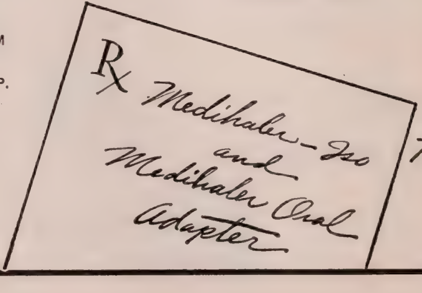

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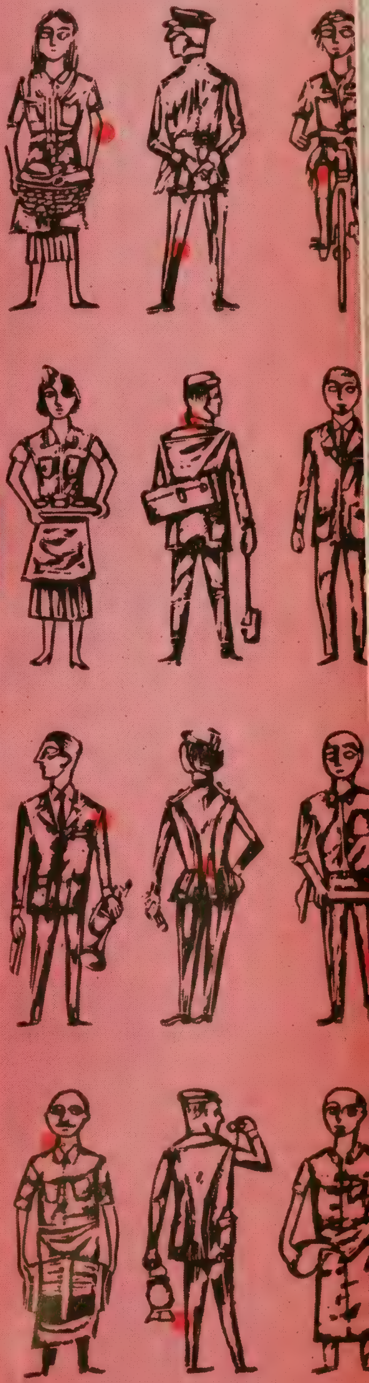

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1. Eisfelder, H.W.: Am. Pract. & Dig. Treat., 5:778 (Oct.) 1954).
2. Sebrell, W.H., Jr.: J.A.M.A., 152:42 (May, 1953).
3. Sherman, R.J.: Medical Times, 82:107 (Feb., 1954).

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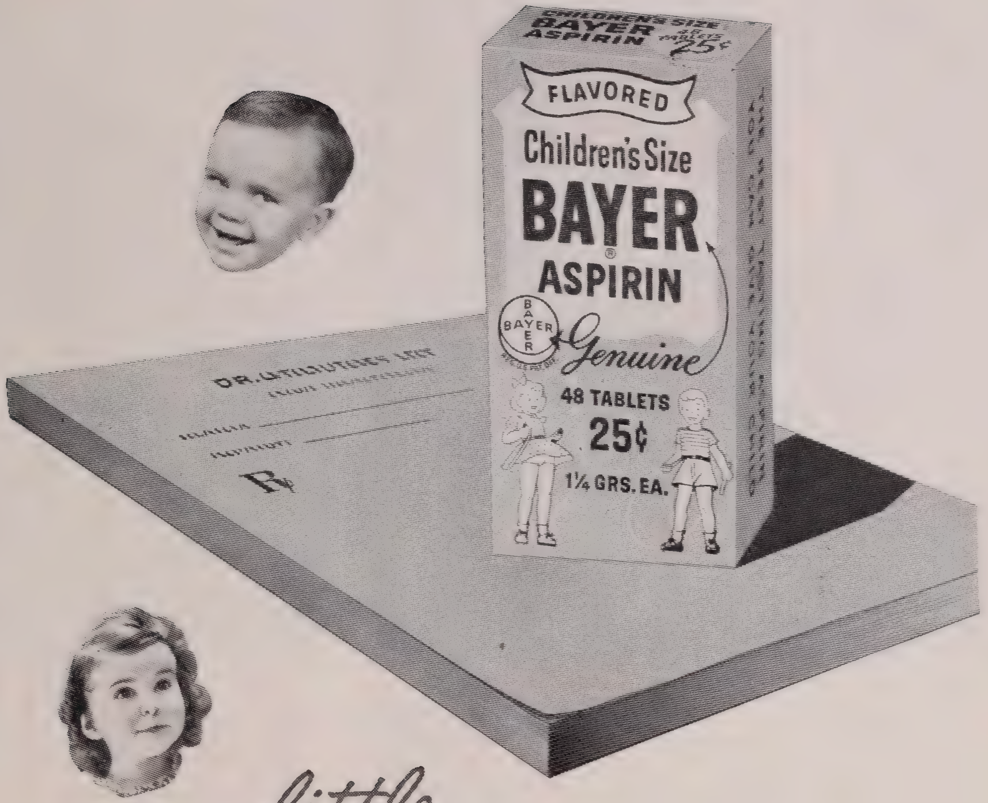
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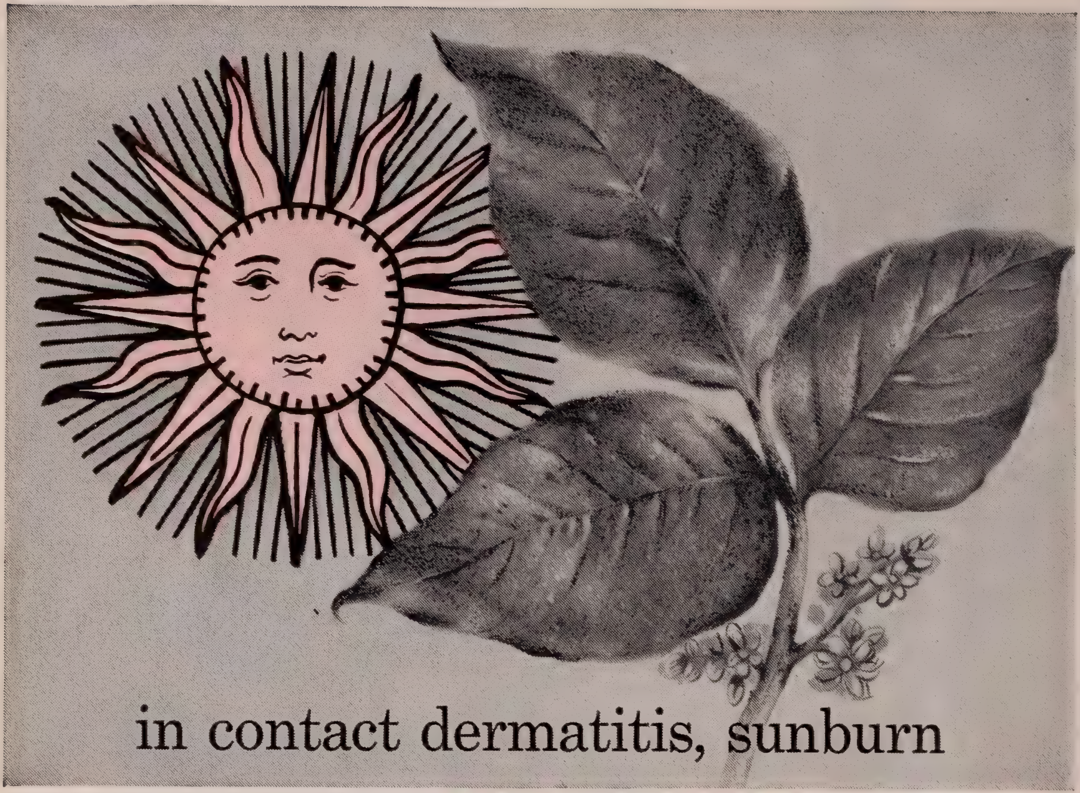

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VOLUME 56 JULY 15, 1956 NUMBER 14

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EDITORIALS

State Medical Legislation, 1956

Elsewhere in this issue, on page 2276, will be found a brief summary of the legislation enacted in 1956 in New York State in which the medical profession should be interested. While each year legislative bulletins are issued from time to time during the legislative session, these can be mislaid or lost by the membership.

The brief summary prepared by our Executive Officer and published herewith gathers together the current enactments for handy reference. The editors of the JOURNAL hope that such a summary will serve the convenience of the membership. If so, it is hoped to publish a similar one each year as soon after the close of the legislative session as it can be prepared.

There is apparently much need for the membership to become better acquainted with the numerous new laws affecting the profession of medicine. As doctors we are more and more interrelated with the social, the political, and the economic life of the nation and the State. None of these relationships is static. There is, on the contrary, a continuous evolution taking place, reflected and embodied in the statutes. Nearly everyone is familiar with the expression "...there ought to be a law." Usually there is. We hope to make it easier for our members to find it, at least if it was enacted during the current year.

Medicine and Public Information—Part I

EDITOR'S NOTE: *This is the first of a series of editorials presenting material with brief comment contained in the "Guide for Cooperation" compiled by the Public and Professional Relations Bureau of the Medical Society of the State of New York for betterment of understanding and procedure between the medical profession and the media of public information.*

From recent information it would appear that despite all that has been published on the subject, doctors of medicine are not fully acquainted with what they may properly do when called upon for assistance by media of public information, such as the press, radio, or television.

Every member of the Society should have received by this time the "Guide for Cooperation" prepared and published by the Medical Society of the State of New York to assist its members in their relations with representatives of the media of public information and distributed by the Bureau of Public and Professional Relations.

The JOURNAL proposes to bring to the attention of the membership the provisions of each section of the "Guide" in a series of editorials in the hope that more and more doctors will become familiar with them.

> Section 1. "The officers, committee chairmen or designated spokesmen of the Medical Society of the State of New York shall be available at all times to the press, radio, and television in order that authentic information on medical subjects can be obtained as promptly as possible. The Public and Professional Relations Bureau of the Medical Society of the State of New York is available to representatives of all media of public information to assist them in any way possible. Medical societies shall urge all doctors who become aware of new developments in the field of medical science to make such facts available for public information through proper officials of their county or state medical society."

It is desirable that new developments in the field of medical science be channelled to the public. To accomplish this end the sources of such information must be readily available, reliable, and responsible. The aim of Section 1 of the "Guide" is to provide for the convenience of editorial executives of newspapers, radio, and television such reliable news sources at county and State levels. The tempo at which media of public information are conducted is more rapid in the case of newspapers, radio, and television than in the monthly publications naturally, but the entire field is highly competitive and moves at speeds not ordinarily encountered in professional publications, for example.

Initial reporting of medical news must be followed by checking of such reports with authoritative sources by editors of public media. Such media operate under strict ethical controls developed during years of service in the public interest. Many conferences between representatives of medicine and these media have developed the present "Guide for Cooperation." It is hoped that all physicians in this State will cooperate in every way possible, within the framework of the "Guide," with the representatives of the media of public information.

Radiation Hazards

As reported in the *J.A.M.A.*,[1] Dr. E. L. Walsh, medical director of the International Harvester Company (Chicago), speaking before the 43rd National Safety Congress, October, 1955, on radiation hazards had this to say in part:

> Man lives in a radioactive world. We are bombarded by cosmic radiation from outer space and radiations from the earth, the ocean, and our fellow man. The food we eat and the air we breathe, all have minute but measurable radiations. It has been estimated that a safe tolerance level for man per week is 300 milliroentgens (mr), or 0.3 r of whole body exposure. This amounts to 15 r per year.
>
> Man receives annually from cosmic radiation 90 mr per year; from soil (1 gm. Ra per square mile) 200 mr per year; from sources within the body 26 mr per year; from adjacent persons in crowds 2 mr per year; and from fall-out following atomic tests 1 mr per year—or a total of about 320 mr per year. This, however, is not man's only exposure. If many luminous dials are present, an airplane pilot may be exposed to 100 to 1,300 mc. per year, and a patient who undergoes an extensive series of x-ray examinations may be exposed to as much as 45 r. An average figure of 50 r in twenty-five years is generally accepted as a safe, normal exposure. The risk of further undesirable radiation is obvious. For this reason, dental and medical radiographs and such apparatus as fluoroscopes and shoe-fitting machines should all be controlled, properly shielded, and not used indiscriminately. It is agreed that all radiation from nuclear explosions in the fall-out areas is very low, and probably only 1/1,000 or less of a harmful level, even from the point of view of genetic damage. Continued experiments may alter this conclusion.
>
> Another area blamed on nuclear reactions is the presumed change in the world's weather pattern. Meteorologists do not believe there has been a change that cannot be accounted for on other more solid bases, because the thermal energy of the sun falling on 1 square mile of Nevada in a day supplies as much heat as two atom bombs; the energy released in a typical thunderstorm is equivalent to that of 13 bombs, and the power of any of the recent hurricanes is equivalent to that of all the atomic and hydrogen bombs thus far detonated. Man's efforts are puny, unimpressive, and inconsequential in the great pattern of the universe.

We accept rather casually in this day and age the fact that man is constantly bombarded from natural sources, with cosmic radiation, for example, from sources within the body, from adjacent persons, and from the soil with small amounts of radiation. There is nothing new about this except that now these radiations are measurable with instruments and recordable.

---

[1] J.A.M.A. **161**: 98 (May 5) 1956.

But recently many other sources of radiation exposure have crept in, as Dr. Walsh points out. These, added to the natural sources, bring the total up to amounts which could be hazardous. There is, as he points out, reason for the exercise of proper controls and shielding. With probably greatly increased use of atomic fuels by industry in the future and the expansion of radiographic apparatus usage in industry and medicine, the hazards could rise sharply.

Matthew Woll—A Tribute

The passing of Matthew Woll, a great leader of labor, a scholar, and a statesman, calls for an acknowledgment from the medical profession of the distinguished service rendered by him at a time when the administration of the Workmen's Compensation Law in this State had fallen to an all-time low of performance.

A number of investigating committees, as well as two Moreland Commissions, revealed irregularities and abuses in the medical care of injured workers and dishonesty on the part of some who were parties to the administration of the law. The Committee on Economics of the Medical Society of the State of New York gave considerable thought to this revolting situation which involved, among others, many physicians and so-called clinics throughout the State, especially in the larger industrial cities.

All this led to the appointment of a medical commission by Governor Lehman in 1933 with ten appointees, all of whom were appointed equally by the Medical Society of the State of New York and the New York Academy of Medicine. The, Commission issued a report to the Governor recommending many amendments to the Workmen's Compensation Law which resulted in a complete revision of section 13.

Injured workers were given free choice of doctor. A schedule of fees was recommended by the president of the State Society and, with the approval of the other interested parties, was promulgated by the Industrial Commissioner. It became illegal to charge fees less than those prescribed in the schedule. But of great significance was the fact that the county medical societies of the State Society were vested with certain controls over the practice of medicine and the medical profession and also with certain duties and responsibilities in the administration of the law, most of which they possess to this day. This was the first recognition by the Legislature of organized medicine in a responsible supervisory capacity over medical practice.

The successful functioning of the amendment to the Workmen's Compensation Law laid the foundations for provisions incorporated in the Article IX-c amendment of the New York Insurance Law, out of which has developed the successful operation of democratic, voluntary medical care insurance to serve the nonoccupational injuries and illness of all the people of our State.

It was the genius of Mr. Woll which recognized the merits of the proposed law revision from which has come a plan to provide good medical care via insurance when it has failed so universally in other lands.

We of the organized profession can join with labor in taking note with sincere regret of the passing of this noble man. America needs more real men of the Gompers and Woll stature.

Editorial Comment

Doctors' Opinions of A.M.A. Activities. A recent nation-wide public opinion poll conducted for the A.M.A. by an independent research firm to find out public and professional attitudes towards doctors and the A.M.A. has been particularly enlightening. Some interesting deductions are found in the *J.A.M.A.*:[1]

> Detailed questions about doctors' opinions of A.M.A. activities revealed many other things, including the following opinions:
>
> Nine doctors in ten say public relations should be an "important" or "very important" function of the A.M.A. A very small number said it should be left to the individual doctor or local societies. Unfortunately, this high level of support does not guarantee action. The opinion research firm said in its final report that doctors need to take more responsibility in the profession's public relations efforts, specifically by avoiding an overcritical attitude toward the profession or other doctors or by being too much on the defensive with patients and the public.
>
> The A.M.A.'s public relations effort is apparently more successful than doctors know. Over half of the public (56 per cent) said it is doing a "very good" or "good enough" job; a smaller number of doctors (42 per cent) agree. Only one in five people said the Association's PR job is not good enough, while 48 per cent of doctors are not satisfied. This might mean simply that the doctor is more of a perfectionist than his nonprofessional patient or next-door neighbor and tends to be more sensitive when criticized or unappreciated. Reasons given by doctors for dissatisfaction with public relations are that people are unaware of the A.M.A., that there is too much ill-feeling and unfavorable publicity, and that "it always can do better."
>
> On the other hand, doctors agree (by 60 per cent) that the A.M.A.'s public relations effort within the profession is good. One third think it could be improved, largely because the A.M.A. is somewhat distant from the individual physician. Most doctors said they have noticed, and approve, recent changes in the scope and direction of the Association's over-all public relations program.
>
> Finally, the doctors polled had a wide range of suggestions for the A.M.A., most often calling for closer ties with the individual doctor and for more public relations work. Three fourths of the doctors took advantage of the opportunity to make suggestions. These include getting closer to doctors and polling their ideas, improving public relations and public information, getting social security or pensions for doctors, setting higher standards for medical practice, liberalizing hospital affiliation requirements, and strengthening opposition to government medicine. The first two suggestions were made by about 15 per cent of those answering; the remainder ranged downward from 9 to 3 per cent.
>
> One conclusion from the study is that many criticisms of the A.M.A. by doctors are based on lack of information or actual misunderstanding of basic ideas and procedures. For example, many doctors do not know what annual dues are. Another noticeable finding is that even those doctors who have criticisms of the A.M.A. or its constituent groups still prefer to remain in the ranks of organized medicine and not because they feel compelled to do so.
>
> The survey provides a wealth of material on which the A.M.A. can base future improvements and activities. For the individual doctor one simple idea emerges as a basic factor in public reaction and opinion: being a doctor does not, by itself, guarantee approval. It is also imperative to be a good doctor and to be a good person.

We are glad to note the appreciation on the part of the doctors polled of the A.M.A.'s public relations effort; also that of the public itself. It is a well-deserved tribute.

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[1] J.A.M.A. **161**: 69 (May 8) 1956.

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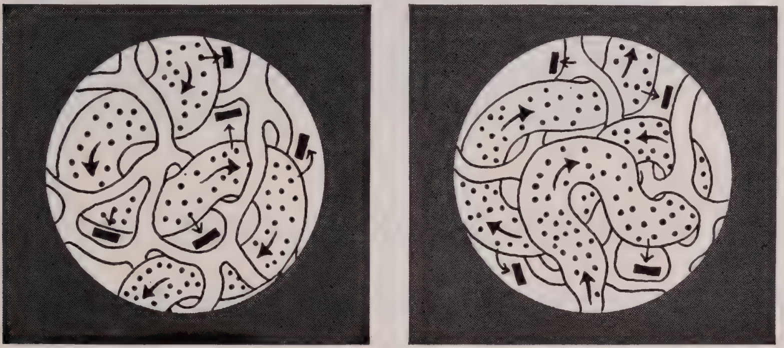

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Supplied: Uncoated tablets of 200 mg.

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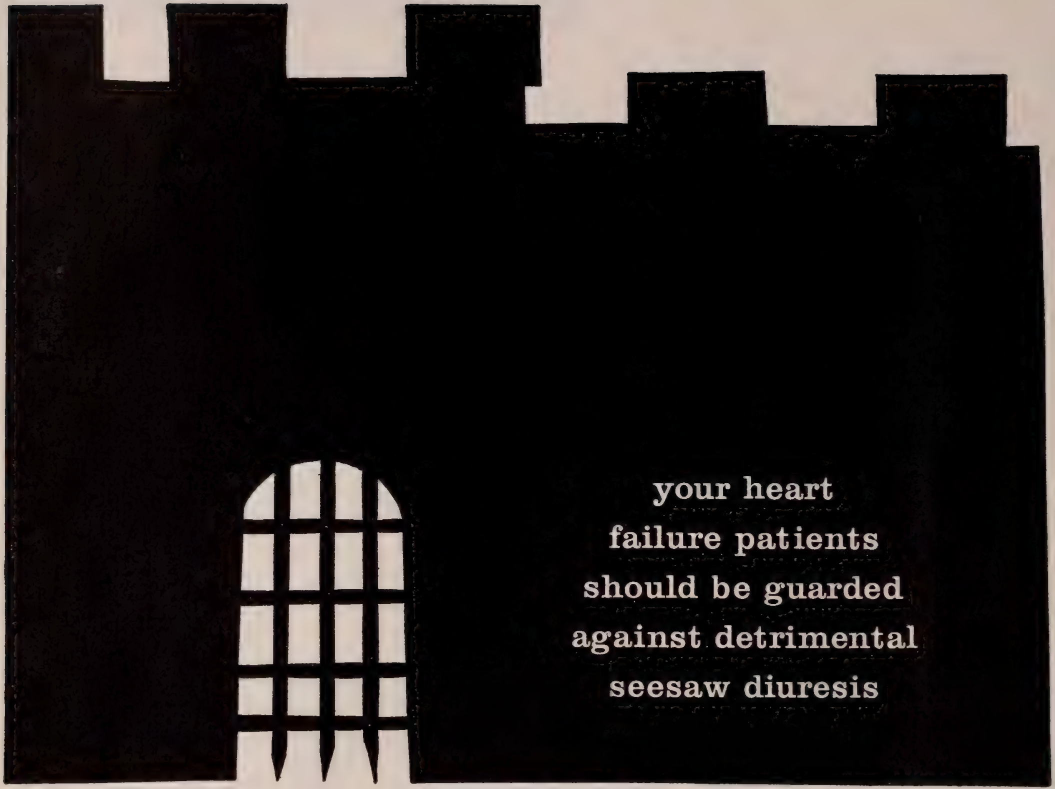
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Ionizing Radiation

Its Nature, Detection, and Control

JOE W. HOWLAND, M.D., ROCHESTER, NEW YORK

(*From the Medical Division of the Rochester Atomic Energy Project and the Department of Radiation Biology, University of Rochester School of Medicine and Dentistry*)

In any world history written at a future date, the major achievement of the twentieth century will undoubtedly be listed under the general title of atomic energy. It is startling to realize that, stimulated initially by a military development program, most of the progress has been made in the past ten years. Within the last three years the current emphasis has shifted from military use to civilian application, from isolated communities to populated areas, from research laboratories to general industrial processing, and from research hospitals to routine medical care. The current Atoms for Peace program gives official sanction to this change on a world-wide basis and emphasizes its faith by the release of large quantities of fissionable material for use by industrial organizations and research facilities. That the change is to be a permanent feature of future thinking is indicated by the incorporation of the Isotopes Division of the Atomic Energy Commission into a new Division of Civilian Application operating under a broad and less restrictive policy. The framework has been created for the stimulation of future developments as rapidly as they can possibly occur. The limiting factors which influence—and perhaps completely control—this development are directly related to individual and general or public health.

Exposure to ionizing radiation forms a subtle and unappreciated hazard, largely due to the fact that human senses are unable to detect even killing concentrations. This unhappy factor has cost the lives of most of the original scientists working in this field. Further demonstration of the damaging nature of these radiations is shown in the deaths of the radium-dial painters following the first world war and the increased incidence of skin cancers in radiologists and dentists and of leukemia in radiologists. Now, with the tremendous development in all fields of atomic energy, the danger from radiation has reached sufficient magnitude to become a public health hazard. It is our purpose to analyze the extent and nature of this hazard. After such an analysis, thoughts on the development of a progressive program of preventive medicine can be presented.

Possible changes as they exist today are not great, and in spite of alarmists there is very little chance that the general population has in any way been affected. It is not generally known that a continuous exposure to ionizing radiations is an everyday experience of all individuals. Certain exposures are common to everyone. Daily bombardment with cosmic rays from space occurs; trace amounts of radioactive materials, such as radium and uranium, are ingested or inhaled; diagnostic x-rays are a part of routine medical and dental care; small amounts of fissionable materials sent into the atmosphere from frequent atom bomb tests may be taken into the body. Some individuals work with radioactive material or

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radiation-producing equipment as a part of their jobs; others receive radioactive isotopes in medical diagnosis and treatment. Careful examination of available data indicates a slow but steady increase in most types of exposure.

In 1956 the problem of radiation as a general danger is largely associated with medical and dental use and exists in the offices and hospitals where x-ray equipment is being used to greater and greater extent. The danger in this instance is in large part to that doctor or dentist who uses a faulty, antiquated, or poorly shielded or calibrated machine or who neglects the standard effective practices of radiation protection. In a survey of New York State we would find, exclusive of New York City, more than 15,000 x-ray machines in doctors' or dentists' offices by conservative estimate. As other hazards we would find potential hazards in industry where x-rays or radium sources are used in industrial radiography of materials. Many hospitals are using certain radioactive isotopes such as iodine^{131}, phosphorus^{32}, and gold^{198} in ever-increasing amounts. Large industrial centers are using increasing amounts of radioactive isotopes in research and processing.

If one wishes to analyze individual exposures, it is immediately apparent that new medical developments, particularly in x-ray diagnosis, have increased the amount of radiation which the average individual receives in a lifetime to perhaps serious proportions. An examination of the total radiation received in a variety of single routine x-ray diagnostic procedures shows the following:

Chest, 14 by 17	0.1 r
Chest, fluoroscopy	1.0 r
Pregnancy, lateral	9.0 r
Gastrointestinal series	4 to 50 r
Dental film	1 to 4 r
Fluoroscopy	10 to 20 r per minute
Shoe-fitting fluoroscopy	1 to 2 r per five-second exposure

In the case of the individual with serious pathology, such as active peptic ulcer, congenital heart disease, and the like, these examinations are repeated many times within a short interval of time. If one recalls that the dosage of whole body radiation necessary to kill a man is approximately 500 r, it becomes apparent that the continuous repetition of the above dosages to a limited area might have serious effect. Although no detectable damage to the individual has been noted, it must be stated that the chronic changes following radiation are very slow in development, and many years may be required for the development of the observed damage. Hence, the causal relationship of late changes can be easily forgotten.

TABLE I.—Radiation Syndrome

1. Physical event—ionization (instantaneous)
2. Biochemical event—alteration of chemical processes (days to months)
3. Physiologic event—sum of altered biochemical processes (days to months)
4. Complicating factors
    - Response of the individual to these altered biochemical processes, detoxification, altered metabolism
    - Response of individual to external factors—physical, bacteria, trauma, activity
    - Extension of/or aggravation of previous subclinical abnormalities
    - Synergism with other external damaging factors

What will happen when successful atomic power is a reality, when more and more usages of radiation and radioactive materials for industrial processing, for food preparation and sterilization, and for medical therapy are discovered is a matter for conjecture. The potential serious nature is demonstrated in the problem of the casualty and compensation insurance companies in considering coverage of individuals working with radiation hazards. With most medical hazards experience gives a sound basis for good insurance coverage. In the radiation field either sufficient time has not elapsed, or the previous work in secret governmental war laboratories is too unreal (as compared to industrial application) to permit critical analysis. This reason alone is undoubtedly restricting present development except in those large organizations capable of providing their own compensation coverage. Much discussion of this problem is being carried out at the present time, and in spite of complete cooperation of all agencies concerned, a solution is not in sight. Removal of present restrictions by insurance coverage will undoubtedly spur the rate of present progress to an unbelievable extent.

To state that more is known concerning the specific nature of ionizing radiation damage than of any other disease process or injury may seem surprising. This may be explained more clearly when we examine the acute radiation syndrome with its various processes which occur within a man or mammal exposed to single critical amounts of ionization to all organs and tissues (Table I).

The physical event of ionization occurs when the atomic particle or wave passing into a tissue causes a dissociation of atoms in various parts of the individual cells into positive and negative components. Should enough of these changes or "hits" occur within the chemical structure of a vital portion of a cell, such as an enzyme system, it would function less efficiently and in time might cease to be useful altogether, thereby becoming a burden to other vital processes. Such loss of efficiency could ultimately lead to an alteration of those chemical processes necessary for the maintenance of that normal function which is life. Sufficient of these altered biochemical units would add together to produce physiologic abnormalities appreciated as symptoms and signs of the original radiation exposure.

From our present knowledge the manifestation of these combined injuries becomes measurable only when a number of complicating factors appear. These depend essentially on the individual and his personal physiologic characteristics in addition to specific factors such as infection, excess activity, and the like. In simple language one could explain that the individual who is already susceptible to infections would become more susceptible, the individual with arteriosclerotic tendencies would be more likely to show increased involvement, the individual with reduced physical tolerance would become substantially weaker. At the same time damage from an associated hazard, not toxic by itself, may be enhanced by simultaneous radiation exposure. It is small wonder that interpretation of the exact nature or extent of radiation injury continues to be most exacting and difficult. And the above example is of the simplest variety of acute radiation exposure, which will never occur except in the rare accident or atomic warfare, which should not concern us here.

The exposures of major concern are those concerning a series of sublethal exposures, such as the individual receiving a number of x-rays to a similar area or areas within a period of weeks or months, and the chronic exposures in which a smaller amount of radiation is received daily. Observations in man and in animals show that such exposures also cause a number of damaging effects. From this one can infer that these lesser amounts of radiation tend to summate over a longer period of time. However, the individual is able to tolerate much larger amounts of radiation given over a longer period of time because an extensive amount of repair occurs after each injury. That this repair is never complete is evidenced by the fact that in time these types of radiation exposure lead to death but from somewhat different causes. In essence, acute radiation produces acute death, subacute radiation delayed death, and chronic radiation markedly delayed death from premature aging, carcinogenesis, cataract, vascular degenerative changes, plus the possibly unrelated factors of sterility and genetic changes.

It is obvious that the complexities of the differing types of exposures from external radiation and radioactive isotopes cannot be considered at length. If one will remember that all types of radiation produce the same types of damage and that the observed radiation effects depend on the type and amount of tissue exposed, he will be able to analyze these more complex situations with less confusion.

It is important to arouse sufficient interest and curiosity in these new radiation problems in order to prepare for the scientific happenings which are certain to come. Surveys have indicated that most doctors and dentists using x-ray equipment either are not aware of or have little interest in the dangers which daily exposure to radiation may already be producing. The methods of prevention against possible injury are so simple and inexpensive that no one can afford not to employ them. Even though injury from ionizing irradiation ultimately proves not to be as dangerous as present evidence indicates, the possible prevention of early aging, death due to cancer, or even the more remote creation of genetic defects as a problem for our progeny make the effort well worth while.

Interest of the physician in this new field of atomic energy should be stated in three specific questions:

1. How can I protect my coworkers and myself?
2. How can I protect my patients?
3. What can I do to protect the general population?

Answers to these questions are logical and readily available in various publications and, in fact, constitute the main thesis of the new regulations of the New York State Department of Health as set down in Chapter 16 of the Sanitary Code. On initial review of this material the casual observer is perhaps confused or irritated by the manner of presentation. As

TABLE II.—MACHINE SETTINGS FOR ROUTINE DENTAL FILMS

Milliamperes	Kilovolts	Rate per Minute
5	60 to 70	15 r
5	70	20 r
10	80	80 r

will be shown, if one complies with the spirit and the meaning of these suggested regulations, it will not be possible to harm oneself or others with any radiation-producing equipment or materials used in regular medical practice.

All of these regulations are founded on the basis that (1) all radiations can be measured accurately and (2) appropriate protective devices in the form of lead, concrete, water, or distance (air absorption) can be erected or arranged to reduce observed high exposures to safe limits. The method by which this can be applied to the problem of a dentist's or doctor's office is illustrated most simply by the familiar example of the dental x-ray machine which operates with a range of 50 to 80 kilovolts at 0 to 10 milliamperes of current. In the routine dental film the machine is used with 1 mm. of aluminum filtration at a distance of 20 inches from the skin of the face. Table II indicates the various settings of the machine which may be used in taking of routine dental films.

If he uses a three-second exposure at 5 milliamperes and 70 kilovolts (the average practice), he will deliver 1 r for each film. Since 14 films are used in a full mouth x-ray, a total dose of 14 r will be delivered to the patient's jaw. If the dentist or his technician uses his or her finger to hold the film, this finger will receive the entire dose. By measurement, if the dentist is standing by the chair, his body will receive between 0.5 and 2 r from the series of film or approximately two to seven times his allowed tolerance at one exposure. By reference to the table one can see that if the dentist is in a hurry to use a shorter development time by overexposing his film, he can double his exposure by increasing the voltage by 10 kilovolts or by increasing the current by 5 milliamperes. Should he do both, he will receive as much as 8 r total body and 100 r to the finger. What can he do about it?

If he moves approximately 6 feet away from the patient and has the patient hold his own film in position, he will reduce his exposure to approximately 0.1 to 1 milliroentgen per hour ($^1/_{1,000}$ r per hour), and if he has a standard lead screen separating the controls from the tube, the dosage will drop to less than $^1/_{10,000}$ r per hour. By the simple expedient of placing the control switch on the wall 6 feet away and having the patient hold his film, the dentist could take x-ray films most of the day without any danger whatsoever.

The problem in the doctor's office with a combined fluoroscopy or radiographic unit is but little more complicated. Here it is important to determine prior to purchase that the machine is made with permanent shielding and installed by a competent technician so that stray radiation through walls, floors, and ceiling does not exceed tolerance values for individuals working in adjacent areas. The next step after installation involves a survey by a competent radiologic physicist of the entire installation. As a result of such survey a recommendation concerning safe working limits as to time and distance from the tube, in addition to those factors of protection gained by lead-lined aprons, gloves, and the like will be given. The surprising fact remains, however, that the familiarization with the equipment actually results in a considerable improvement in the x-rays taken in almost every instance. In routine fluoroscopy one should always accommodate for darkness and wear light-protective shields if shifting from light to dark rooms on a continuous basis. For complete assurance that your protection methods are good and to avoid carelessness of technicians and others, personnel-monitoring equipment in the form of film badges or pocket ionization chambers can be used. Many agencies are now available who give this service at minimum cost.

Now that you have protected yourself and your employes, what is to be done about the patient? In all regulations issued, no limitations have ever been placed on the amount of diagnostic or therapeutic x-radiation that can be administered to any patient. This amount is entirely dictated by the judgment of the physician. However, if one recalls the total amounts of radiation administered to a patient in a routine gastrointestinal series, one might reduce such diagnostic follow-up technics to the bare minimum in a patient with an active ulcer. In a young child requiring cardiac catheterization for analysis of the defect, one might reduce the total number of such studies to those necessary for the specific necessary information.

Such caution may result in tremendous dividends if one considers that other exposures to radiation may increase precipitously in the years ahead.

Now what do we do about the general population? This problem is more complex. Of course, it is impossible to reduce the natural exposure from cosmic, air, and water contamination. Careful check is being kept on airborne radioactive materials from bomb and experimental testing by governmental agencies. It is doubtful whether this ever reaches serious proportions. As regards special radiation generators, sources, and specific radioactive materials found in research and processing laboratories in industry, in New York State controlled procedures have been set up under the Department of Labor. The Department of Health in turn has specific interest in similar activities in the universities and research institutions. Various Federal services, particularly the U.S. Public Health, Atomic Energy Commission, and armed services, carefully watch the exposure records in areas sponsored by them. Fortunately, all agree on similar standards of safe operation. More recently, industry has created a study and information organization, called the Atomic Industrial Forum, which has as its purpose the processing and analysis of specific information related to all fields of atomic energy of industrial interest. One important aspect under serious study by this group is the maintenance of adequate health standards for industry on a national and worldwide basis.

This parallel evolution of ideas on health and safe practices in the atomic energy field by governmental, industrial, and academic groups as well as the private individual is reassuring. If the individual knows enough and is willing enough to protect himself, if the industry knows enough and is willing enough to protect its employes and the surrounding area, and if the governmental agencies in turn follow similar practice, the need for restrictive, expensive, and annoying police procedures can be avoided. The available information is already at hand so that education is possible. If that which is learned is applied, regulation will not be necessary. And with all working together to control a potential hazard of insidious nature, the promise of enjoying the future benefits of this atomic era will be bright indeed.

ANNOUNCEMENT

SCIENTIFIC EXHIBITS

SESQUICENTENNIAL CONVENTION

MEDICAL SOCIETY OF THE STATE OF NEW YORK

Applications for space for the scientific exhibits should be made directly to the Chairman of the Subcommittee on Scientific Exhibits of the Convention Committee:

William L. Watson, M.D.
340 East 72nd Street
New York 21, New York

The Sesquicentennial Convention will be held February 18 to 21, 1957, at the Hotel Statler, New York City.

No applications can be considered after November 1, 1956.

There will be two groups of awards:

Group I: Awards in Group I are made for exhibits of individual investigation, which are judged on the basis of originality and excellence of presentation.

Group II: Awards in Group II are made for exhibits which do not exemplify purely experimental studies and which are judged on the basis of presentation and correlation of facts.

W. P. Anderton, M.D., *Secretary*
Medical Society of the State of New York

Some Reasons for the High Mortality in Pediatric Anesthesia

ROBERT M. SMITH, M.D., BOSTON, MASSACHUSETTS

(*From the Departments of Anesthesia of the Children's Hospital and Harvard Medical School*)

AT THE present time we are confronted with an excessively high mortality in pediatric anesthesia.[1–7] The number of deaths and cardiac arrests reported throughout the country appears definitely out of proportion to the number of children anesthetized. A situation of this nature calls for serious investigation.

There are three questions which immediately arise in considering possible reasons for this high mortality:

1. Is the higher death rate due to the heroic surgery now attempted in the newborn infant and congenital cardiac patient?
2. Are so-called "normal" children poorer risks than adults and less able to tolerate anesthesia and surgery?
3. Do these deaths represent inadequacy or errors on the part of the anesthetist and surgeon in dealing with children?

At present statistical evidence is not adequate to give final answers. Opinions voiced here are only impressions gained from statistical sampling, clinical reports, and personal experience. The information available suggests that while attempts at correction of major defects in the newborn and cardiac surgery in older children are adding to mortality in a few institutions, these figures do not appreciably affect those of the nation as a whole. The major part of pediatric surgery consists of relatively simple work on essentially healthy children, with tonsillectomy still well in the lead.

Is the normal child a poorer risk? That depends on how you look at it. Statistics of the large surveys show the higher mortality already mentioned. On the other hand, at a children's hospital where there is a large proportion of major procedures, the operative and postoperative mortality over a five-year period was no higher than that in a sister hospital where comparable work is done in adults.[8]

Children are different from adults in their reaction to anesthesia. They have poor physiologic control and show sudden fluctuations in respiration, temperature, and fluid balance. This is characteristic of children, and especially infants, and leaves them with what is frequently referred to as a "narrow margin of safety." This variability is well known and is the basis on which pediatric anesthesia is constructed. In other respects the child is a strong organism with great endurance and free from many frailties of older patients. It does not seem honest to say the normal child is a poor risk.

The third possible explanation for our high mortality concerns errors in technic or judgment. On examining a series of fatal cases, one first is astonished by the number of basically healthy children who die during operation for such conditions as harelip, hernia, or appendicitis. The next observation is that a large number of these deaths appear preventable. Although a wide variety of factors may be listed as reasons for individual deaths, the remarkable thing seems to be that several typical situations are found to recur again and again. This makes one suspicious that some rather fundamental faults or misconceptions underlie our handling of infants and children under anesthesia. Closer examination of these recurring fatal situations tends to confirm the suspicion and make one think that *here, most of all, are the reasons for the high mortality in pediatric anesthesia.*

It would seem appropriate to take five of the most commonly occurring causes of preventable deaths and discuss them briefly. Illustrative cases are taken from the literature, but it seems preferable not to list the sources, since personal criticism is not intended.

Lack of Equipment for Pediatric Anesthesia and Resuscitation

One cause of death is easily recognized. This is the common practice of anesthetizing children

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Presented, by invitation, at the 150th Annual Meeting of the Medical Society of the State of New York, New York City, General Sessions, May 10, 1956.

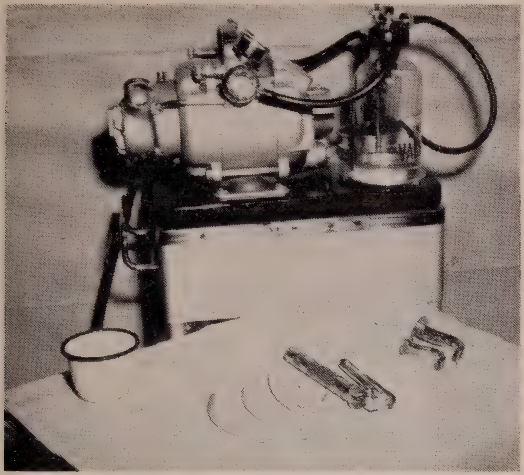

Fig. 1. Many preventable anesthetic deaths are due to lack of basic equipment pictured here: suction, airways, laryngoscope, and endotracheal tubes of appropriate sizes.

without having available the basic equipment. The following case is typical.

Case 1.—"A healthy little girl of three years was anesthetized with open vinyl ether and ethyl ether for removal of a nevus from her right arm. During induction, secretions were cleared from her pharynx, but moist rhonchi persisted, and her color was dusky. Thirty minutes of rattling respiration were followed by a short convulsion and death. Attempts at cardiac massage were unsuccessful."

Had the anesthetist simply exposed the glottis and suctioned the trachea early in the procedure, this would never have occurred. However, the anesthetist did not own a small laryngoscope and was unable to clear the airway.

Although obvious and inexcusable, this type of situation is one of the most frequent causes of death in pediatric anesthesia. There is a rapidly growing variety of anesthesia equipment now being developed for children. While it is not necessary to invest in all the devices recommended, there is certain equipment which is practically impossible to improvise and without which one is not justified in anesthetizing a patient of any size or age. This includes suction (working and within reach), oxygen, and appropriately sized airways, endotracheal tubes, and laryngoscopes (Fig. 1). While such equipment seems ridiculously simple, hundreds of anesthetics are given daily without even this fundamental apparatus.

It should be mentioned that to have airways and endotracheal tubes for all types of children, one must include a wide variety of sizes. As basic equipment with which to do pediatric anesthesia, one should be expected to have at least four sizes of oral airways (0 to 4), endotracheal tubes in eight sizes (12, 14, 16, 18, 20, 22, 24, and 26 French), and three laryngoscopes of different sizes for children and infants. To this apparatus additional material is added to suit particular needs, e.g., devices for use of closed, semiclosed, or nonrebreathing technics, etc.

Fig. 2. Anesthesia may be fatal to toxic, dehydrated children. Appendectomy must wait until fever and high pulse subside under treatment by hydration, suction, and antibiotics.

Anesthesia Given Before Toxic State Is Controlled

Another outstanding reason that children die during anesthesia is because many are hurried to the operating room while toxic and dehydrated (Fig. 2). The type of sick child most frequently operated on is the child with peritonitis due to perforated appendix. The story is familiar.

Case 2.—"A six-year-old boy was hospitalized with right lower quadrant pain and vomiting of three days duration, temperature 105 F., pulse 160, and marked dehydration. Sent directly to the operating room and subjected to ether anesthesia, he developed rapid respiration, rising pulse, then convulsed severely. He failed to regain consciousness and died six hours later."

It has been known for years that to anesthetize children in such condition is to invite disaster; however, the practice still is popular. High fever, whether it is due to peritonitis, intestinal obstruction, burns, or other conditions, sets the stage for rapid, severe reactions under anesthesia.

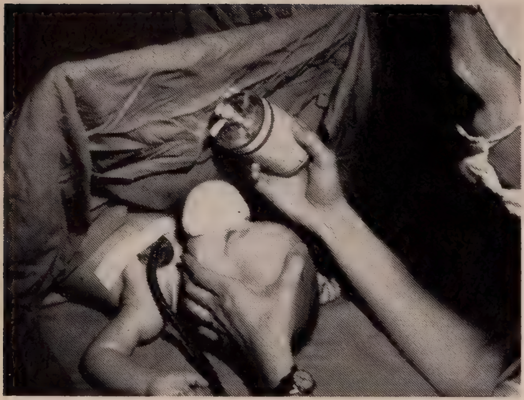

FIG. 3. Two methods of preventing deep anesthesia: (1) maintain biceps tone in arms, and (2) monitor heart and lungs continuously with stethoscope.

There is little if any justification for anesthetizing children who are febrile and dehydrated.

The mortality associated with the surgery of appendicitis has virtually been eliminated in many institutions by delaying operation until toxicity is controlled by fluids and antibiotics. It is not enough merely to start such therapy and then operate. Surgery is not indicated until there is definite evidence of improvement. There are several criteria of such improvement, among which should be the following: (1) rectal temperature below 102 F., (2) pulse below 120, and (3) the passing of urine.

Inadequate Observation of Patient

One serious error which is common, and which most of us make, is failure to recognize signs of depth or depression in children under anesthesia. We allow hypoxia, shock, and heat retention to progress unnoticed in children, although such conditions would be halted at once in adults.

There are reasons for this. Danger signs in small children are quite different and are unfamiliar to many anesthetists. We often are unable to follow the blood pressure in small children. Also, the changes are so rapid in children that a few moments of inattention may allow time for severe depression to occur, as in the following incident.

CASE 3.—"A six-month infant boy was anesthetized for excision of a mass on left shoulder and neck. Operation was undertaken under endotracheal ether with nonrebreathing valve. An intravenous cutdown infusion was started and blood administered. After two hours of uneventful anesthesia it was noticed that the blood was dark, and on checking with a stethoscope, the heart was inaudible, although respiratory motions were still present. In a few moments respiration ceased. The chest was opened and the heart massaged, but the patient expired."

This appears typical of many cases that are reported with fatal outcome. Anesthetic agent and technic were suitable and blood was administered, but something was definitely wrong. That cyanosis was the first observed sign of danger, followed shortly by death, suggests that earlier signs had been overlooked. Children react quickly, but they seldom die without due warning. One suspects that the so-called "uneventful anesthesia" must have included respiratory or circulatory depression prior to cyanosis. Had this depression been noticed when it first occurred, the death might have been averted.

Pediatric anesthesia demands meticulous and continual observation. Danger signals must be recognized and their cause corrected at once. Some of the more important danger signs in children are depressed, obstructed, or jerky respiration, marked flaccidity, dilated pupils, pallor or cyanosis, weak pulse, and bradycardia.

Danger signs must not be neglected. A still better goal is to prevent the appearance of danger signs. The attention of the anesthetist then may be focused on maintaining the child as far within the borders of safety as possible. Several factors must be combined here:

1. The level of anesthesia may be light. For most pediatric surgery first plane is sufficient. In small infants the eyes do not serve as useful guides since they are usually tightly closed, and when opened, it is difficult to see the size of the pupils. Observation of arms and hands is helpful, for infants usually go to sleep with fists clenched and elbows flexed tensely. As light surgical anesthesia is approached, the fists relax so that they may be opened easily, but the elbows retain definite tone and resist full extension (Fig. 3). Absence of biceps tone in infants under a year of age usually suggests that anesthesia is unnecessarily deep.

2. Respiration is the most important function to watch, for it is subject to most marked changes. The use of a stethoscope strapped to the child's chest is by far the best way to follow respiration during surgery and to make sure that exchange is even, unobstructed, and full at all times.

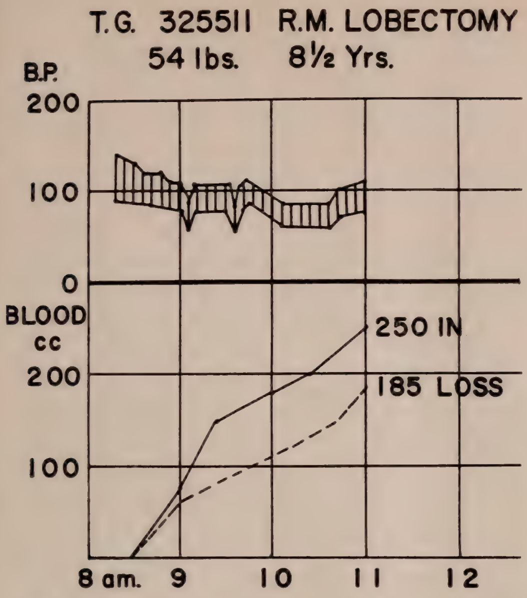

FIG. 4. Errors in blood replacement can be reduced by measurement of blood lost (*broken line*) and blood administered (*solid line*).

3. Body temperature should be observed, and if operating rooms are either overheated or cold, measures should be taken to maintain the child's temperature within the range of 95 to 100 F. per rectum.

4. Fluid loss must be watched carefully and pains taken to replace it. Blood pressure is difficult to determine in infants, but there are several signs by which the adequacy of the blood pressure can be estimated. The strength of the peripheral pulse is a valuable guide, as is capillary refill time and the volume of heart sounds as heard by stethoscope.

In connection with the need for better observation of children, it should be said that simpler anesthesia technics have the advantage of allowing the anesthetist to spend all his attention on the patient rather than on adjustment of intravenous drips and other apparatus. Usually, the more complicated the apparatus, the less is the attention that is devoted to the patient. This factor has been responsible for several deaths.

An impressive number of deaths have occurred in children immediately after termination of anesthesia and surgery. The cause has not been clear, but there has usually been sudden respiratory and circulatory depression. This sudden depression has also been noted in a number of children who recovered under prompt resuscitation. The immediate postoperative period is one of real danger, and children require the continued, undivided attention of the anesthetist until this phase is over and stability is assured.

Errors in Fluid Therapy

The replacement of fluid and blood probably represents the greatest problem in major pediatric anesthesia and surgery today. Technic is exacting, and applicable rules concerning administration are few. Consequently, the errors are numerous and of many sorts. Frequently, there is difficulty in starting the infusion and in keeping it running at crucial moments. The mistake may lie in the type of fluid used. Saline has been responsible for deaths in infants and must be used sparingly. Errors in the rate and amount of fluid administered are the most common (Fig. 4). Many deaths have been caused by drowning small patients by rapid administration of fluid, as in the following case.

CASE 4.—"A six-months (12 pounds) infant boy, admitted one week after falling from a chair, showed bloody spinal fluid and reflex changes. A subdural hematoma was successfully removed under ether anesthesia. During the procedure the baby was given 90 ml. of blood. He was returned to the ward with the infusion still running. Although orders had been written to give a total of only 150 ml. of blood, a 500-ml. flask had been used, and by mistake the whole pint was allowed to run in during the next hour. The baby died with pulmonary edema."

This death could have been prevented if the excess blood had been drained from the buret before the baby was taken from the operating room.

During surgery rapid or prolonged blood loss is a great threat. Signs of shock are difficult to determine in small children. How much blood or fluid to give during surgery is impossible to tell precisely. It is commonly held that an infusion of 10 ml. per pound will not overload a child. Often this is not enough, however, and additional amounts must be given. Measurement of blood loss, although still crude, is definitely helpful in determining replacement needs. Clinical signs are of great value here also. In addition to blood pressure, the strength of the peripheral pulse, and the volume of heart sounds are of great assistance. Color of the face and lips are also useful signs.

Postoperatively, large amounts of blood or fluid should not be ordered at any one time. It

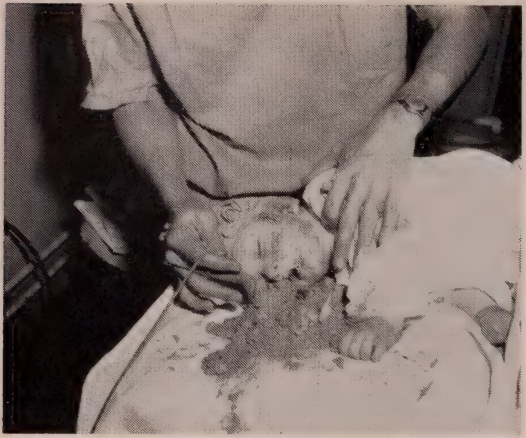

FIG. 5. Aspiration of vomitus may cause instant death. It may be prevented by passing endotracheal tube and leaving it in place until patient is really awake.

is much safer if small increments are given at repeated intervals as indicated. Daily fluid requirements also should be given slowly, the total administration given over two periods separated by a six to eight-hour interval.

Aspiration of Vomitus

Finally, the most tragic type of death in pediatric anesthesia is that which we inflict on healthy children coming to the outpatient department for treatment of such minor injuries as the Colles fracture in this story.

CASE 5.—"A six-year-old boy coming home from a birthday party fell from a low fence and fractured his left radius. Quite without preparation he was given ether, to which he objected violently. The reduction was accomplished and cast applied. At that point he regurgitated a tremendous quantity of undigested peanuts, candy, and hamburg steak, clamped his jaws together, inhaled once, and died."

In the treatment of minor injuries there are great pitfalls. Both surgeon and anesthetist tend to be hurried and to take shortcuts, failing to premedicate the patient or to examine him adequately. Apparatus is often picked up in haste and some left behind. The greatest danger to the patient, however, is vomiting with subsequent aspiration of stomach contents. It happens rapidly, and death may occur with the first inspiration. The only protection lies in prevention.

Several technics have been suggested for management of patients with full stomachs. Washing out the stomach is favored by some but seems unreliable, for the big chunks of food are often retained. The safest method, we believe, is to examine and premedicate the child and then follow one of two courses: either maintain the gag reflex by use of nitrous oxide or local anesthesia, or induce general anesthesia and protect the trachea by passing an endotracheal tube, keeping it in place till the child has really waked up, is opening his eyes, and is ready to cry or speak (Fig. 5). The endotracheal tube maintains a free airway in spite of copious vomiting. All can be safely cleared away before extubation. Induction with cyclopropane is favored because of its rapid action, but Vinethene or nitrous oxide are also acceptable since the gag reflex is retained until the vomiting stage is passed. The Pentothal-curare technic for quick intubation sounds attractive for use in this problem. However, the resultant complete relaxation of the esophagus allows sudden regurgitation and has been associated with a number of deaths. For this reason it seems contraindicated for use with full stomach.

Summary

Many causes exist for the high mortality in pediatric anesthesia, but the majority of deaths are due to preventable factors which recur repeatedly. Outstanding among these are the following:

1. Administration of anesthesia to children when basic equipment is not available.
2. Administration of anesthesia to children who are toxic and dehydrated.
3. Inadequate observation of signs of anesthesia and condition of patient.
4. Errors in fluid therapy.
5. Failure to prevent aspiration of food.

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Poliomyelitis Vaccine Status in May, 1956

HERMAN E. HILLEBOE, M.D., ALBANY, NEW YORK

(*Commissioner of Health, New York State*)

The dramatic events of the last two years have highlighted the public concern about poliomyelitis, a relatively uncommon clinical disease which occasionally produces paralysis. Probably the fact that the severely paralyzed patient remains crippled and his condition is visible to the casual observer tends to enhance this very natural concern. Actually, although in any given year the poliomyelitis incidence is low, it has been estimated by Kumm[1] that about one of every 150 persons is reported to have had the clinical disease, both paralytic and nonparalytic, by the age of twenty years.

The apparent mysteries surrounding the mode of spread of poliomyelitis and the origin of epidemics have added to the public apprehension. Health departments have been faced with the dilemma of apparent continual increases in the reported annual incidence, with a striking shift of the disease to the older age groups. In New York State, instead of having 95 per cent of cases less than five years old as in 1912, in 1955 only 25 per cent of reported cases were in this age group, and nearly 30 per cent were over twenty years. One well-supported theory places the blame on our modern sanitary mode of life. In the more primitive unsanitary environment, which once was common here and still exists in many parts of the world, the population is exposed to poliomyelitis infection very early in life at a time when the infant is passively protected with poliomyelitis antibodies from the mother or when for some other reason clinical illness rarely occurs following infection. By improving the sanitary environment and thus cutting down on the extent to which virus is transmitted, children do not become infected until they reach an older age—in fact, in many instances not until they become adults. At this time the clinical disease is more manifest, and the case fatality rate is higher. The upstate New York experience for the five-year period 1949–1953 indicates a case fatality rate in persons over thirty years of age which is five times higher than for children under ten years of age.

In the face of these observations, it became apparent that attempts to control the spread of infection, no matter how thorough, were unlikely to prevent the occurrence of the disease. Accordingly, the only logical solution to this dilemma was to develop an active immunizing agent (either a live or killed vaccine) capable of doing the immunizing job as well as or better than nature herself but without the risks inherent in poor sanitation or uncontrolled infection.

The formalin-inactivated vaccine developed by Jonas Salk was one of several proposed during the past three years. This vaccine, which produced measurable antibodies to the three types of polio, was tested in the now-famous field trial sponsored by the National Foundation for Infantile Paralysis.

The critical scientist reviewing the report on the evaluation of the 1954 field trials cannot help but be impressed by the importance of the rigidly controlled study carried on in 11 of the 44 participating states. It will be recalled that in these states half of the volunteers for vaccination were given a series of three doses of vaccine, while the other half received three inoculations of placebo solution indistinguishable from the vaccine.

It should be mentioned also that the 411,922 study children from New York State made up more than 55 per cent of the placebo-controlled study. Of this group 112,968 received vaccine; 113,413 were given placebo, and the remaining 185,541 were simply observed. Therefore, the contribution of this State to the solid evaluation of the vaccine was indeed great, even though poliomyelitis was not severely epidemic during 1954 in any of the 20 upstate counties or in the six health districts of New York City participating in the field trial.

Evaluation of the vaccine was made difficult by the fact that poliomyelitis incidence was low in the study areas of New York State in 1954. A total of 64 designated paralytic poliomyelitis

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cases occurred in the inoculated study children of the State. Nineteen of these were in vaccinated individuals, a rate of 17 per 100,000 population, and 45 in children given placebo, a rate of 40 per 100,000. These differences are highly significant; the estimated effectiveness of the vaccine used was 60 per cent. Limiting consideration only to the more severely paralyzed cases, one had the impression that the effectiveness was even greater in this group. It should be recalled also that Type I poliomyelitis virus accounted for nearly all these cases and that this type was least benefited by the vaccine. Thus, the 1954 experience of New York State alone furnished solid evidence of the general effectiveness of the vaccine used.

Immediately after the Ann Arbor announcement in April, 1955, of the effectiveness of polio vaccine, preparations were quickly made to produce the material in several countries. Denmark, employing the Brunhilde strain of Type I virus instead of the Mahoney strain, prepared a vaccine against all three types in its State Serum Institute and conducted a vaccination program during April, May, and June of 1955. Approximately 425,000 children aged seven to twelve years, representing about 98 per cent of the children in that age group, were given a course of intradermal injections using a dosage of 0.15 cc. No cases of paralytic polio, however, occurred in any of these children, even in those not vaccinated. In fact, only seven cases of polio were reported for all age groups in Denmark for the ten months prior to November, 1955. The effectiveness of their vaccination procedure was thus not measurable from the field experience. Antibody response was determined in a group of children, however, and, so far, has indicated that the Type II and Type III components of the vaccine produced satisfactory antibodies as measured by prevaccinal and postvaccinal bloods but that the response to Type I was not very satisfactory.

In Canada a similar attempt was made to evaluate its own vaccine containing the same strains of virus as used in the United States. Children in age groups five to eight approximately were given two doses of vaccine subcutaneously, and in two provinces three doses were employed intramuscularly. The incidence of paralytic polio, however, was exceptionally low in 1955, and therefore, the measure of effectiveness of the procedure was not so convincing as a large experience might have yielded. In three provinces where the incidence was approximately equal to the past five-year average, 23 cases occurred among 64,000 unvaccinated children and no cases among 65,000 children vaccinated with two doses.

The epidemiologic arm of the Public Health Service, the Communicable Disease Center, operated a national polio surveillance program, beginning in April, 1955, which has encouraged and coordinated reports of polio among recipients of vaccine in an effort to detect promptly any unsafe material. Additional measures undertaken by the Public Health Service and its cooperating expert committees included a review of the standards of vaccine manufacture and the establishment of new minimal requirements. Since the revision of the safety standards in May, 1955, no difficulty has been experienced with the large quantities of the vaccine used.

On the issue of safety it can be said with assurance that no cases of poliomyelitis were attributable to the vaccine used in 1954 in New York State, as was true for the entire country.

It is a tribute also to the safety of the vaccine used in 1955 in New York State that no cases of poliomyelitis could be traced to it. Furthermore, no significant clinical reactions were observed in any of the vaccinated children, and no evidence of provocation was discovered. In addition, evidence of benefit, even following a single dose of vaccine, is striking.

In a letter received from the Surgeon General of the Public Health Service on May 1, it was noted that technical advances in production and testing were introduced throughout the industry as a result of revision of standards in 1955. The most significant tests and laboratory controls are those conducted during the manufacturing process.

The repetition of tests by the Public Health Service has as its primary utility the testing of the products of manufacturers who have not yet attained full production, who have made recent changes in production procedures, or who have encountered production difficulty. When one of these circumstances prevails, the Surgeon General stated, the Public Health Service believes that release of the poliomyelitis vaccine should not be made without testing in its own laboratories.

The Surgeon General's letter stated that until several weeks ago the Public Health Service tested all lots of vaccine produced under the new standards prior to release. However, in line with the principles described above, four million cc. of vaccine made by a manufacturer who had produced a large number of consecutive lots of completely satisfactory vaccine were released without test in the laboratories of the National Institutes of Health.

However, several health officials urged the Public Health Service to continue testing all lots by all manufacturers. Recognizing that this provides an added basis for public confidence which will hasten widespread use of the vaccine so that the maximum number of children may be protected as rapidly as the vaccine becomes available, for the present the National Institutes of Health will, therefore, continue to test all lots of vaccine.

Incidentally, we have learned that vaccine containing live virus will reveal itself by producing disease after injection in approximately five to fifteen days and that it is prone to show its paralytic effects first at the site of inoculation. We also know that disease will be induced in associates of vaccinated individuals whether or not the latter becomes ill. We have some sense of these complications in quantitative terms.

Vaccine production was sharply curtailed after establishment of the new safety standards, and as a consequence few individuals were vaccinated in the spring and summer of 1955, other than those included in the program of the National Foundation for Infantile Paralysis. In this program vaccine was offered to first and second-grade children throughout the country and to third and fourth graders who participated in the field trial where placebo was used and who had not already received vaccine in 1954. Only about 100,000 New York State children received vaccine during the summer months. However, enough had been vaccinated in April and May of 1955 to make possible some evaluation of effectiveness. Langmuir and his associates[2] have summarized the experience of those states furnishing data adequate for analysis as of the fall of 1955. A total of 11 states including New York State reported on 2,300,000 children who received the vaccine and 2,400,000 children of the same age group who did not. The ages of the children studied varied among the states, but all fell into the six to eleven-year age group where polio incidence was expected to be highest. The combined experience of these states indicated a fourfold higher incidence of paralytic disease among the unvaccinated, 3.2 per 100,000 as compared with 13.2 per 100,000. Although more accurate definition of a paralytic case and more accurate estimates of the population at risk, if such is possible, may alter these attack rates to some degree, no major change in the relationship is probable.

In New York State additional problems plagued the evaluators of the 1955 experience as compared with 1954 field trial since placebo-inoculated controls were not utilized. The 1955 program was not designed primarily as a study of vaccine effectiveness but as a major effort to vaccinate all children possible before the advent of the next poliomyelitis season.

To focus more sharply on the experience in New York State in 1955, we can examine the results obtained in the vaccination of approximately 352,000 children in the first four school grades prior to the polio season, which occurred during the months June through October. An estimated population of 281,000 children in the same grades did not request vaccination when the offer was made to their parents. These populations refer to upstate New York where the bulk of the 1954 field trial was conducted. In nonfield-trial areas in upstate New York, where approximately 30 per cent of the child population lives, only the first and second-grade children were offered National Foundation for Infantile Paralysis vaccine. It should be mentioned, however, that after the 1955 polio season additional vaccine was provided through New York State funds to supplement this program, and vaccination was offered also to the third and fourth graders in the nonfield-trial areas.

We settled on the six to ten-year age group for comparison because the 1954 field-trial areas contained both vaccinated and unvaccinated children in the first four school grades. The vaccinated children in the nonfield-trial areas were limited to the first and second graders prior to the polio season. This irregularity in vaccine distribution makes it necessary for us to include in our comparison a large number of vaccinated children aged six and seven and a group of unvaccinated children aged eight, nine, and ten. This in itself, however, serves as a more rigorous test for the vaccine effectiveness because younger children, in New York's past experience, are more susceptible to polio than the older age group. That is, the older children would be expected to show a lower rate of polio even without using any vaccine and thus any measure of effectiveness has first to overcome this age susceptibility difference before showing any benefit.

Unequivocal benefits have been demonstrated in the comparison of these two population groups. Our preliminary estimate of the attack rates of paralytic disease in the 1955 vaccinated group was 5.4 per 100,000 as compared with 25.2 in the unvaccinated group, a fivefold difference. We need to compare paralytic disease rates in New York State because a variety of nonparalytic polio-like illness occurred in 1955, which only confuses the picture if included and against which no protection should be expected from the Salk vaccine. These estimated attack rates were based on early evaluation of paralytic status at the time of the acute illness. It is well known how the clinical severity of the illness can reverse itself on occasion. What appears to be a definite weakness acutely results in no weakness later after careful muscle evaluation, and what appears to be nonparalytic disease acutely later may reveal definite weakness. Therefore, we have evaluated the severity of the disease among the cases in our population groups and have followed the procedure used previously by Hammon in his 1952 gamma globulin trials and Francis in his 1954 polio vaccine trial with standard muscle grading sixty days after onset.

From our data on later muscle tests, we have found that there remains a fivefold difference in attack rates of significant paralytic disease between the vaccinated and unvaccinated children, 4.3 per 100,000 as compared with 22.1 per 100,000.

The polio vaccination program has progressed throughout 1955 and to date as rapidly as supplies have permitted. In New York State, including New York City, there have been three sources of vaccine: the National Foundation for Infantile Paralysis, the Federal Grant Program, and a New York State program which was intended to supplement the Foundation's program by offering the vaccine to all the third and fourth-grade children. The Foundation's program has provided sufficient vaccine, which has been administered to approximately 586,000 children, 92 per cent of whom were given two injections. With the approximately 488,000 doses of vaccine provided through State funds, 173,000 children have been vaccinated, 94 per cent of whom have received a second injection. In the remaining Federal program, which represents our entire source of vaccine at present, approximately 1,500,000 cc. have been received to date and administered to 670,000 children, approximately 40 per cent of whom were given two injections. This relatively low proportion of children given second injections was intentional and reflects our desire to administer as many first injections as possible during the early months of this year while vaccine supply has been so limited. There is good evidence from last summer's experience which suggests that one injection of vaccine provides a large degree of protection.

The Massachusetts experience with vaccine in 1955 is even more clear-cut since the Commonwealth suffered a major state-wide epidemic of poliomyelitis due to Type I virus. The only vaccinating done was during late May and early June in 1955 and was almost exclusively confined to a single dose of vaccine to 137,968 children five to nine years old out of a total population of 439,097 children in this age group. Under these circumstances one dose of vaccine appeared to be more than 60 per cent effective in preventing paralytic poliomyelitis. Actually, when consideration is given only to the more severely paralyzed cases, the estimated effectiveness was 76 per cent.

As evidence of the effectiveness of a mass vaccination program during an epidemic, we have the experience in Hawaii last fall. Nearly 80 per cent of the military population, including dependents, were vaccinated in the early stages of the epidemic with definite evidence of prevention. Despite the fact that vaccination was done during the epidemic, there is no evidence of provocation.

Now that the safety and effectiveness of the vaccine has been established, the problems of limitation of supply, age priorities, and dosage schedule remain. Although vaccine is becoming more plentiful, it is still limited.

Dr. Salk has presented data showing that the interval between first and second injections may vary between two weeks and six months or more, with the longer interval showing equally good or better antibody response. The New York State Advisory Committee on Poliomyelitis Vaccine considered this point and has made recommendations on the all-important need to protect as many children as possible before this coming summer. I asked the committee to meet on

May 3, 1956, to consider changes in age priorities and other related questions. The committee made four recommendations which I accepted and request the physicians to follow. They are as follows:

1. That vaccine be made available to all persons from six months through nineteen years of age and to pregnant women. However, physicians are urged to immunize children under fifteen years of age first.

2. That physicians concentrate on giving first shots to as many persons as possible in the eligible age groups. Our experience in New York State and elsewhere in the nation shows that a single dose of vaccine gives good protection for many months in a high percentage of the vaccinees.

3. That persons working with poliomyelitis patients or with the poliomyelitis virus (e.g., nurses, interns, and laboratory personnel) be excluded from the established priorities and permitted to have vaccinations if those in charge wish to purchase the vaccine commercially. According to the regulations of the Public Health Service, all of the publicly supplied Federal vaccine must be given only to persons under twenty and to pregnant women.

4. That 60 per cent of the vaccine allocated to New York State be distributed to physicians through public channels and 40 per cent through commercial channels. The distribution until now has been 70 and 30 per cent, respectively. It should be emphasized that except for those persons who are working with poliomyelitis patients or with the poliomyelitis virus, the established priorities are in effect whether the vaccine comes from public or commercial channels. Thus, with this exception, all the vaccine received in New York State is to be used for the most susceptible groups, persons six months through nineteen years and pregnant women.

We have been informed by the Public Health Service that there is no method of accurately predicting how much vaccine will be allocated to New York State during each of the coming five months prior to the end of the expected 1956 polio season. However, at a meeting held May 2 in Washington, the Surgeon General was optimistic about future supplies of vaccine.

Our vital statisticians estimate that there are 4,836,000 persons in the age group six months to twenty years and 350,000 expectant mothers in the State. A realistic estimate of the number who would ask for vaccination would be 85 per cent of the eligibles, or 4,100,000 children and 300,000 expectant mothers. Up to May 1, 1956, there were 1,809,000 or 45.9 per cent of the 4,100,000 who had received their first injections; second and booster injections were given to 975,000 of these children. This gives an idea of the great task that remains before maximum protection against paralytic polio is given to the groups most likely to be affected. Every health resource available in the State will be needed to do this job.

Special thanks are due to the practicing physicians and health officers throughout the State for their magnificent contributions to the vaccination program during the past year. They are the individuals who have carried the major share of the job.

The State Advisory Committee on Poliomyelitis Vaccine and the Medical Society of New York State have given generously of their time too, for which all of us are most grateful. Our thanks go also to the many volunteers and school groups who so ably supported the professional workers in their efforts to vaccinate the maximum number of children within the limits of available supplies of vaccine. The benefits received have proved to be well worth the efforts expended. Before the 1957 polio season, if supplies of vaccine become plentiful, we should be well on our way to protecting the most susceptible age groups against paralytic poliomyelitis.

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Sesquicentennial Meeting — February 18 to 21, 1957

Chronic Subdural Hematoma in the Guise of Cerebral Arteriosclerosis

A. M. RABINER, M.D., AND I. B. SCHACTER, M.D.,* BROOKLYN, NEW YORK

(From the Neurological and Neurosurgical Service of the Kings County Hospital and the Long Island College Hospital, and the Department of Neurosurgery and Division of Neurology, State University of New York College of Medicine at New York City)

IN THE later years of life, symptoms, such as headache, dizziness, a tendency to somnolence, visual complaints, varying degrees of motor power impairment with abnormalities of gait, impaired control of the organic sphincters, dulling of the intellect, and emotional instability, often justify the diagnosis of cerebral arteriosclerosis. In such patients there may or may not be evidence of hypertensive cardiovascular renal disease. Except for symptomatic treatment there is no specific therapy, and prognosis for recovery or even improvement is unfavorable.

This communication deals with similar symptoms occurring in individuals of the same age group in whom the pathologic basis is chronic subdural hematoma. The therapeutic approach, if utilized at the proper time, offers to the patient a more favorable prognosis. Often there is complete recovery.

Subdural hematoma occurs at any age. There is usually a history of antecedent head trauma which may of itself be trivial but at times is not included in the history of the patient's illness. The clinical picture varies. For a period after the traumatic incident there may be no complaints. Then, with accumulation of blood in the subdural space and swelling of the brain below the hematoma, there appear symptoms such as motor power impairment and headaches with or without nausea and vomiting. The patient, less aware of his surroundings, becomes somnolent or drowsy. At times convulsive seizures occur.

Any type of symptom which results from derangement of cerebral function has been observed. The recognition of a subdural hematoma in such patients is of vital importance for when the condition is diagnosed, neurosurgical treatment, usually evacuation of the subdural collection through a burr hole in the skull, is often followed by complete recovery. A patient harboring a chronic subdural hematoma develops symptoms of cerebral dysfunction similar to those resulting from any chronic, space-occupying, intracranial lesion. In the subsequent course of the illness such individuals may be diagnosed as having brain tumor or brain abscess. A similar clinical picture may also result from carotid artery thrombosis.

Six illustrative cases are presented with the clinical course in elderly individuals justifying admission to the hospital with the diagnosis of cerebral arteriosclerosis. Further observation revealed a subdural hematoma as the basis for the symptoms.

Case Reports

CASE 1.—A. M., male, age sixty-four years, when originally seen in consultation on October 11, 1940, complained of headache of two months duration. There were no other complaints, and there were no objective findings of neurologic import. He was referred to a hospital for further study. Blood pressure was 150/90. Blood chemistries were within normal limits, as was the urine and electrocardiogram. Chest plate revealed tortuosity of the aortic arch; skull x-rays were negative except for calcification of the falx. Cerebrospinal fluid total protein was 65.3 mg. per cent. He was discharged after eight days with the diagnosis of cerebral vascular disease.

When he was examined at home in consultation several days later, he was drowsy and complained of severe headache. Examination disclosed a mild left hemiparesis. A space-occupying lesion was suspected. He was referred for readmission to the same hospital. Burr holes revealed bilateral subdural hematomas which were evacuated. After a rather stormy postoperative course there was complete recovery. His son, a physician, states that in the subsequent fifteen years there were no further cerebral symptoms.

Comment.—Persistent headache with gradual de-

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* By invitation.

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velopment of hemiparesis and drowsiness occurs in cerebral vascular disease, but the patient should be studied for a possible space-occupying lesion. If this proves to be a subdural hematoma, recovery may follow evacuation of the clot.

CASE 2.—O. B., male, age seventy-three years, had a past history which included a head injury twenty years ago, but there had been no sequelae in the ensuing years. For six months prior to admission he complained of headache, increasing in frequency and severity. Blood pressure was 160/90. Routine physical examination including the neurologic status was essentially negative. He entered Kings County Hospital on May 22, 1950, with the admitting diagnosis of cerebral arteriosclerosis. Three days after admission he became confused and lethargic. Examination revealed a right hemiparesis, right-sided hyperreflexia, and a right Babinski toe sign. Fundi were negative. Cerebrospinal fluid was xanthochromic; the pressure was 100 mm. of water and the total protein 70 mg. per cent.

Burr holes revealed a solid, partly organized left subdural hematoma which was evacuated after a left temporal osteoplastic flap was turned. The hematoma extended from the frontal to the occipital poles and contained 175 cc. of clotted blood. He was discharged from the hospital two weeks after operation completely recovered.

Comment.—It is probable that the head trauma twenty years earlier played no role in the development of the subdural hematoma. Despite the diagnosis of cerebral arteriosclerosis in a seventy-three-year-old patient, the persistent, increasingly severe headache merging after a time with right-sided motor power impairment warranted further studies to make certain that a pathologic lesion which could be benefited therapeutically was not overlooked.

CASE 3.—H. B., male, age seventy years, was admitted to Kings County Hospital on December 7, 1954. He had been treated for five years for hypertension and "heart trouble." For one week there was headache, nausea, and vomiting. On the day of admission the headache was more severe with sudden loss of consciousness. When he was examined after admission to the hospital, he was comatose and two hours later had regained consciousness and was fully alert. Blood pressure was 180/80. There was flattening of the right nasolabial fold; deep tendon reflexes were increased bilaterally with bilateral Babinski. The diagnosis was cerebral arteriosclerosis and hypertensive encephalopathy.

On the day after admission he was alert and able to walk about the ward, but on the ninth day he was again drowsy. Cerebrospinal fluid was xanthochromic; total protein was 65 mg. per cent. He expired two days later. Postmortem examination revealed moderate cerebral arteriosclerosis and bilateral subdural hematomas.

Comment.—Despite the obvious hypertension, the advanced age, and the sudden loss of consciousness with hemiparesis, the kaleidoscopic return to alertness two hours after admission to the hospital with ability to walk about the next day and later again partial loss of consciousness should have directed attention to a space-occupying intracranial lesion. Periods of alertness alternating with somnolence or coma have often directed attention to a subdural hematoma.

CASE 4.—M. C., female, age eighty years, was admitted to Kings County Hospital on March 8, 1955, with a history of hypertension for ten years. Headache had been present for two weeks, and for three days prior to admission she was unusually lethargic and complained of headache and dizziness. On admission she was described as semicomatose and mumbled when answering questions. Examination revealed minimal flattening of the right nasolabial fold and blood pressure 210/120. She had been diagnosed as having cerebral arteriosclerosis prior to admission. Burr holes resulted in evacuation of 60 cc. from a right subdural hematoma. She was discharged completely recovered three weeks after surgery. During the postoperative period she recalled having fallen two months prior to admission without, however, any head trauma or interruption of consciousness.

Comment.—Headache may occur in patients with hypertension or cerebral arteriosclerosis. Persistent headache for days or weeks succeeded by more than twenty-four hours duration of increasing somnolence warrants suspecting a space-occupying intracranial lesion. If it is a subdural hematoma, surgery may result in complete recovery.

CASE 5.—M. A., male, age sixty-nine years, was admitted to Kings County Hospital on July 17, 1953. Three years prior to admission he had sustained an injury to the head. Within a week he developed right-sided weakness and generalized tremors, especially of the right upper extremity. He continued working until five months prior to admission when he complained of generalized weakness, refused to eat, became despondent, and cried easily. Hospital admission occurred because he had slipped on the floor that night and sustained a slight contusion of the right side of the face. He was confused and disturbed. The admitting diagnosis was cerebral arteriosclerosis with parkinsonism.

On admission, although slightly confused and apprehensive, he was relatively alert and cooperative. Blood pressure was 150/80. Coarse, tremulous movements of the upper extremities were noted, and there was some muscle rigidity in all the extremities. The day after admission, while he was speaking with visitors, there was abrupt loss of consciousness with masticatory movements. After this attack he was lethargic but answered questions. Skull x-rays were negative. The routine neurologic status revealed no findings of focal intracranial importance. Members of the family refused permission for surgical intervention. The patient expired the next day. Postmortem examination revealed minimal cerebral arteriosclerosis and bilateral chronic subdural hematomas.

Comment.—Convulsive manifestations in cerebral vascular disease are uncommon. When present in the later years of life, studies for a space-occupying lesion are indicated.

Case 6.—A. I., male, seventy years of age, was well until about one month prior to admission when he began to act strangely and complained of severe headache. Shortly thereafter, when walking, he dragged the right lower extremity. Weakness of the right lower limb increased, followed by progressive paresis of the right upper extremity. Three days before admission to the Long Island College Hospital on September 21, 1953, right facial paresis was noted, and he appeared aphasic. The left carotid pulsation seemed diminished. Routine physical examination was otherwise negative. Blood pressure was 110/60. Neurologic examination revealed a mixed aphasia, flattening of the right nasolabial fold, and right-sided hemiparesis. The abdominal skin reflexes were absent; the right cremasteric reflex could not be elicited, and he had a right Babinski toe sign. Funduscopic examination was negative. Electroencephalogram revealed a diffuse abnormality of the left cerebral hemisphere. Left carotid arteriogram disclosed marked displacement of all the arterial structures to the right by a large, clearly defined, space-occupying lesion in the left frontal region. Left temporal craniotomy revealed a 35-cc. clotted subdural hematoma, which was removed. The patient was discharged two weeks postoperatively completely recovered.

Comment.—Although he was previously diagnosed as having cerebral vascular disease, the sequence of gradual progressive implication of, first, the right lower extremity, then the right upper extremity and aphasia, even at age seventy, justified measures to make certain that a space-occupying intracranial lesion was not overlooked.

Summary

In the later years of life the clinical picture in patients with cerebral arteriosclerosis, chronic subdural hematoma, or any other space-occupying intracranial lesion may be similar. The importance of establishing the diagnosis seems obvious. Except for routine symptomatic care there is no specific treatment for cerebral arteriosclerosis, whereas if a subdural hematoma is the basis for the symptoms, surgical intervention may favorably influence the prognosis and result in the patient's recovery.

After the initial acute onset of any cerebral vascular lesion, the patient may or may not be unconscious. Such patients usually regain consciousness within minutes or a few hours, but coma of more than twenty-four hours duration in such patients portends an unfavorable prognosis for life. Rarely, aged individuals with cerebral arteriosclerosis and multiple areas of encephalomalacia may, after rather prolonged periods of somnolence and even coma, regain consciousness. In the majority of instances these patients remain in a comatose state for days. The attending physician can only render supportive therapy which may prolong life, but a fatal termination is inevitable. It should be stressed, therefore, that a chronic subdural hematoma and at times other space-occupying intracranial lesions may cause a similar clinical picture. Critical evaluation may reveal criteria which justify instituting measures leading to a therapeutic approach that may result in a more favorable prognosis. Somnolence, lethargy, confusion, or sluggish cerebration alternating with periods of alertness and awareness in such patients should suggest a space-occupying intracranial lesion. If this is a chronic subdural hematoma, surgical intervention may result in recovery. Occasionally, convulsive seizures may develop in patients with cerebral arteriosclerosis but are more apt to result from a space-occupying intracranial lesion. An acute hemiplegia is common in cerebral arteriosclerosis, but when it develops gradually, affecting one limb only for a time with the remaining components of the hemiplegia developing later, a space-occupying lesion should be suspected. Too frequently, elderly patients linger for many days and are mistakenly treated symptomatically for cerebral vascular disease. Complete recovery is a gratifying therapeutic result even in an eighty-year-old patient. Moreover, in our opinion any elderly patient suspected of intracranial pathology of cerebral vascular origin with increasing somnolence and symptomatology should not be abandoned but, rather, should be afforded the benefit of diagnostic procedures that may result in exposure of a subdural hematoma and recovery after its removal, as happened in Case 4.

Blood Exchange Clearing House Functions with Special Reference to National Reciprocity Program

JAMES J. GRIFFITTS, M.D., MIAMI, FLORIDA

(*Associate Director, John Elliott Blood Bank of Dade County, Florida*)

It is a privilege to have the opportunity of presenting a program brought into being by the American Association of Blood Banks and to discuss the Clearing House Program in New York City where the solutions to many important problems related to blood transfusion were born. I refer here, of course, to the birth of cross-matching, citration of whole blood, and the discovery of the Rh factor, among the many contributions which have originated in New York.

Technics in the collection of whole blood in the years immediately preceding World War II had developed to such an extent that the modern concept of blood banking was in being. The ability to store whole blood and the usefulness of transfusion in surgical and medical diseases created a great demand for blood. The practice of blood transfusion has grown so large that it is necessary for hundreds of laboratories to engage in the practice of collecting, processing, and storing blood in institutions throughout the country. It should be apparent that the blood transfusion requirements throughout the country cannot be met by a small number of well regulated laboratories.

Blood may be considered a biologic product having specific therapeutic properties and specific indications for its use. Control measures applicable to biologic products, such as diphtheria antitoxin, smallpox vaccine, and the like, do not lend themselves well to technics involved in the collection of blood in the hundreds of laboratories, large and small, throughout the country. This situation creates a host of problems not only for the blood banks themselves, but also for physicians and their patients.

It is sometimes useful to compare the complexities of a problem in one field with those existing in some other area of endeavor. While no situation fits the problems of blood collection and distribution, in some respects it resembles problems connected with the production and distribution of milk. For example, milk is a perishable product. It is derived from healthy animals and requires careful processing, storage, and transportation. No single area has been built up adequately to act as a source for all demands of milk. The controls on the quality and safety of milk are largely left to local areas where milk is produced and used. By and large the public is protected and assured of safe milk supplies by local ordinances, and milk producers themselves make important contributions to such controls.

In many ways the assurance of safety of blood as a biologic product brings forth problems which have faced the medical profession and the general public before in the product, milk. However, blood is injected intravenously into human beings and carries with it a great potential risk. It is the desire of the medical profession that methods be found by those who work in the field of blood transfusion to safeguard the patient by furnishing a product of good quality.

It is my belief that there is no substitute for intelligent local control of the procedures and the methods used in collecting, processing, and storing blood for transfusion. The responsibilities of a blood bank are great, and it is not well to divide these responsibilities between different organizations. In our own blood bank we have a feeling of great confidence in the personnel whom we have trained and in the procedures which have been established for collecting, processing, and storing blood. At certain times when we are called on to accept blood collected by some other facility for issue to patients in our community, we approach this situation with not quite the same confidence as if we had collected the blood ourselves. I feel certain that it is a human attribute to trust completely only those things you see with your own eyes. It is impossible to be self-contained in any one area so far as blood

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needs are concerned. It has been found necessary to cooperate with blood bank facilities in other areas of the country. The American Association of Blood Banks was founded to conduct, maintain, and support benevolent undertakings by making available through blood banks whole blood and its derivatives; to advance and encourage high standards of performance and service in these fields; to serve as a clearing house on questions relating to the training of personnel in blood banks, and to plan for cooperation in times of disaster, to mention a few of its purposes. The Clearing House Program established in 1954 is an instrument formed to accomplish some of these ideals.

The blood transfusion service with which I have been associated for the past seven years is located in Miami, Florida, where, in addition to the normal resident population and its transfusion problems, it is seasonally increased by the influx of many visitors. This population increase intensifies the need for cooperation between blood banking facilities in remote areas. From time to time we have had to call on the well-regulated blood banks in the New York area. We have patients in Miami who require blood transfusion in connection with the treatment of disease. In our community we attempt to collect blood from local donors to meet the demands of patients regardless of their point of origin.

Our program requires that individuals who receive blood be responsible for its replacement. In the hundreds of instances during the wintertime especially, the patient's ability to obtain a donor replacement is greatest at his home. For patients who originate in the New York area we have been able to work cooperatively with blood banks in the New York area whereby donors give blood in New York and the credit for this donation is forwarded to our blood bank to relieve the patient of the replacement responsibility fee. We prefer of course to give patients blood for which we have the entire responsibility in its collection, processing, and storage. We would not choose to depend on blood collected by other facilities in our routine operation. I am certain that this same feeling exists in blood transfusion services in New York and over the country as a whole. The donors for a patient in Miami may find that the blood they gave in a New York blood bank was used for the treatment of a patient in a New York hospital. The donor, however, would also find that the unit of blood he gave was credited to his friend or relative in Miami.

How can this transaction keep from being one-sided? I need not remind any of you that New York is one of the world's leading medical centers. Miami residents not infrequently seek medical care in your hospitals. In time a certain number of Miami residents will require blood to be given them while they are in New York. Their friends and families donate blood in Miami, and the credit for these donations is forwarded to the facility in New York. Again we would use such blood in Miami under our own control. The transaction—Miami owes New York and New York owes Miami—can be neutralized by an exchange of credits on paper. Both communities use the blood which local facilities have drawn, processed, and stored. In time a certain imbalance will accrue which can be settled either by blood shipments or money payments, depending on the election of the blood bank holding the favorable balance. This is a brief explanation of the service rendered by the cooperation of blood banks in two widely separated areas. This is a brief explanation of why the American Association of Blood Banks has pursued the development of the exchange of credits on a national basis.

In March, 1951, the California Medical Association Blood Bank Commission and seven nonprofit medically sponsored community blood banks established a clearing house within the state of California. This system was the first formal clearing house for blood bank transactions to be established. In a large measure the credit for this must go to Mrs. Bernice Hemphill of the Irwin Memorial Blood Bank of the San Francisco Medical Society. In 1952 the concept of a national clearing house to provide the services which I have briefly described was formulated, and in December, 1954, the American Association of Blood Banks announced the establishment of its national clearing house program. There are at present five district clearing houses contemplated: Pacific, North Central, South Central, Northeast, and Southeast.

The offices of the clearing houses are located in San Francisco, Chicago, Dallas, New York City, and Jacksonville. Each of the clearing houses serves a designated section of the country and is composed of member blood banks serving hospitals located within its territory. The central

TABLE I.—CALIFORNIA CLEARING HOUSE, MARCH, 1951, TO JANUARY, 1956

	Transactions	
	Number	Per Cent
Donor in one area for patient in another		
Paper credit cancellations	88,332	77.0
Donor fee paid on request	1,024	1.5
Blood shipped to settle debts	23,931	21.5
Total	113,287	...
Blood shortages met by another blood bank	13,821	...

TABLE II.—FLORIDA CLEARING HOUSE, JANUARY, 1954, THROUGH JANUARY, 1956

	Transactions	
	Number	Per Cent
Donor in one area for patient in another		
Paper credit cancellations	20,476	66.7
Donor fee payments	0	
Blood shipped to pay debts	10,378	33.6
Total	30,854	...
Shortages of blood met by another blood bank	10,042	...

offices of the clearing houses function primarily as bookkeeping agencies for its member banks to provide the exchange of donor replacements between blood banks, to maintain records, balance accounts, and arrange for settlements, to cancel interbank transactions, to facilitate the borrowing and lending of blood wherever and whenever needed. The plan anticipates the payment of a fee for each transaction handled by the clearing house. Experience has shown on the Pacific coast and in the Southeastern area that the clearing house can be self-supporting from the transaction fee which at present in those two areas is 25 cents for each credit or debit.

The most important function of the clearing house is the handling of donor replacement credits. When blood donations are made in one part of the country for individual patients hospitalized in another area, relatives and friends of the patient may give blood at a member bank most convenient to them, furnishing the name of the recipient and the hospital in the city where transfusions have been administered. The bank accepting the blood donation forwards a standardized reciprocity credit form to its clearing house to be channeled to the bank which has supplied the blood. This reciprocity credit is an I.O.U. from one bank to another. It verifies the acceptance of replacement donors and enables the recipient to receive credit just as if the blood donation had been made to the bank which furnished the blood. The member banks do not have reciprocity accounts with each other; they maintain one account with the clearing house of their area, and all I.O.U's which accrue from the borrowing and lending of blood are reduced to a net balance where banks are indebted to the clearing house or the clearing house is indebted to the member bank. Such indebtedness may be settled by (1) blood shipment, (2) by the payment of donor fees, or (3) by a combination of each. The clearing house determines how each bank wishes to settle its debt and sends out monthly statements showing the net amount of blood due and directs settlement in blood or money. Whenever a blood bank receives more blood than it has shipped within a given period, it must pay to the clearing house a fee which includes the cost of processing and transportation for each excess unit. In turn the clearing house remits these fees to banks which actually make blood shipments to settle indebtedness.

The California blood bank system clearing house has been in operation for five years. It now serves 12 member banks and has established reciprocal relations with Red Cross regional blood centers and many community and hospital blood banks throughout the country.

Since 1951 the California system has handled 99,356 donor replacements and arranged for blood banks to borrow 13,821 units of blood (Table I). To settle the indebtedness resulting from the exchange of these 113,287 transactions, a total of 24,955 units of blood and/or penalty fees were required. This represents only 22 per cent of the total individual transactions. The majority of transactions were settled by the member banks shipping 23,931 units of blood. However, a few of the member banks settled indebtedness by paying 1,024 donor replacement fees.

Figures covering the transactions of the Florida clearing house which became operative in February, 1956, as the Southeast District Clearing House, are shown in Table II.

In Florida member institutions take part in a telephone conference twice a week, and it is through the medium of this telephone conference that shortages and overages are detected and corrected. However, if one member is constantly short and one member constantly long, the clearing house would, in fact, become a middle man in the commercial transaction.

These are matters for review of the governing board of each clearing house. The clearing houses thus far established are governed by a board of directors and are independent of the American Association of Blood Banks. It is hoped that the blood banks in the Northeast District will soon be more widely operating through the clearing house to be located in New York City.

The significant performance of well-organized clearing houses on the West Coast and in the Southeast indicates an increasing demand for the exchange of blood credits and may be interpreted as an indication of the service that can be rendered to patients and donors through the cooperative effort of blood bank facilities. In 1955 the American National Red Cross organized a central reciprocity system to serve their centers. Red Cross centers actively participate in the Clearing House Program in most areas on a local basis.

It is my belief that the best way to provide blood for patients is to keep closely associated the *responsibility for blood replacement* with the individual who receives blood and the services connected with it. I see no hope for socialistic plans for procuring blood. Except by the enticement to blood donors of a money consideration, the strongest force in creating blood donors is the need of someone connected with the patient through family or friendship. When one can regularly produce donors for a patient even miles away, this impetus must be used in the procurement of blood. The Clearing House Program sponsored by the American Association of Blood Banks is capable of providing this service to donors and patients as well as creating blood for transfusion use throughout the country.

Where cooperative exchange of blood and blood credits has been available, good public relations for the medical profession has resulted. It is necessary to increase institutional members of the clearing house to extend the good services of the program. This will aid in the never-ending scramble for a balanced supply of blood for patients throughout the country.

The clearing houses of the American Association of Blood Banks system are not for profit. It will be difficult for any one facility to hold an advantage over another through the medium of the clearing house. The transactions between member blood banks must be agreed upon as to charges and acceptance of donor replacement credits and processing fees.

In the early development of clearing houses, technical and administrative difficulties arose. The fact that a clearing house is set up to serve the interests of all institutions and not give one an advantage over another has helped solve problems. In the early functioning of one of the clearing houses, some of the member institutions believed that the clearing house had the ability to produce blood. This is not the case. While the clearing house accumulates information from its members about inventories and, thus, about shortages and overages of blood, it has no ability to produce blood by itself. Its primary function is to secure replacement of blood and not to relieve *one* blood bank of constantly recurring shortages nor another blood bank of constantly occurring overages; however, based on good faith, the clearing house has the demonstrated ability to alleviate temporary shortages in certain areas. Clearing houses are patterned after monetary banks and have their own rules of performance.

I deeply appreciate the opportunity of talking to physicians in the State of New York where your own State Association of Blood Banks has been quite active in developing cooperation between blood-banking facilities. I feel that those of you who are not directly connected with blood transfusion services should keep in mind the service that can be rendered to your patients by the institutions in which you carry out your work becoming members of the clearing house system. I would also like to remind my fellow physicians that they play a great role in explaining to patients how blood is procured. Those of us who try to meet the blood needs of your patients will appreciate very much your using every opportunity to encourage replacement of blood.

I believe that the clearing house system sponsored by the American Association of Blood Banks has already demonstrated a valuable service which can be further extended with your cooperation.

1800 NORTHWEST TENTH AVENUE

One can acquire everything in solitude—except character.—"STENDHAL"

RECENT ADVANCES IN MEDICINE AND SURGERY

A series of review articles dealing with medical progress

ROBERT TURELL, M.D., *Editor*

The Present Status of the Salk Vaccine for the Control of Paralytic Poliomyelitis

HART E. VAN RIPER, M.D., NEW YORK CITY

(*Medical Director, National Foundation for Infantile Paralysis*)

PARALYTIC poliomyelitis can be and sometimes is a catastrophic illness with sequelae that endure for a lifetime. The present Salk vaccine provides the best available barrier—and, in fact, a very high degree of protection—against such catastrophes. Their relative infrequency is not a valid argument against making whole-hearted efforts to prevent them, especially when the means of prevention are so readily at hand.

A rapidly increasing supply of Salk poliomyelitis vaccine is now finding its way into the hands of private physicians and public health authorities.

Polio vaccine supply in the United States as a whole now exceeds current demand. The shift in the supply picture had not yet reached New York State by the middle of July. It may be considered the mutual and joint responsibility of private physicians, public health officers, parents, and patients to make sure that the entire available supply of Salk vaccine gets into the arms of the American people as soon as possible.

In this presentation of the present status of the Salk vaccine for the control of paralytic poliomyelitis, we shall deal with (1) the need for continued physician support and leadership in vaccinating now, (2) new theoretic considerations concerning the use of the Salk vaccine, (3) some practical problems of vaccine usage and, administration, (4) some problems of poliomyelitis that the vaccine has not solved, and (5) the current role of The National Foundation for Infantile Paralysis in helping to meet these problems—most specifically, rehabilitation.

Need for Medical Leadership in Vaccine Programs

The enthusiastic leadership of the medical profession, both from the standpoint of the individual practitioner and organized medicine, is essential for the rapid continuance and eventual completion of the task of preventing paralytic poliomyelitis in the United States and throughout the rest of the world. Poliomyelitis vaccine is of no use until it is actually injected. It is of most use when injected according to an optimum schedule of dosage. The present recommended dosage is two 1-cc. doses intramuscularly, spaced two to six weeks apart, with a third ("booster") dose at least seven months later.

More than 30,000,000 children in the United States have already received one or more in-

TABLE I.—POLIOMYELITIS RATES BY VACCINATION STATUS IN 6 TO 10-YEAR OLDS IN UPSTATE NEW YORK (PRELIMINARY DATA, MAY 21 TO OCTOBER 21, 1955)*

		Cases†				Rates per 100,000		
Vaccination Status	Population	Paralytic	Non-paralytic	Un-specified	Total	Paralytic	Non-paralytic	Total
Vaccinated in 1954								
Booster in 1955	23,370	0	8	0	8	. . .	34.2	34.2
No booster	74,330	4	18	1	23	5.4	24.2	30.9
Vaccinated in 1955								
One dose	185,695	9	63	1	75	5.0	34.1	41.3
Two doses	169,174	5	39	3	47	3.0	23.1	27.8
Total vaccinated	448,569	18	128	5	153	4.0	28.5	34.1
Total unvaccinated	282,000	59	111	8	178	20.9	39.4	63.1

* Data compiled by Dr. William Beadenkopf, Bureau of Epidemiology and Communicable Disease Control, and Dr. David Poskanzer, Epidemic Intelligence Service Officer assigned to New York State.

† Does not include 8 cases for which vaccination status is unknown.

jections of Salk vaccine. This is a commendable beginning and a major step toward the goal of the elimination of paralytic poliomyelitis. The American medical profession deserves the wholehearted praise of the American public for its leadership and cooperation in getting so many children vaccinated so soon. This is one of the most remarkable records of health protection ever achieved. It should stand high in the annals of medical history. No other immunization procedure has gone forward so rapidly. It is certainly to be expected that doctors will quickly complete the task they have so well begun.

Accumulated evidence of the safety, potency, and effectiveness of the present Salk vaccine invites its steady and continued use for the prevention of paralytic poliomyelitis. Physicians need have no hesitation about vaccinating during the summertime (the "polio season") or during epidemics. Several recent statements by the Surgeon General of the U.S. Public Health Service have fully affirmed these facts. Experience in New York State also specifically confirms them.

VACCINATE NOW AND THROUGHOUT THE SUMMER.—On May 2, 1956, the Surgeon General issued the following statement:

> Physicians and health officers should begin immediate planning for expanded poliomyelitis vaccination programs during the next few months.
>
> Vaccine should be used as promptly as it becomes available, even during periods of rising incidence of poliomyelitis, to assure maximum protection.
>
> To provide some protection in higher priority groups as soon as possible, vaccination programs should not only be continued but expanded as more vaccine becomes available throughout the summer months, which are periods of rising incidence.
>
> The total preventive effect of the vaccine is much greater than any slight hazard of provocation. Evidence accumulated during 1955 supports this conclusion.

On June 11, 1956, at the annual meeting of the American Medical Association the Surgeon General again urged continuance "of immunization programs throughout the summer, even during periods of rising incidence of poliomyelitis."[1] He pointed out that "the immediate order of business in the polio fight is to use every drop of vaccine available in the wisest way possible—as promptly as possible—to achieve optimum results during the 1956 polio season." He urged further that physicians follow the recommendations of the National Advisory Committee on Poliomyelitis Vaccine and give as high a coverage of protection as possible to children under fifteen years of age and to pregnant women.

Experience in New York State, duplicated elsewhere, fully confirms the Surgeon General's recommendations. In the summer of 1955 (specifically from May 21 to October 21, 1955), over 350,000 children in upstate New York received one or more injections of Salk vaccine. The polio attack rate in this vaccinated group was only about one-fifth as high as the attack rate in a comparable group of over 280,000 unvaccinated children (Table I).

New York State has made an enviable record in providing protection against paralytic poliomyelitis to its residents. Up to May 1, 1956, over 1,800,000 New Yorkers had received one or more inoculations of Salk vaccine. This was nearly 46 per cent of the people in the State eligible to receive vaccine. The eligibility for vaccine in New York State recommended by the New York State Advisory Committee on Poliomyelitis on May 3, 1956, included persons

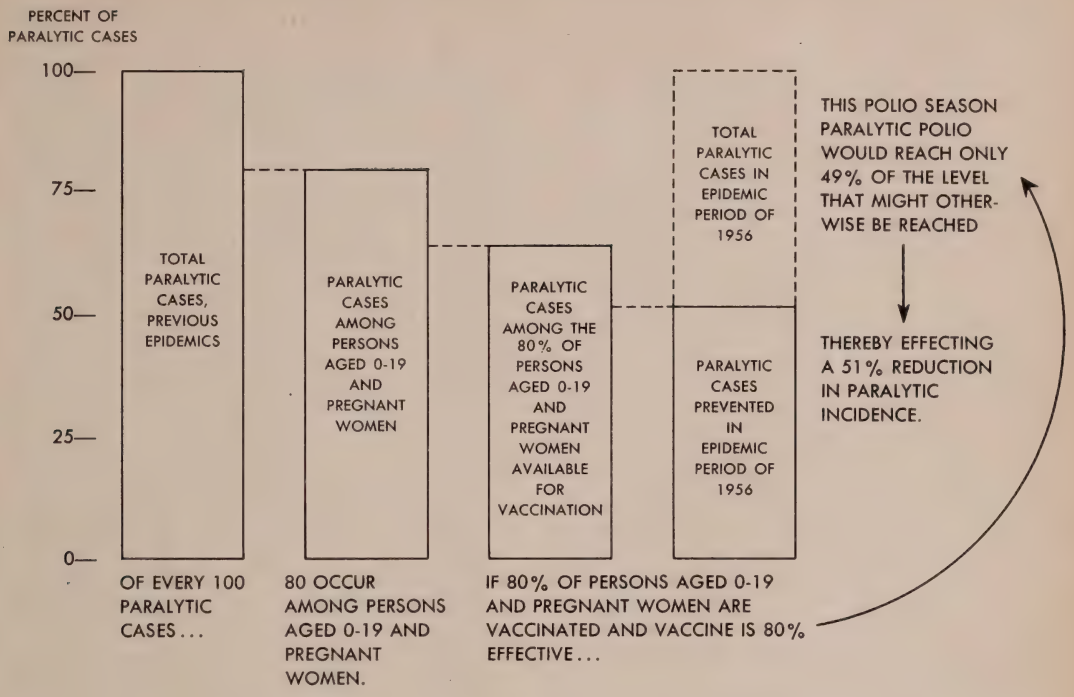

Fig. 1. Prevention of paralytic poliomyelitis: speculations for 1956.

from six months through nineteen years, pregnant women, and persons working with poliomyelitis patients or poliomyelitis virus.

On May 11, 1956, Dr. Herman Hilleboe, Commissioner of Health of the State of New New York, and Dr. Leona Baumgartner, Commissioner of Health of the City of New York, jointly signed a letter to physicians of the State and city which said, in part: "Although the vaccine is gradually becoming more plentiful, supplies are still limited so that it will be necessary to concentrate on giving doses to all those in the eligible age groups. [With] gradually increasing supplies and . . . with your continued cooperation, we can advance our program to assure protection to the maximum number of children before the polio season."

It should be a matter of pride and satisfaction to the physicians of New York City and New York State that they have advanced so far in providing protection against paralytic poliomyelitis to the children of this State. Admittedly this has not always been an easy task, and there is still a long road ahead. The leadership displayed by the Medical Society of the State of New York and by the State Health Department has undoubtedly helped to account for the fine opening record. It may also be worth calling to mind that ever since 1916, when one of the first great epidemics of paralytic poliomyelitis struck New York City, the press and public of this State and this city have been particularly sensitive to the threat of this disease.

1956 Hopes for Polio Prevention.—Hopes for prevention of paralytic poliomyelitis in New York State in 1956 may justifiably run high, particularly if the vaccine program so well begun is continued with equal vigor by physicians throughout the State. The following considerations enter into a frankly speculative consideration of the possibility of preventing paralytic poliomyelitis in New York State in 1956, that is, this summer and fall. The speculations are summed up in Fig. 1.

We start with the total number, 100 per cent, of paralytic cases of poliomyelitis that might occur at all ages in the United States in the epidemic period of 1956. This number is somewhat but not absolutely unpredictable. We have previous records to guide us. Most importantly, we have experience with the ratio of total cases of poliomyelitis reported to paralytic cases diagnosed. This experience is based partly on U.S. Public Health Service records and partly on records kept by the National Foundation for Infantile Paralysis concerning a great number of hospitalized poliomyelitis cases. On this basis we can estimate that something over half, somewhere between 60 and 65 per cent, of diagnosed cases of poliomyelitis in New York State are paralytic. Nationally, the percentage runs between 50 and 55 per cent. It is recognized that the borderline between paralytic and nonparalytic is not always sharply marked.

The second column presents the percentage of cases of paralytic poliomyelitis that occur in patients under twenty years of age and pregnant women. There is a wealth of statistical material on age-specific case rates for paralytic poliomyelitis. This column shows, on the basis of previous records, that for every 100 cases of paralytic poliomyelitis diagnosed, about 80 will occur in children under twenty years of age and pregnant women.

The third column is just four-fifths as high as the second column; and the fourth column, within the black lines, is also four-fifths of the third column. The third column makes the supposition that 80 per cent of the children under twenty and pregnant women in New York State will be vaccinated against paralytic poliomyelitis before the usual height of the 1956 season. This is the big "if" and depends primarily on available vaccine supply and the cooperation of the physicians in getting it used.

The 80 per cent factor in the fourth column is not, however, an "if." It is the fact already documented that the Salk vaccine is about 80 per cent effective in the prevention of paralytic poliomyelitis.

The dotted line at the top of the fourth column simply indicates that if there were no Salk vaccine and if there were no other effective means of preventing paralytic consequences of poliomyelitis infection, the total number of paralytic cases of poliomyelitis to be expected in the epidemic season of 1956 in children under twenty years of age and pregnant women would be 100 per cent of whatever the epidemic circumstances of the year brought about. In other words, we could do nothing about it.

I direct your particular attention to the heavy black line about the middle of the fourth column. If you compare it with the percentage scale at the side of the first column, you will see that it comes up to the 51 per cent mark. The meaning of this figure can be put two ways: It means that if a State-wide and nation-wide vaccine program for 1956 is effectively carried forward—in addition to what was already accomplished in 1955—we have every reason to hope that the incidence of paralytic poliomyelitis will reach only about 49 per cent of otherwise anticipated levels. The other way of saying this is that if we concentrate our vaccine program for 1956 in the most susceptible age groups, we can expect to reduce the incidence of paralytic poliomyelitis by about half. This would be a most dramatic reduction in a single year in the incidence of any disease.

It is impossible at this time to put any accurate numbers for 1956 on the percentage figures illuminated in the chart in Fig. 1. Paralytic poliomyelitis is still an unpredictable disease, and no one yet really knows how or why epidemics start or stop.

For public health and other administrative purposes on which decisions must be based, it is common to use five-year averages of the incidence of cases. In the five years 1950 through 1954, with an unvaccinated population in New York State, the average number of cases of poliomyelitis reported was around 2,700. Solely by way of illustration—and not in any sense a prediction—it could be calculated that under the conditions of Fig. 1 and on the unpredictable assumption that the number of cases of paralytic poliomyelitis which might have occurred in New York State in 1956 would be close to the five-year average number of cases, the number of paralytic poliomyelitis cases in 1956 would be of the order of 800 to 900.

New Theoretic Considerations Concerning the Use of Salk Vaccine

The development of the Salk vaccine has followed from the very beginning the normal scientific process of formulating hypotheses which are then put to experimental, laboratory, clinical, and field test. Among the significant new hypotheses concerning the Salk vaccine are these: (1) that it may produce a long-lasting immunity to paralytic poliomyelitis (*how long* no one can yet say for sure) and (2) that it will, if widely used, achieve something of a "herd immunity" effect in which even those who are not themselves vaccinated will be safer from the risk of paralytic polio than they would otherwise be.

The theoretic considerations lying behind these hypotheses have been set forth by Jonas Salk, among others, and I present to you a brief abstract of his current thinking in this matter. Dr. Salk presented these considerations at the annual meeting of the American Medical Association in Chicago on June 11, 1956.[2]

Immunity to paralysis exists if a state of "immunologic hyperreactivity" (or altered state) exists, even in the absence of a demonstrable level of circulating antibody. The hyperreactivity must be of such a degree that after contact with the poliomyelitis virus, antibody formation begins rapidly enough to *intercept virus before it can reach the central nervous system.*

The incubation period of the poliomyelitis virus in the human system after natural exposure to the disease is ten to twelve days and sometimes longer. It can, therefore, be understood how an "immunity mechanism" such as that assumed here would have a chance to operate to prevent central nervous system invasion of the virus and, hence, paralytic poliomyelitis.

Paralysis in poliomyelitis is a secondary consequence of a primary systemic infection. Thus, if immunologic hyperreactivity is induced by a sufficient antigenic mass of polio vaccine injected, subsequent contact with the virus should occur without risk of paralysis. An accelerated antibody formation should prevent central nervous system invasion in spite of intestinal or pharyngeal infection.

If the intensity of immunity induced by adequate vaccination is sufficient, virus *multiplication at the portal of entry may be limited to such an extent that even the establishment of infection is prevented.* Howe's studies on chimpanzees tend to support this hypothesis.

This is the theoretic (although possibly soon to be proved) effect which would account for the development of "herd immunity." The Salk vaccine, if widely used, would tend to cut down the number of "healthy carriers" (i.e., "silent infections") of the virus and the volume of virus which they might excrete. It must be clearly stated that this is still a hypothesis, not a proved fact.

The aim in vaccination procedures to date has been to induce the formation of a sufficient level of antibody to be certain that a hyperreactive state has also been created. The intensity of primary sensitization may influence the degree of antibody response. Within certain limits, the amount of virus antigen injected, as well as the physiologic state of the host, chiefly determines the antibody titer. This may be reflected either in the level of antibody induced or in the degree of immunologic hyperreactivity effected. In spite of a tendency for antibody levels to decline, the hyperreactive state appears to persist. Through this reaction, too, immunity to paralysis may be mediated.

The hopes for the long duration of the effectiveness of the Salk vaccine in preventing paralytic poliomyelitis rest on this persuasive (although still theoretic) consideration: once the immunologic hyperreactive mechanism has been set up by vaccination, it will continue to operate "indefinitely." So far we can say only that the longest test interval during which it has been possible to observe the phenomenon of hyperreactivity after vaccination is a little over three years.

It will be necessary for Dr. Salk and other investigators to follow vaccinated subjects for varying periods of time beyond three years before it can be established with certainty how long immunity can be expected to persist. Obviously this will vary from person to person. But the theoretic grounds on which to expect long-time immunity from successful vaccination are presently persuasive.

Another theoretic consideration to be dealt with is the so-called and probably mislabeled "provoking" effect of injections during the "polio season." The question of the possible "provoking" effect of Salk vaccine injections continues to arise, although it would seem to be settled. A careful review of experience with the use of Salk vaccine in 1954 and 1955 indicates that it did not occur. The risk in human beings, if not theoretic, is at least minimal. It is of such a low order of magnitude that it cannot be calculated with all the statistical, clinical, and epidemiologic data available anywhere.

On the question of whether Salk poliomyelitis vaccine should be given during the poliomyelitis season or under epidemic conditions, the answer is yes. The possibility that the Salk vaccine itself may exert a provoking effect, such as that reported with the injection of penicillin and pertussis vaccine, is further minimized by the fact that the vaccine is a very "bland" agent. It is essentially a balanced salt solution with only a trace of protein.

Even the evidence that injected materials other than the Salk polio vaccine increase the risk of paralytic poliomyelitis during the poliomyelitis season is quite scanty. What can be said with assurance is only that if paralytic poliomyelitis does appear, it is more likely to be localized in the injected extremity.

The reluctance on the part of some physicians to give injections during the poliomyelitis season stems from fears, perhaps overemphasized, about this matter. However, as noted by Sauer,[3] they have never been completely contraindicated. He says: "The 1952 Report of the Committee on Immunization of the American Academy of Pediatrics cautions: 'An outbreak of poliomyelitis in one's community is a signal for deferring elective immunization procedures in individuals over the age of six months. Primary immunization and/or recall injections obviously *cease to be elective procedures* (italics ours) when outbreaks of diphtheria, pertussis, typhoid, or smallpox coexist with poliomyelitis.' Physicians should heed these monitions."

By this same line of reasoning vaccination against paralytic poliomyelitis ceases to be an elective procedure in the presence of an epidemic of that disease.

Some Practical Problems of Vaccine Administration and Usage

There are a number of practical problems of vaccine administration and usage which bear comment.[4] Among them are (1) contraindications to vaccine usage, (2) vaccine supply, and (3) the related question of vaccine priorities.

In the light of the available evidence, the following *contraindications* for using Salk poliomyelitis vaccine now seem wise:

The vaccine should not be given (*a*) during major acute illness, (*b*) during the polio season to individuals exhibiting minor illness, especially fever, sore throat, and gastrointestinal upset, and (*c*) to individuals in intimate household or institutional contact with a diagnosed, index case of poliomyelitis.

The second contraindication is based on the possiblity that symptoms of minor illness during the polio season may be indicative of poliomyelitis virus infection. The third contraindication arises from the epidemiologic fact that by the time a case of poliomyelitis can be diagnosed, it may be *assumed* that all nonimmune persons in intimate household or institutional contact with the index case are already infected with poliomyelitis virus. Hence, a vaccine injection at this time will do them absolutely no good and will subject them to the minimal, if not theoretic, risk of harm should the injection happen to be made during the transient, prodromal stage of viremia.

The twin questions of vaccine supply and priorities for administration now seem to be diminishing in importance. The manufacturers of vaccine have done an exceptionally good job in increasing vaccine production, and it looks as if the rate of production for the balance of 1956 will reach earlier predictions. From April 12, 1955, up to June 21, 1956, the U. S. Public Health Service has reported that a total of 72,865,569 cc. of poliomyelitis vaccine was released for use.

The general vaccine supply situation up to the summer of 1956 was one of shortage. Even at the beginning of the summer the demand continued to exceed the supply. Beginning about July 1, 1956, the supply picture changed drastically. In the United States as a whole (although not in New York State specifically), supply began outrunning demand. Unless practicing physicians and health officers take enthusiastic leadership in continuing vaccine programs, there is a possibility that vaccine may go "begging."

Vaccination programs should be continued at an accelerated pace during the summer of 1956.

Special attention, perhaps, should be given to the *vaccination of the preschool child*, whose risk from paralytic poliomyelitis is just as great as, if not greater than, that of his older brothers and sisters (Fig. 2). Nationwide the preschool child is now the new number one strategic target for vaccination. In New York State special attention will also be given to getting "teenagers" vaccinated. Previous vaccine programs have been directed chiefly at elementary school-age children.

While every state sets its own priority for vaccination programs, the majority fall in the group from six months through nineteen years of age plus pregnant women. The present "big push" in state vaccine programs, including that of New York State, has been to get at least one and, if possible, two 1-cc. injections of Salk vaccine into the arms of all the individuals in the present priority groups. The next step in

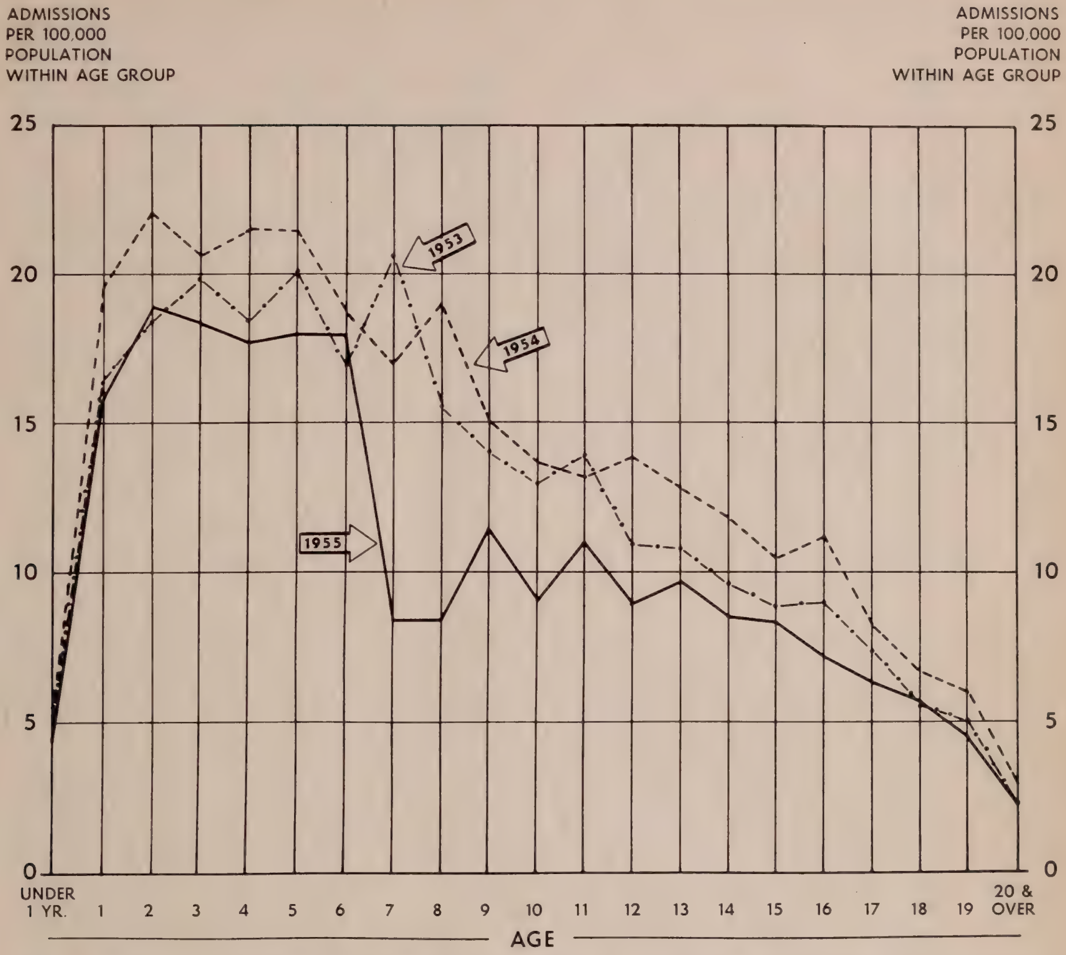

FIG. 2. Paralytic poliomyelitis age-specific acute admission rates, 1955, 1954, and 1953; based on hospital reporting forms compiled by the National Foundation for Infantile Paralysis. The decline in admissions in the seven and eight-year-old-groups in 1955 is indicative of the favorable results of the 1955 polio vaccination program which provided one or more injections of Salk vaccine for a large number of children (approximately ten million).

the state programs will probably be that of urging the third or "booster" shot of vaccine for those under twenty who have received primary immunizations. The booster shot can be given seven to twelve months, or longer, after primary immunization.

What priorities will prevail after these steps have been accomplished, it is difficult to predict. National and state polio vaccine advisory committees will undoubtedly recommend them. Considering the catastrophic nature of paralytic poliomyelitis when it strikes a wage-earner or mother of a family, a type of family tragedy with which the 3,100 chapters of the National Foundation for Infantile Paralysis are all too familiar, and considering further the comparative ease with which the threat of this tragedy can be eliminated by vaccination, it would seem wise—once the under-twenty group in the American population is protected by vaccination as far as possible—to encourage vaccination of everyone over twenty who wants to be vaccinated. The incidence of paralytic poliomyelitis after age forty-five is quite rare, although the occasional cases tend to be severe.

If the tragedy of paralytic poliomyelitis in adulthood is juxtaposed with the comparative simplicity of protection against the possibility of such tragedy, it is probable that many adults will avail themselves of such protection. In such event a relative shortage of vaccine supplies may be expected for some time to come.

Some Problems of Poliomyelitis That the Salk Vaccine Has Not Solved

The control of paralytic poliomyelitis through widespread use of the Salk vaccine now seems to be clearly at hand. It is fair to predict that by the summer of 1957 a very high proportion of the United States population and, to a certain extent, people in other parts of the world will have received one or more injections of a safe and potent vaccine. The present Salk vaccine is at least 75 to 80 per cent effective in preventing paralytic poliomyelitis, and up to June 1, 1956, more than 30 million children in the United States alone had received at least one injection. If the present rate of vaccine production and actual inoculation goes ahead, we can say that in effect we can prevent most paralytic polio by 1957.

This does not mean, however, that the "polio problem" has been solved. There remains a tremendous "cleanup" job yet to be done. There are probably 35,000 polio-stricken people in the United States who can still benefit by the attention that full-scale rehabilitation or total medical care can bring. There are probably 100,000 who can still use help.

Rehabilitation is the challenge of helping disabled people to make the most of themselves. Teamwork is essential to the task and process. This is demonstrated, among many other places, at the 15 regional respiratory centers established in the United States with the help of March of Dimes funds to demonstrate what can be done for the most severely crippled of polio patients, especially those with respiratory difficulties.

The Role of the National Foundation for Infantile Paralysis

In the light of the present hope that paralytic poliomyelitis will soon be a problem of very small magnitude (although neither the Salk vaccine nor any other vaccine can ever expect to be 100 per cent effective in preventing the disease), it may be worth while to review briefly the role of the National Foundation for Infantile Paralysis in bringing about this circumstance. It was founded in 1938 "to lead, direct, and unify" the fight against infantile paralysis. After much heartbreak and discouragement, but always with the support of the American public and the help of the medical profession throughout the world, it has now come close to winning its major battle. Its record offers hope to others who seek to control disease through organized and cooperative efforts.

The National Foundation's approach to the solution of the problems posed by poliomyelitis has been threefold: through research, education, and payment for the medical, hospital, and other necessary care of polio patients.

Accurately analyzed, the programs of the National Foundation will be found to have contributed significantly to the solution of many medical problems beyond those concerning poliomyelitis. For example, its research grants have helped to illuminate the whole field of virus diseases. Its fellowship and scholarship programs for physicians, nurses, physical therapists, occupational therapists, medical social workers, and others have helped to make available to physicians and patients a pool of personnel who minister, where needed, to those suffering from all manner of disease and disability, not polio alone. It has developed "players" for the total rehabilitation team.

In one sense of the word the aim and goal of the National Foundation for Infantile Paralysis has been to put itself out of business—to conquer paralytic polio. I cannot tell you what the future of the National Foundation will be, but the technics of lay and professional cooperation it has developed in the service of an ideal undoubtedly have a future.

Summary and Conclusions

There is powerful and continuing need for strong medical leadership in providing protection against paralytic poliomyelitis through vaccination. The present Salk vaccine offers a safe, potent, and effective means of preventing paralytic polio, but the vaccine is obviously of no use until it is injected. Physicians need not hesitate about giving injections of Salk vaccine now, throughout the summer, and at any time of the year.

If an effective vaccination program is continued throughout the summer of 1956, the probabilities are that the total number of cases of paralytic poliomyelitis to be encountered in New York State in 1956 will be reduced to the order of 800 to 900 cases.

There is good theoretic evidence, but not yet final proof, that the immunity provided by the Salk vaccine will be of long duration and that the widespread use of the vaccine will achieve a kind of "herd immunity" against paralytic poliomyelitis, protecting to some extent even those members of the population who are not vaccinated.

In spite of the high effectiveness of the Salk vaccine, it has not solved all the problems posed by poliomyelitis. The rehabilitation of many polio patients remains to be accomplished.

Although the National Foundation for Infantile Paralysis has now come close to realizing its initial objective of removing the threat of paralytic poliomyelitis from the hearts of millions of parents and other people throughout the world, the technics of lay and professional cooperation it pioneered still have a future.

120 Broadway

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Tubeless Gastric Analysis: Preliminary Report

While the absence of free hydrochloric acid from gastric secretions is not in itself indicative of cancer, Drs. Vance Fentress and David J. Sandweiss believe (since the incidence of gastric cancer in the achlorhydric population is known to be high) that a detection program based on this fact would be a step in the right direction. It follows that a simple and inexpensive method of screening achlorhydric persons in the general population—especially in the over forty group—would be a valuable contribution in the struggle to reduce the number of cases of inoperable gastric cancer now encountered. In order to evaluate the methylene-blue method of tubeless gastric analysis, they made parallel tests by the intubation method in 116 patients, 17 of whom had proved pernicious anemia. As tabulated, their results show a high degree of correlation. Of 65 who showed free hydrochloric acid in the gastric contents by the intubation method, 61 (94 per cent) showed a positive color change in the urine by the tubeless test. Of 51 patients who did not show free hydrochloric acid in the gastric contents by intubation, 49 (96 per cent) failed to show the typical blue color change in the urine by the other test. The overall correlation was 95 per cent, a fact which they believe justifies the hope that this may prove to be a practical method for detecting achlorhydric patients.—*Harper Hospital Bulletin, December, 1955*

The Industrial Employe with Myocardial Infarction and His Ability to Return to Work

Follow-up Report

RUFUS BAKER CRAIN, M.D., AND MORRIS E. MISSAL, M.D., ROCHESTER, NEW YORK

(*From the Medical Department of Eastman Kodak Company*)

THE employability of cardiac patients continues to be a subject of great interest and importance. A special study of coronary heart disease with myocardial infarction was undertaken in the latter part of 1947 by the Medical Department of the Eastman Kodak Company.[1] This study, which included 184 employes (181 males, three females), was terminated December 31, 1948. The present report is a follow-up of the previous study and shows the status of the 184 employes on December 31, 1954, as compared with their status on December 31, 1948.

It seems pertinent to restate some of the questions to which answers were sought in our previous study:

1. How large a proportion of employes were able to return to work after an initial infarction and after subsequent infarctions? How long did those returning continue in employment?
2. What was the known duration of life of those living and of those who died in the studied group after myocardial infarction?
3. What was the incidence of "immediate" and "delayed" mortality* after first, second, and subsequent infarctions?
4. What was the interval of time between infarctions when more than one occurred?
5. What proportion of employes not returning to work were retired as having total and permanent disabilities due to coronary heart disease accompanied by myocardial infarctions? How long did those retired live after disability retirement?
6. What effect did arterial hypertension have on the prognosis of myocardial infarction?
7. What was the period of convalescence following myocardial infarction?

It also may be helpful to define the source of cases and the criteria employed in their selection and the management of employes with cardiac disease as outlined in our previous paper.

MATERIAL AND CRITERIA OF MYOCARDIAL INFARCTION

For the purpose of the study, data were drawn from medical records of employes of the company's Rochester plants: Kodak Office, Camera Works, Hawk-Eye Works, and Navy Ordnance Division. . . . Approximately 500 medical records of employes or former employes with heart disease were scrutinized, and 184 cases were selected which met the standards established for this special study of myocardial infarction. In no sense is this group intended to be representative of the heart disease with myocardial infarction occurring among the total working force. In general, these standards included the criteria formulated by the criteria committee of the New York Heart Association adopted by the American Heart Association[2] and were supplemented by further requirements as follows:

1. Classic electrocardiographic changes. . .
2. A convincing history of chest pain and/or circulatory collapse (usually with classic electrocardiographic changes).
3. Conclusive medical department records and/or confirmatory data from the attending physicians, often including information obtained during hospitalization. Where information was required beyond the company's own records, a questionnaire was sent to the attending physicians. Their cooperation in answering the questionnaires was satisfactory and contributed materially to the survey.

In most of the cases selected, leukocytosis and a high sedimentation rate were observed at one stage of the illness.

The medical histories covered periods from one to twenty years.

MANAGEMENT OF EMPLOYES HAVING CARDIAC DISEASE

Before discussing in detail the results of the study, it might be of interest to outline briefly

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* Some arbitrary divisions have been made to classify deceased employes, i.e., "immediate" death is that occurring within twenty-four hours, and "delayed" death is that occurring after the first twenty-four hours but within two months.

TABLE I.—CHANGES IN STATUS BETWEEN DECEMBER 31, 1948, AND DECEMBER 31, 1954, OF 184 EMPLOYES WITH MYOCARDIAL INFARCTION

	Total Number in Group		Per Cent of Total Number (184)		Per Cent of Group Living	
Status	1948	1954	1948	1954	1948	1954
Living	134	81	72.8	44.0	100.0	100.0
Working	95	40	51.6	21.7	70.9	49.4
Retired	32	41	17.4	22.3	23.9	50.6
(*a*) Normal retirement	(17)	(21)	(9.2)	(11.4)	(12.7)	(25.9)
(*b*) Total and permanent disability	(15)	(20)	(8.2)	(10.9)	(11.2)	(24.7)
Sick leave	5*	..	2.7	...	4.1	...
Status unknown	2	4†	1.1	2.2	1.1	...
Left for miscellaneous reasons	..	2†	...	1.1	...	...
Deceased	50	97	27.2	52.7	...	...
Total	184	184				

* Of these five, one died on June 19, 1949; one retired as total and permanent disability on May 31, 1950, and three were working as of December 31, 1954.

† Not included in total of 81.

the company's policies by which employes are assisted in returning to work after myocardial infarction. Close contact is maintained with the patients through discussions with their physicians and through visits by the company's nurses, who call on the employes during the periods of absence from work.

When the private physician indicates that the employe has recovered to the point where he can return to work, the medical department arranges for an interview and examination. Our experience has shown that best results are obtained in these cases if the patients are allowed liberal periods for convalescence prior to resuming work. Usually, the employes are first returned to work on a part-time basis.

For guidance of the company's doctors, the following standards have been set up and must be met in each case before the patient is given permission to return for part-time work:

1. Symptoms of coronary insufficiency or heart failure must be absent or minimal.
2. Serial electrocardiograms must show stabilization of the infarct.
3. The sedimentation rate and the white blood cell count must approximate normal.
4. The employe's job must be within his work tolerance and without hazard.

Every effort is made to have the employe return to his former occupation. In some cases, where practical, this is accomplished by the elimination of stressful features of the job. This, as a rule, assures the employe his regular wage and prevents his being separated from his friends and fellow workers. Under certain circumstances decreased cardiac tolerance and/or nervous instability present problems in some types of factory work. In such cases an effort is made to persuade the employe that he should be satisfied with a somewhat reduced income in the interest of improved health.

After two or three weeks of part-time work, the employe generally is returned to full-time work. He is followed closely for several months after return to work. Subsequently, periodic checkups are made on a regular schedule every three to six months, depending on the circumstances of the particular case. All treatment is prescribed by the family physician except in emergencies.

An attempt is made to analyze the employe's activities outside the plant. Suggestions are made for conservation of effort so that home responsibilities and transportation problems do not tax the employe any more than is necessary. Kuhn[3] pointed out the importance of evaluating the employe's outside activities before holding his regular work responsible for the production or the aggravation of cardiac syptoms.

Compensation Aspects of Heart Disease

The experience of the company with cardiac problems has been very favorable over a period of years. In twenty-six years there have been a few claims made against the company for alleged aggravation of existing heart disease. In only one of these cases[4] was the claim upheld in the compensation court. In the current series of myocardial infarction cases there have been no compensation claims made in spite of the recent apparent liberalization of compensation awards.

We are of the opinion that selective job placement and medical supervision have contributed to this record.

Results of Follow-up Study

In Table I it will be noted that the number of employes living has been reduced from 134 in 1948 to 81 in 1954, i.e., 44 per cent of the total

TABLE II.—Ability of 184 Employes with Myocardial Infarction to Return to Work (up to and Including December, 31, 1954)

	All Diagnoses		Myocardial Infarction Without Hypertension		Myocardial Infarction with Hypertension	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Total number of employes in group studied	184	100.0	129	70.1	55	29.9
Number and per cent who did not resume work	33	18.0	18	9.8	15	8.2
Number and per cent who resumed work	151	82.0	111	60.3	40	21.7
Working December 31, 1954	40	21.7	33	17.9	7	3.8
Normal retirement	21	11.4	13	7.1	8	4.3
Total and permanent disability retirement	16	8.7	12	6.5	4	2.2
Death	68*	36.9	49	26.6	19	10.3
Left for miscellaneous reasons	6	3.3	4	2.2	2	1.1

* Two employes had unknown periods of work.

TABLE III.—Age at First Infarction and Years Worked of 40 Employes[a] Working on December 31, 1954

Age at First Infarction (Years)	Employes Working		Years Worked		
	Number	Per Cent	5 to 10	10 to 15	15 to 20
25 to 29	1	2.5	...	...	1[e]
30 to 34	1	2.5	1	...	...
35 to 39	3	7.5	3	...	...
40 to 44	5	12.5	5	...	...
45 to 49	11	27.5	8	2[b]	1[f]
50 to 54	10	25.0	9	1[c]	...
55 to 59	8	20.0	7	1[d]	...
60 to 64	1	2.5	1	...	...
Total	40	100.0	34	4	2
Per cent	100	...	85.0	10.0	5.0

[a] 21.7 per cent of 184 employes.
[b] 10 years, 6 months; 12 years, 2 months.
[c] 10 years, 2 months.
[d] 12 years, 5 months.
[e] 19 years, 7 months.
[f] 15 years.

184 employes were living on December 31, 1954. Of the 81 living in 1954, 49.4 per cent were still working.

The number of retirements has increased by nine. Four of these were normal retirements, and five were on the basis of total and permanent disability.

The total number of deaths has increased to 97 or 52.7 per cent of the original 184 employes.

There are six employes about whom we have no recent knowledge and for whom a follow-up appears impractical.

Compared with our original Table II (1948), the total number of employes resuming work shows a slight increase; three who had been on sick leave returned to work. Of this total a greater proportion of employes without hypertension were able to return to work. Of the original 184 employes 82 per cent were able to resume work. In Table I a total of 20 employes are shown retired on total and permanent disability; of these, four did not resume work after having had a myocardial infarction.

Table III shows that the 95 employes who were working on December 31, 1948, have been reduced by 55, leaving a total of 40 or 21.7 per cent of the 184 employes still employed on December 31, 1954. Of the 40 employes who were working on December 31, 1954, 34 have worked between five and ten years, four between ten and fifteen years, and two between fifteen and twenty years.

Table IV refers to the 111 employes who had worked after myocardial infarction but who were not working on December 31, 1954. Sixty-four had worked up to five years, 34 from five to ten years, eight from ten to fifteen years, and three from fifteen to twenty years (fifteen years; nineteen years and ten months; twenty years and ten months). By combining the number of years worked by employes as shown in Tables III and IV, we find that of the total number 151 (82 per cent of 184 employes), 64 (35 per cent) worked up to five years, 68 (37 per cent) up to

TABLE IV.—AGE AT FIRST INFARCTION AND YEARS WORKED OF 111 EMPLOYES NOT WORKING ON DECEMBER 31, 1954[a]

Age at First Infarction (Years)	Number Who Worked After First Infarction		Years Worked			
	Number	Per Cent	Up to 5	5 to 10	10 to 15	15 to 20
25 to 29	...	...	...	...	...	...
30 to 34	...	...	...	...	...	...
35 to 39	3	2.7	2	1	...	...
40 to 44	4	3.6	2	...	1	1[c]
45 to 49	24	21.6	14	6	3	1[d]
50 to 54	16	14.4	9	3	3	1[e]
55 to 59	35	31.5	15	20	...	...
60 to 64	21	18.9	16	4	1	...
65 to 69	5	4.5	5	...	...	...
70 to 74	1	0.9	1	...	...	...
Total	111[b]	100.0	64	34	8	3
Per cent	100.0[b]	...	57.7	30.6	7.2	2.7

[a] Includes normotensives and hypertensives.
[b] Includes two who worked unknown period (1.8 per cent).
[c] 20 years, 10 months.
[d] 19 years, 10 months.
[e] 15 years.

TABLE V.—AGE AT FIRST INFARCTION AND YEARS LIVED AFTER FIRST INFARCTION OF 97 DECEASED EMPLOYES

Age at First Infarction (Years)	Deceased Employes		Number of Immediate or Delayed Deaths[a]	Years Lived After First Infarction				
	Number	Per Cent		Up to 5	5 to 10	10 to 15	15 to 20	20 to 25
EMPLOYES WITHOUT HYPERTENSION								
35 to 39	...	...	...	...	...	...	...	...
40 to 44	5	5.2	2	1	...	1	1	...
45 to 49	12	12.4	...	4	3	3	1	1
50 to 54	13	13.4	2	3	4	3	1	...
55 to 59	17	17.5	2	5	8	2	...	...
60 to 64	10	10.3	(1)[c]	3	2	3	1	...
65 to 69	4	4.1	1	...	2	1	...	...
70 to 74	1	1.0	...	...	1	...	...	...
Total	62	...	8	16	20	13	4	1
Per cent	100.0	63.9	8.3	16.5	20.6	13.4	4.1	1.0
EMPLOYES WITH HYPERTENSION								
35 to 39	1	1.0	...	...	1	...	...	...
40 to 44	2	2.1	...	2	...	...	...	...
45 to 49	3	3.0	...	3	...	...	...	...
50 to 54	7	7.2	4	2	1	...	...	...
55 to 59	9	9.3	3	4	2	...	...	...
60 to 64	9	9.3	5	1	3	...	...	...
65 to 69	2	2.1	1	1	...	...	...	...
70 to 74	...	...	...	...	...	...	...	...
Total	33	...	13	13	7	...	...	...
Per cent	100.0	34.0	13.4	13.4	7.2	...	...	...
Number of employes whose date of first infarction was unknown	2[b]	2.1	...	...	...	...	...	...
Total number of employes	97[d]	...	21	29	27	13	4	1
Total per cent	...	100.0[d]	21.7	29.9	27.8	13.4	4.1	1.0

[a] Immediate death is that occurring within 24 hours after infarction; delayed death is that occurring after the first 24 hours but within 2 months.
[b] One with hypertension; one without hypertension.
[c] Revised.
[d] Includes two employes (2.1 per cent) who lived unknown periods after their first infarction.

ten years, 12 (7 per cent) up to fifteen years, and five (3 per cent) up to twenty years.

In Table V we have analyzed the records of the 97 deceased employes, including the normotensives and hypertensives. Even though Table V shows that none of the deceased hypertensives lived longer than ten years, Table VI shows that five of the 19 living hypertensives had exceeded ten years of life following infarction, and of these, two had lived fifteen years after the first infarction.

Because of the limited number of cases in this

TABLE VI.—Length of Time Lived After Infarction up to December 31, 1954, of 81 Living Employes

Age at First Infarction (Years)	Number of Employes	Years Lived		
		5 to 10	10 to 15	15 to 20
EMPLOYES WITHOUT HYPERTENSION				
25 to 29	1	...	...	1
30 to 34	1	1	...	...
35 to 39	3	3	...	...
40 to 44	3	3	...	...
45 to 49	14	11	3	...
50 to 54	13	11	2	...
55 to 59	16	14	2	...
60 to 64	8	5	1	2
65 to 69	3	3	...	...
70 to 74	...	...	...	...
Total	62	51	8	3
EMPLOYES WITH HYPERTENSION				
25 to 29	0	...	...	...
30 to 34	0	...	...	...
35 to 39	0	...	...	...
40 to 44	2	2	...	...
45 to 49	5	3	1	1
50 to 54	1	1	...	...
55 to 59	7	5	1	1
60 to 64	3	2	1	...
65 to 69	0	...	...	...
70 to 74	1	1	...	...
Total	19	14	3	2
Grand total	81	65	11	5
Per cent of grand total	100.0	80.2	13.6	6.2

study, no conclusion regarding the effect of hypertension has been made.

A further review of death certificates shows, as previously reported, that the majority of deaths were caused by heart disease.

It is encouraging to note the substantial periods of life in this group after infarction. In brief, 81 or all of the living employes have survived the myocardial infarction more than five years, 19.7 per cent (16) have lived ten or more years after the attack, and 6.2 per cent (five) have lived fifteen to twenty years. This group includes both normotensives and hypertensives.

This table of living employes includes the 40 employes who were still at work on December 31, 1954, and the 41 employes who were in retired status as of the same date.

These figures compare favorably with Table 2 of Master *et al.*[5] showing the survival time of 381 living patients. Of these, 51.7 per cent (197) had survived the attack more than five years, 17.3 per cent (66) lived ten or more years after the attack, and 2.9 per cent (11) patients were living fifteen or more years later.

Comment

Master and Jaffe,[6] in a study of 412 patients who had suffered coronary occlusion, listed 297 as living and 115 as dead. Of those living, 154 (37.5 per cent of the 412 patients followed) had made a complete functional recovery (asymptomatic). The other remaining 115 survivors (28 per cent of all the patients) had made a satisfactory recovery but experienced occasional angina on effort. Thirty-eight (25 per cent) of the 154 survivors had lived more than ten years since the attack and 61 (40 per cent) more than five years. Eighty-three per cent were employed, 60 per cent at full-time work.

In a study of 100 consecutive hospitalized cases of acute myocardial infarction, Chambers[7] has made some interesting clinical observations: "Eighty-five of these patients were studied from one to ten years prior to the initial attack for an average of four years either on the wards or as outpatients. . . .Follow-up studies of from one to four years were made on 64 of the 66 survivors. . . .Thirty-four per cent of the patients died of the initial attack." In our study the rate for deaths occurring within two months after the initial attack was 21.7 per cent (1954).

Chambers found "the average age of patients in the complete series was fifty-nine years." In our study the average age of patients in the complete series was 54.1 years.

In discussing the effect of age on immediate mortality, Chambers also cites the observations of Woods, Levine, Rathe, Cooksey, and Baer *et al.* and in his conclusions says in part: "The older the patient at the time of the initial attack, the more serious the prognosis." This conclusion is concurred in by Russek and Zohman *et al.*[8] in two studies of a large series of cases, except for their important observation that when patients on the day of their hospital admission were classified as "good" or "poor" risks on the basis of certain prognostic criteria, the mortality rate in the "good risks" was only 3.4 per cent as compared with 60 per cent for the "poor risks." Age had no apparent effect on the individual survival when patients were so classified.

In Chambers' series hypertension occurred in 74 per cent, "a rate definitely greater than that expected for the general population in this age group." The incidence was roughly the same in fatal (71 per cent) and nonfatal (77 per cent) cases. Hypertension at the onset of the attack was a frequent finding, being present in 53 per cent of the series and was noted oftener in the fatal (68 per cent) than in the nonfatal cases. Chambers could see "no correlation, however, between antecedent hypertension and mortality rate." In his series "over 50 per cent of the patients who survived a year with or without recurrence were working either full or part time."

Kirkland[9] points out that "it is only when the patient enters the third year that his chances of survival begin to brighten appreciably."

Cole *et al.*,[10] in a ten-year study "undertaken to establish the long-term prognosis of the initial attack of myocardial infarction," followed "285 patients who had their initial attack between 1932 and 1942 and who survived the first two months" until their death or to the end of the study (January 1, 1952). Two thirds of them were found to have lived over five years, two-fifths over ten years, and one-tenth over fifteen years. The authors regard "the ability of the patient to resume activity as the best index to prognosis after recovery from the attack." In their series "almost two thirds of the survivors were able to return to moderate or complete activity after recovery from the first attack of myocardial infarction. One-fourth were definitely restricted in their activities, and one-tenth of the cases were bedridden." The authors stress the need to recognize that there is "a large group of mild cases of myocardial infarction capable of long-term survival." In their experience "hypertension *before or during the attack* apparently had no effect on the immediate mortality; its *absence* definitely increases the long-term survival."

In a ten-year follow-up study of 211 individuals who had "lived more than two months after their first myocardial infarction," Weiss[11] says in part: "One-third lived more than ten years. The majority of those who died did so in the first five years. . . .Three fourths of the patients made a complete or partial economic recovery."

Our follow-up study, although of shorter duration, roughly parallels that of Cole *et al.* and Weiss as regards the period of survival and return to work.

In our previous paper reference was made to studies by Master and colleagues, Bland and White, and others [12–22] who have pioneered in demonstrating a more hopeful prognosis in terms of work ability and life expectancy for the patient with myocardial infarction.

Summary and Conclusions

In this follow-up report of 184 employes who had suffered myocardial infarction, two aspects of the problem have been stressed: (1) employes' ability to return to work and (2) duration of life after infarction.

We have found further confirmation that the outlook for return to work is more favorable than generally thought for employes who have suffered myocardial infarction. Eighty-two per cent (151) of the original 184 employes were able to resume work, the majority having attained full-time status.

In the group of 81 living employes *all* have lived up to five years, 80.2 per cent (65) between five and ten years, 13.6 per cent (11) between ten and fifteen years, 6.2 per cent (five) between fifteen and twenty years. Of these 81 living employes 25.9 per cent (21) underwent normal retirement, and 24.7 per cent (20) were retired because of being totally and permanently disabled.

Although it was our impression in the preceding study that arterial hypertension seemed to limit the employe's work period and life span, this follow-up study indicates a more favorable prognosis than was originally predicted for hypertensives. However, because of the relatively small number of cases presented, our findings in this respect are of limited value.

These employes have been fortunate in working for a company where type of work and job placement have not constituted a great problem. The majority of jobs have been of a skilled or semiskilled nature, requiring for the most part light to moderate exertion.

No compensation claims have occurred in this group.

The authors wish to acknowledge with thanks the technical assistance of Kathleen W. Wilson.

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Nasal Polyps: Causes of Recurrence and Effective Control

Recurrence of nasal polyps after apparently satisfactory removal remains a troublesome problem. Although no airtight solution has yet been found, Dr. A. R. Hollender presents a planned procedure (stressing postoperative treatment) which he estimates to have been successful in his experience in about 80 per cent of the cases. During the last two decades he has pursued this plan in a series of 200 patients from whom he has been able to obtain, from time to time, follow-up in about 50 per cent. Regardless of the status of allergy as a causative element, the author says that the immediate problem is surgical. For success, a thorough and methodical operative plan is absolutely essential; half-way measures invite recurrence, and thus constitute in themselves a causative factor. It is conjectured that repeated operative interventions act as stimuli to regrowth of tissue.

Uncontrolled infection, allergy, or both, are conducive to regeneration of hyperplastic tissue, and with the activation incident to trauma from any source, this polypoidal regeneration is hastened and intensified.—*Eye, Ear, Nose and Throat Monthly, October, 1955*

Present Status and Modern Treatment of Hemorrhoids

ROBERT TURELL, M.D., F.A.C.S., NEW YORK CITY

Historically, it is a fact that hemorrhoids have influenced man through the ages and have been mentioned in biblical and other historic writings. This presentation is based primarily on personal experience with over 1,000 hemorrhoidectomies that have been followed for at least two years.

Anatomic Factors and Pathogenesis

The plexus of the tributaries of the superior hemorrhoidal veins (internal plexus) begins in the anorectum and lies predominantly in the submucous space under loose and redundant columnar mucosa. This anatomic arrangement is not only devoid of substantial support but predisposes to the formation of varices. As the redundant mucosa becomes excessive, it may prolapse via the anus, especially at defecation. Two of the varices with the accompanying redundant mucous membrane are situated in the right lateral wall, one anteriorly and the other posteriorly, while the third one is located on the left lateral wall. These are the three main or primary internal piles; smaller ones may be located between the primary ones, especially in the midline posteriorly.

There is no precise explanation for this orderly anatomic arrangement, although several speculative possibilities have been suggested. This internal hemorrhoidal plexus anastomoses to a variable extent with the external venous plexus which lies in the subcutaneous space of the perianus. The hemorrhoidal veins, in common with the portal vein and its branches, possess no valves which may result in reverse flow of blood. The factor of gravity, stasis in the vascular apparatus, especially when man is in the erect posture, and physiologic passive congestion which occurs following meals may cause congestion and engorgement that result in enlargement of the hemorrhoidal veins. Congestion may also be produced by lesions causing portal vein obstruction, by pelvic inflammatory and neoplastic disease, uterine displacements, pregnancy, urethral obstruction, neoplastic or inflammatory proctocolonic disease, and by the injudicious use of laxatives.

As my experience has broadened, I have become convinced that the familial tendency to the development of piles is of considerable importance. In many instances the patients with hemorrhoids are believed to have an abnormal abundance of veins in the anorectum at birth which become enlarged and symptomatic as a result of stress or strain from any cause. I consider the role of infection of the perianal structures as of questionable or of no etiologic importance. Hemorrhoidal tissue removed at operation and that obtained from rectums extirpated for cancer, as well as that removed at necropsy in subjects with nonintestinal disease, invariably show the same histologic picture, namely, dilated veins with variable degrees of inflammatory reaction but without evidence of infection. Nor can I accept the concept that hemorrhoids are a collagen disorder. It has been suggested that in some patients hemorrhoids are produced by arteriovenous fistulation similar to varicose veins of the lower extremities. Recently, I have noted a number of cases in which occupational strain or stress played an important role in precipitating the prolapse of existing internal hemorrhoids.

Symptomatology

The three cardinal symptoms are (1) bleeding, (2) protrusion, and (3) pain, which do not necessarily occur in this order. Bleeding may be occult or gross and varies from a few drops to large amounts. The bleeding may be caused by superficial mucosal abrasion or ulceration or by rupture of any of the veins, particularly the larger ones, which follows the vascular distention of the pile. The distention may be the result of obstruction to the outflow of venous blood while the inflow of arterial blood continues unhampered.

Based in part on a talk delivered under the auspices of the New York Academy of Medicine's Committee on Postgraduate Instruction over radio station WNYC-FM, "For Doctors Only."

This occurs especially following postdefecatory prolapse of an internal pile that is not reduced promptly, either spontaneously or digitally. With stagnation of blood there may occur a rupture of venules resulting in extravascular and intravascular thrombosis associated with varying degrees of edema which may obscure the anatomic landmarks to a great extent. In these cases pain may be severe and is accentuated by the contracting action of the anal sphincter musculature.

Episodes of spontaneous thrombosis of internal piles, especially if they do not prolapse, may be the result of a systemic disease, notably blood dyscrasias. Protrusion of internal piles is usually associated with a relaxed anal sphincter musculature and progresses slowly. This slow or chronic process at times becomes acute when the protruding hemorrhoidal mass remains unreduced or becomes suddenly enlarged as a result of submucous rupture of a vein or thrombosis. Under these circumstances the prolapsing mass literally becomes strangulated, resembling impending gangrene, by the contracture of the sphincteric muscles. Unless promptly reduced, the pain may be excruciating.

Ordinarily, internal hemorrhoids which prolapse after defecation reduce themselves or stay reduced after digital reposition. However, with the gradual development of anal patulosity, owing at least to partial decompensation or atonicity of the sphincteric musculature, the internal piles remain permanently extruded and are subject to undue direct trauma, ulceration, and thrombosis. This clinical picture is distinct from that of strangulation in which the anal sphincteric musculature is in spasm. In the former, reduction may be possible, but prolapse follows reposition immediately.

The clinical picture of prolapse, engorgement, edema, thrombosis, and even variable strangulation of internal piles with secondary involvement of the external component is not to be confused with the so-called external thrombosed hemorrhoid. The latter, in the strict sense of the word, is not a hemorrhoid at all but a hematoma in the perianal structures due to rupture of a venule with extravasation of blood and the formation of a localized blood clot.

The subdivision of the perianal subcutaneous tissue into a honeycomb by tough fibroelastic septa may explain the localization and painful nature of a perianal hematoma.

Diagnosis

The diagnosis of hemorrhoids can usually be made on inspection alone. Unless a pile is indurated by inflammation or is the seat of a thrombus, it cannot be palpated; this is a common misconception. Prolapse can be easily demonstrated by asking the patient to strain mildly. Prolapsing pink mucosa invariably follows mild straining after the insertion of an anoscope and insinuates itself into the opening of the instruments; it may follow to the exterior after removal of the scope. The level at which the mucosa begins to insinuate itself into the distal end of the anoscope is believed to correspond to the level of the anorectal ring where the uppermost part of the pedicle of an internal pile resides. Anoscopy is followed by a sigmoidoscopy for the visualization of at least 25 cm. of the terminal bowel. In my practice all patients with bleeding, regardless of age, are x-rayed with double contrast media in addition to endoscopy in order to establish the presence or absence of concomitant lesions, primarily adenomas and cancer.

Sigmoidoscopy does not require a proctologist; many progressive internists, general surgeons, and general practitioners have trained themselves to perform sigmoidoscopy, which can be mastered only with practice. Endoscopy for a distance of at least 15 cm. from the anal verge should be made a routine part of every physical examination. The scope should be inserted into the rectum gently and advanced equally gently under visual guidance only. Endoscopy should be discontinued promptly whenever the lumen of the bowel ahead of the scope is obscured either by feces, blood, or an impassable lesion or if the patient is unduly uncooperative or restless.

Treatment

The management of hemorrhoids offers three alternatives: They may be neglected, injected, or resected. In my experience the hemorrhoids in over 20 per cent of patients were so nearly symptomless as to require no therapy.[1] In a nonspecialist practice this incidence must be considerably higher.

Sclerotherapy.—In another 30 per cent of cases injectional sclerosing therapy is effective.[2] Sclerotherapy is utilized for the treatment of small to medium-sized internal bleeding piles with or without spontaneously reducible pro-

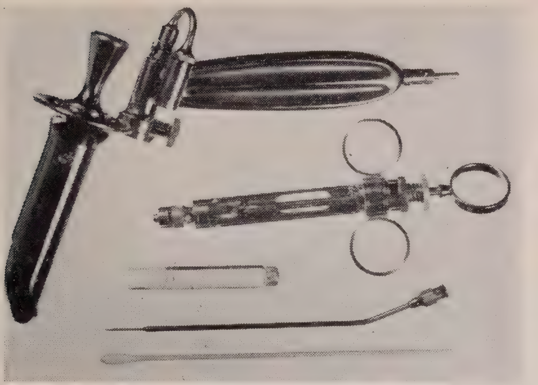

FIG. 1. Armamentarium consisting of a speculum, syringe, ampule of sclerosing solution, a needle, and a cotton applicator.

lapse (Fig. 1). Prior to the institution of sclerotherapy, it is imperative to establish the absence of active or latent inflammatory disease of the anorectocolonic tube. The sclerosing agent utilized in most cases is a 5 per cent solution of quinine and urea hydrochloride; 5 per cent phenol in pure almond oil is also popular. The first injections are made submucously about the pedicle of each pile at the anorectal ring with a view to obliterating the hemorrhoidal vein and to fixing the mucous membrane at a high level in order to prevent descencus. After all the hemorrhoids have been thus treated, subsequent injections are made interstitially in the hemorrhoidal masses at a lower level. Infrequently, additional submucous injections are made between treated hemorrhoids in order to correct mild mucosal protrusion. The injections are usually made twice weekly. On occasion all high injections are made in one sitting, and the subsequent interstitial injections are completed at biweekly or triweekly intervals. A total series of from six to 12 injections may be required.

By producing a sterile inflammatory reaction at the sites of the injections, sclerotherapy causes a chemical thrombosis of the vessels which is followed by sclerosis and finally by fibrosis. The main clinical purpose is to stop the bleeding and to correct associated mild prolapse. About 65 per cent of treated patients remain free from symptoms for as long as three years or more. Reinjection is required in about 30 per cent of patients because of recurrence of bleeding.

Sclerotherapy apparently does not produce a permanent cure. A cure depends primarily on (1) the fate of the fibrosis which is a biologic unpredictability and (2) the elimination of the causative or precipitating factors which have existed prior to the institution of sclerotherapy if these are ascertainable.

Properly performed injectional therapy should not produce serious complications, such as severe ulceration, hemorrhage, suppuration, irreducible prolapse, etc.

SURGICAL THERAPY.—Another 40 per cent of patients require hemorrhoidectomy. They have either large internal or mixed piles. The choice of anesthesia is a regional (caudal) or saddle (spinal) block. Inhalation anesthesia is utilized only for the apprehensive patient. The preoperative preparation consists only of a cleansing enema which is optional. Of the operative technics, the open type of hemorrhoidectomy is usually utilized (Figs. 2 and 3).[3] Of historic interest is the fact that the surgical technic introduced by Hippocrates (ligation and excision) still is the basis of all modern types of hemorrhoidectomy. The principle of the open nontraumatizing operation consists of (1) wide excision of the hemorrhoidal varices with associated anal crypts of Morgagni; (2) extension of the anorectal wounds into the perianus in order to promote adequate drainage; (3) keeping the wounds open; (4) preservation of sufficient elastic integument and mucosa between wounds, and (5) avoidance of blind or mass clamping and bulk ligation. The incisions are made in the long axis to the rectum and anal canal and are carried to the perianal skin in a radial manner. Packs, drains, or plugs are not used; the wounds are merely covered with moist nonadherent gelatin sponges that disintegrate spontaneously within twenty-four to forty-eight hours. This surgical technic is singularly free from complications and does not cause undue postoperative pain or discomfort. Rarely are more than two injections of either morphine or levorphan (Levo-Dromoran) required for the control of pain.

The remaining 10 per cent of patients are either borderline problems or those who have concomitant systemic disease which justifies a trial of nonsurgical therapy. However, a study of 67 such patients with systemic disease on whom I have eventually performed hemorrhoidectomies following unsuccessful injectional sclerosing therapy has convinced me (as well as the patients) of the superiority of surgery where clear-cut local indications for hemorrhoidectomy exist. This conclusion was reinforced after treating by injection a still larger number of

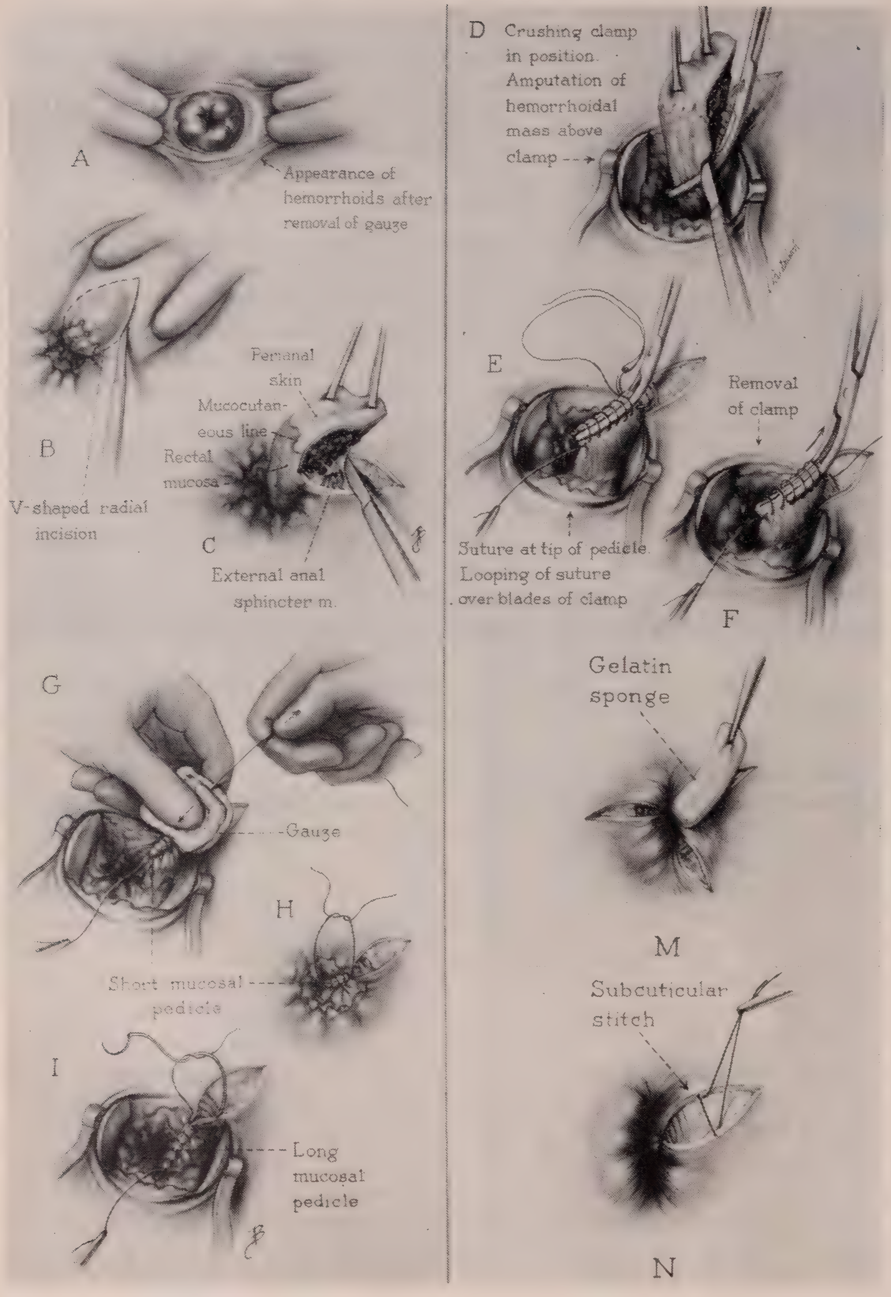
A
Appearance of hemorrhoids after removal of gauze
B
V-shaped radial incision
C
Perianal skin
Mucocutaneous line
Rectal mucosa
External anal sphincter m.
D
Crushing clamp in position. Amputation of hemorrhoidal mass above clamp
E
Suture at tip of pedicle. Looping of suture over blades of clamp
F
Removal of clamp
G
Gauze
H
Short mucosal pedicle
I
Long mucosal pedicle
M
Gelatin sponge
N
Subcuticular stitch

FIG. 2. Technic of hemorrhoidectomy employed in this study. Note the sphincter identified as the "external anal sphincter muscle" in C has been shown, according to the most recent anatomic studies, to be the lower margin of the internal sphincter muscle.[4]

intelligent patients with mixed piles who for business reasons were unable to undergo hemorrhoidectomies at the time of their initial consultation. All of these patients expressed their preference for the operation.

Following the performance of the open type of hemorrhoidectomy there is no need for either the long-lasting anesthetic solutions, including Efocaine, or d-tubocurarine (Tubadil) for avoidance of postoperative pain.[5–7] My studies of Efocaine injected into the wounds at the conclusion of the operation in a controlled series of cases showed no difference in the postoperative pain experienced by the treated and nontreated groups of patients as measured by the number of injections of a narcotic drug used. Efocaine acts by destruction of the afferent nerves (neurolysis) rather than by interrupting conduction

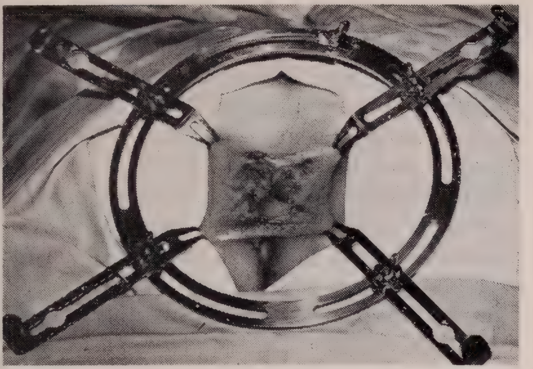

FIG. 3. Note the excellent exposure of the operative field made possible by my newly designed ring retractor.[14]

or blocking the afferent impulses as is produced by the procaine groups of drugs.[8] In my opinion severity of postsurgical pain depends more on the type of operation performed and on the gentleness in handling tissues during operation than on the use or nonuse of a long-lasting anesthetic drug. Furthermore, a number of troublesome side-actions follow the use of Efocaine, including necrosis, suppuration, and/or incontinence in some cases. "The discrete physician does not use the drug at all."[9]

Neither does d-tubocurarine appear to control postoperative pain. In some patients generalized muscular relaxation and pronounced impairment of muscle control occur, creating new hazards that interfere with the early ambulation of the patient and adding new problems to the already overburdened and critically few trained nursing personnel. These calculated risks are decidedly unjustified.

At best Efocaine and d-tubocurarine are only therapeutic crutches fostering a false sense of security and dependence on a drug, they are extremely poor substitutes for good and gentle surgery.

Thus far, I have found no need for continuous caudal anesthesia produced by the ingenious implantation of plastic tubes in the caudal canal through which an anesthetic drug can be periodically injected to control posthemorrhoidectomy pain.[10]

Proper postoperative care contributes to the success of the operation and the comfort of the patient. The patient is ambulated within six to twelve hours. Hot sitz baths are started within twelve to twenty-four hours; moist compresses to the wounds are not used. A full regular diet with inclusion of two ripe bananas daily is offered to the patient within less than twelve hours. Liquid petrolatum in a dosage of 30 cc. daily is started on the first postoperative day and is continued for about five to thirty days. To date, in over 1,000 well-followed hemorrhoidectomies I have failed to note any of the alleged deleterious systemic effects, nor have I observed any interference with the effective healing of the wounds, even in the occasional presence of oily leaks. Liquid petrolatum is at times combined with or replaced by a psyllium-seed preparation of a hydrophilic colloid such as Metamucil. Most recently, dioctyl sodium sulfosuccinate (Colace) has been employed with satisfaction, to the exclusion of mineral oil.[11] For patients with concomitant chronic constipation (whether of conviction or fact) a program of bowel re-education is started immediately after operation which consists of reassurance, an adequate and nutritionally well-balanced diet, and the administration of liquid petrolatum or a psyllium-seed preparation of hydrophilic colloid or Colace. Laxatives, such as senna (Senokot), are at times employed in a gradually reducing dosage during the period of bowel reeducation or if the patient does not have a bowel movement within seventy-two hours after operation.[11]

Postoperative digital examinations are begun between the fifth and seventh postoperative days when the wounds begin to epithelialize. In the past these were repeated about every five days in order to promote healing of the wound from the bottom out, thus avoiding bridging which may result in the formation of superficial fistulous tracts. The lubricant used, usually a water-soluble gum, should be bland and free of anesthetic drugs because they are frequently cutaneous sensitizers and cause annoying anoperianal dermatitis. Recent personal studies[11] have revealed that neither the above-mentioned conventional nor more frequent digital examinations, nor the topical application of ointments containing cod liver oil, vitamins A and D, chlorophyll, hydroxyquinoline, and Benzocaine expedited the healing of anorectal wounds, showing that these technics or substances apparently lack the alleged healing or tissue-growth promoting qualities. As a result of these observations the frequency of postoperative digital exploration of the wounds has been drastically reduced (two or three examinations for the entire convalescent period).

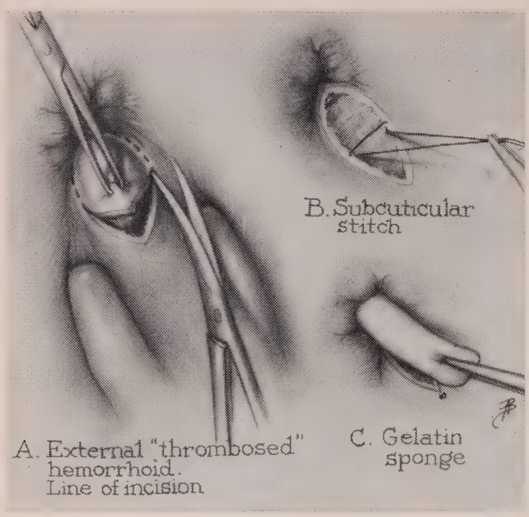

FIG. 4. Technic of excision of perianal hematoma (external thrombosed hemorrhoid).

Usually, postoperative complications do not occur after a properly performed hemorrhoidectomy. Continued bleeding after operation may demand examination of the wounds under inhalation anesthesia. In four cases of the present series a bleeding point was not discernible; the bleeding never recurred after this examination. The other reported complications—secondary or delayed bleeding (usually following the inclusion of large amounts of tissue in the ligature), impaction, suppuration, painful and unhealing wounds, and stenosis—are not common following the performance of the open type of hemorrhoidectomy. Stenosis responds to a fairly simple plastic procedure[12] and should always be eliminated; cancer may occur in association with postoperative anal stenosis.[13]

Recurrence after properly performed hemorrhoidectomy is uncommon. The pseudorecurrence consists of an incompletely removed primary pile or the growth of a secondary pile which at the time of the operation was either overlooked or was of inconsequential size.[14]

Complicated Piles

I have successfully treated by immediate operation more than 100 cases of either acutely inflamed, ulcerated, thrombosed, prolapsing piles or irreducible strangulated internal hemorrhoids associated with marked swelling of the external components and spasm of the anal sphincter muscles. This surgical approach is instituted if the patient is seen early, that is, before the anatomic landmarks are markedly obscured by edema and before the tissues become too friable for easy handling and safe suturing. Early operation eliminates protracted pain and restores the patients to early economic usefulness. Antibiotic therapy, such as oxytetracycline, is combined with operation as an additional safeguard against the remote possibility of the occurrence of pylephlebitis. I have practiced early operation for over fifteen years with the full knowledge that other surgeons prefer conservative therapy and delayed operation.

External Pile and Perianal Hematoma

As already indicated, the external hemorrhoidal plexus of veins is covered by true but sensitive perianal skin. Increase in size of the hemorrhoidal plexus or rupture of a venule with extravasation of blood (hematoma) results in an external tumor mass without involvement of the internal pile. In the case of thrombosis the clot may extend into the anal orifice; at any rate a swelling of variable size and consistency forms. If the swelling is small to medium size and soft, it usually responds to conservative treatment. If it is large or hard, I prefer to excise the mass through an elliptic incision, removing all the overlying skin (Fig. 4). Mere incision and evacuation of clots is an inferior operation since clots may reform promptly. The conservatively treated lesion invariably terminates in tabs or tags which seldom need surgical removal. They are excised in patients with cancerphobia or when the patient believes that they interfere with postdefecatory hygiene.

25 EAST 83RD STREET

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Psychiatric Manifestations of Cancer of the Pancreas

WILLIAM KARLINER, M.D., SCARSDALE, NEW YORK

SAVAGE and Noble[1] reported four cases of cancer of the pancreas simulating psychogenic illness. They also reviewed 27 cases of verified carcinoma of the pancreas in which depression dominated the clinical picture.

Because of the paucity of reports concerning this syndrome, I would like to add three more case reports to the literature.

Case Reports

CASE 1.—This fifty-five-year-old man was referred for a neuropsychiatric examination because of "nervousness" and depression of about one year duration. The onset was insidious and in reaction to no definite circumstance. He told of a feeling of fullness in his abdomen with radiation to the back, nausea, and loss of appetite and weight (approximately 30 pounds). His sleep had been poor since the onset, and there had been persistent feelings of insecurity. He complained of marked feelings of inferiority since the onset. He had found his work more of an effort and admitted having slowed down considerably. He noted a diminution of his libido and denied impotence. He described himself as a "worrier" and admitted having suffered a similar episode fifteen years ago. The objective and neurologic examination was negative. The mental examination showed a well-preserved personality with a clear sensorium and no evidence of intellectual enfeeblement. He appeared dejected, self-derogatory, and admitted occasional suicidal thoughts but denied any actual attempts. There was no bizarre or archaic mental content.

A diagnosis of depression was made; a thorough physical examination was advised, and the patient was given an amphetamine preparation and a somnifacient. After four weeks the patient returned. The roentgenologist reported negative findings on the gastrointestinal series, gallbladder series, barium enema, and dorsolumbar spine. Although the patient admitted being less depressed, he continued to lose weight and showed an incipient jaundice. A surgeon was consulted who advised an exploratory laparotomy. During the operation a nodular mass was found in the body of the pancreas. The pathologic diagnosis was adenocarcinoma of the pancreas.

CASE 2.—This sixty-four-year-old married man was referred for a neuropsychiatric examination because of severe depression, weakness, and loss of appetite and weight. The history revealed that this patient had been undergoing psychoanalysis for the previous four months. He complained of nausea, especially in the morning, loss of pep, zest, and drive, feelings of listlessness, and loss of interest. He stated that he had always been "nervous" and had suffered from morbophobia; he had lacked self-confidence and appeared suspicious and afraid of people. There were no abnormal mental trends, and no hallucinations could be elicited.

Eighteen years ago he suffered a back injury during an automobile accident, and he had been suffering from occasional backaches since. For the last three years he had been a known diabetic.

Physical examination, including gastrointestinal series, barium enema, gallbladder series, blood count, electrocardiogram, etc., was negative for any pathology; x-ray of the dorsolumbar spine revealed a scoliosis of the dorsal spine with the convexity to the right. There was a compression of the fourth lumbar vertebra, probably secondary to an old fracture. The patient's mental condition became worse; he stopped eating, lost more weight, and expressed suicidal intentions. Because of this the conservative treatment was discontinued, and the patient was admitted to a mental hospital. He received six electroshock treatments with considerable improvement in his mental condition. However, within two weeks after his discharge from the hospital, he developed diarrhea which did not respond to the usual medications.

He was admitted to a general hospital where he remained until his death about three months later. During the course of this hospitalization repeated gastrointestinal series and barium enemas were also negative; stool examination, however, revealed the presence of undigested muscle fibers and occult blood. Serum lipase test was positive. The x-ray of the chest revealed pleural effusion in the right base. Examination of the fluid indicated the presence of cancer cells (adenocarcinoma). A liver biopsy confirmed the presence of metastases from cancer of the pancreas. A diagnosis of cancer of the pancreas with metastases was made, and the patient expired six weeks thereafter.

Case 3.—This patient was a fifty-eight-year-old, married male who was referred because of intense feelings of anxiety and depression of about ten months duration. He admitted being "blue" very frequently and expressed feelings of listlessness, uselessness, and hopelessness. He suffered from insomnia and anorexia and had lost about 20 pounds in weight. For the last few weeks he noted abdominal pain often associated with diarrhea. There was no history of previous episodes of excitement or depression requiring psychiatric treatment. His wife described him as an ambitious, fussy, and worrisome man. However, she added that lately there had been "a change in his personality." He had continued to work but had been finding his work more of an effort. The patient was treated conservatively for his depression with Dexamyl. Although he claimed to be feeling better, he continued to fail physically.

Barium enema was negative; gastrointestinal series revealed a widening of the duodenal loop with some pressure defects of the duodenum. During an exploratory laparotomy a mass was found in the body of the pancreas with metastases to the liver. Frozen cuts of the biopsies revealed cancer of the pancreas.

Comment

Cancer of the pancreas is known to produce nervous and mental symptoms. The physical findings in patients with cancer of the pancreas are negative or very inconclusive. In middle-aged or older patients the first occurrence of nervous or emotional symptoms associated with gastrointestinal pain which possibly radiates to the back in the absence of evidence of organic disease should suggest the possibility of pancreatic disease.

The diagnosis of cancer of the pancreas is very difficult except in the end stage of the disease. The cause of the mental manifestations of cancer of the pancreas is unknown. The anxiety and the depression that these patients present are out of all proportion to the physical complaints and the meager physical findings. Most likely these mental symptoms represent the individual's reaction to stress and strain. The first patient had had a similar episode of depression fifteen years previously. During the present illness depressive symptoms were in the foreground. Only when jaundice appeared, was cancer of the pancreas suspected and an exploratory laparotomy done.

Savage and his coworkers[2] reported one patient in whom the diagnosis of cancer of the pancreas was also complicated by the history of a previous depression. The only patient in their series who had cerebral metastases had no mental symptoms. Whereas patients with chronic somatic disease, such as cavernous tuberculosis or advanced stages of cardiovascular and renal disease, may develop mental changes in reaction to the awareness of their condition, in cancer of the pancreas nervous and mental changes may precede the occurrence of physical complaints or symptoms.[3]

Although much knowledge about the somatic manifestations of nervous and emotional illness has been recorded, the psychiatric manifestations of somatic illness have been neglected.

Summary

The occurrence of nervous and emotional symptoms, such as anxiety and depression in association with insomnia, anorexia, loss of weight, and abdominal pain which radiates to the back, has been observed in three male patients who were found to be suffering from cancer of the pancreas. The mental symptoms antedated the occurrence of definite gastrointestinal complaints. One patient had had a similar depressive episode fifteen years ago, and the other two patients had been previously healthy. Although there is no proof for the relationship between the mental symptoms and cancer of the pancreas, such a relationship may be more than coincidental.

20 Franklin Road

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A great step towards independence is a good-humored stomach.—Seneca

Logetronography

A Preliminary Report

ELMER G. ST. JOHN, M.D., BINGHAMTON, NEW YORK

(From the Department of Radiology, Binghamton City Hospital)

THE visualization of anatomic detail on film or photographic paper often leaves much to be desired. A new method utilizing a scanning light source for this purpose is the subject of this preliminary report.

Craig[1] recently designed a now patented electronic apparatus called the LogEtron with which he demonstrated marked improvement in the quality of photographs. He suggested that this process be extended to the use of radiographs.

Approximately 200 radiographs were scanned, utilizing the LogEtronic principle. The intermediate films were then rescanned using Ansco Type B Industrial Film. The final films were then submitted to a commercial photographer for reproduction, with instructions to obtain all possible detail from both the unscanned and scanned films. Five of these reproductions are illustrated (Figs. 1 to 5). On the left are the original radio-

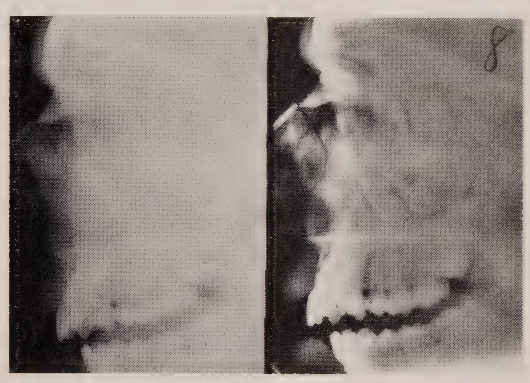

FIG. 3.

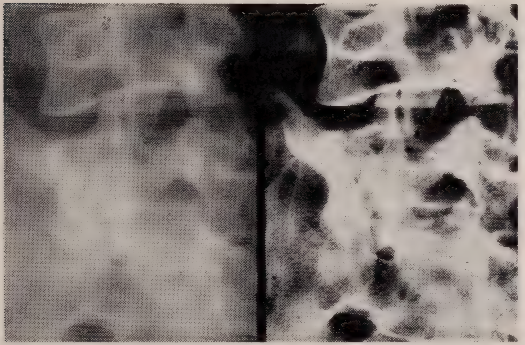

FIG. 1.

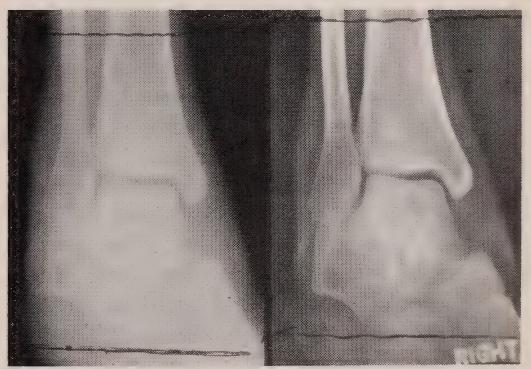

FIG. 4.

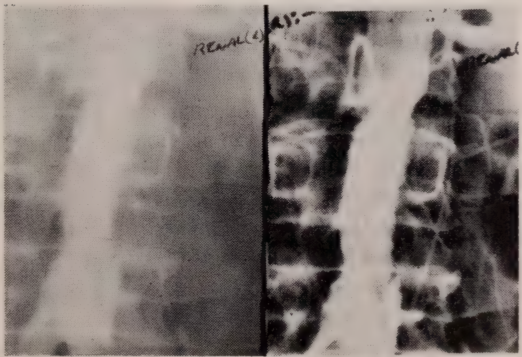

FIG. 2.

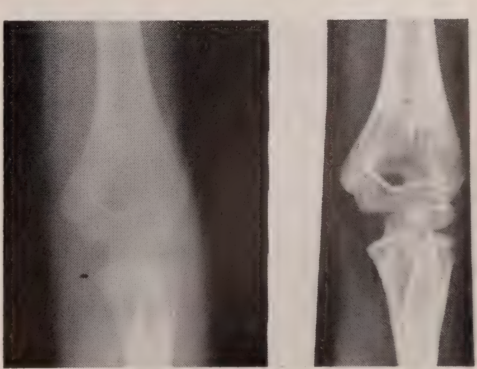

FIG. 5.

graphs and, on the right, the scanned reproductions.

Summary

A new method for reproduction of x-ray films has been presented. This utilizes an electronic scanning apparatus called the LogEtron. It is highly possible that improvement in technic will result in films of more diagnostic quality than the originals.

25 Park Avenue

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The Use of Cotton Rolls in Minor Surgery

IRVING D. EHRENFELD, M.D., YONKERS, NEW YORK

Cotton rolls are cigaret-shaped rods of absorbent cotton about 6 inches long and 3/8 inch in diameter which are used by dentists for separating the teeth from the lip or cheek to maintain a dry field of operation. These rolls can be valuable aids in office or other surgery when cut into pieces about 1 inch long, sterilized by autoclaving, and used in the following ways:

1. *As a sponge and hemostatic pad:* Inch-long pieces of cotton roll, grasped in an Allis clamp, provide a small, firm, absorbent, lint-free, double-ended sponge which can be accurately applied to bleeding points or vessels. These cotton sponges are especially advantageous in small lacerations and operative wounds, such as are made in taking tissue for biopsy and in removing angiomas, nevi, warts, and in resecting a nail or nailfold, etc.

They also enable the operator to sponge aseptically without touching the wound with his fingers. If the other procedures of the operation can be accomplished without touching the wound by the fingers (e.g., tying sutures with artery clamps, using a punch or scissor for the incision), a convenient aseptic technic is possible without using gloves. Incisions made and treated this way in the office and clinic will heal by first intention and without infection more often than is usually the case.

2. *As a buttress in suturing:* Not infrequently, in suturing the skin with a small fine needle difficulty is experienced in bringing the point through the far edge of the wound, which tends to move away. A forceps can be used to hold this edge, but if cotton rolls are being used as above, these will be found to be much more convenient and efficient. The roll, held in the Allis clamp, is placed over the expected point of exit and furnishes a firm buttress that fixes the skin and yet is easily penetrated by the needle.

A practical way of preparing and sterilizing these rolls is to cut them to size and place them in a Petri dish which is wrapped with paper and then autoclaved. Needles and suture material may be placed in with the rolls to form a readily available setup for minor surgery.

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FUNDAMENTALS OF MODERN ALLERGY

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The Modern Treatment of Poison Ivy

G. EVERETT GAILLARD, M.D., WHITE PLAINS, NEW YORK

(*From the Department of Allergy Clinic of the White Plains Hospital*)

DERMATITIS venenata from Rhus toxicodendron is perhaps one of the most distressing problems of the summer season.

In 1897 Pfaff[1] isolated a very toxic, nonvolatile oil, toxicodendrol, from Rhus toxicodendron. Acree and Syne[2,3] obtained a glucoside, and McNair[4,5] thought that the poison was lubinol, an unsaturated o-dihydroxy benzene derivative. Hill *et al.*[6] showed that the toxic principle in poison ivy was urushiol, and Majima[7] showed it to be present in Rhus vernicifera. Mason and Schwartz[8] obtained three toxic oily fractions. Keil *et al.*[9] found a remarkable biologic relation between hypersensitiveness to poison ivy and to a variety of compounds of phenolic structure, both synthetic and nonsynthetic in origin. On the basis of structure he classified these substances as alkenyl and alkyl derivatives of catechol, resorcinol, and phenol. The main active ingredient in Rhus toxicodendron is a catechol derivative with a normal 15-carbon side-chain in the 3-position.[10] Keil and his coworkers[11] in 1945 pointed out that persons sensitive to poison ivy showed constant group-specific reactions to 3-pentadecyl catechol, and he suggested that this saturated analog of the active ingredient in poison ivy could be used as a replacement for the poison ivy materials in testing for hypersensitiveness to the poison plant.

It has recently been reported in the lay press that encouraging clinical results have been obtained by the intramuscular injection of this compound by workers at the University of Pittsburgh. No scientific publication has thus far been noted.

From these aforementioned observations it seems likely that there is a variety of active antigenic components in the poison ivy leaf just as has been found in other naturally occurring antigenic substances. Therefore, specific hypoimmunization has been attempted, in general, by the use of the resinous fraction extracted by means of organic solvents from the whole leaf so as to include all or most of these active components since it is possible that an individual could be sensitive to a minor component to the exclusion of others.

Oral Prophylaxis

Oral prophylaxis, either alone or in conjunction with parenteral injections, has been held to be effective since its inception among the Indians.[12] The thought has been upheld as practical by some workers[13–16] since its popularization by Schamberg[17] in 1917. The materials for use in oral therapy may be prepared from the alcohol, ether, or acetone. Later data,[18,19] however, seem to indicate that this method of treatment is either not effective or too toxic for practical usage.

Prophylaxis by Parenteral Administration

The material now available for the treatment of dermatitis venenata consists of three general types of extracts: (1) a solution of the poison ivy resin in alcohol as proposed by Spain and Cooke,[20] (2) a solution of the poison ivy resin in in an oil such as almond,[21] corn,[22] peanut, or sesame, and (3) the active principle in the poison ivy leaf in a pyridine-alum precipitate suspended in saline solution, described by Strauss and Spain.[23]

The alcoholic and oily ivy preparations (numbers 1 and 2 above) have practical disadvantages in their employment. The alcoholic preparation must be specially handled since the addition of even minute quantities of water to the extract will lead to the oxidation and destruction of the toxic principle.[24,25] In addition, since the injection of strong alcoholic solutions produce great pain and local tissue irritation, it is necessary to dilute the extracts, preferably with physiologic saline, immediately before use. Even this procedure, however, necessitates the injection of a 5 to 10 per cent alcoholic solution which is not without considerable discomfort. This is especially inconvenient in the treatment of children. Similarly, it is painful to administer the extract in which the resinous principle is dissolved in oil since it is necessary to employ the intramuscular technic, which requires a long needle of fairly heavy gauge so that the viscous material may be withdrawn and delivered. In addition, the presence of small quantities of protein in certain of these oils can cause severe reactions in allergic individuals.

Realizing the limitations of the currently obtainable extractions of the toxic resinous principle of the Rhus plants and other oils capable of producing dermatitis venenata, Strauss and Spain sought a product which would contain the active oleoresinous principle in an aqueous medium. A product fulfilling these requirements was developed, as noted in their paper.[23] The material which they describe is prepared by extracting the toxic phenols from poison ivy leaves with pyridine (a heterocyclic tertiary amine) and then precipitating the active solution by the addition of aqueous alum. The material supplied contains a green, flocculent precipitate suspended in physiologic saline. From the evidence herein reported, the material is extremely stable; hence, there is no problem of storage or deterioration. In addition, since the precipitate is suspended in saline solution, there is no discomfort from an injection, other than that incurred by the needle. The suspension is of such low viscosity, even in the concentrated solution, that it is delivered with ease from a tuberculin type syringe with a 26-gauge, $^{1}/_{4}$-inch needle. Furthermore, the syringe and needle are readily cleansed by washing with water. Gaillard[26] showed that this material was stable after it had been allowed to stand at room temperature for one year.

A review of the literature shows that controlled studies with gradually increasing dosages of alcoholic ivy preparations have yielded good results.[27,28] Poor results have also been reported for Rhus toxin extracts in general, but the authors did not feel it sufficiently important to mention the concentration or the type of extract (vehicle) used.[29–34]

Shaffer, Burgoon, and Gosman[34] and Rytand[32,33] reported the appearance of renal disturbances in patients with dermatitis venenata. Some of these patients received the oily type of poison ivy injections, and several did not receive any Rhus toxin injections at all, so that the renal disturbances presumably occurred as a result of the initial contact with the ivy leaves.

The original paper on the alum-precipitated pyridine ivy (Aqua Ivy) by Strauss and Spain[23] reported good clinical results on 12 sensitive patients who had been treated prophylactically the previous year with the alcoholic extract with poor results. There were 16 other sensitive individuals who experienced a season practically free from poison ivy dermatitis following injections of Aqua Ivy. Gaillard[26] in 1950 reported on the treatment of 113 patients hypersensitive to poison ivy and treated with the alum-precipitated pyridine ivy (Aqua Ivy). Seventy-seven per cent had satisfactory results the first season of treatment; 84 per cent had success after a second season of treatment, and of 13 cases treated for three seasons, 12 had success in the third season of treatment. Since then an additional 300 cases have been treated with similar results. Neidorff[35] has treated several hundred ivy-sensitive individuals with Aqua Ivy with excellent results.

Passenger *et al.*[36] administered 121 prophylactic series of Aqua Ivy to sensitive individuals with 93 per cent excellent or good results. There was no incidence of nephritis in this series, even when Aqua Ivy was administered to children as young as two years of age.

Protection from dermatitis venenata by gradually increasing doses of the offending plant phenols has long been held to be practical. In our experience the alum-precipitated pyridine ivy suspension in saline solution (Aqua Ivy) is superior to either the alcohol/ether or the oil resorption materials. This is because of the ease of its administration, its concentrated dosage, and its more effective clinical results along with lessened possibility of exacerbations of symptoms. The alum-precipitated material is slowly absorbed; hence the final dosage may be as much as 50 times as great as that of the alcohol or oily preparation.

It would appear that after three years of treatment the immunity may be lasting.

None of the Aqua Ivy-treated ivy-sensitive patients exhibited signs of nephrotoxicosis.

Patch Testing

To evaluate properly the dosage schedule to be employed in using prophylactic extract, it may be helpful to estimate the patient's relative sensitivity by patch testing. While this gradation of sensitivity is a commendable prelude to injection therapy, it is not necessary for practical purposes. As a general rule we do not employ patch test gradation except in a very few highly hypersensitive problems. These may readily be recognized by an adequate history in which the victim develops severe generalized dermatitis on the unexposed as well as the exposed portions of the body following a known or obscure Rhus contact. Usually, patients in this category are "ivy wise" and are meticulous in their avoidance of contact with the plant which they readily recognize. We feel it is safe to proceed with hyposensitization therapy in 95 per cent of our cases without sensitivity evaluation.

For evaluation it is our experience that alum-precipitated extract is not adequate for patch testing and that an alcohol or ether extract must be employed. Alum-precipitated pyridine ivy extract is highly insoluble. Because of this, too small an amount of toxic resin is adsorbed by the skin, even though a highly concentrated extract is used.

Routine patch testing is carried out as follows: A previously prepared "Elastoplast" or its equivalent is employed. Place a small (7 to 9 mm.) disk of ordinary blotting paper saturated with the desired dilution of alcoholic ivy extract in the center portion of the Elastoplast and apply the entire patch to the lateral surface of the arm, thigh, or back. The patch is left in place for twenty-four hours unless undue itching occurs. A positive reaction simulates dermatitis venenata on the patch area. Initial testing may be performed with a 1:10,000 dilution of a 10 per cent alcoholic ivy extract. If this test is negative, successive testing with 1:1,000 and 1:100 dilutions may follow. A definite reaction to the 1:10,000 dilution may be considered as an indication of an acute hypersensitivity. A negative reaction to the 1:100 dilution would indicate relative insensitivity.

Prophylactic Treatment

For the highly sensitive individual desensitization may be accomplished by giving subcutaneous injections at seven to fourteen-day intervals of 0.2, 0.5, and 0.8 ml. of the 1:50 (0.2 per cent) dilution, followed by 0.2 and 0.5 ml. of the 1:5 (2 per cent) dilution of Aqua Ivy.* If uncomfortable local reactions or any activation of the dermatitis occurs, the dosage should not be increased. Many patients are capable of accepting injections larger than 0.5 ml. of the 1:5 (2 per cent) extract. To these patients 1 ml. may be given.

The schedule to be followed for a less sensitive individual may be more bold. An initial injection of 0.3 ml. is followed by a second dose of 0.8 ml. of the 1:50 (0.2 per cent) dilution of the extract. A third dose of 0.5 ml. of the 1:5 (2 per cent) dilution and a final dose of 1.0 ml. of the 1:5 (2 per cent) dilution are given. The immunity may be maintained successfully by repeating this final dose of 1:5 (2 per cent) material at two to three-month intervals. The interval between injections for the gradually increasing doses should be one to two weeks. The alum-precipitated extract is a repository material which, because of its insolubility, is slowly absorbed. No accurate estimate of the time required for absorption has been made. Clinically, we feel that a two-week interval between the two final doses is the wiser choice.

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* Obtainable at the Allergy Laboratory, University Hospital, 303 East 20th Street, New York City, until commercially available.

Patients who have recently suffered from dermatitis venenata seem to be quite sensitive to the extract for two to three weeks following the dermatitis. For this reason it is sensible to defer prophylactic treatment until this period has elapsed.

Phylactic Therapy

Phylactic therapy for dermatitis with injections of the oleoresin extract has been advocated. The results of this therapy have been controversial. In many instances a vigorous exacerbation of symptoms has occurred following its use.[32–34,37] There is very little question that such exacerbation will frequently follow injections at the prophylactic dosage level; however, injections of minute doses of the alum-precipitated extract will rarely if ever cause symptom exacerbation.

Recently, 85 patients have been so treated without ill effect. The recommended dosage schedule is 0.1, 0.2, and 0.3 ml. of the 1:50 (0.2 per cent) dilution of Aqua Ivy given at three to four-day intervals.

Since the advent of adrenocorticosteroids the phylactic therapy of dermatitis venenata has become greatly simplified and highly effective. Adrenocorticotropic (ACTH) hormone in gel is the modality of choice. We have been using 40 to 80 units of ACTH the first day, followed by 40 to 60, then 20 to 40 units on the second and third days, respectively. For the more severe cases, to prevent a recurrence of symptoms, gradually decreasing doses of prednisone or prednisolone are given for five to seven days after the ACTH. The dosages of these drugs are 20 mg. for the first two days, 15 mg. for the next three days, 10 mg. for the following three days, and 5 mg. for the last day or two. It is most unusual for this therapy to be ineffective. These hormones, it must be recognized, do not alter the patient's hypersensitivity to the Rhus toxin; rather, they act by suppressing the inflammatory reaction created by the toxin. In our experience topical adrenocorticosteroid applications have been useless and are frequently harmful. Many patients experience a spreading of the lesion following the use of such ointments. This may be due to the oily nature of the vehicle.

Summary

1. The prophylaxis of Rhus dermatitis by gradually increasing doses of the extracted oleoresin is practical and effective.
2. Oral prophylaxis is ineffective.
3. The material supplied as the alum-precipitate of a pyridine extract is superior to the alcoholic or oil resorption preparations.
4. The alum-precipitated pyridine ivy product appears to be nontoxic.
5. Phylactic therapy is simple and effective with oral or parenteral administration of adrenocorticotropic hormones.
6. The topical use adrenocorticosteroids for Rhus dermatitis is unsatisfactory.

MEDICAL CENTRE

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(*Number seventeen of a series on Fundamentals of Modern Allergy*)

Research Needed to Stem Rising Blindness Rate

The National Society for the Prevention of Blindness said the "fantastically good dividends" of recent eye research demand increased public support of wider scientific investigation into causes of diseases which blind thousands of Americans each year.

In its 1955 annual report released recently, the organization cited the virtual defeat of retrolental fibroplasia (RLF), the disease which blinded an estimated 8,000 premature babies in the decade following its first appearance in 1941.

Extensive research projects sponsored by the National Society in cooperation with other groups finally traced the cause of the disease to over-use of oxygen in the care of the tiny "preemies." Because of this finding, and its widespread dissemination to hospitals and medical men throughout the U.S., "within a matter of months, retrolental fibroplasia, when it does occur, will have to be described as an accident," the report predicts.

"Investment in research pays fantastically good dividends. The final studies in retrolental fibroplasia, through which oxygen's potentially destructive relationship to infants' vision was discovered, involved a total expenditure of relatively few dollars" the report says.

Despite the control of RLF and other diseases such as trachoma and ophthalmia neonatorum (babies' sore eyes), however, "blindness is increasing with the growing population and the lengthening of the span of life" the Society said. It singled out glaucoma and cataract as major blinding diseases into the causes of which accelerated research is necessary. Though both diseases can be controlled by thorough medical treatment, science does not yet know their basic causes. Cataract is the leading cause of blindness in the U.S., and not less than 1,000,000 persons in this country are slowly losing their vision from glaucoma.

While urging wider research into the courses of these and other eye diseases, the annual report does not underestimate the value of now existing procedures for control. Both diseases, which strike hardest among people over forty years of age, can be halted, the report says—cataract by routine surgery, glacuoma by surgery or the daily administering of eye drops to reduce the pressure which the disease builds up within the eye.

Glaucoma victims have a special problem, the Society says: only about half of them are aware of their condition because of the absence of obvious symptoms. Since prompt treatment is essential to the preservation of vision, the Society fears that thousands will become blind before their trouble is discovered. The organization recommends a thorough eye examination every two years for persons past forty.

The report also cautions against false hopes generated by charlatans. Each year, it says, thousands of Americans "are victimized by quack advertisers of pills, ointments, and other alleged 'cures', which cure nothing and serve only to delay" effective attention. The National Society has found that Americans each year spend more than four times as much for patented eye lotions and cosmetics—mascara, eyebrow pencils, and eye shadow—as for research to keep their eyes healthy.

During 1955, an estimated 27,000 Americans lost their eyesight, bringing the total U.S. blind to more than 334,000. The annual cost of caring for these sightless persons is said to be about $150 million annually.

The Prevention of Blindness Society is the nation's largest nonprofit sight conservation organization. Now in its forty-eighth year, it sponsors a three-fold attack on blindness through year-round programs of education, research, and service made possible by voluntary contributions to its headquarters at 1790 Broadway, New York 19.

CLINICAL ANESTHESIA CONFERENCE

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Prepared by the Anesthesia Study Committee of the New York State Society of Anesthesiologists

MEREL H. HARMEL, M.D., *Chairman*

Hemolysis During Transurethral Resection as a Diagnostic Problem

DURING the past few years it has been pointed out repeatedly that the use of water as the medium for filling the bladder during transurethral resection carries with it the hazard of water hemolysis. Water probably gains access to the general circulation through open venous sinuses. However, in spite of the many warnings, water continues to be used for this purpose in many centers. The case report which follows illustrates the diagnostic problem which water hemolysis may present in the anesthetized patient.

Case Report

The patient, a seventy-seven-year-old, white male, was admitted from a nursing home with urinary retention. Catheterization relieved the immediate situation and disclosed a residual retention of 300 cc. of urine. A diagnosis was made of nodular hyperplasia of the prostate with chronic prostatitis.

Physical examination revealed a well-nourished, elderly man, who looked his stated age. Significant findings were referable to the cardiovascular system; the pulse rate was 28, blood pressure 172/60. The heart was found to be enlarged, and a systolic murmur was heard over the entire precordium. The lungs were clear to percussion and auscultation. The general laboratory findings were noncontributory except for a 2 plus albuminuria. Electrocardiographic tracings demonstrated complete heart block and also auricular flutter. After several days of treatment the patient was scheduled for operation.

Preoperative medication consisted of 0.4 mg. of atropine given one hour before the administration of anesthesia. On his arrival in the operating room the blood pressure was recorded at 110/80, pulse rate 30, and respirations 20. Spinal anesthesia, consisting of 8 mg. of Pontocaine with 80 mg. of 10 per cent dextrose in a total volume of 1.6 cc. was given, and a sensory analgesia level to the tenth thoracic segment was achieved. Methedrine 10 mg. was also given intramuscularly at this time. An infusion of 5 per cent glucose in water was started. Oxygen was administered to the patient by mask, and the operation was begun twenty-five minutes following the injection of the spinal anesthetic.

Fifteen minutes after the beginning of the operative procedure the blood pressure rose to 170/80 and the pulse to 70. Twelve minutes later the patient began to complain of pain which could not be adequately localized but appeared to be most extreme below the knees. The patient also became very confused and objected to the presence of the face mask. He began to cough. It was then noticed that the patient was deeply cyanotic and had marked difficulty in breathing. Within five minutes spontaneous respiration ceased. Intubation was rapidly carried out, and oxygen was administered via the endotracheal tube. Five minutes later the pulse and blood pressure were unobtainable, and the chest was immediately opened. The heart was found to be in standstill, and cardiac massage was instituted. A transfusion of 500 cc. of whole blood under pressure was begun. Resuscitative efforts carried out for forty-five minutes were unsuccessful, and the patient was pronounced dead. Hemolysis was not suspected until just before cardiac arrest occurred. A sample of venous blood taken at this time was centrifuged and found to be grossly hemolyzed, which then clearly established the presumptive diagnosis of water hemolysis.

Comment

The prompt recognition of hemolysis in this case would undoubtedly have prevented the death of this patient. It should be made clear at the outset that water hemolysis under these circumstances is generally not fatal if promptly recognized. The cessation of the operative procedure; the treatment of pain, agitation, etc., with the judicious intravenous administration of sedative drugs; the administration of oxygen, and the transfusion of whole blood if necessary are lifesaving. In this particular case the situation was complicated by the existence of severe cardiac disease manifested by the complete heart block and auricular flutter. Once again the desirability of the electrocardiographic monitoring of such patients should be stressed. Undoubtedly the amount of hemolysis that occurred was considerable, which in all probability then led to profound myocardial ischemia which was the cause of death.

There are now several well-documented instances in which water hemolysis has occurred. In all patients undergoing transurethral resection where water is employed and possibly even with the nonhemolytic solutions, such as glycine and the recently available polysaccharides, a sudden unexplained rise in systolic blood pressure accompanied by pain, agitation, confusion, and cyanosis, in this order, should make one immediately suspicious of a hemolytic reaction. The centrifuging of a sample of oxalated venous blood for three minutes will clearly establish the diagnosis. Coronary insufficiency or myocardial infarction is characteristically accompanied by a fall rather than a rise in the systolic blood pressure and crushing precordial pain if the patient is conscious. The pain in this patient was diffuse and generally more intense in the legs and back.

On the other hand, hemolytic reaction due to transfusion of incompatible blood, in contrast to water hemolysis, is generally characterized by a precipitous fall rather than a sudden rise in systolic blood pressure. The treatment of incompatible blood transfusion differs in the omission of sedative drugs, and since hypotension is a feature of this reaction, vasopressor agents may be indicated. Whole blood transfusion is mandatory in the treatment of incompatible blood transfusion but is only necessary in water hemolysis if the hemolysis is massive and results in vasomotor collapse.

While the use of nonhemolytic solutions should go a long way toward reducing the incidence of water hemolysis, it is incumbent upon the anesthesiologist to be thoroughly familiar with the signs and symptoms of water hemolysis which may occur in the patient anesthetized for transurethral resection, for promp recognition and treatment can readily reverse what may be a potential tragedy.

(Number thirteen of a series of Clinical Anesthesia Conferences)

The Nonhospitalized Tuberculosis Patient

In order to get representative data on the care and services currently given nonhospitalized tuberculosis patients, 37 areas of the United States were selected for study by sampling technics. In only two of the cities included in the project were there formally organized home care programs, and they supervised only 38 patients or 1 per cent of the total case load. From a public health viewpoint, other findings of the study appear to be something less than reassuring.

—Edward T. Blomquist, M.D., American Journal of Public Health, February, 1956

Postgraduate Radio Programs

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Gallbladder Disease

FRANK GLENN, M.D., NEW YORK CITY

(*From the Department of Surgery of New York Hospital-Cornell Medical Center*)

GALLSTONES are associated with the majority of disorders of the biliary tract. It is estimated that 10 per cent of the adult population (110 million) in the United States have gallstones. These cause considerable disability and require the attention of many physicians. We are as yet without sufficient knowledge about the etiology of gallstones to be able to prevent their formation, and until we have ways and means for their prevention, it is incumbent upon the medical profession to treat them with the most effectual methods available. There have been great strides in the surgical treatment of biliary tract disease since cholecystostomy was introduced by Dr. John S. Bobbs in 1867. The greatest advancements however, have taken place over the past twenty-five years. During this period we have been particularly interested in biliary tract disease and have kept a careful account of our experience on the pavilion service at the New York Hospital-Cornell Medical Center where over the past twenty-two years over 4,000 patients with this condition have been treated surgically.

For this discussion it is proposed to consider the present status of the treatment of biliary tract disease in the light of the more recent advances under the following headings:

1. A better understanding of the correlation of pathology, symptoms, and natural history of biliary tract disease.
2. Diagnosis.
3. Individual evaluation and consideration for surgical treatment.
4. Advances directly related to operative procedures.
    - (*a*) Preoperative preparation (chemotherapy, vitamin K control of hemorrhagic tendency).
    - (*b*) Anesthesia.
    - (*c*) Operative technic (cholecystectomy, cholecystostomy, choledochotomy).
    - (*d*) Postoperative management.
5. Recognition that gallstones, although not apparently producing symptoms, are a hazard.
6. Cancer of the bilary tract.
7. The age factor in surgical treatment.

Better Understanding of the Correlation of Pathology, Symptoms, and Natural History of Biliary Tract Disease

There has slowly evolved a clearer understanding of the pathologic changes associated with gallstones and the symptoms they cause. Although most biliary tract disease is associated with stones, noncalcareous conditions are recognized; these are more frequently encountered in acute rather than chronic cholecystitis. Cholecystitis may also be a part of an over-all systemic disease, as seen in the terminal phases of renal disease of vascular origin, and occasionally follows in the wake of an unrelated surgical operation. The apparent relationship of pregnancy to gallstones has long been recognized; it has received much study, but this has not yet provided us with effective prophylactic measures. Its importance is emphasized by the fact that four out of every five patients with gallstones are women, and three of the four women have been pregnant. Careful history-taking provides evidence that symptoms of gallstones commonly date back to the period of the early pregnancies. This has corrected somewhat the tendency fostered by many textbooks to limit their consideration to the "fat, fair, and forty." Also there has developed an appreciation of variations and differences in gallstone disease, as, for example, that appearing in young women recently pregnant and older men and women not previously pregnant, as well as those with blood dyscrasias. The term "acute cholecystitis" has come to denote a phase of biliary tract disease which may be accompanied by complications of a serious nature. From studies of postmortem material it has been demonstrated that those with gallstones have an increased incidence of associated systemic changes, such as obesity, hypertension, arteriosclerosis, diabetes, and renal impairment.

Diagnosis

Critical evaluation of information on which a diagnosis of biliary tract disease is made has become more common but should be extended further. A clinical story compatible with gallstones supported by cholecystographic evidence has too often obscured the true cause of the patient's complaints. Improvement in differential diagnoses has developed not only because of better x-ray and laboratory procedures for evaluation of other nearby structures but because of increased clinical experience, including follow-up studies. Following the introduction of cholecystography in 1924 there was a tendency, not yet completely overcome, to ascribe almost any upper abdominal complaint to visualized gallstones or a nonvisualized gallbladder. The careful keeping of records over the years and their periodic evaluation at intervals in various clinics have done much to keep the surgeons alert to the common mistakes. As a result diagnosis has become more accurate.

Those conditions found to simulate biliary tract disease most closely, in order of occurrence, have been (1) peptic ulcer, (2) pancreatitis, (3) renal and perirenal disease including tumors of the adrenal (carcinoma of adrenal, pheochromocytoma), (4) coronary heart disease, (5) carcinoma of the hepatic flexure of the colon, and (6) acute appendicitis.

Individual Evaluation and Consideration for Surgical Treatment

A better understanding of the underlying pathology and the resulting changes and symptoms of biliary tract disease has resulted in more attention to the individual patient before embarking on treatment.

We are now considering for operation patients in a wider age range than we did twenty years ago. First are the younger individuals. We recognize gallbladder disease in children, although it is rare. Far more frequent are the young women recently pregnant who have gallstones and the symptoms which they cause. Once a diagnosis is established, surgery is recommended and usually is accepted, regardless of whether they are in an acute or chronic phase of cholecystitis. Formerly these patients, being young and vigorous, were encouraged to tolerate their symptoms and avoid operation. Indeed, these patients in our community are now well informed concerning gallstones and come to the hospital seeking relief. There has also been a steady increase in the proportion of patients sixty-five and over. No doubt this parallels the comparable increase in the overall population.

While it may be said, in general, that the trend has been to the more direct surgical approach, there has also been developed an awareness of the individual patient for whom surgery seems inappropriate because of some coexisting condition which is more serious and sometimes cannot be corrected.

Advances Directly Related to Operative Procedures

Preoperative Preparation.—Patients being considered for operation are being more carefully evaluated because this has proved to be the most effectual way to reduce the morbidity of postoperative complications and mortality. Searching routine examinations including chest x-ray and electrocardiogram, particularly in the older age group, reveal significant information that will influence selection of the anesthetic agent and guide the surgeon to the extent of the procedure to be employed. We have come to be more concerned with the functional capacity of the liver and its probable reserve under stress of operation. Most spectacular has been the control of the increased hemorrhagic tendency with vitamin K in the patient with jaundice. Measured in terms of prothrombin time, the bleeding tendency is recognized in degree. Where the liver parenchyma has not been destroyed, the administration of vitamin K corrects the bleeding tendency. The mortality following surgical operations on jaundiced patients was formerly very high. The hemorrhagic tendency due to vitamin K deficiency in the jaundiced patient has been largely overcome, and we have not lost a patient because of this since it was first available in 1937.

Chemotherapy.—The role of chemotherapy is rather difficult to evaluate properly. That it has contributed to the better control of infections of the biliary system, particularly cholangitis, there is no doubt. We have examples of patients who have had severe infections who were markedly and quickly improved. One woman with common duct stones and a cholangitis on chemotherapy prior to operation developed miliary liver abscesses with organisms resistant to the antibiotics she was receiving. Selection of suitable antibiotics was followed by recovery. In my opinion she would surely have died without this therapy. However, over the past five years we have come to use less chemotherapy before and after operation. There has been a decrease in complications and not a single fatality due to infection. The indications for chemotherapy have become more clear-cut. Chemotherapy is not used routinely as a prophylactic measure.

Anesthesia.—Two evident advances have been made in regard to anesthesia. The first deals with the selection of the anesthetic agent. Specific consideration is given to the status of the liver and the cardiovascular system. Impaired liver function requires a minimal amount of the least toxic agent available. The damaged liver may be unable to participate properly in the elimination of the agent.

The second and perhaps more important aspect of anesthesia is its administration. The art of providing adequate relaxation to facilitate the operation and at the same time using a minimal amount of anesthetic agent together with a respiratory atmosphere high in oxygen has developed to a degree unanticipated twenty years ago.

Postoperative pulmonary complications have been greatly reduced by preventing aspiration of gastrointestinal contents and the removal of excess bronchial secretions by suction during the operation. These have been made possible by (1) evacuating gastric contents before induction and during the procedure by means of an indwelling nasogastric tube and (2) the employment of the intratracheal tube in all patients being operated on under general anesthesia.

Operative Procedures on Biliary Tract.—More adequate exposure for the procedures to be undertaken has been obtained by selecting the incisional approach according to the habitus of the patient. The longitudinal incision is used for those of asthenic build, reflecting and not splitting the right rectus muscle. For those of sthenic stature a subcostal incision with transection of the right rectus muscle is employed.

A methodical survey of the abdominal contents before approaching the biliary tract, unless contraindicated, on occasion has revealed an unsuspected finding.

In evaluating the biliary tract we have become increasingly concerned with the condition of the pancreas and the area of the duodenum in the region of the ampulla of Vater. Cancer in the older age group—and many of our patients are now in this category—is being looked for.

The operative procedures most frequently employed are (1) cholecystectomy, (2) cholecystostomy, and (3) common duct exploration with cholecystectomy or cholecystostomy. Cholecystectomy provides for the removal of the gallbladder and the stones it contains and is, therefore, the most frequently employed.

In our own experience with over 4,000 patients treated surgically, the distribution of operative procedures has been as follows:

Cholecystectomy only	3,400
Cholecystostomy only	121
Choledochotomy (with or without above two operations; including structures)	625
Other operative procedures	35
Total	4,181

Since 1932 we had stated on various occasions that in the performing of a cholecystectomy, we believed it made little difference whether the gallbladder was removed from the fundus down toward the cystic duct or from the cystic duct toward the fundus. In instructing the resident staff we expressed the opinion that whichever method seemed the easier for the operator should determine the approach. We are now departing from this viewpoint, and it is recommended that the first step in a cholecystectomy should be the identification and dissection of the cystic duct to demonstrate its junction with the common duct. A ligature is then placed about it for identification and traction. Next the cystic artery is dissected free to its origin, usually from the right hepatic, and then temporarily occluded by ligature near its junction with the wall of the gallbladder. The gallbladder is then dissected from the fundus downward, exercising great care to stay within the capsule of the gallbladder bed and not to injure the liver. If scarring is present, it is considered preferable to open into the gallbladder rather than to penetrate the capsule or injure the liver. The temporary occlusion of the cystic artery renders this a relatively bloodless procedure. As the cystic artery is encountered, it is secured and permanently ligated.

This method of cholecystectomy is advocated because we believe that injury to the common duct will be much less likely. Over the period of this review I have talked with several surgeons who had referred cases to us because of common duct injury during cholecystectomy and were willing to describe in detail their operation. In each instance they had sought to remove the gallbladder from below toward the fundus. They had not satisfactorily dissected the two vital structures, the cystic duct and the cystic artery, separately and demonstrated the junction of the cystic and common duct beyond all doubt before they divided the duct.

Reperitonealization of the gallbladder bed is done only when this can easily be accomplished without creating a dead space. If the gallbladder has been removed without damage to the liver and vessels and if accessory ducts have been ligated as encountered, drainage from this surface is of no significance. Bringing the peritoneal margins over an injured surface may not prevent its further weeping.

We advocate and practice the placing of a drain extending from the region of the cystic duct remnant along the course of the gallbladder bed and through a stab wound in the flank, not through the operative wound.

Our stated indications for exploration of the common duct remain unchanged. These are palpable stone within the common duct, thickened wall of the common duct, dilated common duct, dilated cystic duct, presence of or history of jaundice, frequently when there is thickening or induration of the head of the pancreas, or frequently when patients are over sixty-five years.

Unless there is a contraindication, such as the condition of a patient being precarious or an existent cholangitis, cholangiography is recommended whenever common duct exploration is decided on. Both procedures add considerable to the operation; they should not be entered into lightly. They should be done with great care when undertaken. In performing cholangiography at operation two objectives are fundamental. The first is the complete filling of all the patent ductal system and, second, obtaining roentgenograms which visualize the ductal system without overlay of the opaque material that may obscure any part. To accomplish this, oblique views which demonstrate the lower end of the common duct in its entirety separately from the duodenum are essential.

Exploration of the common duct was done in the early part of the period of the past twenty years in less than 10 per cent of patients. This figure has increased and continues to increase so that now it approaches 17 to 18 per cent. Our indications remain the same, but the mean age of the patients has increased. Stones are recovered in about 50 per cent of those explored.

Postoperative Management.—The immediate postoperative management has included early mobilization over the past ten years. This, together with a decrease in postoperative complications, has enabled us to reduce the period of hospitalization from an average of approximately fourteen to nine days. Better anesthesia and early mobilization have contributed to the reduction of postoperative pulmonary complications.

Diet after operation has been an object of special study which has resulted in changes. Food by mouth is begun as soon after operation as tolerated. On discharge, patients are instructed not to eat large amounts and not to allow themselves to become overhungry. Small meals at short intervals have been successful in keeping patients comfortable. No special restrictions are placed on fat intake. A well-balanced diet which maintains the normal weight is recommended.

Symptoms that are similar to those prior to operation or suggestive of biliary tract disturbances are an indication for intensive reevaluation. There is a group of patients who have a persistence or a recurrence of symptoms following surgery on the biliary tract. For the most part these symptoms have been right upper quadrant or midepigastric pain, nausea, vomiting, and/or intolerance to fatty foods or large meals. Some of these patients have had varying degrees of jaundice. Intravenous cholangiography provides an additional means of demonstrating previously overlooked stones in the common duct, remnants of the cystic duct, and other abnormalities. Together with a complete re-evaluation seeking evidence of other conditions, such as duodenal ulcer, hiatus hernia, pancreatitis, and renal disease, cholangiography has reduced the number of "postcholecystectomy syndrome" patients.

Recognition That Gallstones Not Apparently Producing Symptoms Are a Hazard

It has long been known that many individuals at postmortem are found to have stones in the biliary tract with no available history that they had produced symptoms during life. This gave rise to the term "silent stones." Over the past twenty years a greater proportion of our population, particularly those over fifty, periodically undergo complete clinical evaluation, including cholecystography. Unsuspected cholelithiasis is thus demonstrated. Many surgeons are asked to see these patients in consultation. Our attitude at present is to recommend cholecystectomy unless there is some contraindication. One cannot predict the future course of the "silent stones." They may cause an obstructive acute cholecystitis of a rapidly fulminating type in the older age group especially. The surgeon should consider the risk of operation in the light of possible complications which may occur in patients with biliary calculi including carcinoma

Cancer of the Biliary Tract

In our over-all experience with the surgical treatment of biliary tract disease, the incidence of cancer would seem to be increasing. We have observed that approximately 10 per cent of those patients over sixty-five with symptoms indistinguishable from nonmalignant disease of the biliary tract have cancer that originated in this system. The proportion of our population in this older age group mounts decade by decade.

Age Factor in Surgical Treatment

Age is an important factor in the surgical treatment of biliary tract disease. We have observed in our experience at the New York Hospital-Cornell Medical Center that the older the patient, the higher is the mortality rate. Among patients under fifty years of age the rate of fatal complications in nonmalignant disease of the biliary tract has been 0.65 per cent. Among patients fifty to sixty-four years this rate is 2.5 per cent, and among those patients over sixty-five years of age it increases to 6.7 per cent. For elective surgical procedures the difference in mortality is small. The high mortality rate among aged patients occurs after emergency surgery. Thus, the complications of acute cholecystitis in the aged patient with degenerative disease are the chief factors in the operative risk. Surgery should be done in older patients with acute cholecystitis, but they merit the most meticulous care in surgical management. This includes operation as early as possible in an acute attack before perforation, cholangitis, jaundice, or other complications develop. Our experience appears to justify the policy of regarding all calculous cholecystitis, whether symptomatic or not, as a potential hazard and an indication for elective cholecystectomy.

Summary

Gallstones are associated with the greater proportion of biliary tract disease. It is estimated that 10 per cent of our adult population (110 million over twenty years of age) have gallstones. Because of a better understanding of the correlation of pathology, symptoms, and natural history of biliary tract disease, diagnosis has become more accurate, and the indications for surgical treatment have become increasingly apparent over the past twenty-five years. Advances in preoperative preparation, anesthesia, operative technic, chemotherapy, and postoperative management have made the surgical treatment far safer and easier for the patient. Because the prolonged presence of gallstones is associated with acute obstructive cholecystitis, choledocholithiasis, impaired liver function, and cancer of the biliary tract, it is logical to remove the gallbladder containing gallstones soon after the diagnosis has been established.

(*Number five of a series of Postgraduate Radio Programs*)

CASE REPORTS

Acute Noncalculous Cholecystitis in a Patient with Previously Normal Cholecystogram

ROBERT E. ROTHENBERG, M.D., F.A.C.S., BROOKLYN, NEW YORK

(From the Department of Surgery of the Central Medical Group of Brooklyn)

THE case reported herein is interesting because it demonstrates that acute noncalculous cholecystitis is a distinct disease entity which comes on abruptly in a patient with a previously normal gallbladder. It is also of importance in that it illustrates clearly that cholecystographic findings cannot predict operative findings in all instances.

In 1936 Wolfson and Rothenberg[1] reported 31 cases of acute noncalculous cholecystitis and collected some 69 others from the literature. Their study showed that approximately 8 per cent of all acute cholecystitis is of the noncalculous variety and is not associated with cystic duct block. Their conclusions, shared by Mayo,[2] Wilkie,[3] Walters and Snell,[4] and many others, were that acute noncalculous cholecystitis is a severe infectious process attacking patients who have no history of previous gallbladder symptoms, such as dyspepsia, aversion to fatty foods, or biliary colic. High fever, chills, a marked leukocytosis with an increase in polymorphonuclear cells, along with other signs of an acute infection appear to be constant findings.

Clinicians have come to depend on cholecystography as a most reliable diagnostic test. A normal cholecystographic x-ray series is usually sufficient information for the clinician to assure his patient that his gallbladder is normal. Rogers, Bonmati, Leigh, and Gay[5] found correlation between cholecystographic findings and subsequent surgical findings in 97.7 per cent of cases. Only two of their patients had normal cholecystograms and at operation supposedly showed chronic cholecystitis. However, there is serious doubt as to whether even these patients actually did have chronic inflammation, for the pathologic reports stated that the gallbladder mucosa was in good condition and the organs had concentrated the dye satisfactorily, as shown in the cholecystograms. The authors conclude, therefore, that the discrepancy in these two

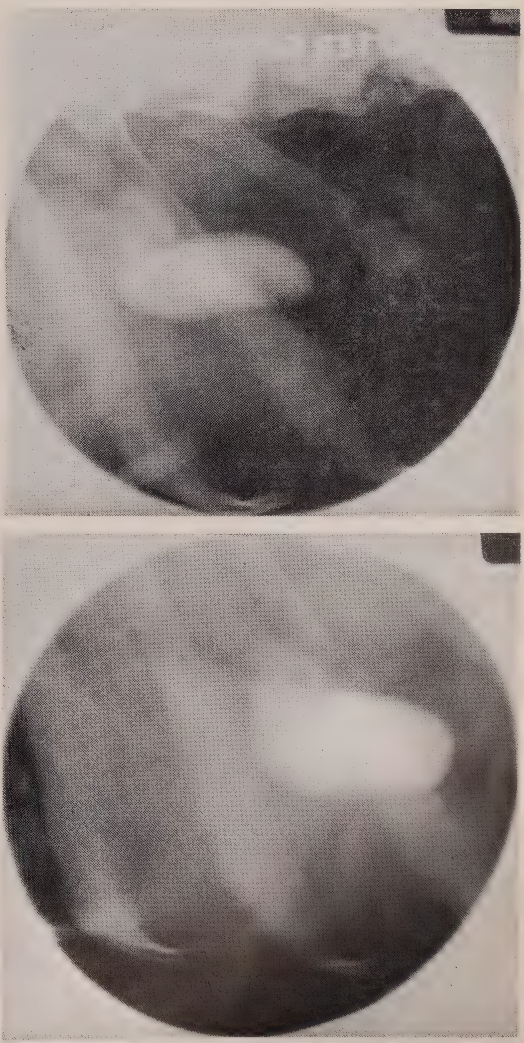

FIG. 1. Normal cholecystographic findings.

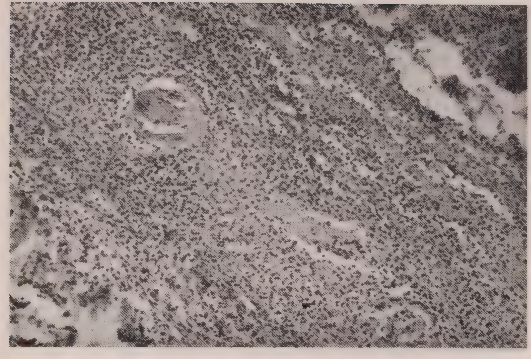

FIG. 2. Portion of gallbladder wall showing extensive gangrene and acute inflammation.

cases cannot really be interpreted as radiographic inaccuracies.

Case Report

L. T., a forty-six-year-old, white housewife, was admitted to the hospital on May 19, 1955, with a history of sudden onset, some thirty-six hours previously, of severe, right upper quadrant abdominal pain, nausea, vomiting, and a temperature of 101 F. In exploring her history further, it was discovered that although there had been no episodes of biliary colic, an oral cholecystogram had been taken seven months ago (October 13, 1954) because she had complained of upper abdominal discomfort and nausea. The radiologic findings at that time were as follows: "The gallbladder is not visible on direct study. There are no visible calculi in the region. Oral cholecystography reveals a gallbladder of average size which shows no evidence of calculi. The gallbladder functions slowly after a fatty test meal. Diagnosis: normal cholecystogram." (Fig. 1).

Shortly after hospital admission an injection of morphine sulfate, $^1/_4$ grain, was given but failed to relieve the pain. Physical examination showed an acutely ill, obese female with a temperature of 103.4 F. and a white blood cell count of 26,400 per cu. mm. with 89 per cent polymorphonuclear leukocytes. Urine was normal. The head, neck, and chest were found to be essentially normal. Abdominal examination revealed marked tenderness in the right upper quadrant with rectus muscle spasm and rigidity. The day after hospital admission a large, globular, tender mass measuring approximately 4 by 7 cm. was palpated in the right upper abdominal quadrant beneath the costal margin and extending in a lateral direction. Although a tentative diagnosis of acute cholecystitis was made, the knowledge of the previous normal cholecystogram led to the belief that the mass might be secondary to a perforating lesion of the hepatic flexure of the colon. In order to reach a conclusive diagnosis and thus proceed with appropriate therapy, another cholecystogram was taken. This revealed a nonvisualizing gallbladder which was interpreted as indicative of gallbladder disease.

The patient was placed on intensive antibiotic therapy and intravenous infusions of glucose for the next four days. Temperature subsided to 99 F., and much of the abdominal tenderness and rigidity disappeared, although the globular mass could still be felt distinctly. On May 25, 1955, a right subcostal incision 15 cm. long was made. On opening the abdominal cavity, an acutely inflamed, suppurative gallbladder with spotty areas of bluish-black gangrene was found. No calculi were palpable either within the gallbladder or within the cystic duct. The gallbladder was removed subserously from above downward with separate ligation and severance of the cystic artery and cystic duct. Hemostasis was obtained, and the abdomen was closed in layers after inserting two large cigaret drains.

The gallbladder specimen was opened and was found to contain greenish-brown pus but no calculi. Its interior surface was thoroughly inspected and showed several areas of ulceration of the mucosa and other areas of gangrene of the wall. The microscopic findings were extensive gangrene of the gallbladder wall with ulceration of the mucosa and suppuration (Fig. 2).

The patient made an excellent postoperative recovery and was discharged from the hospital with a normal temperature and a healing wound on the eleventh day after surgery. She has remained in good health to date with no symptoms referable to her biliary or gastrointestinal tracts.

Summary and Conclusions

1. A case of acute noncalculous cholecystitis in a woman with a normal cholecystogram taken seven months prior to surgery is reported.

2. Acute noncalculous cholecystitis is an infectious process which often affects those who have had no previous gallbladder symptoms or signs.

3. A previously normal cholecystogram does not preclude the possibility of an acute gallbladder infection. Cholecystographic findings coincide with operative findings in the vast majority of cases, but the exception is where an acute gallbladder infection develops.

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Bilateral Femoral Aneurysms

ALBERT LESSER, M.D., F.A.C.S., FOREST HILLS, NEW YORK

THIS case report of bilateral femoral arterial aneurysms is presented as being of probable clinical interest for the following reasons: (1) the extreme rarity, as indicated by the fact that up to 1948 (the latest publication on the subject) only nine such cases are recorded in the literature; (2) undoubtedly many more such cases exist but are unrecognized or unreported, and with progressive increase in over-all longevity more such cases will undoubtedly appear; (3) earlier recognition prior to formidable complications and institution of prompt definitive therapy should make feasible the salvage of limbs as well as life.

An additional interesting feature in this particular case is that the patient, a ninety-eight-year-old male, first came under the observation of the author three years ago at the age of ninety-five for acute abdominal surgery and then again three years later for the terminal condition of bilateral femoral aneurysm and complications. Autopsy examination of both lower extremities was obtained with an opportunity to examine and photograph the bilateral aneurysmal specimens.

Case Report

R. L., a ninety-eight-year-old male, had been ambulatory up until about August 1, 1954, despite the disability of cataracts, diabetes, almost complete blindness, chronic bronchitis, and asthma. At that time a painful swelling of the lower aspect of the right thigh was noted. This became progressively larger and more painful, with swelling of the entire right leg. It was also noted at about this time that there was a similar swelling in the left anterior thigh which, however, was not particularly painful and did not increase in size. There was no history of trauma.

When the patient was seen by me on August 22, the findings were as follows: There was a huge aneurysmal mass in the lower aspect of the right anterior thigh, apparently walled off by hematoma mass resulting from rupture of the aneurysm (Fig. 1). There was diffuse edema of the entire right leg. There was no popliteal, dorsalis pedis, or posterior tibial pulse, but the right foot was warm. In the left lower extremity there was a definite aneurysmal mass about the size of a small orange, apparently unruptured, with no evidence of swelling or edema of the leg (Fig.2). There was a good popliteal pulse, but the dorsalis pedis and posterior tibial pulses were not palpable. There was a definitely audible bruit over both aneurysmal masses. There was no evidence of venous enlargement or prominence in either lower extremity. Both iliofemoral pulsations in the groins were equal and of good quality. There was no evidence of any immediately impending pregangrenous changes in either foot. The patient presented a general clinical picture of exsanguination, undoubtedly the result of hemorrhage from the ruptured aneurysm into the soft tissues of the right lower extremity. Blood pressure was 165/100 and had been stationary at that level.

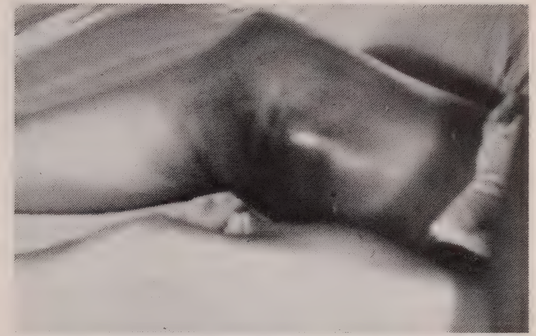

FIG. 1. Ruptured aneurysmal mass of right thigh.

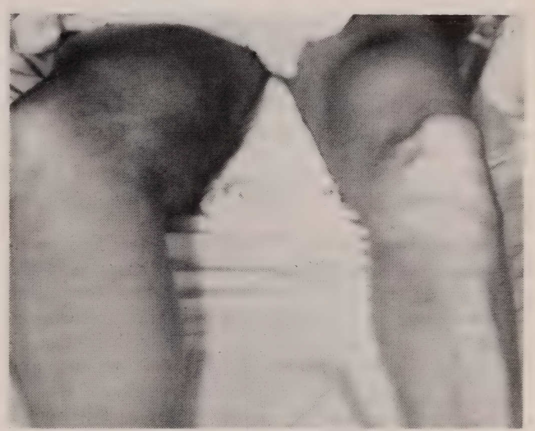

FIG. 2. Ruptured aneurysmal mass of right thigh and unruptured aneurysmal mass of left thigh.

The problem of immediate supportive and surgical therapy was discussed with the patient's daughter; she had definitely decided against any form of therapy. Patient's general condition deteriorated progressively, and he expired on September 1, 1954. At that time autopsy examination of both lower extremities was performed with the following findings:

Right lower extremity: In the lower third of the anteromesial aspect of the right thigh, beneath the fascia and the rectus femoris muscle, there was a large, fibrous sac about the size of a melon (Fig. 3). There were some necrotic areas in the wall of the sac, and it contained a great deal of liquid and clotted blood. This massive sac was found to be continuous with an opening in the aneurysmal mass (size of a small

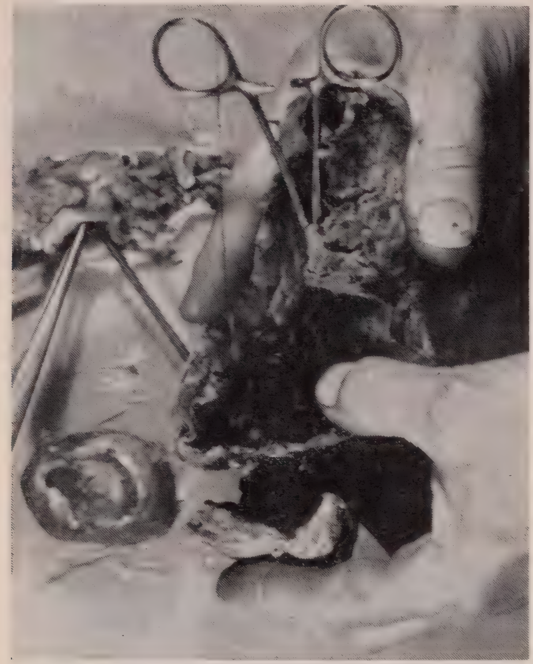

FIG. 3. Hands holding apart the laminated sac of hematoma mass. Clamp just below upper hand showing opening into aneurysm of right thigh. On the left, probe and forceps in opening of left femoral aneurysm.

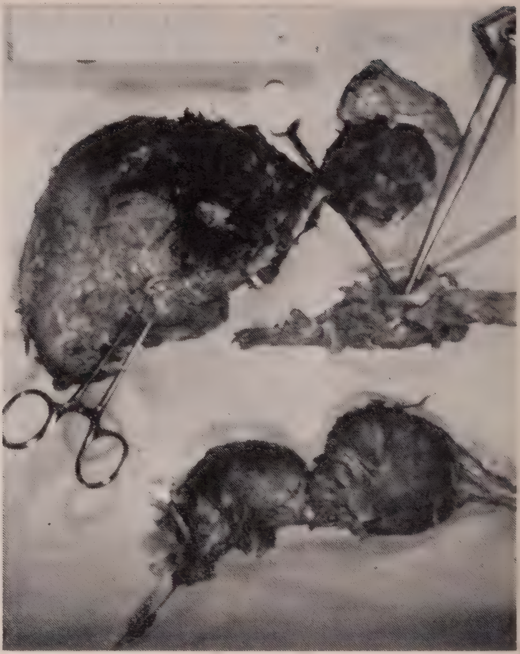

FIG. 4. On the top, similar views of hematoma mass and aneurysm of right thigh. On the bottom, the unruptured, biloculated aneurysmal mass from the left thigh.

orange) arising from the femoral artery. Reconstruction of the pathology indicated rupture of the femoral artery aneurysm with gradual formation of laminated false aneurysmal sac and preterminal rupture of the false aneurysmal sac with its associated complicating effects on the soft tissues and blood supply of the right lower extremity.

Left lower extremity: Lying beneath the rectus femoris muscle there was a fusiform or double bulging effect arising from the femoral artery, each bulging sacculation about the size of a small orange (Fig. 4). On further dissection there was found free communication of these sacculations with the femoral artery, but the aneurysmal sacs per se were intact.

Comment

As far as can be determined from the literature, this represents the tenth such case recorded. The common sites of such aneurysmal masses are the popliteal region and Scarpa's triangle, apparently as the result of progressive wasting of the overlying muscles in addition to the repeated trauma of bending at these sites. The more common susceptibility of the superficial femoral arteries to repeated irritation and trauma is borne out by the opinion of Matas[1] that aneurysms of the superficial femoral arteries occur ten times more frequently than those of the deep femoral arteries. The basic pathology of atherosclerosis is of course obvious. Progressive enlargement of such aneurysms very frequently occurs with few if any symptoms until such time as the increased size causes pressure on nerve, venous obstruction, thrombosis, or sudden shutdown of peripheral arterial blood supply.

As a rule diagnosis is fairly easily made on the basis of an expanding, pulsatile mass. The bruit and x-ray visualization of calcium at the outline of the aneurysmal mass are corroborative findings. Differentiation from arteriovenous fistula is usually made fairly readily on the basis of the multiplicity of the bruit, the thrill, the increased venous pressure, and the abnormally increased oxygen content in the blood of distended veins; all these latter findings characterize the arteriovenous fistula. Differential diagnosis from other regional tumor masses is usually not difficult, particularly with the awareness of the predisposition to aneurysmal masses in Scarpa's triangle and the popliteal region. Nevertheless, it is well to emphasize the importance of regular comparative examinations of the circulatory status of the extremities in all cases in which there is a cardiac or circulatory condition.

The problem of treatment does not usually present itself until such time as increasing pain, pressure on nerve, rapid increase in size, or rupture develops. Simple excision of the aneurysmal mass combined with proximal and distal ligation is still the procedure of choice and does not usually add to the embarrassment of the existing peripheral arterial circulation. In some instances lumbar sympathectomy might be an adjuvant procedure. Obliterative repair is usually not successful or advisable because of the extensive atherosclerotic disease process of the existing vessels and tributaries and, therefore, the small likelihood of bringing about an improved collateral circulation.

69-60 108TH STREET

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Embryoma of the Kidney

Case Report of a Fourteen-Year Cure

WILLIAM C. T. GAYNOR, M.D., F.A.C.S., AND WILLIAM C. L. DIEFENBACH, M.D., SOUTHAMPTON, NEW YORK

(*From the Departments of Surgery and Medicine, Southampton Hospital*)

THE first case of a renal embryoma was reported by Gardiner[1] in 1828 who called it fungus haemetoides of the kidney. It was not until 1872 that an accurate description of the tumor was given by Eberth.[1] The first operative attempt to cure an embryoma of the kidney was reported in 1879 by Huber[1] but was unsuccessful. Wilms[1] in 1899 in an excellent monograph first called attention to this malignant renal tumor, and since that time numerous articles have appeared proposing its derivation.

Embryoma of the kidney is relatively rare, comprising only 1.4 per cent of all tumors. In children, however, it comprises 20.4 per cent of neoplasms. Six per cent of all renal tumors are embryomas. The average age at onset is three years, but cases have been reported from prenatal infants to the age of seventy-five years. The earliest operative intervention was reported in a twenty-nine-day-old infant. Bilateral renal involvement has been reported. The tumors may range in size from 200 to 2,000 Gm. They arise within the kidney capsule and may occupy the entire side of the abdomen, displacing abdominal viscera.

The usual age of the patient precludes a good history, and early diagnosis is, therefore, usually not possible. A tumor mass is the most common initial finding and is followed by pain and hematuria. Fever is frequently present; hypertension has been reported, and gastrointestinal symptoms may occur. The presenting mass must be differentiated from hydronephrosis, pyonephrosis, solitary cysts, polycystic kidney, retroperitoneal lymphadenopathy, splenomegaly, ovarian cysts, psoas abscess, and pancreatic or hepatic cysts or tumors. Pyelographic roentgenography is most useful in establishing the diagnosis of a renal tumor. Malignant cells may be demonstrated in the urine.

Since first reported by Huber in 1879, nephrectomy has been the procedure of choice. Because of the high operative mortality and rare five-year survival x-ray therapy has found many advocates. There are those who prefer x-ray therapy alone and those who prefer surgery with preoperative and/or postoperative radiation. At the present time most urologists favor surgery followed by x-ray or, in the case of large tumors, preoperative x-ray followed by nephrectomy and radiotherapy. The incision is a matter of choice and may be either transperitoneal or lumbar. There are few malignant tumors which present as dismal a prognosis as an embryoma of the kidney. In fact, Cabot[2] has described it as shockingly small. The number of five-year survivals are few; up to 1947 only 23 cures had been reported.

Three main theories have been advanced for the derivation of embryoma of the kidney: (1) from aberrant germplasm, (2) from the Wolffian body, and (3) from the nephrotoma. Microscopically, the tumor tissue comprises all the renal elements. The neoplasm is composed predominantly of an embryonic renal tissue which constitutes the bulk of the tumor and surrounds clumps of epithelial cells and tubules in all stages of formation. There are connective tissue elements, and striated and nonstriated muscle fibers may be present.

Case Report

On August 10, 1942, V. F., a twenty-six-month-old, female, Negro infant, was admitted to the Southampton Hospital. Three months before admission her mother had noticed a mass in the left upper quadrant of the abdomen which had increased progressively in size. When urinary frequency began, the infant was brought to the hospital. On physical examination there was a large, round, firm, movable mass in the left upper quadrant which extended into the pelvis and to the umbilicus.

An intravenous pyelogram revealed a large soft tissue mass which practically occupied the entire left side of the abdomen and extended from the left costal margin to the crest of the ilium. The psoas muscle shadow was obliterated. The upper end of the left ureter and part of the pelvis were faintly outlined. The calyces and pelvis of the right kidney and right ureter appeared to be normal. The preoperative clinical diagnosis was an embryoma of the left kidney.

Under general anesthesia a 10-cm. lumbar incision was made. The large kidney tumor mass was exposed and was found to be densely adherent to the peritoneum anteriorly. The pedicle was carefully isolated and doubly tied and the mass removed in toto.

Postoperatively the patient did very well. The wound healed normally, and the infant returned home in three weeks.

The gross pathologic specimen weighed 260 Gm. and measured 7.5 by 11 cm. The smooth capsule was intact, and through it a large, bulging, reddish mass was seen. On cut surface this was yellowish gray in color, sharply circumscribed, and composed of tissue of brainlike consistency. The normal-appearing kidney tissue at one pole measured 2.5 cm., and the cortex with distinct cortical markings measured 5 cm. in thickness. The renal pelvis and segment of ureter appeared normal grossly, and the renal vein was patent.

Multiple microscopic sections revealed a very cellular tissue which in some areas was composed of spindle cells, the nuclei of which were large and hyperchromatic and with scant cytoplasm. Small groups of cells showed definite tubular formation, and in other focal areas there were groups of cells so arranged as to suggest glomeruli. The pathologic diagnosis was embryoma or Wilms tumor of the left kidney.

The patient has been followed very carefully for the past fourteen years and has failed to reveal any recurrence of the growth. An intravenous pyelogram taken ten years after nephrectomy showed a well-functioning but large remaining kidney. The patient has developed normally physically and mentally and appears well in every respect. It is reasonable to assume, therefore, that in this patient a cure was achieved.

Summary

1. A case is reported of a fourteen-year cure of an embryoma of the kidney which was treated successfully by nephrectomy alone.
2. Since the number of five-year survivals of a renal embryoma is exceedingly small, all such survivals should be reported if future progress in handling this disease is to be achieved.
3. Early nephrectomy offers the best hope of cure. Preoperative and postoperative irradiation is still controversial.

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Blue Shield Payments for Professional Courtesy

Medical Economics reported in the January issue that "more and more doctors are weary of giving bottles of Scotch and objects d'art in recognition of major medical services from their colleagues. They feel that the whole concept of professional courtesy is awkward for both the giver and the recipient." As a result, "doctors in many areas are taking out Blue Shield policies that cover all in-hospital medical and surgical care, as well as some outpatient work, for themselves and their families." One group of doctors which have done this resides in Mercer County, New Jersey—"216 of the (county) society's 325 members have society-sponsored coverage."

"The important thing," one Trenton doctor told the magazine, "is that Blue Shield takes care of the big obligations. They're the ones that used to embarrass us."

One practitioner said: "For one thing, it gives us a freer choice of physicians, since we no longer hesitate to employ colleagues to whom we rarely refer patients. For another, it means an actual saving of money."

SPECIAL ARTICLES

Employment Problems Affecting the Cardiac

IRVIN KLEIN, M.D., NEW YORK CITY

(From the Workmen's Compensation Board of New York State and the Work Classification Unit, Cardiac Clinic, Bellevue Hospital)

REHABILITATION has assumed its proper place in medical care in the past decade. As a result of the great increase in diseases of the heart due to the prolongation of the life span, rehabilitation now plays an essential part in the care of the cardiac. Although many cases are "cured" clinically, the fear of heart disease is so deeply ingrained that even these patients hesitate to return to work. Some may engage in lighter work at which their particular skills are not required. Most do very little. Idleness adds a mountain of introspective fears, which further delay their recovery and impair their usefulness.

It is for these patients that vocational rehabilitation is essential. It is these individuals whom employers are urged to hire under the relative protection of certain sections of the Workmen's Compensation Law. It is for these persons that many suitable jobs can be found in industry.

No one can question the wisdom of enabling persons affected by heart disease to obtain adequate employment or of encouraging industry to employ them at work suited to their physical capabilities. It is most important that all whom the problem affects—the partially disabled worker, the employer, the physician—be cognizant of it and seek its solution.

What can be accomplished by rehabilitation should be clearly stated. How it can be accomplished, what facilities are now available for its accomplishment, and what additional facilities are needed should be made publicly known.

The mental, social, and educational background of each cardiac patient must be considered, as well as his home environment and the work done prior to his illness. Special consideration must be given to younger people who have had no work experience because of their illness. Adequate advice, based on a technical knowledge of job requirements and on a careful consideration of the patient's eventual working capacity, must be offered early enough in each case, so that the basic vocational training may be channeled in the right direction. Retraining later is much more difficult and often proves to be beyond the capacity of the patient. In many cases a judicious approach at the outset may yield a satisfactory solution which may serve for the remainder of the patient's working life. However, the patient must be made to understand the entire plan at its inception, so that he will fully accept the program suggested and wholeheartedly cooperate in its fulfillment.

Frequently, in selected cases psychologic testing may give an accurate evaluation of the individual's personality and present aptitudes. With the help of this information and after an exhaustive study of all the effective medical factors, the physician is often able to arrive at a more accurate prognosis and to offer more suitable vocational advice.

Industry should be encouraged to hire partially disabled workers. It has a right to look to government, labor, personnel experts, and physicians for advice and guidance in the employment of the handicapped cardiac. Since in the final analysis industry is accepting the responsibility for the employment of the partially disabled, it should receive the unstinted aid of those who are trained to give it.

The cardiac, having been readied for a selected position, must be "sold" to industry as an acceptable and useful individual. Failing in this, all efforts and plans for the employment of the partially disabled will be wasted and the effect on the handicapped and society devastating.

Government makes its contribution, too. Laws have been enacted which give relative protection to employers who engage known cardiacs, without diminishing the protection afforded the employe or lessening the incentive of the employer to seek new methods for the prevention of accidents or occupational diseases. Hitherto, employers have considered it dangerous to hire cardiacs, at least from the compensation point of view. The Second Injury Law has reduced the employer's responsibility for compensation in some instances when permanently partially disabled workers are again injured in the course of their employment.

A clear understanding of this significant financial inducement to industry to engage partially disabled workers is important. Every effort must be made to acquaint both workers and potential employers with the Second Injury Law. Having a knowledge of the relative protection which the law affords, employers may manifest greater willingness to hire partially disabled experienced workers and thus reduce costly labor turnover. The large industries employ experienced lay personnel and specially trained physicians who can make accurate job analyses and suggest proper placement of disabled workers. Their work reports are good. They are apparently eager to do as well as healthy employes. Within their scope their work is often even better than that of their associates. Their time record is at least as good as that of their healthy coworkers.

Labor, whose interest is obviously to procure as many jobs for as many workingmen at as high a salary as is possible, should recognize the problems which confront the disabled worker and cooperate in his re-education and re-employment. The sheltered workshop, as an example, must be permitted to operate under conditions less stringent than those controlling regular employes and at salaries smaller than those paid for similar work in regular industry. The work of such special groups, which have heretofore been considered unemployable, is not only beneficial to those so employed but is also a boon to society.

The Second Injury Law was enacted in 1945. It superseded a 1944 law which, because of its complex requirements, was difficult to administer and a still earlier 1916 law which was of limited scope. In clear and unambiguous language the Legislature stated the purposes of the law:

> "First: That every person in this State who works for a living is entitled to a reasonable opportunity to maintain his independence and self-respect through self-support, even after he has been physically handicapped by injury or disease.
>
> "Second: That any plan which will reasonably, equitably and practically operate to break down hindrances and remove obstacles to the employment of partially disabled persons honorably discharged from our armed forces or any other physically handicapped persons is of vital importance to the State and its people and is of concern to this Legislature.
>
> "Third: That it is the considered judgment of this Legislature that the system embodied in this subdivision, which makes a logical and equitable adjustment of the liability under the Workmen's Compensation Law which an employer must assume in hiring employes, constitutes a practical and reasonable approach to a solution of the problem for the employment of physically handicapped persons."

Under the Second Injury Law the employer of a permanently partially disabled workman has only a limited direct financial responsibility if the handicapped worker should be further injured or disabled. At most the employer or his insurance carrier is liable for compensation benefits and medical care for only one hundred and four weeks. If the disability continues beyond one hundred and four weeks or if prolonged medical treatment is necessary, payments are made by a Special Fund. Thus, the serious consequences of work accidents to the physically handicapped do not materially affect the employer's workmen's compensation experience and do not increase his insurance costs. It may truly be said that the effect of the New York law is to save money for employers who hire the physically handicapped at the expense of employers who do not, through the device of spreading the workmen's compensation risk. That is sound social policy. The aim of the Second Injury Law is so precise and its application so simple that it appeals alike to employers and employes.

Having been hired for a job, whether it be easy or hard, whether at the work for which he has been trained or not, whether it be full or part-time, the employe's interest in the Second Injury Law ends. For him its purpose has been served. He has found a job. The same medical, surgical, and compensation benefits are provided as if he were not physically handicapped. The physically handicapped in New York State do not have to waive any rights in order to obtain employment.

The employer who has given a job to a physically handicapped worker is protected by the law against all liability (in excess of that for the first one hundred and four weeks) if the combined permanent disability, resulting from both the pre-existing condition and the second injury, is substantially greater than the permanent disability resulting from the second injury alone. The employer or his insurance carrier bears the direct cost of medical expenses and compensation benefits for not more than the first one hundred and four weeks. All further payments are the obligation of the Special Fund.

The significant provisions of the Second Injury Law are clearly stated. In order that the law may be applicable to a given case, all of the following five conditions must be satisfied:

1. The previous handicap must be a permanent physical condition, serious enough to be or likely to be a limiting handicap to employment. It may be a previous workmen's compensation injury but not necessarily. It may be a disablement as a result of accident or disease or a congenital condition.

2. The employer must have knowledge of the previous permanent physical handicap of the employe. This knowledge is basic to the employment decision.

3. The "second injury" must be caused by an accident that arises out of and in the course of employment or by an occupational disease, causing disability (or death) for which the employer is required to provide benefits under the compensation law.

4. The disability resulting from the "second injury" must be permanent and materially and substantially greater because of the previous handicap than the disability which would be caused by the "second injury" alone. Should this combined disability exceed one hundred and four weeks, the employer may seek reimbursement from the Special Fund. It does not matter whether the "second injury" results in partial permanent disability, total permanent disability, or death. If the disability is merely temporary, however, the case does not come within the Second Injury Law.

5. In all Second Injury Law cases a claim for reimbursement must be filed by the employer or by the carrier in his behalf not later than one hundred and four weeks after the disability from the "second injury" begins and in any case before a finding has been made by the Workmen's Compensation Board or referee that the second disability is permanent. Should the employer neglect to file his claim to charge the case to the Special Fund until after the finding of permanency has been made or until after one hundred and four weeks have elapsed, the liability will not pass to the Special Fund. It will remain with the employer or carrier.

The physician's role in helping to solve the problem of employment of the cardiac is great. He, above all, must consider all the factors involved—the worker, the disease, the job—and his conclusion must suit them all. He must use his wide medical knowledge and his understanding of people and their problems in order to give wise advice to those who seek it. In this instance he deals not only with his patient but also with government, law, industry, labor, welfare workers, educational centers, and many others. On him falls the burden of determining the exact diagnosis[1] and the patient's functional capacity. If these cannot be accurately established, all comes to naught, for no further progress can be made.

The diagnosis and functional capacity having been determined, the physician's first task is to restore the patient's confidence in his ability to do some work, if that is possible. He must be made to feel that he is not a total invalid, that his abilities and his experiences are still of importance and still in demand, that he is still a useful and independent person, still able to rely on himself for all or a portion of his livelihood.

Hitherto, the patient has been told what he could not do. He was rarely told what he *could* do. This error has been immensely damaging. Of course, the patient could have sought the advice of health agencies or of a heart work classification unit, where his work ability could be determined. For almost fifteen years such a unit has been operating at Bellevue Hospital in New York City. A large experience has been gathered there, and many cases have been examined and analyzed.[2] Many of the patients were advised to retain their old positions; many more were placed in suitable industries, and many others were vocationally rehabilitated.

The sheltered workshop too is a well established means for restoring the patient's self-confidence and, possibly, for educating him in a new field of work. The physician today may avail himself of these aids, so that the partially disabled patient may be reassured and industry may make use of his skills and experiences. If the physician has the patient's confidence and stimulates his desire to become a responsible, independent, and useful member of society, removed from the danger of becoming a public charge, he may avail himself of the willing aid of many in governmental and private agencies who are very eager to help find suitable work for disabled cardiacs.

It is apparent that great personal and financial advantages accrue to the partially disabled cardiac when he is given work suitable to his capacities. It is apparent too that the employer, without undue financial risk, reaps the benefit of the years of skill and experience which the cardiac brings to his tasks. The general welfare too is best served when this partially disabled, skilled, and experienced segment of the population is rehabilitated and again employed.

9 East 9th Street

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That man is by no means poor, who has the use of everything he wants. If it is well with your belly, your back, and your feet, regal wealth can add nothing greater.—Horace

New York State Medical Legislation, 1956

HAROLD B. SMITH, M.D., ALBANY, NEW YORK

(*Executive Officer, Medical Society of the State of New York*)

THE results of the Medical Society's 1955–1956 legislation program are reasonably good. Two bills sponsored by the Medical Society at the recent session now are Chapters 897 and 921 of the Laws of 1956.

Chapter 897 amends section 50-d of the General Municipal Law to extend malpractice indemnity to any physician rendering services to a patient in a municipal hospital without receiving pay from the patient. The principal effect of the amendment is to include a physician who receives pay for his services from the municipality within the protection of the section.

Chapter 921 amends subdivision 2, section 13-g of the Workmen's Compensation Law to place the arbitration of a workmen's compensation medical fee with the arbitration committee for the county in which the services were rendered instead of the committee for the county where the workman resides. The change serves the convenience of the physician.

The 1956 law of greatest significance to the medical profession is Chapter 461, the Metcalf State employe health insurance law. Under this law there is created in the department of civil service a temporary health insurance board consisting of eight members, four appointed by the Governor, two by the Majority Leader of the Senate, and two by the Speaker of the Assembly. The board has the duty of selecting hospital and medical insurance for state employes and their dependents, and in carrying out its function it well may establish patterns and give impetus to trends in the health insurance field which will have far-reaching effects.

The psychologist certification law, contained in Chapter 737, defines and gives official recognition to a relatively new professional group. The law permits only a certified person to practice under the designation "psychologist" but does not prevent any person from practicing what actually is psychology under some other designation.

Workmen's compensation medical reports now must be furnished to a claimant's licensed representative or attorney on written request accompanied by notice of retainer and the signed consent of the claimant, pursuant to the provisions of Chapter 361.

A physician prescribing amphetamine and its derivatives will do well to advise a patient to carry the drug in the dispensing container. Otherwise the patient may, in ignorance of the law, violate Chapter 644 and be guilty of a misdemeanor.

Proprietary hospitals, pursuant to Chapter 301, now are permitted to employ under supervision an unlicensed physician who has been issued a certificate stating that he is eligible for the State licensing examination. The chapter further provides that only licensed physicians may operate hospitals for profit, except for such hospitals as were in operation and licensed pursuant to any law or approved by the State Department of Social Welfare on the day the law became effective.

"Eye exercises," which for many years has been contained in the definition of the scope of optometry, are further defined by Chapter 872 as also being termed "orthoptics, visual training, or vision training or eye training." The counsel for the State Education Department states that the amendment in no way changes the status of unlicensed orthoptic technicians employed under medical supervision. It is hoped that the status of ophthalmologic technicians generally will be clarified during the next year.

The interdepartmental health resources board, created by Chapter 191, consists of the commissioners of correction, education, health, labor, mental hygiene, and social welfare and the chairmen of the division of parole and workmen's compensation board and the administrative director of the joint hospital survey and planning commission. It will have its own administrative personnel and help initiate programs which require joint planning by various departments.

A decrease in the need for tuberculosis hospitals is evidenced by Chapter 109, which authorizes the sale of Biggs Memorial Hospital by the State of New York to Tompkins County, which will use it for general hospital purposes, and Chapter 862 which permits county tuberculosis hospitals to admit for study and care persons with chronic nontuberculous diseases of the chest.

Geriatrics received special attention this year. Chapter 821 establishes a Bureau of Geriatrics within the State Health Department, and Chapter 846 creates the position of consultant on services for the aged within the Mental Hygiene Department.

Summaries of 44 laws of 1956 of medical interest, including those mentioned above, appear below. A reader might find other legislation of interest to him personally in that list.

Thanks are due to many persons in the executive and legislative branches of the State government who have worked for sound health and medical legislation and particularly to those legislators who introduced bills at the request of the Society. Special expressions of appreciation are due to Assemblywoman Genesta M. Strong of Nassau County, chairman of the Assembly Public Health Committee, for laboring so earnestly and well for good health legislation, and to Senator Francis J. McCaffrey, of the Bronx, who for six years sought and finally succeeded in obtaining a liberalizing amendment to the municipal hospital malpractice indemnity law. Senator Curry and Assemblymen Eggert and McDonnell also played important and much appreciated parts in obtaining the enactment into law of Medical Society-sponsored bills.

Laws of 1956 of Medical Interest

Chapter 23 (Assembly Intro. 939; Pr. 954; Barrett).—Repeals Social Welfare Law section 186(4), which reads "The department may employ, to serve during its pleasure, competent physicians to attend upon or administer to the needs of the sick and dependent Indians on the reservations. Salaries of such physicians shall be fixed by the department and paid from the funds appropriated for maintenance of State and Indian needy."

Chapter 30 (Assembly Intro. 218; Pr. 218; Barrett).—Adds Mental Hygiene Law Article 6-A to enact into law an interstate compact on mental health with other states joining therein. Provides for institutional care of person physically in State irrespective of his residence or citizenship, transfer of any patient and his records to an institution in another state, and apprehension of escapees from other states.

Chapter 72 (Senate Intro. 919; Pr. 961; Mackell).—Amends Mental Hygiene Law section 72, relating to admission to State hospitals except Matteawan and Danemora and to licensed private institutions for the mentally ill. Changes reference from "a certified examiner" to "an examining physician." Provides that request for admission based upon personal examination by a county commissioner of health, health officer, or the designee of either of them shall be filed with the director or physician in charge of the hospital instead of merely "at the hospital." Eliminates provision relating to twenty-four-hour period during which veteran's facility may detain patient without complying with section. Provides "The county commissioner of health, health officer or the designee of either of them shall be authorized and empowered to take into custody, detain, transport and provide temporary care for any such person (one dangerous to himself or others and who needs immediate care and treatment because of mental derangement other than drug addiction or drunkenness). Upon the written request of a county commissioner of health, health officer or the designee of either of them, it shall be the duty of peace officers of the town, village and city maintaining a police department organized pursuant to the laws of this state to take into custody any such person as requested and directed by such county commissioner of health, health officer or the designee of either of them." Provides that county commissioner of health, etc., on the written recommendation of the director or physician in charge that such patient is in need of continued care and treatment in an institution shall cause patient to be examined by one or two examining physicians for consideration of admission pursuant to section 73 or section 74 of the Mental Hygiene Law or for determination that the patient is not mentally ill and should be immediately released.

Chapter 73 (Senate Intro. 821; Pr. 863; Milmoe).—Amends Public Health Law section 1242(2) to strike out provision contained therein for the enforcement of an order of the Water Pollution Control Board.

Chapter 99 (Assembly Intro. 1899; Pr. 1972; Lentol).—Amends Public Health Law section 621 to provide that Commissioner of Health shall fix date and form for submitting information with respect to application for State aid to county or city for laboratory services.

Chapter 109 (Senate Intro. 505; Pr. 508; Metcalf).—Authorizes Commissioner of Health to convey to Tompkins County, without consideration and upon such terms and conditions as may be recommended by the director of the budget, for use as a general hospital and other public health purposes, all the land and buildings now owned and operated by the State of New York as the Herman M. Biggs Memorial Hospital in Tompkins County. (The hospital is a State tuberculosis hospital.)

Chapter 153 (Assembly Intro. 1713; Pr. 1754; Waters).—Repeals paragraph of Education Law 6506(5) which reads: "The degree of bachelor or doctor of medicine shall not be conferred in this state before the candidate has filed with the institution conferring it the certificate of the department that before beginning the first annual medical course counted toward the degree, he had earned a medical student qualifying certificate in accordance with the rules of the department."

Chapter 157 (Assembly Intro. 1922; Pr. 1995; Mrs. Strong).—Amends Public Health Law section 320(1) to except from provisions relating to appointment of health officer of a municipality those boards of health within the area of a county or part county health district.

Chapter 184 (Assembly Intro. 1988; Pr. 2063; Peet).—Amends Public Health Law sections 2221, 2222, 2227 relating to tuberculosis control by repealing section 2221(1) providing, "It shall be the duty of every local health officer to cause all reports made pursuant to law concerning persons having tuberculosis, and also all results of examinations, showing the presence of the bacilli of tuberculosis, made in accordance with the provisions of section two thousand two hundred twenty of this chapter, to be recorded in a register, of which he shall be custodian." Adds provision that reports of tuberculosis patients made pursuant to law and the sanitary code and also records of examinations of such patients shall not be open to inspection by any person other than the health authorities of the State and of the local health district, and said health authorities shall not permit any such report or record to be divulged so as to disclose the identity of the person to whom it relates, except as may be authorized in the sanitary code. Amends section 2222 to include State district health officer with local health officer in provisions stating that it shall be their duty, if there be no attending physician, to take precautions with respect to persons exposed to tuberculous persons in the same household. Amends section 2227 by repealing present subdivisions (1) and (2) relating to the disinfection of premises occupied by tuberculous persons, leaving this subject matter to the sanitary code.

Chapter 191 (Assembly Intro. 3044; Pr. 3265).—As declaration of intent states: "In order to make possible joint and mutual planning and action by several state departments and boards in regard to health and mental health problems of the people of this state which are of direct concern to more than one of the departments of state government, there is hereby created a state board to be known as the interdepartmental health resources board." It shall consist of the commissioners of correction, education, health, labor, mental hygiene, and social welfare, the chairman of the division of parole and the workmen's compensation board, and the administrative director of the joint hospital survey and planning commission with chairman to be elected annually by the members. Sets forth power and duties of board and states that the board may employ an executive director and such expert and clerical assistants as it deems necessary and may fix their compensation within the amounts made available by appropriation.

Chapter 225 (Assembly Intro. 2194; Pr. 2308).—Education Law section 211(1) amended to provide: "The regents may in their discretion suspend the execution of a determination of censure and reprimand or suspension or revocation of the license of a practitioner and place such practitioner on probation subject to his compliance with conditions which the regents may determine."

Chapter 230 (Assembly Intro. 2507; Pr. 2643).—Amends Public Health Law Section 3301(22) to remove from the list of "exempt narcotic preparations" compounds of narcotics which contain not more than one eighth of heroin or any of its salts.

Chapter 241 (Assembly Intro. 2149; Pr. 2243; Hatch).—Adds Optional County Government Law section 1017-b to provide for the establishment and operation of a department of mental hygiene (in Monroe County).

Chapter 242 (Assembly Intro. 30; Pr. 3660; Hughes).—Amends Mental Hygiene Law section 121 to make it permissive rather than mandatory that commissioner of mental hygiene discontinue Syracuse State School for mental defectives. Provides that existing facilities for the care, training, and custody of children, located at Fairmount, may be continued, expanded, and improved.

Chapter 281 (Assembly Intro. 1998; Pr. 2073; Suthergreen).—Amends Public Health Law section 340(1,2) in relation to establishment of county or part-county health districts to provide for majority consent instead of consent by common council and supervisors representing rest of county.

Chapter 286 (Assembly Intro. 1096; Pr. 1111; Russo).—An act authorizing and empowering the interstate sanitation commission to make a study of smoke and air pollution and repealing similar prior acts.

Chapter 288 (Senate Intro. 779; Pr. 4042; McCullough).—Amends Tax Law section 360(15) relating to personal income tax deduction for medical expenses. Expressly includes as a medical expense amounts paid for transportation primarily for and essential to medical care. Makes allowable deduction amount that expense exceeds 3 per cent of net income which does not exceed $6,000 plus 5 per cent of net income in excess of $6,000 subject to certain maximums. Maximum deduction in case of husband and wife filing joint return or a head of a family filing a separate return is $2,500 and in case of other taxpayers is $1,250. In case individual is sixty-five or older or is blind, maximum deduction applies, but $6,000 limit does not apply.

Chapter 292 (Assembly Intro. 2881; Pr. 3060; Ingalls).—Amends General Municipal Law section 122-b(1) to permit a municipality to contract with another municipality to provide ambulance services.

Chapter 301 (Assembly Intro. 2216; Pr. 2330; Dwyer).—Amends Education Law section 6512(b) to provide in part, "Nothing herein contained shall prevent the practice of medicine by an unlicensed physician employed by a proprietary hospital licensed pursuant to any law or approved by the state department of social welfare, who is in possession of a certificate issued by the department upon payment of a fee of ten dollars certifying that he is eligible for admission to the medical licensing examination, provided he is under the supervision of a duly licensed physician who is employed full time in residence by such hospital." Adds Social Welfare Law section 35-b to provide, "Operation of private hospitals for profit. Only physicians duly licensed by the state department of education and partnerships of such physicians may operate hospitals for profit, except such hospitals as are in operation on the date this section takes effect which are licensed pursuant to any law or are approved by the state department of social welfare." Makes certain other minor changes in Education Law.

Chapter 343 (Assembly Intro. 579; Pr. 581; DeSalvio).—Adds Mental Hygiene Law section 7(14) to provide that the commissioner may designate employes of the department to act as escape officers with respect to escapees from institutions in New York City.

Chapter 347 (Senate Intro. 1667; Pr. 1793; Brydges).—Amends Education Law Section 4206 to include Lavelle School for the Blind in the City of New York as a place where pupils may be appointed pursuant to this section of law.

Chapter 351 (Assembly Intro. 561; Pr. 563; Mrs. Strong).—Amends Mental Hygiene Law Sections 71, 122 with respect to voluntary admission to mental institutions to change the age of consent from twenty-one to eighteen years.

Chapter 352 (Assembly Intro. 2621; Pr. 4111; Calli).—Amends Education Law section 6512(1-b) to provide that a temporary certificate permitting a person to practice as a resident in a hospital may be issued to a graduate of a registered medical school of Canada who has been granted the degree of bachelor or doctor of medicine from such school and who meets all the requirements for admission to the State medical licensing examination except the requirement of declaration of intention to become a citizen.

Chapter 361 (Assembly Intro. 2848; Pr. 3027; Walmsley).—Adds Workmen's Compensation Law section 13(e) to provide: "Copies of medical reports of claimant's attending physician or medical consultant, made pursuant to this chapter, shall be transmitted by the physician or consultant to the claimant's licensed representative or attorney representing the claimant before the board upon his written request therefor accompanied by a notice of his retainer and consent to such transmittal signed by the claimant." Makes failure to supply reports grounds for revoking right to treat compensation cases.

Chapter 383 (Senate Intro. 2408; Pr. 3835; Cuite).—Amends Education Law section 6508 to reduce number of medical licensing examinations from three to two annually.

Chapter 392 (Senate Intro. 633; Pr. 655; Van Lare).—Amends the Optional County Government Law (applying to Monroe County) by amending section 1017-a(1) to provide that the health activities of a county or part-county health district shall be administered by a county or part-county department of health and that the county health director shall be administrative head of county department of health.

Chapter 461 (Senate Intro. 928; Pr. 4189; Metcalf).—Adds Civil Service Law Article 7 entitled health insurance for State and retired State employes. Creates a temporary health insurance board consisting of eight members, four to be appointed by the Governor, two by the Majority Leader of the Senate, and two by the Speaker of the Assembly. The board, subject to the provisions of the article, is empowered to establish regulations relating to eligibility, terms, and conditions of the insurance contract or contracts, the purchase of subject contract or contracts, and the administration of the health insurance plan. The President of the Civil Service Commission with the approval of the board is authorized and directed to establish a health insurance plan for State officers and employes and their dependents providing for group hospitalization, surgical and medical insurance against the financial costs of hospitalization, surgery, medical treatment, and care, including prescribed drugs, medicines, prosthetic appliances, hospital inpatient and outpatient service benefits, and medical expense and indemnity benefits. Under the law the insurance contract or contracts may be with any commercial or voluntary insurance company licensed to do business within the State.

Chapter 526 (Senate Intro. 1996; Pr. 2917; Hughes).—Amends Penal Law section 1751 to increase the minimum sentences for narcotic drug violation and changes provisions relating to presumption arising from possession of certain quantities thereof and fixes indeterminate term for conviction of attempt to commit a violation of the law.

Chapter 644 (Assembly Intro. 2441; Pr. 4561; Miss Marlatt).—Adds Penal Law section 1747-c in relation to the sale or possession of amphetamine or its derivatives. Of particular interest to practitioners of medicine is the provision that requires persons who obtain amphetamine or any of its derivatives on the prescription of a duly licensed physician must carry such amphetamine in the pharmacist's original or renewed prescription container or the practitioner's dispensing container, which container shall bear a label meeting all the label requirements of the laws relating to the labeling of amphetamine. Violation is treated as a misdemeanor.

Chapter 715 (Assembly Intro. 1712; Pr. 1753; Waters).—Strikes from Education Law section 6506(4) provision, "The department may accept as the equivalent for any part of the third and fourth requirement, evidence of five or more years' reputable practice, provided that such substitution be specified in the license, and, as the equivalent of the first year of the fourth requirement, evidence of graduation from a registered college course, provided that such college course shall have included not less than the minimum requirements prescribed by the department for such admission to advanced standing."

Chapter 737 (Senate Intro. 3239; Pr. 4087; Van Wiggeren).—Adds Education Law Article 153 to provide for the certification of psychologists. The law provides in part, "A person represents himself to be a "psychologist" when he holds himself out to the public by any title or description of services incorporating the words "psychological," "psychologist" or "psychology," and under such title or description offers to render or renders services to individuals, corporations, or the public for remuneration. . . . After July first, nineteen hundred fifty-seven no individual shall represent himself as a psychologist within the meaning of this act other than those certified and registered under the provisions of this act."

Chapter 812 (Assembly Intro. 3910; Pr. 4595; Rules Committee).—Authorizes the mental hygiene commission or mental hygiene department to formulate an experimental program in two pilot diagnostic and parent counseling centers for mentally retarded children, one being in New York City and one in the central part of the State. Provides a $90,000 appropriation.

Chapter 821 (Senate Intro. 3387; Pr. 4167; Rules Committee).—Adds Public Health Law Article 27 which establishes a bureau of chronic disease and geriatrics within the department of health. Purposes and functions of the bureau are as follows:

1. Plan public health programs to aid in the prevention, rehabilitation, and control of degenerative diseases and chronic illnesses.

2. Develop a program for integrating community and institutional agencies and facilities and for utilization of geriatric technics to provide a comprehensive program of prevention, rehabilitation, and control of degenerative diseases and chronic illnesses.

3. Develop a plan for periodic health inventories for the middle-aged and elderly.

4. Explore possibilities of reducing cost and improving care of the chronically ill through use of noninstitutional as well as institutional facilities.

5. Develop laboratory, clinical, and statistical research on chronic disease and health problems of older people in consultation with the State Medical Society and other agencies, including the State Department of Mental Hygiene and the State University of New York.

6. Carry on programs of professional education and training of medical students, physicians, and nurses in the prevention, rehabilitation, medical and nursing care of diseases of older people.

7. Plan and carry out programs to stimulate the prevention, rehabilitation, and control of chronic illnesses and the promotion of the health of adult, middle-aged, and older persons through "day hospital" and a "meals on wheels" demonstration projects.

Appropriates $100,000.

Chapter 846 (Senate Intro. 3449; Pr. 4175; Rules Committee).—Adds Mental Hygiene Law section 3-a to provide for a consultant on services for the aged within the mental hygiene department. The consultant under the direction of the commissioner shall:

(*a*) Develop plans for care of senile psychotics in new-type facilities, such as psychiatric nursing homes, cottage-type facilities, geriatric wards, old age homesteads, and old age homes within and without institutions of the department.

(*b*) Develop plans for care of aged persons who, while nonpsychotic, may need some measure of psychiatric supervision or assistance in new-type facilities, such as psychiatric nursing homes, cottage-type facilities, geriatric wards, old age homesteads, and old age homes within and without institutions of the department.

(*c*) Arrange for the conducting of experimental pilot projects in care of harmless aged who need some measure of psychiatric supervision or assistance, in nursing homes and old age homes.

(*d*) Develop plans for admission of harmless aged who need some measure of psychiatric supervision or assistance in public or private institutions and facilities, without need for current certification procedures but with adequate safeguards.

(*e*) Develop plans for care of aged who need some measure of psychiatric supervision or assistance, through outpatient service, day-hospital care, or other new-type facilities under plans that will enable voluntary admissions to be made, and payments by the applicant or immediate members of his family covering cost of such care.

(*f*) Develop plans for establishment of rest homes, psychiatric nursing homes, and other new-type facilities by local municipal corporations.

(*g*) Plan and supervise research and demonstration projects designed to prevent, retard, cure, or ease mental ailments of senior citizens.

(*h*) Plan in cooperation with public and private agencies and institutions including the State Health Department and State University of New York improvement in standards of intake, care, release, and placement of aged senile.

Appropriates $150,000.

Chapter 862 (Assembly Intro. 2995; Pr. 4571; Mrs. Strong).—Adds County Law section 391-a to provide "notwithstanding any inconsistent provisions of this article, or of any other general, special or local law, a county tuberculosis hospital may also admit for study and care persons with chroni nontuberculosis diseases of the chest, subject to rules and regulations to be promulgated by the state commissioner of health with the advice and counsel of an advisory committee consisting of five members, after consultation with the boards of managers of county tuberculosis hospitals. Three of the members of such advisory committee shall be superintendents of county tuberculosis hospitals to be chosen by such commissioner, and two of the members thereof shall be representatives of the Medical Society of the State of New York to be designated by such society."

Chapter 872 (Senate Intro. 2186; Pr. 2376; Neddo).—Amends Education Law section 7101 to further define ocular exercises as it now appears in the definition of the scope of optometry as also being termed orthoptics, visual training, or vision training or eye training. (The prescribing, providing, and furnishing of ocular exercises has been within the defined scope of optometry for a number of decades.)

Chapter 897 (Senate Intro. 597; Pr. 619; McCaffrey).—Amends section 50-d of the General Municipal Law relating to malpractice indemnity for physicians rendering services in municipal hospitals to make the test of coverage that the physician does not receive compensation from the patient rather than that the physician renders his services gratuitously as it appears in the present law.

Chapter 921 (Assembly Intro. 2493; Pr. 4260; McDonnell).—Amends Workmen's Compensation Law section 13-d to change the place of arbitration of workmen's compensation medical fees to where the services are rendered instead of where the workman resides.

Chapter 937 (Senate Intro. 875; Pr. 3600; J. H. Cooke).—Amends Public Health Law sections 304, 341 to provide that appropriation for town board of health shall be charge upon the taxable property of the part of the town outside of a village and that the appropriation shall be collected as other town charges.

Intra-Arterial and Subcutaneous Oxygen in the Treatment of Peripheral Arterial Disturbances

In selected cases of peripheral arterial disease intra-arterial oxygen is superior to other vasodilators in numerous respects, among which are its prolonged effect, low cost, availability, and simplicity of administration. This therapy is not used in the upper extremity, however, because of the danger of cerebral gas embolism. In the series reported, its indicated use appeared to be where symptoms are limited to intermittent claudication or where there is evidence of recent gangrene. Advanced cases with large areas of gangrene did not derive any remarkable benefit. In this group of 235 patients, 74 per cent got symptomatic relief. The total number of injections was 4,000, and except for one instance there were no complications. Drs. Fritz Judmaier and Herbert A. Roedling used an apparatus of their own design that accurately controlled administration. Incidental to the therapeutic aspects of this procedure, it was found that roentgen arteriopneumographic observation was possible. In many cases adequate delineation was obtained during administration without use of radiopaque materials. Capillary vasodilation was demonstrated photomicrographically. Intramuscular or subcutaneous oxygen proved an effective aid in the therapy of superficial gangrenous areas.

—*Journal of the International College of Surgeons, January, 1956*

MINUTES OF THE COUNCIL

The following is a summary of the minutes of the May, 1956, meeting of the Council of the Medical Society of the State of New York, as approved June 7, 1956

The Council met May 9, 1956, from 2 to 3:15 P.M. at the Hotel Statler, New York City. Dr. James Greenough, president, presided.

Secretary's Report

Dues Remission.—The Council voted to remit annual State dues of six members for 1956 because of illness and of one member for 1955 and 24 members for 1956 because of military service; to remit and refund 1956 annual State dues of one deceased member for reasons of financial hardship; and to rescind remissions previously granted because of military service to one member for 1956 and to one member for 1954 and 1955. The Council also voted to request remission of American Medical Association dues of one member for 1952, 1953, and 1954, of two members for 1955, and of 27 members and one deceased member for 1956. Rescinding of remissions of American Medical Association dues previously granted was requested for 1954 and 1955 in the case of one member and for 1956 in the case of another.

The Treasurer's report was accepted.

Introduction of New Members

Dr. Greenough introduced the new members of the Council, Dr. John F. Rogers and Dr. Thomas M. Watkins, the new vice-president, and also Dr. John C. McClintock, who is now a House of Delegates elected member of the Council.

Reports of Committees

Constitution and Bylaws.—Dr. Frederick W. Williams, chairman, reported: "The Committee on Constitution and Bylaws has two items. As you realize, these amendments and changes in constitution and bylaws go through the usual process. They are read by the secretary, approved by the counsel, and then approved by the members of your Constitution and Bylaws Committee of the Council. "I present for your consideration amendments to the bylaws of the Medical Society of the County of Erie, which have met all of these requirements, and I move their approval, sir."

Approval *was voted.*

Dr. Williams continued: "I also have amendments to the bylaws of the Medical Society of the County of Albany, which have gone through the same procedure and have met all of those requirements that I enumerated before. I offer them for your approval, sir."

Approval *was voted.*

Dr. John C. McClintock, councillor, stated: "As president of the Medical Society of the County of Albany, I express my society's appreciation to Dr. Anderton, secretary of the State Society, to legal counsel and his staff, to Dr. Williams and his committee, and to this Council for expediting the approval of the amendments to the bylaws of the Medical Society of the County of Albany."

Convention and Sesquicentennial.—Dr. Samuel Z. Freedman, chairman, described some of the plans of the committee and requested that a part of the appropriation for the celebration be made available for use as necessary during the summer months.

The Council voted to approve the report and make this recommendation to the Board of Trustees.

Economics.—The report of the Economics Committee, Dr. John C. McClintock, chairman, was distributed with the agenda, but no action was taken on it. The report detailed Mr. George P. Farrell's comments and described the program of the Annual Blue Cross and Blue Shield Conference at Hollywood, Florida, April 8 to 13.

Unfinished Business

Nominations to Medical Grievance Committee.—Dr. Anderton stated: "Mr. President, the Council voted previously to suggest to the State Education Department, for membership on its Medical Grievance Committee, the names of Dr. Berger, Dr Ershler, and Dr. Gordon Hoople. The Department wants three names. Dr. Hoople has declined. May I suggest that you allow me to approach Dr. Harbach instead of Dr. Hoople of Syracuse?"

It *was so voted.*

New Business

Council Agenda.—Dr. Greenough stated: "There is one thing I would like to bring up, a change in the order of the agenda of Council meetings. Heretofore we have followed an alphabetical list, and our discussions in the Council have been completely disassociated. We jump from Alcoholics, to Legislation, to Workmen's Compensation, to Nursing Education. I would like to have an agenda which would bring up subjects which are allied at the same time. I would like to do that for the next meeting and see if you like it."

It *was so voted.*

Election of Councillor.—Dr. Greenough announced: "Dr. Givan has resigned as councillor since he has become president-elect. It is, therefore, our duty to elect a new member to serve the unexpired term until next May."

Dr. Theodore J. Curphey, councillor, stated: "May I put in nomination Dr. Frederick Wurzbach, of the Bronx. I don't think he needs any introduction. He has shown great ability in our House of Delegates and elsewhere. We know him because he has lately done work in connection with the reference committee on blood banks. He is a man of judgment and clarity of expression. I think he would be a very fitting member to succeed Dr. Givan."

Dr. Peter J. Di Natale, councillor, seconded the nomination. There were no further nominations.

It *was voted* to close the nominations.

The Council *elected* Dr. Frederick A. Wurzbach, Jr., to serve until adjournment of the House of Delegates next May.

Veterans Medical Service Plan Checks.—Dr. Walter W. Mott, trustee, at Dr. Bauckus' request described a difficulty of Veterans Medical Service Plan due to Dr. Reuling's absence in Europe.

Dr. Dattelbaum moved and, after discussion, it *was voted* that the Council direct the Board of Trustees that a sum not to exceed $2,100 be paid for salaries to the coordinators of Veterans Medical Service Plan of New York, Inc., out of the budgetary allowance of $15,000.

Victor Riesel Fund.—Dr. Laurance D. Redway, editor, proposed that the JOURNAL subscribe $10 to Courage in-Journalism Fund for Victor Riesel, recently blinded by acid assault. This was moved, seconded, discussed, and tabled.

Niagara University Centennial.—Dr. Greenough stated: "There are two more items under new business. I was asked to attend the centennial of Niagara University on May 10. Being unable to leave this city by that date, I would like to propose that Dr. John Brady of Buffalo be the representative of the Medical Society at that centennial."

Approval *was voted.*

New York State Citizens' Council.—Dr. Greenough continued: "There is also a request for a representative to the Citizens Community Council this summer. It is not the same as the Citizens' Health Council, but they meet together. I would like to propose Dr. Carlton E. Wertz."

Approval *was voted.*

Insurance Department Action.—A motion was made by Dr. Freedman that Dr. Azzari be authorized to communicate with the Insurance Department of New York State and request that any punishment to individuals cited by the Insurance Department in connection with the recent complaint concerning *Physicians Guild Bulletin*, if found guilty, be minimal.

This motion was seconded by Dr. Wolff. Dr. Dorman moved an amendment that this proposed action be permissive.

It *was voted* that the matter be tabled, pending arrival of counsel.

It was removed from the table, and the amendment *was carried.*

After discussion the motion as amended *was carried.*

Committee Appointments.—President Greenough submitted for approval the following committees for the Society year 1956–1957.

Approval *was voted.*

(*A few changes have been necessary, as permitted by the Council*)

Medical Society of the State of New York

Council Committees 1956–1957

Budget

Maurice J. Dattelbaum, Brooklyn, *Chairman*
Samuel Z. Freedman, New York City
Frederic W. Holcomb, Sr., Kingston

Constitution and Bylaws

Frederick W. Williams, Bronx, *Chairman*
Norman C. Lyster, Norwich
Homer L. Nelms, Albany

Dental Health (Joint Committee of the State Medical and Dental Societies)

MEDICAL SOCIETY OF THE STATE OF NEW YORK
Fred S. Dunn, New York City, *Chairman*
Robert M. McCormack, Rochester

DENTAL SOCIETY OF THE STATE OF NEW YORK
Charles W. Pankow, Buffalo, *Chairman*
Earle M. Crysler, Watertown
William F. Harrigan, Rockville Centre

Economics

John C. McClintock, Albany, *Chairman*
David Fertig, Scarsdale
Theodore B. Steinhausen, Rochester

MEDICAL EXPENSE INSURANCE SUBCOMMITTEE
Carl R. Ackerman, Bronx, *Chairman*
Matthew E. Fairbank, Rochester
Arthur F. Gaffney, Clinton
Leo E. Gibson, Syracuse
C. Otto Lindbeck, Jamestown
Lyle A. Sutton, Albany
Melvin S. Martin, Warsaw
George P. Farrell, New York City, *Adviser*

PUBLIC MEDICAL CARE SUBCOMMITTEE
William G. Childress, Valhalla, *Chairman*
William E. Gazeley, Schenectady
Charles S. Post, Syracuse

U.S. VETERANS ADMINISTRATION, LIAISON SUBCOMMITTEE WITH
George A. Burgin, Little Falls, *Chairman*
Herbert H. Bauckus, Buffalo
Harry Golembe, Liberty

Ethics, Questions on

Harold F. Brown, Buffalo, *Chairman*
Frank LaGattuta, Bronx
Ezra A. Wolff, Forest Hills

Hospital and Professional Relations

John F. Rogers, Poughkeepsie, *Chairman*
Ralph E. Isabella, Schenectady
Bernard A. Watson, Clifton Springs

Industrial Health

Peter J. Di Natale, Batavia, *Chairman*
Harry E. Tebrock, Douglaston
Melvin N. Newquist, New York City

Legislation

Henry I. Fineberg, Jamaica, *Chairman*
James A. Lynch, Bronx, *Vice-Chairman*
John C. Brady, Buffalo
Aaron Kottler, Brooklyn
George J. Lawrence, Jr., Flushing
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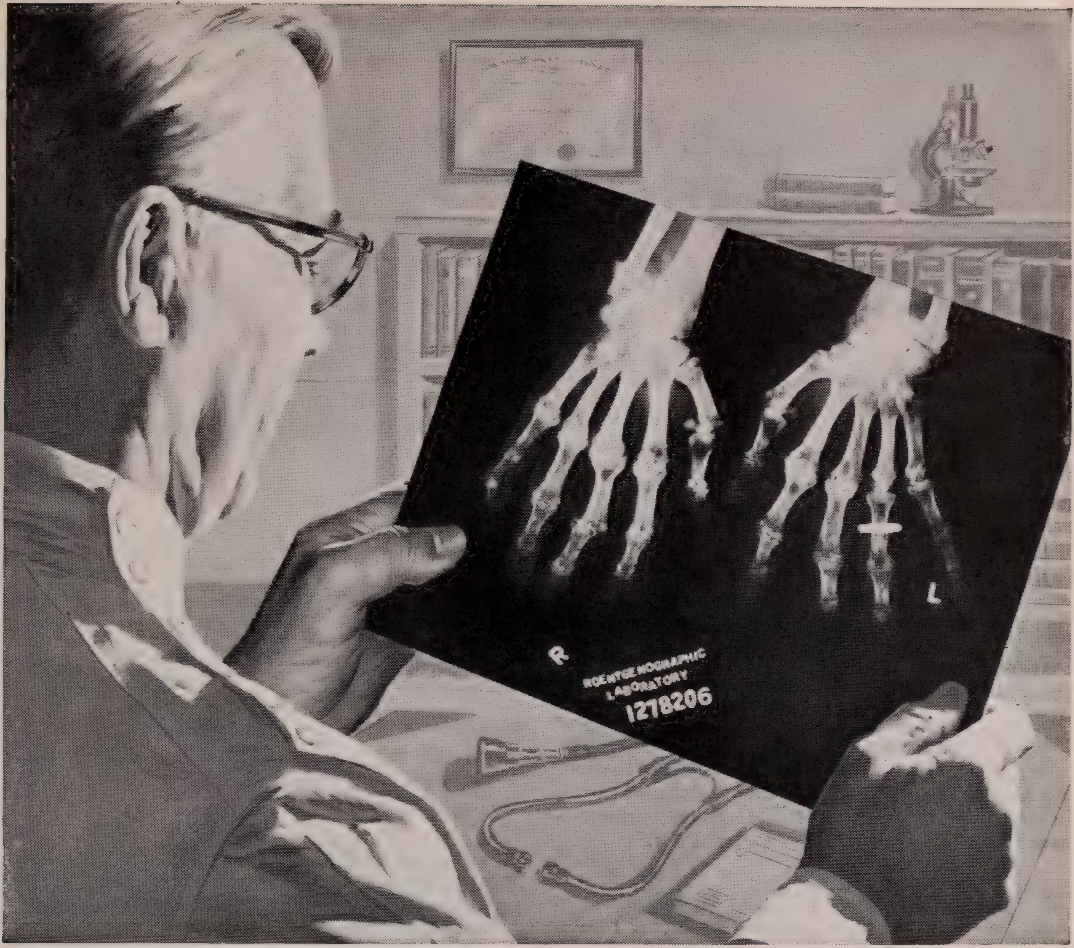
Because of the possible relationship between atherosclerosis and levels of cholesterol in the serum, the interesting implications of being able to control the latter are obvious. A number of substances have been found—notably soya sterols—which significantly reduce serum cholesterol. In the present study, the influence of a crebroside fraction of beef brain was observed in nine subjects with coronary artery disease and hypercholesterolemia, the experimental periods running three to eight weeks. In all patients there was a drop in the levels of serum cholesterol during the experimental period. At the same time lesser reductions, though significant, were noted in phospholipid, neutral fat, and beta lipoprotein. Alpha lipoprotein, however, was not significantly affected.

In a single normal subject, serum cholesterol levels apparently were not influenced.—*Richard J. Jones, M.D., Journal of Laboratory and Clinical Medicine, February, 1956*



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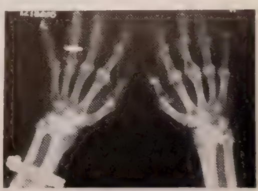

REFERENCES:

1. J.A.M.A. 159:645 (Oct. 15) 1955.
2. J.A.M.A. 158:386 (June 4) 1955.

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NECROLOGY

Alexander Apisdorf, M.D., of New York City, died on December 26, 1955, at the age of sixty-three. Dr. Apisdorf graduated in 1920 from Columbia University College of Physicians and Surgeons. He was a member of the New York County Medical Society and the Medical Society of the State of New York.

Adelaide Frick, M.D., of New York City, died on March 30, 1956, at the age of forty-one. Dr. Frick graduated from Yale University School of Medicine in 1943. She was a member of the New York County Medical Society and the Medical Society of the State of New York.

Harry Leonard Hermes, M.D., of New York City, died on May 2 at the age of sixty-eight. Dr. Hermes graduated from New York Homeopathic Medical College and Flower Hospital in 1918 and interned at Bellevue Hospital. He was a Fellow of the American College of Surgeons and a member of the New York County Medical Society and the Medical Society of the State of New York.

Frank Joseph Hynes, M.D., of New York City and Stamford, Connecticut, died on June 7 at the age of forty-eight. Dr. Hynes graduated from New York University and Bellevue Hospital Medical College in 1933 and interned at New York and Manhattan Eye, Ear and Throat Hospitals. He was an assistant attending surgeon in otolaryngology at New York Hospital, attending surgeon in otorhinolaryngology at Manhattan Eye, Ear and Throat Hospital, and consultant in otolaryngology at the Vassar Brothers Hospital, Poughkeepsie. Dr. Hynes was a Diplomate of the American Board of Otolaryngology, a Fellow of the American College of Allergists, an Associate Member of the American College of Chest Physicians, a Fellow of the American College of Surgeons, a Diplomate of the International College of Surgeons, and a Fellow of the International College of Surgeons.

Dr. Hynes was a member of the American Academy of Ophthalmology and Otolaryngology, the American Geriatrics Society, the American Otorhinologic Society for Plastic Surgery, the American Laryngological, Rhinological and Otological Society, the American Trudeau Society, the Society of Medical Jurisprudence of New York City, the Pan-American Medical Association, the Pan American Association of Ophthalmology, the New York Academy of Medicine, the New York Celtic Medical Society, the New York Cancer Society, the New York Allergy Society, the New York Otolaryngological Society, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Frederick A. Johnson, M.D., of New York City, died on May 28 at the age of eighty-three. Dr. Johnson graduated from Columbia University College of Physicians and Surgeons in 1906.

H. M. Komaroff, M.D., of Brooklyn, died on May 31 at the age of sixty-seven. Dr. Komaroff graduated in 1916 from Long Island College Hospital School of Medicine. He was a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Ferdinand Mancuso, M.D., of New York City, died on February 6 at the age of fifty-six. Dr. Mancuso graduated from Baylor University College of Medicine in 1926. He was an associate in surgery at Parkway Hospital. Dr. Mancuso was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Arthur C. Moorhead, M.D., of New York City, died on June 2 at the age of eighty-one. Dr. Moorhead graduated in 1902 from the Chicago Homeopathic Medical College. He was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Sigmund Ulysses Rubin, M.D., of Brooklyn, died on January 19 at the age of forty-eight. Dr. Rubin graduated from New York Homeopathic Medical College and Flower Hospital in 1926. He was an associate in surgery at the Cumberland Hospital. Dr. Rubin was a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Men's weaknesses are often necessary to the purposes of life.—Maurice Maeterlinck

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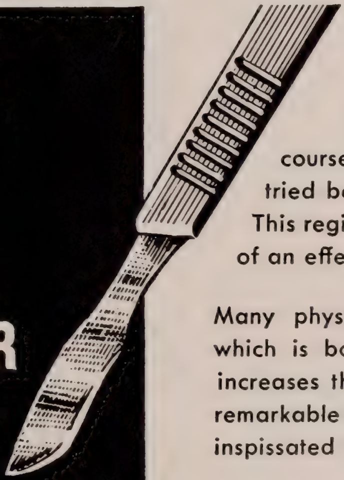

IS SURGERY NECESSARY for GALLBLADDER DISEASE?

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MEDICAL NEWS

Grant to Medical Center—New York University-Bellevue Medical Center has received a grant of approximately $33,000 from the Federal Office of Vocational Rehabilitation, Department of Health, Education, and Welfare, for a three-year research study involving the rehabilitation of 100 physically handicapped homebound persons, it has been announced by Dr. George E. Armstrong, director of the Center.

Ford Foundation Grants—One hundred and three hospitals in New York State are among 959 in the United States, Alaska, Hawaii, and Puerto Rico to receive grants from the Ford Foundation. Hospitals have been requested to advise the Foundation of their plans for expending the funds within three months of the date of payment of the first half of the grant. After two years each hospital will report on the use of the funds, the amount expended, and the projected use of the remainder, if any.

Medical Research Grants—The Life Insurance Medical Research Fund, New York City, has awarded $960,340 in grants and fellowships to aid research on heart disease this year. Recipients in New York State include: Albany Medical College, Albany; State University of New York, Medical Center at New York City; State University of New York, Medical Center at Syracuse; New York University-Bellevue Medical Center, New York City; Yeshiva University, Albert Einstein College of Medicine, New York City, and Columbia University College of Physicians and Surgeons, New York City.

Cerebral Palsy Clinic—An out-patient clinic for cerebral palsied children was opened on June 12 at the new Metropolitan Hospital in New York City, to be operated by the New York Medical College-Metropolitan Medical Center.

Dr. Jerome S. Tobis, director of the Department of Physical Medicine and Rehabilitation for the Medical Center will be in charge. Dr. A. Posniak, an instructor in the department, will be chief of the clinic. The outpatient clinic is an extension of inpatient facilities for children with cerebral palsy at the Bird S. Coler Hospital, which is a division of the center.

Further information may be obtained from Miss Harriet Levine, coordinator of the Cerebral Palsy Clinic, Department of Physical Medicine and Rehabilitation, Metropolitan Hospital, Second Avenue and Ninety-Seventh Street, New York City.

Commemoration Exhibition—An exhibit of books, pamphlets, and periodicals on the subject of adulteration of food and drugs in the United States, and legislative measures to protect the consumer, is currently on display in the main lobby of the New York Academy of Medicine in New York City, and will be there until October 1. The exhibit commemorates the 50th anniversary of the passage of the 1906 Pure Food and Drugs Act.

Personalities

Elected

Dr. Samuel W. Dooley, assistant professor of clinical pediatrics at Cornell University Medical College, as president of the Public Health Association of New York City . . . Dr. Samuel Z. Freedman, attending urologist at Beth Israel and Gouverneur Hospitals, New York City, and assistant treasurer of the Medical Society of the State of New York, as president of the Medical Society of the County of New York . . . Dr. Louis E. Gaeta, Jackson Heights, as State medical officer of the Catholic War Veterans at their meeting in May . . . Dr. H. Houston Merritt, director of the Neurological Institute, Columbia University, as president of the American Neurological Association . . . Dr. Erwin Neter, Buffalo, as president of the New York State Association of Public Health Laboratories . . . Dr. Edwin O'Dowd, Tappan, as secretary of the board of managers of the Nyack Hospital . . . Dr. Joseph B. Pincus, Brooklyn, president, Dr. Arthur L. Ruby, Brooklyn, vice-president, Dr. David Dragutsky, Brooklyn, secretary, and Dr. Abraham Gilner, Brooklyn, treasurer, of the Pediatric Section of the Medical Society of the County of Kings . . . Dr. Frederick W. Williams, New York City, as president of the American Diabetes Association.

Awarded

Dr. Sigmund A. Wesolowski, assistant instructor in surgery at the State University of New York College of Medicine in Brooklyn, a research scholarship by the regents of the American College of Surgeons.

Appointed

Dr. George Baehr, New York City, and Dr. Nor-

[Continued on page 2294]

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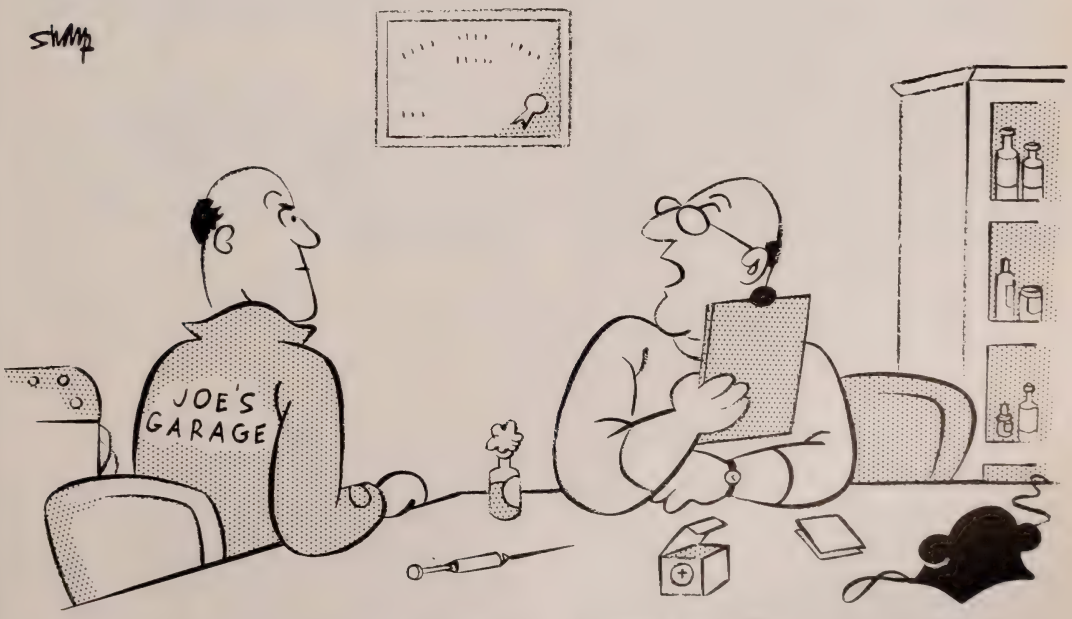

"Had your spinal fluid checked lately?"

[Continued from page 2292]

man Moore, Ithaca, to the temporary State board created by a new law to set up a health insurance program for State employes . . . Dr. Clayton Greene, Buffalo, chairman, and Dr. Mary E. Mercer, New York City, vice-chairman, and Dr. William A. Brumfield, Jr., Westchester County Health Commissioner, Dr. George W. Graham, director of Ellis Hospital in Schenectady, Dr. Sandor Rado, New York City psychiatrist, and Dr. Harvey J. Tompkins, director of the Reiss Mental Health Pavilion at St. Vincent's Hospital in New York City, by Governor Averill Harriman to the Mental Hygiene Council . . . Dr. Robert Greenwald, Mount Vernon, Drs. David W. Beard, Earl H. Eaton, Roy G. S. Dougall, Virginia M. L. Oliver, Ward L. Oliver, and John H. Wadsworth, Cobleskill; Drs. Basil W. Andrew, Duncan L. Best and Donald R. Lyon, Middleburgh; Drs. Harry Plaskov and Peter J. Sackett, Schoharie; Drs. Frederick Roder and Robert J. Shelmandine, Sharon Springs, and Dr. Franz Konta, Richmondville, to the medical staff of Community Hospital in Cobleskill . . . Dr. Gerald J. Jerry, as radiologist at St. Luke's Hospital in Newburgh . . . Dr. M. Ralph Kaufman, chief of psychiatry at Mount Sinai Hospital, and Dr. John Millet, affiliated with Presbyterian Hospital, both New York City, as consultants to the New York State Department of Mental Hygiene, by Dr. Paul H. Hoch, commissioner of mental hygiene.

Speakers

Dr. Frederick J. Lewy, assistant medical director of the American Heart Association, Inc., before the Geneva Academy of Medicine on May 21 in Geneva on "The Diagnosis and Prevention of Rheumatic Fever through the Control of Streptococcal Infections" . . . Dr. Earle B. Mahoney, associate professor of surgery at the University of Rochester School of Medicine and Dentistry, before the Ontario County Medical Society on June 12 in Geneva, on "Pulmonary Embolism" . . . Dr. Erwin Neter, Buffalo, before the New England Pediatric Society at Burlington, Vermont on June 15 on "Etiologic Aspects of Infantile Diarrhea," and before the Binghamton Academy of Medicine on June 19 in Binghamton on "Recent Advances in Enteric Infections" . . . Dr. Willard C. Rappleye, dean of the faculty of medicine at Columbia University, before the graduating class of the Presbyterian Hospital School of Nursing in New York City on June 7 . . . Dr. A. Clement Silverman, clinical professor of pediatrics at the State University of New York College of Medicine at Syracuse, before the Chemung County chapter of the Academy of General Practice on May 23 in Elmira on "Infectious Diseases in Childhood" . . . Dr. Frank Smith, assistant professor of neurosurgery at the Rochester University School of Medicine, before the Geneva Academy of Medicine on June 18 on "Head Injuries—Treatment of Early and Late Sequellae" . . . Dr. S. Bernard Wortis, New York City, before the Albany Medical College on April 10 on "The Toxic Psychoses."

Honored

The late Dr. Harry M. Archer, deputy fire commissioner, with the dedication of a bronze plaque in his memory at Fire Headquarters in the Municipal Building, New York City . . . Dr. M. Bernard Brahdy, Mount Vernon, for twenty-five years of service at Grasslands Hospital at the third annual service recognition dinner . . . Dr. E. Jefferson Browder, Brooklyn, at a testimonial dinner at the Brooklyn Club on June 15 . . . Dr. Michael M. Dacso, New York City, as consultant in medicine and rehabilitation at the Federal-State Conference on Aging in Washington, D.C. on June 5 and 6 . . . Dr. Alfredo Reyes, staff member of St. John's Episcopal Hospital, Brooklyn, at a testimonial dinner on June 13 . . . Drs. Joseph Schroff and Alan de Forest Smith, New York City, as professors emeritus of Columbia University.

New Offices

Dr. Allen S. Ellis, general practice in Port Leyden . . . Drs. A. J. Levine and Benjamin Seidenberg, general practice in Massena . . . Dr. Carleton K. Little, general practice in Glens Falls . . . Dr. Leon S. Loizeaux, Jr., practice of obstetrics and gynecology in Dobbs Ferry.

Solution Needed for Foreign Physician Problem

The over-all problem of the foreign physician in the United States has four principal facets: (1) The physicians in this country for advanced training whose previous training was obtained abroad and who act as interns and residents in hospitals here, (2) the physician who wishes to remain here and seeks licensure in the United States after he has completed his advanced training, (3) the immigrant physician, and (4) the American student who, failing to be admitted to an American school, studies abroad and returns to seek licensure in the United States. In discussing each of these aspects of the general problem, Dean F. Smiley of Chicago, Illinois, points out that our desire to provide refuge for the oppressed and to advance world medicine should not blind us to the fact that state boards have a weighty responsibility in safeguarding the quality of medical care offered the public, both in hospitals and in general practice, in the United States.—*Journal of Medical Education, October, 1955*

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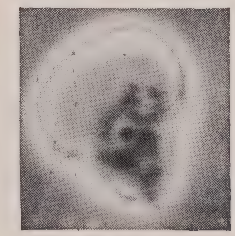

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References: 1. Davis, C. H.: J.A.M.A. 157:126 (Jan. 8) 1955. 2. Davis, C. H.: West. J. Surg. 63:53 (Feb.) 1955.

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MEDICAL MEETINGS

New York Academy of Medicine

The New York Academy of Medicine will hold its 29th annual graduate fortnight October 15 through 26, on "Selected Problems of Current Significance." All inquiries and requests for registration should be addressed to the Secretary, Graduate Fortnight, New York Academy of Medicine, 2 East 103rd Street, New York 29, New York.

Society of Anesthesiologists

The 10th postgraduate assembly in anesthesiology of the New York State Society of Anesthesiologists will be held at the Hotel New Yorker, New York City, December 5 through 8. Applications for scientific exhibit space should be forwarded to Dr. Benjamin J. Ciliberti, chairman, Committee on Scientific Exhibits, 131 West 11th Street, New York 11, New York.

Review Course in Ophthalmology

The seventh annual postgraduate review course in ophthalmology sponsored by the Ophthalmological Department of the State University of New York College of Medicine at Syracuse will be held at the Hotel Syracuse on December 7 and 8. Detailed programs will be mailed later to those on the previous mailing list. Any graduate of medicine wishing a program who has not received them in past years should write to the Ophthalmological Department.

Pan-Pacific Surgical Association

The seventh congress of the Pan-Pacific Surgical Association will be held in Honolulu, Hawaii, November 14 through 22, 1957. All members of the profession are invited to attend and are urged to make arrangements as soon as possible in order to be assured of adequate facilities. Further information and brochures may be obtained by writing to Dr. F. J. Pinkerton, Director General of the Pan-Pacific Surgical Association, Room 230, Young Building, Honolulu, Hawaii.

BOOKS RECEIVED

(The following books were received during the month of May, 1956)

The Complete Book of Low Calorie Cooking. By Leonard Louis Levinson. Octavo of 319 pages. New York, Hawthorn Books, 1956. Cloth, $4.95.

Youth, the Years from Ten to Sixteen. By Arnold Gesell, M.D., Frances L. Ilg, M.D., and Louise Bates Ames, Ph.D. From the Gesell Institute of Child Development and from the Yale Clinic of Child Development. Octavo of 542 pages. New York, Harper and Brothers, 1956. Cloth, $5.95.

Handbook of Physical Therapy. By Robert Shestack, P.T.R. Octavo of 212 pages. New York, Springer Publishing Co., 1956. Cloth, $4.25.

The Office Assistant. In Medical Or Dental Practice. By Portia M. Frederick and Carol Towner. Octavo of 351 pages, illustrated. Philadelphia, W. B. Saunders Company, 1956. Cloth, $4.75.

The Management of Menstrual Disorders. By C. Frederic Fluhmann, M.D. Octavo of 350 pages, illustrated. Philadelphia, W. B. Saunders Company, 1956. Cloth, $8.50.

The Legacy of Sigmund Freud. By Jacob A. Arlow, M.D. Duodecimo of 96 pages, illustrated.

[Continued on page 2298]

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[Continued from page 2296]

New York, International Universities Press, 1956. Half-cloth, $2.00.

A Dictionary of Dietetics. By Rhoda Ellis, Ph.D. Octavo of 152 pages. New York, Philosophical Library, 1956. Cloth, $6.00.

British Medical Bulletin. Vol. 12, No. 1, January 1956. Memorial Number to Sir Edward Mellanby. Recent Research on Vitamins. Quarto of 90 pages, illustrated. London, Medical Department, The British Council, 1956. $2.75.

The Sexual Responsibility of Woman. By Maxine Davis. Octavo of 299 pages. New York, The Dial Press, 1956. Cloth, $4.00.

Recueil Périodique de l'Encyclopédie Médico-Chirurgicale. Paraissant cinquante-six fois par an à raison de deux cahiers pour chacune des matières. Recueil #6–7, spécialisé de Obstétrique. Folio. v.p., illustrated. Paris, Editions Techniques, 1956.

Scalpel. Men Who Made Surgery. By Agatha Young. Octavo of 311 pages, illustrated. New York, Random House, 1956. Cloth, $5.00.

The Medical Clinics of North America. Memorial Center Number. May, 1956. Octavo. Philadelphia, W. B. Saunders Company, 1956. Published bimonthly (six numbers a year). Cloth, $18 net; paper, $15 net.

Medical Writing. By Walter C. Alvarez, M.D., Hugh Clegg, M.D., Felix Marti-Ibanez, M.D., Hans Selye, M.D., and Henry E. Sigerist, M.D. Octavo of 66 pages, illustrated. New York, MD Publications, 1956. Paper, $3.00. (MD International Symposia).

Health Observation of School Children. A Guide for Helping Teachers and Others to Observe and Understand the School Child in Health and Illness. By George M. Wheatley, M.D., and Grace T. Hallock. Illustrations by Barbara Pfeiffer. Second edition. Octavo of 488 pages, illustrated. New York, The Blakiston Division, McGraw-Hill Book Company, 1956. Cloth, $6.50.

Hunterdon Medical Center. The Story of One Approach to Rural Medical Care. By Ray E. Trussell, M.D. Octavo of 236 pages, illustrated. Cambridge, Mass., Published for the Commonwealth Fund by Harvard University Press, 1956. Cloth, $3.75.

Campbell's Operative Orthopaedics. Edited by J. S. Speed, M.D., and Robert A. Knight, M.D. In two volumes. Third edition. Quarto of 2,124 pages. 1,323 illustrations including 2 color pages. St. Louis, C. V. Mosby Company, 1956. Cloth, $40.

Synopsis of Gynecology. Based on the Textbook *Diseases of Women*. By Robert James Crossen, M.D. Fourth edition. Duodecimo of 255 pages. 132 illustrations including frontispiece in color. St. Louis, C. V. Mosby Company, 1956. Cloth, $5.25.

Understanding Human Behavior. By James L. McCartney, M.D. Octavo of 258 pages, illustrated. New York, Vantage Press, 1956. Cloth, $3.50.

Geriatrics. Volume 11, No. 4, April 1956. Symposium, Problems of the Mind in Later Life. Quarto. pp. 137/190. Illustrated. Minneapolis, Minn., Lancet Publications, 1956. $8.00 a year, 75 cents a copy.

Diseases of the Nose, Throat and Ear. A Handbook for Students and Practitioners. By I. Simson Hall, M.B. Sixth edition. Duodecimo of 463 pages, illustrated, including 8 colored plates. Edinburgh, E. & S. Livingstone, (Baltimore, The Williams & Wilkins Company), 1956. Cloth, $4.75.

Ciba Foundation Symposium jointly with the Physiological Society and the British Pharmacological Society on Histamine in honour of Sir Henry Dale, M.D. Editors for the Ciba Foundation, G. E. W. Wolstenholme, M.B., and Cecilia M. O'Connor, B.Sc. Octavo of 472 pages, 133 illustrations. Boston, Little, Brown & Co., 1956. Cloth, $9.00.

An Atlas of Regional Dermatology. By G. H. Percival, M.D., and T. C. Dodds, F.R.P.S. Octavo of 264 pages. Illustrated with 475 clinical subjects in full color. Baltimore, Williams & Wilkins Company, 1955. Cloth, $19.

Diseases of the Skin. By Richard L. Sutton, Jr., M.D. Eleventh edition. Quarto of 1,479 pages. 1,972 illustrations. St. Louis, C. V. Mosby Company, 1956. Cloth, $29.50.

The Menninger Story. By Walker Winslow. Octavo of 350 pages, illustrated. Garden City, N.Y., Doubleday & Company, 1956. Cloth, $5.00.

Annual Review of Medicine. By David A. Rytand, M.D., Editor, William Creger, Associate Editor. Volume 7. Octavo of 611 pages. Stanford, California, Annual Reviews, 1956. Cloth, $7.00.

Tuberculosis in Obstetrics and Gynecology. By George Schaefer, M.D. Octavo of 307 pages. 58 halftone illustrations. Boston, Little, Brown & Company, 1956. Cloth, $8.75.

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn 16, New York. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selections will be based on merit and interest to our readers.

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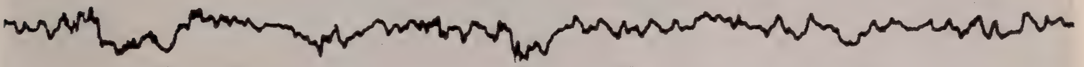

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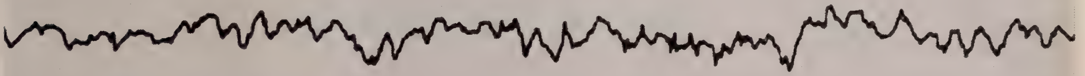
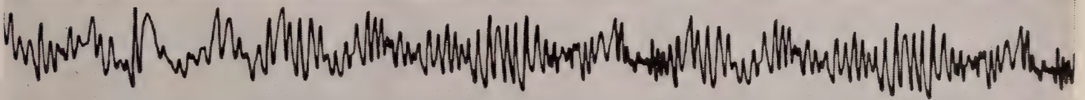


After Raudixin. E. E. G. not altered.



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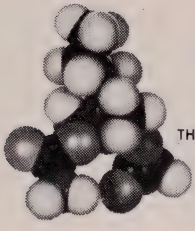

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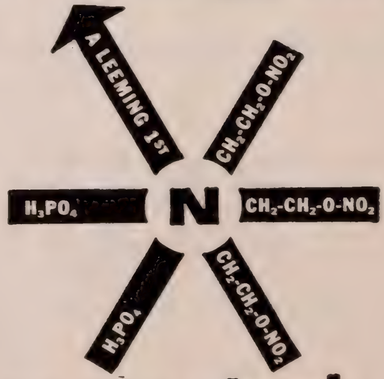

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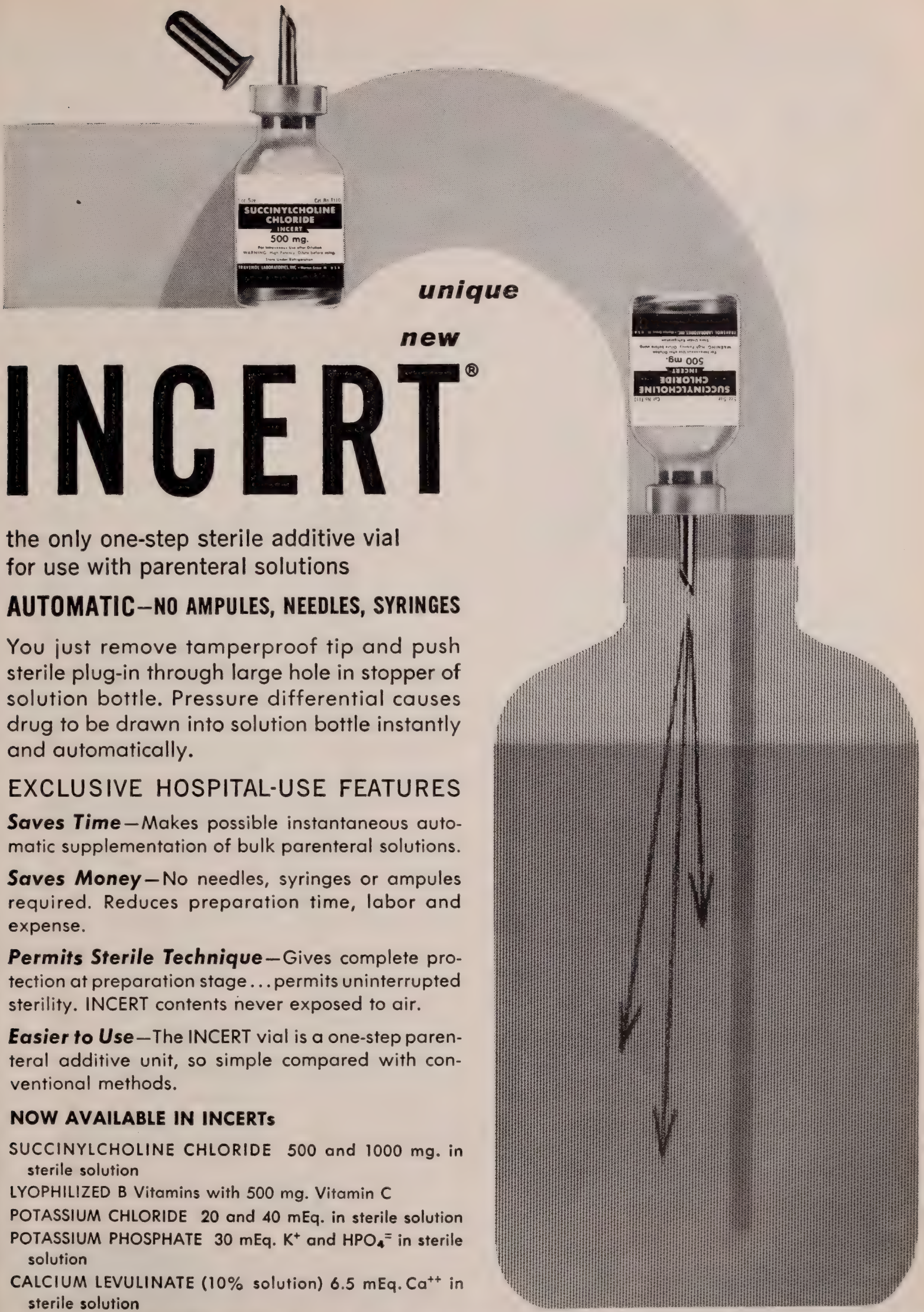

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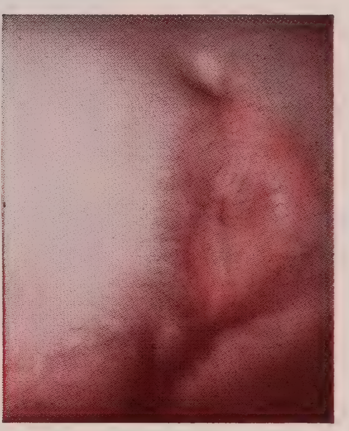

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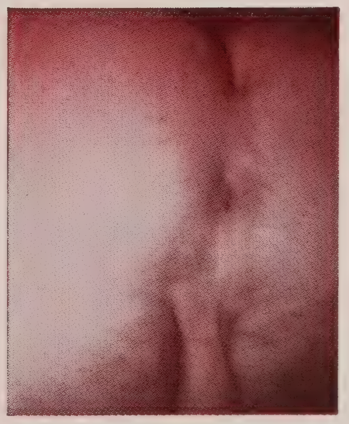

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1. Bodkin, L.G.: Amino Acid Therapy for Pruritus Ani, Am. J. Surg. 82:557 (Nov.) 1951.
2. Bodkin, L. G., and Ferguson, E. A., Jr.: Successful Ointment Therapy for Pruritus Ani, Am. J. Digest. Dis. 18:59 (Feb.) 1951.
3. McGivney, J.: Recent Advances in Proctology, Texas J. Med. 47:770 (Nov.) 1951.

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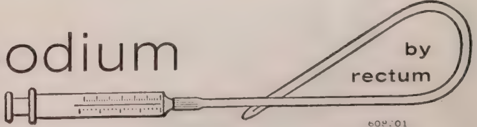

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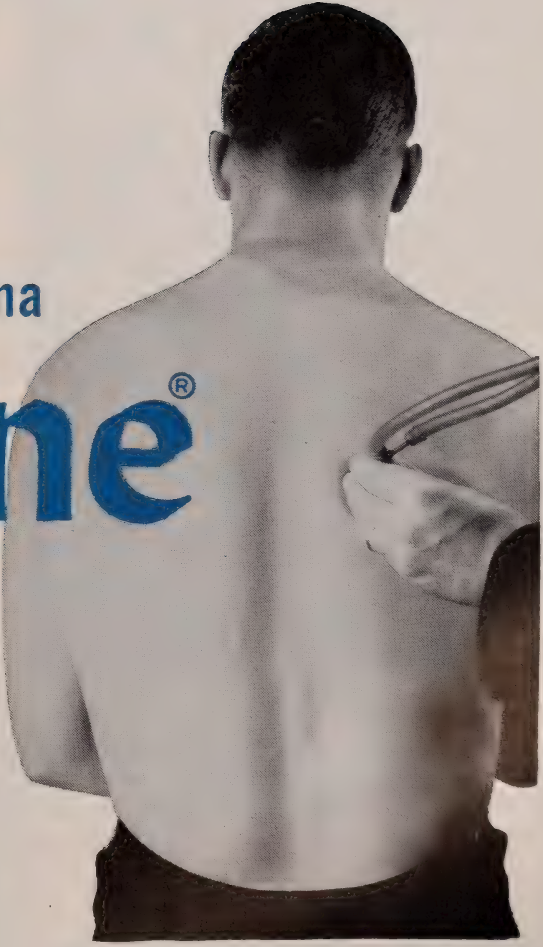

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1. Johnston, T. G., and Cazort, A. G.: J. Allergy 27:90, 1956. 2. Schwartz, E.: New York J. Med. 56:570, 1956. 3. Schiller, I. W., et al.: J. Allergy 27:96, 1956.

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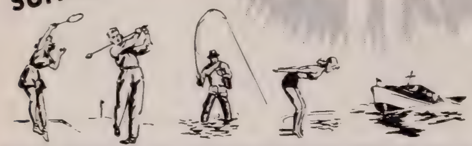

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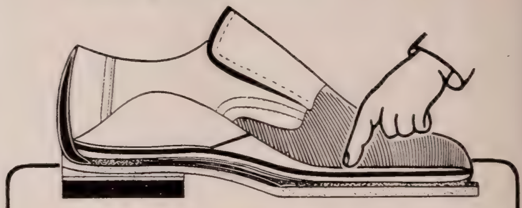

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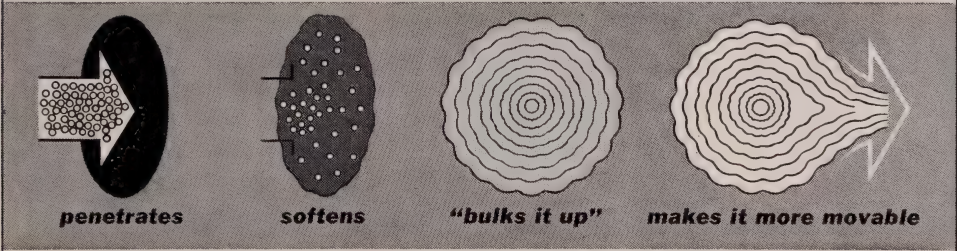

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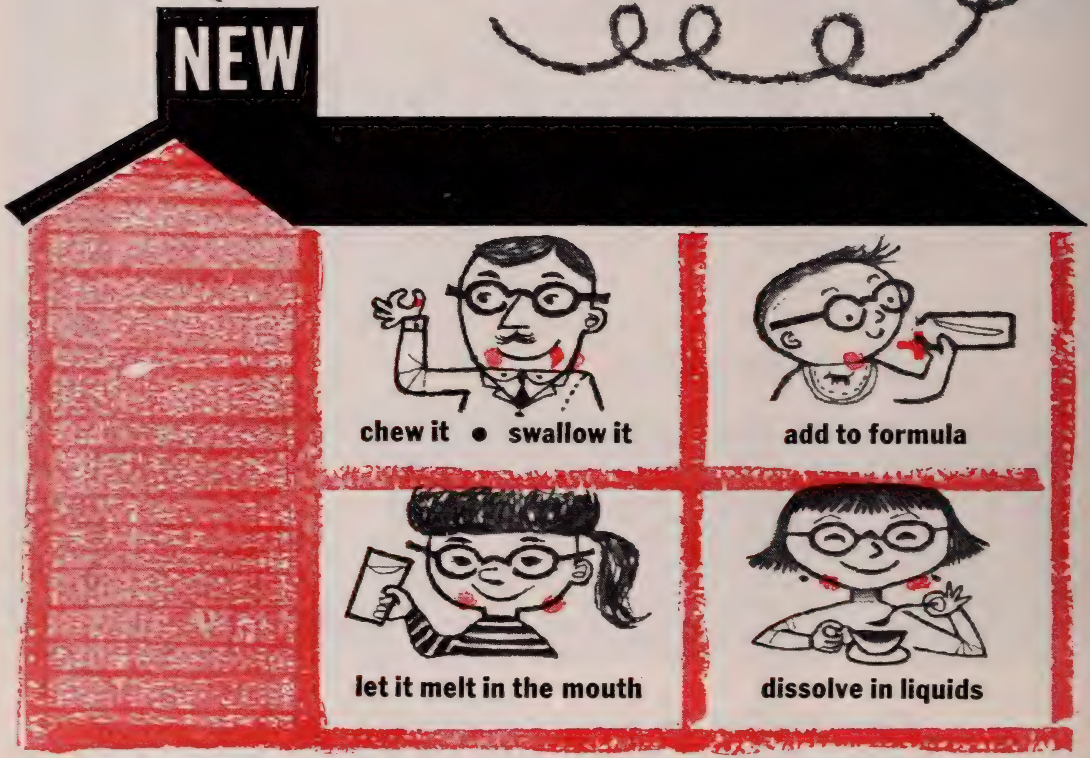

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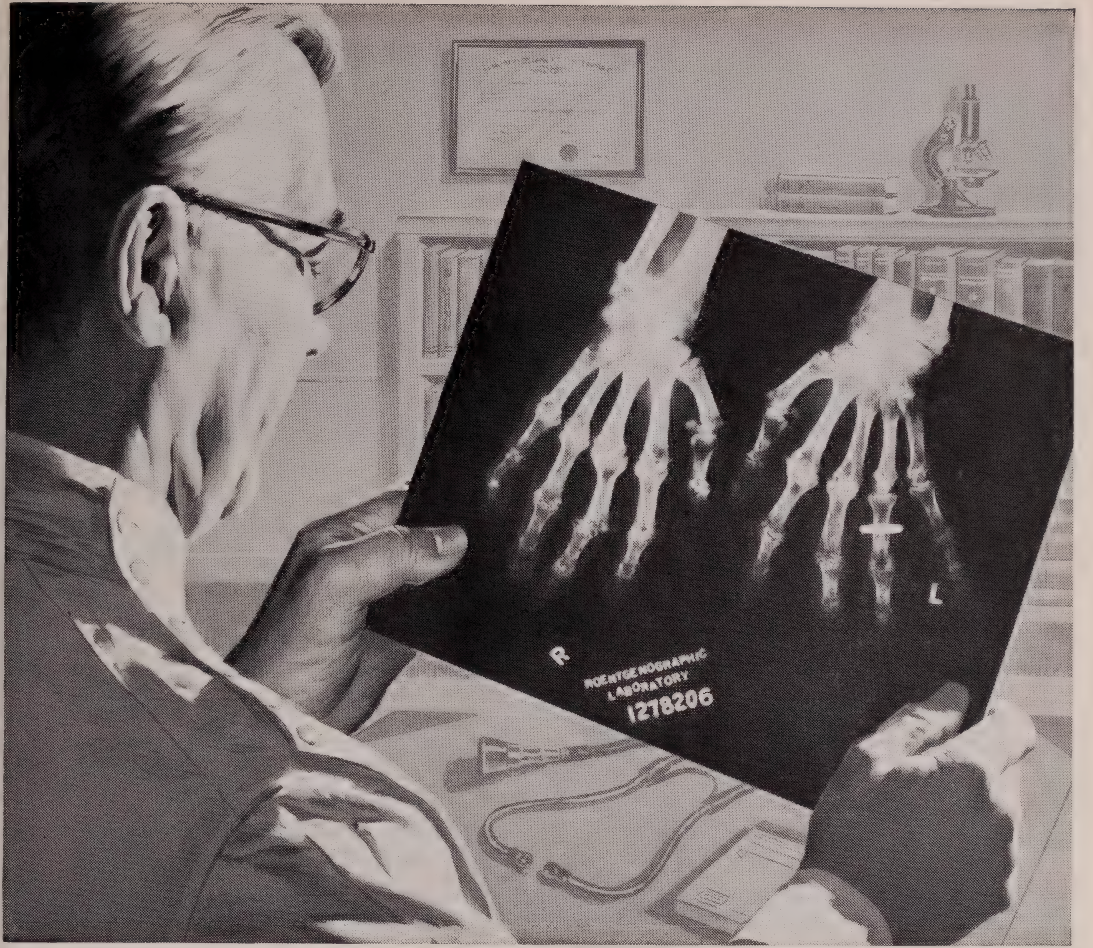

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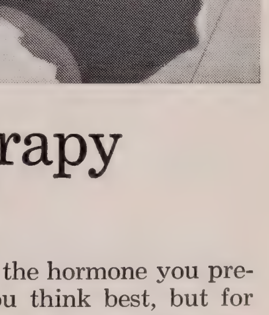

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1. J.A.M.A. 159:645 (Oct. 15) 1955.
2. J.A.M.A. 158:386 (June 4) 1955.

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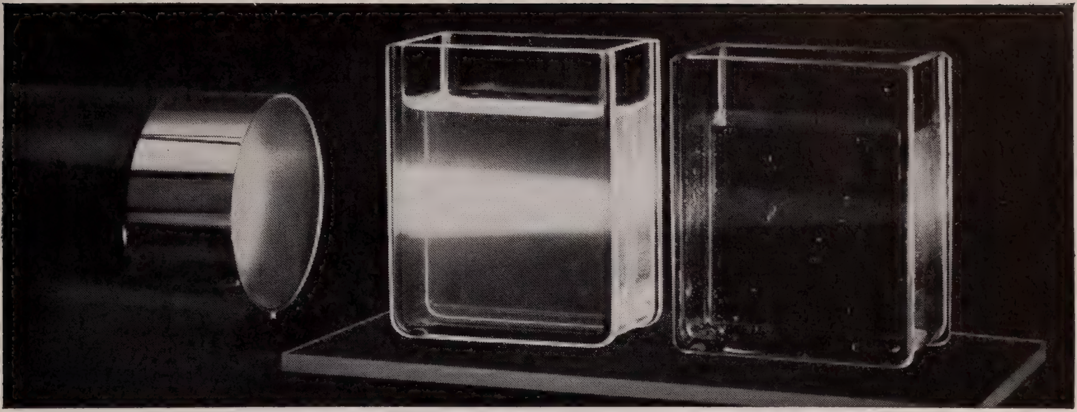

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Phosphatides have been found in all vegetable and animal cells. There seems little doubt that they are part of the basic structure of protoplasm and also enter into cell metabolism. The most abundantly found phosphatides are the lecithins, whose surface active properties, when combined with proteins and carbohydrates, play an important role as physiologic emulsifiers of fats and oils.[1]

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Bibliography: 1. West, E. S., and Todd, W. R.: Textbook of Biochemistry, New York, The Macmillan Company, 1952, p. 184. • 2. Drill, V. A.: Pharmacology in Medicine, New York, McGraw-Hill Book Company, Inc., 1954, p. 64/6. • 3. Ahrens, E. H., Jr., and Kunkel, H. G.: J. Exper. Med. *90*:409 (Nov. 1) 1949.

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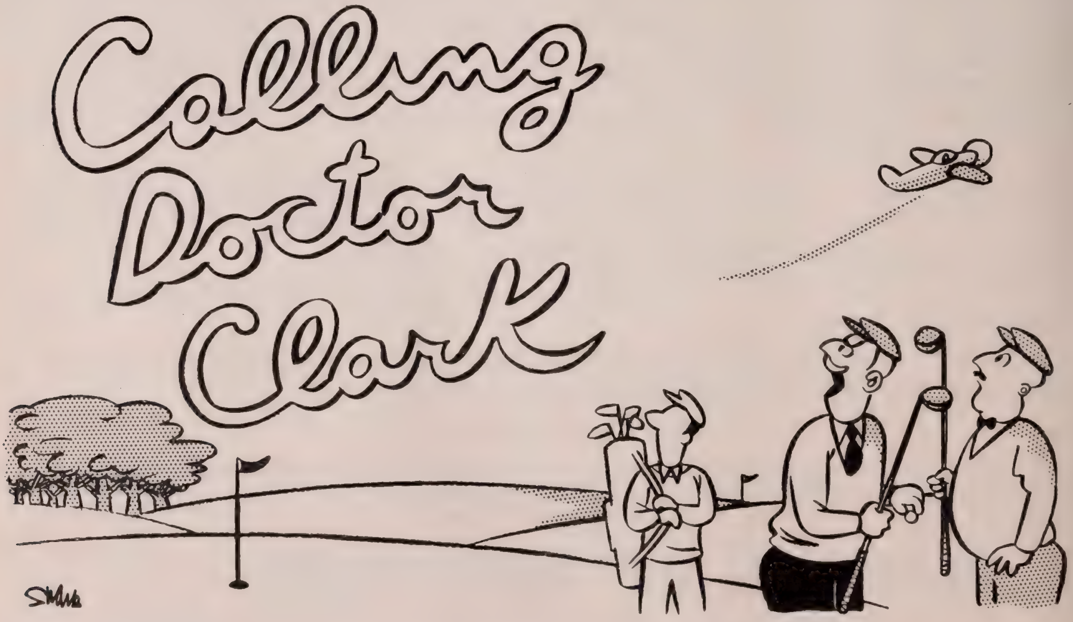

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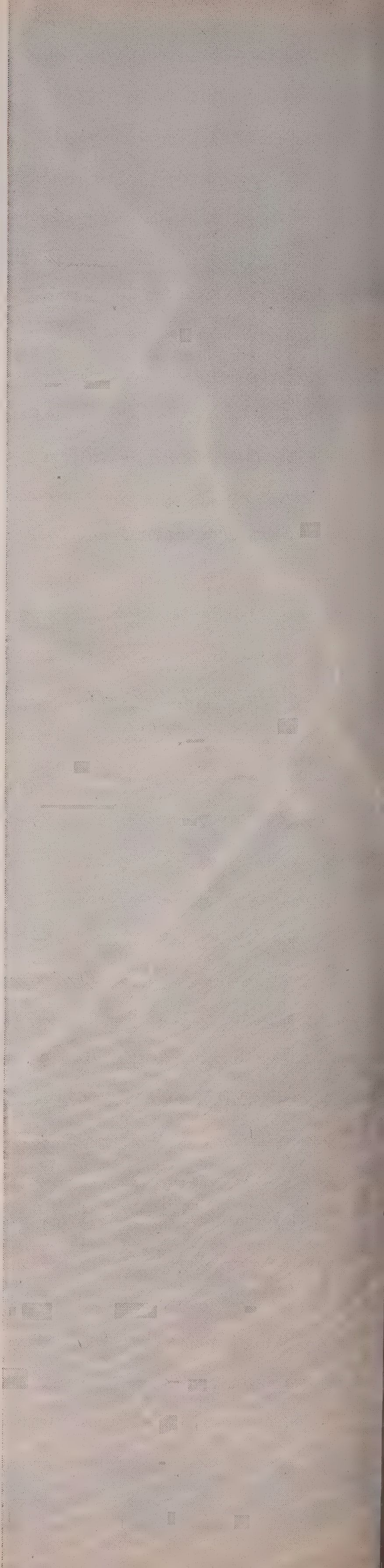

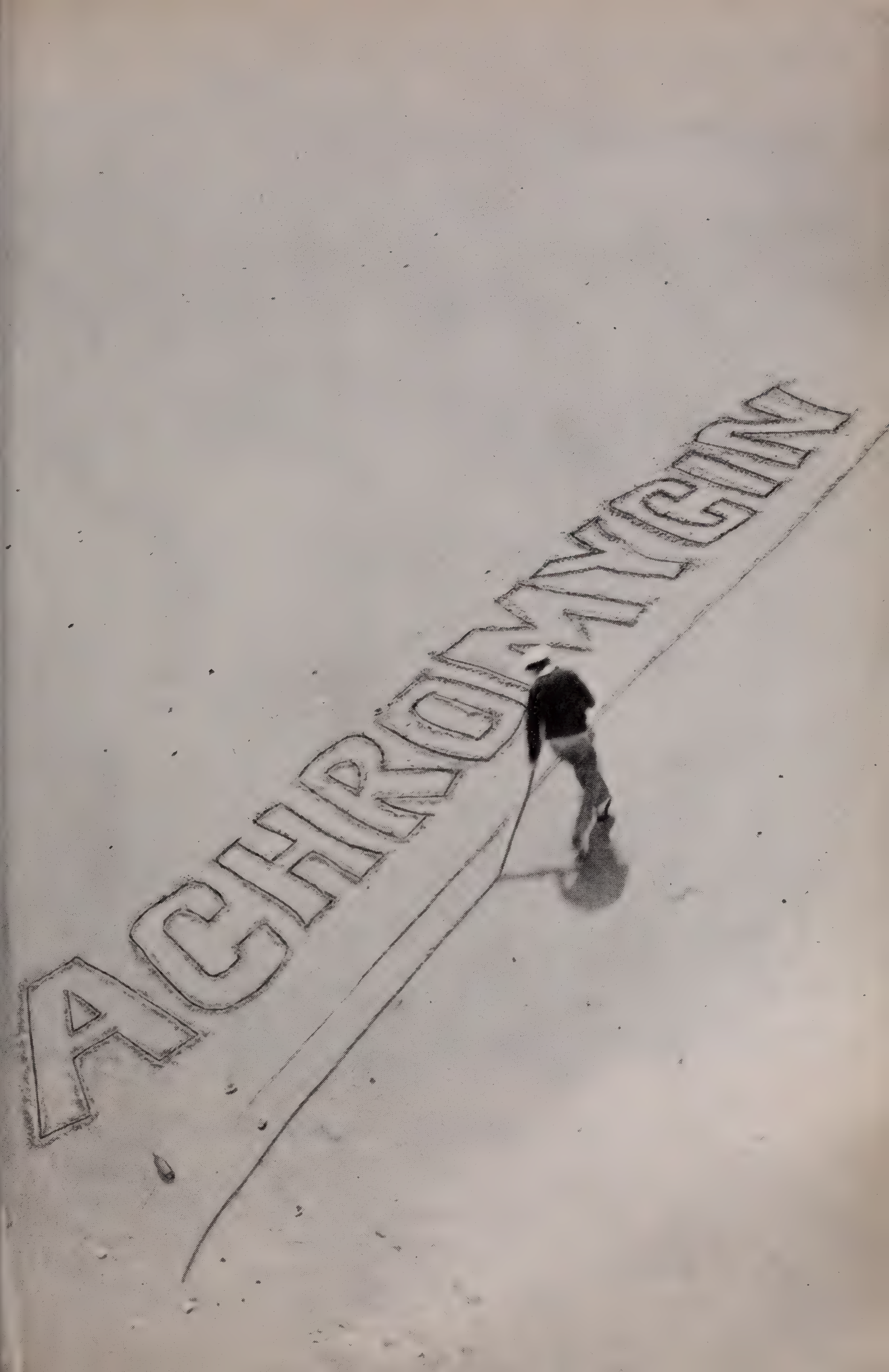
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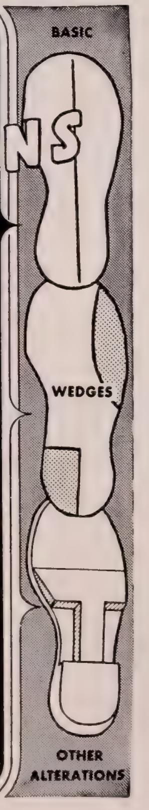

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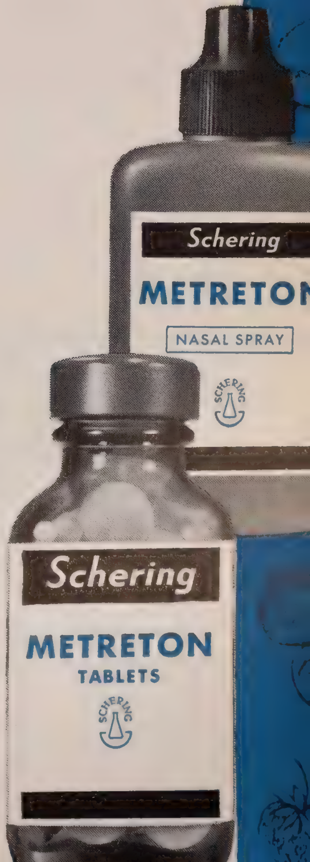
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EDITORIAL

Medicine and Public Information—Part II

The media of public information often find it necessary to obtain accurate "spot" medical news to disseminate to their readers or listeners. To obtain this it is of course necessary for editorial executives of newspapers, radio and television stations, and magazine editors to contact the medical profession and the hospitals among other sources. What does the "Guide for Cooperation"[1] have to say about the propriety of furnishing such medical information?

> To facilitate obtaining of such information, the medical societies may furnish them with a list of physicians from whom authoritative information may be obtained. Every effort should be made to supply the names of physicians qualified to speak in their respective fields.

Should your name be one of those supplied to the press or a radio or television network, what may you properly do? The "Guide" is specific on this question:

> These spokesmen may be quoted by name and title. This shall not be considered by their colleagues as seeking self-publicity, since it is done in the best interests of the public and the profession.

This is clear and to the point. Media of public information are entitled to and must have accessible reliable sources of news. But how can the reading or listening public know it is authoritative unless the medical informant is identified? However,

> At all times the doctor of medicine is expected to comply with the *Principles of Professional Conduct.* It shall be the responsibility of the Board of Censors of each county society to see that these principles are not violated.
>
> Doctors of medicine are compelled to protect the inalienable rights of the personal privacy and legal rights of patients. The doctor-patient relationship with its confidential communications must be maintained. The physician must safeguard his own right of privacy to avoid legal retaliation. With these considerations in mind the physician should assist the representatives of these media in every way possible.

Common sense is the guiding principle to be followed by all parties in the dissemination of news and especially of medical news. Since every situation differs, no specific instructions are possible, but reference to the "Guide" and the *Principles of Professional Conduct* will suffice in most cases to avoid difficulties. Every physician should study these references carefully and keep them available.

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[1] Guide for Cooperation, Public Relations Committee, Medical Society of the State of New York.

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2. Inability to Walk a Straight Line

3. Inability to Stand on One Foot

A patient's inability to stand on one foot without lurching may be a helpful test in distinguishing between "dizziness" which is purely psychogenic and that which is of organic origin.

False dizziness is a sensation of sinking or lightheadedness which is often of psychogenic origin. It should be distinguished from true "dizziness" or vertigo[1] in which there is a definite whirling, moving sensation.

Unsteadiness, lightheadedness and similar manifestations of false dizziness[2] may be psychogenic or the result of arteriosclerosis, hypoglycemia, drug sensitivity and general metabolic disturbances such as anemia and malnutrition. Hypertension is often the cause of these symptoms.

Psychogenic dizziness probably originates at the highest brain centers. It may be described as a sense of uncertainty with occasional mild lurching but not to the point of falling. In these patients there is no nausea, no disturbance of vestibular pathways and otologic and neurologic examinations are negative. The sensation is unaffected by head movement. Symptoms usually disappear[3] with complete rest.

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1. Swartout, R., III, and Gunther, K.: "Dizziness:" Vertigo and Syncope, GP *8:*35 (Nov.) 1953.
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References: **1.** Rosenberg, H. N., and Michelson, A. L.: Am. J. M. Sc. *230*:254 (Sept.) 1955. **2.** Kory, R. C., *et al.:* Am. Heart J. *50*:308 (Aug.) 1955. **3.** Winsor, T., and Humphreys, P.: Angiology *3*:1 (Feb.) 1953. **4.** Plotz, M.: New York State J. Med. *52*:2012 (Aug. 15) 1952. **5.** Dailheu-Geoffroy, P.: L'Ouest-Médical, vol. 3 (July) 1950.

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SCIENTIFIC ARTICLES

Differential Diagnosis of Chest Pain

JAMES MONROE, M.D., RAY BROOK, NEW YORK

(*From the Ray Brook State Tuberculosis Hospital*)

The differential diagnosis of chest pain has always been and still is one of the most common and important problems in medicine. A priori, this is as would be expected if one keeps the fundamentals of anatomy, physiology, and pathology in mind. The thoracic wall contains and surrounds many different tissues and structures, from most of which pain may arise. Also, referred chest pain frequently originates in the lower cervical, shoulder girdle, and upper abdominal regions.

The accurate differential diagnosis of chest pain often leads to exact diagnosis of thoracic and other diseases. The latter is becoming more and more important because of the many modern, specific, curative methods of treatment. Also, because of erroneous self-diagnosis of chest pain, untold numbers of patients needlessly suffer great emotional distress; the reasons for this are both numerous and obvious. Exact diagnosis and discussion of the diagnosis with the patient and his family are mandatory in order to prevent unnecessary anxiety and worry.

In studying thoracic pain it is singularly true that a carefully taken history will almost always give clues which sharply limit the diagnostic probabilities; this is classically true in the diagnosis of angina pectoris.[1] Further diagnostic limits are drawn by the findings at physical examination; the latter must needs be increasingly more complete in those cases where the diagnosis is least apparent. For example, the cause of chest pain may be obscure until the final part of the physical examination reveals evidence of phlebitis of the lower leg. Unless contraindicated, reproduction of the chest pain under observation, duplicating as nearly as possible the circumstances under which it spontaneously occurred, is of great diagnostic value.[2]

In the following discussion thoracic pain originating in the more superficial tissues will be considered first, followed by a description of pain caused by disease in progressively deeper structures.

Herpes zoster cannot be definitely diagnosed in the pre-eruptive stage but should be considered when there is unilateral chest pain of sudden onset and of less than four days' duration in a patient who has never had this illness. The pain, which may be almost unbearable, is usually superficial and of a burning nature. Fever and malaise may be present. Postherpetic neuralgia, which is rare before forty years of age, is distinguished by the history of the preceding eruption and the remaining crusts, scars, or discoloration. Secondary zoster may be due to tabes, trauma, leukemia, the pressure of tumors, or medication with arsenic.

True neuralgia occurs only in the fifth and ninth cranial nerves.[3] However, chest pain occasionally is produced by intrinsic lesions of the lower cervical and thoracic segments of the spinal cord, such as tumors, myelitis, cord trauma, and vascular conditions. Here, signs of tract involvement are usually found. Dorsal root fiber pain may be due to pressure, irritation, or inflammatory involvement produced by arthritis, herniated disk, trauma, meningitis, epidural abscess, or granulomas. This common type of chest pain is usually worsened by coughing, sneezing, or straining at stool; associated sensory

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changes are frequently present. Intercostal nerve pain occurs with trauma, neoplasm, inflammatory lesions, cervical ribs, and other developmental anomalies. Polyneuritis affecting the thoracic region is occasionally seen. Important differential diagnostic information concerning chest pain of neural origin is afforded by studies of the spinal fluid dynamics, chemical and bacteriologic examination of the cerebrospinal fluid, radiographic studies including myelography, and serologic, blood, and urine examinations.

Myofibrositis of the thoracic wall may be either idiopathic or secondary. Pain following acute chest wall or shoulder girdle soft tissue injury rarely presents a differential diagnostic problem. Nevertheless, patients may not recall an injury to the soft tissues severe enough to bring about even marked chest wall pain. In such cases, unless there is visible evidence of trauma, the diagnosis is obscure until the patient's memory of the injury returns. However, repeated minor trauma, poor posture, or fatty nodule herniation may cause chest wall myofibrositis with local pain, referred pain, or reflex muscle spasm. In this category many common conditions are grouped, and therefore, it is difficult to discuss in general terms. It has become common practice to diagnose idiopathic myofibrositis when, by exclusion, other causes of chest wall pain cannot be found. To date, the fundamental nature of this controversial clinical entity in the field of rheumatic diseases has not been revealed. Numerous causative factors, including inflammation, muscle spasm, abnormal fluid retention in fat confined in fibrous tissue, and psychosomatic disorders, have been suggested. Recently, the previously popular concept of distant foci of infection as a causative factor has been rapidly losing ground. In myofibrositis it is the rule that activity, short of fatigue, is followed by improvement, whereas activity worsens the pain and discomfort of structural lesions. Tender or nontender fibrositic nodules which may represent herniated fat nodules are found at times. However, as a diagnostic aid the importance of these nodules has probably been overestimated. The finding of "trigger points" and the response to a local injection of 1 per cent procaine may aid in the differential diagnosis. Prolonged precordial chest pain not provoked by effort but associated with palpitation, dyspnea, tender areas, and electrocardiographic changes has been noted in women with ovarian dysfunction; following estrogen therapy striking improvement in the signs and symptoms occurs.[4] In myofibrositis relapses are frequently encountered.

Subpectoral and other chest wall abscesses usually represent an extension of suppuration from axillary, retrosternal, or other lymphatics.[5] Tuberculosis, tularemia, and other types of lymphadenitis secondary to finger, hand, arm, and pleural infections are the usual causes and should always be searched for. In the female mastitis may be the primary focus. Point tenderness, increased pain on motion of the homolateral shoulder or upper arm, local swelling, and increase in heat may be present. Needle aspiration of pus is diagnostic. Severe constitutional symptoms may be present, even when local signs are minimal, because of the deep location of the subpectoral infections; diagnosis is difficult in this instance.

Chest pain due to abnormalities of the bones, joints, and cartilaginous structures of the lower cervical and thoracic region is common. Rib fractures with displacements of the fragments are easily recognized; such injury may cause serious trauma to the nearby structures with obvious complications, the complications often being more apparent at first glance than the primary injury. However, it is not so well known that "cracked" or greenstick fractured ribs may be caused by indirect muscular violence, such as coughing or sneezing. These fractures usually occur at the junction of the middle and anterior thirds of the fifth to the tenth ribs.[6] Also, the sudden overstretching of the muscles of the shoulder girdle may cause similar fractures of the uppermost ribs. There is usually sharply localized pain; however, two or more ribs may be fractured, producing pain over a larger area. There is no displacement or crepitation and usually no injury to the surrounding structures. The pain is often most severe when turning in bed; this fact alone may serve as a valuable differential diagnostic point. Trauma to the sternocostal and costovertebral articulations with sprain short of fracture or dislocation, is difficult to diagnose except by exclusion.

In the x-ray examination of the thorax for fractured ribs the conventional posteroanterior and lateral chest films often fail to demonstrate the fracture, while properly angled oblique films will unequivocally show the abnormality. With greenstick fractures the x-ray films do not show any evidence of fracture until enough time has passed for the callus to become calcified. Therefore, even with fractured ribs the chest films may aid in the diagnosis only in retrospect.

Chest wall pain due to rib, sternal, or spine involvement by primary or metastatic malignant neoplasm is often seen. Diagnosis is difficult until the neoplastic focus is large enough to be felt, to produce a pathologic fracture, or to be visualized on x-ray films. Knowledge that the patient has malignant disease alerts one to the possibility of such cause for chest pain. Here, special films are indicated, as for the study of rib fractures. Also, Bucky films are often needed to afford adequate contrast.

Scalenus anticus syndrome and cervical rib pain are most frequent in females after the second decade of life but do occur in men. The pain is usually worsened by any activity which produces downward traction on the arm. Since such activities are commonly associated with physical exertion and since the accompanying chest pain is usually in the pectoral region, the cause for confusion with angina pectoris is obvious. The neurologic, circulatory, and muscular changes in the shoulder, arm, and hand usually point to the correct diagnosis. The chest roentgenograms may not show evidence of a cervical rib, there being only a radiolucent fibrous cord which acts as a rib. Here, caution in diagnosis must be exercised because cervical ribs are seen so frequently.

The so-called slipping rib cartilage syndrome is caused by congenital anomaly and/or trauma; it is most frequent in females. In the lower anterolateral aspect of the chest, the rib cartilages often impinge on or over or underlap each other. The motions produced by breathing, coughing, bending cause acute or repeated trauma with the production of pain which varies from mild to severe. This pain, usually unilateral and localized, may be bilateral, present over a large area, or even referred; the latter causes confusion with gallbladder or other abdominal diseases. At physical examination the characteristic "click" of the slipping rib cartilage is at times difficult to elicit, and the patient may have failed to notice this diagnostic sound or sensation. To make the differential diagnosis even more difficult, the "click" may be present when chest pain is not produced by this condition. By having the patient flex the spine to each side, bend forward, breathe in and out deeply, or cough, simultaneous worsening of the pain with the clicking sound or crepitation-like sensation to palpitation occurs, thus pointing to the correct diagnosis.

Tuberculosis of the ribs and sternum has been reported to be the most common inflammatory condition involving these structures and is usually secondary to tuberculosis of the pleura.[7] The draining tract may burrow some distance before pointing superficially; the origin of the chest pain is apparent in this case only after the sinus has been traced to its source. In the past the typhoid bacillus not infrequently caused chronic abscesses in the ribs and cartilages; the history of the preceding illness gave the clue to the diagnosis.

Chest pain in the sternal, substernal, or retrosternal regions, as described above, may be caused by diseases of the sternum itself or may be "secondary" and referred. Tenderness of the sternum has been noted in leukemia and lymphomas; here, the painful area is usually in the lower portion. Occasionally, with cholecystitis and other subdiaphragmatic conditions the presenting symptom is substernal pain.

A sizable part of the thoracic wall is formed by the spinal column and in this multijointed structure numerous abnormalities occur, many of which may produce pain. Classically, pain due to diseases of the vertebrae is worse at night. Purely spinal disease, even without neural involvement, such as epiphysitis, rheumatoid spondylitis, infectious processes, neoplasms, or degenerative processes, may produce thoracic pain. At times the reason for chest pain near the spine is determined only after a paraspinal abscess has pointed, not infrequently, to some distant site.

Diagnostic aids of value in studying chest pain originating in bones and joints include the routine urinalysis, examination for Bence Jones protein, blood counts, determination of total protein and albumin-globulin ratio of the serum, various serologic tests, microscopic examination of the stained bone marrow, biopsy, needle aspiration, special roentgenologic methods including follow-up films, injection of sinuses with contrast substances, bacteriologic methods, demonstration of nearby or distant primary malignant tumors, and even the response to various therapeutic measures.

The anatomic and physiologic facts concerning pain mechanisms of the lung and pleura[8] greatly simplify differential diagnosis of chest pain. There is no pain sense in the lung or its covering of visceral pleura. This explains why many cases with pulmonary disease, even in the far-advanced stage, have not experienced chest pain. However, pain does arise in the parietal pleura and is of two types: (1) direct, from that part lining the thoracic wall, and (2) referred, from that which covers the diaphragm. The thoracic wall pleura is supplied by the intercostal nerves; stimulation of this part of the pleural sac produces pain which is accurately localized over the area irritated. The central portion of the diaphragmatic pleura is innervated by the phrenic nerve; irritation here causes referred neck and shoulder pain in the distribution of the third, fourth, and fifth cervical cutaneous segments. The peripheral margin of the diaphragm receives sensory fibers from the lower six intercostal nerves; stimulation here causes referred pain in the lower thoracic, abdominal, or lumbar regions. Involvement of the mediastinal pleura produces either substernal or referred neck pain.

Pleural pain is produced or worsened by tension[9] on or stretching of the inflamed parietal pleura, as with deep breathing, coughing, sneezing, flexing, or extending the thoracic spine. With intense irritation the painful area becomes larger and occasionally is bilateral.

Referred pleural pain may be accompanied by cutaneous hyperesthesia, hyperalgesia, muscle spasm, and even point tenderness. It is these latter characteristics which cause confusion in distinguishing diaphragmatic pleurisy from certain neck and shoulder conditions and from abdominal diseases, such as appendicitis, cholecystitis, and peptic ulcer. The differential diagnosis of chest pain is made even more difficult by the fact that the corresponding peritoneal and pleural surfaces of the diaphragm are innervated by the very same nerves[8] with the same areas of reference. The implications are obvious.

Chest pain or discomfort occurs at times with changes in the intrapulmonary and intrapleural pressure relationships per se or with the accompanying displacement of the thoracic structures. This is seen with ballooning due to ball valve bronchial stenosis, with atelectasis following complete airway obstruction, with pneumothorax or pleural effusion. With the above facts in mind it is obvious that there are many possible constellations of pleural pain.

Pleurisy is rarely primary; therefore, there must be an underlying cause, such as infection, neoplasm, pneumothorax, pulmonary embolus, or trauma. At times pleural pain is present for which no cause can be found. In the past postmortem findings and, more recently, clinical, surgical, and pathologic studies have shown that there are small "subclinical" inflammatory pulmonary lesions which involve the pleura.[10] These later progress to full-blown disease or heal, leaving adhesions as the only sign of their former presence.

The pain due to thoracic wall pleurisy and that due to fractured ribs may be difficult to differentiate. The history of direct or indirect trauma, the accompanying local physical findings such as point tenderness and crepitation, and the roentgenologic signs are diagnostic of fracture, while dullness to percussion, pleural rub, absent breath sounds, and systemic reactions such as fever and malaise are found with pleurisy. Apical pulmonary and mediastinal malignant neoplasms often produce marked and persistent chest pain even before the growth is sizable. These tumors frequently cause recurrent laryngeal, phrenic, and other nerve paralyses; also, there may be signs of vascular obstruction. With aortic arch aneurysms there are similar signs and symptoms; here, other evidences of syphilis are usually apparent. Tuberculosis characteristically involves the lung apices but may occur in any pulmonary segment; when pain is present, it is usually milder and short lived and yields easily to analgesics.

Radiologic and other modern methods have made the differential diagnosis of chest pain much easier. When such aids are not available, the opportunity to rely solely on one's ability in bedside methods of diagnosis is challenging and usually rewarding. Tactile fremitus, percussion, and auscultation distinguish lung consolidation from pleurisy with effusion and pneumothorax. The trachea and heart are deviated away from the painful side in pneumothorax and pleural effusion but toward the abnormal lung in atelectasis. With bronchopleural fistula there is classically a close relationship between cough and expectoration and changing the position of the body. A succussion splash is diagnostic, as are pleural and pericardial friction rubs. When the patient has suddenly experienced chest pain with associated dyspnea and expectoration of bright blood-streaked sputum, nowadays we immediately search for the site of origin of pulmonary embolus, especially in cardiac, surgical, postpartum, and recently injured patients. The characteristic crunching sound, heard over the heart and synchronous with each beat, may by itself change a diagnosis of probable myocardial infarction to a definite diagnosis of spontaneous mediastinal emphysema.[11] The latter diagnosis is reinforced if there are signs of emphysema of the subcutaneous tissues of the neck. Dull, burning substernal pain, worsened by coughing and swallowing, is very often seen with acute tracheobronchitis.

Epidemic pleurodynia usually produces severe pleural pain which may suddenly disappear, only to reappear over and over. Fever accompanies this illness which is a disease of summer or early autumn. At times it closely simulates serious medical or surgical conditions of the thorax or abdomen. Diagnosis, which must be made by clinical methods during the acute illness, is obvious only during an epidemic. Viral isolation and serologic tests aid in diagnosis only in retrospect.

On routine posteroanterior and lateral chest films, because of superimposition those shadows of diagnostic import are often confusing or absent. This problem can usually be resolved by fluoroscopy. For this and other reasons fluoroscopy is, therefore, of great aid in the differential diagnosis of chest pain. This is true not only for the examination of the lungs and pleura, but also for the study of the ribs (fracture, callus, erosion), heart and great vessels, mediastinum, esophagus, and even the phrenic nerve. Not infrequently the demonstration of pleural effusion, pneumothorax, or stenosis of major or lobar bronchi is not possible on conventional films, whereas by observing the patient perform maximum inspiration and expiration at fluoroscopy such diagnoses are usually at once obvious. By having the sitting or standing patient tilt to the side of the chest pain, a previously unseen pleural effusion may be demonstrated at fluoroscopy by the shifting shadow produced by the shift in the location of the effusion. It is very common to see a previously "hidden" pulmonary lesion or other pain-producing chest condition come into clear view on the fluoroscope screen by employing the above-mentioned special maneuvers or with the use of the lordotic[12] position and rotation into each oblique view. After seeing the diagnostic findings under the fluoroscope, films for permanent record can be taken.

Chest pain and discomfort due to esophageal diseases, such as inflammation, ulceration, spasm, hernia, neoplasm, and diverticulum, are usually retrosternal or epigastric but do occur in the chest anteriorly, laterally, or posteriorly or even in the cervical region and the arms. Such pain frequently simulates angina pectoris. However, association with swallowing or a history of dysphagia can usually be elicited. The symptoms may appear after meals, especially with overeating, and are often more severe when the patient is recumbent. Also symptoms may be worsened by spicy and other irritating foods and by emotional upsets; relief usually follows medication with antispasmodics and alkalies. In addition, hematemesis, blood in the stool, and anemia occur. Consequently, there is adequate reason for confusion with gastrointestinal diseases.

The fundamental cause of pleuropulmonary disorder may be esophageal disease which causes regurgitation of food and other swallowed material. Then, following aspiration there is pneumonitis, which produces the cough, expectoration, and chest pain which are the presenting complaints. Therefore, in certain cases where an apparently adequate cause for chest pain, such as pneumonitis, lung abscess, or pleurisy, has been found, the underlying condition must still be searched for and may be uncovered only by examination of the esophagus. A barium swallow at fluoroscopy with the patient examined both erect and recumbent is easily and quickly made and usually gives adequate information about the esophagus. However, since roentgenologic signs of esophageal disease are not always consistently present even in the proved case, the obvious need for repeated examinations and esophagoscopy, when indicated, must be kept in mind.

The pain due to disorders of the heart, pericardium, and great vessels is frequently not entirely typical, and therefore, the differential diagnosis may be difficult.[1] However, time spent in listening to the complaints will often allow the patient to spell out the diagnosis. Specific positive and negative points of importance not volunteered must be brought out by questioning. Parenthetically, we must reserve a sufficient quantity of skepticism; for instance, those with angina may complain only of belching and epigastric distress which is relieved by taking baking soda. Advances in diagnosis are constantly being made; the "acute indigestion" of a few years ago is now known by its proper title, coronary occlusion.

With angina pectoris there is paroxysmal pain in the chest, abdomen, neck, or arms; the characteristics of the pain vary greatly from patient to patient but in each case are usually consistently the same. The pain, which is brought on by effort, excitement, chilling, or overeating, is usually reproducible and almost always subsides within a few minutes with rest or immediately after medication with nitroglycerin. Pleural pain and chest wall pain may also follow exertion since there is both accompanying increased pleural tension and chest wall motion due to the deeper respirations.

The pain caused by hiatus hernia appears not infrequently after overeating. Nevertheless, in angina pectoris pain with exertion and relief with rest and/or nitroglycerin have served well as precipitating and therapeutic tests, respectively. However, the chest pain of other conditions, such as cardiospasm, hiatus hernia, peptic ulcer, or biliary colic, may also be relieved by nitroglycerin, thereby causing this therapeutic test to lack complete specificity. The discomfort in neurocirculatory asthenia is not clearly related to effort, and it persists for some time after rest; accompanying signs like anxiety and sighing respiration are usually obvious. Pericarditis occurs most often with rheumatic fever, infectious diseases, and uremia. The pain is not typical; it may be intense and may simulate the pain of pleural, anginal, or gastrointestinal disease. The diagnostic rub, which must be repeatedly searched for, and other physical signs together with serial electrocardiograms and radiologic examinations serve to differentiate this condition. The splenic flexure syndrome may mimic angina pectoris. Flat plate roentgenograms of the abdomen, cholecystograms, upper gastrointestinal series, and other studies must be made for differential diagnosis of confusing pain due to upper abdominal diseases. Angina may occur with anemia, syphilis, paroxysmal tachycardia, paroxysmal hypertension, hyperthyroidism (usually in older patients), hypothyroidism (especially after treatment with thyroid extract), and shock. Except when the patient is seen during an attack, positive findings in angina pectoris at physical examination usually offer little aid in diagnosis. Specific exercise tolerance tests with accompanying electrocardiographic studies may aid greatly in establishing the diagnosis.

Today in the great majority of cases the diagnosis of acute myocardial infarction can be made with certainty. The pain, contrary to the findings in angina pectoris, is usually not preceded by effort; however, the distribution is the same. With infarction the pain is more severe and widespread and lasts longer. Since many of these patients have previously had angina, they know its characteristics; self-medication with nitroglycerin is often tried, and the patient volunteers the information that, "this time the pain was not relieved." Dyspnea, rales, rhonchi, gallop rhythm, arrhythmias, nausea, vomiting, and signs of shock are often present. Fever, leukocytosis, elevated sedimentation rate, pericardial friction rub, and embolization occur in logical order during the following days. Serial electrocardiograms classically show the changing pattern of "acute," "recent," and "old" stages. However, the electrocardiographic findings typical of myocardial infarction may be tardy in appearing.[13] Also, small or moderate-sized posterior or diaphragmatic wall infarcts usually produce no characteristic electrocardiographic abnormalities.

Acute benign nonspecific pericarditis is usually preceded by a virus infection. Here, the rub is heard, and fever, leukocytosis, and elevation of the sedimentation rate are present at the very onset of the illness instead of later as in infarction. The electrocardiographic and roentgenologic findings are those of pericarditis and not of infarction. The chest pain, which often has a sudden onset, is characteristically worsened on twisting or bending the dorsal spine.

The differentiation of dissecting aortic aneurysm from acute myocardial infarction is frequently difficult or impossible. Severe tearing or knifelike pain appears suddenly, often during physical exertion, is characteristically located in the interscapular area or shoulders, and commonly moves, in keeping with the progress of the dissection. Systolic and diastolic heart murmurs may be present. Evidence of brain and spinal cord involvement, absence of peripheral arterial pulses, and other signs of obstruction of major branches of the aorta are physical signs which aid in making this diagnosis. Unless due to shock itself or to obstruction of the orifices of the coronary arteries by the dissecting process, electrocardiographic evidence of myocardial infarction is not seen.

With massive gastrointestinal hemorrhage there may be severe anginal pain, shock, and electrocardiographic changes which cannot be easily distinguished from similar findings in patients with acute myocardial infarction unless hematemesis or tarry stools point to the diagnosis. Similarly with perforated peptic ulcer, acute gallbladder, pancreatic or bowel diseases, the clinical picture may closely simulate acute myocardial infarction; in the latter the abdominal wall rarely has a boardlike rigidity, and the pain usually radiates to the precordium, neck, or arms.

With mediastinal diseases substernal, interscapular, or other chest pain may occur. Benign tumors rarely cause pain unless secondarily infected, but pain is frequently present when the growth is malignant. With mediastinitis there is usually dysphagia, painful cough, and other signs of pressure on or involvement of the several mediastinal tubelike structures and nerves. Subcutaneous emphysema of the lower cervical regions is a valuable confirmatory finding. Mediastinitis is almost invariably a complication of piercing wounds from without or from within, such as perforation of the trachea or esophagus, or is secondary to infections and/or neoplasms of nearby structures. Therefore, the history of perforation and the awareness of the primary disease aid in making the diagnosis. Roentgenologic study shows widening of the mediastinal shadow. With aortic aneurysms there is boring or throbbing night pain produced by pressure on adjacent bones, or there is sharp, stabbing, or segmental pain due to nerve root involvement. Worsening of or relief from the pain is often closely associated with specific positions assumed by the patient. Hoarseness with brassy cough due to recurrent laryngeal nerve paralysis is frequent, as are other pressure phenomena such as dyspnea, cough, and dysphagia. Tracheal rub and actually visible chest wall pulsations are nowadays rarely seen. Radiologic studies give the most reliable diagnostic findings.

Summary

The differential diagnosis of chest pain has always been and still is a common, important, and frequently difficult problem in the practice of medicine. The solution of this many faceted problem often leads to the exact diagnosis of thoracic and other diseases. The proper use of modern specific therapy and the prevention of needless worry by the patient and his family demand that accurate diagnosis be made. The latter is greatly aided by approaching the problem from the standpoint of anatomy, physiology, and pathology and by considering chest pain as due to disorders of the (1) nervous system, (2) other chest wall soft tissues, (3) bony structures, (4) lung and pleura, (5) pericardium, heart, and great vessels, (6) esophagus, (7) mediastinum, or (8) neighboring cervical, shoulder, or upper abdominal structures.

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When you've got a thing to say,
Say it! Don't take half a day. . . .
Life is short—a fleeting vapor—
Don't you fill the whole blamed paper
With a tale which, at a pinch,
Could be cornered in an inch!
Boil her down until she simmers,
Polish her until she glimmers.

—Joel Chandler Harris

Rehabilitation of the Handicapped Child

JEROME S. TOBIS, M.D., NEW YORK CITY

(From the Department of Physical Medicine and Rehabilitation, New York Medical College, Flower and Fifth Avenue Hospitals)

THE handicapped child is a child whose growth and development have been impaired. He is a child with one or more major disabilities involving loss or impairment of sensory or motor function.[1] This definition includes the blind, the deafened, the retarded, the cardiac, the epileptic, and a large group of children with musculoskeletal and neuromuscular disorders.

These children represent a broad spectrum of disabilities, and the categories are sometimes not too easy to delineate. To assay the magnitude of the problem is itself difficult because of inadequate statistics due to (1) the reticence of parents to admit of any aberration of their loved one and (2) incomplete surveys which have been performed. Traditionally, several of these groups that have been described have been cared for by special agencies. For example, there are special schools for the blind and the deaf and institutions for the retarded child.

The field of physical medicine and rehabilitation directs its activities essentially to the care of children with neuromuscular and musculoskeletal disorders, such as cerebral palsy, poliomyelitis, spina bifida, muscular dystrophy, arthritis, amputations, and other miscellaneous groups which involve major disability. Depending on the history and severity of the disease, these children may be treated either on an inpatient basis, in a home setting, or in a school.

General Principles of Care

The *principles of care* for home, hospital, or school are essentially the same, but the emphasis will vary, depending on the disease, the extent of disability, and the facilities available.

The philosophy of rehabilitation signifies total care to us in the field. It looks upon disease, as medicine does generally, as more than the specific pathology. For example, a child with a tuberculous hip suffers not only from the destructive process caused by the tubercle bacillus and the immunologic processes of the body but also from the impact of the social problem created in his family as a consequence of the infection. Disease in the handicapped child, then, has a social character as well as a biologic one and, therefore, he requires more than the traditional specific clinical care. Thus, optimal care for these children requires the contribution of many medical and other professional disciplines working as a team. However, the special skills of these disciplines cooperating in the team are subordinate to the programming considerations in the care of the child. It follows from this that in the interest of total care of the child any professional discipline may be called upon to provide less than the maximum of service that is available. If, for example, a child suffering from severe residua of poliomyelitis required, in addition to many therapeutic procedures, extensive orthopedic or dental care which would interfere completely with all other programming, it would be wiser to permit only limited treatment in those areas or to provide it over a longer period of time, so that the optimum benefits for the child could be attained.

Physiologic Principles

There are three major areas of physiologic activity in rehabilitation: (1) the learning process, (2) motor activity, and (3) cardiovascular function.

LEARNING PROCESS.—The learning process is a basic neurophysiologic activity of man, which always involves the sensory and motor apparatus. Rehabilitation is primarily a learning or relearning process. In the child it is a process of learning of new functions, and some would prefer the term "habilitation" rather than "rehabilitation." Whatever, the correct word, the objective is the learning of skills which utilize the potential of the structures and functions that remain. It is for this reason that we object to the commonly used term, muscle re-education. The brain

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determines all motor activity, which is in turn dependent on the capacity of this brain to receive and organize sensory stimuli from the outside world. Motor function is from this approach only the end result of the response to the perception and organization of exteroceptive and interoceptive stimuli. Rehabilitation care, therefore, requires a thorough evaluation, especially in the brain-damaged child, of (*a*) his sensory perception, (*b*) his capacity to organize that which he perceives, and (*c*) his motor function in relation to this sensory organization. In the Bird S. Coler Hospital children's program, as in other rehabilitation programs, all children routinely have ophthalmologic, hearing, and psychologic evaluations. These procedures are intended to determine not only intelligence quotient, per se, but also what and how the child perceives the world around him. We thereby acquire insight into the child's learning capacity and thus develop technics by which to work with these children. For example, we are treating a child who, until recently, has been considered as severely retarded and who, under ordinary circumstances, does not respond to verbal stimuli. We observed from our testing, however, that if he is placed in a darkened room, he follows oral commands readily. By this procedure we have improved one area of his sensory perception (the auditory) by supressing another sensory perception (the visual).

Out of this observation, among others, we have developed a procedure in the brain-damaged child of analyzing each sensory activity and resynthesizing them, where possible, in accordance with the patient's needs. Thus, at one time this may mean reducing the number of stimuli impinging on the child, such as treating him in a darkened or quiet room; in a second child it may mean providing additional learning cues, such as sound or color, and in a third, some supportive device, not for weight-bearing but rather for proprioception.

MOTOR ACTIVITY.—The second area for consideration in the physiology of rehabilitation is motor activity. Any consideration of motor activity must take into account the musculoskeletal structures and the nervous apparatus which activates them. All problems of handicapped children treated in a physical medicine and rehabilitation program are generally related to impairment of either or both systems. The major structures which participate in motor activity and which we will consider are muscle, bone, and nerve.

In the handicapped child loss or lack of development of motor power is a frequent concomitant of the disability. Since it is well established that one of the factors of motor power is muscle bulk, we seek to develop motor power by hypertrophy of muscle fibers. We accomplish this hypertrophy in keeping with the principle that tissues respond to stress. In muscle the response to stress is in the form of hypertrophy of muscle fibers. The stress agent that we employ is resistive exercise, wherein the patient performs work. This activity leads to an increase of motor power. The essence of resistive exercise is the active participation of the patient because, as is also well established, passive exercises, such as massage or stretching, will not improve motor power, no matter how long the procedure is performed.

It is axiomatic that bone formation and resorption are maintained in a state of dynamic equilibrium and are influenced by motor activity. For example, it has been clearly established that prolonged immobilization of over ten weeks leads to osteoporosis and concomitant deposition of calcium calculi in the kidneys and muscles. On the other hand, weight-bearing aids in the formation of the osteoid protein and deposition of calcium in the bones. Thus, the disabled child or adult will show the end results of these dynamics depending on the care and activity provided. For example, in patients with arthritis, paraplegia, and poliomyelitis, osteoporosis is in part due to the immobilization and disuse.

The first principle of muscle function requires that the muscle fibers be innervated. In motor disabilities in which the nervous system is involved, flaccidity is generally associated with lower motor neuron disease, as in poliomyelitis; spasticity is associated with upper motor neuron disease and athetosis presumably with basal ganglion disease. The judicious application of the experience and principles of neurophysiology to clinical problems frequently facilitates treatment planning. Thus, in damage to the anterior horn cell, as in poliomyelitis, the cell is either recovered or completely lost within a short interval of time, that is, within weeks. A portion of the muscle may thus be completely denervated. In our experience, with adequate treatment one year should be sufficient to gain maximum power of the remaining innervated muscle fibers. Yet, parents will continue to seek additional therapy for the child who has had adequate treatment years after the initial attack in the hope of gaining innervation or new motor power.

Cardiovascular Function.—The third area of physiologic activity with which we are concerned is cardiovascular function. This aspect is, of course, of greater consideration in the adult or geriatric patient. But the fact is often disregarded that exercise tolerance is dependent on cardiovascular tolerance. The participation in active exercises leads to an increased tolerance of the cardiovascular system with an increased stroke volume, a relative decrease in pulse rate, and greater vasomotor stability. This principle is especially important in the child who possesses cardiorespiratory embarrassment of whatever etiology.

On the other hand, immobilization and bed rest may bring about a definite deterioration in the mechanisms essential for adequate circulation in the erect position. In a study on immobilized, bedridden normal subjects by Dietrick and Shorr,[2] they state, "Within one week of the time immobilization was instituted, there began to develop an increasing tendency of the subjects to faint during tilt-table tests." In clinical practice this experience of faintness is frequently seen after short-term as well as long-term illness. However, in chronic disease this faintness and vasomotor instability which occur when the child sits or stands is often interpreted as the result of excessive strain on the child, and the recommendation may be made that the child should be bedridden an additional period of time. In these instances the cause of the symptom is misinterpreted, and the prescribed bed rest may lead to exacerbation of the symptoms.

We have thus reviewed the major physiologic factors which provide the theoretic basis for rehabilitation care, i.e., the learning process, motor activity, and cardiovascular function.

Rehabilitation procedures must also take into account the total physiology of the patient, for example, metabolism, nutrition, growth and development, and psychologic and social factors. Let us consider each of these factors.

1. *Metabolic factors:* In regard to metabolic factors, Ancel Keys[3] has stated, "Bed rest produces deconditioning...and these changes in performance are accompanied by fundamental alterations of a more general nature. Bed rest alone produces significant negative balances in nitrogen and potassium and a shrinkage in blood volume and considerable disturbance in vasomotor and proprioceptive adjustments." It may be inferred that in consequence of these metabolic changes there will be alterations in muscle function and structure. For example, in the excellent studies performed by Shorr and his group[2] at New York Hospital in 1945, this is substantiated. They have clearly shown that immobilization and bed rest can of themselves result in significant decreases in muscle strength. According to these workers, it took approximately four weeks in the recovery period for the immobilized extremities of normal human subjects who had been immobilized for six weeks to return to the preimmobilization state.

2. *Nutrition:* Nutrition is an area that is frequently neglected in these children as well as in adults, particularly from the point of view of overfeeding rather than from underfeeding. If a normal child has his activity severely curtailed, maintenance of a high-caloric diet quickly results in obesity. In the handicapped child such obesity will add to his difficulty in learning technics of rehabilitation. Another nutritional consideration is the fact that immobilization reduces the utilization of protein substances for the maintenance of muscle tissue. We find, therefore, that despite a high-protein intake, immobilized muscles continue to atrophy.

3. *Growth and development:* Too often, we look on the disease of a child with his disability as a static phenomenon. The chronic disease and the disability are a process of which we only record the observations of that moment, hour, day, or year. The same contracture in a child of four may create one disability and in the child of fourteen quite another. As a result of disease, an involved extremity may not grow as rapidly as the normal structure, and so a more severe disability may result by the time the child is fourteen. The syndrome which we designate as cerebral palsy may change significantly with years. It is commonly known that some athetoid tremors improve with the years; others worsen. Thus, the rate and direction of growth and development influence the character of disease and disability. We must always be aware that it is a dynamic process rather than a fixed state, whatever the illusory stationary character of the disability may be.

4. *Psychosocial factors:* Another sphere which

must always be kept in mind for the rehabilitation of the handicapped child is the psychosocial aspect. Although this area does not lend itself as readily to objective study as others already discussed, it is perhaps no less physiologic and certainly no less important to the health of the child. Participation of the handicapped child in a well-planned activity program will help the child in his integration into society.

From a review of these physiologic considerations certain conclusions may be drawn. First, it is obvious that rehabilitation care requires the active participation of the patient. If the child has pneumonia, whether the child cooperates or not, the success of treatment is likely to be determined by the effectiveness of the antibiotic prescribed by the physician against the bacterial invader and by the nursing care provided. In rehabilitation the patient must actively participate in order to gain new function.

As of today there is no new brace, gadget, gimmick, or magic drug that can be prescribed which will tomorrow solve all problems for the handicapped child. Although there is a place for the assistive device or brace to facilitate function, no such device will ever be invented in which the patient will be a passive object.

The second corollary of these physiologic principles is that care in physical medicine and rehabilitation is symptomatic treatment. Although the pathophysiology of the disease is essential to understand prognosis and contraindications for treatment, therapy is not directed to the disease itself but rather to the symptomatology. Treatment is conducted to gain strength in flaccid paresis whatever the etiology; treatment is conducted to gain skills in hemiplegia no matter where the locus of brain pathology or what the etiologic agent (be it Rh factor, viral encephalitis, or cerebrovascular accident).

It is by applying these principles to the treatment of the handicapped child that the field of physical medicine and rehabilitation has developed skills and facilities for his care. Many of these technics are not new, but rather the application has become more sharply defined.

Technics of Rehabilitation

Let us consider the hospital rehabilitation care of a child. We might present any number of disabilities to emphasize the principles of rehabilitation care. For this discussion we will present the care of a child with cerebral palsy because it manifests multiple problems. Let us assume this youngster is an eight-year-old spastic cerebral palsy boy who has severe flexion contractures of the knees, speech difficulty, and apparent retardation and who requires the use of a wheelchair. The objectives of care of such a child would be (1) to improve speech, (2) to improve self-care, such as dressing, feeding, toileting himself, (3) to help him to learn to walk, (4) to correct the flexion contractures which contribute to his difficulty in walking, and, finally, (5) to improve his educability.

Correction of Contractures.—Let us start with his contractures. In clinical practice the term contracture refers to a limitation of movement at a joint caused by a fixed shortening of a muscle and its tendinous attachments. In this patient whom we are discussing, contractures are presumably secondary to the spasticity of the muscles which, after a prolonged period of malposition of the joint, leads to shortening of the tendon and supporting tissues of the muscle. I use the word "presumably" advisedly because, to date, we do not understand the biochemistry and histopathology of contractures, although our technics, which are admittedly empiric, frequently give satisfactory results. It is perhaps surprising that a phenomenon such as contracture, which is so frequently seen in clinical practice, is so poorly understood. Adams, Denny-Brown, and Pearson,[4] in their book on *Diseases of Muscle,* make this statement concerning contractures: "There is still relatively little exact information as to the cause of the shortening of the muscle after simple immobilization, and the reactions of the elastic tissue of the endomysium and its content of collagen and elastin have not been explored in this respect."

Conservative methods should first be employed in this patient to see if the contractures might be corrected by passive stretching, utilizing physical therapy. This procedure should be done several times a day. Such stretching might be supplemented by the child himself lying on his stomach in a position in which gravity would assist and tend to counteract the contracture. Stretching may also be accomplished by the participation of the child in play therapy or in an adapted sports program in which the child must extend the knee, such as in kicking a ball. This type of play activity conforms to the principle of rehabilitation that purposeful activity is often more productive than nonspecific exercise. Whatever increase in range of motion is attained may be maintained by a split plaster mold which is applied at night. Caution against the use of pillows or positioning which would relieve the pain of stretching should be emphasized. These contractures, whether in a child or adult, are made worse by oversolicitous relatives, nurses, or physicians who will place a pillow or support under a contracted knee in order to ease the pain. Such support may give temporary relief to the pain, but it will exacerbate the disability.

If these technics are successful, the use of bracing or a mold may maintain the extremity in full extension so that the child may be able to apply full weight-bearing efficiently to the leg. If the contracture cannot be overcome, orthopedic surgical intervention may be indicated. Whatever the orthopedic procedure, be it tenotomy or neurectomy, the postoperative care of the contracture is as essential, if not more so, as the preoperative care that has been described. The postoperative return of the contracture has been too often witnessed in spite of excellent surgery, because the conditions which encouraged its initial development remain unchanged.

Following the correction of these contractures the child is gotten up on full-length leg braces, and ambulation is taught. We call this kind of walking ambulation because it simulates walking, but walking with braces, between parallel bars, or on crutches is hardly walking. The entire pattern of motion, of weight-bearing, of gait is different. As the child progresses in these ambulation exercises, the objective is one of obtaining his maximum independence. Walking with no cane is better than with one; one cane is better than crutches, or crutches are better than a wheelchair existence, if feasible. Our ideal would be to enable the child to get around without any supportive devices whatsoever. However, in many this can never be attained.

Ambulation.—The first objective in getting a child up to walk is to get the child to stand with support, such as braces. From here we would try to get him to walk in a restricted area between parallel bars. An intermediate stage to crutch walking might be the use of a walker. Whether a walker facilitates the learning of independent ambulation is controversial. There are those who feel that using a walker or adapted appliance like it will never bring about independence of walking. Bronson Crothers[5] has stated that if the use of a walker does not enable the crawling, normal child to walk, there is no reason why it should do so in the abnormal one. Those who differ claim that the child gains new proprioceptive cues and organizes them as the result of being able to move about in the erect position independently. We believe that whether or not facilitation does take place, it is better to have a child who can get from here to there in the erect position by his own will and effort with the use of a device than it is to have him carried or wheeled there.

Crutch Walking.—There are many technics of crutch walking and many different types of crutches. Both the crutch and the technics have one objective: to provide the most efficient means of propulsion for the patient. Crutch walking usually requires the availability of strong triceps muscles. If the upper extremities have poor or fair musculature, graduated resistive exercises are given to increase strength and endurance. The use of graduated weights which must be lifted an increasing number of times will facilitate strength and endurance. This principle applies to all striated musculature. In the child, to accomplish this may require the use of games, such as having weights of different shapes and colors. Some crutches are devised to give added support to the extensor muscle groups of the arms. Others are devised to add cues for proprioception and stability in the ataxias.

Thus, the sequence from treatment of the contracture to ambulation exercises is a progression of activity directed toward the accomplishment of walking, which is a major aspiration of all the chronically ill.

Self-Care.—The occupational therapist and the rehabilitation nurse are involved in teaching the child self-care. Mechanical aids or gadgets may be devised to attain this goal. These may include the use of a special spoon, or shoes which require no shoelaces, or zippers instead of buttons, or a pencil with a special grip. All these which may be prescribed are devised to assist the child to assist himself. The objective of all self-care procedures is to attain the maximum degree of independence that the child can manage.

For one child, such as a youngster with rheumatoid arthritis, it may mean teaching the child to get in and out of bed by himself or toilet training; in a second with a fused hip, to be able to dress himself and put on shoes and socks. In the cerebral palsied child described earlier, it may mean teaching all of these activities plus learning to feed himself.

Speech Therapy.—Speech therapy will seek to improve the patient's ability to communicate. It involves all modalities of communication and is based both on biologic and psychologic factors. The neuromuscular mechanism of this cerebral palsied child has been disorganized. The speech is described as dysarthric, but this hardly defines what is involved. For example, the muscles of speech are also the muscles of mastication and deglutition (as well as of facial expression). The child is capable of chewing and swallowing and yet cannot utter intelligible sounds. This ability to perform some functions and not others is based on the hierarchy of functions in all of us from the most primitive biologic function to the highest cortical activity of thought. Speech capacity is interwoven with other capacities. Auditory and visual perception must be assayed and corrections made if need be. Then speech may be helped by lip and tongue placement and by teaching voluntary respiratory control through diaphragmatic and thoracic movements.

Education.—Finally in the ascendancy of skills comes educability. This is traditionally the role of the school teacher. But an essential participant in this area is the psychologist who not only can provide and estimate the child's intelligence quotient, but also can establish areas of sensory deficit and may provide suggestions for substitution for these perceptual losses. Thus, during the course of treatment the psychologist serves to re-evaluate the patient's ability to perceive and, thereby, to modify the treatment planning.

Associated with the problem of educability is the possibility of vocational exploration. We believe that many of these youngsters, when they reach their teens, might be involved in testing for vocational placement. Some of them could learn mechanical skills by which they might (1) learn a trade at a later date and earn a living, or (2) work in a well-structured environment, such as a sheltered workshop, and thereby do meaningful work and earn an income in a less competitive setting than outside employment, or (3) do work in a home situation. At Coler Hospital we have a sheltered workshop for adults and are initiating a program for the handicapped adolescent. There are many outside vocational agencies which can help those children who can function in an outpatient setting.

One of the responsibilities of medicine with regard to vocational placement of handicapped children is the responsibility of overcoming prejudice. The prejudice lies not only among the employers and the workers but also among us physicians. Too often we are prejudiced by the facial expression and bodily habitus of a patient and assign an arbitrary mental capacity to that facies. Often we are correct, but many of these children have facial expressions that have been disturbed by disease, and too often we do not know what lies behind the face. For example, consider a patient with poliomyelitis who has had a facial diplegia and has an immobile facies that masks the intelligence. What is more significant is that these children begin to respond unfavorably to the attitudes and expectations of their society. It is incumbent on us physicians to help eradicate this type of prejudice so that these youngsters may truly have equal opportunities.

Throughout the child's care, there must be constant re-evaluation with short-term goals and rediagnosis and arrival at new goals. Only by this means may we apply the principle of growth and development in an integral manner to therapy. Too often we label a diagnosis in a static manner, and as a result too often our therapeutic objectives remain static and unchanging. This is the key to the care of all handicapped children, whatever the etiology. The care of this child that has been described should be seen, then, as the application of all principles that have been reviewed.

Home or Institutional Care

The rehabilitation care of the outpatient and of the homebound child does not differ significantly from the hospitalized child. Obviously there are treatment procedures which can only be provided in a hospital setting, such as orthopedic surgery. When hospital care has been accomplished, the child should be discharged for outpatient or home care.

Every physician treating children realizes that ideally every child belongs in his own home. Studies in England during the last war by Bowlby[6] strongly supported this view; even the poorest home situation was better than the best institution for the physically normal. I daresay this principle applies as well to the handicapped, who also misses the home and community environment and the security of parental affection and attention. Institutional care for the physically handicapped child should be for a limited period of time and should be provided only for care that cannot be obtained at home or in an outpatient department. It is given for the most severely disabled who can be benefited only by intensive daily therapy for a restricted period of time. If the child requires further hospitalization, we recommend that it be given for short periods of time at intervals of not less than one year. By this means too we believe that the process of growth and development which will take place, whether in home or hospital, may bring with it new capacities for teaching new skills.

Quite appropriately new rehabilitation centers are being developed throughout the country and especially in large urban communities. But it is our conviction that most handicapped children can be adequately cared for in the home by the family physician or the pediatrician with the assistance of other professional services.

Too often these children have a roster of physicians who have cared for them which could easily be large enough to staff a small-sized hospital. These children, like any others, need a family doctor or pediatrician who can guide the family and supervise the over-all care. Such care is not the limited period of three months or three years. This doctor may call upon the skills and advice of specialists, whether it be the physiatrist, orthopedist, or neurologist, but it is incumbent upon him to follow the child to adulthood, if not throughout life. Too often these youngsters may obtain excellent care for a limited period of time only to regress or be left in a void because of lack of continuing guidance.

Conclusion

Nothing arouses greater sympathy in human society than the suffering of the handicapped child. In many previous societies and in some primitive peoples today, it was the custom to put these children to death and thereby relieve their misery and eliminate the social and family burden. Today, our attitudes toward this type of a solution have changed, but whether or not these children will be salvaged and become socially useful depends to a large extent on the effectiveness with which we physicians can rehabilitate them.

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Chronic Hypervitaminosis A

There has been a tendency to overestimate vitamin A requirements of the normal person and to underestimate the dangers of overdosage. In fact, in the opinion of some authorities, the routine administration of vitamin A to well-nourished, healthy infants is more dangerous than omitting it. The widespread use of vitamin A preparations as supplements in feeding, often continued to school age, the massive doses sometimes used for common skin disorders, "therapeutic trials" in conditions for which no specific treatment is known, advertising claims, and over-the-counter sales, all make chronic hypervitaminosis A of possible concern to the diagnostician. In describing the skeletal lesions and systemic manifestations of vitamin A intoxication, Henry S. Bloch, Ph.D., points out that in the last ten years over 20 cases have been reported in American pediatric literature. In the last three years, several adult cases have been described. The children were one to four years of age and had ingested at least 75,000 units vitamin A per day for a minimum of six months. A probable case of vitamin A intoxication in a man fifty-four is presented.—*Minnesota Medicine, September, 1955*

Atherosclerosis

The Present State of Our Knowledge

JOSEPH B. WOLFFE, M.D., FAIRVIEW VILLAGE, PENNSYLVANIA

(From the Department of Internal Medicine and Cardiovascular Diseases, Valley Forge Heart Hospital and Medical Center, Fairview Village, and the Wolffe Clinic, Philadelphia, Pennsylvania)

ATHEROSCLEROSIS today is a new challenge to the experimentalist, biochemist and biophysicist, the student of public health, and mainly, to the clinician.

The relatively recent acceptance of the term atherosclerosis[1] (*athero*, Greek for porridge or mush) has focused attention on the need to differentiate this common arteriopathy from the many vascular lesions included too long under the generic term of "arteriosclerosis."

In the recently published Tentative Classification of Arteriopathies by the Nomenclature Committee of the American Society for the Study of Arteriosclerosis,[2] atherosclerosis is identified under the category of degenerative arteriopathies. Many observers take exception to this view. I share this objection despite the fact that I have been serving as chairman of the committee. Table I delineates the features which differentiate atherosclerosis from other arteriopathies.

Atherosclerosis is still defined as a degenerative pathologic process affecting primarily large and medium-sized arteries in a patchy pattern, characterized by plaquelike intimal deposits which contain neutral fats, cholesterol, lipophages, and sometimes blood and other evidence of hemorrhage. The lesions may remain fixed or may enlarge, fibrose, calcify, or encroach upon the lumen. The intimal surface commonly degenerates and predisposes to thrombotic occlusions. This pathologic description is too limited in the light of recent clinical and laboratory observations.

We are now learning to recognize the earlier, nonvascular manifestations of atherogenesis, as well as the more widespread sequelae of the disease.

Stages of Atherogenesis

Three stages devoid of lines of demarcation may be considered: (1) atherosis, (2) atherosclerosis, and (3) atherosclerosis obliterans. All three are phases of a systemic process designated as atherogenesis.

TABLE I. TENTATIVE CLASSIFICATION OF ARTERIOPATHIES

A. Degenerative arteriopathies
  1. Atherosclerosis—factors considered in pathogenesis:
    (*a*) Heredity, sex, body type, and age
    (*b*) Disturbance in lipid and carbohydrate metabolism
    (*c*) High-caloric and high-fat intake
    (*d*) Various endocrinopathies
    (*e*) Mural lesions
  2. Medial calcific sclerosis (Moenckeberg's)
  3. Arterionecrosis
    (*a*) Cystic medionecrosis
    (*b*) Toxic arterionecrosis
    (*c*) Arterionecrosis of physical origin
    (*d*) Arteriolar necrosis (arteriolonecrosis)
B. Productive or hyperplastic arteriopathy (hypertensive vascular disease)
C. Inflammatory arteriopathies
  1. Infectious
    (*a*) Syphilitic
    (*b*) Bacterial
    (*c*) Plasmodial
    (*d*) Viral
  2. Attributable to abnormal tissue responses (hypersensitivity)
    (*a*) Polyarteritis nodosa (periarteritis nodosa; essential panarteritis)
    (*b*) Arteritis associated with systemic lupus erythematosus
    (*c*) Arteritis associated with scleroderma and acrosclerosis
    (*d*) Arteritis associated with rheumatic fever
    (*e*) Thromboangiitis obliterans
    (*f*) Cranial arteritis (giant-cell arteritis; temporal arteritis)
  3. Traumatic arteritis
    (*a*) Chemical
    (*b*) Physical
    (*c*) Mechanical
  4. Undetermined or uncertain origin
    (*a*) Thrombotic thrombocytopenic purpura
    (*b*) Nodular vasculitis
    (*c*) Aortic arch arteritis (young female arteritis; pulseless disease)
D. Primary thromboembolic arteriopathies
  1. Embolism
    (*a*) Detached thrombus or vegetation
    (*b*) Air
    (*c*) Fat
    (*d*) Foreign bodies
  2. Essential arteriothrombosis (in situ)
E. Combined forms of arteriopathies

ATHEROSIS.—Atherosis is the most difficult stage of the disease to recognize. There are no

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laboratory tests either to confirm or exclude its presence.

The experienced clinician comes to recognize a profile pattern which suggests atherosis. In most instances there is a family predisposition to this disease, a history of diabetes mellitus in some members, xanthomas or familial hypercholesterolemia, and vascular occlusive disease in others. The individual may have a sallow complexion, appear somewhat older than his age, uniformly overnourished and of sedentary occupation but not necessarily obese.

Some atherotics have xanthoma of skin and tendons, quantitative and qualitative dyspepsia, cholecystitis and cholelithiasis, diabetes mellitus and, at times, transient glycosuria without hyperglycemia, although an abnormal sugar tolerance curve may be encountered. Lack of pep and drowsiness after meals are among minor complaints.

Physical examination usually is negative from a cardiovascular point of view. The only finding suggestive of the disease is a slightly enlarged liver which is soft but not tender. It takes experience, however, to palpate this type of liver.[3]

ATHEROSCLEROSIS.—Atherosclerosis, the second stage of the disease, assumes a more pronounced clinical pattern. The liver becomes more enlarged, xanthomas may spread, and early signs of impairment of arterial circulation may appear. The vessels of the lower extremities frequently are asymmetrically affected. For this reason examination of the dorsalis pedis and posterior tibial arteries constitutes an important part of the physical examination.

At this stage x-ray visualization of the abdominal aorta by the Bucky technic affords valuable information in determining the presence, although not necessarily the absence, of atherosclerosis. Such roentgenologic findings are especially revealing because both experimental and clinical studies have shown the abdominal aorta to be the most common site of the disease.

ATHEROSCLEROSIS OBLITERANS.—The third and occlusive phase of the disease, like atherosclerosis, may be symptomatic or asymptomatic. The symptoms, if any, make their appearance at the locus minoris resistentiae, be it brain, eye, heart, kidney, or limb. The severity of the symptoms depends upon the rapidity with which the occlusive phase occurs, the ability of the individual to meet the particular stress reaction, and the establishment of collateral circulation.

Attention should be called to a fairly common manifestation of atherosclerosis obliterans which involves the lower portion of the abdominal aorta at its bifurcation. It is one of the causes of the Leriche syndrome.[4] This may be suspected when the patient complains of weakness in the legs, slowly progressive and associated with pain in the buttock and increasing fatigue of the lower extremities on walking. It is an overlooked cause of impotence and the inability to hold an erection.

Here, of course, roentgenologic examination of the abdominal aorta reveals more extensive calcification and narrowing of its distal portion, with involvement of the common iliacs. On palpation the femoral pulses either cannot be felt, or their pulsations are markedly impaired. Both extremities appear symmetrically atrophied. Aortography with contrast media is not essential in this condition and often amounts to trying to prove something that is obvious on physical and roentgenologic examination. On the other hand, this procedure may be necessary if surgery is contemplated, in which case aortography is important in locating the precise site of obstruction.

Although the pendulum is swinging toward surgical correction of this extensive pathologic lesion, in our experience conservative medical management, as will be mentioned under treatment, has proved quite satisfactory for the last decade.

Biochemical and Biophysical Studies in Diagnosis of Atherogenesis

Determination of blood cholesterol and cholesterol-phospholipid ratios have been used by many investigators as in index of atherogenesis. Gofman and his associates, using the ultracentrifuge, found an increase in the S_f 0-12 and S_f 12-400 classes of lipoproteins in cases of coronary heart disease. They concluded, therefore, that there is a relationship between atherosclerosis and the size of lipoprotein particles.[5] For practical purposes Gofman's findings were found to parallel blood cholesterol levels except in rare metabolic disturbances. Similar information, however, can be obtained by electrophoresis.

Blood cholesterol, implicated S_f fractions, and electrophoretic lipoprotein curves do show a trend, but there is not yet enough agreement on this valuable work to warrant routine adoption in clinical medicine of these complicated and, as yet, costly procedures. It is possible that the difficulty in evaluating this type of work may be traceable to the assumption that every case of coronary artery disease is due to atherosclerosis.

It may be noteworthy that patients who suffer from angina pectoris due to coronary atherosclerosis have shown symptomatic improvement, with an apparent arrest of the atherosclerotic process, following treatment with I^{131}.[6] This is in spite of an induced hypothyroidism followed by an enormous rise in blood cholesterol levels ranging from 200 mg. per cent to as high as 600 mg. per cent. Such a phenomenon points to the possibility that the physical molecule of cholesterol may be different in this type of hypercholesterolemia.

Regrettably, there seems to be no reliable biochemical or biophysical test as yet to establish or exclude the presence of atherogenesis.[7]

Can Clinical Evidence of Coronary Heart Disease Be Used as a Sole Indication of Systemic Atherosclerosis?

In the light of our present knowledge this is extremely doubtful. It is true that in most instances atherosclerosis is responsible for coronary heart disease, but coronary heart disease may be due to other arteriopathies, many of which are listed in Table I.

We encounter many deaths, clinically attributable to coronary heart disease, in which the atheromatous lesion, if found at autopsy, is in itself too minor to account for sudden death, whether we explain it on the basis of coronary spasm or ventricular fibrillation. In a significant number of these cases characteristic adventitial lesions are found in both atherosclerotic and nonatherosclerotic subjects. Gerlis[8] describes them thus: "The adventitial lesions consist of discrete foci of small round cells which appear to be identical with lymphocytes. The distribution is essentially perivascular, forming collars around the vaso vasorum of the large coronary arteries."

Because the lesions involve the adventitia of the large coronary arteries and the vaso vasorum of those arteries, severe coronary spasm, causing angina pectoris not unlike intermittent claudication, is quite plausible. The postmortem pathologic findings of the heart and even of the coronary arteries may be insignificant unless carefully looked for. However, should the coronary lesion be part of generalized atherosclerosis, then the likeihood is great that the x-ray examination of the abdominal aorta, as mentioned earlier, will be a more valid index of the presence of the disease. Together with other associated findings this may be used to establish a diagnosis of this particular arteriopathy and may serve as a dependable basis for clinical investigation. It is, however, not an index of the presence of coronary artery disease.

Etiology

Since atherogenesis is a polyetiologic disease, there is no agreement yet on any one cause.

Is Atherosclerosis a Disease of Senescence?—Hardly!

1. While advanced atherosclerotic changes have been seen in children and particularly in young soldiers,[9] octogenerians have been found at autopsy to have had blood vessels which many would be glad to possess at middle age.

2. The disease seems to have epidemiologic characteristics. It is prevalent in some countries and virtually absent in others. Therefore, it is questionable whether senescence is a major factor in this disease.[10]

However, it is important to keep in mind that there *is* such an entity as the aging artery. This is characterized by fibrosis with replacement of muscular and elastic coats by collagens, elongation, and tortuosity. These changes account for the corkscrew appearance of the temporal as well as other arteries. The vascular changes of senescence have a uniform distribution, and most important, in contradistinction to atherosclerosis, they do not cause occlusion of the vascular lumen and are, therefore, of no clinical significance.

Diet and Atherosclerosis.—Here, one may state categorically that a *high fat and high cholesterol intake per se is no more the cause of atherosclerosis than a high carbohydrate intake is the cause of diabetes mellitus.* Potential subjects who, over a period of years, indulge in a diet containing more than 20 per cent of animal fat calories seem to suffer from the sequelae of atherogenesis at a comparatively early age. The incidence appears to be greater in those whose diet is rich in animal fat and cholesterol or whose total food intake is in excess of the expenditure of physical energy. The incidence of atherosclerosis tends to be reduced in a measure that parallels the diminution of general food availability, particularly fat.[11]

HEREDITY.—Heredity as a factor in atherogenesis is more and more universally accepted. There seems to be a definite familial predisposition to such diseases as diabetes, hypertension, rheumatic fever, atherogenesis, and other arterial disorders. These diseases, in which hereditary predisposition may be an etiologic factor, usually manifest themselves in environmental circumstances favorable to the condition. By their way of life, susceptible individuals, therefore, may virtually invite atherogenesis and other ailments related to metabolic disorders. It should be emphasized that the disease as such is not inherited; only a predisposition or susceptibility to it may be passed along to offspring.

THE ROLE OF THE ENDOCRINE SYSTEM.—Dysfunctions of the thyroid, pituitary, adrenals, and gonads and even the liver have been implicated. There is not sufficient proof, however, that these glands have a direct etiologic relationship to atherosclerosis.

THE ROLE OF THE PANCREAS, METABOLIC BRAIN OF THE BELLY.—Pancreatic dysfunction as a possible cause of atherogenesis deserves further investigation for the following reasons:

1. Nearly thirty years ago Professor Henri Vaquez, one of the keenest clinicians of this century, gave me the benefit of an important personal observation. He noticed that in his diabetic patients who had stenocardia and leg cramps, particularly on walking, symptomatic relief was obtained following the use of the then crude form of insulin. On the other hand, a number of such patients treated in later years with *purified* insulin noted aggravation of such symptoms, and in some instances angina pectoris and intermittent claudication seemed to be precipitated.

While the pancreatic dysfunction may be a most important factor in atherogenesis, it is important to keep in mind that the pancreatic disease is often secondary to chronic infection, biliary disease, and presumably other causes.

2. The frequent concomitance of atherosclerosis and diabetes mellitus.

3. Well-controlled diabetic patients still succumb as a result of atherosclerosis.

4. The frequent incidence of pancreatobiliary diseases and atherosclerosis.

5. The constantly accumulating clinical evidence that treatment with polyextracts of the pancreas seems to retard and in some cases even suggests regression of atherosclerotic lesions.[12]

6. It is hardly possible that the internal secretory portion of as large a gland as the pancreas should have as its sole function the manufacture of insulin and glucagon, for which but a fraction of the gland should suffice.

All these important observations point to the pancreas as a significant factor in the genesis and management of this disease. Here is a neglected area for study which should be a challenge to the investigative-minded.

THE SEDENTARY LIFE AND ATHEROSCLEROSIS.—While there is wide agreement that in susceptible individuals a sedentary life predisposes to atherosclerosis, a recent statistical survey based on information contained in death certificates over a long period is most revealing. The figures showed atherosclerosis to be as prevalent among manual workers as among executives.[13] The word "manual," however, does not carry the same connotation in this age of automation that we have been accustomed to associate with it. The increased incidence of the disease among so-called "manual" workers of today, unlike the heavy laborer of the past, may have something to do with the button-pushing nature of the job while the muscles remain comparatively inactive. This may represent one fallacy in the reported study.

A more important fallacy may lie in the fact that data on death certificates were not differentiated between one arteriopathy and another. The clinician is only now beginning to make this differentiation.

In studies of more than 500 outstanding American athletes *who are continuing strenuous athletic endeavors,* especially including old marathon runners up to sixty-seven years of age, we have been impressed by the lack of clinical stigmata of atherosclerosis as compared to the general population in the same age groups. The food habits of the athletes, incidentally, were the same as those of their nonathletic contemporaries and often with a far higher percentage of calories in fats. Until more convincing evidence is available, it is fair to assume that physical inactivity is an important factor in the etiology of atherogenesis.

Treatment

DIET AS PROPHYLAXIS AND THERAPY.—Diet seems to play a major role in the prevention of atherogenesis in *susceptible individuals.* Nothing can take the place of a low-fat diet with a caloric intake adjusted to the individual's needs. This type of diet can be made interesting and very palatable. Within the indicated caloric need the diet may include: fresh fruits and vegetables, lean meats, fowl, game; seafood, such as oysters, clams, lobster, and all kinds of fish *except* tuna, carp, and mackerel; cottage cheese, skimmed milk, buttermilk, and yogurt; salads with vinegar or wine dressing, olive oil, and corn oil can enhance any menu. There are many books on the subject, and a little imagination can go a long way toward making life enjoyable on a healthy diet.

In recent decades our national diet has become enriched by the intake of animal fat. The national average has risen from 30 per cent of calories from fats in our diets to the current level of 40 per cent. The diets of American soldiers show them to consume as high as 45 per cent of fat calories. It has been suggested that phytosterols be administered with meals as an adsorbent of exogenous cholesterol. It seems to be more reasonable, however, to cut the fat caloric intake to 20 per cent than to swallow phytosterols with each meal or to revert to the feather and vomitorium of antiquity as the Romans did after indulging in food orgies.[14]

THE ROLE OF PHYSICAL ACTIVITY.—Sustained, judicious physical activity over a lifetime seems to be a prophylactic and therapeutic measure in atherogenesis. Even in the chronic postobliterative stages of atherosclerosis, judicious physical activity should be encouraged. Mild, temporary anoxia resulting from indicated physical exercise might reasonably be the best vasodilator. Noncompetitive recreational activities are to be preferred with emphasis on play rather than *dis*play. However, sudden, unaccustomed strenuous activity should be stringently avoided. Whenever possible, productive work should be continued.

THE ROLE OF ESTROGENS AND ANDROGENS IN ATHEROGENESIS.—A great deal of investigative work has been done in this area, but nothing conclusive can be stated at this time. While estrogens, particularly estradiol, will aggravate atheromatous lesions in young cholesterol-fed rats, it inhibits the coronary lesions in older noncastrated rats. Atheromatous lesions of the abdominal aorta, on the other hand, become more severe following continued use of estradiol in animals.[15] The role of these steroids in human atherogenesis remains a fertile field for further study.

ANTITENSOR DRUGS IN ATHEROSCLEROTIC HYPERTENSION.—This type of hypertension has been described but has not yet been accepted as an entity. It is one of the sequelae of atherosclerosis obliterans, in which the renal artery is involved, and is a morbid anatomic lesion simulating a Goldblatt clamp on a renal artery.

It is important to differentiate this type of hypertension from other types because the use of antitensor drugs may prove to be dangerous to atherosclerotic hypertensives by decreasing essential blood flow to vital organs through already narrowed arteries. Needless to say, the judicious use of hypertensor drugs today is a lifesaving, life-prolonging factor in *essential hypertension*.[16]

METHIONINE, CHOLINE, AND INOSITOL.—Some investigators have found that these substances used separately and in combination tend to lower blood cholesterol levels and influence favorably cholesterol-phospholipid ratios. In the cases reviewed for this presentation, we failed to find confirming evidence for these claims. Experimental work with animals strongly suggests the value of methionine and, to some extent, choline as lipotropes, when used in large enough doses. It has been suggested very recently that the ratio of chylomicrons to lipomicrons may be a useful laboratory procedure in evaluating the effectiveness of these substances.[17] This is extremely interesting. The lack, thus far, of laboratory confirmation does not rule out the possibility that methionine, choline, and inositol may be of therapeutic value in atherogenesis. The usefulness of these substances should be investigated further.

ANTICOAGULANTS IN ATHEROSCLEROSIS OBLITERANS.—The current attitude toward employment of anticoagulants seems to follow an all-or-none law. The most desirable course is to use anticoagulants only when indicated. Routine use of anticoagulants is still open to question.[18]

POLYEXTRACTS OF THE PANCREAS AS A THERAPEUTIC MEASURE.—Inspired by the previously mentioned observations of Professor Vaquez, we succeeded in recovering and combining with insulin many pancreatic fractions from the discarded byproducts of insulin manufacture. This polyextract administered parenterally produced encouraging results in the treatment of the sequelae of atherosclerosis obliterans. This has been true in diabetic and nondiabetic subjects. The method of preparation and administration has been published in detail.[19]

Some investigators are not impressed with the efficacy of pancreatic extracts, but their published data do not indicate their method of preparation or the duration of this therapeutic regime. Our own clinical experience with thousands of cases has warranted the continued routine use of this polyextract of the pancreas in diabetic and nondiabetic atherosclerotic patients.

Where the sequelae of the disease do not seem to respond to the above-mentioned therapy, intravenous infusions of ether are given, beginning with 10 cc. and gradually increasing to 40 cc. if tolerated. Alcohol is added where pain is a factor. These infusions are administered daily for several weeks or longer, as indicated, in solutions of 5 per cent dextrose with water-soluble vitamins in distilled water, which are available and employed in many hospitals for fluid replacement. This too has been published in detail. The patient's ability to handle an additional fluid load must be considered, and a diuretic should be administered whenever indicated, either before or during the infusion.[19]

RELIEF FROM SITUATIONAL STRESS.—In the obliterative phase of atherosclerosis, as in all other diseases, stress plays an important role, and for this reason situational impacts should be eliminated or eased whenever and wherever possible. However, the actual relationship of psychologic stress to atherosclerosis as an etiologic factor has been questioned by many authorities. The incidence of the sequelae of atherosclerosis obliterans was markedly diminished in prisoner-of-war and concentration camps, which were packed with situational stresses and very meager in diet. This observation must have prompted Arnott[20] to remark, "How much nicer it is when stricken with coronary thrombosis to be told that it is all due to hard work, laudable ambition, and selfless devotion to duty than to be told it is due to gluttony and physical indolence." This statement is an oversimplification. The present status of our knowledge would point to the pancreas as a possible etiologic factor as well as a source for a possible therapeutic agent in atherosclerosis.

Summary

We have defined atherosis, atherosclerosis, and atherosclerosis obliterans. The role of the endocrine factors, particularly the pancreas, diet, and vigorous muscular activity has been reviewed both from the etiologic and therapeutic point of view.

A clinical approach to the recognition of the various stages of atherogenesis has been suggested. Various diagnostic and therapeutic procedures have been briefly evaluated. Recommended treatment was based on 2,000 cases reviewed for this presentation.

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Now learn what and how great benefits a temperate diet will bring along with it. In the first place you will enjoy good health.—HORACE

The Treatment of Severe Osteoarthritis

CHARLES J. SUTRO, M.D., NEW YORK CITY

(From the Departments of Orthopedic Surgery of Fordham Hospital and the Hospital for Joint Diseases)

Articular surfaces of bones affected by osteoarthritis in its severe form cannot be restored to a normal state by any medical or surgical procedures. Some patients with severe osteoarthritis, as noted radiographically, may have minimal local complaints. Other patients with equally severe osteoarthritis complain of severe local pain and swelling. The reasons for the differences in the reaction to pain in these osteoarthritic joints are not clear.

Since osteoarthritis is a common lesion in older patients, one must be on the "lookout" for other pathologic conditions causing pain in an osteoarthritic articulation. Metastatic tumors, myelomas, and local or generalized porosis are some of the lesions encountered in or about the abnormal joint regions. Another frequent cause of pain in an extremity is arteriosclerosis at the distal portion of the aorta. There are innumerable other lesions which produce pain in extremities. Osteoarthritis per se should *not* be considered as the main cause for joint pains without a complete clinical survey.

What Is Osteoarthritis?

Osteoarthritis is a process which produces a progressive fibrillization and loss of substance in the articular cartilages. With the gradual loss of the articular cartilage, there occurs subchondral and synovial lining changes which may be outlined as follows:

1. Increase in subchondral bone formation—*sclerosis.*

2. Formation of subchondral zones of rarefaction—*cystlike lesions.*

3. Production of proliferating bone at the margins of the articular cartilages—*exostosis,* perichondral metaplasia.

4. Formation of free or synovial attached bony and cartilaginous ossicles.

5. Hypertrophy and hyperplasia of the synovial lining and underlying subsynovial tissues.

6. Degeneration of the normal existing fibrous or fibrocartilaginous intervening tissues, such as the semilunar cartilages in the knee joint or the labrum in the shoulder or hip regions.

7. Alteration in the configuration of the bones of the joint.

These described changes may occur in the joints (facets) of the vertebral column. However, the alterations in the intervertebral disk tissues and the ossification of the ligaments binding the vertebral bodies are not the result of osteoarthritis. They are due to a metaplasia of ligaments or tendons (juxta-articular ossification of ligaments) occurring with or without degeneration of the disk tissues.* These changes affecting the vertebral column will be discussed under the general heading of osteoarthritis of the vertebral column.

Types of Osteoarthritis

The *primary* or *essential* type is that type in which the etiologic agent is unknown. It is assumed that the basis may be a primary chemical disturbance in the articular cartilages. One cannot rule out minimal abnormal variations in the shape of bones as the basis for production of osteoarthritis. Subclinical static or postural disturbances in the extremities may also play some part in the evolution of osteoarthritis.

The *secondary* or *sequential* type is that which follows a known etiologic agent. Some of these are intra-articular fractures; suppurative arthritis; healed infectious arthritis, gout, alkaptonuric arthritis; anomalous articular surfaces of bones; known postural abnormalities; alterations in bony architecture secondary to metabolic disease; any process which damages articular cartilage, such as nonspecific synovitis, villonodular synovitis, tumors, etc.

The Hip Joint Region

Patient complains of pain in hip on walking or

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* Similar types of ossification may occur concomitantly in ligaments or tendons attached to the acromion, coracoid process, olecranon, greater trochanter of femur, patella, os calcis, and sacroiliac articulations.

on rising from sitting position, stiffness in the hip, limp, inability to climb, and inability to remove his shoes.

The physical examination discloses limited, painful motion in the hip region, especially in internal rotation and flexion; inability to cross the thighs; flexion and adduction deformity of the thigh (in some instances); tender femoral head.

The radiographic examination reveals the presence of irregularity in the contour of the femoral head which is flattened and enlarged; thickening of the inner wall of the acetabulum causing a double or triple "teardrop" appearance; sclerosis of the subchondral regions in the femoral head and upper acetabular roof; rarefaction and cystlike formation in the subchondral regions of the femoral head and acetabular roof; marginal exostoses on the femoral head and upper and inner acetabular surfaces; narrowing of the joint space; free bony ossicles in the articular cavity; lateral and upward luxation of the femoral head.

TREATMENT

Conservative Plan

1. Bed rest.
2. Traction to the affected limb in line of deformity. Buck's type of traction with stickers to the legs is utilized; 5 to 8 pounds are attached to traction stickers for periods from eight to ten hours daily. As the taut muscles are relaxed, the limb may be placed in traction in a physiologic position.
3. Warm packs to anterior and posterior surfaces of hip regions for several ten-minute periods daily.
4. Medications, such as aspirin, codeine, or salicylates, are administered for relief of pain.
5. Shortwave diathermy to the hip region.
6. When pain subsides, gentle weight resistance exercises are given to muscles about the hip region.
7. Canvas hip spica to limit mobility at hip region during walking and standing is used. This is to be worn for three or more months.

Surgical Plan

If pain and restricted motion are present after a trial period of conservative therapy for three or more months, consideration must be given to surgical intervention:

1. Arthrodesis: Obliteration of articular surfaces and application of bone grafts results in painless, motionless hip region. Disadvantages are (*a*) difficulty in removing shoes and (*b*) compensatory hypermobility at lumbosacral area, pubic symphyses, or knee regions.

2. Mobilization or arthroplastic operations: (*a*) The femoral head and the acetabular marginal exostoses are removed, and a Judet type of plastic head is inserted into femoral neck. Follow-up studies disclosed some complications.

(*b*) Another method is removal of femoral head and neck as well as the acetabular marginal exostoses. A metallic femoral head and stem are inserted into the upper end of the femur. Follow-up studies revealed the occurrence of pain if the acetabular surfaces are markedly involved by osteoarthritis. Friction of the metallic femoral head on the acetabular surfaces is the cause of pain.

3. Osteotomy: (*a*) Translocation subtrochanteric osteotomy results in shifting the femoral shaft beneath the osteoarthritic femoral head. This procedure diminishes the stress load on the femoral head. Follow-up studies disclosed relief of pain with slight improvement in range of motion.

(*b*) Resection of the femoral head and neck, removal of proliferative bone on margins of the acetabulum, and a pelvic support type of subtrochanteric osteotomy result in an increase of flexion of thigh. Some of the patients have a postoperative limp and minimal residual pain.

4. Neurectomy: Resection of the obturator nerve is done when patient complains of residual pain in the hip region or knee after arthrotomy or after subtrochanteric or resection type of osteotomy. Osteoarthritis of the hip region may cause pain in the knee.

Prevention of osteoarthritis of the hip region requires early recognition and treatment of slipping of capital femoral epiphysis, Perthes' disease, and congenital subluxation and dislocation of the femoral head.

The Knee-Joint Region

Patient complains of pain in knee or leg, recurrent swelling of knee, locking of knee, limited movement, and cracking sensation.

The physical examination discloses effusion, restriction in range of flexion or extension, crepitation and tenderness, lateral instability, and free bodies.

The radiographic examination reveals the presence of irregularity in the contour of the patella, fabella, femoral condyles, and tibial plateau; narrowing of the joint space; subchondral sclerosis or rarefaction; marginal proliferation of bone about one or all bones of the knee; free bodies in the articular cavity; effusion and thickening of the synovial and subsynovial tissues; lateral instability.

TREATMENT

Conservative Plan

1. Bed rest.
2. Traction in line of deformity—5 to 8 pounds of Buck's type of traction from eight to ten hours daily.
3. Aspirate if marked effusion is present. Inject 25 mg. of hydrocortisone into the articular cavity.
4. Warm packs to the knee area.
5. Medication for pain with aspirin, salicylates, codeine sulfate, and local injections of 5 cc. of 1 per cent procaine.
6. Shortwave diathermy.
7. Whirlpool therapy.
8. If traction does not correct flexion deformity, application of a well-padded plaster of paris bandage from groin to toes is indicated with careful, slow wedging of the plaster cylinder to increase range of extension at the knee.
9. Brace from groin to toes to be worn after leg has been fully extended either by traction or by wedging of plaster.
10. Resistance exercises to quadriceps muscles to prevent disuse atrophy.

Surgical Plan

1. If mechanical block is present, remove intra-articular ossicles or marginal bony proliferations.
2. Remove patella if it is markedly involved by large marginal bony proliferations. Recurrent subluxation of the patella with osteoarthritis is another indication for patellectomy.
3. Unilateral severe involvement with *painful* lateral instability justifies an arthrodesis (rule out neurotrophic involvement).
4. Arthroplasty is not advised in elderly patients because of protracted period of rehabilitation.

The Ankle Region

Patient complains of pain in ankle, local swelling, limited motion, and limp.

The physical examination discloses tenderness over the malleoli, limited dorsi and plantar flexion, and effusion.

The radiographic examination reveals the presence of irregular articular surfaces, especially about the malleoli; subchondral sclerosis and cystlike areas in the tibia; proliferation of bone at margins of fibula and tibia.

TREATMENT

Conservative Plan

1. Immobilization by plaster of paris splint or leg brace.
2. Warm packs to ankle region.
3. Whirlpool therapy.
4. Injection of 3 cc. of 1 per cent procaine into tender areas of ankle.
5. Medication for pain—aspirin, salicylates, and codeine sulfate.
6. For recurrent effusion, aspirate and inject 25 mg. of hydrocortisone.

Surgical Plan

1. If mechanical block is present at ankle region, remove intra-articular ossicles or marginal bony proliferations as indicated.
2. Arthrodesis for persistent pain because of irregular contour of the articular surfaces in the ankle region (treatment for post-traumatic lesions).

The Feet

Patient complains of pain in feet and legs and rigid feet.

The physical examination discloses flat feet, limited subtalar motion, and tender subtalar and mid-tarsal areas.

The radiographic examination reveals the presence of anomalous bridging between astragalus and os calcis, proliferation of bone in the region of the articular head of the astragalus, narrow subtalar joint space.

TREATMENT

Conservative Plan

1. Bed rest for several days.
2. Warm packs to the feet.
3. Whirlpool therapy.
4. Injection of 0.5 cc. of 1 per cent procaine

solution and 12.5 mg. of hydrocortisone into subtalar region.

5. Arch supports.
6. Special custom-built shoes with built-in supports.

Surgical Plan

If pain persists with the conservative plan, subtalar and mid-tarsal arthrodesis is indicated. (Severe fractures of os calcis extending into subtalar region may require this type of arthrodesis.)

The Big Toe

Patient complains of pain and stiffness in big toe and bunion.

The physical examination discloses enlargement of head of first metatarsal bone, restriction in motion in big toe, bursal enlargement about first toe, and tender sesamoids and metatarsal head.

The radiographic examination reveals the presence of marginal proliferation of bone about head of metatarsal bone base of proximal phalanx and sesamoids, flattening of head of first metatarsal bone, narrowing of joint space, area of rarefaction in region of medial aspect of metatarsal head, and valgoid position of phalanges.

TREATMENT

Conservative Plan

1. Special shoes with rigid sole to limit mobility at head of first metatarsal bone.
2. Whirlpool therapy.
3. Warm packs.

Surgical Plan

1. Resection of proximal half of the proximal phalanx of first toe.
2. Arthrodesis of the metatarsophalangeal articulation.

The Shoulder Region

Patient complains of pain in arm and shoulder, limited or loss of movement of the arm, and weakness of the arm.

The physical examination discloses loss of motion at glenohumeral articulation, especially external rotation and abduction; tenderness at acromioclavicular region and at greater tuberosity of humerus; tenderness over biceps tendon; atrophy of muscles about shoulder and scapula; tenderness at sternoclavicular region.

The radiographic examination reveals the presence of areas of resorption at site of insertion of supraspinatus tendon into tuberosity; proliferation of bone at inferior aspect of glenoid and margin of articular surface of humeral head; sclerosis and rarefaction at the subchondral zones at the acromioclavicular articulation; proliferation of bone at margins of the articular surfaces of the acromioclavicular and sternoclavicular articulations, occurring also at the margins of the acromion.

TREATMENT

Conservative Plan

1. Balanced traction applied to affected arm in maximal abduction.
2. Gentle passive manipulation to increase range of external rotation of arm.
3. Injection of 2 cc. of 1 per cent procaine with 25 mg. of hydrocortisone into the subdeltoid region.
4. Warm packs.
5. Shortwave diathermy.
6. Sinusoidal stimulation to muscles about shoulder.
7. Medications, such as aspirin, salicylates, codeine sulfate, are prescribed. Morphine sulfate may be necessary if pain is very severe.
8. Active wheel exercises to improve abduction of arm.
9. Gentle weight-lifting exercises.

Surgical Plan

If conservative therapy fails after a minimal period of six months, surgical intervention should be considered.

1. Resection of entire acromion and coracoacromial ligament if severe osteoarthritic changes are present in acromioclavicular articulation or if the rim of the acromion shows proliferative bony changes.
2. If pain persists at the sternoclavicular region, resection of the sternal end of the clavicle and the attached fibrocartilage is indicated.
3. For persistent tenderness over the biceps tendon, exploration of the glenohumeral articulation is indicated. The biceps tendon in its intra-articular portion may be torn and fibrillated in conjunction with the osteoarthritic humeral head.

The Elbow Region

Patient complains of pain, limited motion, and swelling of the elbow.

The physical examination discloses effusion, tenderness over radial head or olecranon, and limitation in motion either in flexion, extension, or rotation.

The radiographic examination reveals the presence of narrowing of the joint space, enlargement of the radial head, marginal proliferation of bone about the coronoid olecranon, radial head, and articular surfaces of humerus, free ossicles in articular cavity, and bony proliferation at the proximal radioulnar articulation.

TREATMENT

Conservative Plan

1. Immobilization in plaster of paris splint or brace.
2. Warm packs.
3. Tender area injected with 2 cc. of 1 per cent procaine and 25 mg. of hydrocortisone.
4. Whirlpool baths.
5. Shortwave diathermy.
6. Medication for pain—aspirin or salicylates and codeine sulfate.

Surgical Plan

1. Removal of free osseous bodies and large marginal bony masses.
2. Removal of radial head if it is enormously enlarged.
3. Arthroplasty in selected instances. Patient must be suitable for rigorous rehabilitation program.
4. In rare instances arthrodesis is performed.

The Wrist Region

Patient complains of pain in wrist, persistent swelling, and limited motion.

The physical examination discloses effusion, tenderness at radiocarpal region, and limitation in motion.

The radiographic examination reveals the presence of irregularity in the articular surface of the radius, areas of rarefaction in the carpal bones and radius, proliferation of bone at the margins of the articular surface of the radius, narrow joint space, and proliferation of bone at the distal radioulnar articulation.

TREATMENT

Conservative Plan

1. Immobilization of the hand and forearm in plaster of paris splint or brace.
2. Warm packs.
3. The articular cavity is injected with 1 cc. of 1 per cent procaine and 25 mg. of hydrocortisone.
4. Medications for pain—aspirin, salicylates, codeine sulfate.
5. Whirlpool baths.
6. Shortwave diathermy.

Surgical Plan

If pain persists after three months of conservative treatment, arthrodesis is indicated.

The Thumb Region

Patient complains of pain at base of metacarpal bone, limited use of thumb, and deformity at base of thumb.

The physical examination discloses tender prominence at metacarpal-carpal articulation and limited mobility of thumb.

The radiographic examination reveals the presence of narrowing of the joint space at base of metacarpal bone, extensive proliferation of new bone at margins of the articular surfaces, and subchondral sclerosis.

TREATMENT

Conservative Plan

1. Immobilization of the thumb and wrist in plaster of paris splint or brace.
2. Paraffin baths.

Surgical Plan

1. Arthrodesis at metacarpocarpal articulation.
2. Removal of carpal bone.

Fingers

Patient complains of pain and swelling of distal joints of one or more fingers and limited motion at the distal joints.

The physical examination discloses enlargement of distal joint regions of one or more fingers, tender distal joint regions, restricted motion at these articulations.

The radiographic examination reveals the presence of irregularity in articular surfaces, abnormal deviation of the distal phalanges, narrow joint spaces, and marginal proliferation of bone.

TREATMENT*

Conservative Plan

1. Paraffin baths.
2. Medications such as aspirin or salicylates.

Vertebral Column

Juxta-articular ossification of ligaments of the vertebral bodies, also called spondylosis deformans or osteophytosis, is *not* osteoarthritis but will be considered in this paper.

Cervical Region.—Patient complains of pain in neck, chest, shoulder, and arm; tingling or numbness in fingers; headache; limitation of mobility of head; weakness of forearm.

The physical examination discloses tenderness, usually in the mid-cervical region; limitation to motion and extension of the head; hypesthesia in affected hand; loss of cervical lordosis.

The radiographic examination reveals the presence of ossification of part or of the entire ligaments covering the vertebral bodies and the disk regions, marginal proliferation of bone in ligaments covering vertebral bodies and disk regions, narrowing of the disk regions and concomitant narrowing of the intervertebral foramina, and loss of cervical lordosis.

TREATMENT

Conservative Plan

1. Traction (halter type) is applied to head in horizontal attitude. Head of bed is placed on blocks. Plane of pull is in flexion, 5 to 15 pounds of traction for two to three-hour sessions three to four times daily.
2. Warm packs to neck and shoulders during one or more sessions of traction.
3. Medications—aspirin, salicylates, and codeine sulfate. In some patients prednisone 5 mg. three times daily for four or five days lessens the severe brachialgia.
4. When pain has lessened, a Schanz type of collar is worn to hold head in slight amount of flexion. Patient may be out of bed.
5. A small pillow is placed under head and neck to hold head in flexion during resting or sleeping.
6. If pain in neck recurs, interspinous injection of 2 cc. of 1 per cent procaine and 25 mg. of hydrocortisone at tender level is suggested.

Surgical Plan

If pain persists after a conservative period of therapy for at least six months, surgical intervention such as laminectomy and foraminotomy may be necessary.

Dorsal Region.—Patient complains of pains in lower chest, abdomen, groin, or sacroiliac regions and limitation of movement of back.

The physical examination discloses tenderness in the dorsal portion of the vertebral column, tenderness on palpation along the lower borders of one or more ribs, skin zones of hypesthesia, limited motion in the vertebral column, and, in rare instances, signs of local cord compression.

The radiographic examination reveals the presence of increase in the dorsal kyphosis, ossification of part or of the entire ligaments covering the vertebral bodies and disk regions, marginal proliferation of bone in ligaments covering vertebral bodies and disk regions, and narrowing of the disk regions and concomitant narrowing of the intervertebral foramina.

TREATMENT

Conservative Plan

1. Pelvic and leg traction, total 20 to 30 pounds, eight hours daily.
2. Fracture boards.
3. Foot of bed on blocks.
4. Warm packs to dorsal portion of back.
5. Tender area in back is injected with 3 to 5 cc. of 1 per cent procaine solution.
6. Medications such as aspirin, salicylates, and codeine sulfate for pain.
7. High dorsolumbar canvas back support.

Surgical Plan

In rare instances laminectomy may be necessary to relieve cord compression caused by proliferated bone or by a herniated disk.

Lumbar and Pelvic Region.—Patient complains of pain in lumbar and sacroiliac regions, radiation of pain into one or both lower extremities, limited mobility in vertebral column, and pain in lower extremities on coughing or sneezing.

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* The involvement of the distal articulations of the fingers in no way reflects the presence or severity of osteoarthritis in other parts of the skeleton.

The physical examination discloses loss of lumbar lordosis; list of trunk; limited range of mobility of trunk; tenderness over lumbosacral or sacroiliac regions; straight leg-raising test is painful; taut and tender lumbar muscles; ankle or knee jerks may be diminished on the painful side; hypesthesia noted on portions of leg or foot.

The radiographic examination reveals the presence of loss of lumbar lordosis, ossification of ligaments and marginal bone proliferation about the vertebral bodies, narrowing of disk spaces and intervertebral foramina, alteration in the configuration of the articular surfaces of the facets, ossification of ligaments attached to spinous processes, and ossification of ligaments attached to the pelvis.

TREATMENT

Conservative Plan

1. Bed rest, fracture boards.
2. Pelvic and leg traction, 20 pounds.
3. In some instances flex thighs and flex trunk during traction.
4. Warm packs to lower back.
5. Shortwave diathermy.
6. Local infiltration of 3 to 5 cc. of 1 per cent procaine solution into tender areas.
7. Medications such as aspirin, salicylates, codeine sulfate, and morphine sulfate.
8. Lumbosacral supports for weight-bearing.
9. Gentle back exercises when pain has completely subsided.

Surgical Plan

For relief of intractable pain in lower extremity, laminectomy and foraminotomy may be necessary for the removal of herniated disk or marginal bony overgrowth.

Summary

The presence of osteoarthritis should not be considered as the cause for joint pains without a complete clinical survey.

Primary and secondary types of osteoarthritis are discussed.

Conservative and surgical plans of therapy are presented for the severe form of osteoarthritis of the large and small joints.

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MEDICAL SOCIETY OF THE STATE OF NEW YORK

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Medical Society of the State of New York

Use and Abuse of the Clinical Laboratory

F. WILLIAM SUNDERMAN, M.D., PHILADELPHIA, PENNSYLVANIA

(*From the Division of Metabolic Research and the Department of Medicine, Jefferson Medical College*)

Clinical medicine relies on the clinical laboratory for light on the pathways to diagnosis, prognosis, and treatment, sometimes too completely and at other times a little too trustingly. On the other hand, the clinical laboratory looks to clinical medicine for luminous logic in the selection of laboratory requests, sometimes fearful of being overburdened and at other times doubtful of the use of calm restraint. Our objective, therefore, will be to plead for a coordinated approach and a sympathetic understanding between clinician and laboratory director. By discussing the matter in the open, we have an opportunity to view overlapping problems in broad perspective.

Medical lore in its essence is liquid; it is neither rigid nor immutable. It is essentially plastic, and the fabricators who shape it are largely laboratory workers. Truly amazing advances have been made by these workers since the turn of the century. It might be pointed out that thirty-five years ago most of the hospitals in this country did not even have a chemistry division, and the few clinical chemistry laboratories that were in existence undertook relatively few types of analyses. Their staffs were meager and consisted of a few part-time clinicians. Since that time, however, the workers have attained dignified full-time status and have given to medicine a spectacular array of new methods and diagnostic procedures. The progressive laboratory approach is bringing medicine into contact with the deepest mysteries of nature and is allowing it to peer into infinite scientific spheres.

In order to consider the use and abuse of laboratory procedures it is necessary to keep in mind the primary function of the clinical laboratory. As we view it, the primary function is to provide reliable measurements that are useful in the diagnosis, prognosis, and treatment of disease. As a corollary to furnishing reliable measurements, it is axiomatic that it is better to receive no report of a measurement than to receive a report that is unreliable. An unreliable value merely leads to erroneous conclusions and incorrect diagnoses. It is fundamental perforce that the measurements emanating from our laboratories must be accurate and dependable.

In order to obtain reliable measurements for our patients, the importance of collecting specimens properly and transporting them to the laboratory cannot be overemphasized. As an illustration, witness the following incident: An orderly was transporting to the laboratory a bottle of urine marked for urea clearance test. In getting off the elevator he accidentally spilled about a third of the urine. Consider just what did happen to the remainder of the specimen. As you may surmise, the orderly delivered the urine to the chemistry laboratory, said nothing about the accident, and the technicians proceeded with the measurement. If the director of the laboratory had not learned of the accident by chance, a worthless analysis would have been completed, useless time and effort would have been expended, and, more important, the patient might have suffered as a result of an erroneous report.

There is little doubt that a high percentage of unreliable measurements are due to causes outside of the laboratory. For example, an intern may collect blood for a blood glucose analysis and forget to add a preservative. In fact, who of us directing laboratories has not on occasion had to deal with samples of blood for glucose analyses that had been carelessly placed near a warm radiator and that contained no preservative? In such cases the glucose value obtained may actually be half or less of the correct one owing to the glycolysis that takes place. Care in the prevention of hemolysis, in the application of tourniquets, in the stirring of blood to prevent clotting, and in the proper preparation of the patient cannot be stressed too strongly. It is not infrequent, for example, to find a patient scheduled for a clearance test of one type or another who has received a barbiturate the preceding

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night or coffee for breakfast. Such improper preparations will unquestionably introduce errors into clearance procedures, and these are matters in which the clinician must deal with the patient directly.

In maintaining reliable measurements and in checking the accuracy of the work of the laboratory, resort should be had to the analysis of given solutions whose concentrations are unknown to the analyst. Such checking procedures may be accomplished by analyzing solutions either prepared by the director himself or prepared by an outside referee laboratory. It has been the general experience that technical staffs prefer to analyze unknown solutions prepared by an outside referee, especially if the same solutions are being submitted at the same time to other laboratories. The analysis of such prepared "unknowns" is probably the most practical way for the director and his staff to assess the quality of the work performed. This assessment is fundamental to the operation of a good laboratory. Moreover, such proficiency testing, especially if undertaken by an outside agency, provides the director with unprejudiced data for presentation to hospital staffs and administrators, as well as to the various certifying authorities. Several years ago in an effort to help laboratories fulfill these needs, a Proficiency Test Service was inaugurated by us with the endorsement of the American Society of Clinical Pathologists. It has been most gratifying to witness the continuous over-all elevation in the quality of work undertaken by laboratories subscribing to this service.

In order to maintain a high quality of work in the laboratory, the laboratory must not be overburdened with unnecessary analyses. The medical staff should be constantly cautioned to exercise care in the selection of analyses requested. It is safe to assume that, in general, the more accurate analyses are performed in those laboratories which carefully avoid fulfilling redundant requests.

With limited budgets and subsequent understaffing, directors of laboratories are not always able to do everything expected of them. They are compelled to make decisions as to what part of the work should come first, fully aware that there are apt to be members of the hospital staff who, having little opportunity to comprehend the entire problem, would not agree with the director's decisions and would regard delayed work as evidence of inefficiency or procrastination. However, in order to maintain a high standard of work, it is essential for the director to be firm in his responsibility to perform reliable analyses with the personnel and resources at his disposal. In the interest of the patient and the institution with which he is affiliated, the director should vigorously resist overloading beyond the capacity of his staff. It should never accrue to the credit of any hospital service to be able to display an impressive list of laboratory analyses that have little or no clinical significance.

In our present era too much importance is being placed on quantity of production, while the quality of the item produced is given secondary importance. Quantity is overvalued; quality, undervalued. We have overvalued automatic efficiency and undervalued individual craftsmanship. We have become intrigued with the advertisements that state that a certain type of flame photometer is capable of making 40 sodium analyses per hour and are giving too little thought to the reliability of the results produced by this instrument. We are apt to overvalue complexity and undervalue simplicity. We overvalue play and undervalue work.

The secret of maintaining a good clinical laboratory lies essentially in the maintenance of a capable staff. Good leadership is at the heart of any sound laboratory service, and this involves all of the chiefs of service, clinicians and pathologists alike. The character of the leadership determines the quality of the patient care, the character of the clinical research, the type of operations, the assets, and the growth of the clinical service. A good laboratory director must set proper goals, must organize the laboratory work, and select workers for the various jobs. He must endeavor to make an efficient team out of the members on his staff. He must measure jobs and performance and, above all else, must develop the members of his staff by bringing out their best qualities. The work of the director is a complex human task. It requires understanding, experience, skill, and a general knowledge of human relations both inside and outside the laboratory. We must have good directors for our clinical laboratories, and one of our greatest problems is how to attract, select, and develop them.

To aid the director in the discharge of his responsibilities, he should be given the best facilities that his institution can afford. While a good man may be able to do excellent work with poor facilities, nevertheless, he would probably turn out more efficient work in less time with better facilities. It is fundamental that the director of any good clinical laboratory should have a personal knowledge of the methodology of all analyses made under his direction. He must be able to spot the pitfalls and recognize the limitations of his methods. Methodology is an important branch of all training; one can never progress beyond the limitations of the method. In addition, it almost goes without saying that an individual who has learned for himself of a method of analysis is better able to judge of its value and significance.

In order to have the laboratory utilized to its fullest potentiality, it is essential that the collected data be correlated with the clinical findings. To do this, a good laboratory must have ready access to all of the clinical records. The director, residents, and interns affiliated with the laboratory should be able to consult readily with the clinical services.

It is also of the greatest importance that the clinical services should consult daily with the laboratory staff. The correlations and the interpretations which come from such consultations should be recorded and filed in the patient's history. This is especially important for the more involved procedures.

It is to be expected that the clinical and laboratory people working together will develop an investigative viewpoint and an indefatigable urge to solve the scientific problems encountered. As we have pointed out on other occasions, Lord Moynihan regarded every surgical operation as an experiment, and Sir William Jenner regarded the administration of every drug as a research problem. This is the attitude and type of approach which has led to the most valuable use of the laboratory and has yielded the most fruitful return in clinical research and clinical investigation in the years past. Personally, it has been ever gratifying to find a responsive laboratory group able to absorb investigative problems and to make contributions worthy of publication. It is highly desirable that the clinical and laboratory services should jointly have investigative problems underway. The caliber of the routine work is indubitably reflected by the quality of the research.

In order to provide the best use of the laboratory and minimize abuse, it is important to inculcate into both the clinical and laboratory staffs a thoughtful attitude toward their work. One of the most important attitudes to inculcate is that of *anticipation.* This is necessary whether it be to anticipate emergency analyses that may come up within the hour or the type of chemicals and supplies that will be needed for the next month's work. It is important for both the clinical and laboratory staffs to anticipate where the difficulties will be encountered and, if possible, to head them off. Livy tells the story of a flock of sacred geese supposed to have saved the Romans from a surprise attack by the Gauls. Although the sentries heard nothing and even the dogs were undisturbed, nevertheless, the Gauls in scaling the rocks so alarmed the geese that their screechings awakened Marcus Manlius, who called out the guard and overthrew the Gauls. The geese did not save Rome; they cackled and screeched. It was Marcus Manlius who saved Rome. Marcus Manlius could have cursed at the geese for making shrieking sounds, but instead he correctly interpreted the cause of these sounds in the middle of the night and concluded that he and his men were in danger. As a consequence, he was able to throw down the Gauls before they had an opportunity to get into a strong position. It may look easy in retrospect; however, meeting unanticipated situations successfully requires abilities that are seldom innate. If we hear geese in the night, we can ignore the geese and let the Gauls conquer us. However, if we heed warning signs, we ought to be able to anticipate the type of trouble that may lie ahead. Both the clinical and the laboratory workers should try to anticipate what the needs will be, where the difficulties will arise, how the errors may creep in, and the ways and means for correcting them. This type of attitude, if properly inculcated into members of our professional and technical staffs, will help to develop the use and not the abuse of the laboratory.

The new frontiers in laboratory medicine are broad and exciting. The present picture tends at times to be mixed. However, like all modern advances, and we must remember that clinical laboratories are only three or four decades old, the lines are never just black and white but include many delicate hues and intriguing shapes. With proper perspective and initiative and the maintenance of our highest ideals we cannot help but advance in this stimulating field.

Pitfalls in the Treatment of Athletic Injuries

T. H. COFFEY, M.D., C.M., LONDON, ONTARIO, CANADA

(From the Department of Physical Medicine and Rehabilitation of the University of Western Ontario)

The content of this paper includes examples of groups of cases encountered by the writer as a physical education instructor and supervisor, athletic coach and director, team physician in various athletic sports, Army director of rehabilitation, and consultant to various departments of physical medicine, rehabilitation, and physical education. Baseball, football, and wrestling are represented in this group and are presented with examples of somewhat common but "tricky" types of injuries not usually found in medical literature. The diagnosis is usually made on the basis of thorough investigation, observation, and experience in various sports.

The first group of cases comprise professional and semiprofessional baseball players. The most frequently encountered conditions may be classified as "sore arms." The most numerous customers are pitchers, shortstops, and occasionally an outfielder. Problems with players in other positions are not common except for the early season muscular strain or disuse types of soreness which quickly respond to conservative treatment or graduated activities. These cases are the exceptions and illustrate one of the most difficult problems presented to a practitioner in the field of athletic injuries.

Another difficult problem is advising clubs in signing (to a contract) a "sore arm player." This involves the financial outlay of the club and likewise the player's career. The higher the classification of baseball, the greater the investment or gamble in the player's future—hence the necessity for an accurate opinion and prognosis.

Case 1.—The first case in this category is a former left-handed pitcher converted to an outfielder who came up through the minor ranks and was a member of a major league club. Patient sustained a fracture of the left clavicle in high school. There was slight overriding of the clavicle, but this was the only history of injury available. He was the possessor of an extremely powerful and accurate throwing arm and had the second highest batting average in a Triple A league. During his early career he was bothered with a sore arm while playing Class A ball as an outfielder. This condition developed during the latter part of the schedule. At the end of the season he was sent to the late Dr. Knight of St. Louis, and his condition was diagnosed as a calcification of the left supraspinatus tendon. This information was conveyed to the patient. At that time he was twenty-two years of age. Since this condition is not frequently seen in young adults, when, during a "between-innings" discussion, patient mentioned this point, out of curiosity, x-rays were taken. There was no evidence of calcification, and patient had been asymptomatic for approximately one and one-half years. This poses the question, "Did the condition clear spontaneously, or had he misunderstood the diagnosis?" However, the patient was able to point out the correct area on the x-ray plates where the calcification formerly existed.

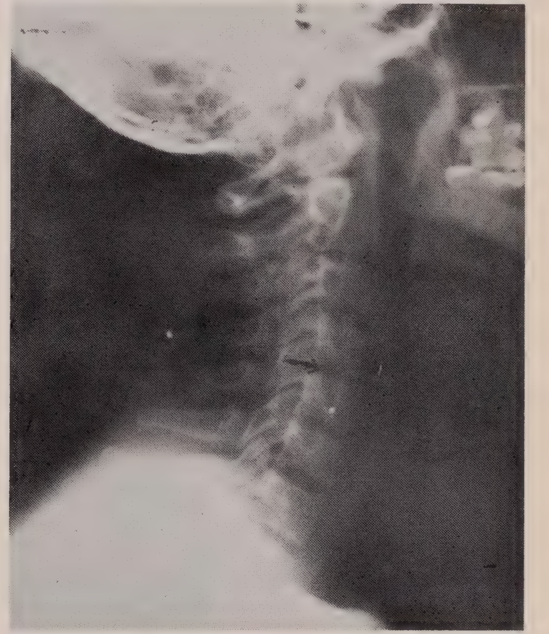
Fig. 1. *Case 1*—Narrowing of the fourth and fifth cervical vertebrae.

He returned to the minor leagues and, after a

Presented, by invitation, at the 149th Annual Meeting of the Medical Society of the State of New York, Buffalo, Session on Physical Medicine, May 11, 1955.

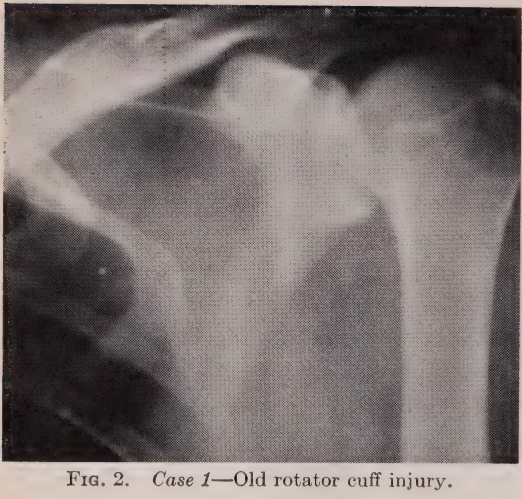

FIG. 2. *Case 1*—Old rotator cuff injury.

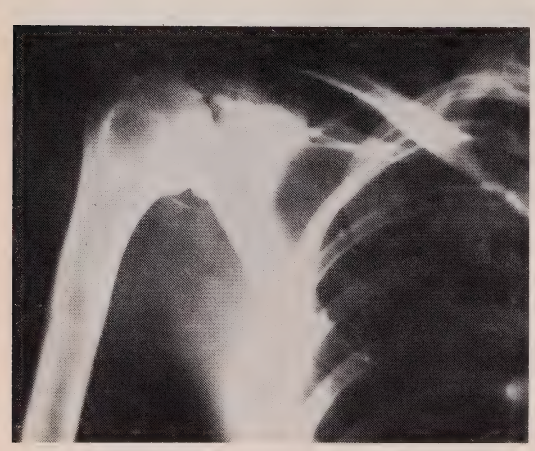

FIG. 3. *Case 2*—Negative shoulder x-ray.

successful season in a Triple A league, was called up by his parent major league club. Toward the end of the season patient developed a "sore left shoulder" but was able to carry on until the season closed. On his return to his home he was referred by his family physician. On examination definite sensory changes were found over the distribution of the fourth and fifth cervical nerve roots and slight limitation of movement in the shoulder. X-rays showed a narrowing of the fourth and fifth cervicals and probably an old rotator cuff injury (Figs. 1 and 2).

Patient was treated by neck traction and microtherm to the neck and left shoulder for approximately four weeks and then was started on a regime of exercises and finally throwing indoors. Patient has been asymptomatic since and is now on the roster of a major league club.

During the period when I was re-editing this paper, this patient dropped in for a social call. Since last seen he has played regularly with the club except for a period when he was convalescing from a fractured wrist and index finger, both from being hit by a pitched ball. He stated that he had had absolutely no pain or discomfort in his left shoulder, and several of his team mates had commented on the improvement in his throwing. He will be playing winter ball in the Caribbean area.

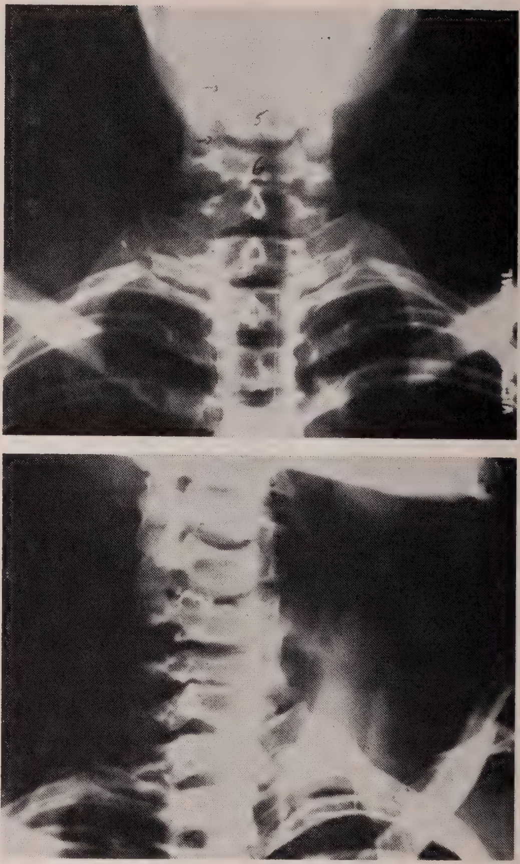

FIG. 4. *Case 2*—Osteophytic formation of the cervical spine at the level of the fifth and sixth cervical vertebrae with definite impingement on the foramina.

CASE 2.—The next case is that of a twenty-three-year-old shortstop who had played minor league ball. Midway through his first season he developed a painful right shoulder. X-rays of the shoulder were taken in various parts of the country, all of which were completely negative. Patient was placed on the voluntary retired list and returned home.

Again on physical examination there were definite sensory changes as well as reflex changes, and x-ray plates showed a negative shoulder but osteophytic formation of the cervical spine at the level of the fifth and sixth cervical vertebrae with definite impingement on the foramina (Figs. 3 and 4). A history of several minor injuries to the cervical spine was obtained.

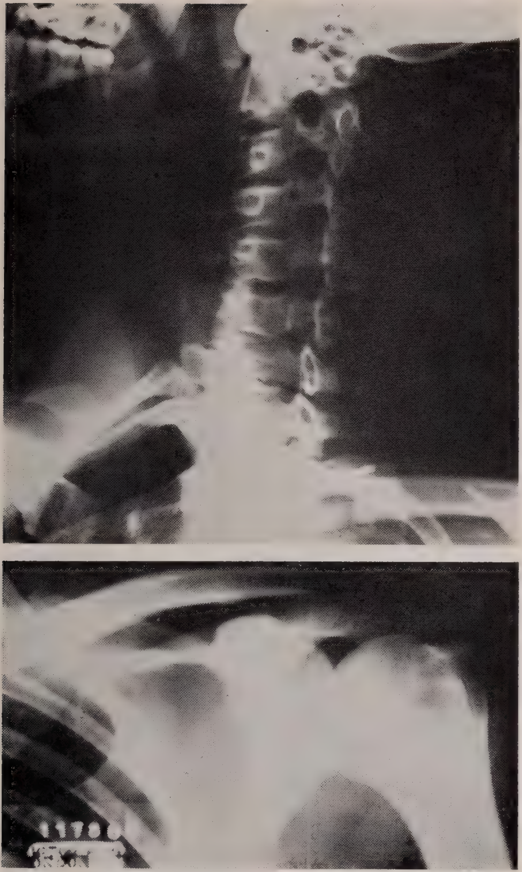

Fig. 5. *Case 3*—Negative x-rays of neck and shoulder.

This patient was first treated by deep x-ray therapy with an excellent result and finished the season playing second base and in the outfield to avoid the long off-balance throwback of third base to first, which appears to be a precipitating factor in many of these neck, shoulder, and arm conditions, that is, the aggravation of pre-existing pathology.

The following season he again injured his shoulder in the same manner and was treated with two stellate blocks. The rationale of this therapy was a painful right shoulder and arm and a slightly swollen right hand. The appearance of the right hand was considered well within the classification of Steinbocker's syndrome.

I might add that this player was under considerable emotional strain regarding his athletic future following the original injury. However, the following year he returned to a successful season of Class D baseball without difficulty, and the next spring in early practice, in making a sudden throw, he again sustained a painful shoulder. On this occasion the patient was advised to seek permanent employment other than baseball, which he has done. He now plays semiprofessional ball on the side without discomfort.

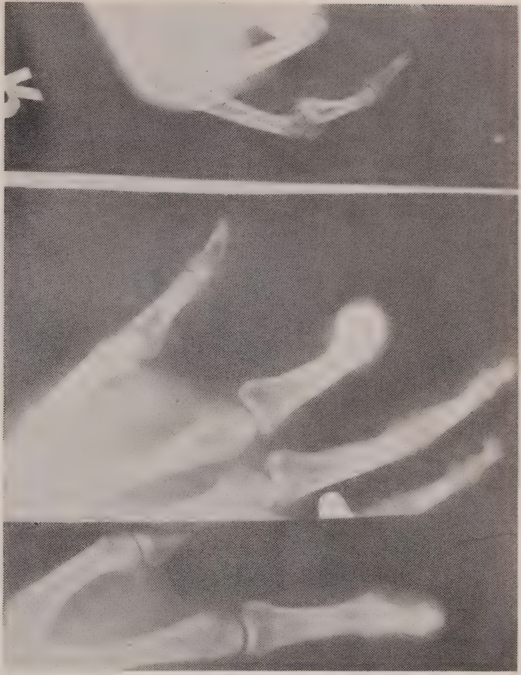

Fig. 6. Fractures compounded by nonprofessional manipulation of fingers struck by baseballs.

The next case might be entitled "The Case of the Green Enzyme" or "Money! Money! Money!"

Case 3.—An imported pitcher joined one of the local semiprofessional clubs in the area. He had had an outstanding record as a left-handed pitcher in minor professional baseball. The team which he joined was undergoing a period of flux and chaos; players were released with monotonous regularity. Due to lack of support from his team mates he was unable to produce and subsequently was referred with complaints of shoulder and arm trouble. Patient's complaints of pain on movement were inconsistent. Physical and radiologic examinations were completely negative (Fig. 5). He was observed pitching on two or more occasions, and when the going became a bit rough, it was noted that he appeared to slow up. However, in practice this patient could throw a "fadeaway delivery" without the slightest difficulty, was very proud of it, and would throw it as long as the writer cared to watch him.

This problem and the diagnosis solved themselves following a heart-to-heart talk behind closed doors. The content was that the player was advised to get down to business and give his best to his club. This advice he did not heed and the following week jumped to a much faster and more lucrative professional classification and has had outstanding success.

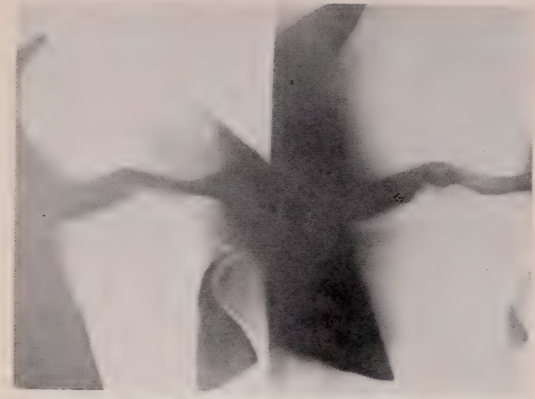

FIG. 7. *Case 4*—Arthrogram.

One must bear in mind that psychosomatic conditions are not confined to unhappy housewives or women in the menopausal group.

Part of the teaching and preaching imparted to every group of athletes and physical education students includes the following dictum: When a player is struck on the finger by a baseball, let it alone! In one of my cases a catcher struck with a foul tip had the finger pulled by the batter, which caused a fracture. Similar fractures are frequently changed from a simple to a compound fracture (Fig. 6). The vast majority of finger injuries in baseball players are usually accompanied by some type of fracture. Frank dislocations without fracture are rare in the writer's experience.

CASE 4.—The next case illustrates an untreated tear of the medial collateral ligament. This boy was a "star" high school athlete weighing well over 200 pounds, an outstanding sprinter as well as an all-round athlete. He injured his knee in high school and did not report the injury since it occurred in the last game of the football season. As a student he was considered far from potential Rhodes Scholarship material and consequently settled in employment rather than university study but continued to play some "sandlot football" in his spare time. He was approached by a professional football team and offered a contract. Patient was referred for advice and guidance and also for an opinion on his knee and his athletic future.

Since leaving high school he had entered into the state of matrimony, and his wife was expecting a child. The problem became one of whether to advise the boy to give up his job and try his luck at professional football or continue with employment. Due to the strength of his thigh muscles it was very difficult to spring the knee manually. Clicks were produced on manipulation, and an arthrogram was performed (Fig. 7). On this basis the patient was advised to stick to his employment.

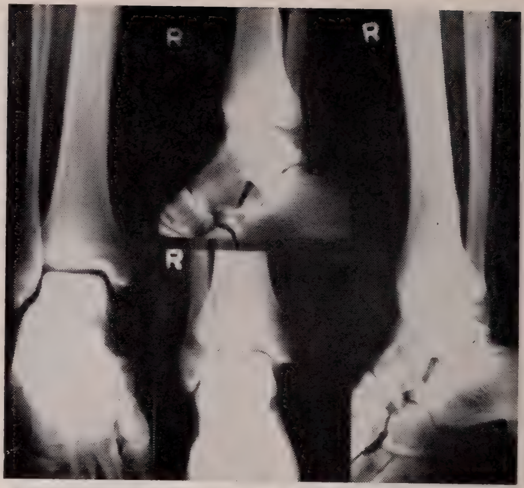

FIG. 8. *Case 5*—Swelling in region of lateral malleolus.

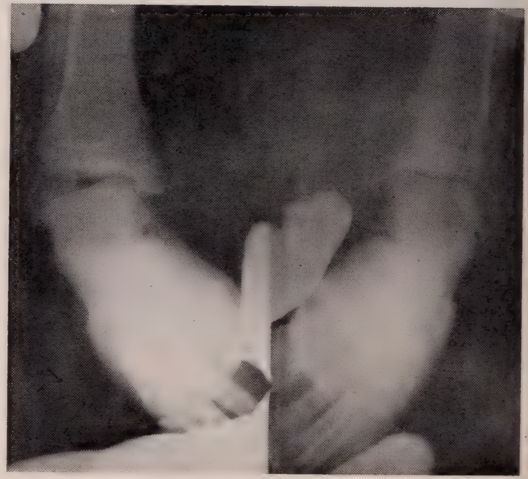

FIG. 9. *Case 5*—X-ray of ankles in forced inversion under general anesthesia.

CASE 5.—The next case is that of a former playing coach of the 1952 Canadian Olympic Basketball Team. During the early part of the season, while playing with his team, he sustained a severely sprained ankle. Flat plates revealed no pathology other than a swelling in the region of the lateral malleolus (Fig. 8). Again, due to muscle spasm and also the heavy musculature of the patient, a general anesthetic was administered and both ankles x-rayed in forced inversion (Fig. 9).

I hope these cases illustrate the necessity for full muscular relaxation in arriving at a proper diagnosis. Most athletes are very heavily muscled and, when injured, go into severe spasm.

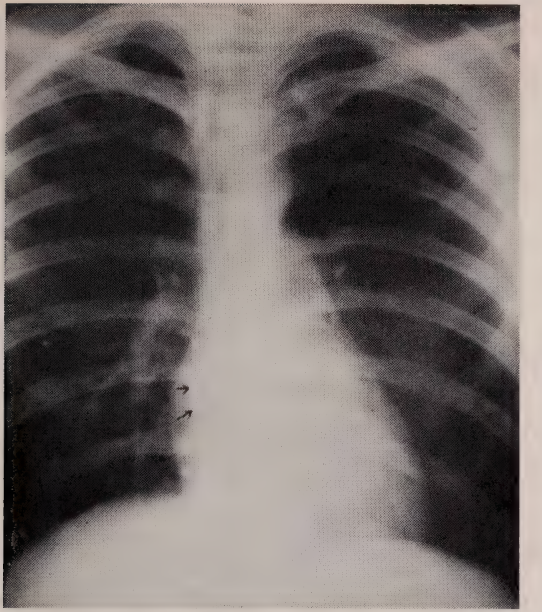

Fig. 10. *Case 6*—No pathology visible on x-ray except artifact in one of ribs. Fluoroscopy demonstrated Pott's diseases of spine from fourth to seventh thoracic level.

Together with their muscle strength, this makes it almost impossible to manipulate joints properly in order to diagnose tears of ligaments. Consequently, if there is any doubt, it is suggested that these individuals receive a general anesthetic and then be x-rayed in forced positions. The importance of this cannot be overstressed. This statement is based on the number of "crocked" knees and ankles encountered among intercollegiate athletes. Frequently, there is a history of an untreated or undiagnosed strain or sprain during their high school athletic careers. Rarely do they reach professional sports without an operation, and one is not disclosing any trade secrets when I whisper that operations on old ligamentous tears of the knee or ankle are not the most highly successful.

Case 6.—This case could be labeled "Surprise." Patient was an intramural wrestler. Shortly before examination time he developed a pain in his midthoracic spine. He tritely described it as occurring after an impromptu wrestling match in his boarding house. There were no falls involved, merely twists and tests of strength. During physical examination the spine was percussed, and patient became pale and sweaty when the area of the fourth to seventh thoracic vertebrae was struck. Temperature was 98.8 F. Patient was sent for x-rays. The first plates failed to reveal any pathology other than what appeared to be an artifact in one of the ribs, and the radiologist requested re-examination which was preceded by fluoroscopy. During maneuvers under the fluoroscope a diagnosis of Pott's disease of the spine from approximately the fourth to seventh thoracic level was made (Fig. 10).

This case was discussed with the tuberculosis specialists, and it was considered that because of the short duration of the condition, minimal bone damage had occurred, so that spot views were required. Patient was treated in a sanatorium. In retrospect, when the diagnosis was established, patient stated it was customary for him to return home from college to the family farm for week-ends where he drank unpasteurized milk. Other members of the family were also involved in a subsequent follow-up. This patient was transferred to another sanatorium and has since graduated from the university. Latest data, therefore, are not available.

The problem of advising club management in signing "sore arm players" was mentioned previously in this paper. These cases are usually pitchers who turn up shortly before the signing deadline and may or may not give a history of a recent release from another club. The following case illustrates this problem.

Case 7.—A twenty-seven-year-old, right-handed pitcher reported and asked for a tryout thirty-six hours before the deadline and stated that he had had a painful right shoulder for approximately four to five weeks and had had a similar condition in 1948 which cleared up in approximately four weeks. However, that season he had been South for spring training and had received a blow on the tip of the acromion while covering a base on a play. Patient had recently been released from the Army in A-1 condition and was neither receiving a pension nor entitled to hospital treatment. There was no history of malaria or any tropical diseases. Tonsils had been removed. Teeth were in good repair, and no other joints except his shoulder were involved. His most painful motion was a direct overarm throw. Side-arm or under-arm throwing was not painful. Patient had pitched in a Class A professional league in northern Michigan throughout a very cold season. The arm apparently never cleared up, and the more he pressed, the worse it became.

Other than slight limitation of movement of the right shoulder and tenderness over the long head of the biceps and the belly of the biceps, physical examination was negative. Sedimentation rate was 4 mm. Other blood studies were well within normal limits. X-rays of the cervical spine and right shoulder were completely negative for bony pathology.

After watching this patient throw and with the results of the examination, it appeared that we were dealing with a case of muscular strain which had been aggravated and not allowed to clear. Consequently the club management was informed that if they were prepared to allow this player to rest for approximately two weeks with gradually increased activity and shortwave treatment, he should be ready to pitch at the end of that time. This prophecy proved correct, and when the season had finished, available records proved that he had an earned run average of 1.17 for 82 innings.

A few pertinent facts should be mentioned which may be of some help to others in similar positions: The older the player, the more one is likely to encounter pathology in the neck or shoulder, such as disks, calcification of the supraspinatus, etc., while in the younger player the condition is more likely to be one of disuse and inadequate preseason conditioning. The club physician is definitely on the spot and should not allow himself to be rushed into a snap decision.

A thorough history should be taken, and in the writer's experience with ball players, if one takes the time to listen, they will usually contribute considerable information of their past exploits. Physical, radiologic, and laboratory examinations should also be performed, and last but not least, the player should be observed throwing at various speeds following an adequate warmup. Question him about painful areas, and note the types of pitches in which the patient saves himself or changes motion. He should then be invited to exhibit his repertoire, which most pitchers are glad to do, and the examiner should note any abnormalities in throwing.

If one is connected with a small-town, "red-hot" baseball club and "misses the boat" on one of these crippled hurlers, please remember that you probably needed a long vacation anyway.

Summary and Conclusion

I trust that in these cases the necessity for a thorough and complete physical examination is stressed sufficiently. The time consumed in taking a comprehensive history and in conversation and observation of the patient is well spent.

The necessity for relaxation of muscle spasm in heavily muscled athletes is a necessary diagnostic procedure.

Physicians treating athletic injuries should consider the athletic and economic future of the patient carefully.

The unusual is occasionally encountered where least expected.

Refer team injuries to the best specialist in the particular field.

Program of Home Chemotherapy for Tuberculosis in Baltimore

A plan of home chemotherapy for tuberculosis patients was initiated in this city in 1952, and the mortality rate of the treated group was compared with that of a similar untreated group who were registered the previous year before the home treatment program was put in operation. Two years after registration of both groups, 40 tuberculosis deaths (11.4 per cent) occurred in the 356 new cases for 1952 under the antimicrobial drug program, while 80 tuberculosis deaths (24.6 per cent) occurred among the 330 cases who had been newly reported in 1951, the year before the home drug treatment program had been put in operation. While the desirability of such programs has been questioned, it was believed that with the acute shortage of beds, long waiting periods, and consequent hazard to contacts, there was little to lose by trying the plan.

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RECENT ADVANCES IN MEDICINE AND SURGERY

A series of review articles dealing with medical progress

ROBERT TURELL, M.D., *Editor*

Recent Advances in Knowledge of Respiratory Viruses

ALFRED L. FLORMAN, M.D., NEW YORK CITY

(*From the Division of Pediatrics, North Shore Hospital, Manhasset, New York, and the Pediatric Service, Mount Sinai Hospital, New York City*)

THIS review will be concerned with those viral agents which can be studied in the laboratory and which produce clinically recognizable disease in the nose, nasopharynx, trachea, and lower respiratory tract. In particular it will consider the influenza viruses, the APC (adenoid-pharyngeal-conjunctival) viruses, the psittacosis group of respiratory viruses, the Group A Coxsackie viruses, and the measles virus. During the past five years much has been added to our knowledge of these agents and their behavior in man. A great number of articles have appeared. In this review no attempt will be made to be all inclusive. Reports have been selected primarily because they might be of interest to clinicians.

The clinical recognition of a viral respiratory infection, as contrasted to a bacterial one, is sometimes difficult. Leukocyte counts and nose and throat cultures can be of considerable help. However, except for herpangina, measles with rash, and APC infection with conjunctivitis, the differentiation between illnesses caused by the various respiratory viruses usually requires the help of a virology laboratory. This can be illustrated by the studies of service personnel with respiratory illnesses in which there were opportunities to confirm clinical impressions with virologic studies.[1] Fortunately, some of this kind of laboratory assistance is now also available to practicing physicians through State and National Health Service laboratories. It is important to stress that a viral etiology must not be implied because of a patient's failure to respond to chemotherapy. The story of drug-resistant bacteria is too well known to need documentation.

Among the viral infections to be reviewed in this report there are examples of all of the conditions which arise in considering the pathogenesis of viral diseases in general.[2] Measles is an example of an infection followed by elimination of the virus and more or less permanent immunity; psittacosis and APC infections are diseases in which the virus has been shown to persist in the human body despite the presence of circulating antibody and, finally, influenza is a disease in which infection of mucous membranes is followed by antibody production, but the immunity is of variable duration.

The Influenza Viruses

It is appropriate to start with a discussion of the influenza viruses because, to quote Francis,[3] "The studies of influenza, a disease of fearful history, represented, in many ways, the opening wedge in the dissection of that large body of common respiratory disease of probable viral etiology. The investigations have required the continuous close integration of clinical, epidemiologic and laboratory investigation to gain understanding of an extremely complex problem, and have contributed extensively to the philosophy and methodology necessary for further clarification of the entire field of respiratory disease."

There are now at least three and possibly four distinct influenza viruses, types A, B, C, and D. These viruses possess in common certain properties which justify their being considered together. They have all been recovered from patients who had what was clinically thought to be influenza. Specific antibodies are found during convalescence. The viruses are pathogenic for the same laboratory animals. They all multiply rapidly in the presence of susceptible cells and are good antigens. They all combine with, agglutinate, and dissociate from a variety of red blood cells. They show identical reactions with homologous antibodies in various serologic tests. Their fundamental differences are immunologic. Each of the types is distinct from the other immunologically. Strains within a type share to a greater or lesser degree certain common antigens.

Types A and B were well known prior to 1950. Type C was recognized in 1950 by Francis *et al.*,[4] although a similar virus had been reported earlier by Taylor.[5] It has since been recovered during epidemics of influenza due to types A′ and B.[4,6,7] Clinically it seems to be milder than the older types. In one study it was isolated from 27 recruits with a variety of respiratory illnesses. Only one of these men was considered to have symptoms characteristic of epidemic influenza.[7] Epidemiologically, it does not seem to occur in peaks. Type D was first isolated in 1952 in Sendai, Japan, from an epidemic of severe pneumonitis in newborn infants. It has since been recovered in Japan from throat washings of patients during influenza A′ and A outbreaks. Recently, Jensen *et al.*[8] reported that there are antibodies in the sera of many Americans which react with this virus, although it has not yet been isolated in this country. In only two pairs of sera could they suggest a tentative serologic diagnosis of disease with this agent on the basis of a fourfold rise in titer. The first was from an individual who was clinically diagnosed in 1947 as having atypical pneumonia, and the second was from a college student at Ann Arbor, Michigan, seen in 1952 during a type B influenza epidemic.

In the laboratory type C differs from the other influenza viruses in failing to agglutinate guinea pig cells and in that the best hemagglutinating tests with chicken, human, and hamster cells are obtained in the cold rather than at room temperature.[9] The type D virus is unique in that it produces pocklike lesions on the chorionic membrane of the embryonated egg, reminiscent of Newcastle disease virus.[8]

The influenza viruses readily undergo a number of variations. Perhaps the most important of these is variation in antigenic constitution. This has been found to be most marked with the type A viruses, and these variant strains may differ rather strikingly one from another. Heterogeneity has also been found among B viruses. To date there is no evidence of antigenic variation among the C virus, and too little is known about the D virus to comment.

Several systems have been devised for measuring and designating the antigenic components of influenza viruses. Some of these rely on properly prepared prototype sera and hemagglutination-inhibition tests.[10,11] Others are based on quantitative antibody absorption technics.[12] As a result there are now recognized at least 18 different antigenic components in type A strains and at least three subgroups of type B.

A great deal of work has been directed toward understanding what brings about these antigenic variations. For example, Archetti and Horsfall[11] have been able to produce, more or less at will, antigenic variants of influenza A by serial passage in chick embryos of virus together with immune serum against different but related strains. These new variants then retain their antigenic pattern on further serial passage in the absence of immune serum. Gerber, Loosli, and Hambre[13] also produced antigenic variants of influenza A by serial passage in the lungs of partially immune mice. Both of these studies suggest that antigenic variation may reflect a selection of mutants in a partially immune population. Burnet[14] has suggested, as a result of laboratory work, that double infection with large amounts of related strains of virus might lead to genetic recombinations. Baron and Jensen[15] have also demonstrated in the laboratory that even influenza virus rendered noninfectious by ultraviolet light may retain its ability to "exchange" genetic traits with related infectious virus and lead to variants which could replace the existing viral population. Despite all this we still do not know what actually happens in nature.

However, the antigenic variations of the A and B viruses have been of considerable practical importance. General medical attention was directed to this problem by the failure of influenza vaccination to protect in 1947 when the epidemic was due to an A strain which differed antigenically from those in the vaccine. It is now appreciated that antigenic variation is not only important from the point of view of preparation of a proper vaccine but for the more accurate diagnosis of disease and understanding of influenza epidemiology.

The significance of this variation in confirming clinical diagnoses may be seen in Finland and Barnes[16] study of 43 adults who had influenza in 1951. This was during an epidemic due to an A′ strain (51-8). All 43 patients had positive hemagglutination-inhibition tests for the contemporaneous strain (51-8). If only the standard A strain (PR-8) had been used as antigen, 27 of these would have been missed, and if even the standard A′ strain (FM-1) had been used, 13 of the diagnoses could not have been confirmed. A very similar result with type B strains among Navy recruits with influenza in 1953–1954 was reported by Woolridge *et al.*[17]

A study of influenza antigenic variation as reflected in the antibody content of various age groups has been reported by Davenport, Hennessy, and Francis.[18,19] They found that the sera of young children contained antibodies of limited range essentially oriented toward the dominant antigens of the recently prevailing strains. With increasing age and repeated infections by different strains, the population acquired a composite antibody against a greater number of antigens. However, the dominant antibody was always for the antigens in the initial infection. This has been called the "doctrine of original antigenic sin."[3] In their study Hennessy *et al.*[19] found the highest titer of antibodies to A′ strains to be in childhood. Then there was a decline in level of A′ antibodies, beginning at age twelve, which coincided with a sharp rise in antibodies to type A (PR-8-like) strains. During the third and later decades the antibody spectrum was even broader, reflecting the dominant antigen of swine influenza virus, the major antigens of type A influenza, and some of the A′ strains. (The swine influenza strains were thought by Laidlaw and by Shope[18] to be antigenically similar to the strains implicated in the pandemic of 1918.) The highest cumulative antibody levels detected in any age group tended to reflect the dominant antigens of the virus responsible for the initial or childhood infection in that group. Consequently the pattern of influenza variant antibody distribution in different age groups of a population may provide a serologic recapitulation of its past infections.

Recognition of the importance of antigenic variation has given direction to recent efforts to find a satisfactory influenza vaccine.[3,20] It is now believed that strains belonging to a type possess a large number of somewhat similar antigenic components which may vary in degrees of prominence. Consequently, an attempt has been made to select or manipulate strains of virus so that they contain significant quantities of the main components. With the use of adjuvants these antigenic effects may be heightened. Salk[21] has reported that adjuvants can now be made safe for human use, and the possibilities for a successful influenza vaccine once again seem bright.

Several other lines of investigation have been recently pursued in an effort to understand better the behavior of influenza viruses. Attempts have been made to use hemagglutination as an in vitro model for influenza infection. These have been reviewed elsewhere.[22] Radioactive phosphorus (P^{32}) has been incorporated into influenza A during propagation in the allantoic cavity of chick embryos.[23] Radioactive iodine (I^{131}) was used to label influenza antibody and was found to be a useful tool where relatively pure and concentrated influenza virus preparations were available.[24] Using fluorescein-labeled antibody, Liu[25] has been able to study the pathogenesis of influenza infections in ferrets. With this technic specific influenza viral antigens were seen in both the cytoplasm and nucleus of infected ciliated epithelial cells covering the nasal turbinates. Initially only a small portion of the nasal epithelium showed fluorescence. With the onset of manifest illness fluorescence spread to involve the entire epithelium, and when pneumonia occurred, viral antigens were found in bronchial epithelium and mediastinal lymph nodes.

The APC Group of Viruses

The majority of respiratory illnesses are perhaps best characterized as undifferentiated respiratory diseases, and their etiology remains a problem. In 1953[26] the application of a new laboratory tool and, since then, the concerted clinical and epidemiologic efforts of several teams of investigators have given [1,27–30] strong evidence that some of these illnesses might be caused by a newly recognized group of agents called APC (adenoid-pharyngeal-conjunctival) viruses. This name has been suggested to indicate the chief sources of their isolation.

The new laboratory tool which led to the recognition of these agents was the growing of surgically removed tonsillar and adenoid tissue in roller tube tissue cultures for prolonged periods. This "unmasking" procedure, which may have permitted the washing away of antibodies, led to the finding of a number of transmissible agents which changed and later destroyed the growing tissue cells. In addition to unique and characteristic cytopathogenic effects in tissue culture, these viruses can now be distinguished by resistance to ether, antibiotics, and sulfonamides, lack of pathogenicity for laboratory animals, and the production of a common, soluble, complement-fixing antigen. Although this complement-fixing antigen is shared by all the viruses in the group, there are within the group at least nine human immunologic types which can be differentiated by neutralization tests.[1,31,32]

Most of these viruses were recognized before there were clinical entities to go with them. A suggestive association came soon from studies in several outbreaks of nonbacterial pharyngitis characterized by fever, pharyngitis, and conjunctivitis.[27–29] These were all associated with the type 3 APC virus. The name pharyngoconjunctival fever was suggested, therefore, for the syndrome which was described by Bell *et al.*[29] as follows: "The fever not uncommonly spiked to 103 or 104 F. for a few days and subsided by lysis. It lasted from one to ten days and was often the chief complaint. The sore throat was generally quite mild and was described more as a discomfort or scratchiness rather than painful deglutition. Examination of the throat generally showed nothing striking except that the posterior oral pharynx was frequently injected and prominently studded with glary lymph follicles. Nontender, submaxillary lymphadenopathy was common even in the absence of sore throat complaint. Conjunctivitis, lasting a few days to less than three weeks, was manifest by injection of both the bulbar and palpebral conjunctivae. The conjunctivitis was the mild follicular type, frequently monocular. Nontender, preauricular lymphadenopathy was occasionally noted. A purulent exudate was almost nonexistent, but a scanty, serous exudate with some slight matting together of the eyelids and excessive lacrimation was not uncommon. Eye redness and minor discomfort was occasionally the chief complaint. Blood and urine showed no remarkable abnormalities other than possible leukopenia. Headache was a common symptom, and listlessness, particularly drowsiness, toward the end of the febrile illness seemed to be quite common. . . ."

Sobel and her coworkers[33] made careful daily clinical observations on 130 boys during an outbreak at a camp in New Hampshire in the summer of 1955. They reported a clinical picture very similar to the above. However, 65 per cent of their patients developed a postnasal drip as the disease progressed, 28 per cent had exudate in the tonsillar crypts, 18 per cent had hepatomegaly, and 12 per cent had splenomegaly. Convalescence was slow in a number of the boys. Except for the conjunctivitis and the fact that most of these outbreaks occurred in the summer, the clinical picture was not unlike that of influenza. Neva and Enders[34] have described a roseola-like illness with a rash which is also associated with a type 3 APC virus.

Type 4 virus has been shown to be the same as the RI-67 virus recovered by Hilleman and Werner in 1954[35,36] from soldiers with primary atypical pneumonia without cold agglutinin or Streptococcus MG rises in titer. In addition, Dingle *et al.*[37] demonstrated, in sera that had been stored, that a rise in antibody to this virus had occurred in many of the cases diagnosed as acute respiratory disease (ARD) in World War II.

Type 7 was recently described by Berge *et al.*[1] in the course of a laboratory investigation of febrile acute respiratory infections at Fort Ord, California. It was found most frequently among patients with tonsillitis and other upper respiratory infections. In this study throat washings from 158 patients were tested in tissue cultures, and only about one third of the cases (51) yielded APC agents. All 51 strains were found to fall in one of three types (3, 4, or 7). Types 1, 2, 5, and

6 (described by Huebner *et al.*[27]) were not recovered at all. The clinical conditions seen were classified as primary atypical pneumonia, bronchitis, nonstreptococcal pharyngitis, febrile common cold, tonsillitis, and upper respiratory infections. Type 3 strains were recovered only seven times. It was found in most of the above clinical conditions other than primary atypical pneumonia. It was found four times in cases of what was thought clinically to be nonstreptococcal pharyngitis. Type 4 agents were found 22 times in all the clinical conditions other than tonsillitis. It was most often associated with lower respiratory tract infections, primary atypical pneumonia, or bronchitis. Type 7 was also found 22 times but, unlike type 4 and like type 3, was more often associated with upper respiratory infections. In this study there was a high degree of correlation between frequency of isolation of APC agents and the development of an increasing titer of complement-fixing antibody.

Implied in the frequent association of APC viruses with acute respiratory illnesses is the thought that they are the causes of these illnesses. It is now clear that like the Coxsackie viruses these are ubiquitous agents and that many adults may have antibodies against several of the immunologic types.[30] It is important, therefore, to recall that mere recovery of an agent and demonstration of antibody does not prove etiology. A rising titer of specific neutralizing antibody during convalescence and continued epidemiologic association is also necessary. However, from a practical point of view a rise in the complement-fixing antibody titer would be good presumptive evidence of a recent infection with one of the APC viruses since all of the APC viruses have a common complement-fixing antigen. (This test is now available through the New York State Department of Health Laboratories.)

Pharyngoconjunctival fever has been experimentally produced in human volunteers[32] by the combined conjunctival and pharyngeal inoculation of type 3 and type 4 APC viruses. Twenty-six of 40 volunteers developed illness, after an incubation period of two to seven days, which was characterized by conjunctival symptoms. In addition, 20 of these individuals had sore throats, 15 had coughs, 13 had headaches, and 12 had nasal symptoms. Only eight had fever of 100 F. or more. The usual duration of illness was seven to eight days. The volunteers who developed illness had no pre-existing neutralizing antibody for type 3 or 4 viruses but did develop these antibodies during convalescence.

As a sequel to this human experimental transmission study, Huebner and his group[38] prepared a formaldehyde and heat-inactivated vaccine with the type 3 APC virus which also induced the development of neutralizing antibodies in volunteers. The presence of these antibodies offered protection when these men were given a challenge dose of live type 3 virus. Because of these promising results this group is now exploring the effectiveness of a polyvalent vaccine.

Although the APC viruses were first described in 1953 in the Washington, D.C., area, there is now suggestive evidence of their having been in Australia in 1943 and in Colorado in 1951.[27] Reports have also appeared of their recognition in England[39] and Sweden.[40] Type 8 virus has recently been found by Jawetz *et al.*[41] to be associated with epidemic keratoconjunctivitis, a disease which was of considerable economic importance during World War II.

Another interesting aspect of this subject is the frequent recovery of these viruses from chronically diseased tonsillar tissue in individuals with circulating antibody.[27] Their role in recurrent tonsillitis remains to be studied. They may well prove to be successful symbiotic viruses, like herpes simplex, becoming active only when the patient's resistance is lowered and the balance between virus and host is upset.[2]

The Psittacosis Group of Respiratory Viruses

Ornithosis was suggested some years ago as a more appropriate name than psittacosis for this group of viruses when it was recognized that very similar viral agents could be recovered from avian sources other than the parakeet. At first this seemed to be a reasonable suggestion since in all instances this was primarily an avian infection, and the disease produced in man was thought to be only incidental. Unfortunately for this concept, there are now recorded cases of infection from patient to nurse and from human pathogenic material to laboratory worker. Furthermore, there have been described a number of mammalian respiratory viruses, such as the S.F. (San Francisco) human pneumonitis virus, Illinois pneumonitis virus, and Louisiana pneumonitis virus, which are also very similar to the psittacosis virus.[42] Consequently, the phrase "psittacosis group of respiratory viruses" would seem to be more inclusive and appropriate.

All of the viruses in this group form coccoid elementary bodies which appear as intracellular inclusion bodies as part of their life cycle. They are all readily propagated in the yolk sac of an embryonated hen's egg, in tissue cultures, and in mice. On the basis of complement fixation tests they are all antigenically related. Only by the use of neutralization tests can antigenic differences be made out. These viruses are very similar in the laboratory to the virus of lymphogranuloma, and in routine serologic studies they cannot be differentiated.[42] They are the largest viruses in size, and in many ways they seem to be more like rickettsiae than viruses. One of these resemblances is in their response to presently available chemotherapy.

In a recent review of viral chemotherapy, Smadel[43] stated, "Only the viral diseases of man caused by agents of the psittacosis-lymphogranuloma group are unequivocally influenced by the drugs now at hand." The broad-spectrum antibiotics, chloramphenicol, chlortetracycline, and oxytetracycline, all seem to be effective. All of these appear to be viristatic (or suppressive) rather than viricidal, and the problem of relapse is of great concern, especially if therapy is started before the seventh day of illness. Indeed, early treatment may so impede virus multiplication that the development of complement-fixing antibodies may be delayed. Because of this Brainerd[44] has suggested that in treating an acute case, antibiotics could be continued for a minimum of seven and preferably ten days in spite of an initial favorable response.

The principal pathologic finding in fatal cases due to these viruses is a patchy bronchopneumonia. However, clinically the patients may present as influenza, atypical pneumonia, or even milder respiratory infections. It is necessary to be aware of the possibility that one of the psittacosis group of viruses may be involved. By being alert to possible cases, Ward *et al.*[45] during a six-month period found 37 patients in a chicken-raising area. All of these had some respiratory disease and developed significantly high complement-fixing antibody titers. Because of its greater availability and since there is immunologic crossing, Lygranum CF antigen was used in this as in many other studies.[46,47] Even in urban areas the incidence of infection due to these viruses seems to be rising with the increase in traffic in psittacine birds.[47,48]

Herpangina

Unlike the APC viruses which were recognized before there were clinical diseases to go with them, herpangina was well defined clinically long before the Coxsackie Group A viruses, which are now thought to be the causative agents, were known to exist.

It is an acute febrile illness characterized by a sore throat and the appearance of two to 20 minute vesicles or small ulcers only on the anterior tonsillar pillars, the soft palate, tonsils, or pharynx. Symptoms clear in a few days, although the lesions may persist longer. It occurs most frequently among children during summer months and in epidemic fashion. Zahorsky's description in 1920[49] has not been improved on.

In 1951 Huebner *et al.*[50] reported that Group A Coxsackie viruses were the cause of herpangina. This has since been repeatedly confirmed. As with the APC viruses this advance in our knowledge also followed the use of a new laboratory tool, the suckling mouse, for isolation studies.

The Coxsackie viruses constitute a heterogeneous group of small viruses. They are considered together mainly because of their capacity to produce clinical disease in newly born mice and hamsters and their avirulence for adults of these same species, except under special conditions.[51] Dalldorf[52] has suggested the classification into Group A and B on the basis of their histopathologic reaction in infant mice. In general, infection with Group A virus results in severe, generalized myositis; in contrast, Group B infection leads to inconstant, scattered, focal lesions of the muscles and central nervous system as well as necrosis of fat pads. However, it should be noted that Godman *et al.*[53] could not show a high degree of correlation between anatomic change and grouping.

Only Group A strains have been associated with herpangina. There have been at least six types of Group A viruses recovered from these patients.[51] Each of these types is immunologically distinct, and during convalescence a rise in type-specific neutralizing antibody appears. Since immunity is type specific, reinfection is possible if the second virus should be of a different type. Serologic surveys have given evidence of the widespread occurrence of these agents.[54,55]

Complement fixation tests have not been of much value diagnostically in human beings since the complement-fixing antibody is heterotypic and patients may develop elevations in antibody titer against types not responsible for their infections.[56] A clinical diagnosis is best confirmed by recovery of the viruses through inoculating nasal or pharyngeal secretions or suspensions of stool into suckling mice and then demonstrating a rise in neutralizing antibody for this virus in serum obtained during convalescence as compared with a specimen obtained early in the illness.[57] Because of its cumbersomeness this still remains a procedure of limited clinical application. However, it has been a useful epidemiologic tool. It has made it possible to show that herpangina is spread from person to person and that nearly all susceptible persons within a household become infected once the virus is introduced, although all do not necessarily develop clinically apparent disease.[55]

Fortunately, when symptoms are present, the recognition of this disease is not too difficult. The chief differentiation must be from herpes simplex oral infection. The location of the lesions is probably the most accurate differential point. The presence of ulcerations on the gums, lips, tongue, or buccal mucous membranes or gingival hyperemia, hypertrophy, or hemorrhage denotes herpes simplex infection. The presence of anterior pillar or soft palate lesions alone generally denotes herpangina. However, these areas may also be involved along with the others mentioned above in herpes simplex. For this reason Parrott *et al.*[58] emphasize the importance of searching the entire mouth for ulcerations before the diagnosis of herpangina is made solely on the basis of pharyngeal lesions. (There have been occasional laboratory-proved instances of herpangina with solitary ulcers on the tongue or buccal membrane.) Other aids to the differential diagnosis include the observations that herpangina usually occurs only in the summer, while herpes simplex may occur throughout the year and that herpes simplex gingivostomatitis is usually more severe and of longer duration.

In the newborn infant a condition has recently been rediscovered which Florman and Bergher[59] have called "benign pharyngeal erythema and follicle formation." This superficially resembles herpangina and, indeed, the lesions are in the same location. However, it clears spontaneously in two to three days and does not produce clinical symptoms. Suckling mice were inoculated with material from the throats of some of these infants with negative results.

Measles

Like influenza, measles was recognized as a clinical entity in ancient times. For over forty years it has been known to be caused by a virus, but unlike influenza it has been the subject of relatively little recent laboratory investigation. This has been chiefly because of the lack of a really satisfactory experimental animal and the difficulties in growing and maintaining this agent in the laboratory. Some of these difficulties may now have been overcome. By employing roller tube tissue culture technics similar to those employed for the propagation of polio viruses, Enders and Peebles[60] in 1954 were able to report the growth in tissue culture of cytopathogenic agents from patients with measles. From the blood and throat washings of five typical cases of early measles, they obtained agents which could be maintained in serial passage in tissue culture and which induced distinctive cytopathic changes in renal epithelial cells of human or monkey origin. The changes consisted of syncytial giant cell formation and intranuclear acidophilic inclusion bodies. These tissue culture tubes also served as a source of complement-fixing antigen. Sera obtained from patients during convalescence could neutralize the cytopathogenic effect, and complement-fixing antibody could be shown to be present in sera as early as three to seven days after the appearance of the rash and to persist for at least two months in fairly high titer. A measles complement fixation test may therefore prove to be of practical diagnostic value.

In 1955 Cohen *et al.*[61] confirmed the observations of Enders and Peebles and extended them by applying the fluorescent antibody technic of Coons. They conjugated fluorescein isocyanate to human gamma globulin containing measles antibody and stained, tissue culture-infected monkey cells. In this way they could show that measles antigen was present in the nuclei as well as the cytoplasm of infected cells. With this new source of virus it is to be hoped that progress toward elimination of this still very serious disease will now be as rapid as with poliomyelitis.

For the clinician measles is a true respiratory infection. The fever, catarrhal symptoms, and cough of the prodromal period are well known.

Before the appearance of Koplik spots and rash it may be very difficult to differentiate from the large group of undifferentiated respiratory infections. Recently, a simple test has been described by Tompkins and Macaulay[62] which may prove useful at this stage. They demonstrated large multinucleated cells in stained smears of nasal mucus from ten patients. In the earliest cases these are basophilic with well-preserved nuclei and resemble fused normal respiratory epithelial cells. Later the cytoplasm becomes eosinophilic with nuclei that tend to be more densely stained and shrunken. These cells were found on the average four to five days before the rash, even in patients given sufficient gamma globulin to prevent both Koplik spots and rash.[63]

Summary

A survey has been made of certain aspects of recent progress in the difficult but rapidly advancing field of respiratory viruses. The survey has been slanted toward those studies which might be of interest to practicing clinicians. It has been limited to the influenza viruses, the APC viruses, the psittacosis group of respiratory viruses, the Group A Coxsackie viruses, and the measles virus. These agents were selected because they can now all be studied in the laboratory, and all produce clinically recognizable disease in the human respiratory tract.

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Differential Diagnosis of Rheumatic and Nonrheumatic Leg Pains

The subacute form of rheumatic fever of late years has been much more common than the fulminating type. So far as we know now, this has not resulted in any decrease in cardiac involvement, but it has added to the difficulty of diagnosis. Because of its potential cardiac consequences, the importance of identifying the actual disease has not lessened; on the other hand, failure to differentiate it from nonrheumatic disease results in unnecessary confinement of the child and treatment with various potent drugs—a serious matter both to the child and his parents. Yet many such diagnostic errors are made, and one of the important reasons is the incorrect evaluation of childhood leg pains. Dr. Morse J. Shapiro suggests certain procedures in obtaining a history, in clinical evaluation, and in use of laboratory aids to keep such errors to a minimum. He admits that in some cases even a complete workup will fail to yield a clear identification, in which event a period of observation will be required.

—*Modern Concepts of Cardiovascular Disease, October, 1955*

The Psychologic Aspects of Headache Therapy

ARNOLD P. FRIEDMAN, M.D., BRONX, NEW YORK

(From the Headache Unit, Division of Neurology and Psychiatry, Montefiore Hospital, Bronx; and from the Department of Neurology, Columbia University College of Physicians and Surgeons, New York City)

To THE patient a symptom related to the head is frequently associated with profound anxiety and apprehension, not only because of the underlying emotional conflicts responsible for the headache, but also because of the threat of the symptom itself. Headache may also represent to the patient a disorder of the brain and may cause a fear of loss of mind or loss of intellectual capacity. Such fears are not without foundation, for headache may reflect a disturbance in the intellectual functioning when a person is incapable of solving a mental or emotional problem. Furthermore, severe disturbances, such as schizophrenia or cerebral arteriosclerosis, may be preceded by headache not necessarily related to morphologic changes of the brain.

It is assumed that psychogenic factors produce symptoms in one of two different ways.[1] One way would be due to conversion, in which an emotional conflict is converted into a physical dysfunction. Such conversion phenomena are often understood in terms of their symbolic meaning.

To understand the specific meaning of such a symptom, one needs to be familiar with some general principles of dynamic psychopathology in addition to having specific information about the person with the symptom.

Psychogenic symptoms may also express themselves directly in alteration of specific physiologic functions. These alterations are very often the physiologic expressions of the existing emotional feeling or tension state. Frequently, these physiologic alterations are not due to conversion, as it is seen in cases of conversion hysteria, where psychic "energy" derived from the repressing is "converted" into a physical symptom or sign. In some patients, however, both the above-described mechanisms can be observed simultaneously.

In the majority of our cases of headache, the precipitating psychic factors were largely unconscious, although most patients were aware of their anxiety. Environmental demands of an economic, social, physical, or intellectual nature beyond the capacity of the patient's personality may also produce headache.

Psychologic Mechanisms

Clinically, the most frequently observed conflicts were those concerned with hostile and aggressive impulses of an intense and destructive nature. Some subjects develop the headache because they reach the limit of their capacities to tolerate their repressed or suppressed anger. In addition, associated with the hostility is guilt which is usually unconscious and may in itself be responsible for the pain, the punishment being inflicted by the patient on himself in the physical pain and suffering. The close association of suffering and feelings of guilt are well known in many rituals in both primitive and modern society.

There are many other mental adaptive mechanisms which may play a part in determining why the choice of the symptom is head pain. Among them are "identification" with a family figure which is closely bound with "introjection." The identification may be positive or negative. If positive, it is based on a wish to be like the other person who is loved or respected, etc. If negative, it is based on hostility with guilt towards the other person, and in some instances the person assumes those attitudes and characteristics of the other person, which produces pain; as an example, one can cite the case of a girl who resented her older sister who had headaches or a son who has hostility toward his father and does to himself what he wishes to do to the other person. In these destructive thoughts self-punishment is based on guilt feelings resulting from hostile feelings toward a loved one.

In other patients the symptoms may be due to the need for gaining attention or affection. This is frequently seen in persons whose childhood background is one of overprotection or who only gained love or attention when they were in pain or ill. Identification may also play a role in these patients. In some patients the headache may be due to a need to remain in a position of dependency.

The symptom of headache may occur in persons who had a head injury or illness in which head pain was a prominent component.[2] Memory of such past experiences occurs when similar experiences or situations are encountered or when the emotional status of the patient is one in which pain is utilized to alleviate feelings of hostility associated with guilt.

Pharmacotherapy

From a psychologic standpoint drugs can be used in the treatment of headache:[3] (1) to reduce emotional tension and anxiety, which may prevent the occurrence of a headache or reduce the intensity of an attack in progress, or (2) to raise the pain threshold, which allows the patient to tolerate an attack of pain more comfortably and concomitantly reduces emotional tension. However, in the treatment of headache by use of drugs, the efficiency of any drug does not depend upon its pharmacologic action alone. The importance of dosage, timing, mode of administration, influence of pathologic states, cumulative action, individual idiosyncrasy, and tolerance of the patient cannot be stressed sufficiently. Furthermore, the efficiency depends greatly on the patient-physician relationship, which includes among other things the length and frequency of interviews with the patient. Our experience indicates that patient's reactions to drugs not only depends on the drug's effect on the underlying disorder responsible for the headache but also on the degree of incapacity, the constitutional makeup and age of the patient, the duration of symptoms, and the psychologic status. What the medication symbolizes to the patient is also a contributory factor in treatment and response. Is the taking of medication a sign to the patient of weakness, of receiving omnipotent mystical power, of passive dependency, or of love and affection? All these factors must be given serious consideration in the treatment of headache.

In evaluating the subjective symptoms of head pain there is such a tremendous psychologic factor that great care must be used in reporting success with any type of treatment. Investigating the literature in some of our own work, we note that the good results obtained by the primary investigation are frequently not duplicated on subsequent tests.

Well-controlled studies using the double blind test have indicated a placebo level from 35 to approximately 65 per cent in treatment of headache. An example in point is a recent study of ours on Rauwolfia.[4] In a series of 220 patients with chronic headache, 75 per cent of those with tension headache showed improvement in their headache status, and 80 per cent of those with hypertensive headache showed reduction of frequency of their headache status. However, the placebo level was 55 per cent in the tension headache and 65 per cent in the headaches associated with hypertension.

Specific Syndromes

MIGRAINE.—Although migraine probably is due to many causes, it is a clear-cut clinical entity, and the symptoms have a common underlying mechanism, whatever the cause may be. It may be defined as that form of headache which is characteristically paroxysmal, periodic, unilateral, and throbbing. The headache occurs against a background of relative well-being, is often preceded by visual or psychologic disturbances, and is usually associated with vomiting and irritability. Frequently there is a history of similar headaches in the parents or other members of the family.

Although in migraine the immediate cause of pain is associated with dilation of cranial arteries, it is evident that dilatation of blood vessels alone is not sufficient to produce headache.[5]

Early reports in the literature emphasized that migraine patients were psychologically stable between attacks and that the emotional storm occurred only after vascular changes had occurred. With the advent of psychoanalysis and the use of dynamic mechanisms evolved from psychoanalytic technic, important contributions have been made in understanding the migraine patient.

One of the early and important papers was that of Fromm-Reichmann's[6] report of eight patients whom she psychoanalyzed. She observed that all her patients suffered from unresolved ambivalence, and they were unable to be aware of hostility against beloved persons and tried to repress this hostility. The basic reason for the repression of hostility in her cases was the fear of punishment by being deprived of the family's approval and protection. Knopf[7] reported that the patients whom she studied gave the impression of constantly fighting an unconscious hostility. Melitta Sperling,[8] in her report on 23 patients, indicated that psychodynamically, migraine sufferers are orally fixed individuals which accounts for depression and other oral character manifestations. Each headache in the migraine patient is a repetitive killing of the frustrating object. There is no guilt feeling, the punishment being inflicted by the patient on himself in the physical pain and suffering.

Wolff[9] in his monograph concluded, after studying 46 patients, that patients with migraine have a predisposition and psychobiologic equipment which makes them prone to sustained and pernicious emotional states. During such states labile physiologic mechanisms set off a series of events which constitute the attack of migraine.

In a recent study of ours it was observed that psychodynamic mechanisms play an important role even in migraine of young children.[10] The types of neurotic symptoms observed in children were varied and dramatic. They included temper tantrums, phobias, frequent nightmares, hair-pulling, enuresis, obvious anxiety, hyperactivity, lethargy, thumb-sucking, nail-biting, and feeding difficulties. It was noted that children had considerable insecurity with resulting tensions which were manifested in some cases by inflexibility, overconscientiousness, meticulousness, perfectionism, and resentment.

In patients of all ages a variety of psychogenic factors have been related to the headache. Attempts have been made to define specific personality patterns. In our experience the personality makeup in these people is extremely variable and may be influenced by a variety of emotional factors. Most of these are unconscious and include hostility, identification with a family figure, a wish to remain in a position of dependency, or a desire to gain love, affection, or attention. The most frequent conflicts are apparently concerned with hostile impulses associated with feelings of guilt.

In considering why conflicts about hostility have been so often observed in cases of migraine as to give rise to the conception that they are a necessary condition to the occurrence of that disorder, one possible explanation is the following.[11] Patients with psychogenic illnesses in which pain is a prominent symptom, whether the pain be in the head or elsewhere in the body, on psychiatric study often prove to suffer from conflicts concerning an unconscious wish to hurt another person, the pain being an unconscious self-punishment according to the familiar *lex talionis*. In other words, what has been described as present in cases of migraine, an unconscious conflict over hostile impulses, is also frequently present in patients with other types of chronic headache (i.e., tension). Whether such a conflict is more frequent in migraine patients than in the others has yet to be determined.

There is little evidence of specificity of the precipitating psychodynamic factors. Not all patients with migraine are compulsive, perfectionistic, or rigid. A recent objective psychologic evaluation of our patients confirms this point of view.[12] In this investigation psychologic test data were analyzed for 100 patients with migraine and tension headache. Repressed hostility is an extremely common factor among many persons who do not have migraine but may have hypertension, ulcers, or just a small bank account. In fact, some of the patients who develop migraine during the course of their therapy or following relief of their symptoms from headache may develop and have developed duodenal ulcer, arthritis, colitis, vaginal spasms, and depression. An understanding of the underlying psychologic factors plays an important part in the management of migraine, for in the ability of the patient to handle emotional tension lies the most satisfactory means of preventing the attacks in the majority of cases.

A small but important group of our cases with the clinical picture of migraine have turned out to be schizophrenic. These patients have many pseudoneurotic symptoms which are associated with a feeling of catastrophe, oddities of behavior, a gradual withdrawal from reality, and descriptions of situations which are nebulous and changeable. They seldom respond to psychotherapy or medication for symptomatic treatment of an attack.

The obvious schizophrenic behavior usually occurs much later. Recognition of this problem is important to avoid needless routine therapy for the patient, frustration for the doctor, and to insure adequate early treatment of the schizophrenia.

TENSION HEADACHE.—Tension headache is that type of headache occurring in relation to constant, periodic emotional conflicts, concerning which patients are partially aware. Tension headaches have no prodroma, are usually bilateral, occipital, or frontal, and may be accompanied by a variety of associated signs, including anxiety, nausea, and vomiting. Frequency and duration are variable.

The actual cause of tension headache (muscular contraction) is unknown. However, there is good evidence that they are related to psychologic disturbances. In a majority of our cases the fundamental psychic factors were largely unconscious, although most patients were aware of their anxiety. Headache may be a symptom as a result of environmental demands of an economic, social, physical, or intellectual nature beyond the capacity of the patient's personality. As in migraine the most frequently observed conflicts in cases of tension headache were those over hostile impulses. However, again there was little evidence of specificity of the precipitating psychodynamic factors, and as noted in migraine, they may include a variety of psychodynamic mechanisms. Although these findings help us to understand the mechanism of certain headaches, they do not elucidate the cause. Why the same psychogenic factors, previously discussed as initiating headaches through physiologic mechanisms, may also produce them on a purely psychologic level, such as in conversion mechanisms, is unknown. Furthermore, the same type of psychologic conflict may produce a variety of symptoms, such as headache, ulcers, and colitis, or may be present in an individual who is symptom-free.

Our present knowledge indicates that in tension headache emotional conflicts which the patient has suppressed or repressed because of their unpleasant nature may produce a discharge, either skeletal or autonomic, with resultant changes in the muscles and blood vessels of the head and neck, eventually productive of pain.

Post-traumatic Headache.—One of the first and most frequent sequelae to injury of the head is headache. In the chronic group a headache persisting longer than two months following trauma is usually a difficult problem for the physician to treat. These headaches may appear alone or in association with such symptoms as dizziness, difficulty in concentration, or nervousness—the so-called post-traumatic syndrome. Headache occurred in approximately 60 per cent of our patients who had head injuries.[13] Study of a large series of patients following head injuries indicated that the incidence of prolonged headache was high among patients (1) with neurotic symptoms prior to injury, (2) with symptoms of marked immediate emotional reactions to the injury, and (3) with complicating environmental factors which might be presumed to cause emotional stress. It was noted that with head injuries resulting from athletic events, headache was an infrequent complaint. The physiologic mechanisms which are presumably involved in the production of post-traumatic headaches are distention of cranial blood vessels, sustained contraction of the skeletal muscles of the head and neck, and scarring of the extracranial soft tissues.

In most patients with post-traumatic headache the pain has no special characteristic, and the headaches resemble those of tension headaches. In post-traumatic headache the fact that the patient has had an injury to his head frequently produces a headache to the side of the part of the head which the patient associates with the injury. The dynamics in post-traumatic headache are variable and similar to those of migraine and tension headache with the added factor of threat of injury to the head and mind. Psychogenic factors in these patients include the immediate emotional effect of the injury, anxiety, depression, resentment or frustration, the pre-traumatic neurotic tendencies or conflicts of the patient, and the psychic conflicts resulting from the environmental stresses due to the injury.

Treatment

Our own clinical studies and those of others have demonstrated that in most patients with chronic headache psychologic factors coexist with the headache and the personality characteristics found in these patients.[14] It is most difficult to verify that in any or all of these patients the primary etiology is psychogenic. However, whether the psychologic factors are primary or secondary, psychotherapy in some form is indicated.

The most important single factor in the psychotherapeutic process is the emotional relationship of the patient to the physician. In emphasizing the importance of the physician-patient relationship, of course one must not overlook the importance of other aspects of psychotherapeutic procedures, such as environmental manipulation, ventilation of wholly or partially unconscious emotional conflicts, desensitization, and redirection.

What type of psychotherapy should be

employed in these cases? Is the problem one for a specialist in psychotherapy, or may it be handled by the nonspecialist? An initial effort at therapy, with attention to the psychologic factors, is within the province of the general practitioner. Within this treatment over-all improvement can be anticipated in terms of greater capacity to life adjustment and reduction of the habit patterns which lead to the activation of the physiologic mechanisms causing the headache. The physician can create a patient-awareness of such factors and may be able to resolve conflicts caused by situational or precipitating emotional disturbance. Later, if he feels that the deeper, predisposing personality problems dealt with should receive specialized attention, the patient can be referred to the psychiatrist for formalized therapy. In these cases the approach cannot guarantee results, especially with patients who have been sick for a long time, but it certainly offers possibility of improvement which may not be achieved by drugs or other forms of therapy alone.

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Persistent Sore Throat in Tonsillectomized Persons

Of a representative group of tonsillectomized persons the incidence of "sore throat" was 8 per cent higher than in a control group with intact tonsils. Dr. A. R. Hollender explores the question of whether this was due to technical failure of the operation itself or due to inadequate preoperative evaluation. While persistent post-tonsillectomy sore throat is undoubtedly due to tonsil tags in many cases, the fact must not be overlooked that there can be causes of sore throat other than faucical tonsils, and that frequently these are the primary sources of trouble even before tonsillectomy is undertaken. Failure to consider these factors before operation greatly increases the likelihood of later trouble even if, from a technical viewpoint, the operation is satisfactory. Although the overall percentage of patients not benefited is small, dealing with these disappointed patients to correct a situation that should not have occurred is a trying task.—*Eye, Ear, Nose & Throat Monthly, February, 1956*

Psychiatric Aspects of Obstetrics and Gynecology

MORRIS D. RIEMER, M.D., BROOKLYN, NEW YORK

THE Brooklyn Psychiatric Society will attempt in its forthcoming year to promote a mutual assistance program with the various specialty societies. This presentation is chosen as the first one because of the marked importance of this field of medicine. The obstetrician not only helps the mother carry on with the greatest drive of her life, reproduction, but at the same time influences the whole future of the newborn infant. Since he holds such an enviable nuclear position, he has the opportunity of preparing the female to be a better mother and simultaneously, through this very avenue, to bring forth a healthier baby. In these activities he helps mold the characters of the oncoming generations. Because of the confluence of emotions involved in the reproductive function, women importunately turn to their obstetricians for support. The physician, on the other hand, if he is patient, kind, and inspired by his work, will help to intensify this rapport.

The theme of this paper is the fortifying of the emotionally immature female and mother, thereby helping her produce a healthier baby. This objective will best be presented by discussing (1) the emotional etiology of obstetric and gynecologic disorders and (2) a program of psychotherapy.

The Origin of Psychic Disorders in Obstetrics

Emotional stress and severe fatigue may alter fetal activity markedly. When maternal emotional stress is present as anxiety, fetal overactivity remains high, as shown by the increased fetal-kick movements. Sontag[1] believes that "it is possible that more or less permanent characteristics of infant behavior patterns have been established through this prenatal stress situation." It has been found that such infants have increased muscle tension at birth and are hyperirritable, restless, and prone to diarrhea and gastrointestinal distress. Sontag's disclosures, thus, not only stress the marked insecurity, feelings of ineptitude, and an inability to sum up anticipated pleasurable affection for the unborn child in the mother but signal a need for therapeutic intervention.

After this brief résumé of the prenatal causes of nervous disorders, a short outline of the postnatal influences is in order. Freud traced the etiology of neuroses to infancy and childhood. In recent years it has been found that the mother's love for the infant is the most vital factor in the emotional life of the individual. Ribble,[2] in *The Rights of Infants,* cites clear-cut evidence of this phenomenon. She says: "Not many years ago, one of the most baffling problems of child health was a disease known as marasmus. It affects particularly children in the first year of life, and less than three decades ago, it was responsible for more than half the deaths in that age group. The astonishing discovery was made that babies in the best homes, given the most careful physical attention, drifted into this condition of slow dying, while infants in the poorest homes, with a good mother, often overcame the handicaps of unhygienic surroundings. It was found that the element lacking was mother love. In consequence of this new insight, a new system of carefully selecting foster mothers was developed, and whenever an infant had no suitable person to care for him, he was sent to a foster home rather than to an institution. As a result, marasmus is becoming a rare disease. The study of marasmus has added greatly to our understanding of infant nature. The disease showed in a dramatic way the meaning of hunger for mothering experiences and the effect on the child's mental as well as physical functions when this need is not satisfied."

An endless series of clinical data has been brought out to show that daily deprivation of parental love, mainly that of the mother because of her closer reality setup with the child, is responsible for the manifold emotional, character, behavior, and psychosomatic distortions. These findings clearly show that the same cause, both prenatal and postnatal, is responsible for most of these emotional difficulties.

Presented at St. John's Hospital, Brooklyn, November 19, 1953, under the auspices of the Brooklyn Psychiatric Society.

The organization known as the "Cornelian Corner" was established to correlate the quality of infant care with the problems of the developing individual. This organization operated on the policy that healthier adults could be developed if the problems that come with infant feeding and other child disciplines could be ameliorated. Prominent pediatricians, obstetricians, and psychiatrists met in Detroit in 1942 to formulate the policies of the group. Among them was Moloney,[3] who is responsible for the following rationale and credo of the organization: "The infant of today becomes the parent of tomorrow. The infant made neurotic today becomes the neurotic parent of tomorrow; and, thus, neuroticism is perpetuated for generation after generation, a vicious circle of incalculable suffering." They all agreed that the avowed purpose of the Cornelian Corner organization was to "promote healthy parent-child relationships."

The whole etiology of nervous disorders having been put into a nutshell, you may very well ask: What is the obstetrician to do about the lack of mother love in his patients? How is he able to detect it? How does all this tie up with, say, a condition like pseudocyesis or frigidity? These questions are appropriate, and an attempt will be made to answer them. The discussion on the clinical material will be in simple nontechnical language for the purpose of clarity and in order to encourage your active participation as psychotherapists. With due regard to Sontag's[1] work on the pregnant mother who cannot experience love for the unborn child, the importance of mother love in curing marasmus, the principles of the Cornelian Corner, and the findings of insufficient mother love as the cause of neuroses, I shall attempt in a brief presentation to show how this primary force is responsible for the following obstetric and gynecologic disorders.

The Toxemias of Pregnancy

The toxemias of pregnancy, despite the recent advances in prenatal care, still have a relatively high incidence. The phenomenon presents a challenging problem to the obstetrician and psychiatrist. What are the psychologic forces responsible for this condition indigenous to pregnancy? The gain in weight seen before preeclampsia is brought about by an increased intake of food and fluids to assuage the patient's intense anxiety. The resultant sudden hypertension is due to quickly unleashed hostility. These individuals react with unconscious and uncontrollable fear and rage to pregnancy. The fact that the toxemia disappears immediately with the interruption of the pregnancy indicates also a resolution of the emotional conflicts with the removal of the fetus. A close study of the make-up and psychosexual life will reveal abundant evidence of such instability. The technic of diet control, elimination of salt, restriction of fluids, sedation, and bed rest works fairly effectively in controlling the clinical signs. Emphasis is to be laid, however, on the insecurity of such individuals and the fact that they may prove to be ineffective mothers subject to further psychosomatic disorders throughout their lives. Psychotherapeutic intervention should, therefore, begin with the first office visit. A firm grip on the patient's general activities is thus exercised. A means of diminishing her fears and channeling off her resentments will not only lessen the possibility of the toxemia but will also prepare her for motherhood.

Menstrual Irregularities

Menstrual disorders are common. It is to be taken for granted that a complete gynecologic study is in order. Where no physical findings are obtained, then the difficulty may usually be emotional in origin. Amenorrhea can be short-lived or present for several years as a result of psychic influences. It is well known that the catatonic female will cease menstruating throughout her attack; the latter may last several months to several years. In this state she frequently assumes the fetal position and rolls up in an obscure corner of the room; she becomes mute and inaccessible. When she comes out of her attack and begins to talk, she elaborates a phantasy of having returned to the womb in order to renounce all responsibility of womanhood. In so doing she gives up menstruating as well. This disease provides an important clue to the mechanism of amenorrhea; the patient, in effect, says, "I don't want to be an adult woman who menstruates; I want to be a child or fetus who does not menstruate." Kroger,[4] in a recent talk in Brooklyn, said that he had noted on vaginal smear studies and endometrial biopsies in such female catatonics anovulatory changes. This important evidence again shows how the hormonal responses can be governed by the emotions. The nurses who were prisoners in Bataan stopped menstruating throughout the time of their imprisonment. Great tension and fear will provoke similar amenorrhea.

Individuals with menorrhagia likewise reveal psychic conflicts. Their personality studies show many neurotic traits. It is well known that the menorrhagias appear as a means of objection to coitus or are related to sexual difficulties.

Pseudocyesis, one of the most dramatic of all bodily simulations, is the result of an overpowering pregnancy phantasy, which gains expression through a compliance of the somatic structures. Rakoff and Fried,[5] who studied 27 cases of pseudocyesis, found that 19 of these patients had a soft cervix, and the uterus was enlarged to that of a six weeks pregnancy in 11. There were hormonal changes in all, indicative of a persistent luteinization in the ovary due to luteotropic hormone stimulation. Their findings showed definite organ and hormonal changes which were completely secondary and subservient to the psychic drives. No better evidence could be presented than this to prove conclusively the tremendous primary power that emotions exercise over the bodily function.

The understanding of the dynamics of the menstrual disorders does not cure the patient. She requires sufficient self-confidence, gained from the therapy, before she can solve these problems. Through the technic of developing a transference, reinforcing her unsteady ego, and then gradually exposing her difficulties to her, she will be able to overcome her somatic complaints.

Premenstrual and Tension Syndrome

The headaches in this disorder vary in intensity from that of migraine of several days duration, associated with severe vomiting and nausea, to head pains of a few hours. Concomitant swelling of the scalp, hands, feet, and allergic-like reactions in the bowel are common. A series of 50 patients with this disorder have been treated successfully.

A typical case history gives the onset of headaches at puberty. A young, married woman of twenty-six, the mother of two children, reported that she had suffered severe migraine headaches since the age of twelve. These headaches would come on a day prior to menstruation and continue for the four days of the menstrual period. There was vomiting and a clogging of the nose with difficulty in breathing. For years she had been treated for sinusitis because of the associated pains in the maxillary and frontal sinus areas.

During the course of the treatment she was able to unleash a tremendous volume of highly repressed rage toward her parents. She had been constantly reproved throughout her childhood and was unable to speak up in defense of herself because of the intense fear of her parents. This pattern of unmitigated self-condemnation had been employed in an attempt to fall into line with what her parents seemed to demand. The patient was unaware, for the most part, of this severe self-pounding. She gradually became convinced through the transference that I, as a substitute parent, did not demand this self-punishment and was thus able to renounce it completely.

It is frequently found that suppressed hatred finds an outlet through self-hatred. The mechanism of self-denunciation or that of a severe conscience is responsible for the menstrual headache. The patient was brought up to feel that everything she did was wrong. To menstruate, therefore, becomes outstandingly forbidden and, hence, subject to severe self-castigation. The release of the hatred in the therapeutic sessions takes off the internalized pressure on the individual herself. It is through this procedure that 100 per cent of all patients treated experienced complete relief from this symptom complex.

The administration of ammonium chloride to replace the sodium ion responsible for the water retention in premenstrual tension and headache frequently relieves this symptom. You may ask, therefore, "Why waste so much time with psychotherapy?" The answer is simple. The ammonium chloride does not change the character structure of the person, diminish her self-hatred, or prepare her to be a more mature, healthier mother.

Dysmenorrhea and low back pain have a similar mechanism. Many unnecessary operations for malposition of the uterus were undertaken in the past to relieve these symptoms. Administration of estrogens and sedatives, even injections of sterile water, give relief from this symptom.

The many nonspecific remedies clearly show the psychic origin in many of these cases. It is to be emphasized again that strengthening the immature patient is the therapeutic objective in order to prevent recurrence and produce a better integrated character structure.

Frigidity

According to Kroger,[4] "Gynecologists and psychiatrists, especially, are aware that the majority of women derive little or no pleasure from the sex act. Many not only fail to experience pleasure, but actually suffer pain and revulsion. The gynecologist who fails to detect the psychogenic factors responsible for true frigidity will search for various physical abnormalities, as in the size or structure of the genitals, the accessibility of the clitoris or the position of the uterus; he will look for inflammations, fissures, ulcerations, injuries, and may attribute the frigidity to whatever condition he finds. Finally, it should be emphasized that true frigidity, dyspareunia, and vaginismus are not distinct, clinical entities, but are only symptoms of deep-seated emotional disturbances originating during early psychosexual development. This discussion excludes cases of pseudofrigidity which involve aplasias, hypoplasias, acquired organic lesions of the genitals, the consequence of destructive operations or accidents, incorrect technic, and complete sexual ignorance, which cannot be classified as frigidity resulting from emotional disturbance. Also excluded are the so-called facultative cases in which the frigidity disappears and orgasm is possible with certain men. In the child, the clitoris gives sexual satisfaction, while in the emotionally mature woman, the vagina is supposed to be the principal sexual organ. In frigid women, the transference of sexual satisfaction and excitement from the clitoris to the vagina, which usually occurs with emotional maturation, does not take place."

Most of the female patients suffering from neuroses are frigid. It may take many weeks of therapeutic management before the patient becomes aware of this fact. On routine questioning a good portion of these patients state that they experience a true orgasm; further study, however, usually reveals that they haven't experienced any such pleasures and are, therefore, unaware of its nature. Through proper psychotherapeutic handling this distressing difficulty can be resolved.

A married female, age twenty-seven, came for treatment for agoraphobia. She had to be accompanied by her husband in traveling and could not be left alone without suffering violent anxiety. Sexuality was entirely repulsive to her and produced states of panic. There was a hypertensive familial background, and the patient had a hypertension of 190/110. During the course of treatment she gave expression to overpowering fears, feelings of hopelessness, and finally marked rage; all these emotions had been strongly repressed because of her severe childhood-parental background.

This young lady, although twenty-seven years of age, soon recognized during the course of therapy that she felt more like a child of two. She was ashamed to admit this to herself. I told her that "it was good to be a baby." She remarked that this was not the attitude of society. I had to agree that she was in a measure correct. I assured her, however, that going through childhood is a natural process of maturing. Since she had been deprived of this liberty by the severity of the environment, she could not develop properly by eliminating the whole foundation of character growth. She gradually became convinced of this truth and, at first timidly and later more freely, released her instinctual drives.

This patient had been married five years but said that she did not feel married. She experienced no sensations in her genitals; as a matter of fact, she would rarely look at any parts of her body. She repeatedly felt that her husband was trying to "use" her for his own gratification. Indulgence in any sexual practice, moreover, meant being a bad woman to her. She expressed tremendous fear of me and felt I would "throw her out," just like her parents used to do. My repetitious reassurances that I respected her surprised her. Under the influence of this nurturing process in the treatment, her character developed, and she gained a feeling of being worth while. At first erotic sensations appeared in the breasts. She screamed with amazed excitement and ecstasy when she experienced her first erotic sensations in the clitoris through her husband's digital manipulations. As a result of the further removal of inhibitions, she gleefully spoke of again experiencing new sensations, feelings of an aliveness of her thighs and vagina. She felt, she said, that her vagina had a depth to it and unashamedly asserted that it was her most precious possession, which she now could use freely and fully.

This patient's hypertension disappeared. She became pregnant and had an uneventful course to term. She is now a strong, mature mother who experiences a profound love for her youngster. Her relationship to individuals about her has undergone a marked metamorphosis. She now enjoys a strong communion with friends and neighbors, whereas previously she felt isolated, unwanted, and alone.

In consonance with what has already been said, I'd like to point out that frigidity is merely another manifestation of consistent childhood trauma. The lack of maturity is due to an absence of proper affection in the early, helpless years of childhood. The patient's immaturity invariably appears in the psychosexual life. As a matter of fact, one of the best criteria of the state of mental health is the degree of psychosexual development. Frigidity of some degree is present in all neurotic women. It is due to all the forces that stifle the maturing of the individual. On this subject I must mention only one technical term of which you have all heard—it is the great discovery of Freud—the Oedipus complex. If you can provide the type of atmosphere outlined above, the patient will open up and reveal an amazing story to you; it is only then, through the spontaneous revelations of the patient, that you become convinced of this phenomenon.

Kinsey[6] finds most women having a good sexual life—a grand one, indeed. He reports that frigidity occurs in a minority of women and that orgasm is essentially clitoric, disagreeing with the psychiatric concept of the orgasm being vaginal. Notwithstanding Kinsey's optimism, findings of frigidity, as in this patient, are rampant. More important than rectifying the symptom complex is the necessity again of providing a means of developing the patient's character to maturity. The basic fortification of the individual is the trend of the psychotherapeutic effort in frigidity; the latter condition begins to lessen and finally resolves itself with the freeing of the instinctual drives within the person.

Pregnophobia

This is the most common emotional disturbance in medical practice and results in numerous complications. Cooke[7] says: "When a woman discovers that she is pregnant, several conflicting emotions come into play. On the one hand, there is the subconscious satisfaction of the maternal instinct and, frequently, delight in the prospective advent of the baby. On the other hand, there is the basic subconscious pregnophobia with its conscious exaggerations, fear of pain, fear of death, dislike of the temporary cosmetic deformity, and often hatred of the unwanted child and of its father." This phobia will be elaborated into numerous ramifications. Fear of a deformed child is frequent with consequent feelings of disgrace; various phases of this trend are seen in thoughts of giving birth to a dead fetus, suddenly aborting, or suffering a trauma that will definitely injure the fetus.

Examination of such patients reveals in their spontaneous remarks, associations, and dreams clear-cut envy or hostility to the unborn fetus with accompanying guilt feelings. These mothers are emotionally children themselves who received insufficient security-giving care; they are, therefore, extremely jealous of the newborn infant. The mother visualizes the offspring taking away the affection of the husband and family from her. Recognition of these forces will help the therapist exercise a patient, understanding attitude.

Strong conflicts centering around early childhood, envy of the mother, and punishment for assuming the mother role are parts of this picture. In many both processes coexist. The technic and handling are essentially the same as that indicated in the patient with frigidity. Rather than aspiring for a complete removal of the conflicts, it appears more in line with the theme of prevention that the obstetrician exert his psychotherapeutic skills toward re-enforcing the phobic mother, changing her insecure character structure to a firmer, healthier texture.

The Psychoses During and Following Pregnancy

These acute psychotic attacks come about in individuals who are schizoid, withdrawn, and have weak characters. The outbreak is due to an inability to assume the responsibility of motherhood. Motherhood means a taxing of the psychic economy which these individuals are unable to take. The patient whose character is weak will succumb to a complete breakdown of her whole structure and become uncontrollable. During the pregnancy the compensatory prop of "fulfilling the ultimate goal of the female," that of reproduction, plus Nature's defenses, will serve to bolster them and counteract the disturbing inner turmoil. The breakdowns occur more often, therefore, soon after delivery when the reality of assuming the mother role can no longer be denied.

The patient gives many warnings of an impending psychotic attack. Complaints of inability to carry on, helplessness, marked confusion, trancelike states, suicidal thoughts, marked detachment, agitation, vague paranoid ideas, all manifest themselves before the acute onset. These patients require a great deal of support from all sources. Through the cooperation of relatives, friends, and continued psychotherapy throughout the pregnancy, it is possible to abort an attack.

The psychotic breakdowns that are precipitated by the assumption of the responsibility of mothering are matters that require a great deal of serious thinking. It is appropriate to mention at this time that vulnerable fathers will react in a similar manner. The term postpartum psychosis is a misnomer. The pregnancy, in and of itself, does not bring about the psychotic attack. It is the added responsibility of motherhood on the psychic economy that is responsible. These individuals are subject to similar attacks on suffering any unusual trauma or excessive demands on their integral structure.

A most important problem facing the obstetrician is that of the pregnant psychotic. In her state of mental upheaval she cannot help but transmit a great deal of her disturbed emotions to the fetus. As a mother totally disorganized and incapable of displaying any love to the newborn, she is bound to traumatize the infant's emotional structure further. Prophylactic measures to prevent psychopathologic development are urgent. Several specialists on this specific problem have offered plans of procedure to offset the pernicious influences.

Extirpative Gynecologic Surgery

This whole field presents a challenge to the gynecologist and psychiatrist. The female deprived of any of her reproductive organs undergoes violent traumatic reactions in her whole psyche. The agonizing distress of the patient tests the gynecologist's resources to the utmost. Many problems in this area, no matter how they are handled, leave us quite dissatisfied. The reaction of unconsolability and hopelessness of the patient who has had part of her genital tract or breast removed is another situation demanding prompt and proper management.

The question as to whether or not to inform the patient that she has cancer is not easily resolved by a "yes" or "no." Individuals who have refused to face reality throughout their lives cannot face the reality of malignancy. To force it upon them is an unnecessary cruelty. On the other hand, to fool the patient who is mature and who asks openly to be told, through untruths, is also unfair. She will become suspicious and lose faith in the very persons who want to assuage her anxiety. Such loss of trust in the psychotherapist annihilates his efforts to help her.

Bacon, Renneker, and Cutler,[8] reporting on "The Psychological Problems of Adjustment to Cancer of the Breast," noticed postmastectomy depression frequently characterized by an emotional similarity to mourning. These women are concerned with what their husbands or men in general will think of them in their mutilated state. The primary emotional reaction to disease of the breast usually is not a fear of cancer or death but the feeling that the basic feminine role is in danger. Postmastectomy depressions were most extreme in women who had invested excessive feeling in their breasts. Underlying this reaction was an exacerbation of their deeper neurotic conflicts. All patients with extensive extirpation should be treated psychotherapeutically in order to assist a traumatized psyche to heal itself. The risk of depriving the patient of this therapy is too great; to assist her in every way is most essential and humane.

Our understanding of the basic emotional causes of these psychosomatic disturbances will help toward a program of therapeutic management. It is appropriate in this connection to mention the subject of hypnosis.

Hypnosis

Hypnosis is being used in obstetrics and gynecology to administer so-called hypnoanalysis and to furnish anesthesia for labor pains, the delivery, and gynecologic surgery. Kroger[4] recommends its use. I voiced clear-cut objections to the use of hypnosis in Kroger's presence, and I would like to emphasize them again to you. Hypnosis as a therapeutic agent is dangerous in that it takes advantage of the patient's suggestibility or submissiveness. The very prostration and surrender of the individual to the domination of another person is most distasteful. This practice accentuates the submissiveness of the patient and makes her more vulnerable to domination by others. In other words, the hypnotic procedure worsens the patient's neurotic affliction, increasing her immaturities and character defects throughout life. It is certainly bad medicine to risk such damage to the whole psyche in order to obtain a transient anesthetic effect. Many drugs can produce similar results very well.

An individual showing such submissive tendencies should be treated psychotherapeutically to remove this defect in her character. Hypnosis does not do that. It does the opposite; it takes advantage of the patient's "willingness to surrender" and intensifies this disadvantageous trait.

Psychotherapeutic Management

Ninety-five per cent of obstetric and gynecologic disorders are psychogenic and require psychotherapy. The most important instrument in the treatment is the patient-doctor relationship or the transference. When the physician provides a genuine permissive atmosphere and a sincere interest in her personal problems, the transference is increased. At no time should the physician become intolerant, harsh, or curt. Every neurotic patient is most severe with herself; additional severity of any kind is harmful. The first aim in the therapy is to give the patient support through your own confidence. The second procedure is to diminish her self-condemnation or suppressive tendencies. She must be given time to be able to express herself.

It has been shown that absence of mother love in childhood is the primary cause of these conditions. Your understanding, friendship, and the transference will supply the patient the needed security that she did not receive as a child. The patient is immature; she is only two to ten years old emotionally; subjectively, she feels lost and helpless; her whole psyche turns to you as a child does to a parent. You can readily increase her self-confidence if you graciously accept your role in the transference. In so doing you will encourage her to let go with her childish needs, to cry, complain, express her fears and resentments. She will expose her inner turmoil and free herself in this manner of her inner tensions. Her emotional outpourings will disclose her problems both to you and herself.

The technic of psychotherapy follows essentially the lines outlined in the description of the clinical material in the patient suffering from frigidity. The consultation room represents a setting where the patient can give vent to emotions and desires she was not permitted to experience sufficiently before. She soon learns that a desire to be loved, sexuality, and hostility are not obnoxious but can be enjoyed. In the process of the treatment these powerful emotions gain expression in the patient's character; in this fashion they are drained off from the soma.

If we look back on the cause of neuroses, particularly Ribble's[2] disclosure that marasmus is due to lack of mother love and is cured by giving a substitute mother love to the infant, we can understand that the same phenomenon takes place in the treatment of the adult human being. The essential, basic, instinctive drives are no different in the infant from what they are in the human being at any age. It is to be emphasized that this basic requirement, the need to be loved, is present every day of our lives. The obstetrician, understanding that his patient is suffering from a psychogenic disorder and has an immature, insecure character, will give to that needy person through his technic and transference the recognition and warmth which she is so desperately seeking. This procedure is fundamental and represents the essential requirements in the treatment.

It is not necessary to ask the patient questions about her sexual life. Because of her marked supersensitivity, she is usually unwilling to disclose such intimate matters. After she has been won over by you, so to speak, she will bring forth of her own accord, with some direction, much of the sexual conflicts in which she is involved.

It is only after you have had some experience and allowed yourself to deal with a number of patients in this fashion that you begin to get a feeling of the powerfulness of the transference. The effect that you have on the patient is not due to interpretations that you give; it is related more to the steadying that your character will exert on that of the patient's, very much the same as that of a parent on an unsteady child. These influences are not tenuous; they are most substantial; they are the strongest forces that make for happy and healthy living.

The obstetrician should not hesitate to seek psychiatric guidance. Until he becomes skilled in psychotherapy, he will be quite befuddled by numerous problems. This brief outline of the principles of psychotherapy is sufficient in a general discussion of this kind. The additional details will be secured through your own experience and further contact with your patients' problems.

Many problems in the psychotherapeutic approach to patients suffering with gynecologic disorders involve an intensive research program which could best be carried out by a combined effort of psychiatrists and obstetricians. Such an investigation of these problems, through a liaison activity sponsored by the Brooklyn Psychiatric and Brooklyn Gynecological Societies, could be most productive and mutually rewarding. Research problems involving questions of sterility, vomiting of pregnancy, the different types of characters associated with the anomalies that have been presented, numerous sociologic problems, such as the handling of the unwed mother and the disposition of the infants born of pyschotic hospitalized patients, are all matters of significance that require a great deal of thought and investigation. A piece of research work, correlating the degree of vulnerability of rigid characters to various gynecologic disorders, might prove most illuminating. Such a program no longer is the challenge for future gynecology and psychiatry but is our responsibility today.

Conclusion

1. The parent-child relationship forms the background for emotional difficulties in the individual. The "Cornelian Corner" aims to promote healthy parent-child bonds. This objective can be served most advantageously in obstetrics and gynecology by helping the mother become a healthier parent.

2. Many disorders in this field show a fairly consistent pattern of psychologic conflicts. A conviction of these findings, based on clinical experience, impels the physician to employ effectual psychotherapy.

3. Psychotherapeutic handling of females subjected to extirpative gynecologic surgery is imperative. The adjustment of the patient to cancer likewise requires every possible assistance.

4. Teamwork between obstetricians and psychiatrists is a present-day indication for routine therapy as well as for an intensive research program in many obstetric and gynecologic problems.

5. A technic of psychotherapy which the obstetrician and gynecologist can apply is briefly outlined.

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Chronic Pulmonary Disease as a Possible Etiologic Factor in Lung Cancer

After an extensive survey of the literature dealing with pre-existing pathologic changes as etiologic factors in lung cancer, Dr. Walter Finke reports on a study of 159 patients with proved neoplastic disease of the lungs. Results of this study support the view that chronic pulmonary disease possibly may be a precipitating factor, and even though its real importance is still to be evaluated, control and prevention of these pulmonary diseases are important ends in themselves. All of the 159 patients had primary lung cancer.

An analysis of their hospital records revealed that a long-standing pulmonary ailment of some kind had pre-existed in one third of the group. In 76 cases, information over and above that supplied by the hospital records was available, and in this group the figure for chronic pulmonary ailments rose to 60 per cent. Bronchitis and asthma were the leading disorders, but old tuberculosis accounted for a substantial number of cases. In two control groups as well as in statistics for the general population the incidence of primary lung cancer was much lower. The number of the group who had had influenza in the years 1918 to 1920 and of pneumonia in the distant past was particularly high in the cancer group but was just about the same as that in patients with bronchopulmonary disease. In the patients with bronchopulmonary disease, however, the rate of multiple lung-damaging episodes was only half that found in the series of 50 cases of lung cancer.—*International Record of Medicine, February, 1956*

FUNDAMENTALS OF MODERN ALLERGY

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Allergic Rhinitis and Nasal Polyps

ROBERT A. CHAIT, M.D., ROCKVILLE CENTRE, NEW YORK

One of the most distressing manifestations of allergy in the upper respiratory tract is the combination of symptoms known as allergic rhinitis. The symptoms consist of paroxysmal sneezing, nasal obstruction, watery nasal discharge, and itching. When these occur during the hay fever season and are accompanied by positive skin reactions to pollens, the condition is known as seasonal allergic rhinitis or hay fever. When these symptoms occur throughout the year with no relation to the pollen seasons, the condition is described as perennial allergic rhinitis.

The present discussion will exclude hay fever, which will be discussed separately in this series, and will be limited to perennial allergic rhinitis. A more precise term would be "perennial atopic rhinitis" to indicate that it is included in that group of diseases which are subject to hereditary influence.

Diagnosis

As with all other allergic illnesses, one of the most important diagnostic tools is a thorough and detailed history. In almost all instances it will be found that there is a positive family history of allergy, establishing the existence of atopy. Very frequently there is an associated allergic illness such as asthma, hay fever, urticaria, eczema, or migraine. Symptoms consist of paroxysmal attacks of sneezing accompanied by nasal obstruction and profuse watery nasal discharge. They are more pronounced in the early morning hours and toward evening. On physical examination the nasal mucous membranes are pale, boggy, and bluish-purple in color. The turbinates are markedly engorged, and, together with the abundant mucoid secretion, produce almost total nasal obstruction. Quite often there are polypoid changes present and even complete formation of nasal polyps.

The diagnosis is sometimes made more difficult by the existence of a superimposed infection or sinusitis. For proper evaluation of these factors it is often necessary to repeat the examination on several occasions.

Differential Diagnosis

In the presence of a rhinitis it is necessary to decide whether or not the condition is allergic.

The clinical history is often misleading, and the physical appearance of the nose is not always diagnostic. Very often certain conditions will result in a pale, boggy, wet nasal mucous membrane which simulates an allergic rhinitis; yet no evidence of hypersensitivity can be found, and an allergic investigation will be fruitless. For example, the excessive use of vasoconstrictor nose drops in a nonatopic individual will cause a similar picture. In such a case the mere cessation of nasal medication is sufficient to cause the complete return to normal of the abused mucous membrane. Similarly, certain endocrine dysfunctions, such as hypothyroidism, will frequently result in a similar appearance of the nasal mucosa. Also, an acute primary nasal or sinus infection in a nonatopic individual may result in a mucous membrane that will vary from intense red to the same pale boggy mucosa just described.

In all these instances the proper study of the nasal secretions according to the technic described by Hansel[1] may be of tremendous help in the diagnosis. In our experience the nasal smear in an active allergic rhinitis tends to show a predominance of eosinophils. In those conditions where atopy does not play a role, the nasal smears are not likely to contain eosinophils. A positive nasal smear denotes excitation of the nasal shock tissue in an atopic individual. That excitation may be specific, as in sensitivity to pollens, foods, and inhalants, or nonspecific, as occurs in the atopic individual whose nose is irritated by perfumes, chemical irritants, physical factors, and mechanical stimulation.

The nasal smear, if done repeatedly during the time the patient is under observation, can be a reliable guide to the progress made in the management of a patient with allergic rhinitis. When the patient is having active symptoms, the nasal smear tends to be positive. As the offending inhalant and food factors are eliminated, the degree of nasal eosinophilia may diminish, and with the clearing of symptoms the smears may continue to be free of eosinophils. With exposure to a specific food or inhalant, the smear again becomes positive.

Treatment

Treatment depends on the determination of the specific etiologic excitant. The etiologic diagnosis must be made by means of history, skin testing, elimination diets, and therapeutic or clinical trial. The methods used and the interpretation of results are exactly the same as in other allergic illnesses.

Wherever possible, the offending allergens, whether inhalants or foods, should be eliminated or avoided. If this is not possible or practical, then methods of desensitization must be employed. The technics are identical with those employed in asthma or other allergic conditions.

Temporary symptomatic relief may be obtained with the use of oral ephedrine products or antihistamines. Local medication, particularly strong vasoconstrictors, should be avoided because of the danger of "nose-drop" addiction and the development of rhinitis medicamentosa. Chemical cauterization, zinc ionization, and other measures which destroy viable tissue are to be condemned. Nasal surgery is rarely, if ever, indicated in allergic rhinitis. Steroids, when used judiciously, can be of tremendous help in obtaining quick relief of symptoms while the etiologic factors are being determined. Local use of the steroids has not been too effective.

Nasal Polyps

Nasal polyps have for many years been considered to be the result of inflammation, sinus suppuration, or infection. In 1933 Kern and Schenck[2] were the first to point out the importance of allergy in the etiology of nasal polyps. Despite their findings nasal polyps continued to be treated by surgical methods without regard to the possible mechanisms of their formation. In recent years it has become increasingly evident that there is a close relationship between allergy and nasal polyps. It would be more correct to consider nasal polyps as a complication of allergic rhinitis.

A study of over 400 patients with nasal polyps revealed the following findings:

1. A majority of our polyp patients had a positive family history of allergy.

2. Approximately one third of our patients had atopic nasal symptoms alone (hay fever and allergic rhinitis). About one-fifth had atopic pulmonary symptoms alone, i.e., asthma. About one-half had coexisting nasal and pulmonary symptoms. The fact that such an overwhelmingly large percentage of patients with nasal polyps had as primary diagnoses such classic clinical expressions of the atopic state as asthma, hay fever, or allergic rhinitis would tend to corroborate the findings of Kern and Schenck that

"mucous polyps are extremely common in allergic conditions of the respiratory tract."

3. Eighty-five per cent of all our patients with nasal polyps showed an excess of eosinophils in their nasal secretions.

4. In a large number of cases histologic sections of surgically removed polyps and biopsy specimens of nasal polyps were examined. There was a predominance of eosinophils in every case.

5. Intracutaneous skin testing was done in all cases. Significant positive skin reactions were obtained in 60 per cent of cases, indicating that reagins are not a necessary prerequisite to the formation of polyps. This is about the same percentage of positive skin tests as is normally found in atopic respiratory conditions.

6. Frank infection of the nasal accessory sinuses was absent in three fourths of all cases. This would suggest that polyps *can* develop in the absence of infection.

7. A surprisingly large number of polyps were reversible. It was found that in certain atopic patients who were normally free of polyps, nasal polyps would appear only during the hay fever season. These would disappear spontaneously after the symptoms of pollinosis had subsided.

In another group of atopic patients in whom polyps were normally absent, nasal polyps would appear concurrently with an upper respiratory infection and would disappear spontaneously when the infection had subsided.

A group of patients in whom asthma was the primary complaint and who also had nasal polyps were treated with ACTH and cortisone. There was, in addition to the alleviation of asthma, regression or total disappearance of the nasal polyps.

In another group of patients with nasal polyps, standard allergic management was employed, including the removal of offending foods and inhalants. There resulted a diminution in the size or total disappearance of the nasal polyps.

Conclusions

1. Mucous nasal polyps occur most frequently in atopic individuals.

2. The polyp is very often the result of an allergic reaction, with the nasal or sinus mucous membrane as the shock tissue. Because of the peculiar nature of the nasal tissue, the resultant localized edema is manifested as polypoid changes or actual polyp formation. The precipitating factor which initiates the production of the polyp may be hay fever, an active local allergic reaction, infection or inflammatory reaction (upper respiratory infection), or an endocrine disturbance (hypothyroidism or hypopituitarism).

3. Many or most nasal polyps are reversible under allergic management unless the allergic reaction or insult has been present for a very long time or unless considerable nasal surgery has been done with resultant fibrosis.

4. Infection alone, that is, infection in the absence of an underlying atopy, does not usually lead to the formation of nasal polyps. Conversely, polyps can frequently develop in the absence of infection and solely as the result of an immunologic mechanism.

5. A nasal polyp is a stigma of allergy. Its mere presence is sufficient justification for allergic study of the patient. If we accept the concept that polyps are atopic in origin, then nasal polyps should be considered as a complication of nasal allergy and treated according to the same principles that govern the treatment of other atopic illnesses.

165 North Village Avenue

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(*Number eighteen of a series on Fundamentals of Modern Allergy*)

Hatred comes from the heart; contempt from the head; and neither feeling is quite within our control.—Arthur Schopenhauer

CLINICAL ANESTHESIA CONFERENCE

A series of conferences on medical emergencies in the operating room including causes of death during anesthesia

Prepared by the Anesthesia Study Committee of the New York State Society of Anesthesiologists

MEREL H. HARMEL, M.D., *Chairman*

The Management of Respiratory Obstruction During Thoracotomy

A THIRTY-NINE-YEAR-OLD, white female with known rheumatic heart disease was referred from the cardiac clinic for mitral commissurotomy. Except for a history of growing pains between the ages of ten and sixteen years, the patient had been well until her last pregnancy one year ago when she began to experience chest pain on exertion. During her fourth month of pregnancy she was hospitalized for acute congestive failure, at which time digitalization was accomplished. In her sixth month of pregnancy she again developed congestive failure, was hospitalized, and remained in the hospital until the normal delivery of a term infant. Since her discharge from the hospital she had been followed in the clinic; she was on a low-salt diet and maintenance digitoxin, 0.1 mg. per day. Six months after her delivery she was readmitted for evaluation and definitive treatment.

Physical examination was normal with the exception of those signs and symptoms relating to rheumatic heart disease. The heart was enlarged; the patient had a presystolic murmur characteristic of mitral stenosis. Further diagnostic studies including the phonocardiogram supported this diagnosis. The patient had a hemoglobin of 13.5 Gm., urinalysis was normal, and the x-ray of the chest was compatible with mitral stenosis.

The patient was prepared for operation and received sodium secobarbital 100 mg. two hours prior to operation and morphine sulfate 10 mg. and scopolamine 0.4 mg. intramuscularly one hour before operation. The patient was brought to the operating room in a semirecumbent position, satisfactorily sedated. Blood pressure was 90/60, pulse 84, respirations 18, regular and full. Induction of anesthesia was carried out with 250 mg. of thiopental sodium. Following 50 mg. of succinylcholine the patient was rapidly and easily intubated. Nitrous oxide and oxygen in a 4:2 ratio was administered. Intermittent doses of meperidine and d-tubocurarine were injected via a continuous intravenous drip. The patient was placed in the left lateral position, and operation was started.

On opening the chest it was noted that ventilation of the lungs was readily accomplished. In order to gain greater exposure of the operative field the lungs were packed away. Twenty-five minutes later, just prior to the performance of valvulotomy, the packs were removed, and inflation of the lungs with positive pressure was attempted. At this time it was discovered that neither the upper nor lower lobe could be inflated. The left upper lobe and the lingula were completely atelectatic. The lower lobe, although half-filled, could neither be inflated nor deflated. Auscultation of the right side indicated that ventilation was being carried out on the right; the mediastinum appeared to move freely. The cuff on the endotracheal tube was deflated. The tube was withdrawn about $1^1/_2$ inches and then rotated through a 90-degree arc. Attempts at inflation were unsuccessful. Suction of secretions was nonproductive. In spite of all efforts at ventilation, the patient became slightly cyanotic, the blood pressure fell to 70/50, and the pulse to 54 beats per minute. The patient's eyeballs were oscillating; the pupils, however, were not dilated. The patient was making strong efforts to breathe spontaneously. These maneuvers consumed about fifteen minutes of time.

It was decided that before valvulotomy was performed, it was imperative that the cause for the possible ventilation block on the left be ascertained. Bronchoscopy was therefore performed, the patient having been turned back toward the supine position. Some delay in bronchoscopy occurred until a laryngoscope was used to expose the glottis. Oxygen was continually insufflated through the limb of the bronchoscope. It was noted at this time that the plane of anesthesia was extremely light and that the patient could respond to commands, such as "breathe" or "open your mouth wider." The only finding at bronchoscopy was reddening and increased secretion in the left bronchial tree. There were no visible plugs, and all orifices appeared to be patent.

Reintubation was carried out with some difficulty, and for the first time the left lobe of the lung could be inflated. However, considerable positive pressure had to be employed. The left lobe appeared to develop air block again, and the other lobes, while they could be ventilated, showed a tendency to develop atelectasis. Alternate installation and aspiration of normal saline intratracheally was carried out. Hyaline, colorless, opalescent bronchiolar casts suggestive of Curschmann spirals were both aspirated and coughed up by the patient. Following this maneuver, ventilation of the lung was improved. Decision to proceed with the valvulotomy was made.

At this time the blood pressure was 70/50 and the pulse 50. Atropine sulfate 0.4 mg. was injected intravenously. The pulse rate rose to 120 and the blood pressure to 100/60. Mitral valvulotomy was then performed.

It was noted, while the chest was being closed, that the left lower lobe again showed a tendency to trap air and the upper lobe was becoming atelectatic. Bronchial toilet did not change this situation. It was felt that unilateral bronchospasm might account for this difficulty. It was decided to aerosolize Vaponephrine in an attempt to overcome the bronchospasm, and 0.2 cc. of Vaponephrine was nebulized. Within two minutes ventricular tachycardia, rate 160, was observed on the electrocardiograph which was used for continuous monitoring of the heart. The chest was immediately reopened since ventricular fibrillation appeared to be imminent. However, reversion to normal sinus rhythm occurred within four minutes. The chest was then closed. The total anesthesia time was three hours, fifty minutes. Immediately after operation the patient was again bronchoscoped. The findings were similar to those during operation. A portable chest plate taken after bronchoscopy showed left lower lobe atelectasis.

The patient was returned to the ward and placed in a high humidity oxygen tent, to which Alevaire was added. Underwater drainage with negative pressure was instituted via the thoracotomy tube, and by that evening the left lung was expanded and freely movable. Biopsy of the lingula showed slight emphysema and some arteriolar hyperplasia.

Comment

This case is of considerable interest since it brings up the problem of the management of ventilatory inadequacy during thoracotomy. In this particular instance bronchoscopy had to be done with the patient in a most awkward position and, indeed, one which an experienced bronchoscopist found difficult. Bronchoscopy can be accomplished in difficult positions. However, it is pertinent to point out that in the unconscious patient under these circumstances, the use of the laryngoscope can facilitate the introduction of the bronchoscope and save precious time in the face of impending asphyxia. In desperate situations such as was experienced here, whenever adequate ventilation cannot be accomplished in spite of intubation and the use of positive pressure, bronchoscopy should be employed to determine, if possible, the nature of the block. If the block is due to foreign body, bronchoscopy may be lifesaving. The situation recorded here was desperate and required quick decision. The obvious alteration in the patient, manifest by bradycardia and fail in blood pressure, justified bronchoscopy as a measure to remedy the respiratory complication before embarking on the valvulotomy. That the patient survived attests to the wisdom of this procedure. Whether valvulotomy could have been performed before bronchoscopy is an unanswered question.

In view of the physiologic trauma to which this patient had been subjected, Vaponephrine under these circumstances was most ill advised and could have led to disaster. It should be pointed out that Vaponephrine, if used at all in the patient with cardiac disease, should be employed with extreme care and only when an electrocardiograph can be used to monitor the patient's heart rhythm.

There does not appear to be any really satisfactory explanation for the development of atelectasis and/or air block in this patient other than the presence of the opalescent, mucilaginous secretion. The secretion was found only after flushing the tracheobronchial tree with normal saline. While the patient had no history of asthma or bronchitis, it was later brought to the attention of the anesthesiologist that in the two weeks preceding operation the patient had been raising large amounts of watery secretions each night. The possibility of inspissation of these secretions with drug and dehydration yields the only clue to the etiology of this complication. While bronchoscopy did not alter the situation materially, saline irrigation of the tracheobronchial tree appeared to be effective. This suggests that irrigation of the tracheobronchial tree should be considered whenever a situation involving respiratory obstruction develops. Under these circumstances a trial of irrigation might well precede bronchoscopy.

(*Number fourteen of a series of Clinical Anesthesia Conferences*)

Treatment of Toxic Adenomatous Goiter by Large Doses of Radioactive Iodine

For certain cases in which, for one reason or another, surgery is ruled out, radioactive iodine may take precedence over propylthiouracil and similar drugs in treating toxic adenomatous goiter. While the antithyroid drugs are, in selected cases, highly useful in preoperative preparation or even definitive treatment, their use in multinodular goiter presents certain drawbacks. These drawbacks include delay in control, remissions which may be only temporary, and, in some cases, toxic effects. Using a plan whereby initial dosage of I^{131} was high, hyperthyroidism was controlled in 23 of 31 patients within four months. (Usually the previous dosage plan consisted of an initial dose of less than 20 millicuries.)

Cardiac status was not aggravated by treatment in any of these patients. In some cases, the hyperthyroidism was not controlled by the initial dose, but further administration of the radioactive iodine resulted in a euthyroid condition. In some cases repeated administration was contraindicated by low thyroidal uptake of the I^{131} despite persistent thyrotoxicosis.—*James R. Cook, M.D., Robert W. Jones, M.D., and E. Perry McCullagh, M.D., Journal of Clinical Endocrinology and Metabolism, December, 1955*

SPECIAL ARTICLES

FAMILIES HAVE PATIENTS

Presented at the Annual Meeting for Physicians in the Community by the New York Hospital-Westchester Division, White Plains, New York, November 14, 1955

Part I—The Family and the Doctor

W. K. McKNIGHT, M.D., WHITE PLAINS, NEW YORK

(*From the New York Hospital-Westchester Division*)

In considering the importance of emotional reactions on the part of relatives of patients who become mentally ill, we see a special example of the dynamic significance of that traditional basis of all medical care often referred to as "the doctor-patient relationship." We have come to realize that, as one writer[1] has summarized it, "No therapy, however helpful or useful in itself, will be of value *unless* a constructive relationship is developed between the patient and doctor." In addition, more often than not, there is probably a definite, although sometimes poorly defined, responsibility on the part of the physician to one or more relatives or other persons significant in the patient's experience. This is true in either office or outpatient care or in hospital care, and usually in a psychiatric hospital particular emphasis is placed on having at least one relative or person who will assume the responsibility in various ways for the patient during (and after) the period of hospitalization. The use of modern hospital facilities has been and may still be considered as an extension of physician care, a specialized means of implementing the physician's diagnostic understanding and plan of treatment. In the psychiatric hospital this becomes of particular importance because of the length of time which is often necessary in order that a patient may gain maximum benefit from therapy.

In recent years there has been increasing understanding among physicians practicing in a community and the members of a psychiatric hospital team of the various dynamic factors that are involved in the development of a psychiatric illness and in its response to treatment effort. This is reflected in the improved preparation that many patients and members of their families have for hospitalization because the referring physician has provided them with accurate information in a therapeutic manner as to what is to be expected in terms of objectives, procedures, and conditions.

After admission and during the period of hospitalization, the referring physician then depends on the hospital and its staff to meet the immediate needs of the patient and his family as they react to the patient's illness until recovery or improvement is sufficient to permit the patient to return to his home and to the continued treatment or follow-up care by his former physician. In former years, during the early development of psychoanalysis as a diagnostic and treatment technic, it was frequently considered that any contact between the therapist and the members of the patient's family was apt to be detrimental since the patient, being in conflict with his family, would identify his physician with his parents and thereby be unable to relate himself therapeutically to the doctor. This was indicated by a prominent analyst[2] when he said, "In analytic work with children, the analyst usually chooses to have contact with the principal person in the child's environment, since the child is not a free agent like the adult but is under the domination of parental figures. In work with an adult, however, although it is frequently helpful to have the therapist in contact with the extra-analytic object of the patient's transference, this is not always necessary and may, indeed, be complicating to the treatment. It is advisable only when that outside person can enter into a wholehearted, unambivalent cooperation with the therapist to make the patient well."

On the other hand, it has been the increasing experience of many therapists that the maintenance of an appropriate relationship between the physician and the patient's responsible relative is not only feasible but much to be desired in helping the patient create or re-establish healthy social relationships. The determining factors in the success or usefulness of this plan lie usually in the physician's ability to evaluate the dynamics of existing interpersonal relationship, his selection of treatment goal, and his skill and technic of management.

Identifying attitudes and motivations[3] in a patient's relatives who, although presumably well, are reacting to fear or neurotic mechanisms then becomes an important aspect of the psychiatrist's contact with the family directly or in his collaborative work with a skilled case-worker who helps the relatives to a more satisfying and constructive reaction. Coleman[4] has said, "Case work represents a unique achievement in the field of mental health," and "a thorough understanding of the professional content of social work" is necessary "in order to integrate it most usefully into the general treatment program." Inviting a relative to participate in the treatment plan in this way is the responsibility of the psychiatrist who can present the need to both the patient and his family in positive terms and at the appropriate time.

In this hospital it has long been the custom as a useful part of the medical treatment plan as well as in research[5] to spend much time with the members of a patient's family in developing the diagnostic study of the history and a dynamic understanding of the illness and in discussions of the patient's progress and future plans. The scope of such interviews is usually as broad as that of the experience of the individuals concerned until every circumstance that may bear on the patient's recovery has been evaluated. Matters of resources and financial responsibility, motivations, areas of superstition, misinformation, or ignorance, prejudice, and personal philosophies are but a few examples of the many aspects of interfamilial social living that relate to the patient's response to treatment effort. With the additional services of the trained social caseworker this part of the treatment plan becomes more effective, while at the same time constituting an additional important mental hygiene influence in the community.

As in the various technics of psychotherapy with the patient, the physician has to utilize his best skill and judgment in achieving maximum, honest cooperation from the family members, while at the same time meeting the latters' needs for information, reassurance, and counsel. It is important, therefore, that the psychiatric physician in training be helped to develop an awareness of the needs of the relatives of his patients and an ability to determine in what way and to what extent he can meet these needs appropriately, or in what ways the caseworker can be helpful, or at which junctures to recommend further help in the form of actual psychiatric treatment. For the physician in training[6] this means that while learning the basic theories of psychiatric medicine, he must at the same time learn to share the expression of his helping function with his various coworkers. He must come to see himself as a member of a collaborating clinical team rather than as an exclusively designated operator in a static stage setting where various types of mechanical apparatus or examination need only to be manipulated in order to reflect his estimate of diagnosis, prognosis, and treatment plan.

CASE 1.—Recently, there was admitted to this hospital a nineteen-year-old college student, Mr. H., because of preoccupation, depressive mood with an episode of confused, threatening, and assaultive behavior, and intense hostility toward his parents. At first mostly mute and uncommunicative during a period of several weeks, he was later fragmentary and confused in his infrequent remarks and generally disorganized in his behavior.

During this time it was learned that the parents had been quarreling for a number of years because of the father's weekend alcoholic excesses. Much time was spent by the physician and later by the social caseworker with both parents, separately and together, in an effort to understand the mechanisms of their conflict and in order to help them realize the significance of their behavior in terms of the patient's illness. Their initial reluctance to express themselves freely, honestly, or in an informative way was puzzling until it became apparent that they were suspicious of any treatment plan since the results of previous recommendations had seemed to make matters worse. The father had been fearful and resentful at not having been invited by the patient's first physician to discuss the problem, and acting partly on the basis of mistaken pride and uncertainty, he readily became critical of the treatment plan and continued to drink. A previous recommendation that the patient live away from home had been interpreted as a reflection on his integrity as a father, to which he had reacted with combined guilt and resentment. The mother, in desperation, followed in a very literal way a suggestion from another physician that she leave her husband if the latter would not agree to seek help for his alcoholism. This she did for a period of several months with further disastrous effect on the home life and no improvement in the matter of her husband's drinking.

As the patient slowly began to show response to his new environment, he was able to express himself more adequately, beginning with a description of his hatred for his parents, stating that he did not wish to see them and, if this were required, he would kill himself. The father verbalized a desire to cooperate but blandly persisted in minimizing the extent of his drinking which continued to exasperate his wife, with the result that the situation seemed a hopeless stalemate. Through repeated discussions it became clear to the parents that the physician's purpose was to evaluate and at the same time respect each of their viewpoints, and when it was made plain that each could safely assume a certain amount of responsibility toward the other, they were then able to understand that only in this way could a start be made in reconstructing the family relationship. Both parents became more relaxed, cooperative, and objective, and they were then able to work more effectively with the case-worker, arranging interview time on a mutually convenient schedule. They were also able to accept more comfortably the patient's refusal to see them. After several weeks, as the patient began to be more responsive, visits were planned, and progress was begun toward a solid basis for future improvement.

Case 2.—Of many other examples that could be cited if space permitted, a forty-five-year-old sales executive, Mr. M. L., was recently admitted for hospital care because of prolonged and excessive use of Demerol, codeine, and barbiturates to control tension, loss of interest, and depressive tendencies. A "self-made" man who had elevated himself from very limited circumstances in which his father, a rabbi, was a poor provider for the family, the patient at an early age assumed the over-all responsibility for his mother and his brothers and sisters. Always insecure, displaying a need frequently to appease and to establish personal relationships on the basis of his gifts, he was also an aggressive and successful salesman with great ingenuity. His first marriage at age twenty-one, failed after a year because he had had little in common with his wife but married her out of a sense of "obligation."

At thirty-five he remarried, and at the time of admission the history included information as to their marital adjustment, about which the wife was dissatisfied. She stated that she had never really loved her husband but had married him because he had been kind and good to her and in an effort to help him save his business at the time when he was going into military service. She felt that this defect in their marriage had contributed to her increasing dissatisfaction and sense of conflict when he had become more preoccupied with his business and less inclined to be sociable with her and her friends.

Displaying a spirit of sincere loyalty during his present illness, however, she stated that she would "stick by him" until he recovered, and then she would decide what her relationship with him would be. Through frequent contacts with the physician and visits with her husband, Mrs. L. gradually realized and became able to accept the fact that the outcome of the patient's illness and eventual stability would depend in large measure on his having the opportunity to understand her real feelings and attitude toward him. For some time she struggled with the problem of her attitude to her husband and, finally, during the patient's fifth month was able to discuss her feelings frankly with him when he was prepared and the timing was considered to be appropriate. The patient's anxieties were again aroused to a certain extent, but he informed the physician that he felt much better for knowing what the true relationship had been and that he was willing "to start over" in the hope that he could create a new relationship with his wife which would meet both of their needs. Accepting his role again, as suitor, he was discharged much improved, and it was apparent that the physician's work with the patient's wife was as significant in the patient's recovery as was the psychotherapeutic relationship between the physician and the patient himself.

The physician's management of the patient's visiting time with his family or friends while he is in the hospital and planning his visits away from the hospital are of great importance in the over-all treatment program. In this respect case-work assistance is valuable because opportunities are provided for both the patient and his relatives to try out their capacities for relating to each other as improvement progresses. This testing serves as a developing relationship process which continues until each has achieved the ability to begin on specific plans for the future. Such an approach to a new type of sharing experience is thereby a mutual one, and the foundations are laid for a more creative basis for personality expression leading to ultimate social reintegration.[7]

Case 3.—One patient, Mr. D., for example, repeated over and over his belief that he should be "put away" where he would no longer be a problem to his family. He did not wish to see his wife because of the problem that he considered his sickness was creating for her, and he was surprised to realize that the physician considered the understanding of his sickness to be his wife's proper concern and pointed out her desire and her need to share this experience with him. His treadmill of guilt, preoccupation, and self-punishment, alternating with a tendency to blame others, then gave way to a workable interest in the unraveling of the dynamics of his illness and progress to a useful insight which led eventually to recovery.

The achievement of these objectives often requires prolonged periods of time with much listening, discussion, and patience on the part of the physician with both patient and family. The statement by one author,[8] "the psychiatrist serving as temporary surrogate for the persons who were or are the psychosocial reality of the patient," applies to contact with relatives as well as with the patient. Not infrequently, the physician must receive abuse of varying degrees from relatives because they, as well as the patient, may undergo "a psychologic regression to earlier periods of emotional experience and every patient-doctor relationship is, to some extent, a re-experiencing of the child-parent relationship."[9] With the relatives as well as the patient, the doctor must serve ultimately as the scapegoat, the source of medicine-man magic, the beloved parent, the hated parent, and the healer. In most cases this rocky road emerges into a smoother lane of understanding, reassurance, and compassion which then can become a major contribution to the patient's recovery.

It has been gratifying in recent years to note the increased tendency to understand the problems of mental illness in terms of the patient's ability to relate to other people as he attempts at the same time to satisfy his various instinctive needs. This greater social awareness has been a beneficial influence in psychiatry, and various therapeutic workers, as well as ministers, teachers, and others,[10] are contributing to the increased effectiveness and integration of family living, both in relation to those patients mentally ill and in relation to the society of which they are a part.

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Part II—The Family and the Social Worker

ELEANOR NEUSTAEDTER, WHITE PLAINS, NEW YORK

(*From the Social Service Department of the New York Hospital-Westchester Division*)

THE families with which we are concerned are families known to you; they are families who have sought the advice of a personal physician or of an internist, whom you indeed may have directed to this hospital, families of which a member is emotionally or mentally ill. We shall tell you how the staff of this hospital works with the relatives of our patients, how the psychiatrist and the social worker link their efforts with family and patient so that the sick family member may gain or regain the state of comfortable and useful living which we call health.

Families have patients, and the family with a patient is a family in trouble. No one is more aware of this than the physicians in the community outside of the hospital, for you see the family first. It is your responsibility to appraise this illness. You support the family and guide them in their efforts to find help, and it is you who encourage the patient to accept it.

By the time they go to a doctor, the family of a mentally ill person has been worn down by the attrition of life with the patient and by responsibility for him. The cause of the illness may be related chiefly to bodily changes, environmental stresses, or internal conflicts. But whatever the cause and regardless of diagnosis, the behavior of the patient has been erratic, difficult to understand, irritating, irrational, even frightening. And the wear and tear of life with him has made his relatives tense, anxious, and weary.

They worry about the cause of this puzzling illness for which they feel vaguely responsible. Or knowing that destructive conditions have existed within the home, they remember with regret things that they have said and done. They feel guilty; directly and indirectly, in many ways, they show it.

They may show it by blaming the patient or others. After he has been admitted, they may blame and criticize the hospital. They may blame one another or themselves. They grope for causes that do not involve them, deny that the illness is mental, fix on a cause as specific and remote as a childhood injury ("He fell"). But much that they do and say is done and said because their feeling of responsibility is too heavy; they want someone to lift the burden of guilt from their shoulders, and when, directly or indirectly, they ask, "Am I to blame?," they long to have someone say "no."

The preadmission period, the hospitalization itself, or its method may arouse or add to the relative's feeling of confusion and guilt. As you so well know, family and patient are often buffeted by the conflicting advice of neighbors, another family member, or even a physician other than yourself. The relative asks himself, "Have I done right?" If he has been harassed to the point of wanting to be rid of the patient, he may have welcomed hospitalization. He may have been provoked and worn down to the point of feeling that it "served him right." In his effort to get the patient into the safety of the hospital, he may not have been entirely frank and truthful. Perhaps he brought him in resisting or helpless under sedation, the sick person completely in the power of the relative. To tolerate such memories takes fortitude and a "clear conscience."

Even though, in accordance with hospital recommendation, the family presents a united front and the patient agrees to accept treatment, by the time he is admitted, family feelings often are intense, family relationships strained and sometimes breaking. The relatives may be opposed to one another and annoyed with the patient, while the patient is resentful and antagonistic to those nearest to him. Indeed, this feeling may be so strong that, for a time, he refuses to see them. Thus, the psychiatrist may decide that, for a time, he is emotionally unfit to bear the strain of visits from the family.

This enforced separation adds to the anxiety of the relatives who may resent the patient's objection to seeing them or the ruling against visits. Having secured his admission to the hospital, they must reassure themselves that they have acted in his interest. They must see for themselves that their patient is "all right." They must assure themselves that he still cares for them and does not blame them. And they have no doubt that he wants to see them. The patient, on the other hand, may greatly need a break in the family contact and a rest from anxieties connected with the home. While family tensions mount, he is relaxing, and this the relatives may find hard to understand or to accept. He may have been the one human being on whom, for better or for worse, they leaned, and they miss him.

So the family members are cut off from their patient and alone. Seldom do the relatives of a mentally or emotionally ill person publicize his hospitalization. The idea of mental illness still frightens many people, and in every community there are people uneducated about it, prejudiced and therefore cruel. These attitudes the sensitive family member may exaggerate or wrongfully attribute to those who could understand. But real or imagined feeling of neighbors, friends, and acquaintances can deprive the family of the mentally ill of the community support that the family of a person suffering from a socially acceptable illness receives abundantly.

The relatives of the mentally ill rarely chatter to neighbors; they may not tell their friends; some keep the matter secret even from other family members. They say they are protecting the patient. "We don't want him to be hurt." But often they too share the very prejudices of those others in the community to whose attitudes they are sensitive. So they keep to themselves their worry and self-blame and their feeling of humiliation. They are lonely. They go back and forth to the hospital responding to the patient's practical requests. They shoulder the financial burden, confer with hospital staff, and try to meet the patient with courage and optimism. They carry as well their own accustomed responsibilities. No wonder that occasionally a relative looks with envy at his patient whose situation at least offers opportunity for rest.

In some cases you, the family physician, are the one person in the community who understands, who has a relationship with the family and supports them. But you are limited by available time and the pressing demands made on it. To a certain extent the hospital social worker acts for you. To her a relative often says, "It's good to have someone to talk to; I am all alone."

TO ILLUSTRATE: Mr. and Mrs. Smith were educators, trained to detect the emotional problems of young people. The patient, aged seventeen and an only child, was admitted here on transfer from another hospital. He had been taken to that hospital without warning or previous discussion, and he had gone resentful, unwilling, but powerless to resist. The parents had done their best in a situation that they found bewildering and intolerable.

When first seen by the social worker, the parents were unable to see their angry son whose anger they feared. They questioned the procedure that they in their despair had taken. The mother looked back to the patient's childhood and blamed herself. The father, recognizing his failures, blamed himself.

The parents had told no one of their son's illness. They, who advised other parents, had reared a child whose mental illness they had failed to recognize and who had been hospitalized. They were ashamed; they feared for their professional reputations.

They were critical of the hospital. They wanted to see the patient and were afraid to see him. They worried about his care and spent much time with the social worker asking for details. Would he be bathed? Would he have clean clothes? Was his physical condition understood? They had conferences with the psychiatrist and in both doctor and social worker found someone to whom they could air their anxieties, their complaints, their self-doubts. Their strengths were supported, their questions answered, and insofar as reassurance could honestly be given, they were reassured. They were helped to prepare for that critical first interview with their son with the intention that the patient should not be set back by it nor the parents further cast down.

In the therapeutic picture the central figure is of course the physician whose focus of attention is the patient. In connection with the patient's care he maintains contact with the relative. But as one aspect of the patient's treatment the hospital offers the services of a social worker who is the confidante and helper of the family. They feel her interest; she recognizes their difficulties and even more their efforts. She keeps in touch with the patient as is appropriate to his condition and forms a link between patient and family and family and patient.

Psychiatrist and social worker help the family to lessen friction and reduce interfamily tensions. In doing so they help the patient, to whose confusion the environmental stresses have contributed, for to a great extent environment is people and to the patient the most meaningful factors in his environment are his relatives.

However, relatives are not our patients. They come to the hospital because they have a patient.

They think of themselves as the well family members. Psychiatrists and social worker offer help with their difficulties in relation to the patient's illness and hospitalization. They may be aware of these problems, or they may be helped to perceive them. They may accept help, deny a need for it, or be unable to recognize the need. They are free to reject. On the other hand, they may develop awareness of a need for personal therapy unrelated to the patient's hospitalization. Sooner or later they may seek this outside of the hospital.

Not every relative is or can be helped. The perception of a problem, a wish to deal with it, and strength to take hold of some aspect of it are factors that make for change in the relative and thus in the environment of the patient.

A few illustrations of patient-family difficulties and the approach of the hospital staff to them will set forth the place of the social worker in the clinical team.

At the point where a patient is admitted to the hospital, a marriage, for example, may seem beyond repair. A sensitive young person can break emotionally, in part because parents who are conflicted and opposed pull him in opposite directions. The progress of their child's illness can induce or increase mutual recrimination. A developing mental illness in the partner can strain a marriage so severely that hospitalization for one seems to be a welcome respite or a longed-for ending to a relationship that has become a burden to one or both partners. Thus, the resolution of a marital disharmony may be basic in the treatment of the patient. So, of necessity, the social worker who helps the relatives becomes involved in helping married people unravel the tangle of their marriage. She works with them to the point at which they can decide what they can and want to do about their relationship.

To Illustrate: Mr. X, hospitalized for alcoholism, expressed extreme dislike for his wife with whom, although living under the same roof, he was not on speaking terms. Mrs. X, worn down by years of marriage with an alcoholic, was hurt and bewildered by the outcome of the marriage, frightened, confused, and tearful. She saw herself as others saw her, a devoted and loving wife, a woman without resentment, a martyr of no mean size. She had made an attractive home; she had developed herself into a person of whom her husband could be proud. What more could a wife do? What more could a husband ask?

When interviewed, the patient gave chapter and verse concerning his dissatisfactions with the marriage and the feelings of worthlessness which unknowingly his wife had engendered. Her superiorities put him at a disadvantage. Her devotion made him guilty. He felt unworthy of the home that she had created and unwanted in it. To him it had become a mere convenience, and yet he saw no outcome except to go back and, with such fortitude as he could muster, tolerate its bonds and its disappointments. He wanted to be free, and he wanted to do right. That there could be change within himself seemed unlikely, within his wife an impossibility. It had not occurred to him that they two could ever communicate to one another their honest thoughts and feelings.

In social work as well as in psychiatry the relationship between the person who is helping and the person helped is of first importance. This of course was true for Mrs. X who was alone and desolate. In order to meet this crisis, to think about it, and to feel her way in it, she needed to feel that she had the liking, understanding, and support of another human being. The social worker was an impartial person who did not blame or take sides. She did not advise but left Mrs. X free, with support and encouragement, to think about the past, her husband's life, her own life, and their life together and to look for clues that would guide her in the present.

At first Mrs. X saw the break in the marriage as due to the patient's drinking. Then she began to think of alcoholism as a symptom. She had assumed that his expressed dislike of her was due to alcohol; now with pain, she asked herself whether alcohol might possibly have braced him for what to him was the ordeal of life with her. What in her handling of the relationship might have awakened dislike of which she had never been aware?

Mrs. X was helped to think about her husband's life and her own. She tried to perceive what they were looking for in one another, what each had given, where each had failed the other. She spoke with understanding of recent occurrences, more of the patient's feeling, less of her own. She was less tearful and more in control of herself.

From time to time the social worker saw the patient briefly, and his wife was helped to prepare for visits with him. These visits with relatives, important in treatment, are a measure of the patient's progress in meeting his real life situation. Visits between Mr. and Mrs. X at first had been an exchange of words. Gradually they changed and became opportunities for communication between husband and wife, communication of thoughts and feelings, intentions, regrets, fears, and hopes never before expressed, through which a plan for the future could be created.

More than they needed disagreement, the X's worked out of their confusion and disharmony because they needed a harmonious giving-and-receiving relationship. They wanted to make the effort to change.

To Illustrate: The Y's, on the other hand, remained antagonists. Their son, age eighteen, came to the hospital as a patient, mute except for an occasional plea for "world peace." Peace in the home was what he wanted, and this he had never known. The disagreements of his parents exceed imagining. Hours of work with the social worker, hours of conference with the psychiatrist brought little change in the family "style of life." Mother and father wanted the hospital to make their son well, but they were unwilling to become part of the therapeutic effort. That which they most wanted was not their son's recovery. The mother, absorbed in herself, wanted most to remain the antagonist of her husband. The father wanted an affectionate relationship with his wife but not at the price of giving up. He did not want to give up his rigid self-absorbed way of life or the privilege of venting his resentments in ways that fed his wife's antagonism. The gains to each from clashing exceeded their need and wish for harmony. Where there is no will to change, there is no change.

TO ILLUSTRATE: Again money can be a problem in the treatment of a patient. Seventeen-year-old Mary Z was hospitalized with a schizophrenic illness; she improved to the point where she could visit at home but after each visit became so sick that visits were discontinued. She told her doctor that friction between her father and young brother was intense, and corporal punishment of the boy so severe that home was intolerable. The psychiatrist asked the social worker to see the parents.

This is the story: The young brother was pilfering things that he wanted and could not have or things that he could sell. The frightened father was making distracted efforts to discipline and control the boy who continued to pilfer. The home was in turmoil. Back of this tumult was a longstanding financial tangle.

These parents had wanted to give their children what other children had. So there was a large mortgage and debts, a small business ill managed, heavy and expensive insurance. Money stresses had been and were a constant topic of conversation in the home and before the children.

Because money was the problem uppermost in their minds and most pressing, in counseling with the social worker aspects of the money situation that could be dealt with were at first the focus of attention. It was possible for Mr. Z to extend the mortgage and reduce the payments, to adjust life insurance policies and cut premiums. For the first time the parents together made a plan for systematic repayment of loans. Encouraged, they worked out a family budget, and the discouraged mother discussed ways of making the food money go further. In a situation that had seemed hopeless, these well-meaning parents found there were things they could do to help themselves. The discovery gave them confidence, and as they began to act, their anxiety abated.

When they are absorbed and occupied with other matters, people tend not to hear. Only when Mr. Z felt the interest of the social worker in the troubles most on his mind and not until he could see daylight in the fiscal darkness, was he able to give his attention to the boy's behavior and the damaging effect of family turmoil on the patient.

Both parents perceived the harm to the boy of harsh discipline and his need for a good relationship with his father. Both could see the harm of burdening the children with money troubles. Both were able to see the damage to the patient of a tumultuous home and their need to feel that realistically there was no need to worry about the family. They tried to behave differently and, meeting with success, began to feel differently and to use different methods in dealing with daily problems and with one another and the children. Their self-esteem increased.

Mr. Z found that he was not the completely unsuccessful businessman he had felt himself to be. He began to feel that he was in control of his family situation and to enjoy a better relationship with his boy whose pilfering stopped. As he worried less, he was able to give more time to business which picked up. Mrs. Z not only fed the family on less but included breakfast in the family routine, a meal that before had been omitted. The hard-working harassed father found that at night he was less tired.

The effect of environmental change on the patient was interesting. At first she began to respond favorably to visits from the family. She said, "They don't seem so nervous. They seem nicer to one another. It's easier to talk to them." Then when her antagonism was not cleared up by family change, she became worried and guilty. She could perceive that some of the difficulty must be within herself. Having no current cause for hate, she was forced to consider with the psychiatrist her own part in the family drama. With growing awareness of her internal conflicts she was able to move toward the family and to feel and express affection for them. Thus the easing of environmental pressures furthered treatment.

Here we see the purpose of the hospital in including a social worker in the clinical team. Change in the family can help the patient move toward health; the family may become a unit as its members perceive psychiatrist and social worker, together, demonstrating their interest in them as individuals, and the conviction of the hospital that the family is a unit and must be treated as a whole.

Summary

The treatment of persons hospitalized for mental or emotional illness involves careful consideration of close relatives and those reponsible for the patient. Family members are often troubled by the nature of the illness and the strained personal relationships that have contributed to it, accompanied it, or resulted from it. They are burdened by financial and other responsibilities connected with the illness and hospitalization. Prejudices against mental illness which they themselves may share can isolate them in the community.

In the therapeutic picture the central figure is the psychiatrist, but as one aspect of treatment the hospital offers the services of a social worker. Relatives are not patients of the hospital, but psychiatrist and social worker in collaboration help them lessen friction, reduce interfamily tensions, and plan. The technics employed in accomplishing this are reviewed in this study. With the easing of environmental tensions the patient is helped to move toward health. Psychiatrist and social worker together demonstrate the conviction of the hospital that the family is a unit and must be treated as a whole.

NECROLOGY

William Sohier Bryant, M.D., of New York City, died in Cambridge, Massachusetts on June 26 at the age of ninety-five. Dr. Bryant graduated from Harvard University Medical School in 1888. Retired, he had served in various teaching capacities and was the author of *Anatomy and Physiology of the Ear* and other works on the pathology of the ear and throat. Dr. Bryant served with the Massachusetts National Guard and was a brigade surgeon with the artillery in the Spanish-American War. In World War I he was a contract surgeon with the British Forces and was in charge of the Royal Victoria Hospital, London, and otolaryngologist for the Red Cross Hospital at Netley. Later he served with the French forces and then the American Red Cross Military Hospital in Paris and the American Red Cross in Italy, retiring as a lieutenant colonel of the Army Reserve. Dr. Bryant held many honors, among them the French Legion of Honor and the Order of the Crown of Italy. He was a Diplomate of the American Board of Otolaryngology, a Fellow of the American College of Surgeons, and a member of the American Laryngological, Rhinological, and Otological Society, the American Otological Society, Inc., the New York Otological Society, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Clarence G. Campbell, M.D., of New York City, died on June 16 at the age of eighty-eight. Dr. Campbell graduated from Bellevue Hospital Medical College in 1890. He was a past president of the Eugenics Research Association. He was the author of *Commonwealth: A Study in Social Philosophy* and *Race and Religion*. He was a Fellow of the American Academy of Arts and Sciences, the American Association for the Advancement of Science, the Eugenic Society of Great Britain, the International Eugenics Council, the American Eugenics Society, and the American Genetics Association. Dr. Campbell was retired.

Laila Coston-Conner, M.D., of New York City, died on July 2 at the age of sixty-six. Dr. Coston-Conner graduated in 1920 from Pennsylvania Medical College. Some years ago she was associated with the New York Hospital Clinic and more recently with the Burke Convalescent Home, White Plains. She was a member of the New York County Medical Society and the Medical Society of the State of New York.

Winfred Morgan Hartshorn, M.D., of New York City, died on July 2 at the age of eighty-two. Dr. Hartshorn graduated from Columbia University College of Physicians and Surgeons in 1902. He was professor of pediatrics at New York Polyclinic Medical School and Hospital from 1926 to 1951 and was a consultant in pediatrics at the Hospital for Special Surgery and Polyclinic Hospital. From 1910 to 1916 he served as clinical professor of pediatrics at the Bellevue Hospital Medical School and previously had been associated with Roosevelt, Fifth Avenue, and City Hospitals. He was president of the faculty of Polyclinic Medical School and of the Physicians Art Club. Dr. Hartshorn was a Licentiate of the American Board of Pediatrics, a member of the American Academy of Pediatrics, the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Charles J. Kaufman, M.D., of Castle Point, died on June 15 at the age of fifty-nine. Dr. Kaufman graduated in 1921 from Cornell University Medical College. He was chief of the tuberculosis service at the Veterans Administration Hospital, Castle Point. Until 1946 he was director of the National Jewish Hospital, Denver. He had served in the pulmonary division of the New York Hospital Clinic and was a former member of the faculty of the medical schools at Cornell and the University of Colorado. From 1930 to 1931 he conducted a tuberculosis survey of New Jersey State Hospitals for the Department of Public Health and Welfare. A Fellow of the American College of Chest Physicians, Dr. Kaufman was a member of the American Trudeau Society, the New York Academy of Medicine, the Dutchess County Medical Society, and the Medical Society of the State of New York.

Jacob Krieger, M.D., of Brooklyn, died on June 26 at the age of sixty-five. Dr. Krieger graduated in 1913 from Long Island College Hospital School of Medicine. He was an organizer of Beth-El Hospital, Brooklyn, and had been a member of the medical staff. Dr. Krieger had practiced medicine for forty-three years in Brooklyn and was a member of the Kings County Medical Society and the Medical Society of the State of New York.

Frank Edward Mallon, M.D., of Brooklyn, died on June 24 at the age of sixty-one. Dr. Mallon graduated from Long Island College Hospital School of Medicine in 1919. He was attending surgeon at the Brooklyn Eye and Ear Hospital and consultant in ophthalmologic surgery at St. Mary's Hospital, Brooklyn. He was a Diplomate of the American Board of Ophthalmology, a Fellow of the American

College of Surgeons, and a member of the American Academy of Ophthalmology and Otolaryngology, the Brooklyn Ophthalmological Society of which he was a past president, and for several years had served as a member of the grievance committee of the Medical Society of the State of New York. He was active in the founding of the Catholic Physicians Guild of Brooklyn. Dr. Mallon was also a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Alexander Paster, M.D., of New York City, died on June 17 at the age of fifty-six. He received his medical degree in 1929 from Charles University of Prague, Czechoslovakia. He was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Andrew B. Paul, M.D., of New York City, died on June 19 at the age of fifty-five. Dr. Paul received his medical degree from the University of Budapest in 1926. He was an assistant in medicine at the University Hospital, an assistant attending physician at Bellevue Hospital, and an attending physician in allergy at Manhattan Eye, Ear, and Throat Hospital. He was a member of the American Academy of Allergy, the New York County Medical Society, and the Medical Society of the State of New York.

Guy Payne, M.D., of Canaan, died on July 1 at the age of seventy-eight. Dr. Payne graduated in 1898 from Bellevue Hospital Medical College. He retired in 1947 as superintendent and medical director of Essex County Hospital, Cedar Grove, New Jersey, where he had served for thirty-six years. During World War I he served as a captain in the U.S. Army Medical Corps. He initiated a broad program of occupational therapy at the hospital and encouraged light industrial tasks among the patients. Dr. Payne was a former president of the New Jersey Psychiatric Association and of the New Jersey Hospital Association. He was a Fellow of the Northern New Jersey Academy of Medicine, a Diplomate of the American Board of Psychiatry and Neurology, a member of the American Psychiatric Association, the Essex County Society of Anatomy and Pathology, the State of New Jersey Medical Society, and the American Medical Association.

Nelson Gorham Russell, M.D., of Buffalo, died on June 4 at the age of eighty-three. Dr. Russell graduated in 1895 from the University of Buffalo School of Medicine. He was a consulting physician at Buffalo General Hospital where he had also served as chief of staff for many years, as a member of the board of trustees, and at one time as vice-president and then honorary vice-president. He was also consulting physician at the J. N. Adam Memorial Hospital, Perrysburg, and chief consulting physician at the Edward J. Meyer Memorial Hospital where he had also served at one time as president and was also a longtime member of the board of managers.

From 1923 to 1937 Dr. Russell served as professor of medicine at the University of Buffalo School of Medicine and had since been professor emeritus. He had also served as consultant at Columbus Hospital and was chairman of the advisory board of health. During World War I he was chief of medical service at Base Hospital 23 in France and later was made consultant in medicine, Base Section 2. He received a citation from General John J. Pershing for conspicuous and meritorious service. During World War II he was chairman of the Medical Advisory Board of Selective Service Board 48. Dr. Russell gave the first cardiograph to the University of Buffalo School of Medicine and in 1952 was awarded the Samuel P. Capen award for community service, the school's highest honor. He was a Diplomate of the American Board of Internal Medicine, a Fellow of the College of American Pathologists, and a member of the American Association of Pathologists and Bacteriologists, the American Clinical and Climatological Association, and the Buffalo Academy of Medicine. He was the author of many medical articles and although retired from teaching took over a number of classes at the University during World War II and until last year served as a frequent guest lecturer. For a number of years he was governor of the American College of Physicians, Western Division, and was also a member of the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Abraham M. Skern, M.D., of Yonkers, died on July 8 at the age of seventy-two. Dr. Skern graduated from Cornell University Medical College in 1902. He was a member of the Yonkers Academy of Medicine, the Westchester County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Franklin A. Stevens, M.D., of New York City, died on June 19 at the age of sixty-five. Dr. Stevens graduated in 1915 from the State University of Iowa College of Medicine and interned at Presbyterian Hospital. He was an assistant attending physician at Presbyterian Hospital, New York City. Dr. Stevens was a member of the New York Allergy Society, the New York Society for Thoracic Surgery, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

George Elwin Sylvester, M.D., of Black River, died on June 30 at the age of ninety-one. Dr. Sylvester graduated from Bellevue Hospital Medical College in 1889. Until his retirement in 1954 he had practiced medicine in Black River for more than fifty years. Dr. Sylvester was an associate of the staff of the House of the Good Samaritan and Mercy Hospitals in Watertown. For a number of years he served as village health officer and health officer of Rutland. He was a member of the Jefferson County Medical Society, of which he was a past president, the Medical Society of the State of New York, and the American Medical Association.

NEWS FROM THE MEDICAL SCHOOLS

Albany Medical College

Grant—A fund for leukemia research totaling $26,000 has been received by the College and will be known as the Rachel Clapp Hematologic Research Fund for Leukemia. Dr. Simon Propp, associate professor of medicine, and head, Subdepartment of Hematology, will be in charge of the funds.

New York Medical College

Commencement—The graduation services were held in the Academy of Medicine auditorium on May 29 and 108 doctors, of which seven were women, received their diplomas. Dr. Robert A. Moore, president, Association of American Medical Colleges, vice-chancellor of the Schools of the Health Professions of the University of Pittsburgh, and president, National Board of Medical Examiners and of the Advisory Board of Medical Specialties; senior civilian consultant in pathology to the Surgeon General, United States Army, and honorary consultant in pathology to the Surgeon General, United States Navy, was the speaker.

Academic awards were presented to: Dr. Paul Christopher Lehmuller, New York City, the William Cullen Bryant award for the highest four-year average; Dr. Richard Stanley Mann, Chappaqua, the Conrad Engerud Tharaldsen Award, for the second highest four-year average.

Graduates of the class of 1906 received gold diplomas. New York doctors who received them were:

Drs. Sprague Carleton and A. Girard Cranch, New York City; Dr. Alfred C. Emmel, Mount Vernon, and Dr. Harry C. Dumbille, Niagara Falls.

New York University

Alumni Federation—Dr. Harold Brandaleone has been elected treasurer of the Alumni Federation of New York University for 1956–1957. This Federation is composed of the alumni associations of the various schools and colleges of the University.

State University of New York College of Medicine at New York City

Awarded—The ninth Alumni Medallion for Distinguished Service to American Medicine by the College was awarded on June 7 to Dr. George H. Gehrmann, former medical director of the du Pont Company, Wilmington, Delaware. Dr. Gehrmann was a member of the Class of 1913. Dr. Gehrmann is credited with creation of the American Academy of Occupational Medicine and was also one of the leaders in the effort to raise professional and educational standards which culminated in the establishment of a specialty board in occupational medicine in 1955.

State University College of Medicine at Syracuse

Commencement—Dr. Edward Stainbrook, professor and chairman, Department of Psychiatry at the College, delivered the invitational address to the 1956 graduating class on June 10. Dr. Stainbrook discussed "The Place of a Theory of Disease in a World of Medical Facts." Dr. Richard H. Lyons, professor and chairman, Department of Medicine, administered the Hippocratic Oath, and Drs. Leon G. Berman, clinical professor of surgery, and Donald C. Samson, associate professor of medicine, and J. Walden Retan and Walter L. Way of the Class of 1957, were marshalls for the academic procession.

Weiskotten Lecture—Dr. Paul Dudley White delivered the Weiskotten Lecture at the annual Syracuse Medical Alumni Association meeting at the College on June 9. He spoke on "Health vs. Disease or a Plea for Positive Health."

Appointed—Dr. J. A. Abildskov has been appointed assistant professor of medicine and Dr. Ilga Rullis instructor in pathology. Dr. C. Barber Mueller has been appointed the College's first full-time professor of surgery and chairman, Department of Surgery. He has been serving as assistant professor of clinical surgery at Washington University, St. Louis, Missouri.

Speaker—Dr. Harry A. Feldman, professor of preventive medicine, gave the opening address and discussed the broader aspects of the disease, toxoplasmosis, and some of his work connected with it, at the eighth International Congress on Pediatrics, Copenhagen, Denmark, in July. Following the Congress he lectured at the State Serum Institute, Copenhagen, and visited the rheumatic fever project at the University of Paris, Paris, France. Before returning to the United States, Dr. Feldman will deliver some lectures in Switzerland.

Woman's Auxiliary

to the MEDICAL SOCIETY OF THE STATE OF NEW YORK

Auxiliary to Stress Health Education at State Fair

PHYSICIANS' interest in the important work of health education will be the theme of the Auxiliary-sponsored exhibit at the New York State Fair, September 1 to 8, 1956, at Syracuse. Auxiliary members will be in attendance each day the Fair is in progress.

The exhibit will be similar to last year's and will consist of a large booth containing a motion picture projector, a screen, pamphlet racks, and several benches. These benches serve two purposes—when there is no film being projected the people use them as a haven on which to sit and rest their weary feet. Auxiliary members who manned the exhibit last year discovered two interesting facts: A majority of the people stayed to see the entire series of films or returned at a designated time so that they might witness a film of particular interest to them, and many others requested literature on special topics.

Movie shorts on preventive medicine and accident prevention will be shown, and pamphlets on related topics will be distributed by the Auxiliary hostesses each day. In medical parlance, all pills will be sugar coated and as easy to take as the movies will be; for the most part they will be animated cartoons and Our Gang comedies on loan from the State Public Health Department in Albany.

One serious film produced by the A.M.A. should be of special interest to the public, "The Doctor Examines Your Heart." This film is geared to the interest and understanding of the lay citizen and will be shown at advertised times.

The booth is strategically situated on the main floor of the Women's Building between the two doors.

All doctors and wives, whether or not they are Auxiliary members, are urged to visit the Medical Booth at the Fair and sign the guest book. If your Auxiliary is participating show them they are being supported by making this day *your* day at the Fair. Your suggestions are needed to make each year's exhibit bigger and better as well.

Participating auxiliaries for the most part have been from counties adjacent to Syracuse. This year the hostesses on Governor's Day are members of the Albany County Auxiliary of which Mrs. Albert Vander Veer, II, president, is a member.

Hostesses at the Fair booth from the different county auxiliaries are: Saturday, September 1—Madison County; Sunday, September 2—Cayuga and Herkimer Counties; Monday, September 3—Cortland County; Tuesday, September 4—Jefferson County; Wednesday, September 5—Oneida County; Thursday, September 6—Albany County; Friday, September 7—Onondaga County; Saturday, September 8—Oswego County.

Mrs. Raymond E. Fenner, *Chairman*
Onondaga County
Mrs. Marvin Brown, *Cochairman*
Madison County

114 Hillsboro Parkway
Syracuse, New York
Cleveland, New York

MEDICAL NEWS

Grant for Pancreatitis Study—A John A. Hartford Foundation grant of $159,000 was awarded to the University Hospital of the New York University-Bellevue Medical Center for a comprehensive study of pancreatitis in all its stages.

Dr. J. William Hinton, director of University Hospital Department of Surgery, will direct the project. He will be assisted by Dr. L. Corsan Reid and also by Dr. George Mixter and Dr. Robert B. Pfeffer, both of whom hold the rank of assistant attending at University Hospital.

Mental Day Hospital—The first of two day hospital centers to be organized by the New York State Department of Mental Hygiene was opened at Hudson River State Hospital, Poughkeepsie, on July 2, Dr. Paul H. Hoch, Commissioner of Mental Hygiene, has announced. The day hospital is one of the Mental Hygiene Department's projects to determine the value of psychiatric and supportive therapy for suitable mental patients in a hospital setting during the daytime hours.

Hill-Burton Grants—The Department of Health, Education, and Welfare reports that as of May 31 the status of all Hill-Burton grants for the State of New York is: Approved, but not yet under construction, 77 projects at a total cost of $81,027,100 including $22,221,007 Federal contribution and designed to supply 4,364 additional beds.

Under construction are 16 projects at a total cost of $51,015,579, including Federal contribution of $7,408,912 and designed to supply 1,541 additional beds.

Completed and in operation are 12 projects at a total cost of $14,336,485, including Federal contribution of $4,045,292 and supplying 780 additional beds.

Disaster Plan Discussed—Over 1,100 hospital personnel attended a series of meetings held throughout the State for the purpose of introducing and discussing "Outlining a Hospital Disaster Plan" which was prepared by the Office of Medical Defense of the New York State Department of Health and was approved by the New York State Hospital Association. Starting January 24 in Dunkirk and ending with a meeting in New York City on May 11, 32 meetings were held, 23 upstate and 11 in New York City.

The meetings upstate were arranged by the secretaries of the Regional Hospital Planning Councils. In New York City the meetings were arranged by the Department of Hospitals in cooperation with the Greater New York Hospital Association and the Association of Private Hospitals, Inc.

"Outlining a Hospital Disaster Plan" was developed to serve as a guide to hospitals in preparing a plan to be used in the event of a community disaster. When the outline is completed, the hospital will have an emergency plan of action.

Hermann M. Biggs Tuberculosis Hospital—State Health Commissioner Herman E. Hilleboe has reported that all patients have now been transferred from the Hermann M. Biggs State Tuberculosis Hospital. The hospital buildings will be turned over to Tompkins County for general hospital purposes as soon as the necessary deed of transfer is completed.

Patients from Tompkins, Chemung, Tioga, Wayne, Seneca, Schuyler, and Yates Counties, previously provided tuberculosis services from the Hermann M. Biggs Hospital will in the future be provided with similar services by the Mount Morris Tuberculosis Hospital at Mount Morris, Livingston County. Patients from Cayuga and Cortland Counties, previously served by Biggs, now will receive a similar type of service from the Onondaga Sanatorium at Syracuse.

AMA Pamphlets on Family Doctor—Expert advice concerning the importance of periodic health examinations is capsuled in an attractive new pamphlet recently published by AMA's Council on Rural Health. Titled "Check and Know," this 16-page booklet points up the advantages of having a complete physical checkup at regular intervals and keeping an accurate health record of all members of the family. Another pamphlet, designed as a companion piece, discusses the reasons for having a family doctor and for having a sound doctor-patient relationship. The second pamphlet, also 16 pages, is entitled, "A Member of the Family—Your Doctor."

Samples of each are being sent to directors of extension services and home demonstration leaders of land grant colleges, leaders of farm bureaus and the Grange, and members of state rural health committees. State medical societies may secure additional copies from the Council.

Nassau Neuropsychiatric Society—The Nassau Neuropsychiatric Society, Nassau District Branch of the American Psychiatric Association, has elected the following officers for the year 1956–1957: Dr. Ursula G. Stewart, president; Dr. Irving Chipkin, vice-president, and Dr. Aaron W. Bortin, secretary-treasurer.

FIG. 1

Bronx County Medical Society—Twenty-seven past presidents of the Bronx County Medical Society were the recipients of hand-engraved scrolls at the annual meeting of that organization held at the Concourse Plaza Hotel on June 20.

Front row, *left to right*, are: Drs. Philip Eichler, Joshua Leiner, M. J. Goodfriend, Simon Jacobs, Samuel Weiskopf, J. L. Amster, Moses Krakow, David Greenberg, and Irving Smiley.

Second row, *left to right*, are: Drs. A. B. Tamis, R. J. Azzari, H. J. Barrow, F. W. Williams, Frank LaGattuta, Joseph Golomb, T. F. McCarthy, F. A. Wurzbach, Jr., Sidney Cohn, William Klein, A. J. Fleisher, and Morris Cohen.

Third row, *left to right*, are: Drs. C. W. Frank, E. P. Flood, Abner Stern, and Charles Sandler.

Vitamin Foundation Grants—Twelve new grants, for a total of $84,295.20, have been awarded to American universities by the National Vitamin Foundation, Inc., for clinical and laboratory research in the fields of vitamins and nutrition. The Foundation gives grants-in-aid for research semiannually throughout the United States and abroad. The new grants became effective July 1, 1956 and include grants to Dr. Robert W. Hillman, State University of New York, State University Medical Center at New York City, Brooklyn, $33,463.20 for study of increased pyridoxine requirements in pregnancy, and to Dr. Theodore F. Zucker, Columbia University, New York City, $6,180 for studies of pantothenic acid deficiency and the status of acetylcholine in intestinal tissue.

Roentgen Society Officers—At a meeting on June 1, the New York Roentgen Society elected the following officers for the following year: Dr. Sidney Rubenfeld, president; Dr. Maxwell H. Poppel, vice-president; Dr. John A. Evans, secretary, and Dr. Harold Jacobson, treasurer.

American Medical Education Foundation—New York State contributors to the American Medical Education Foundation for the month of May were: *Akron*—Dr. R. G. Stanbury; *Altamont*—Dr. D. W. Sweeney; *Albany*—Drs. Donald H. Baxter, Nolton H. Bigelow, E. Campbell, Ethel Cermak, Warren G. Cross, Fred Dexter, Arthur Dickinson, William F. Doney, Anne M. Drislane, William Feltman, John J. Gamble, William B. Garlick, William L. Gould, C. M. Guest, John G. Hayes, John E. Heslin, Henry H. Hun, Samuel Kantor, Roy C. Kemp, John D. LaTendresse, H. B. Lang, Morton L. Levin, Jay D. Mann, B. F. Markowitz, F. D. McCandless, Alva G. McCord, John G. McKeon, William A. Milner, Claude C. Nuckols, John C. O'Keeffee, John P. O'Keeffe, William C. Rausch, Ralph W. Reynolds, William G. Richtmyer, Thomas L. Rider, Michael J. Stapleton, Ruth S. Stelle, N. P. Teresi, Victor N. Tompkins, Robert C. Towse, Albert Vander Veer, Armand D. Versaci, Thomas S. Walsh, Jr., C. S. Welch, and Robert D. Whitfield.

Also: *Altamont*—Dr. Helen O. Sweeney; *Amsterdam*—Drs. Norbert Fethke and A. J. Spencer; *Angola*—Drs. A. J. Cooper and Lee R. Sanborn; *Astoria*—Drs. Peter P. Baselice, M. G. Drimer, Arthur Gladstein, and Morton Kaplan; *Barker*—Dr. Paul G. Orsten; *Bath*—Drs. James J. Sanford, S. Z. Selleck, and A. F. Wahlig; *Bayside*—Drs. Melvin J. Herman and William Young; *Boonville*—Dr. Robert Smith; *Bronx*—Dr. William J. Farrell; *Bronxville*—Dr. Charles W. Neuhardt.

Also: *Buffalo*—Drs. A. H. Aaron, I. Adler, K. M. Alford, R. W. Baetz, C. F. Banas, C. A. Bauda, A. L. Bennett, M. A. Block, V. H. Boeck, E. L. Brodie, Baxter Brown, A. A. Bruno, F. J. Brylski, T. S. Bumbalo, J. Burstein, J. V. Carr, S. V. Cavaretta, M. Cheplove, A. V. Cherry, T. F. Ciesla, V. S. Cotroneo, F. R. Coyle, H. W. Culbertson, E. H. DeKleine, B. J. Dolan, R. S. Donley, P. I. Dooley, W. D. Dugan, G. L. Eckhert, E. G. Eschner, P. A. Fernbach, W. J. Fisher, T. C. Flemming, F. J. Fleszar, E. Friede, J. P. Gambacorta, M. C. Gian, C. W. Greene, R. W. Haines, H. W. Hale, Jr., E. G. Healy, B. E. Heckmann, M. H. Heller, H. H. Higgs, H. Hosmer, C. G. Jencyeski, H. E. Joyce,

P. J. Julian, R. A. Kaiser, P. A. Kennedy, S. Kimball, N. C. Klendshoj, M. M. Konczakowski, I. R. Lang, E. J. Lyons, C. A. March, W. P. Martin, H. J. McGee, E. T. McGroder, F. J. Montrose, S. R. Narins, T. J. O'Brien, Robert W. O'Connor, G. F. O'Grady, B. E. Oblitz, H. Osgood, G. B. Pantera, J. D. Persse, C. L. Randall, A. C. Rekate, A. E. Richter, J. J. Ricotta, J. T. Roberts, H. M. Robins, J. G. Robinson, C. E. Rung, N. G. Russell, J. C. Scanio, G. N. Scatchard, C. J. Schuder, R. L. Scott, F. Shalwitz, A. Smith, Ralph E. Smith, H. E. Stadlinger, D. W. Stiff, R. J. Striegel, E. R. Studenski, T. V. Supples, S. A. Tarlowski, L. A. Trovato, S. L. Vaughan, J. V. Walsh, C. E. Wertz, R. G. Wilkinson, M. H. Young, and J. W. Zerkowski.

Also: *Campbell Hall*—Dr. S. M. Schoenholz; *Central Valley*—Dr. T. W. Neumann; *Charlton*—Dr. Hans Schein; *Chester*—Dr. M. I. Gerner; *Clarence*—Dr. J. S. Stern; *Clinton*—Drs. Arthur F. Gaffney and Joseph B. Katz; *Coeymans*—Drs. Ira D. LeFevre and John F. Mosher; *Cohoes*—Drs. James M. Archibold and Raoul Hebert; *Collins Center*—Dr. Ernst A. Von During; *Corinth*—Dr. Howard C. Johnston; *Cornwall-on-Hudson*—Drs. G. R. Dempsey, C. H. Marsh, and B. J. Troidle; *Cuba*—Dr. Hazen G. Chamberlin; *Delmar*—Drs. Robert L. MacDowell, Frank C. Maxon, Jr., and Daniel Moriarity; *Depew*—Dr. A. V. Kwak; *Dunkirk*—Drs. J. F. Cellino and C. B. Mosher; *East Aurora*—Dr. E. E. Pierce; *East Greenbush*—Dr. Joseph W. Belser; *Eggertsville*—Dr. R. W. Osgood; *Ellicottville*—Dr. Walter Leyens; *Elma*—Drs. John G. Allen and R. C. Shaver; *Elmhurst*—Drs. A. Koevesdi and Eugene J. Tortora; *Elmira*—Drs. Werner H. Bloch, William H. Burke, D. Caravetta, Francis S. Creighton, Lionel Dichter, Edward J. Droleski, Arthur C. Glover, R. O. Gregory, R. V. Larkin, James A. Mark, John P. Murphy, William K. Nowill, and Harold L. Walker; *Far Rockaway*—Dr. Abe Alper; *Florida*—Dr. M. Temchin; *Flushing*—Drs. Clyde N. Baker, N. R. Katlan, Harold Shifrin, M. E. Sullivan, Alex Weiss, and Joseph B. Weynert; *Forest Hills*—Drs. James Marin, Selma Wertheimer, Ezra A. Wolff, and Herman Wolff; *Fort Plain*—Drs. W. C. Fox, and C. E. Slater; *Fredonia*—Dr. B. S. Custer; *Frewsburg*—Dr. R. M. Weidler; *Ghent*—Dr. Thomas C. Seymour; *Glendale*—Dr. Helmut Zeiger.

Also: *Glenmont*—Drs. Thomas L. Piazza and John G. Sigsby; *Goshen*—Drs. F. T. Seward and N. H. Witt; *Hamburg*—Drs. G. M. Cooper, A. J. Minkel, Jr., and D. J. Riordan; *Hartsdale*—Dr. Oscar Baumgarten; *Helmuth*—Dr. I. M. Rossman; *Holland*—Dr. C. H. Strong; *Hollis*—Drs. Raphael DeMeo, Morris Goldman, Wallace M. Shaw, and Albert E. Stahl; *Horseheads*—Dr. Norman G. Gridley; *Hudson*—Drs. Elah C. Bliss, Roger C. Bliss, Harold Levine, and Heinz Salm; *Jackson Heights*—Drs. Louis E. Gaeta, S. S. Safir, and Mandel Weinstein; *Jamaica*—Drs. Ernani D'Angelo, Arthur Feder, Peter A. Miceli, Arthur Sawitsky, Abram Sohmer, Conrad Stritzler, Alfred A. Trivilino, and Edward B. Weisman; *Jamestown*—Drs. F. H. Clark, R. C. Fess, Myron B. Franks, Ralph W. Heffner, John W. Karr, J. S. Prince, A. W. Rappole, Russell J. Sacco, and Edward Zimmer; *Kenmore*—Drs. W. Hildebrand, Jr., J. Tannenhaus, H. N. Taylor, E. A. Woodworth; *Kew Gardens*—Drs. Edward V. Maggio and Sarah E. Worob; *Kinderhook*—Dr. Edward F. Urba; *Lackawanna*—Drs. J. D. O'Connor and E. M. Sullivan; *Lancaster*—Drs. A. J. Addesa and C. G. Irish; *Latham*—Dr. Thomas Couch; *Liberty*—Dr. N. A. Baker; *Lockport*—Drs. W. M. Anna, James H. Donnelly, Jr., D. B. Fitzgerald, H. B. Fitzgerald, and R. R. Fitzgerald; *Long Island City*—Drs. Rosario F. Drago, Frank E. Pope, Edward F. Tartaglione, and Fred M. Weiss; *Marcy*—Dr. George L. Warner; *Maspeth*—Drs. Felix H. Metis and Anthony J. Stalkus; *Middletown*—Drs. M. Benjamin, P. H. Faivre, L. Gillman, H. Gurian, W. J. Hicks, F. Hollenberg, S. S. Katz, L. Mermell, R. W. Moody, A. J. Morreale, H. F. Pohlmann, J. Schloss, S. S. Shorter, C. H. Thompson, Jr., and L. S. Tieman; *Monroe*—Dr. R. J. Hewson.

Also: *Newburgh*—Drs. A. S. Banks, C. J. Bivona, D. C. Bouton, M. L. Cote, J. C. Donovan, C. E. Fallon, A. H. Fenton, R. G. Gould, C. W. Layne, J. W. McKeever, C. S. McWilliam, J. W. Overton, P. Sherwood, H. H. Snyder, G. J. Sprague, P. M. Traub, E. C. Waterbury, and I. Weiner; *New Hartford*—Drs. A. D. Brown and Esther L. Moeller; *New Rochelle*—Dr. M. W. Norton; *New York City*—Drs. Harold Abramson, Milton P. Adel, George G. Arato, Ernest E. Arnheim, Julian I. Barish, Joseph F. Bartoli, Isabel Beck, Leonard W. Benedetto, F. Bracken, Ernest Breed, K. L. Breydert, Giovanni Caggiano, Royal G. Cannady, Richard M. Carey, Stuart L. Craig, David B. Crawford, Jr., Jose E. Crespo, J. H. Daniels, Ernest P. DeSanto, John F. Donohue, Lewis J. Doshay, Hermann Engel, B. Esterman, John B. Ferran, Jr., Joseph D. Ferrara, Jacques R. Fischl, Mark L. Gerstle, Jr., Ernest B. Gold, Hyman Goldstein, Morris Grayson, Abraham Greenberg, Armand C. Grez, Robert G. Hicks, Susanne Howe, Henry M. Imboden, Jetti Katz, J. S. Kenney, Herbert R. Kenyon, F. G. Kojis, Horace Leigh, F. C. Levin, Louis Levine, Thomas A. Loftus, Samuel Marton, Peter K. Maybarduk, Carlota Mendez, C. R. Miller, Lucy C. Miller, Louis Miller, Saul D. Miller, Melvin N. Newquist, Boris P. Petroff, Frank S. Pierson, Murray Polsky, Louis I. Posner, Harmon T. Rhoads, Jr., Robert M. Richman, Max S. Rohde, A. Romaine, John N. Rosen, Ernst Rumstein, Angelo M. Sala, Joseph Salan, John E. Sawhill, George M. Saypol, Walter F. Schmidt, William A. Schonfeld, Leo Schwartz, Archie A. Silver, Andre Smessaert, Ruth E. Snyder, Ramsay Spillman, K. Sprunt, Mario E. Stella, B. R. Susman, Fannie Tomson, Max Trubek, Leo R. Varon, Esther M. Ward, Alice D. Weber, Irwin Weiner, Robert S. Wilkinson, and Judah Zizmor.

Also: *New York Mills*—Dr. Walter J. Karwowski; *Niagara Falls*—Drs. Herman Brezing, Robert Brezing, Edwin W. Gates, Carlton P. Kavle, Charles Mann, William J. McDermid, Frank J. Palumbo, Victor L. Pellicano, Lester H. Schiff, Donald E. Taylor, and C. Van Deusen; *North Tonawanda*—Dr. Robert M. Rose; *Olcott*—Dr.

Donald Feeley; *Olean*—Drs. George Cash, Joseph Dempsey, John Godfrey, Joseph L. Mountain, and Leo J. Murphey; *Patchogue*—Dr. Cathryn V. Riley; *Plattsburgh*—Dr. Nello V. Delbel; *Pleasantville*—Dr. John W. Ferree; *Port Jervis*—Drs. H. F. Murray, Jr., and E. J. Walter; *Rego Park*—Dr. Frank J. Cerniglia; *Richmond Hill*—Drs. William P. Riley and Carl Steckler; *Ridgewood*—Dr. Bruno B. Lambert; *Rochester*—Drs. Harold C. Bonner, C. P. Danehy, Leonard D. Fenninger, Eric S. Green, Harry A. Hanson, Anthony L. Jordan, Joseph R. Mayer, Edward T. Munson, John L. Norris, W. N. Witherspoon, and F. N. Zuck; *Rome*—Drs. Charles M. Brown, John B. DeLong, Ivan Hay, Eugene A. Kaskiw, F. J. Mahrer, Roy J. Marshall, James H. McDonough, Dan Mellen, Lois C. Menzies, Edward E. Powers, Jr., Edwin P. Russell, Jr., Edwin P. Russell, Sr., Martin M. Sanders, Richard Schulenklopper, Douglas A. Sunderland, Frank H. Valone, Joseph A. Valvo, Hans A. Zutrauen; *Rye*—Drs. Basil Harris, Jr., and Julian Hawthorne; *St. Johnsville*—Drs. Paul W. Adler and R. E. Wytrwal; *Salamanca*—Drs. J. S. Fleming and T. G. Gardner; *Saranac*—Dr. Gilbert E. Ganong; *Sauquoit*—Dr. Garnet L. Higgins; *Scarsdale*—Drs. Roy F. Leighton and Harry E. Voss; *Skaneateles*—Dr. Herman G. Weiskotten; *Slate Hill*—Dr. F. D. Myers; *Snyder*—Dr. C. C. Rausch; *Springville*—Dr. M. N. O'Connor; *Syracuse*—Drs. E. J. Delmonico and Donald E. Moore; *Tarrytown*—Dr. Byron L. Sweet, Jr.; *Tonawanda*—Dr. R. W. Britt; *Troy*—Dr. Irwin I. Spritzer.

Also: *Utica*—Drs. Roy C. Ainsworth, Anthony G. Chanatry, Fel G. Davies, Vincent DeLalla, Jr., James W. Dimon, Harold H. Dodds, James I. Farrell, Eliot M. Friedman, Paul H. Girard, Anna A. Gronlund, Karl W. Gruppe, Robert C. Hall, Alfred Heymann, James S. Heywood, John F. Kelley, N. M. Levine, Robert J. MacCallum, John R. Malcewicz, P. Montesano, Patrick S. Mullins, Harold L. Pender, John W. Platt, Joseph W. Sokolowski, William C. Taylor, Philip L. Turner, H. B. VanDeusen, and Alex J. Wysocki; *Valhalla*—Dr. Harold F. Bishop; *Valley Stream*—Dr. Alfred H. Smith, Jr.; *Van Etten*—Dr. James R. Cargill; *Walden*—Dr. F. Falkson; *Warwick*—Dr. H. R. Freisinger; *Watertown*—Dr. Wendall D. George; *Waterville*—Dr. E. D. Battles; *Webster*—Dr. Donovan M. Jenkins; *White Plains*—Dr. Russell J. Heffering; *Williamsville*—Drs. S. J. Anthony, R. S. Pratt, and R. L. Secrist; and *Yonkers*—Drs. Arthur H. Milbert, Angelo R. Onorato, and Isadore Rudnikoff.

Urology Award—The American Urological Association will offer an annual award of $1,000 (first prize of $500, second prize $300, and third prize $200) for essays on the result of some clinical or laboratory research in urology. Competition shall be limited to urologists who have been graduated not more than ten years, and to hospital interns and residents doing research work in urology.

For further information write to William P. Didusch, Executive Secretary, 1120 North Charles Street, Baltimore, Maryland.

Certificates of Fellowship Awarded—At the convocation of the American College of Chest Physicians held in Chicago on June 9, the following physicians received their certificates of fellowship: Drs. Arthur H. Aufses, Joseph E. Fitzgerald, Philip C. Holzberger, and Charles B. Ripstein, New York City; Dr. Harold Bernstein, Rockville Centre; Dr. J. J. Blinn, Long Beach; Drs. Walter Finke and Maria Wenzl, Rochester; Drs. Erwin Friede, Annabel B. Miller, and Samuel A. Vogel, Buffalo; Dr. Robert E. Good, Elmira; Dr. Joseph L. Mangiardi, Garden City; Dr. Morris Newberg, Queens Village; Dr. Horst Oppenberg, Valhalla; Drs. Alfonso D. Rock and Louis H. Sigler, Brooklyn, and Dr. Harry A. Schwartz, Long Island City.

Research Society Officers—At the May 24 meeting of the Research Society of the State University College of Medicine in Brooklyn, the following officers were elected for the year 1956–1957: Dr. Julius Belford, associate professor, Department of Pharmacology, president; Dr. Richard Day, chairman and professor, Department of Pediatrics, vice-president, and Dr. Albert Hirschman, assistant professor, Department of Anatomy, secretary-treasurer.

Personalities

Elected

Dr. Louis I. Dublin, former president of the American Public Health Association, as president of the newly formed Committee to Protect Our Children's Teeth, Inc. . . . Dr. Marion E. Kenworthy, as trustee of the New York School of Social Work, Columbia University.

Appointed

Dr. Ray K. Brown, as assistant director for biochemistry and immunology in the Division of Laboratories and Research by State Health Commissioner Herman E. Hilleboe . . . Dr. John A. DiFiore, New York City, as a member of the medical appeals unit of the State Workmen's Compensation Board . . . Dr. Raymond Sobel, Chappaqua, to the board of visitors of the Westfield State Farm . . . Dr. Frank E. Stinchfield, as director of the orthopedic service of the Presbyterian Hospital and executive officer and professor of surgery of the Department of Orthopedic Surgery of the College of Physicians and Surgeons of Columbia University, as of July 1 . . . Dr. Martin L. Stone, New York City, as professor of obstetrics and gynecology and director of the department at New York Medical College, Flower-Fifth Avenue Hospitals.

Speakers

Dr. Juan Negrin, Jr., attending neurosurgeon, Kings Park Hospital, Kings Park, before the members of the hospital staff of the Veterans Administration Hospital at Northport on June 22 on "Recent Advances in Neurological Surgery" . . . Dr. Harry C. Solomon, professor of psychiatry and medical director of the Boston Psychopathic Hospital, before the Finger Lakes Neuropsychiatric Society on June 14 in Canandaigua, on "Recent Trends in Treatment of Mental Illness."

Honored

Dr. Paul H. Hoch, Commissioner of Mental Hygiene for the State of New York, with the "Man of the Year Award" of the International Rho Pi Phi Pharmaceutical Fraternity . . . Dr. William Walter Street, on his retirement from thirty-six years of teaching at State University College of Medicine in Syracuse.

New Offices

Dr. David Gerbarg, practice of internal medicine in Kingston . . . Dr. Joseph A. Le Pener, practice of internal medicine in Syosset . . . Dr. S. J. Markarewicz, general practice in the former office of the late Dr. R. O. Jackson in Savannah . . . Dr. James Zweighaft, practice of medicine and surgery in Salem

MEDICAL MEETINGS

International Congress of Clinical Chemistry

The first International Congress of Clinical Chemistry will meet September 9 through 14 at the Hotel Barbizon-Plaza in New York City. About 125 scientific papers and exhibits will be included in the program.

Information and registration forms may be obtained from the Congress secretary, John G. Reinhold, 711 Maloney Building, University of Pennsylvania, Philadelphia 4, Pennsylvania. Membership applications should be completed at the earliest opportunity and sent with $7.50 to the secretary.

Occupational Medicine Course

The faculty of medicine, Columbia University, will present a course in occupational medicine to be given from nine to ten o'clock on Saturday mornings beginning on September 22. The classes will be held in Amphitheater A, College of Physicians and Surgeons, 630 West 168th Street, New York 32, New York. Members of the staff of the Division of Occupational Medicine of the School of Public Health and Administrative Medicine will conduct the course.

American College of Cardiology

The American College of Cardiology will hold its fifth interim meeting at the Webster Hall Hotel, Pittsburgh, Pennsylvania, from November 28 through 30. The general topic of the meeting will be coronary artery disease and myocardial infarction. The scientific sessions will feature four symposia on diagnosis, recent trends in medical and surgical therapy, industrial and compensation aspects, and rehabilitation and medicolegal problems. Dr. Simon Dack, New York City, will preside. For further information, contact Dr. Philip Reichert, secretary, American College of Cardiology, Empire State Building, New York City.

CORRESPONDENCE

Care of Feet in Obliterative Arterial Disease

To the Editor:

I have just finished reading Dr. Leslie Blau's article on "Prevention Versus Cure in Some Crippling Diseases," which appeared in the May 1, 1956, issue of the New York State Journal of Medicine, page 1436.

After perusing the list of instructions to the patient with obliterative arterial disease, I find that Dr. Blau has failed to mention some important factors in the prevention of gangrenous lesions of the feet. In my office, patients with arterial disease are instructed in the factors listed by Dr. Blau plus a few additional ones. It is the additional factors that cause more ulcers and problems, and I believe most podiatrists will agree. These factors are as follows:

1. Use of harsh drugs such as salicylic acid preparations and iodine.
2. Bathroom surgery with nonsterile instruments on corns, calluses, and nails.
3. Self-treatment of "athlete's foot."
4. Circular garter restrictions around the thighs.

If physicians dealing with arterial disease, diabetes, etc., were made aware of the benefit patients could derive from podiatry-chiropody care, there would be fewer problems. This can be shown by the fact that outstanding institutions, such as the New England Deaconess Hospital, Mayo Clinic, Mount Sinai Hospital, Georgetown University Hospital, Grave-New Haven Community Hospital, Cedars of Lebanon in Los Angeles, and virtually all New York City hospitals, have podiatric services available to their arterial and diabetic patients. This has reduced greatly the incidence of amputations and gangrenous lesions.

Today no sacrifice is too great to aid patients with peripheral vascular problems. By coordination of the various branches of medicine in which the podiatrist can play a definite part, the patients that Dr. Blau writes about and those he does not can be aided.

MARTIN A. RAKOW, POD.D.

218-01 Linden Boulevard
Cambria Heights, Long Island, New York

Comment by Dr. Blau

To the Editor:

I listed those factors in my paper which either aggravated intermittent claudication or to which I could trace the development of gangrene and/or necrotic ulcers.

In my fifteen years of experience I have not found "harsh drugs, bathroom surgery, self-treatment of athlete's foot, and circular garter restrictions around the thighs" of major consequence.

I agree with Dr. Rakow's suggestion that certain patients may benefit by providing the services of a podiatrist in some hospitals. I believe that such services are needed only in those hospitals that have a large population of geriatric patients.

LESLIE BLAU, M.D.

468 Delaware Avenue
Buffalo 2, New York

We have all sufficient strength to endure the misfortunes of others.—FRANÇOIS, DUC DE LA ROCHEFOUCAULD

MONTH IN WASHINGTON

Before the end of the year hundreds of thousands of dependents of military personnel, living in all parts of the country, should be receiving their medical care from private physicians and in private hospitals under the new program authorized this year by Congress. While Defense Department has not yet completed regulations to implement the act, the law itself lays down the basic principles governing the program.

The House Armed Services Committee first attempted to decide on a system or systems for furnishing private care, through Blue Cross, Blue Shield, arrangements with state medical societies, commercial insurance, or "home-town care," such as Veterans Administration successfully employs. But the committee gave up on the problem, and Congress finally tossed it to the Secretary of Defense by stating in the bill that he shall ". . . after consultation with the Secretary of Health, Education, and Welfare . . . contract for medical care for such persons . . . under such insurance, medical service, or health plan or plans as he deems appropriate." A Defense Department task force now is attempting to decide how to work out the contracts.

Although several groups of dependents will be entitled to medical care, only wives (or husbands) and children of men on active duty will be certified for civilian care. The others will be admitted to military medical facilities on "availability of space" basis. While spouses and children of active duty personnel generally will have a choice of private or military care, there is this limitation: The Secretary of Defense may designate certain areas where private care will not be authorized if in his opinion those areas have military facilities adequate to care for the service families.

Dependents will be required to pay the following charges: For care in military facilities, subsistence, and "in-hospital" charges (set by Secretary of Defense and currently $1.75 per day); for private care, the same fees or the first $25, whichever is the larger.

The time limit on private care is twelve months, but if hospitalization still is required after this period, the dependent will be protected. In this case the Defense Department will transfer the dependent to a military facility or will make direct payment to a private hospital.

Although regulations will spell out limitations and authorizations in more detail, the law makes the following provisions:

Care in military facilities to include:

1. Diagnosis, treatment of acute medical and surgical conditions, treatment of "contagious diseases," immunization, and maternity and infant care.

2. Hospitalization for nervous and mental disorders, chronic diseases, or elective medical and surgical treatments *but only in "special and unusual cases"* and for not more than twelve months. This would be provided at the discretion of the Secretary of Defense. Dental care not authorized except in unusual cases, while abroad, or at remote stations in the U.S.

Private care will include:

1. Hospitalization in semiprivate accommodations up to one year for each admission, including all necessary services and supplies furnished by hospital.
2. Medical and surgical care incident to hospitalization.
3. Complete obstetric and maternity service, including prenatal and postnatal care.

4. Physician or surgeon's services prior to and following hospitalization for bodily injury or surgery.

Under the private care program some services may be furnished outside the hospital, such as surgery in a doctor's office, x-rays, or laboratory tests, "but not what is normally conceived to be outpatient care." If experience shows they can be afforded, additional services may be authorized, but whatever the scope of private care, it cannot exceed that furnished in military facilities. Outpatient care will be furnished by military facilities, but "uniform minimal" charges may be imposed as a restraint on excessive demands.

If medical research doesn't move ahead in the current fiscal year (ending June 30, 1957), it won't be the fault of Congress. The seven research organizations that make up the National Institutes of Health have far more money than they have ever had, and probably much more than their directors even dared hope for last winter at the start of hearings on their budgets. Every one of the research institutes received a substantial increase over last year, and the funds of five of them were almost doubled.

The Institutes have a total of $170.4 million to spend before next July 1. This is about 80 per cent more than they had last year. In discussing the appropriations bill on the Senate floor, Senator Lister Hill (D., Ala.) said the bulk of the money will go for grants to non-Federal institutions—hospitals, medical schools, clinics, and state and local organizations engaged in research.

A breakdown by disease categories shows the following picture:

For cancer research, $48.4 million, in contrast to $24.8 million for the previous year. This year's

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Prepared by the Washington Office of the American Medical Association, Washington, D.C.

total is $16 million more than the administration asked when budget requests were sent to Congress in January.

For mental health work, $35.1 million, in contrast to last year's $18 million. This is $13.4 million more than had been requested originally.

For heart disease research, $33.3 million, compared with $18.7 million last year and $22.1 million originally requested.

For work on arthritis and metabolic diseases, $15.8 million, or $5.1 million more than last year and $2.5 million more than Congress was asked for.

For research in neurology and blindness, $18.6 million, compared with $9.8 million last year and $12.1 million originally requested.

For work on allergies and infectious diseases, $13.2 million, compared with $7.5 million last year and $9.7 million requested.

For dental research, $6 million. While this is small compared with money voted for other U.S. research institutes, it is almost triple the $2.1 million spent last year. The huge increase is the result of a sustained campaign by the American Dental Association.

Senator Hill and Representative John E. Fogarty (D., R.I.) led the fight in Congress for the record-breaking research appropriations. Under the latter's chairmanship a House appropriations subcommittee boosted the total for the seven institutes to about $124 million, a figure that was accepted both by the full Appropriations Committee and the House.

In addition to heading the Senate appropriations subcommittee that handled this funds bill, Senator Hill also is chairman of the Labor and Welfare Committee and extremely active in health legislation. His subcommittee pulled up the totals to the $170 million. After the Senate-House conference committee disagreed on the spending, Representative Fogarty carried the fight to the floor, where he persuaded the House to accept all of the higher Senate figures.

Other Federal health programs mainly concerned with disease control and hospital construction also fared well with the Congress. The Hill-Burton program for construction grants to hospitals has $125 million for the current year, or $14 million more than last year. For vocational rehabilitation grants, the figure is $41.5 million, a $2.7 million increase; for general public health assistance to states, it is $18.16 million, a $600,000 increase; for Indian health work, it is $38 million, a $3.3 million increase.

Notes

With Salk vaccine being released in ever-expanding volume, the Public Health Service is urging states and communities to increase the priority age to twenty and to use up supplies as fast as received. Said Secretary Folsom, "I urge parents, physicians, and health officials to cooperate in making the maximum use of the increasing supply as soon as it becomes available."

Civil Aeronautics Administration, believing the time has come to review procedures in pilot medical examinations, has hired a private organization to conduct a thorough investigation and make recommendations. Two questions are of special importance: Should lower standards be allowed for older, experienced pilots? Should crew members and ground crewmen, as well as pilots, be examined periodically?

Less than three months after his third appointment to a four-year term as Surgeon General of U.S. Public Health Service, Dr. Leonard Scheele resigned to take a post in the pharmaceutical industry so he could "provide more properly" for his family.

Although no new legislation was enacted in that field, witnesses at a long series of hearings on civil defense were pretty much in agreement that the job can't be done properly unless more authority is voted to the Federal Civil Defense Organization.

Dr. Lowell T. Coggeshall, special assistant to HEW Secretary Folsom, believes some "wise changes" should be made in medical economics to facilitate payment for the "spectacular" new medical services. He expressed his views in addressing a group at the University of Pennsylvania Medical School.

Russia and eight satellites, out of active participation in World Health Organization for more than six years, now are back in; they agreed to pay 5 per cent of past-due assessments over a ten-year period.

The highway program contains a provision for a one-year study of traffic safety, a problem in which the American Medical Association has been actively interested for years.

Sesquicentennial Meeting — February 18 to 21, 1957

BOOKS RECEIVED

(*The following books were received during the month of June, 1956*)

The Surgical Technic of Abdominal Operations. By Julius L. Spivack, M.D. Fifth edition. Quarto of 931 pages, 1,037 illustrations. Springfield, Ill., Charles C Thomas, 1955. Cloth, $17.50.

Diseases of the Liver and Biliary System. By Sheila Sherlock, M.D. Octavo of 720 pages, illustrated. Springfield, Ill., Charles C Thomas, 1955. Cloth, $10.

Infant Metabolism. Proceedings of the World Health Organization's Seminars Held at Leyden and Stockholm in October-November, 1950. Conducted by Evert Gorter, S. Z. Levine, and Arvid Wallgren. Edited by I. Herbert Scheinberg. Octavo of 435 pages, illustrated. New York, The Macmillan Company, 1956. Cloth, $8.00.

The Morphology of Human Blood Cells. By L. W. Diggs, M.D., Dorothy Sturm, and Ann Bell, B.A. Quarto of 181 pages, illustrated. Philadelphia, W. B. Saunders Company, 1956. Cloth, $12.

Physical Diagnosis. By Ralph H. Major, M.D., and Mahlon H. Delp, M.D. Quarto of 358 pages, illustrated. Philadelphia, W. B. Saunders Company, 1956. Cloth, $7.00.

Progress in Hematology. Volume I, 1956. Edited by Leandro M. Tocantins, M.D., with 27 contributors. Quarto of 336 pages, illustrated. New York, Grune & Stratton, 1956. Cloth, $9.75.

Cytology of the Blood and Blood-Forming Organs. By Marcel Bessis. Translated by Eric Ponder, M.D. Quarto of 629 pages, illustrated. New York, Grune & Stratton, 1956. Cloth, $22.

Treatment of Migraine. By John R. Graham, M.D. Duodecimo of 149 pages, illustrated. Boston, Little, Brown & Co., 1955, 1956. Cloth, $4.00. (*New England Journal of Medicine*, Medical Progress Series.)

The Year Book of Endocrinology (1955-1956 Year Book Series). Edited by Gilbert S. Gordan, M.D. Duodecimo of 367 pages, illustrated. Chicago, The Year Book Publishers, 1956. Cloth, $6.00.

Meditations on Medicine and Medical Education. Past and Present. By I. Snapper, M.D. Octavo of 138 pages. New York, Grune & Stratton, 1956. Cloth, $3.75.

Mental Health Planning for Social Action. By George S. Stevenson, M.D. Octavo of 358 pages. New York, The Blakiston Division, McGraw-Hill Book Company, 1956. Cloth, $6.50.

The Cerebral Palsy Program of the New York City Schools. Report of the Committee on Education, 1956. The Coordinating Council for Cerebral Palsy in New York City, Inc. Octavo of 92 pages. New York, The Coordinating Council for Cerebral Palsy in New York City, Inc., [1956].

The Doctors. A Great Behind-the-Scenes Novel of the Parisian Medical World. By André Soubiran. Translated from the French by Oliver Coburn. Sextodecimo of 380 pages. New York, Popular Library, 1956. Paper, 50 cents.

Chest X-Ray Diagnosis. By Max Ritvo. Second edition. Quarto of 640 pages. 633 illustrations on 426 engravings and 1 color plate. Philadelphia, Lea & Febiger, 1956. Cloth, $16.

The Abnormal Pneumoencephalogram. By Leo M. Davidoff, M.D., and Bernard S. Epstein, M.D. Second edition. Quarto of 518 pages, 696 illustrations. Philadelphia, Lea & Febiger, 1955. Cloth, $15.

Mass Casualties. Principles Involved in Management. Quarto. 189 pages, illustrated. Washington, D.C., The Association of Military Surgeons of the U.S., 1956. Paper, $1.50. (Reprinted from *Military Medicine*, Vol. 118, No. 4, April, 1956.)

Treatment of Heart Disease. A Clinical Physiologic Approach. By Harry Gross, M.D., and Abraham Jezer, M.D. Quarto of 549 pages, illustrated. Philadelphia, W. B. Saunders Company, 1956. Cloth, $13.

The Recovery Room. Immediate Postoperative Management. By Max S. Sadove, M.D., and James H. Cross, M.D. With contributions by 24 authorities. Octavo of 597 pages, illustrated. Philadelphia, W. B. Saunders Company, 1956. Cloth, $12.

Electrodiagnosis and Electromyography. Edited by Sidney Licht, M.D. Octavo of 272 pages, illustrated. New Haven, Conn., Elizabeth Licht, Publisher, 1956. Cloth, $10. (Volume 1 of Physical Medicine Library)

The Neurosurgical Alleviation of Parkinsonism. By Irving S. Cooper, M.D. Quarto of 104 pages, illustrated. Springfield, Ill., Charles C Thomas, 1956. Cloth, $8.50.

The Lung as a Mirror of Systemic Disease. By

Eli H. Rubin, M.D. Quarto of 288 pages, illustrated. Springfield, Ill., Charles C Thomas, 1956. Cloth, $12.50.

Progress in Psychotherapy, 1956. Edited by Frieda Fromm-Reichmann, M.D., and J. L. Moreno, M.D. Octavo of 352 pages. New York, Grune & Stratton, 1956. Cloth, $8.50.

A New Psychotherapy in Schizophrenia. Relief of Frustrations by Symbolic Realization. By Marguerite Sechehaye. Translated by Grace Rubin-Rabson, Ph.D. Octavo of 199 pages. New York, Grune & Stratton, 1956. Cloth, $4.50.

Endogenous Uveitis. By Alan C. Woods, M.D. With illustrations by Annette Smith Burgess. Quarto of 303 pages, illustrated. Baltimore, Williams & Wilkins Company, 1956. Cloth, $12.50.

Clinical Studies in Psychiatry. By Harry Stack Sullivan, M.D. Edited by Helen Swick Perry, Mary Ladd Gawel, and Martha Gibbon. Octavo of 386 pages. New York, W. W. Norton & Company, 1956. Cloth, $5.50.

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn 16, New York. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selections for review will be based on merit and interest to our readers.

BOOKS REVIEWED

Shearer's Manual of Human Dissection. Edited by Charles E. Tobin, Ph.D. Third edition. Quarto of 287 pages, illustrated. New York, Blakiston Division, McGraw-Hill Book Company, 1955. Cloth, $6.00.

Although the first edition (1937) of this book had many errors and was even somewhat crude in several places, it was a good start in the right direction and credit should go to Dr. Edwin M. Shearer for his work in a truly difficult field. The second edition (1949), under the able editorship of Dr. Charles E. Tobin, of Shearer's "diamond-in-the-rough" was polished up and most of the earlier mistakes were corrected. This third edition (1955) is largely a reprint of the second edition with some minor changes in the illustrations as originally drawn by Dr. Shearer himself. The setting of the names of more important structures in bold face type in the text was a distinct improvement incorporated in the second edition and has been retained in the present edition.

There are those who would change the sequence of procedure in the details of dissecting as described in this book, but this is a matter of individual opinion. The student dissector cannot always find in the cadaver the structures "revealed" in the text; this is not a criticism unique with the present book under review but applies equally to the other manuals of dissection in current popular use. The "Shearer-Tobin," as this book is commonly referred to, is meant not as a "handbook" in the true meaning of the term but to be used as a guide at the dissecting table, and it may be considered as the best practical book for this purpose available at the present time.—Gordon E. Mestler

Clinical Neurosurgery. Volume 2. Proceedings of the Congress of Neurological Surgeons, New York, N.Y., 1954. Octavo of 173 pages, illustrated. Baltimore, Williams and Wilkins Company, 1955. Cloth, $6.75.

The second volume of *Clinical Neurosurgery* deals with the proceedings of the 1954 Congress of Neurological Surgeons. Dr. K. G. McKenzie, the guest of honor, contributed the first five chapters. Included is a follow-up study of intracranial astrocytomas in which the author confirmed the impression of many neurosurgeons that infratentorial astrocytomas are much more favorable than supratentorial astrocytomas; acoustic neuromas, in which the diagnosis is discussed as well as technical points in the operation of complete removal, and postoperative care; surgical treatment of spasmodic torticollis consisting of dividing the spinal accessory nerve in the neck and then, if necessary, sectioning the upper four anterior cervical nerve roots on the worse side and the upper three anterior cervical roots on the other side. Satisfactory results are recorded in ten of 12 patients treated by this radical operation. A follow-up study of Ménière's syndrome in which differential section of the vestibular branch of the eighth nerve was made in 53 patients. Complete relief from vertigo was obtained in 83 per cent of the patients. Tinnitis lessened in 41.5 per cent and "useful hearing" was restored in "an appreciable number of cases."

Trigeminal Tractotomy.—Like other neurosurgeons, McKenzie concludes that this operation is not as likely to give satisfactory lasting relief in tic douloureux as the classical posterior trigeminal rhizotomy. McKenzie, however, believes that the procedure is of undoubted value in dealing with patients with carcinoma in the trigeminal area and the nasopharynx and ear canal. One wonders whether in such cases this operation is superior to posterior trigeminal rhizotomy combined with section of the glossopharyngeal nerve and in some cases, the upper rootlets of the vagus nerve.

A symposium on cervical trauma, the defect in which is the failure to clearly state the indications for laminectomy in patients with vertebral fracture dislocations will also be found as well as the medicolegal aspects of head injuries which bring out the value of the electroencephalogram in assessing cases of head injuries. All in all, this small volume contains some useful information, primarily for neurosurgeons.—I. M. TARLOV

Speech After Laryngectomy. A Comparative Study of the Breathing and Speech Coordinations of Laryngectomized and Normal Subjects, and the Relationships Between the Breathing and Speech Coordinations and Articulatory Errors of Laryngectomized Subjects to their Speech Intelligibility. By Louis M. Di Carlo, Walter W. Amster, and Gilbert R. Herer. Octavo of 184 pages, illustrated. Syracuse, Syracuse University Press, 1955. Cloth, $4.00.

Following laryngectomy, speech rehabilitation is the most urgent problem; otherwise the patient is mute. This book is a report of a comparative study of the breathing and speech coordination of laryngectomized and normal subjects. It also deals with speech intelligibility of the laryngectomized speakers in relation to their speech and breathing coordination. Fifteen laryngectomized and 15 normal men of approximately the same age were studied. Elaborate procedures were set up and the great amount of detailed work done is evident from the many tables and graphs. Kymographic records of silent breathing and speech breathing were examined. Tape recordings of the speech of the laryngectomized subjects were studied and analyzed. Cinefluorographic film views were taken of ten laryngectomized and one normal subject.

The site of the pseudo-glottis was not definitely established. In some patients it appeared to be a small narrow vibrating portion of the esophagus in the approximate region of the reconstructed crico-pharyngeal sphincter, in other patients it appeared to be a larger vibrating portion of the esophagus extending below the reconstructed crico-pharyngeal sphincter. It would seem, however, that the laryngectomized speakers high in intelligibility did not appear to employ swallowing behavior, but, instead, the intake of air was limited to the proximal portion of the esophagus. The laryngectomized speakers low in intelligibility exhibited decided swallowing behavior which propelled the air into the medial or lower third of the esophagus with some escape into the stomach. The authors suggest that the laryngectomized individual should develop synchronous speech-breathing coordination and breath control prior to the development of communicative speech.

The book has a very good survey of the literature, is abundantly illustrated, but it has no index. This book should be of special value to speech therapists, teachers of speech rehabilitation, as well as to surgeons who specialize in laryngectomy.—ISAAC W. KARLIN

The Interpretation of the Unipolar Electrocardiogram. By Gordon B. Myers, M.D. Quarto of 164 pages, illustrated. St. Louis, The C. V. Mosby Company, 1956. Paper, $4.75.

As might have been expected from the published reports of this gifted cardiologist, this volume is an admirable short summary of electrocardiography. The theoretic basis is presented succinctly but lucidly. The section on interpretation is a model of clarity and common sense. Myers insists that a cardiographic tracing "should always be interpreted in the light of all clinical data..." The reviewer hopes that this book is the forerunner of a full-dress work on the subject by so highly qualified an author.—MILTON PLOTZ

Integrated Gynecology. Principles and Practice. By I. C. Rubin, M.D., and Josef Novak, M.D. In three volumes. Octavo. Illustrated. 589 pages; 496 pages; 682 pages. New York, McGraw-Hill Book Company, 1956. Cloth, $60. set.

Integrated Gynecology consists of three medium-sized volumes. It is the result of collaboration between a well-known gynecologist in this country and one from continental Europe. The first volume deals with embryology, anatomy, physiology, and diseases of the female generative tract. The second is devoted to the tumors, both benign and malignant, of these organs and disorders of reproduction. The third covers operative gynecology, physiotherapy, and the relation of gynecology to other parts of the body. The illustrations are sparse and largely in black and white. It was difficult for this reviewer to detect much in the way

[Continued on page 2434]

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[Continued from page 2432]

of foreign influence in any of the ideas expressed. At the end of each chapter there is a most complete bibliography which includes a large number of references from foreign literature. On the whole, all aspects of the subject are completely covered, and the opinions expressed are in accord with those held by most present-day gynecologists.—J. Thornton Wallace

The Cytology and Life-History of Bacteria. By K. A. Bisset, D.Sc. Second edition. Octavo of 164 pages, illustrated. Baltimore, Williams and Wilkins Company, 1955. Cloth, $6.00.

Although studies pertaining to the cytology, life cycles, and sexual phenomena of bacteria have been reported occasionally in the bacteriologic literature of the past, probably none has been quite as convincing as this treatise presented by the author. By special cytologic technics and chiefly by the use of the Feulgen microchemical test and other stains, it has been possible to show that bacteria have definite anatomic structures and that each bacterium contains a distinct nucleus. Reproduction, sexuality of bacteria, life cycles in bacteria are the titles of some of the most interesting chapters. Many photographs and drawings are excellently reproduced. The confirmation of these cytologic observations by means of the electron and phase-contrast microscopes lends support to his studies. Whether or not this knowledge will add to our better understanding of disease remains for the future to determine.—Caspar G. Burn

The Presbyterian Hospital and the Columbia-Presbyterian Medical Center, 1868–1943. A History of a Great Medical Adventure. By Albert R. Lamb, M.D. Octavo of 495 pages, illustrated. New York, Columbia University Press, 1955. Cloth, $8.75.

This is indeed, as the foreword states, "The story of a great adventure." Written by Dr. Albert R. Lamb, who was a member of the staff for forty years, it covers the period from the founding of the hospital in 1868 to 1943.

The hospital opened in 1872 with 36 beds and a staff of 21. The aggregate payroll for the first year ran from $600 to $850 a month. These data are mentioned to contrast the beginning with the vast enterprise of the present day.

It is interesting, especially to the older members of the profession, to note the names of some of the guests who presented papers at the first scientific meeting of the Alumni Society. They were Drs. Hermann Biggs, Simon Flexner, James Ewing, Richard Cabot, and Edward L. Trudeau, the elite of the profession whose influence on the rising medical generation was beyond reckoning.

In 1911 the hospital became affiliated with the College of Physicians and Surgeons. The amalgamation was not effected over night. It took years of negotiation, conferences, compromises, and heated meetings to bring it about. When finally concluded, both organizations, the hospital and the medical school, saw the great advantage accruing to each; to one, the better treatment of the patients, to the other, the vast increase in material for teaching.

It required enormous funds to carry on so great an enterprise. In this connection, the unparalleled generosity of the Harkness family, plus other large contributions, enabled the proponents of a medical center to realize their goal. That was in 1921. Whatever difficulties arose, the generosity of its friends and the loyalty of its staff overcame them. And so it continued to grow in size and stature. In 1943 when the story in this book concludes, it was, and continues to be, one of the great medical centers of the world.

To all hospital administrators, members of faculties of medical schools, as well as all men actively connected with hospitals, much in this book will be highly instructive and intensely interesting.—S. R. Blatteis

The Clinical Significance of Disturbances in the Delivery of Sweat. By Marion B. Sulzberger, M.D., and Franz Herrmann, M.D. Octavo of 212 pages, illustrated. Springfield, Ill., Charles C Thomas, 1954. Cloth, $6.75. (American Lecture Series Publication #178)

The book is divided into three parts: investigative approaches, pathogenesis and characteristics of disturbances in the delivery of sweat, and therapy of the most common dermatoses.

Under the influence of thermal stimuli, women sweat less than men and require twice as long to do so; men sweat mostly in the midsternal region and women in the axillary vault. There is no sex difference, however, in the amount of sweat elicited by emotional stimuli. The quantity of sweat produced by heat is relatively constant on repeated examination in the same subject but varies considerably among different persons.

Part II contains the most important disturbances in sweat delivery and is divided into categories which are quantitative (hyperhidrosis, hypohidrosis, and anhidrosis) and qualitative (dyshidrosis). The latter category also includes aberrations of the former. The nature of the material of Part II is best illustrated by its major subdivisions. Hyperhidrosis is considered in association with emotions, heat, nervous and autonomic stimulation, as well as hormonal, metabolic, and constitutional disorders. Hypohidrosis and anhidrosis are dealt with from the aspects of the results of functional changes in the body and structural changes in the sweat organ. Dyshidrosis is presented under the headings of abnormal quality of, and quantitative disturbances in, sweat. Part III deals with the treatment of the most common clinical manifestations of disturbances of sweat delivery. There are 55 illustrations, 4 graphs, and 242 references.

The book is not easy to read. It would be more useful if close analysis and appraisal of the large amount of factual data had been performed by the authors and not left to the reader.—Arthur W. Grace

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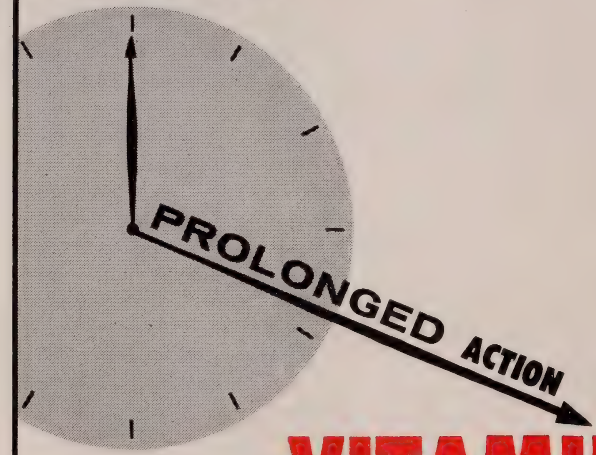

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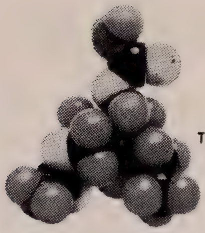
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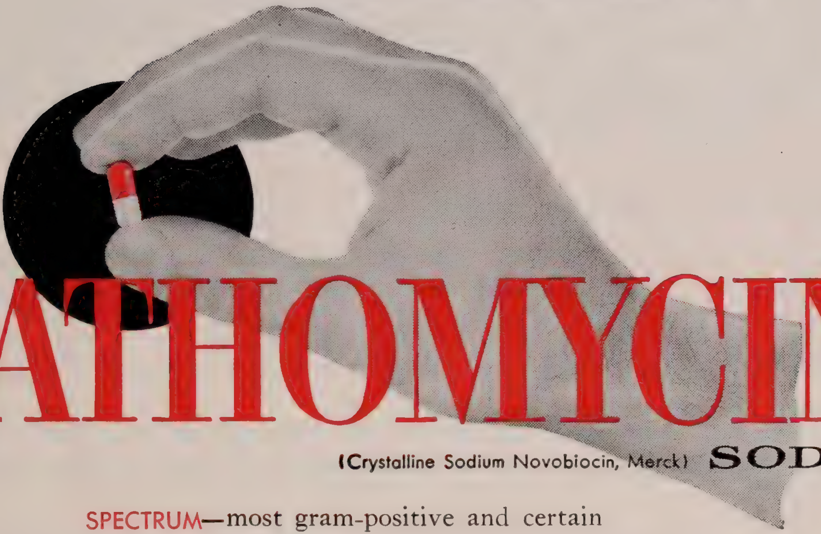

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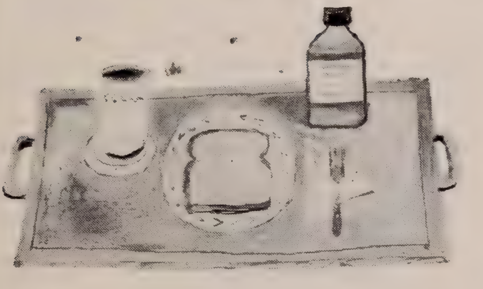

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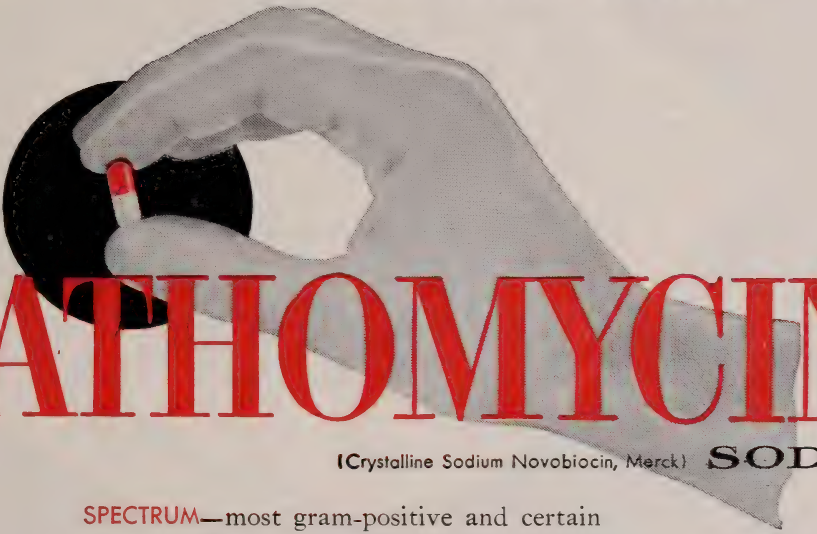
RESISTANT TO ALL OTHER ANTIMICROBIAL AGENTS



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(Crystalline Sodium Novobiocin, Merck) **SODIUM**

SPECTRUM—most gram-positive and certain gram-negative pathogens.

ACTION—bactericidal in optimum concentration even to resistant strains.

TOXICITY—generally well tolerated. This is more fully discussed in the package insert.

ABSORPTION—oral administration produces high and easily-maintained blood levels.

INDICATIONS—cellulitis, pyogenic dermatoses, septicemia, bacteremia, pneumonia and enteritis due to *Staphylococcus* and infections involving certain strains of *Proteus vulgaris*, including strains resistant to all other antibiotics.

DOSAGE—four capsules (one gram) initially and then two capsules (500 mg.) twice daily.

SUPPLIED—250 mg. capsules of 'CATHOMYCIN', bottles of 16.

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- faster relief of pain, photophobia
- better control of inflammation, edema, allergy
- effective against common eye pathogens
- extremely well tolerated

now availabl

**for inflammatory, allergic, infectious or traumati
eye conditions amenable to topical therapy—rapi
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supplied: METIMYD Ophthalmic Suspension-*Sterile*: prednisolone acet
(METICORTELONE Acetate) 5 mg. per cc. (0.5%) suspended in an isoto
buffered and preserved solution of sulfacetamide sodium 100 mg. per
(10%), 5 cc. dropper bottle. METIMYD Ointment with Neomycin: each gr
contains 5 mg. prednisolone acetate (METICORTELONE Acetate), 100 m
sulfacetamide sodium and 2.5 mg. neomycin sulfate (equivalent to 1.75 m
neomycin base); ⅛ oz. tube, boxes of 1 and 12.

**METIMYD,* brand of prednisolone acetate and sulfacetamide sodium.
METICORTELONE,® brand of prednisolone.
*T.M.**

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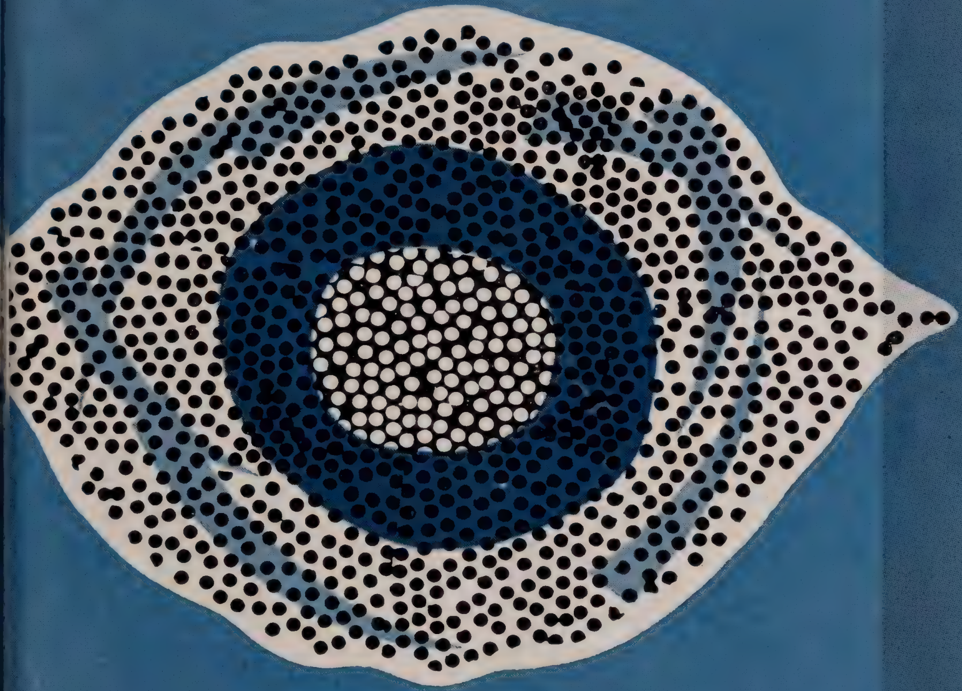

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(prednisolone acetate and sulfacetamide sodium)

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and

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(prednisolone acetate and sulfacetamide sodium with neomycin sulfate)

Ointment with Neomycin

antibacterial • antiallergic • anti-inflammatory

Schering

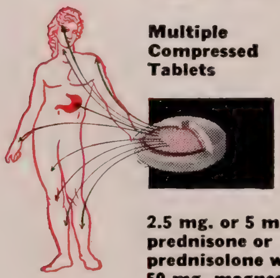
in inflammatory skin diseases

all the benefits of the "predni-steroids"
plus positive antacid action
to minimize gastric distress

ROUTINELY ACHIEVED WITH **'Co-Deltra'**

(Buffered Prednisone)

Multiple Compressed Tablets



'Co-Hydeltra'

(Buffered Prednisolone)

2.5 mg. or 5 mg. prednisone or prednisolone with 50 mg. magnesium trisilicate and 300 mg. aluminum hydroxide gel.

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Clinical evidence[1,2,3] indicates that to augment the therapeutic advantages of prednisone and prednisolone, antacids should be *routinely* co-administered to minimize gastric distress.

References: 1. Boland, E. W., *J.A.M.A.* 160:613, (February 25,) 1956. 2. Margolis, H. M. *et al, J.A.M.A.* 158:454, (June 11,) 1955. 3. Bollet, A. J. *et al, J.A.M.A.* 158:459, (June 11,) 1955.

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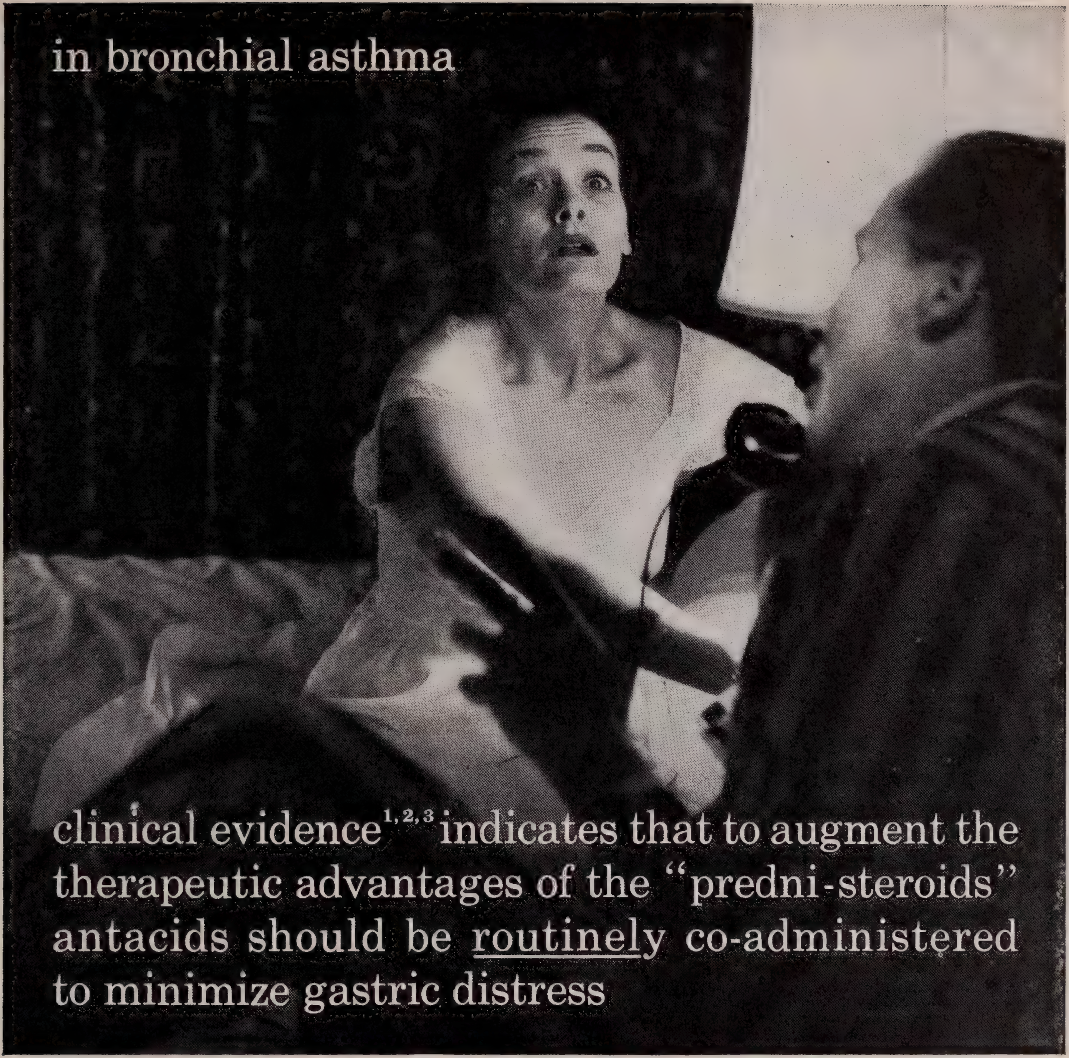

in bronchial asthma

clinical evidence[1,2,3] indicates that to augment the therapeutic advantages of the "predni-steroids" antacids should be routinely co-administered to minimize gastric distress

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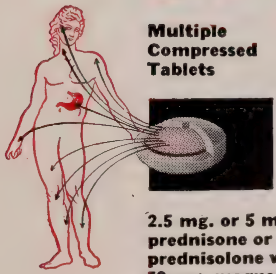
CO-ADMINISTRATION
MEANS

'Co-Hydeltra'

(Buffered Prednisolone)



Multiple
Compressed
Tablets

'Co-Deltra'

(Buffered Prednisone)

2.5 mg. or 5 mg. prednisone or prednisolone with 50 mg. magnesium trisilicate and 300 mg. aluminum hydroxide gel.

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All the benefits of the "predni-steroids" plus positive antacid action to minimize gastric distress.

References: 1. Boland, E. W., *J.A.M.A.* 160:613, (February 25,) 1956. 2. Margolis, H. M. *et al, J.A.M.A.* 158:454, (June 11,) 1955. 3. Bollet, A. J. *et al, J.A.M.A.* 158:459, (June 11,) 1955.

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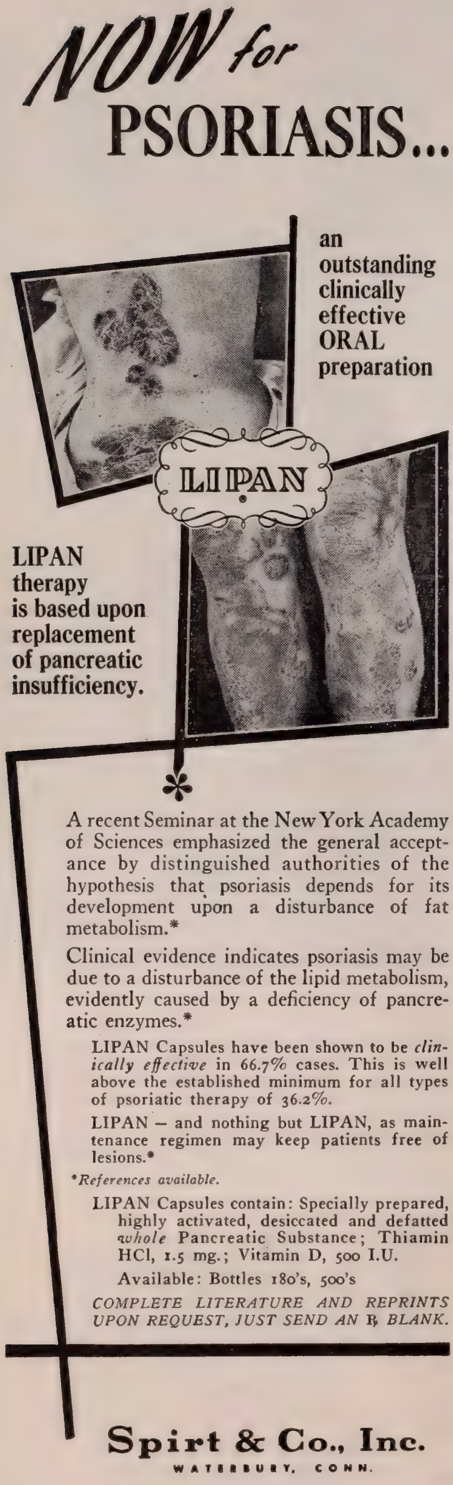

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LIPAN therapy is based upon replacement of pancreatic insufficiency.

A recent Seminar at the New York Academy of Sciences emphasized the general acceptance by distinguished authorities of the hypothesis that psoriasis depends for its development upon a disturbance of fat metabolism.*

Clinical evidence indicates psoriasis may be due to a disturbance of the lipid metabolism, evidently caused by a deficiency of pancreatic enzymes.*

LIPAN Capsules have been shown to be *clinically effective* in 66.7% cases. This is well above the established minimum for all types of psoriatic therapy of 36.2%.

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LIPAN Capsules contain: Specially prepared, highly activated, desiccated and defatted *whole* Pancreatic Substance; Thiamin HCl, 1.5 mg.; Vitamin D, 500 I.U.

Available: Bottles 180's, 500's

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Unlike many commercially canned "Baby Desserts", "JUNKET" Rennet-Custards are high in milk solids. They supply *all* the nutritional values of *fresh* milk.

"JUNKET" Rennet-Custard . . . the fresh-milk dessert . . . is among the first solid foods in the infant dietary. Served with interestin variations, it is a light, wholesome dessert . . . good for the whole family.

Is there a *differenc* in "Baby Desserts"

the answer is below

Comparative composition of 100 gram portions: rennet-custards and commercially canned "Baby Desserts".

	Cal.	Prot. gm.	Fat gm.	Carbo. gm.	Ca. mg.	P. mg.	Vit. A I.U.	Ribo. mg.
*DESSERT A	94	2.0	2.7	20.2	76	63	Trace	0.111
*DESSERT B	100	2.32	1.89	17.72	76	43	25 (USP)	0.160
*DESSERT C	102	2.4	3.2	16.5	75	69	228	0.110
**RENNET-CUSTARDS (average of seven flavors)	96.5	3.2	3.6	12.7	123	102	175	0.164

**Nationally distributed "ready-to-serve" dessert.*
***Made with fresh milk and "Junket" Rennet Powder.*

junket

RENNET POWDER

Makes *Fresh* Milk into Rennet-Custards

"Junket" Rennet Powder: Vanilla, Chocolate, Lemon, Orange, Raspberry, Maple, Strawberry.

"Junket" Rennet Tablets: Not sweetened or flavored.

"JUNKET" *is the trade-mark of Chr. Hansen's Laborat*

Mother and baby doing fine
after smoother labor and delivery
with THORAZINE*

as an adjuvant in obstetrics

Lessens anxiety, tension and fear; reduces the requirements for analgesics, sedatives and anesthetics; relieves suffering; minimizes the risk of over-sedated babies (barbiturates can often be eliminated); controls vomiting in all three stages of labor.

'Thorazine' is available in tablets, ampuls and syrup, as the hydrochloride; and in suppositories, as the base.

Smith, Kline & French Laboratories, Philadelphia

**T.M. Reg. U.S. Pat. Off. for chlorpromazine, S.K.F.*

In Congestive Heart Failure
℞ 'Wide Safety Margin'
GITALIGIN®

WHITE'S BRAND OF AMORPHOUS GITALIN

Authoritative investigators have reported that the digitalizing dose of Gitaligin is approximately one-third the toxic dose.[1-5]

This "wide margin of safety" (difference between therapeutic and toxic doses) permits rapid digitalization and successful maintenance with a minimum of toxic side reactions—even in refractory cases where other glycosides have failed.[6] And, cost to your patient is no greater than ordinary digitalis preparations.

Supplied: Scored tablets of 0.5 mg. Bottles of 30 and 100.

References: 1. Ehrlich, J. C.: Arizona Med. *12:* 239 (June) 1955. 2. Weiss, A., and Steigmann, F.: Am. J. M. Sc. *227:* 188 (Feb.) 1954. 3. Dimitroff, S. P.; Griffith, G. C.; Thorner, M. C., and Walker, J.: Ann. Int. Med. *39:* 1189 (Dec.) 1953. 4. Hejtmancik, M. R., and Herrmann, G. R.: Texas St. J. M. *51:* 238 (May) 1955. 5. Batterman, R. C.; DeGraff, A. C., and Rose, O. A.: Circulation *5:* 201 (Feb.) 1952. 6. Denham, R. M.: J. Kentucky St. M. Assoc. *53:* 209 (Mar.) 1955.

It's so easy to switch to 'wide safety margin' Gitaligin. Follow these simple dosage equivalents wherever digitalis therapy is indicated:

DIGITALIS PREPARATION	AVERAGE DAILY MAINTENANCE DOSE	GITALIGIN DOSAGE EQUIVALENT (APPROX.)
Digitalis leaf	0.1 Gm.	0.5 mg.
Digitoxin	0.1 mg.	0.5 mg.
Digoxin	0.5 mg.	0.5 mg.

WHITE LABORATORIES, INC. Kenilworth, N. J.

for

PROMPT RELIEF

and

PROLONGED EFFECT

in

BRONCHIAL ASTHMA

SUS-PHRINE

AQUEOUS EPINEPHRINE SUSPENSION 1-200

Brewer

for subcutaneous injection

supplied in

5 cc. VIAL

5 cc.
No. 8
SUS-PHRINE
(EPINEPHRINE
SUSPENSION
1-200)
MULTIPLE
DOSE VIAL
Brewer
BREWER & COMPANY Inc.
WORCESTER, MASS

and in
½ cc. ampul
in boxes of 12

Increasingly favored as evidenced in—

RECENT CLINICAL REPORTS

During the past few years we have had considerable experience with, and have been favorably impressed by, the action of an aqueous suspension of epinephrine, **Sus-Phrine 1:200 (Brewer).** This material has a decided advantage over epinephrine suspended in oil. There is no difficulty with this material in obtaining an even suspension with a few shakes of the ampule even if it has been standing for a considerable time. The aqueous suspension flows freely through an ordinary hypodermic needle. Another advantage is that 20 per cent of the amount injected is available for immediate bronchodilator effect. The balance is gradually liberated for sustained action. We have given doses of 0.1 to 0.25 cc. (1½ to 4 minims) to children, with excellent immediate as well as prolonged effect.

Levin, S. J. Ped. Cl. of N. A. 1:975,1954.

Epinephrine suspended in oil has the disadvantages that because of delayed action it cannot be used when prompt effect is desired as in acute asthmatic attack, and it must be given intramuscularly making self-administration difficult. Aqueous suspensions have a prompt, as well as a prolonged action, and may be self-administered subcutaneously as readily as epinephrine hydrochloride solution.

Naterman, H. L. The Journ. of Allergy. 24:60,1953.

. . . in 173 patients . . . all but three stated emphatically that they prefer the new product **(Sus-Phrine)** to epinephrine in oil . . . Greatest individual acceptances of the new injection has been by children.

Unger, A. H. and Unger, L. Annals of Allergy. 10:128,1952.

Brewer
EST. 1852

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and sample, send your Rx blank marked 14-SP-8

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three-fold action against anxiety, stress and tension states with

NEURO-CENTRINE*

adds emotional to visceral tranquility

More than an antispasmodic is needed for relief of spastic conditions of the gastrointestinal tract, associated with underlying anxiety, stress and tension.

Neuro-Centrine has a three-fold action against anxiety, stress and tension states. It combines:

1. **Phenobarbital (15.0 mg.)—a tested sedative.**
2. **Centrine ® (0.25 mg.)—an antispasmodic and anticholinergic with central action; atropine-like in action with minimal side effects.**
3. **Reserpine (0.05 mg.)—a well-known tranquilizer.**

Neuro-Centrine is also recommended for the relief of symptoms associated with functional disorders of the gastrointestinal and cardiovascular system.

Descriptive literature on request.

Bristol
LABORATORIES INC.
SYRACUSE, NEW YORK

*Trademark

Enriched Bread... and Child Health in America

The enrichment of commercial white bread with thiamine, riboflavin, niacin, and iron is one of the important factors in the improvement of nutrition in America's school children.[1] Improved nutrition appears to have made a valuable contribution to the improvement of child health during recent years.[2]

Containing nonfat milk solids (usually 4 lbs. per 100 lbs. of flour) as well as officially defined amounts of B vitamins and iron, enriched bread provides high percentages of recommended daily dietary allowances for children.

The protein of enriched bread, an aggregate of flour, milk, and yeast proteins, is high in nutritive quality, effective for growth as well as tissue maintenance. On the basis of its percentage of calories provided, enriched bread supplies substantially more than its share of niacin, thiamine, and iron, and a goodly proportion of riboflavin and calcium. Because enriched bread presents carbohydrate and good quality protein simultaneously, the carbohydrate thereby "sparing" protein, it helps promote optimum protein anabolism.[3] For all these reasons, enriched bread constitutes a valuable asset to good nutritional health in children.

---

1. Bowes, A. deP.: Dietotherapy—Nutrition of Children During Their School Years, Am. J. Clin. Nutrition 3: 254 (May-June) 1955.
2. Kelly, H. T.: Impact of Modern Nutrition on Twentieth Century Morbidity, Pennsylvania M. J. 58: 481 (May) 1955.
3. Cantarow, A., and Trumper, M.: Clinical Biochemistry, ed. 5, Philadelphia, W. B. Saunders Company, 1955, pp. 139, 140.

Percentages of Recommended Daily Dietary Allowances* for Children Provided by Enriched Bread—6 and 8 slices

	Children Ages 4 to 6 years		Children Ages 7 to 9 years	
	6 slices	8 slices	6 slices	8 slices
Protein	23%	31%	20%	26%
Niacin	38	50	30	40
Riboflavin	18	23	14	19
Thiamine	41	55	33	44
Calcium	12	16	12	16
Iron	41	55	33	44
Calories	24	32	19	25

*National Research Council's recommended daily dietary allowances (1953):
Children, 4 to 6 years of age; weight, 40 lbs.; height, 43 inches.
Children, 7 to 9 years of age; weight, 59 lbs.; height, 51 inches.

AMERICAN BAKERS ASSOCIATION
20 NORTH WACKER DRIVE • CHICAGO 6, ILLINOIS

The nutritional statements made in this advertisement have been reviewed by the Council on Foods and Nutrition of the American Medical Association and found consistent with current authoritative medical opinion.

Upjohn

Relax
the nervous, tense, emotionally unstable:

Reserpoid

(Pure crystalline alkaloid)

TRADEMARK FOR THE UPJOHN BRAND OF RESERPINE

Each tablet contains:

Reserpine . . . . 0.1 mg.
or 0.25 mg.
or 1.0 mg.
or 4.0 mg.

The elixir contains:

Reserpine . . . . 0.25 mg.
per 5 cc. teaspoonful

Supplied:

Scored tablets
0.1 and 0.25 mg. in bottles of 100 and 500
1.0 and 4.0 mg. in bottles of 100

Elixir in pint bottles

The Upjohn Company, Kalamazoo, Michigan

100 Compressed Tablets
Reserpoid* 0.25 mg.
*TRADEMARK
Brand of reserpine
0.25 mg.
Caution: Federal law prohibits dispensing without prescription
Upjohn
The Upjohn Company, Kalamazoo, Michigan

Her most important asset is her *health.* ➤ With health, she is happy, relaxed and capable of serving her family and community. ➤ Today, parents turn to their family physician for advice on scientific methods of child-spacing, for it is he who recognizes the medical necessity for such advice . . . guides her . . . and earns her gratitude. Without this attention from her doctor, in whom she places her confidence, her family goals would not be easily obtained. It's the incomparable knowledge, skill and experience of her doctor...and doctors everywhere...whose judgment is to recommend for their patients' health and happiness — *Koromex*

AVAILABLE AT ALL LEADING PHARMACIES • KOROMEX JELLY, CREAM AND DIAPHRAGM COMPACT

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in persistent or recurrent urinary tract infections of children... failure to treat promptly and adequately may produce serious sequelae which can shadow and shorten the patient's life

"Nitrofurantoin N.N.R. (Furadantin) is an effective urinary antibacterial agent in children."[1]

Average daily dosage for children: 5 to 7 mg./Kg. in 4 divided doses.
Tablets: 50 and 100 mg.
Oral Suspension: 5 mg. per cc.

Furadantin®

BRAND OF NITROFURANTOIN

"...one of the most effective single agents available at this time."[2]

1. Johnson, S. H., III, and Marshall, M., Jr.: A.M.A. Am. J. Dis. Child. 89:199, 1955. 2. Breakey, R. S.; Holt, S. H., and Siegel, D.: J. Michigan M. Soc. 54:805, 1955.

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A Totally New... Vastly Improved Nebulizing Method

with your preferred medication* for

ASTHMA

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THE ONLY "MEASURED DOSE" METHOD

- Leakproof, spillproof bottle; medication cannot change or deteriorate.
- Dose released is always the same—does not depend on patient strength or on amount in bottle.
- Inexpensive, unbreakable, inconspicuous Medihaler Oral Adapter fits conveniently in pocket or purse.

Medihaler™
Riker

***Medihaler-EPI™**

0.5% solution of epinephrine U.S.P.

***Medihaler-ISO™**

0.25% solution of isoproterenol HCl U.S.P.

One or occasionally two inhalations provides relief for most patients. Notably safe and effective with children. Highly economical. Bottle provides 200 applications.

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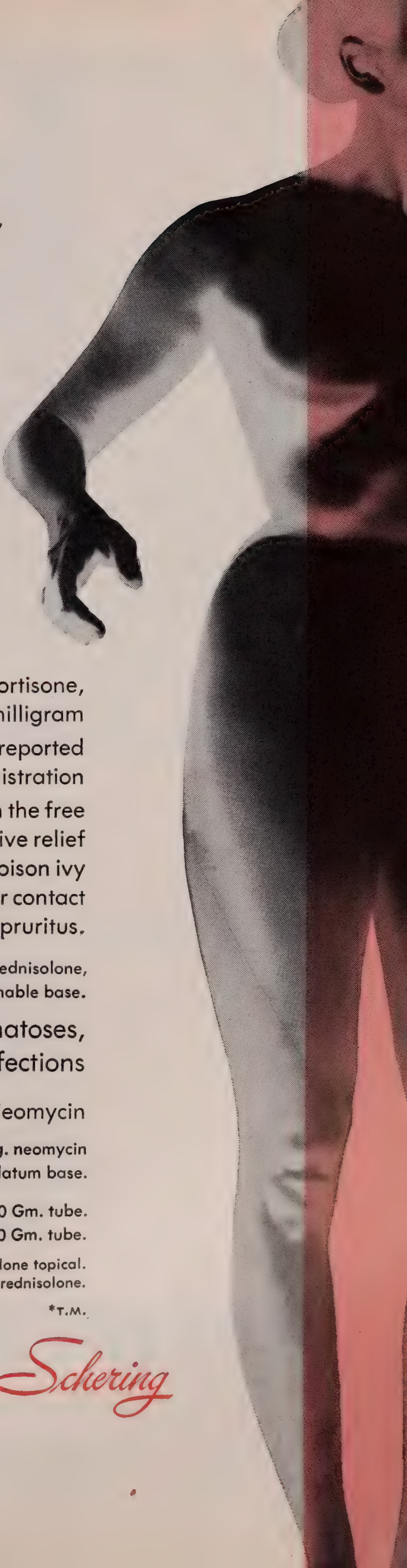
Riker
LOS ANGELES



now

Meti-steroid potency and safety

available for

topical skin therapy

new

Meti-Derm*

Cream 0.5%

with METICORTELONE, original brand of prednisolone

- more active than topical hydrocortisone, milligram for milligram
- no edema and sodium retention reported upon topical administration
- provides topical METICORTELONE in the free alcohol form. For effective relief of allergic (atopic) dermatoses, poison ivy dermatitis and other contact dermatoses, nonspecific anogenital pruritus.

formula: Each gram of METI-DERM Cream contains 5 mg. of prednisolone, free alcohol, in a water-washable base.

also for allergic, inflammatory dermatoses, minor secondary infections

Meti-Derm Ointment with Neomycin

formula: Each gram contains 5 mg. prednisolone and 5 mg. neomycin sulfate (equivalent to 3.5 mg. neomycin base) in a white petrolatum base.

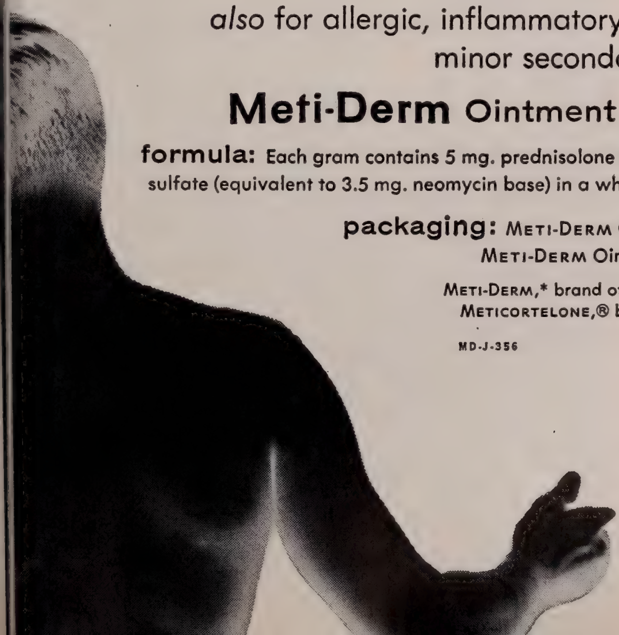
packaging: METI-DERM Cream, 10 Gm. tube.
METI-DERM Ointment, 10 Gm. tube.

METI-DERM,* brand of prednisolone topical.
METICORTELONE,® brand of prednisolone.

MD-J-356

*T.M.

Schering



Why Acid
for hand eczema?
Acid Mantle®
Lotion pH 4.5
DOME
Active ingredient is aluminum
in a specially formulated base buffered
at a pH of 4.5
SHAKE WELL BEFORE USING
DOME CHEMICALS
109 West 64th Street • New York

The normal skin has an acid pH between 4 and 6. This acid mantle acts as a protective barrier.

When the skin is washed with soap or detergents, or is exposed to chemicals, solvents, et cetera, the protective acid mantle is removed.

This exposes the unprotected skin to contact irritants and pathogenic organisms. It results in a rise in the skin pH above 7, provides a fertile field for development of harmful bacteria and fungi, and may result in various types of dermatitis.

Dome Acid Mantle returns the skin to its normal acid pH in a matter of seconds and holds it for hours. Both the creme and lotion are greaseless, stainless.

AVAILABLE—Acid Mantle Creme pH4.2 in 1 oz. tubes, 4 oz. and 16 oz. jars. Acid Mantle Lotion pH4.5 in 4 oz. squeeze bottles and 16 oz. bottles.

THERE'S NO SUBSTITUTE FOR

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CREME or LOTION-DOME pH4.2

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Trasentine®-Phenobarbital

integrated relief . . .
mild sedation
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TABLETS *(yellow, coated), each containing 50 mg. Trasentine® hydrochloride (adiphenine hydrochloride CIBA) and 20 mg. phenobarbital.*

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SKELETAL
MUSCLE
SPASM
OCCURS...

flexin*

(Zoxazolamine,† McNeil)

orally effective muscle relaxant

safe: "No irreversible side-effects occurred."[1]

well-tolerated: "The toxic reactions for the most part were easily controlled...."[1]

effective spasmolytic: "This preliminary report of 100 patients indicates an 85% over-all effectiveness."[1]

Available in yellow scored tablets, 250 mg.

1. Smith, R. T.; Kron, K. M.; Peak, W. P., and Hermann, I. F.: J.A.M.A. 160:745 (Mar. 3) 1956.

*T.M. †U.S. Patent Pending

McNEIL
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an important first step in the care of the infant's skin

DESITIN® OINTMENT

No other product is more effective in healing the baby's skin and keeping it clear, smooth, supple, and free from

diaper rash • dermatitis • intertrigo heat rash • chafing • irritation • excoriation

Soothing, protective, healing[1-5] Desitin Ointment — *rich in cod liver oil* — is the most widely used ethical specialty for the over-all care of the infant's skin.

May we send *samples* and literature?

DESITIN CHEMICAL COMPANY, Providence, R. I.

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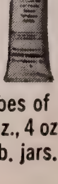

Tubes of 1 oz., 2 oz., 4 oz., and 1 lb. jars.

NOW AVAILABLE...

a unique new antibiotic of major importance

PROVED EFFECTIVE AGAINST SPECIFIC ORGANISMS
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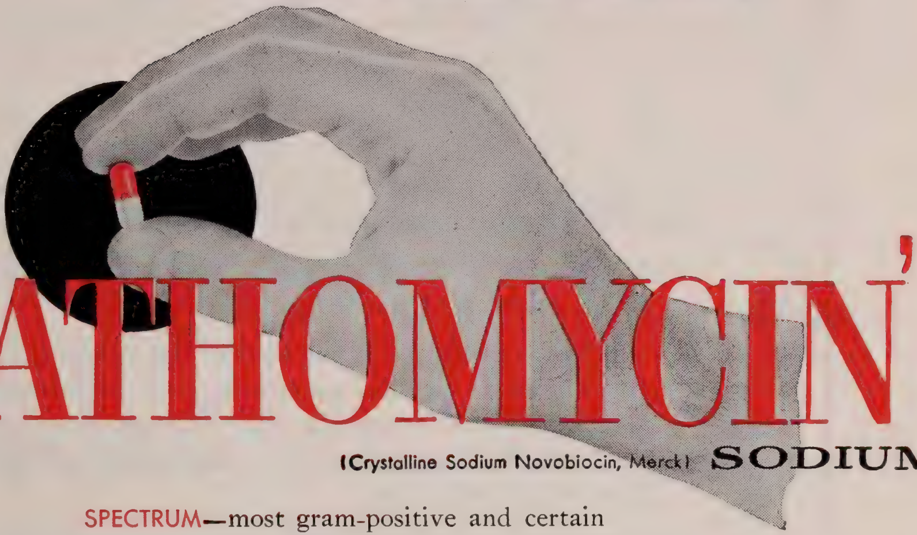
RESISTANT TO ALL OTHER ANTIMICROBIAL AGENTS



'CATHOMYCIN' SODIUM

(Crystalline Sodium Novobiocin, Merck)

SPECTRUM—most gram-positive and certain gram-negative pathogens.

ACTION—bactericidal in optimum concentration even to resistant strains.

TOXICITY—generally well tolerated. This is more fully discussed in the package insert.

ABSORPTION—oral administration produces high and easily-maintained blood levels.

INDICATIONS—cellulitis, pyogenic dermatoses, septicemia, bacteremia, pneumonia and enteritis due to *Staphylococcus* and infections involving certain strains of *Proteus vulgaris*, including strains resistant to all other antibiotics.

DOSAGE—four capsules (one gram) initially and then two capsules (500 mg.) twice daily.

SUPPLIED—250 mg. capsules of 'CATHOMYCIN', bottles of 16.

'CATHOMYCIN' *is a trademark of Merck & Co., Inc.*

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The Importance of Rescinnamine in

Rauwiloid®

The Original Alseroxylon Fraction of India-Grown Rauwolfia Serpentina, Benth.

The isolation of rescinnamine,[1] another potent alkaloid in Rauwolfia serpentina, has substantiated two important points:

A—It discredits the erroneous opinion that reserpine is *the* sole active principle of Rauwolfia;[2]

B—It helps to define the advantages of Rauwiloid, the alseroxylon fraction of Rauwolfia serpentina, which presents desirable alkaloids[3] of the Rauwolfia plant (among them reserpine and rescinnamine) but is freed from undesirable alkaloids and the dross of the crude root.

Pharmacologic and clinical evaluation has shown rescinnamine to be similar to reserpine in antihypertensive activity, but to be considerably less sedative and much less apt to lead to lethargy and mental depression.[4,5]

The interaction of reserpine, rescinnamine, and other contained alkaloids may well account for the balanced and desirable clinical behavior of Rauwiloid.

The dosage of Rauwiloid is simple and definite: Merely two 2 mg. tablets at bedtime. For maintenance, one tablet usually suffices.

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LOS ANGELES

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To get the below-par child "back on the job"

'Troph-Iron' will quickly correct nutritional deficiencies in the below-par, inactive child. Just one teaspoonful daily will stimulate appetite, encourage optimal hemoglobin levels and help the lethargic child to return to normal and happy activity.

Each 5 cc. teaspoonful of 'Troph-Iron' delivers 25 mcg. of Vitamin B_{12}, 10 mg. of Vitamin B_1 and 250 mg. of ferric pyrophosphate. And children enjoy Troph-Iron's delicious cherry flavor.

℞ **Troph-Iron***

B_1—IRON—B_{12}

Smith, Kline & French Laboratories, Philadelphia

*T.M. Reg. U.S. Pat. Off.

NOW AVAILABLE....

to overcome specific infections that do not respond to any other antibiotic[1,2,3]....

New...

62756

Today's resistant pathogens are the tough survivors of a dozen widely-used antibiotics. Certain organisms, notably *Staphylococcus aureus*[4] and susceptible strains of *Proteus vulgaris*, produce infections which have been resistant to *all* clinically useful antibiotics.

To augment your armamentarium against these resistant infections, 'Cathomycin' (Novobiocin, Merck), derived from an organism recently discovered and isolated in the Merck Sharp & Dohme Research Laboratories,[1] is now available.

SPECTRUM—'Cathomycin' [1,2,3,5,6] has also been shown to be active against other organisms including—*D. pneumoniae*, *N. intracellularis*, *S. pyogenes*, *S. viridans* and *H. pertussis*, but clinical evidence must be further evaluated before 'Cathomycin' can be recommended for these pathogens.

ACTION—'Cathomycin' in optimum concentration is bactericidal. Cross-resistance with other antibiotics has not been observed.[7]

TOLERANCE—'Cathomycin' is generally well tolerated by most patients. [5,6,8,9,10,11]

CATHOMYCIN' SODIUM

(Crystalline Sodium Novobiocin, Merck)

ABSORPTION—'Cathomycin' is readily absorbed, [5,6,9] and oral dosage produces significant blood and tissue levels which persist for at least 12 hours.[7]

INDICATIONS: Clinically 'Cathomycin' has proved effective for cellulitis, carbuncles, skin abscesses, wounds, felons, paronychiae, varicose ulcer, pyogenic dermatoses, septicemia, bacteremia, pneumonia and enteritis due to *Staphylococcus* and infections caused by susceptible strains of *Proteus vulgaris*.[6,7,8,9,10,11,12,13,14] Also, it is of particular value as an adjunct in surgery since staphylococcic infections seem prone to complicate postoperative courses.

DOSAGE: Four capsules (one gram) initially and then two capsules (500 mg.) twice daily.

SUPPLIED: 'Cathomycin' Sodium (Crystalline Sodium Novobiocin, Merck) in capsules of 250 mg., bottles of 16.

'CATHOMYCIN' *is a trademark of Merck & Co., Inc.*

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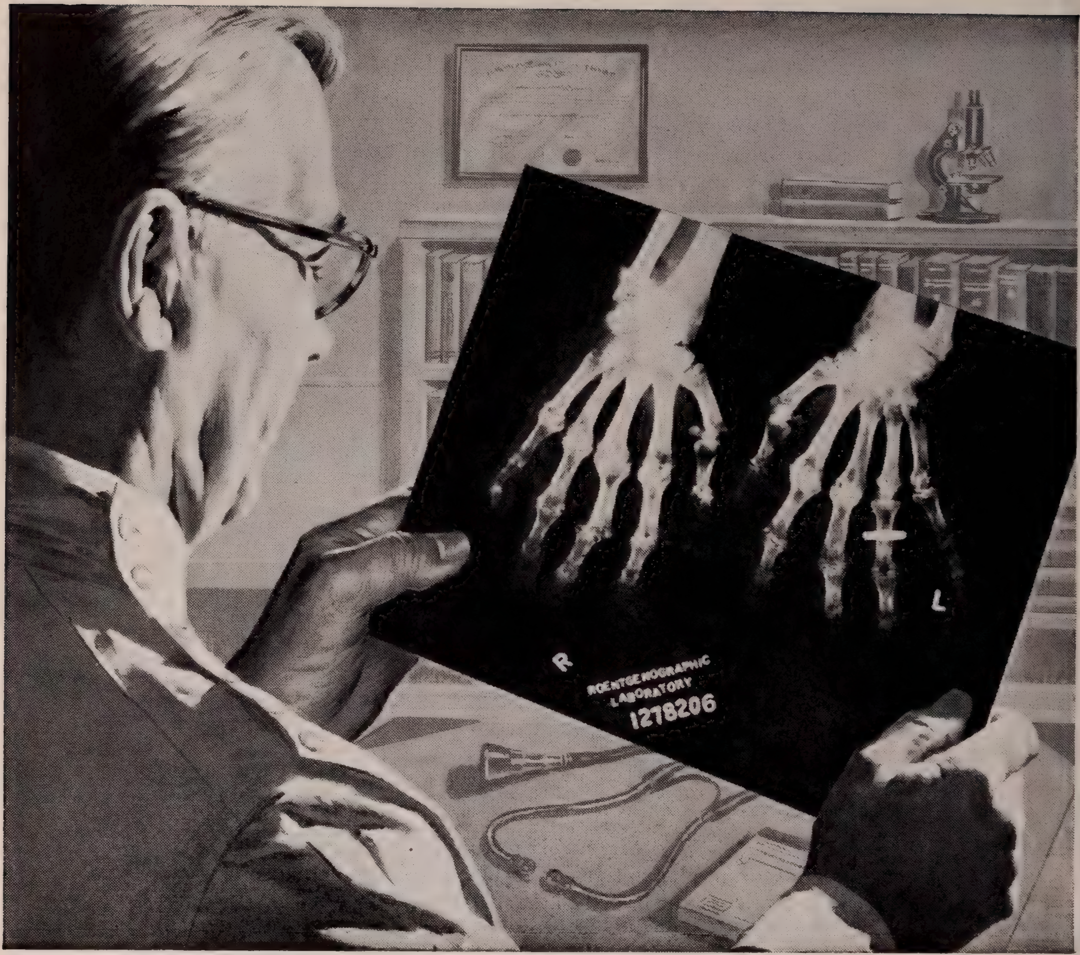


Flexible Arthritis Therapy with BUFFERIN®

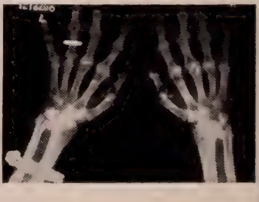
Exploit fully the use of salicylates in arthritis—give steroids in minimal doses—combine salicylates with corticosteroids for additive antiarthritic effect—this is the program Spies[1] advocates in a recent article in the Journal of the American Medical Association.

Treatment of rheumatoid arthritis demands a "highly individualized program," Spies[1] writes. The additive action of salicylates permits use of smaller amounts of hormones, thus lessening or eliminating their well-known side effects. "A proper mixture of salicylates and corticosteroids produces an effective antirheumatic agent in many cases."[1]

Suit your treatment to your individual arthritic patient. Use the hormone you prefer, in the dosage you think best, but for better results combine it with BUFFERIN, the salicylate proved to be better tolerated by arthritics.[2]

BUFFERIN contains no sodium, a marked advantage when cardiorenal complications make a salt-restricted diet necessary.

Each BUFFERIN tablet contains 5 grains of acetylsalicylic acid and the antacids magnesium carbonate and aluminum glycinate.



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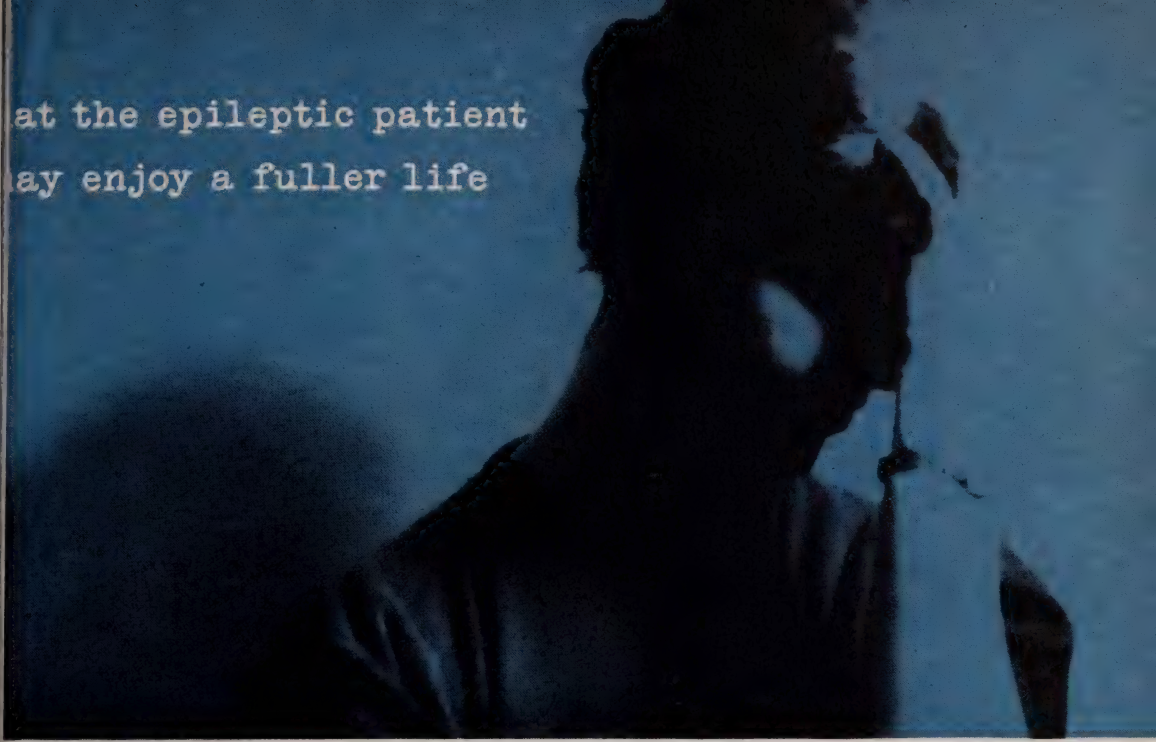


ILANTIN® SODIUM

iphenylhydantoin sodium, Parke-Davis)

For patients with grand mal and psychomotor seizures, DILANTIN – alone or in combination – continues as an anticonvulsant of choice. Effective control of seizures, with resulting greater social acceptance and increased vocational opportunities, forecasts a fuller life for such patients. DILANTIN has little or no hypnotic effect.

DILANTIN Sodium is supplied in a variety of forms – including Kapseals® of 0.03 Gm. (½ gr.) and 0.1 Gm. (1½ gr.) in bottles of 100 and 1,000.

ILONTIN® Kapseals and Suspension

hensuximide, Parke-Davis)

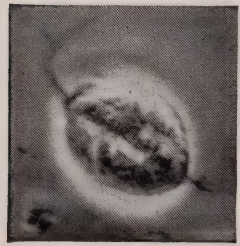
For patients with petit mal epilepsy, a drug of choice in initiating treatment – with very few and mild side effects.

MILONTIN Kapseals, 0.5 Gm., bottles of 100 and 1,000; also available as MILONTIN Suspension (250 mg. per 4 cc.) in 16-ounce bottles.

For patients with mixed grand mal–petit mal epilepsy, compatibility permits use of DILANTIN with MILONTIN.

PARKE, DAVIS & COMPANY DETROIT, MICHIGAN

HOW
DAVIS
TECHNIQUE
EXPLODES
HIDDEN
TRICHOMONADS



Too often treatment fails to cure vaginal trichomoniasis because parasites survive and set up new foci of infection.

Now you can overcome this problem with VAGISEC® liquid and jelly, using the Davis technique.† VAGISEC liquid dissolves mucinous materials, penetrates thoroughly, and quickly reaches and explodes the hidden trichomonads.

Proved highly effective. VAGISEC liquid (originally "Carlendacide") is the formula developed by Dr. Carl Henry Davis, noted gynecologist and author, and C. G. Grand, research physiologist.[1] Clinical data show better than 90 per cent success with VAGISEC liquid in the treatment of vaginal trichomoniasis.[2]

Overwhelmingly powerful. VAGISEC liquid explodes trichomonads within 15 seconds after douche contact![3] One chelating agent and two surface-acting agents, combined in balanced blend, attack the parasite to weaken the cell membrane, to remove waxes and lipids, and to denature the protein. With its cell wall destroyed, the trichomonad imbibes water, swells and explodes.

The Davis technique. VAGISEC liquid, as a vaginal scrub, is used in the office therapy. VAGISEC liquid and jelly are prescribed for home use.

Prevent re-infection. Many wives become re-infected because husbands harbor trichomonads.[2] To prevent re-infection, prescribe the protection afforded by Schmid prophylactics. When a rubber is preferred, prescribe the superior RAMSES® prophylactic, transparent and tissue-thin, yet strong. If there is anxiety that rubber might dull sensation, prescribe XXXX (FOUREX)® skins, of natural animal membrane, premoistened. At all drug stores.

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†Pat. App. for.

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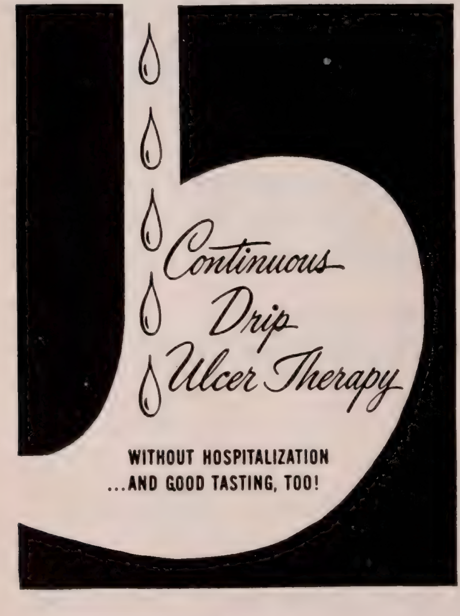

Nulacin

A recent clinical study* of 46 ambulatory non-hospital patients treated with Nulacin† and followed up to 15 months describes the value of ambulatory continuous drip therapy by this method. Total relief of symptoms was afforded to 44 of 46 patients with duodenal ulcer, gastric ulcer and hypertrophic gastritis.

The delicately flavored tablets dissolve slowly in the mouth (not to be chewed or swallowed). They are not noticeable and do not interfere with speech.

Nulacin tablets are supplied in tubes of 25 at all pharmacies. Physicians are invited to send for reprints and clinical sample.

**HORLICKS
CORPORATION**
Pharmaceutical Division
RACINE, WISCONSIN

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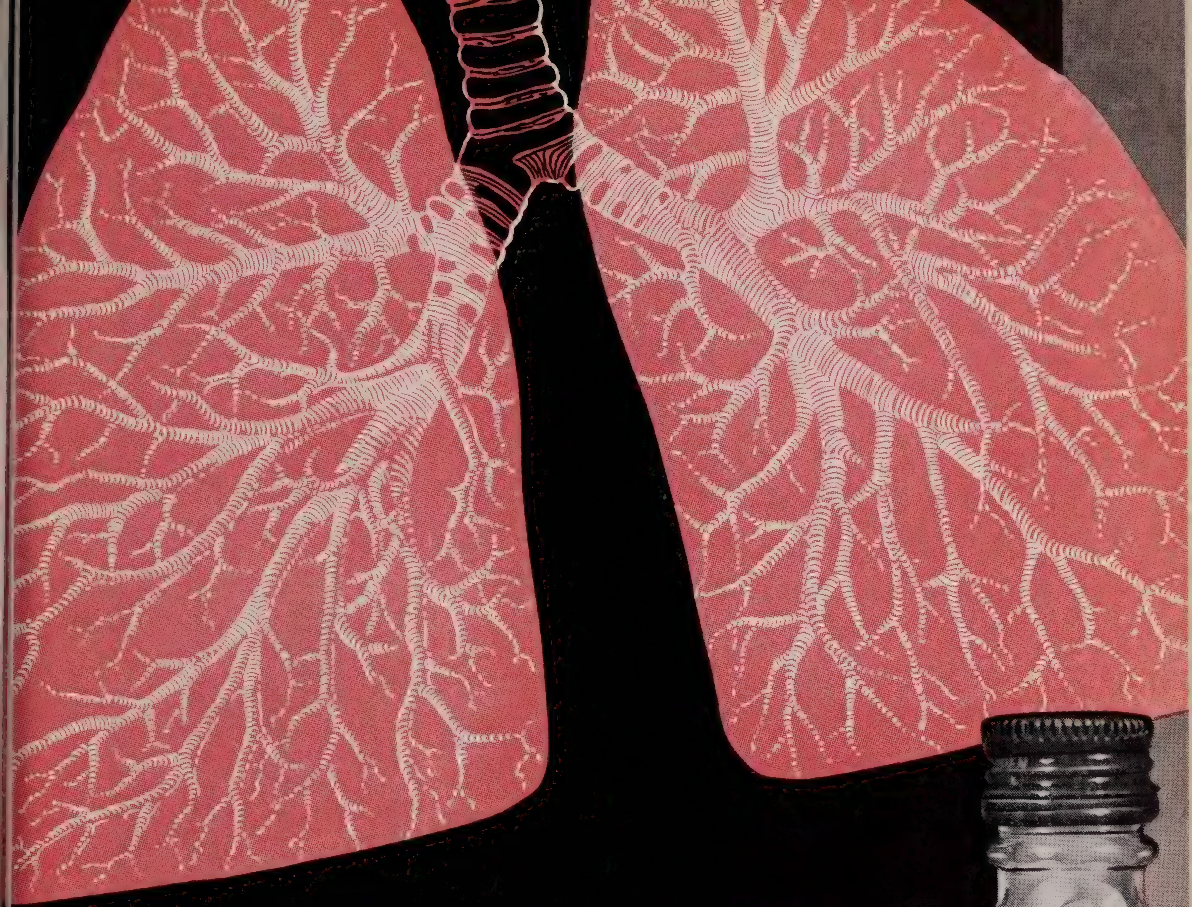
*Steigmann, F., and Goldberg, E.: Ambulatory Continuous Drip Method in the Treatment of Peptic Ulcer, Am. J. Digest. Dis. 22:67 (Mar.) 1955.

†Mg trisilicate 3.5 gr.; Ca carbonate 2.0 gr.; Mg oxide 2.0 gr.; Mg carbonate 0.5 gr.



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and their physicians

benefit with

METICORTELONE®
(PREDNISOLONE)

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rapid relief of bronchospasm, dyspnea; permits effective cough following bronchodilating action; vital capacity and pulmonary function improved...electrolyte imbalance unlikely...hastens rehabilitation

for physician

facilitates inhalational and other adjunctive therapy; far smaller dosage than with oral hydrocortisone ...little or no worry about edema, sodium retention, potassium loss... patient cooperation assured

buff-colored tablets of 1, 2.5 and 5 mg.
METICORTELONE,® brand of prednisolone.

ML-J-1976

allergic to pollen
. . . yet fully enjoying summertime

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'Co-Pyronil'
(PYRROBUTAMINE COMPOUND, LILLY)

. . . usually eliminates distressing symptoms without causing side-effects; allows the allergic patient to enjoy fully this "funtime" season of the year.

rapid-acting . . . relief usually noted within fifteen to thirty minutes.

long-acting . . . relief often maintained for eight to twelve hours; thus continuous relief is provided on a convenient dosage schedule.

complete relief . . . more frequently obtained because of the complementary actions of two antihistamines and a sympathomimetic.

Supplied as pulvules, pediatric pulvules, and suspension. Also, Tablets 'Pyronil' (Pyrrobutamine, Lilly), 15 mg.

prescribe relief from allergy . . . prescribe 'Co-Pyronil'

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EDITORIALS

History of Medicine in New York State

This year the editors of the Journal are more than ever desirous of stimulating those physicians who can do so to contribute interesting short factual articles for our department in the Journal on the History of Medicine in New York State. As we enter our sesquicentennial year, it seems highly important that personal recollections of former times and documents of an earlier period, if possible, be preserved for the information of those who follow.

There are many gaps in our knowledge still to be filled. Among our senior citizens there should still be many who have personal knowledge of the developing medical history of this State and particularly of the beginnings of some of our presently important institutions and agencies. Now is the time to write them down for the record. Many garrets and cellars are still not thoroughly searched; now is the time to do it. Many an old trunk under the eaves, many a pile of old books that have not yet been sold to the junkman may yield important information.

The editors hope that our members may be stimulated to submit contributions to the Journal covering State medical history in those areas where they are located.

Medicine and Public Information—Part III

When requests are received by a doctor of medicine from the media of public information for specific details concerning a certain patient, what should he do? He should "obtain the consent of the patient before releasing such knowledge," according to the "Guide."[1] The patient's decision "is final under the law." There is here involved the patient's right to privacy which may not be invaded without a specific waiver. As the "Guide" states, "Embarrassment and irritation may be prevented if the physician discusses the request for information with the patient."

Where a person of public interest is involved, the physician should arrange for regular bulletins concerning the personage. The physician of high ethical standing will use good judgment regarding the use of his name in connection with such published reports, according to the "Guide."

Accuracy and reliability are the goals of executives of media of public information. Concerning the condition of a patient, his doctor is obviously the one who knows. Provided the patient consents to the release of such news, the use of the doctor's name as the source furnishes an editor of whatever news medium with the authority and authenticity he seeks. He does not have to resort to such equivocal expressions as "a usually reliable informant," or "a spokesman who requests that his name be withheld," or whatever. In using a specific doctor's name, an editor does not do so to publicize the doctor but to pinpoint the source of his information.

It is important that physicians grasp the motivation of those responsible executives of the media of public information who attempt to work under as exacting standards in reporting the news as the physician himself would use in writing a clinical report of the same case for this Journal, for example. The physician would sign the report and, if he referred to the literature, would specifically document his references. He would probably not refer to the patient by name in such a case report but by his initials or a code number, since in a scientific report it is the factual material and observations that are emphasized. However, to the news editor the patient's name may be of great interest to the public if he is a prominent figure. And names make news.

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[1] Guide for Cooperation, Public Relations Committee, Medical Society of the State of New York, p. 2, 3.

Circumstances will of course vary, but the use of sound judgment, common sense, and adherence to the *Principles of Professional Conduct* will protect the right of privacy of the patient and the physician as well.

International Certificates of Vaccination

During 1954, 452,049 persons traveled outside the continental United States. This number does not include the thousands who daily cross the Canadian or Mexican borders.

When a person makes arrangements for out-of-country travel, he can obtain a copy of the International Certificate of Vaccination form from his travel agent. Copies are also given with the passport application. If the person is traveling on a tourist card, he may obtain his certificate by purchase from the Superintendent of Documents, Government Printing Office, Washington, D.C., at 5 cents a copy. Automobile clubs also often have these certificates.

Physicians will be called on to complete this form whenever they vaccinate a person for international travel. This is a very important document since persons can be quickly processed at quarantine here and abroad when they carry a valid vaccination certificate with complete information and proper authentication. The vaccinating physician can help in this procedure by always using the International Certificate of Vaccination form to record complete immunization data and by instructing the prospective traveler to have the certificate authenticated by his county, city, or district State health officer. The health officer can speed the process by using his official stamp to authenticate the certificate. This stamp should include the term "health officer" and the name and address of the health department. The act of applying the stamp to the certificate is required by international agreement for the purpose of attesting to the fact that the immunizing physician is a practicing physician within the area, thus reducing the possibility of fraudulent certificates being issued. The certificate is not valid without this "approved stamp," and the traveler may be exposed to delay or other difficulties.

The cooperation of all those concerned with the issuance of a valid certificate to the traveler will assist in helping the United States to maintain its present zero morbidity rate for smallpox in spite of the disease being present in other areas of the world.—G. W. L.

A New Role for District Branches

The attendance at and interest in the meetings of the district branches has been a matter of concern for some years. Many suggestions have been made and considered, including abandonment of the scientific program and conversion into purely social meetings. The First and the Ninth Districts, for example, have already adopted the former course. The First District holds its meeting at the time of the Annual Meeting of the Society for the purpose of electing officers; the Ninth holds a purely social meeting in the fall of the year.

In his inaugural address to the Society, the president, Dr. James Greenough, contributed what seems to be a valuable idea for the consideration of the officers of the district branches and of the constituent county societies, namely, the formation of discussion groups to replace the scientific sessions.

The idea had been tried out previously in various parts of the State relative to legislative matters and seemed to work surprisingly well, judging from the interest shown.

While it would necessarily take some time to effectuate such a change, those branches not content with their present attendance and interest might well consider it. The proposal embodies the original intention of the founders of the branches that they be teaching media of the Society. That such discussion groups, as proposed, do not embody the teaching of scientific advances in medicine but may range over a wide variety of topics of concern to the Society in no way impugns the teaching value of such sessions but merely relates the instruction to the changing emphasis of the times. It is to be hoped that the officers of the several branches and the membership of the component county societies will give due consideration to Dr. Greenough's proposals.

District Branch Meeting Schedule, 1956

District	*Day*	*Date*	*Hours*	*City*	*Place*
I	Sunday	May 6	Evening	New York City	Statler Hotel
II	Wednesday	October 3	Evening	Garden City	Garden City Hotel
III	Thursday	September 20	Noon Afternoon	Albany	
IV	Thursday	October 4	Afternoon Evening	Schenectady	Mohawk Golf Club, Troy Road
V	Thursday	October 18		Utica (Oneida Heart Day)	
VI	Wednesday	September 19	Afternoon Evening	Norwich	Eaton Laboratory Research Center and Canasawacta Country Club
VII	Wednesday	September 26	Afternoon Evening	Rochester	Sheraton Hotel
VIII	Thursday	September 27	Afternoon Evening	Olean	Bartlett Country Club
IX	Wednesday	October 3	Morning Afternoon Evening	Monsey (near Spring Valley)	Empire State Country Club

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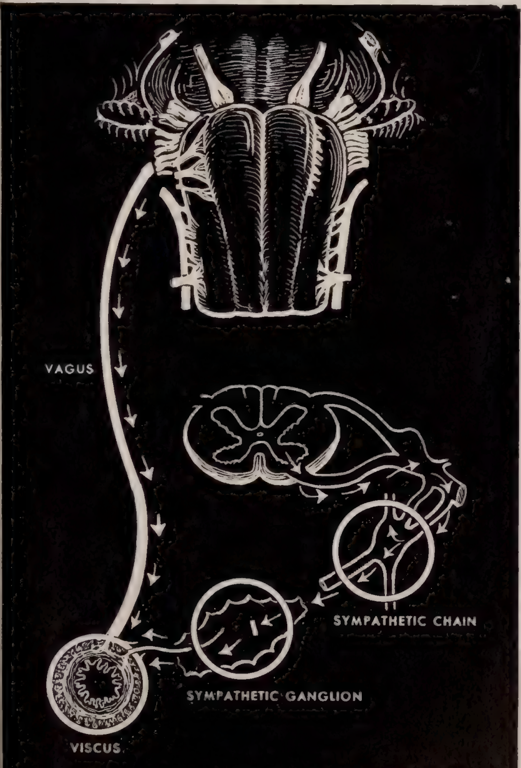

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1. Schwartz I. R.; Lehman, E.; Ostrove, R., and Seibel, J. M.: Gastroenterology *25:*416 (Nov.) 1953.
2. Roback, R. A., and Beal, J. M.: Gastroenterology *25:*24 (Sept.) 1953.

Clinical trial packages of Pro-Banthīne and the new booklet, "Case Histories of Anticholinergic Action," are available on request to . . .

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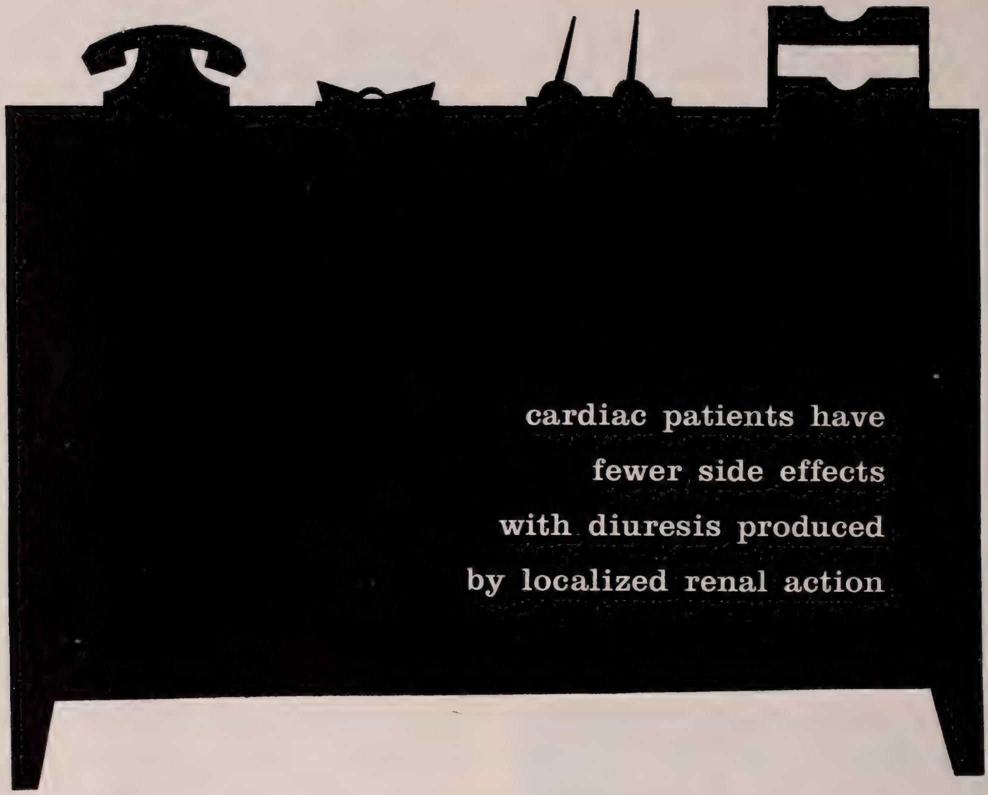
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SCIENTIFIC ARTICLES

Drug Therapy of Hypertension, II

Experience with Reserpine, Apresoline, Ansolysen, Ecolid, and Mecamylamine (Inversine)

MARVIN MOSER, M.D., SCARSDALE, NEW YORK, AND ALICE I. MACAULAY, M.D.,* RODERICK GRANZEN, M.D.,* AND KENNETH W. TROUT, M.D., VALHALLA, NEW YORK

(From the Cardiac Clinic, Division of Internal Medicine, Grasslands Hospital, Valhalla)

THERE is no longer any doubt that elevated blood pressure can be effectively lowered by drug therapy. The unanswered questions remain:

1. How long can lowered blood pressure be maintained by drug treatment?
2. Can it be achieved without great inconvenience or even danger to the hypertensive individual?
3. Does the lowering of blood pressure alter prognosis or reduce the complications of hypertension?

The answers to these questions must await the results of long-term observations on large groups of patients who are now under therapy with the effective antihypertensive agents. Until that time, however, observations on the effects of newer drugs should form an important part of the investigative effort in the quest for a satisfactory treatment of hypertension.

During the past year two new, orally effective ganglionic-blocking agents, Ecolid and Mecamylamine (Inversine), have been introduced. These agents present distinct advantages over the previously employed blocking drugs. In earlier reports the results of our experience in over 150 patients with severe hypertension who were studied and treated with hexamethonium, Ansolysen, Apresoline, and reserpine during a three-year period were summarized.[1,2] This report concerns itself with a follow-up study of some of these patients and preliminary observations on the use of Ecolid and Mecamylamine.

Materials and Methods

Sixty cases of severe, complicated hypertension were studied and treated with reserpine and Apresoline* alone or in combination with either Ecolid,* Ansolysen,† or Mecamylamine.** These patients were observed in the cardiac clinic and on the medical wards of the Grasslands Hospital, in the private practice of one of us (M.M.), and on the medical service of Dr. Louis Leiter at the Montefiore Hospital. Most patients had previously been followed for many months or years and had received either no prior treatment, dietotherapy, or therapy with many different agents, none of which was effective.

Of the total group of 60 patients, 35 were females, and 25 were males. Thirty-six were Negro. Ages ranged from twenty-four to seventy-six years with an average age of forty-eight years.

All patients had well-documented hypertension with persistent diastolic pressures of over 100 mm. of Hg and showed evidence of renal, cerebral, or cardiac complications of the disease; uncomplicated hypertension was not treated with these drugs. Patients were initially hospitalized,

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* By invitation.

Presented at the 150th Annual Meeting of the Medical Society of the State of New York, New York City, Section on Medicine, May 11, 1956.

* Supplied by Ciba Pharmaceutical Products, Inc., Summit, New Jersey.

† Supplied by Wyeth Laboratories, Philadelphia.

** Supplied as Inversine by Sharp & Dohme, Division of Merck & Co., Inc., Philadelphia.

TABLE I.—Modification of Keith, Wagener, Barker Classification of Primary Hypertension

Grade I
- (*a*) Persistent diastolic blood pressure over 100 mm. Hg
- (*b*) Arteriolar narrowing but no other funduscopic findings
- (*c*) Female sex

Grade IA
- Same as Grade I, except for (*c*) male, or female with evidence of recent rise in diastolic blood pressure

Grade II
- (*a*) Either sex
- (*b*) Evidence of involvement of one or two of the following: cardiac, renal, or cerebrovascular systems (cardiac enlargement, electrocardiographic abnormalities; phenolsulfonphthalein excretion less than 25% in 15 minutes, less than 60% in 2 hours; previous history of cerebral thrombosis or hemorrhage)
- (*c*) Either arteriolar narrowing or narrowing plus arteriovenous nicking on funduscopic examination
- (*d*) Diastolic blood pressure persistently over 110 mm. Hg

Grade IIA
- Same as Grade II and
- (*a*) Evidence of recently rising blood pressure levels, angina, or congestive failure

Grade III
- (*a*) Evidence of involvement of one or two of the following: cardiac, renal, or cerebrovascular systems (cardiac enlargement, electrocardiographic abnormalities; phenolsulfonphthalein excretion less than 25% in 15 minutes, less than 60% in 2 hours; previous history of cerebral thrombosis or hemorrhage)
- (*b*) Diastolic blood pressure 120 mm. Hg or higher
- (*c*) Arteriolar narrowing with arteriovenous nicking and/or hemorrhages or exudates on funduscopic examination

Grade IIIA
- Same as Grade III and
- (*d*) Evidence of rapidly rising diastolic blood pressure (over 130 mm. Hg) and/or a phenolsulfonphthalein excretion of less than 20% in 15 minutes

Grade IV
- Same as Grade IIIA and
- (*a*) Papilledema with hemorrhages and/or exudates, with or without
- (*b*) Phenolsulfonphthalein excretion under 15% in 15 minutes and/or nitrogen retention

and routine studies of cardiac and renal function were carried out. Screening for pheochromocytoma, coarctation of the aorta, and other forms of secondary hypertension was done. Therapy was usually begun in the hospital, and patients were discharged only after stabilization of dosage was achieved. Several patients were started and maintained on drug therapy as outpatients, especially after the introduction of Mecamylamine.

Blood pressures were recorded at frequent intervals during the day in the recumbent, sitting, and standing positions while the patients were hospitalized and at intervals of from twice a week during the initial treatment period to every three to four weeks after stabilization of pressure had occurred.

Standing blood pressures were employed to determine drug dosage in order to avoid hypotensive episodes when the ganglionic-blocking agents, Ansolysen, Ecolid, or Mecamylamine, were used. In determining "results" of treatment, however, average pretreatment and post-treatment sitting pressures were utilized. It was felt that a more accurate picture of drug responsiveness would be reflected by this method since the sitting pressure was often between the higher recumbent and lower standing readings. Blood pressure "results," therefore, are not so impressive as they might be made to appear if the standing pressure had been used. Patients were rarely allowed to take their own blood pressures at home since it was felt that blood pressure "consciousness" was pronounced in most cases without this additional factor. In several instances where regulation of blood pressure proved to be difficult, home blood pressure recording was allowed for short periods of time.

In all patients renal studies, including blood nonprotein nitrogen, creatinine levels, and urinalyses, were repeated at frequent intervals during treatment.

Funduscopic examinations and ocular tension studies were done periodically by the opthalmology resident (Dr. Virginia Kimbrough), and electrocardiograms and chest x-rays were repeated every three to six months.

Severity of the hypertension was classified according to the Keith, Wagener, Barker Classification[3] with modifications, as noted in Table I. Patients classified as Grades I and IA were considered mild hypertensives; Grade II patients were considered to be moderately severe. Grades IIA and III were classified "severe," and Grades IIIA and IV were classified as hypertension in the accelerated phase or "malignant hypertension." Although the above classification is arbitrary, we have attempted to list in it the factors influencing prognosis rather than to rely entirely on the funduscopic picture. For example, males with diastolic hypertension and Grade I funduscopic findings have a 24 per cent mortality in five years if untreated, whereas a female with the same findings has only an 11 per cent mortality.[4] Certainly, some differentiation should be made in grading the severity of the disease in these two groups—hence the designation, Group IA.

Drugs Employed and Results

Rauwolfia.—Additional experience with the

Rauwolfia derivatives, Serpasil* and Rauwiloid,† continues to support the conclusions previously published. These drugs are mild, centrally acting antihypertensive agents which are effective in approximately 30 per cent of cases when used alone in mild hypertension but are of little or no value in severe or "malignant" hypertension.[1,2,5] Relief of the headaches occasionally associated with hypertension has been achieved in some instances by their use.[6] Side-effects are usually mild, and dosage adjustment is not critical. The Rauwolfia drugs, however, may cause severe depressions or psychoses, activation of a peptic ulcer, and profound weakness.[7] Other side-effects, such as nasal congestion or diarrhea, can usually be successfully counteracted. The average dose of Serpasil that we have found to be effective with minimal side-effects is 0.5 mg. daily; of Rauwiloid 8 mg. daily.

The Rauwolfia drugs definitely reduce some of the side-effects of the more potent agents when used in combination with them. Our studies and those of Doyle *et al.* support the view that the dosage of ganglionic blocking agents may be reduced if reserpine is added to therapy.[2,5] Our major use of the Rauwolfia drugs in severe hypertension, therefore, has been in combination with these agents.

Apresoline (*Hydralazine*).—Although the use of this compound in the treatment of hypertension has been curtailed to a great extent since the first reports of serious late toxic effects, we believe that this unique agent has a definite place in the treatment of severe hypertension. Apresoline is particularly useful in the treatment of patients with severe renal disease because of its ability to produce at least a temporary increase in renal plasma flow despite a fall in blood pressure. The antihistaminase action of Apresoline most probably accounts for initial side-effects of headache, ankle swelling, and periorbital edema. These are not serious and usually disappear within two to four weeks. A late toxic reaction, consisting of joint pains, fever, and abnormal liver function tests in its milder form and the above findings plus the presence of "lupus cells" in the bone marrow or peripheral blood in the more severe form, occurs in from 6 to 8 per cent of the patients on long-term treatment.[8,9] Three of our patients who had received more than 400 mg. of Apresoline daily for longer than one year developed a rheumatoid-like syndrome with abnormal liver function studies, but none showed definitely positive "lupus preparations." These reactions proved to be reversible on withdrawal of the drug, although in one instance steroid therapy was necessary for four weeks before fever and joint pains subsided.

Oral Apresoline in combination with Rauwolfia proved to be effective in approximately 30 per cent of patients with moderately severe to severe hypertension (Grades II, IIA, and III). In Grades IIIA and IV this combination rarely succeeded in producing a significant fall in blood pressure. In at least six patients with severe hypertension who were on therapy with the more potent ganglionic-blocking agents, the addition of Apresoline produced a definite additional fall in diastolic blood pressure and a smoother course. The average dose employed in our patients was 400 to 500 mg. daily in four divided doses.

GANGLIONIC-BLOCKING AGENTS

Ansolysen (*Pentolinium*).—This potent ganglionic-blocking agent has now been utilized in the treatment of severe hypertension for the past two years. In approximately 40 per cent of the cases previously reported by us, a satisfactory blood pressure and clinical response was obtained.[2] Major deterrents to more extensive use of this agent and other ganglionic-blocking agents such as hexamethonium have been the occurrence of side-effects as a result of parasympathetic blockage (dry mouth, blurring of vision, constipation) and the completely erratic absorption of the drugs (only 5 to 10 per cent of an oral dose is absorbed).[1,2] Constipation has occasionally resulted in a prolonged absorption of the drug, marked postural hypotension, and syncope. In many patients these side-effects have been overcome by the concurrent use of parasympathomimetic agents (Prostigmin or urecholine), and few serious side-effects have actually occurred. The constant fear of producing a severe reaction, however, has prevented many physicians from utilizing effective dosage levels.

Ecolid.—Plummer *et al.*[10] and Grimson, Tarazi, and Frazer[11] have demonstrated the ganglionic-blocking qualities and oral effectiveness of Ecolid both in animal and human experiments. In doses of 50 to 100 mg. given only twice daily, the drug was found to produce hypotensive effects equivalent to those noted after oral Ansolysen or

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* Supplied by the Ciba Pharmaceutical Products, Inc., Summit, New Jersey.

† Supplied by the Riker Laboratories, Inc., Los Angeles, California.

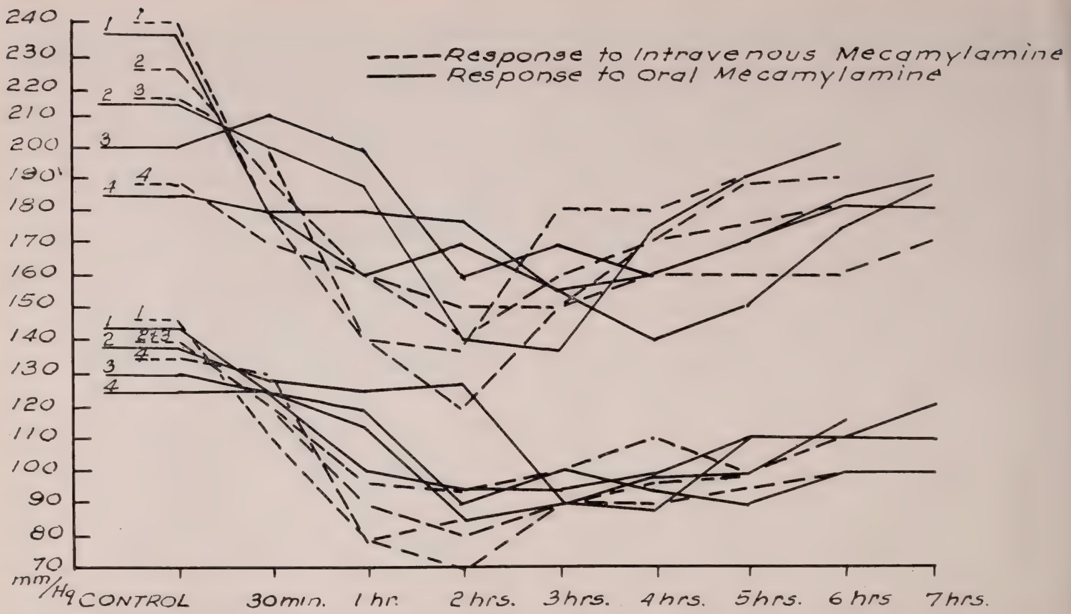

FIG. 1. Comparative effects in four patients of parenteral and oral Mecamylamine, 3 or 5 mg. given by each method. Oral dose forty-eight hours after parenteral dose.

hexamethonium. Our own observations on Ecolid have been limited. Six patients with severe hypertension were given single oral doses of 50 or 100 mg. of the drug. Blurring of vision and/or postural hypotension occurred within forty-five to sixty minutes in all patients. Duration of effect was from six to as long as twenty-one hours. The onset of blurring of vision often preceded the hypotension, and duration of this effect was usually longer than the effect on blood pressure.

Six patients who had been on Ansolysen therapy for periods of from six months to one year and who had achieved a satisfactory blood pressure response were placed on Ecolid. The average dose of Ansolysen that had been required to maintain the response was 450 mg. daily in four divided doses. An average daily total of 150 mg. of Ecolid given in two or three doses proved to be effective in producing an equivalent response. In two patients there was a further fall in blood pressure on Ecolid. Response to the drug was not uniform. Constipation, dryness of the mouth, and impotence in male patients were noted, but these symptoms were not of greater severity than after Ansolysen therapy. The most distressing side-effect of Ecolid proved to be persistent blurring of vision. This did not respond to the use of oral pilocarpine (5 to 10 mg. four times daily) or to the use of pilocarpine eye drops. Two patients refused to continue therapy because of the persistence of this symptom after three weeks of treatment.

Mecamylamine (*Inversine*).—Mecamylamine is a secondary amine (3-methylaminoisocamphane hydrochloride) which, unlike the previously available quaternary ammonium ganglionic-blocking agents, is almost completely absorbed from the intestinal tract when given orally. It has been demonstrated in animals that Mecamylamine possesses all of the qualities of a ganglionic-blocking agent and has no antihistaminic or anesthetic properties.[12,13]

Four patients were given single parenteral doses of 3 to 5 mg. of Mecamylamine followed in forty-eight hours by an equivalent oral dose. Blood pressure response was noted within twenty to fifty minutes after parenteral administration and from forty-five minutes to two hours after the drug was given orally. Maximum effect occurred within two to three hours, and duration of action varied between eight and twenty-four hours. Results of blood pressure response are noted in Fig. 1. Response to the oral and parenteral routes of administration was essentially the same.

Twenty-six patients with severe hypertension have been treated with Mecamylamine alone or in combination with Apresoline and/or a Rauwolfia

TABLE II.—SUMMARY OF RESULTS

Case	Age	Race*	Sex	Severity of Hypertension (Grade)	Average Pretreatment Blood Pressure	Time on Therapy (Months)	Average Blood Pressure on Ansolysen Combination	Average Blood Pressure on Mecamylamine Combination	Results of Therapy
1	43	W	M	III	244/148	34	148/90	140/92	Excellent
2	46	W	M	IV	192/140	20	145/95	128/87	Excellent
3	52	N	F	II	210/130	17	171/103	140/80	Excellent
4	29	N	F	IV	235/135	18	142/82	138/84	Excellent
5	32	N	M	IIIA	250/150	14	140/88	130/86	Excellent
6	48	W	M	IV	244/155	5	230/122	150/96	Excellent
7	43	W	M	III	200/122	10	170/100	166/104	Good
8	36	N	M	IIA	220/138	18	170/116	160/110	Good
9	42	N	M	II	220/130	8	186/100	174/98	Good
10	24	W	F	IIIA	230/160	9	180/118	140/110	Good
11	56	W	F	II	210/112	12	180/110	170/94	Questionable
12	43	N	F	III	253/138	13	138/93	137/92	Questionable
13	50	N	F	IIA	208/130	16	204/132	200/128	Poor
14	56	N	F	III	212/136	9	202/124	200/126	Poor
15	55	N	F	IIA	210/110	2	...	158/98	Excellent
16	76	W	F	III	230/148	5	...	198/100	Good
17	49	N	F	IV	242/142	2	...	172/110	Good
18	53	N	F	IIA	210/138	7	...	178/108	Good
19	40	N	F	IV	280/150	3	...	180/120	Good
20	60	W	F	II	240/130	2	...	160/90	Good
21	55	W	M	III	228/132	4	...	188/110	Good
22	56	N	F	III	220/130	1	...	152/98	Questionable
23	50	N	M	III	195/123	1	...	176/105	Questionable
24	49	N	F	III	218/116	6	...	127/85	Poor
25	47	N	F	II	171/109	3	...	161/105	Poor
26	59	N	M	IIA	176/113	1	...	136/89	Poor

* W, white; N, Negro.

compound. Twelve had received Ansolysen for from three months to two years before Mecamylamine was started.

Treatment was begun with 2 mg. three times a day thirty minutes before meals in those patients who had not been on previous blocking agent therapy. A total of 5 mg. four times daily was given to the patients who had been on Ansolysen. During the following seven to ten days dosage was increased slowly until a blood pressure response was noted or side-effects became severe. Maximum blood pressure response was usually noted in the late morning or early afternoon, and for this reason a smaller dose of the drug was given in the morning. The average total daily dose of Mecamylamine (Inversine) that proved to be effective was 34 mg. Range of effective dose was from 12 to 60 mg. daily.

Patients were carefully instructed regarding the avoidance of constipation, and all patients were placed on daily laxatives (cascara, milk of magnesia, or epsom salts). If bowel function was not achieved, pilocarpine nitrate (5 to 10 mg. four times daily) was given. If this was not effective, 15 mg. of oral Prostigmin were given once or twice daily as necessary. If a bowel movement did not occur at least once every other day, the patient was advised to reduce or eliminate Mecamylamine until a movement occurred. Some individuals found it easier to use enemas once every two days than to take a laxative. Patients were instructed to reduce the dose of the drug during infections and after ingestion of alcohol or prolonged exposure to sunlight. In this way hypotensive episodes, which might occur as a result of drug effect plus the additional peripheral vasodilatation caused by these activities, were avoided.

Severe constipation and/or abdominal cramps constituted the only serious side-effect of Mecamylamine therapy. One episode of transient ileus was noted in a patient receiving 60 mg. of the drug daily. The ileus cleared rapidly when the drug was stopped. A feeling of weakness and persistent impotence in male patients occurred frequently. Episodes of dizziness and/or syncope were rarely noted. Patients who had been on Ansolysen therapy usually had fewer side-effects with Mecamylamine, but this may have been the result of an adjustment to previous ganglionic blockade. Some tolerance to Mecamylamine effect was noted in all patients after one to three weeks, but this was usually overcome by increasing the dosage.

Results of therapy to date in this small series of patients are listed in Table II. Criteria for

TABLE III.—CRITERIA FOR GRADING RESULTS OF THERAPY

I. Poor result from therapy
  A. No blood pressure response
  B. Aggravation of symptoms
  C. Satisfactory blood pressure response (decrease of 15 mm. Hg or more in diastolic blood pressure), but evidence of progression of disease
  D. Severe symptoms from therapy
II. Questionable result
  A. Diastolic blood pressure fall of more than 10, but less than 20 mm. Hg
  B. No aggravation of symptoms
  C. No cardiovascular complications
  D. No or moderate symptoms from therapy
  E. Excellent result, as in IV, but too short a period of observation
III. Good result
  A. Diastolic blood pressure fall of more than 20 mm. Hg but still at hypertensive levels (over 150/100)
  B. No aggravation of symptoms
  C. No cardiovascular complications
  D. No, minimal, or reversible symptoms from therapy
IV. Excellent result
  A. Diastolic blood pressure persistently below 100 mm.
  B. No progression
  C. No complications to date
  D. No, minimal, or reversible symptoms from therapy

grading results are summarized in Table III. Of the 14 patients who had previously received Ansolysen in combination with Rauwolfia and/or Apresoline, four achieved excellent results, were normotensive, and, after stabilization of blood pressure had occurred, were essentially asymptomatic. Five patients experienced a good result, two a questionable response, and three poor results (Cases 6, 13, and 14).

In Case 13 an initial fall in blood pressure to normal occurred and persisted for nine months. The patient stopped treatment, and pressure rapidly returned to pretreatment levels. After a month without drug therapy Ansolysen was again given in doses of 1 Gm. daily with little or no response. The use of Mecamylamine in 60-mg. daily doses has not altered the result.* Case 12, who had had severe hypertension and a subarachnoid hemorrhage before treatment, became normotensive on Ansolysen therapy and remained asymptomatic for six months on this drug and for an additional three months on Mecamylamine. A second subarachnoid hemorrhage recently occurred in this patient despite the normal blood pressure. Although this accident may have been secondary to an aneurysm and have no bearing on the hypertensive disease, the result is listed as questionable.

The substitution of Mecamylamine for Ansolysen produced an additional fall in blood pressure in four patients, Cases 3, 6, 10, and 11. In one case (Case 3), results were changed from good to excellent by the change in therapy; in two cases there was no change in classification (Cases 10 and 11), and in one (Case 6) an excellent response was recorded after a poor response from Ansolysen. In most of these instances, however, pressures in the normotensive range had been noted for brief periods on Ansolysen therapy, but patients had not been able to tolerate the doses of the drug necessary to continue the effect.

Only one patient of the 12 who were treated with Mecamylamine as the initial ganglionic-blocking drug has been listed as an "excellent result," although five patients have experienced a significant fall in blood pressure to normotensive levels. One of these, Case 22, had been on therapy for only one month, too short a period to determine whether or not blood pressure response could be maintained. This patient has been listed, therefore, as a "questionable result." Case 26, after a good initial blood pressure response, stopped all treatment and expired three weeks later of a cerebral accident. Despite the temporary success of therapy this patient has been listed as a treatment failure. Six patients were considered to have had a good result.

Case 24, one of the four patients treated despite the presence of renal failure (azotemia), experienced a significant fall in blood pressure to normotensive levels. This response was maintained for six months despite the fact that the patient took medication irregularly. Salt intake could not be controlled, and the patient eventually died in uremia and congestive heart failure. This result has been classified as poor despite the excellent blood pressure response.

Three other patients (Cases 2, 3, and 4) with azotemia prior to the onset of therapy are doing well, and blood creatinine (or nonprotein nitrogen) levels have either remained constant or decreased while on treatment.

Improvement was noted in the funduscopic findings of all of the patients who showed hemorrhages, exudates, and/or papilledema before treatment was instituted. This occurred in several instances despite only a minimal fall in blood pressure. In one patient (Case 23) fresh hemorrhages appeared in the fundi during a period of

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* Quantitative urinary catechol amine determinations were done for us by Dr. Marcel Goldenberg on this patient and several others who appeared to have become "resistant" to drug therapy. To date determinations have all been normal, and there is no evidence to suggest that this "resistance" is secondary to an increase in the endogenous epinephrine secretion of these patients as a response to prolonged autonomic blocking agent therapy.

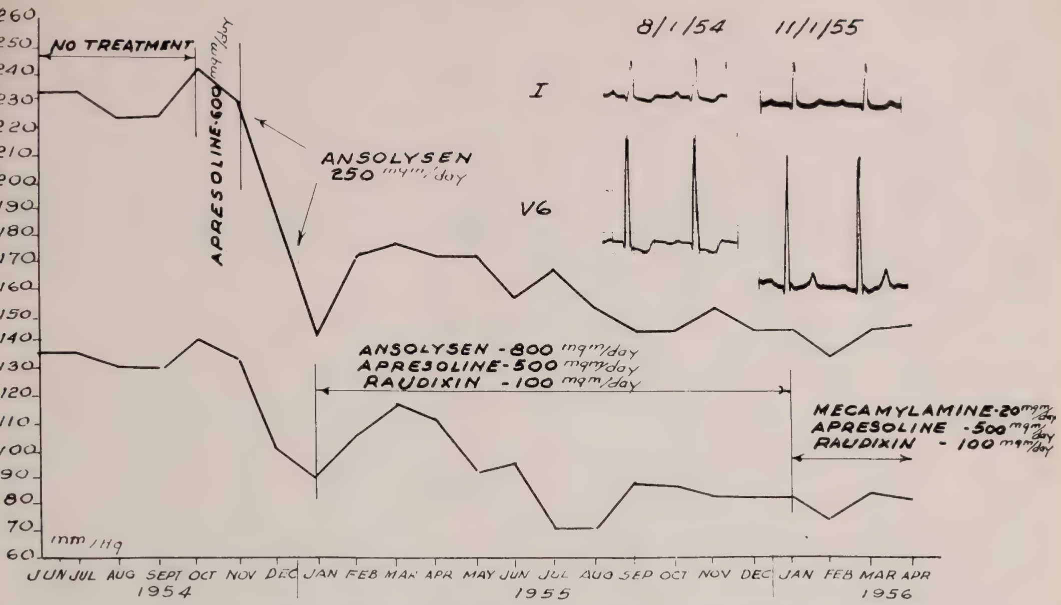

FIG. 2. *Case 4*—Dramatic response to antihypertensive drug therapy in twenty-nine-year-old, Negro female in accelerated phase of hypertension (Grade IV) with papilledema and congestive heart failure.

treatment with Apresoline and Serpasil. A slight rise in blood pressure had occurred on this treatment. The addition of Mecamylamine to the regimen resulted in a slight blood pressure response and no further funduscopic changes.

Twenty-five of the patients initially had electrocardiograms indicative of left ventricular hypertrophy with ischemia (so-called "strain pattern"). In 12 of these, definite improvement in the tracing occurred while on therapy.

Thirteen patients showed x-ray evidence of left ventricular hypertrophy before treatment was started. In four of these, evidence of decrease in heart size was obtained following fall in blood pressure.

A definite correlation between blood pressure response, decrease in heart size, and improvement of the electrocardiogram was noted.

The over-all percentage of patients considered to have experienced a good or excellent response from Ansolysen or Mecamylamine therapy in combination with Rauwolfia and/or Apresoline was 65 per cent.

Case Reports

Dramatic examples of response to drug therapy are provided by the following cases (neither of these patients or others similar to them, who have achieved results listed as "excellent," would have survived without therapy in our opinion):

CASE 4.—A twenty-nine-year-old, Negro female who had normal blood pressure in September, 1953, noted the rapid onset of ankle edema, dyspnea, and nocturia and, in June, 1954, was found to have a blood pressure of 235/135 and grade IV retinopathy (hemorrhages, exudates, and papilledema). Signs of congestive heart failure were present, and left ventricular hypertrophy was marked. A 4 plus albuminuria and decreased urea clearance (59 per cent of normal) were recorded. Therapy with increasing doses of Ansolysen, Apresoline, and Raudixin was instituted with a gradual fall in blood pressure. An excellent blood pressure and symptomatic response were noted on 600 to 800 mg. of Ansolysen, 500 mg. of Apresoline, and 100 mg. of Raudixin daily in four divided doses (Fig. 2). After thirteen months of good control, Mecamylamine (5 mg. four times daily) was substituted for Ansolysen with a continuing excellent response. Improvement in the electrocardiogram, disappearance of papilledema, exudates, and hemorrhages, and clearing of albuminuria have occurred (Fig. 3). The patient is back at work and is asymptomatic except for constipation (controlled by Prostigmin, 15 mg. once daily).

CASE 5.—A thirty-two-year-old, white male was first seen because of increasingly severe headaches

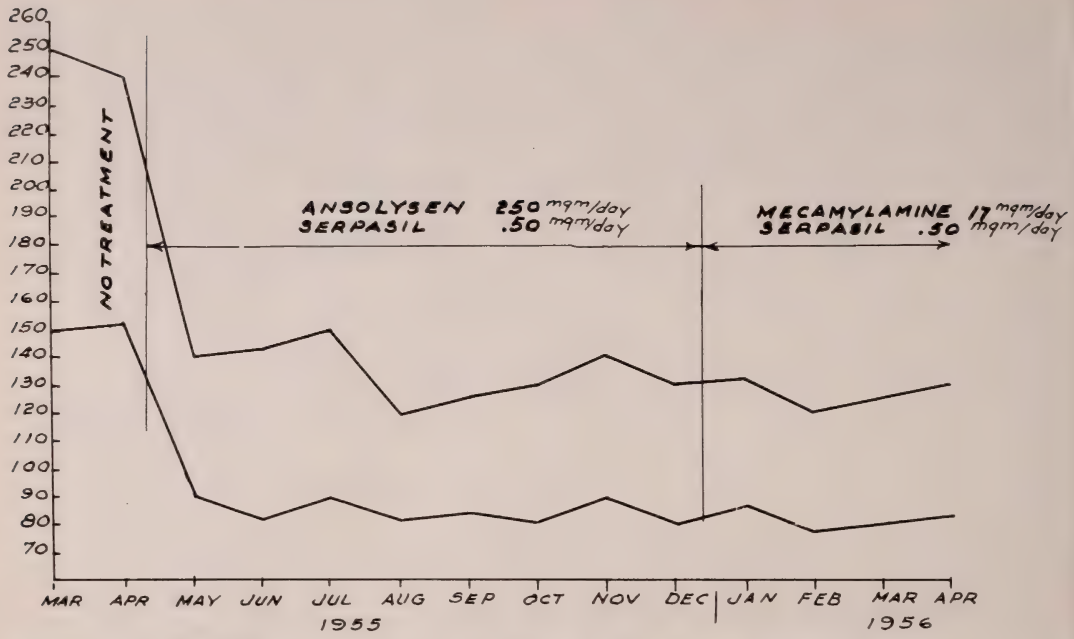

FIG. 3. *Case 5*—Excellent response in thirty-two-year-old, white male with progressive hypertension (Grade IIIA) and ventricular hypertrophy.

and a rapidly rising diastolic blood pressure. Hypertension had been recorded for the first time three years before admission. Studies revealed no etiology for the elevated blood pressure. Funduscopic examination showed arteriolar narrowing, arteriovenous nicking, and scattered exudates; left ventricular hypertrophy was present, and phenol red excretion was less than 25 per cent in fifteen minutes. Blood pressures varied between 220/140 and 250/150. Sodium Amytal produced a fall in pressure to 180/135. He was started on Ansolysen in gradually increasing doses so that after one week he was receiving 250 mg. daily in four divided doses. Serpasil (0.25 mg. twice daily) was also given. Blood pressure fell to normotensive levels and remained normal for over eight months. Headaches disappeared completely, phenol red excretion increased, and retinal exudates cleared. Four months ago Mecamylamine (17 mg. daily in four divided doses) was substituted for the Ansolysen. Blood pressure control remained excellent (Fig. 3). With the exception of occasional impotence and constipation the patient is completely asymptomatic and carrying on a routine life.

Comment

The drug treatment of primary hypertension is still in its infancy. Results of any therapy with newer agents must be classified as preliminary for the next five to ten years until a sufficient number of patients with severe disease have been followed. At that time careful analyses must be made to determine whether or not morbidity and mortality and not just blood pressure have been significantly reduced by the newer antihypertensive drugs. Results of the surgical treatment of hypertension must also be compared with medical results before a proper place in the treatment armamentarium can be assigned to medical therapy.

Excellent studies by Perera,[14] Palmer and Muench,[15] White *et al.*,[16] and Griep *et al.*[17] have pointed out that primary hypertension is a fairly benign disease with a reasonably good prognosis, especially in women. Most observers, however, are agreed that with the onset of cardiac hypertrophy, decreasing renal function, or cerebral complications, the prognosis changes. The average survival of the untreated patient with these complications is from five to seven years.[14] These patients should unquestionably be treated but only after the risk of treatment is weighed against its possible good.

Drug treatment with effective antihypertensive agents is difficult to control; it must be continuous, it is expensive, and intelligent patient cooperation is essential. Surgical sympathectomy requires a long period of hospitalization and convalescence, has a definite mortality, and often produces postoperative complications such as intractable neuralgias. Dietotherapy by means of drastic salt restriction is impractical except in a rare individual. None of the available treatments, therefore, is ideal or universally effective, none is aimed specifically at the basic etiology of hypertension, and all present definite limitations.

Ten-year follow-up studies of large groups of patients who have had surgical sympathectomies have recently been published by Huntington and Evans[18] and White.[19] They demonstrate that patients with severe hypertension (equivalent to our Grades IIA to IV) have definitely experienced a longer survival as a result of surgery, despite the fact that a good blood pressure response was not maintained in many cases. There is no doubt that surgical removal of the "neurogenic" factors controlling blood pressure will help a certain group of patients with severe, complicated hypertension, and that benefit outweighs risk of treatment in these individuals. It would seem reasonable to assume that continuous medical treatment with antihypertensive drugs should produce as good if not better results than surgical procedures since the "chemical sympathectomy" is more complete and more careful long-term regulation of blood pressure should be possible. Unfortunately the difficulties inherent in the management of patients with antihypertensive drugs have greatly limited their use. Both doctor and patient acceptance has been limited.

Despite these limitations, however, impressive results of treatment with the newer, effective blocking agents have been reported.[20] Schroeder states that blood pressure control is possible in 80 per cent of patients treated. Fifty-four of the 64 patients with hypertension in the malignant phase in his series are still alive two to four years after therapy was begun, a figure far in excess of the expected 80 to 95 per cent mortality. Rast and Orgain[21] also report excellent results of drug therapy in malignant hypertension. Severe or fatal reactions as a result of treatment were rare in both of these series. Poor results were obtained in patients who had marked renal failure (uremia) before treatment was instituted, but occasionally patients with blood nonprotein nitrogen levels of 65 or even 75 mg. per cent tolerated drug therapy and experienced good results.

Our own experience with hexamethonium or Ansolysen-Apresoline-reserpine combination therapy during the past four years is very much in agreement with the above, although the percentage of results classified by us as good or excellent is not quite so high. Only 30 to 40 per cent of our patients with severe, complicated hypertension have experienced both a sustained, unequivocal fall in blood pressure and clinical improvement with minimal side-effects from treatment. In several of these patients whose pressures had been reduced to and maintained at normotensive levels for one year or longer, it has actually been possible to reduce the dosage of drugs without altering the response. In an additional 25 per cent a satisfactory blood pressure response has occurred, but other criteria have not been met for an "excellent" response.

With the introduction of Mecamylamine, a potent ganglionic-blocking agent that is adequately absorbed when given orally, one of the major obstacles of drug treatment has been eliminated. A predictable effect may now be obtained. Whether this will result in a decrease in the side-effects of drug therapy and, consequently, in more effective long-term control of the hypertensive individual remains to be seen.

In the 14 patients who received Mecamylamine in our series after they had been on Ansolysen therapy, blood pressure response appeared to be better in three and definitely more pronounced in one. This increased responsiveness, we believe, was not the result of a more "complete" ganglionic blockade by the Mecamylamine but most probably was secondary to better tolerance of effective doses of this drug. Although it is too early to determine the over-all blood pressure response rate of patients to Mecamylamine, it would appear that it will be greater than that noted after Ansolysen. The number of patients able to tolerate therapy and safely continue treatment should be greatly increased. Similar precautions in regard to bowel regulation and possible postural hypotensive episodes should be followed, but with Mecamylamine these reactions appear to be more easily handled.

Based on our limited experience with Ecolid it would appear that the persistent blurring of vision noted after its use will greatly limit its acceptance as a practical antihypertensive drug.

Our over-all response rate to therapy with combined Ansolysen or Mecamylamine-Apresoline-reserpine combinations has been about 65 per cent to date. In only about 25 per cent of cases, however, do we feel that the hypertensive process has been controlled and that prognosis has definitely been improved by drug therapy ("excellent results" in Table II). The criteria for an "excellent" response may be quite rigid (Table III), but at this stage in the treatment follow-up period, criteria for response should be definitely dependent on more than a blood pressure response.

At present, based on over four years of experience with drug therapy, we believe that the following plan is a reasonable one to follow in the treatment of the patient with hypertension:

1. Not all hypertensive individuals should be treated. Reassurance, mild sedation, and "deemphasis" of blood pressure is usually the only treatment indicated in Grades I and IA patients (those with uncomplicated hypertension).

2. In patients with complicated disease, especially males, treatment is justified, but the risk of therapy should be carefully weighed against the expected prognosis of the individual patient who is untreated.

(*a*) In the less severe cases Rauwolfia or combination Rauwolfia-Apresoline therapy should be utilized.

(*b*) In the more severe cases Mecamylamine in combination with the above is indicated.

In patients with renal failure treatment should be aimed at symptomatic relief. If azotemia increases, however, drugs should be discontinued or reduced.

3. If drug treatment is not effective after a reasonable trial in the severely ill patient without renal failure, surgical sympathectomy should be considered.

Summary

1. The use of antihypertensive drugs appears to be indicated in most cases of *complicated* hypertension. Preliminary results indicate that the effects of rapidly progressive hypertension may be reversed by adequate, continuous therapy. In carefully selected cases the risks and inconvenience of treatment with the drugs are far outweighed by the benefit of blood pressure reduction.

2. Mecamylamine, a new potent ganglionic-blocking agent which is almost completely absorbed when given orally, appears to be a useful addition to the group of blocking agents presently available.

3. Approximately 25 per cent of cases with severe hypertension appear to have achieved "excellent" responses to date on Ansolysen or Mecamylamine in combination with Apresoline and/or reserpine. An additional 40 per cent of cases have experienced a significant blood pressure reduction, but an opinion regarding their prognosis is not justified at this time.

We wish to thank Dr. Allan Ainley and Mrs. Judy Tenney for their help in this study.

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Discussion

George A. Perera, M.D., *New York City.*—This is the era of the advertisement and the headline. If the physician fails to prescribe a drug, the patient may submit a newspaper clipping and ask for treatment. This is the era of the enthusiast and the nihilist, both correct to some extent, but they often employ varying criteria of patient selection and different baselines preparatory to study.

In my opinion we have just heard one of the best clinical reports on hypotensive drugs that has been presented for some time. Dr. Moser and his associates have undertaken a careful study, kept their minds open, and weighed the evidence critically and fairly. More important, they have not limited their attention to the blood pressure or some single manifestation of disease but have spoken as physicians with a comprehensive viewpoint and with concern for the welfare of their patients. Note their emphasis on the unanswered questions, on the preliminary nature of their results, on the relative risks which must be considered, and on the difficulties inherent in proper regulation.

Our results with drug therapy are very similar. We believe that the Rauwolfia alkaloids give sedative benefits to less than 50 per cent of hypertensives in the uncomplicated phase of their disease, that the Veratrum derivatives modify the arterial tension only when dosages reach levels which give rise to nausea and vomiting, and that Hydralazine with its many disagreeable features is effective in a minority. We have reserved the ganglionic blockers for patients with advanced disease; however, only a small percentage of patients can be maintained adequately for long periods. The stronger hypotensive drugs have brought us new and useful means to relieve symptoms, to help manifestations, and sometimes to prolong life. These benefits are confined essentially to the accelerated phase of primary hypertension, for in earlier phases they must be regarded as having only experimental value and little therapeutic justification.

I would take some issue with the more popular methods of classifying patients. Diagnosis or prognosis based on eyegrounds alone is far from an accurate method and may yield erroneous results; artificial and arbitrary groupings into broad gradations of disease have been shown recently to be subject to error. In evaluating therapy it is important that patients be described in terms of the exact functional and pathologic changes which may or may not have developed as a result of the disease process as it affects all areas.

There is an urgent need for more studies of this kind, and Dr. Moser and his associates deserve great credit.

A Preanesthesia Clinic

WILLIAM S. HOWLAND, M.D., AND KUO-CHEN WANG, M.D.,* NEW YORK CITY

(*From the Division of Anesthesiology, Memorial Center for Cancer and Allied Diseases*)

BECAUSE of the lack of definitive criteria the evaluation of the surgical patient as an anesthetic and operative risk has often been a source of dissatisfaction. The usual admission evaluation is not particularly applicable to anesthesia, especially as a basis for the treatment of unforeseen complications. Operations can no longer be divided into elective and emergency alone but must include an additional category of urgent cases. This is the group which cannot be indefinitely postponed when cure or palliation with radical surgery for cancer must be immediate. Inability to assess the patient's operative risk may cause needless and fatal delays. The need for a definitive basis to differentiate between fair and poor risk patients with their varying morbidity and mortality suggested the institution of a preanesthesia clinic.

The advantages of a preanesthesia clinic are (1) an anesthesia consultation which may be made in an unhurried manner, (2) patients are not seen at the end of a tiring day, (3) definite standards for cardiovascular and pulmonary function can be made for future reference, (4) an evaluation of previous laboratory tests can be made, (5) additional examination or treatment can be suggested, and (6) the sum of the information obtained can serve as a guide to the anesthesiologist in the conduct of the anesthesia.

Method

It has not been practical to have all patients scheduled for operations appear in the preanesthesia clinic. The main difficulty has been that patients for minor operations are often admitted to the hospital the afternoon before being scheduled for operation. From the study of a small preliminary series (187 patients), it was found that few complications occurred during and after minor superficial operations regardless of the preoperative condition of the patient or the

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* By invitation.

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type of anesthesia administered.[1] With the preanesthesia clinic in a formative stage it was decided that only patients who were to have major operations and were admitted to the hospital at least twenty-four hours previously or those who were of advanced age or known to have a poor cardiovascular status were to be examined in the preanesthesia clinic. Since the clinic meets regularly in the afternoon, all patients were examined in the postprandial period.

All preoperative patients are more or less apprehensive with a fear of the anesthesia and operation. Therefore, it is of utmost importance for the anesthesiologist to assume a relaxed and reassuring attitude and to try to explain briefly the aims and procedures of the preanesthesia clinic.

It is beyond the scope of a preanesthesia clinic to attempt a complete and detailed history and clinical examination on every patient. Since this has been done by the admitting house physician, it would be unnecessary duplication of a previously performed procedure.

Much of the general information applying to the patient may be obtained from the hospital chart. Interrogation of the patient and coordination of the laboratory procedures are confined to the following items:

1. A history of previous anesthesia difficulties, prolonged awakening time, or fear of the anesthetic procedure.

2. A history of evidence of cardiovascular disease. The emphasis is placed on symptoms and signs of angina pectoris, coronary thrombosis, congestive heart failure, cerebral vascular accidents, diabetes mellitus, and hypertension. Pulmonary diseases, such as asthma, bronchiectasis, chronic bronchitis, emphysema, pneumonia, or a recent upper respiratory infection, are noted. A previous history of central nervous system disease or a positive serology is listed as a possible contraindication to spinal anesthesia.

3. The patient is questioned as to excessive use of alcohol, tobacco, or drugs.

4. The laboratory reports are correlated with the previous history with special emphasis on the chest x-ray, hemoglobin and hematocrit, urinalysis, and basal metabolic rate.

In this hospital the following physical equipment is used in the preanesthesia clinic: (1) a Twin-Viso Sanborn 2-channel recorder, (2) a high-frequency, Starr type ballistocardiographic table, (3) a blood pressure cuff mercury manometer and stethoscope, (4) facilities for taking both precordial and limb leads for the 12-channel electrocardiogram, and (5) a Gaensler-Collins Vitalometer.

Evaluation of Patient's Physical Condition

The preanesthesia clinic affords a rare opportunity for the anesthesiologist to have a "good look" at the patient. The manner in which the patient gets up from the wheelchair, walks into the room, and then assumes a supine position on the rather high and hard ballistocardiographic table is often indicative of the patient's general physical condition. Also at this time any upper respiratory obstructive lesions may be noticed, either of an intrinsic or extrinsic nature. This is especially important in a hospital where a large percentage of the patients have lesions of the pharynx, larynx, or trachea.

CARDIOVASCULAR EVALUATION.—Patients admitted to the preanesthesia clinic have previously had a routine history and physical examination. However, in many cases this is really "routine" and does not consider the factors which are of value to the anesthesiologist. With this in mind a careful history is taken in regard to cardiovascular symptoms. Limitation of activities, swelling of the extremities, orthopnea, dyspnea, paroxysmal nocturnal dyspnea, or inability to climb stairs is determined.

One of the most important and yet simplest of the determinations made in the preanesthesia clinic is an accurate recording of the systolic and diastolic blood pressures. Many anesthesiologists have been misled or confounded by the difference between blood pressures on arrival in the operating room and the blood pressure which has been recorded previously on the same patient. We have found the blood pressure in the preanesthesia clinic to correspond more nearly to the blood pressure which is found in the operating room before the onset of anesthesia.

The fact that blood pressure varies considerably under different physical and emotional conditions makes repeated recordings highly desirable. The blood pressure is taken after the patient has been lying on the ballistocardiographic table for approximately fifteen minutes and after the ballistocardiogram and the electrocardiographic tracings have been completed. At this time the patient is in his most relaxed state, and blood pressure readings much lower than those obtained during admission are often recorded.

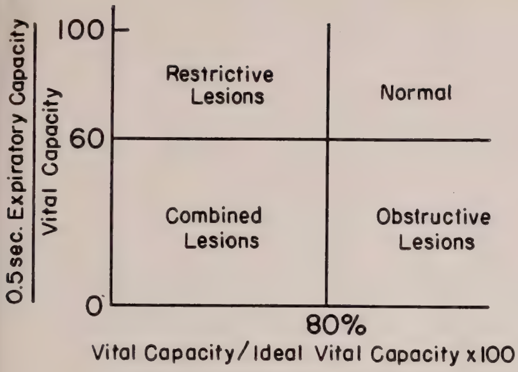

FIG. 1. Ventilation patterns.

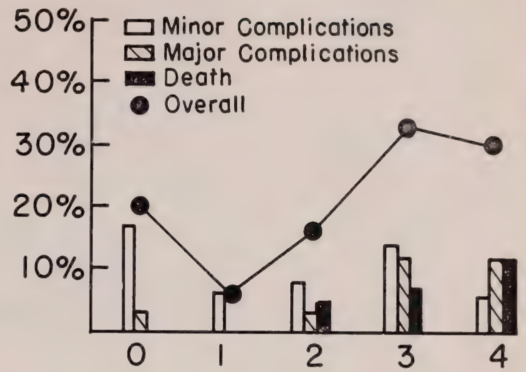

FIG. 2. Incidence of complications according to ballistocardiographic classification.

A 12-lead electrocardiogram is taken routinely on all patients with emphasis on the precordial leads. The advantages of a preoperative electrocardiogram are many. It provides a baseline electrocardiogram for reference in case cardiovascular abnormalities develop during operation. It enables disorders of rhythm and rate and myocardial ischemia to be determined. In addition, the electrocardiogram is necessary to time abnormal ballistocardiographic complexes.

While the electrocardiogram shows the electrical changes during systole, it is believed that the ballistocardiogram is a more reliable index of myocardial function.[2-4] In this clinic a Starr type, high-frequency table is used, and all tracings are taken during quiet respiration. A simultaneous electrocardiogram (lead II) is taken on the second channel of the two-channel recorder. Brown's classification of ballistocardiographic tracings is used:[2]

Grade 0—All complexes normal in form and of good amplitude. Very definite and regular with only slight variation during inspiration and expiration.

Grade 1—Still regular and definite. Respiratory variations increased with appearance of abnormal waves in form or amplitude during expiration. More than 50 per cent of the complexes are normal.

Grade 2—Progressive, further deterioration of grade 1 with more than 50 per cent of the complexes abnormal in form or amplitude. There is some loss of regularity.

Grade 3—Rather irregular and indefinite. All waves abnormal but still individually identifiable, of low amplitude.

Grade 4—Totally irregular, indefinite, and of low amplitude.

RESPIRATORY EVALUATION.—Eighty-three of the 222 patients examined in the preanesthesia clinic had ventilatory studies with the Gaensler-Collins timed vitalometer.[5] The results were plotted according to the method of Wu and Miller.[6] This vitalometer records the amount of air expired at the end of one-half second and at the completion of the total expiration. Thus, the half-second vital capacity and the full vital capacity may be obtained in one breath. The half-second vital capacity should be 60 per cent of the total vital capacity. Values below this indicate the presence of an obstructive lesion. The total vital capacity should be at least 80 per cent of the predicted vital capacity, and any diminution in this result is indicative of a restrictive lesion. These results may be plotted quadrimetrically as shown in Fig. 1, and the ventilatory pattern of the patient is easily determined. Thus, with this method a restrictive, obstructive, or combined lesion may be demonstrated.

Results

The results outlined in this section were obtained in a preliminary group of 222 patients subjected to major operative procedures. There were nine deaths, 12 major complications, and 23 minor complications. The 23 minor complications included arrhythmias, tachycardia, and hypotension of any significant magnitude or duration.

Of the 12 major complications, five were severe enough to cause the operation to be terminated. Three of these were manifested by severe or prolonged hypotension; one patient developed pulmonary edema and cyanosis and the other vomiting and aspiration during induction of anesthesia.

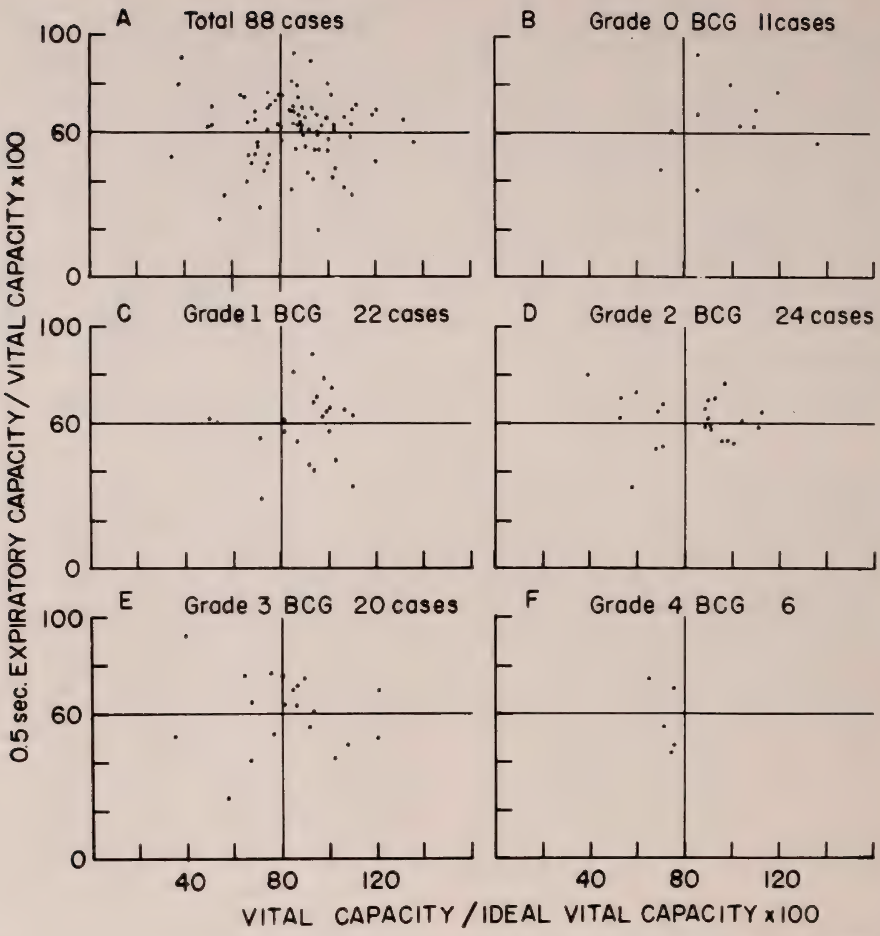

FIG. 3. Distribution of patients and various ventilatory patterns in the different ballistocardiographic classification.

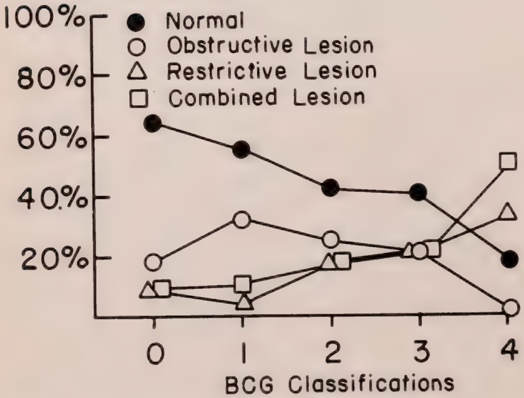

FIG. 4. Ventilation patterns and ballistocardiographic data.

The other seven complications occurred postoperatively. Two patients developed cardiac decompensation, one had pulmonary embolism and thrombophlebitis, one had a cerebrovascular accident, one had right upper and middle lobe atelectasis, one pneumonia, peritonitis, and thrombophlebitis, and one an unexplained slow and unsteady postoperative course.

The nine deaths were caused by (1) pulmonary embolism proved by autopsy in two cases, (2) internal hemorrhage, (3) brain damage following rupture of internal carotid artery, (4) massive myocardial infarct, (5) atelectasis and pneumonia nine days after surgery followed by gradual improvement with sudden deterioration of general condition twenty-two days postoperatively, (6) bronchopleural fistula after pneumonectomy with death on twelfth postoperative day (autopsy showed metastases to adrenals), (7) coronary thrombosis on third postoperative day, and (8) marked congestion of tracheobronchial tree after an operative course complicated by wheezing and cyanosis.

Two deaths and six of the major complications occurred in patients with an essentially negative preoperative history and physical examination. The incidence of mortality and morbidity in the different ballistocardiographic classes is shown in Fig. 2. Figure 3 shows the over-all distribution of the patients examined and the various ventilatory patterns occurring in the different ballistocardiographic grades. An increase in the incidence of restrictive lesions of the lungs was noted in patients with ballistocardiographic classifications 3 and 4 (Fig. 4). There was no marked correlation between the incidence of postoperative complications and ventilatory function. Of the four patients who had major respiratory difficulties postoperatively, one had a combined lesion, one had a restrictive lesion, and the remaining two had normal ventilatory patterns.

Comment

The ballistocardiogram has been used both for the qualitative study of cardiac function and the quantitative determination of cardiac output. With respect to the latter, good correlation has been found with other methods, including the Fick principle, in patients with normal ballistocardiograms.[4] Although similar correlation with abnormal ballistocardiograms has not been determined, it remains an acceptable method of ascertaining the cardiac stroke volume.[4]

In recent years the qualitative study of the ballistocardiogram has been applied to many cardiac conditions. It has proved to be a sensitive test for otherwise undetected cardiac diseases, in the differentiation of true angina pectoris from angina-like episodes due to noncardiac conditions, in the assessment of myocardial function in the presence of various arrhythmias or conduction defects, and in determining degree of recovery from acute myocardial infarction or congestive heart failure after treatment.[2,4] It has also been used as one of the cardiac function tests in screening of industrial personnel.[3] Although extracardiac factors like aging, arteriosclerosis, and changes in the pulmonary vascular bed also contribute to the abnormality of the ballistocardiogram, such nonspecificity is no handicap in a preanesthesia evaluation where the patient is studied as an entity.

In keeping with a concept of simplicity in technic and minimum of strain on the patient, the maximum breathing capacity was discontinued as a test of respiratory function and replaced by the timed vital capacity. The value of the latter test has been discussed in a previous section. With this determination repeatedly consistent results can be obtained, whereas with training the maximum breathing capacity can be increased in the same subject. In the presence of markedly restrictive lesions in thoracic patients a recommendation is made that the cardiovascular laboratory examine these patients to determine if portions of the lung can be removed. In obstructive lesions the suggestion is made for bronchodilators and antibiotics for a period of time to increase the ventilation of the patient.

After the cardiovascular and respiratory systems have been evaluated, additional diagnostic or therapeutic measures are suggested. These may include a blood volume determination, carbon dioxide content, electrolytic pattern, bronchodilators and antibiotics for pulmonary lesions, treatment of myocardial irritability, and tranquilizer treatment of hypertension.

Conclusion

In the past few months the preanesthesia clinic has given the anesthesiologist increased confidence in the conduct of anesthesia because more specific information has been obtained and more intimate contact made with the patient. Operative and postoperative complications have been surprisingly low for the type of patient and the radical surgery necessary for the treatment of cancer. Unnecessary complications have been avoided. With the analysis of the data on a large series of preanesthesia studies and their relationship to the operative and postoperative course, a more critical method of preoperative evaluation and classification of patients can be evolved.

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Discussion

Richard Ament, M.D., *Buffalo, New York.*—The preanesthesia clinic, as recommended by Drs. Howland and Wang, emphasizes a basic function of the anesthesiologist. Such a clinic formalizes the unhurried examination and evaluation of the poor risk patient. There is time for additional diagnostic procedures and x-rays. There is time to prepare the patient with supportive electrolytes, digitalis, or steroids where indicated. Errors of omission, which all too frequently occur where preoperative anesthetic evaluation is left undone, can be avoided.

The functional assay of the patient's pulmonary-cardiac system and of the airway are perhaps the two most important elements of the preoperative examination. As the authors indicate, the anesthesiologist should get a "good look" at his patient with these functions in mind. The preoperative interview does much to alleviate the patient's fears of surgery and to impart confidence in the patient in the knowledge that an interested team will be vigilantly protecting his welfare. Most of us accomplish all of this through a system of preoperative rounds.

From a practical point of view, while many private patients are hospitalized for several days in preparation for major surgical procedures, a large number of patients are not admitted for elective surgery until late in the preoperative day. This allows for a minimal hospital workup. Even though the patient may have been well prepared by an internist prior to admission, there is little time for this type of additional investigation or preparation. Patients requiring major surgical procedures should be available for evaluation by an anesthesiologist since this affords one more check in the prevention of untoward surgical accidents.

While in the small series of cases presented here today there is little correlation between the morbidity figures and physiologic testing, the development of a simple, quantitative test of cardiac function, such as ballistocardiography, is of course worthy of continued investigation.

From the study of extremely poor risk patients requiring major and urgent surgery, it has become apparent that we can anesthetize most of them so that definitive procedures can be accomplished, provided proper anesthetic technics are utilized. Whether they can survive the postoperative period is dependent on the extent of their physiologic derangement and their ability to cope with it.

It is apparent also that patients with minimal respiratory reserve can tolerate major surgery, provided there is no great increase in respiratory derangement during the postoperative period. However, when pulmonary procedures are contemplated in the face of minimal respiratory reserve, the pulmonary function studies reliably define how critical is the procedure and the ultimate prognosis.

This paper by Drs. Howland and Wang emphasizes our interest in the status of the evaluation of operative risks. Dr. Carl Moyer in a recent article indicates the reduction in mortality figures in recent years in older age groups and points out that it is the duration of physiologic upset, not the magnitude of the operative procedure, which significantly alters the operative risk. In his opinion the pulmonary-cardiac status of the individual affects the operative mortality rates very little except in angina, malignant hypertension, repeated myocardial infarctions, and uncontrolled cardiac failure. I must object to Dr. Moyer relegating anesthesia to a place of relative unimportance in the consideration of operative risk. Obviously the extent of surgical trauma and physiologic derangement is of prime importance in the ultimate prognosis, but anesthesia is relatively unimportant in the poor risk patient only when it is properly administered.

While it is wise to assay the anesthetic risk in terms of the physiologic capacities of the patient and to use technics and dosage of agents accordingly, the principal aid to physiologic testing is definition of the surgical procedure to be done if an alternative exists and perhaps delineation of the ultimate prognosis. I feel that physiologic testing should be a team effort of equal importance to the surgeon and internist, as well as the anesthesiologist. The proper appreciation of the operative risks involved and the maintenance of continuity of care by all members of the team from preoperative evaluation through the postoperative period is mandatory to reduce operative mortality further.

Sesquicentennial Meeting — February 18 to 21, 1957

The A. Walter Suiter Lecture

Treatment of Cardiac Arrhythmias

JOSEPH R. DIPALMA, M.D., PHILADELPHIA, PENNSYLVANIA

(*From the Department of Pharmacology, Hahnemann Medical College and Hospital*)

IN THE past decade many drugs, some old, some new, have been reported in isolated instances to exert a beneficial effect on a particular cardiac arrhythmia.[1,2] Despite this energetic search the fact still remains that only three types of drugs have substantial value for the disturbances of cardiac rhythm. These are (1) digitalis glycosides, (2) cardiac depressants, including quinidine and procaine amide, and (3) autonomic agents, including both sympathetic and parasympathetic drugs.[3,4]

The physician who is able to make an accurate diagnosis of arrhythmias, with or without laboratory aids as the occasion demands, and who knows how to use these three groups of drugs has at his disposal effective means of treating the majority of the serious disturbances of cardiac rhythm. This report will be devoted to the expert use of these drugs in the belief that it is better to have complete knowledge of a few virtues than a sprinkling of information about many unusual possibilities.

Physiologic Functions of Heart Muscle Possibly Affected by Drugs

At the present time cardiac physiologists are divided in a controversy concerning the intimate mechanism of tachycardia, flutter, and fibrillation.[5] Although it is of great interest, this need not concern us, for the action of drugs may be quite conveniently discussed from the viewpoint of how they alter the basic functions of heart muscle. This viewpoint is based on experimental fact and correlates exceedingly well with the clinical usage of the drugs.

To draw attention to the basic physiology of heart muscle rather than to theoretic mechanisms which are difficult to define, it may be stated that heart muscle fibers are simply nerve fibers which contract. It may then be easier to understand that there can be no change in the rhythm of heart (and this applies even to the normal range of rhythms) without a corresponding change in the physiologic modalities of the heart muscle fiber. The main factors which control rate and rhythm in the heart muscle fiber, just as in the nerve fiber, are excitability, refractory period, and conduction rate. The spontaneous rhythm, again as in the nerve, is determined by the level of membrane potential, which in turn is determined by many internal and external factors of the cellular environment. In this regard it is probable that the sodium pump mechanism applies to cardiac muscle as a mechanism of cardiac excitability.[6] Like a nerve center in the brain, the heart is under the control of higher centers by direct nerve pathways and by hormones or chemical mediators. In the case of the heart the vagus and the accelerator nerve are the nervous connections to the higher centers, while epinephrine and acetylcholine are chemical mediators which are antagonistic in effect and more or less constantly, and certainly during emergencies, controlling the cardiac rhythm. The temperature of the blood; its pH; the concentration of electrolytes, such as sodium, potassium, and calcium; the oxygen content, and many other factors all have an influence on cardiac rhythm.

The major functions of cardiac muscle are shown in Table I, and the direction of response with digitalis and quinidine is also indicated. The table is self-explanatory, but certain points are noteworthy. Digitalis and quinidine are synergistic in that they both depress excitability, slow conduction, and suppress spontaneous rhythm. The major area of difference is that quinidine diminishes vagal tone in contrast to digitalis which definitely raises it. Also quinidine lengthens the refractory period; digitalis shortens it. These diverse effects have a very important bearing on the uses of these drugs in arrhythmias. In the main it would not be wrong to consider digitalis as a drug with many of the actions of

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TABLE I.—Relationship of Physiologic Functions of Heart Muscle to Arrhythmia Tendencies and Influence of Quinidine, Procaine Amide, and Digitalis Thereon

Property	Influence on Arrhythmias	Quinidine and Procaine Amide	Digitalis
Contractility	Usually none, although depression of cardiac output leads to decreased coronary flow and anoxia which increases arrhythmic tendencies.	None, in therapeutic doses. May be depressed in toxic doses or with myocarditis.	Increases contractility of fatigued heart muscle, and this may improve coronary flow and oxygenation.
Excitability	A highly excitable heart is responsive to subliminal stimuli and capable of rapid rates. However, most hearts that are subject to arrhythmias have a depressed excitability.	Depresses excitability and thus may eliminate the response of normal heart muscle to abnormal stimuli.	Depresses excitability but not to a degree comparable to quinidine.
Conduction	Slowing favors the production of local blocks and ectopic foci and predisposes to re-entry mechanisms.	Slowed, especially in high doses or in susceptible hearts.	Slowed, may cause complete heart block and hence promotes ventricular rhythms.
Spontaneous rhythm	Good strong pacemaker activity is essential for normal rhythm. Depression of nodal areas with abnormal centers of rhythmic activity is harmful.	Slows rate of nodal tissue and depresses rhythmic activity by a direct muscle effect.	Slows rate of nodal tissue by a vagal effect and depresses rhythmic activity of muscle directly.
Refractory period	A rapid rhythm is possible only in the presence of a short refractory period.	Increases the refractory period in most circumstances.	Decreases the refractory period of the atrium by its vagal action and that of the ventricle by a direct muscle effect.
Vagus tone	An increase in vagal tone causes depression of sinus and nodal rhythm, meanwhile shortening the refractory period and slowing conduction. The later factors predispose to arrhythmias, but the slowing of sinus activity may abort an atrial tachycardia.	Decreased (antiacetylcholine action).	Increased by direct and indirect mechanisms.

acetylcholine, while quinidine and procaine amide would be more comparable to atropine and to local anesthetics.

Therapy of Serious Cardiac Arrhythmias Based on Physiologic Disturbance of Heart Muscle

In the section which follows, each arrhythmia will be discussed, first, with a description of the physiologic alteration from the normal state and then from the viewpoint of therapy.

Atrial Tachycardia and Nodal Tachycardia Mechanism.—The atrium has escaped from vagal control, and there is an ectopic focus in the atrium which drives the heart at a rate too rapid for efficient filling and ejection. The refractory period of the atrium is shortened. The ectopic focus is usually not far from the sinoauricular node.[7]

The desired drug effect is vagal stimulation. This may be achieved by carotid sinus stimulation mechanically or by parasympathetic drugs, such as neostigmine. The preferred drug is digitalis which in this instance works mainly because of its vagal effects. Digitalis usually offers a more permanent relief than any other drug. Quinidine and procaine amide may be used in cases refractive to digitalis and direct vagal stimulation. In this case the effect of increasing the refractory period and decreasing the rhythmicity of the ectopic focus are the aims of therapy.

Atrial Flutter.—The atrium has an ectopic focus which has a greater spontaneous rhythm than that seen in atrial tachycardia. The location of the ectopic focus is usually far from the sinoauricular node.[7] The vagus has no influence on the ectopic focus of flutter but still maintains some control of the atrioventricular node. There is usually some degree of block between atrium and ventricle. The refractory period of the atrium is very short.

Drug therapy is designed to abort the flutter. If this is not possible, the degree of block between atrium and ventricle should be increased so as to assure a more effective heart rate. This may be accomplished by vagal stimulation. Quinidine is relatively ineffective in aborting this arrhythmia when used alone. For this reason digitalis is the preferred drug because it increases the degree of block by its vagal action and restores effective ventricular pumping. The flutter may be converted to fibrillation because digitalis further shortens the refractory period of the atrium. Quinidine is generally more successful in arresting flutter after digitalis has taken effect. Sometimes sinus rhythm returns with digitalis alone. This may be regarded as being fortuitous and not a direct or usual action of digitalis.

Atrial Fibrillation.—There are many ectopic foci in the atrium with an extreme degree of spontaneous rhythmicity. The refractory period is exceedingly short. Vagal stimulation is capable of blocking the many chaotic impulses going from the atrium to ventricle.

Except in very recent atrial fibrillation with no evidence of prior heart disease, it generally is inadvisable to attempt to abort this arrhythmia with quinidine as initial therapy. Digitalis is the drug of choice. By its vagal-stimulating action it creates a block between atrium and ventricle, permitting a more effective heart rate. Quinidine or procaine amide may be used in chronic cases even if they are digitalized to abort the arrhythmia.

Ventricular Tachycardia.—There is an ectopic focus in the ventricle which has a high degree of spontaneous rhythm. The refractory period is short and conduction slowed. The vagus exerts no control over this arrhythmia.

Quinidine and procaine amide are drugs of choice. Their beneficial action consists of lengthening the refractory period and depressing the rhythmicity of the ectopic focus. Digitalis is contraindicated. The sporadic reports of beneficial digitalis action are probably cases of combined supraventricular and ventricular tachycardia (1:1 response).

Ventricular Fibrillation.—There are many ectopic foci in the ventricle with an extreme degree of spontaneous rhythm. Ventricular contraction is not effective, and the blood pressure is zero.

No drug therapy is consistently effective. Quinidine or procaine amide are only to be used prophylactically. Open chest massage and alternating current countershock are effective measures.[8] Epinephrine may be used with caution to restore sinus activity. Artificial respiration and oxygen are important concomitant therapy. Alternating current countershock completely depolarizes the heart, allowing the sinus node to restore the beat after an asystolic interval.

Complete Heart Block; Cardiac Asystole.—In heart block the impulses from the atrium are prevented from reaching the ventricle. This arrhythmia is not under vagus control. Spontaneous rhythm at a very slow rate arises in the ventricle. Conduction is slow and the refractory period long.

In asystole the spontaneous rhythm in the ventricle disappears, and cardiac contraction ceases. The excitability of the heart is very depressed.

Digitalis may be used in heart block but only to restore compensation and if it does not further slow the rate.

Quinidine is contraindicated in complete heart block for it further slows conduction, increases the refractory period, and depresses spontaneous rhythm. In these cases it often causes ventricular fibrillation.

Epinephrine or other sympathomimetic amines are drugs of choice to increase rhythmicity, shorten refractory period, and increase the excitability of the heart. In severe cases an external electrical pacemaker may be used.[9]

Adjunct Therapy

Unfortunately, many physicians become so involved in diagnosis and therapy of a particular arrhythmia that they forget that a disturbance of heart rhythm may actually be a reflection of a systemic disorder or, if heart disease is the underlying cause, that the heart may be subject to changes in rate and rhythm from causes apart from its own pathology. Hyperthyroidism is an obvious example and is not often overlooked. However, how many physicians confronted with a severe cardiac emergency call for artificial respiration and oxygen before reaching for a syringe of epinephrine? In our experience it is wise to pay attention to the following details before or concomitant to antiarrhythmic therapy.

Oxygen.—Whenever the blood pressure is low and the cardiac output obviously depressed, it is wise to administer oxygen regardless of the type of arrhythmia. Naturally, oxygen and artificial respiration are measures of first choice in ventricular fibrillation and cardiac asystole. In these arrhythmias especially but also in others, oxygen therapy assures a degree of success with antiarrhythmia drugs which otherwise might not be obtained.

Sedation.—Most severe arrhythmias are associated with extreme apprehension, and in many instances the arrhythmia has a definite association with emotional disturbances. Therefore, it is always wise to sedate the patient. Indeed, some cardiologists feel that success in antiarrhythmic therapy depends on a combination of sedation and antifibrillatory drugs. Sedation alone will often arrest an otherwise resistant arrhythmia. Morphine and barbiturates are the most suitable drugs.

Electrolyte and Fluid Balance.—It may be safely concluded that the most important electrolyte influencing arrhythmia is potassium. In certain cases of renal insufficiency, hemolytic reactions, and diabetic acidosis, a retention of potassium may occur with a resultant high blood level of that ion. Severe degrees of hyperkalemia or, in especially sensitive hearts, more moderate elevations of blood potassium result in atrioventricular heart block and intraventricular block. Several methods of therapy are available, although admittedly none is easy to apply.

These measures include (1) antagonism with calcium salts; (2) causing potassium to be stored in liver and muscle by administering glucose and insulin; (3) administration of sodium to increase the excretion of potassium; (4) some form of dialysis or ion exchange resin therapy to rid the body actively of potassium.

Hypokalemia is more common and results most often from a salt-losing nephritis. It may also be caused by vomiting, diarrhea, overuse of ion exchange resin, and adrenal cortical steroids. The arrhythmias most frequently encountered are atrial and ventricular premature systoles and, more rarely, atrial flutter and fibrillation. Digitalis cardiac toxicity is particularly well treated by the administration of potassium.

Calcium and magnesium electrolyte disturbances so rarely cause cardiac disturbances that they may be omitted from this report. A change in blood pH towards acidity is deleterious to the heart. The change need be only slight, for in animal experiments a shift in pH of the cardiac perfusing fluid from 7.4 to 7.2 causes marked depression of the heart. The excitability of the heart is markedly depressed, and conduction is slowed. Recently, beneficial results have been reported from the infusion of molar sodium lactate in patients with complete heart block and asystole.[10] The elevation of blood pH, which the lactate is capable of causing, may explain the satisfactory response.

Blood Pressure Control.—It is inevitable that in severe arrhythmias, such as ventricular tachycardia, the blood pressure falls. This is a vicious event since coronary flow is dependent on mean aortic pressure. If the arrhythmia cannot be aborted by the usual measures, it is wise to attempt to raise the blood pressure with newer sympathomimetic amines, such as Vasoxyl, mephenteramine, and norepinephrine. In this manner at least the coronary flow may be improved and the chances of reverting the arrhythmia to normal increased.

Similarly, cardiac arrhythmias may occur in a particular patient only when the blood pressure is very high. Here, lowering the blood pressure by ganglionic-blocking agents may be a useful measure in restoring or maintaining sinus rhythm.

Control of Inflammation.—A widespread or even a focal lesion of the heart, whether it be infectious or degenerative, may result in a violent inflammatory response in the heart muscle. The resultant edema and hyperemia may affect adjacent conducting or nodal tissue, and severe arrhythmias may develop. The use of suppressive cortisone or ACTH therapy is justified and occasionally is lifesaving.

Blood-Clotting Mechanism.—In severe myocardial infarction or in rheumatic endocarditis anticoagulants are administered in an effort to prevent the formation of mural thrombi and embolization. Such therapy is also beneficial from the viewpoint of cardiac arrhythmias. The formation of mural thrombi acts as an irritant which may precipitate an ectopic focus. It is common knowledge that a catheter tip in the cavity of the heart may precipitate arrhythmias. Is it less dangerous to have a large mural thrombus flapping about in the heart? Restoration and maintenance of sinus rhythm in some arrhythmias may be greatly aided by anticoagulant therapy. It must also be remembered that pulmonary emboli not uncommonly precipitate various types of arrhythmias even in normal hearts.

Summary

This report has attempted to give a rational approach to the therapy of cardiac arrhythmias rather than to discuss controversial mechanistic theories. Therapy has been based on the known physiologic functions of heart muscle. The basis of modern therapy still rests on a broad knowledge of the actions of digitalis, quinidine, and autonomic drugs. However, certain adjuncts to therapy are often helpful in cases where the response is not satisfactory after the usual drugs.

235 North 15th Street

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Environmental Cancer and Its Relationship to Industry, the Physician, and the Community

ROBERT E. ECKARDT, M.D., PH.D., LINDEN, NEW JERSEY

(*From the Medical Research Division, Esso Research and Engineering Company*)

CANCER has become a topic of increasing importance within the last half century. There are undoubtedly many reasons for this, among which, certainly, the extension of life expectancy is a most important one. Environmental cancers are of the utmost importance to industry, the physician, and the community, not because of the great numbers of them, but because they represent the only cancer which is preventable with our present state of knowledge. It is not my purpose today to dwell on the similarities in the relationship of environmental cancer to industry, the physician, and the community but rather to emphasize the differences.

Thus, all these groups are interested in the welfare of those for whom they are responsible, in the alleviation of unnecessary suffering or the elimination of untimely deaths. In these matters industry, the physician, and the community think alike about environmental cancer. But what makes industry's approach different from that of the physician or community is the potential liability for a segment of them, the occupational cancers, and for the sickness absenteeism they may cause. In contrast, the physician's approach differs from industry's or the community's because of what they may teach him about cancer in general. Finally, the community's approach is different from industry's and the physician's because cancer is second only to heart disease as a cause of death in the older age groups.

There is one fact about industry which dominates its relationships with all other groups or individuals. This fact appears so self-evident that it may appear superfluous even to mention it here; yet I think at times we as physicians are prone to ignore or belittle this fact. This fact

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is that industry must make a profit in order to survive. Unlike our hospitals and certain other of our medical services, no one puts on an annual drive to collect funds to subsidize our industry, and I am sure few of us would wish this to occur. The business manager, therefore, who is today more and more becoming a professional, must of necessity be cost-conscious. Experience has taught the successful business manager of today that reducing costs by reducing product quality is practically synonymous with committing business suicide. His job briefly, therefore, is to make a better and better product at a lower and lower cost. In order to accomplish this goal, he has had to rely more and more on technology, and this has resulted in a vastly increased quantity and, I may add, quality of industrial research and the elevation of the research director to a prominent role in the manager's decision making.

Let us assume that an engineer walks into a business manager's office one day and says: "I have just discovered that if we erect a new gizmo, we can make a million dollars." I am sure that the reaction would be: "How much will this gizmo cost? What will be the return on our investment? Are you sure that the erection of a gadget instead of a gizmo might not make us two million dollars?" I am sure the engineer would receive little consideration if he were to answer: "I've spent my life working on gizmos, and you'll just have to take my word for it."

I have digressed into this fantasy business world momentarily in order only to make a point. This point is that our technology has advanced so rapidly within the past fifty years that the business manager of today can no longer afford to make decisions by intuition but, rather, must depend heavily on facts to help him with these decisions. It is no different in the field of environmental cancer. The control of environmental cancer will increase costs and, therefore, the manager needs to know the facts and figures in order to reach a decision. "What is the extent of the problem? How much will it cost to correct it? Will the recommended controls really solve the problem? Can the costs be absorbed slowly, or must they be absorbed within a short time?" The answers to these questions may mean the difference between the continued existence or the death of an industry. It is, therefore, in the field of economics and finance that environmental cancer has its greatest significance to industry. I do not wish to imply that industry does not have a human side, because recently one large corporation discontinued the production of a compound when it found that it could not control the cancer hazard associated with its production. Certainly, deliberately to subject workers to cancer hazards for cost reasons would be the equivalent of business suicide, just as surely as the deliberate sacrifice of product quality because of cost considerations.

It is not that industry is reluctant to assume its justified costs in the field of environmental cancer control; it is rather that industry needs to be educated to the nature and extent of the problem and to realistic measures for its control. This needs to be done by a dispassionate unraveling of the facts in terms that are comprehensible. In developing a cancer control program[1] within our own company, it was found that an incomplete or ill-conceived program unsupported by facts received about as much consideration as the hypothetic engineer who proposed that a million dollars be made with a new gizmo. However, when the facts were carefully developed and intelligently presented, the program did not have to be "sold" to management, but instead these facts were used in reaching decisions. It should never be forgotten that the decisions cannot be made by staff advisers but must be made by management on the basis of the facts developed. If the facts are inadequate or inadequately presented, the decisions based on them must necessarily be inadequate. If the facts are adequate, then the decision reached will be appropriate. We have found that the more facts we develop from engineers, from chemists, from economists, statisticians, experimentalists, physicians, and nurses, the more appropriate will be the decisions in solving the problem.

To the physician environmental cancer has significance in what it may be able to teach him about all cancer. For instance, in the field of carcinogens it has been learned that different types of chemicals may have carcinogenic activity. Thus, polyaromatic hydrocarbons of the benzpyrene type cause skin cancer. Aromatic amines of the B-naphthylamine type cause bladder cancer. A strong suggestion that certain metals cause respiratory tract cancer exists from the experience in the chromate and nickel-refining industries. Radiations, such as x-rays or ultraviolet rays, can cause skin cancer, x-rays in the form of ingested radium can cause bone sarcomas, and general body x-rays may cause leukemia. These observations, all made on humans, still have not provided us with answers to many questions which are of importance. For instance, will benzpyrene cause lung cancers or bladder cancers, or will B-naphthylamine cause skin cancers or lung cancers?

In an attempt to develop answers to these most important questions, the physician has turned to the animal experimentalist for help. To a certain extent help has been obtained from the experimentalist, but to another extent new problems have developed. For instance, benzpyrene will cause cancers of the skin of mice, only benign papillomas in rabbits, and no tumors at all in rats and guinea pigs. Much attention has been devoted to the production of skin tumors in mice by polyaromatic hydrocarbons, but very little attention has been paid to the equally intriguing observations that it is difficult to produce cancers or even tumors of the skin in rats or guinea pigs with these compounds, if at all. How does the rat or guinea pig dermis differ from that of the mouse? What makes it respond so differently to this class of compound?

Yet in spite of these extremely interesting observations repeated countless times by numerous investigators, some experimentalists jump quickly from the conclusion that benzpyrene will cause skin cancers in mice to the conclusion that benzpyrene will cause lung cancers in humans. In work recently reported by Nelson and associates,[2,3] it has been demonstrated that animals that inhale methylcholanthrene develop skin tumors before they develop lung cancer. Lung cancer could only be produced by the most artificial means, such as impregnating a string with methylcholanthrene and imbedding it in the lung. Yet if we were to make as big a jump in our conclusions as some of the experimentalists do, we could only conclude that if inhaling benzpyrene can cause lung cancer in humans, then humans should all develop skin cancers before they develop lung cancers. We, as physicians, know from our clinical observations that this just is not the case.

Next the experimentalist has learned that there are at least two phases in the production of skin cancer in mice.[4,5] This fact arose out of observations that when mice are painted once with a potent carcinogen like 9,10-dimethyl-1,2-benzanthracene, few if any tumors or cancers develop. However, if this area of the skin which has been painted once with a carcinogen is now painted with croton oil, many tumors and cancers will appear. Croton oil, when used by itself, will produce no tumors whatsoever. The first of these two phases of carcinogenesis has been called the initiating phase. The carcinogen, 9,10-dimethyl-1,2-benzanthracene, has produced some inherent change in the cells of the skin. These cells then apparently lie dormant until the second phase occurs. This phase, represented by the croton oil paintings, is called the promoting phase. These are extremely important observations which need to be studied in detail in relation to occupational cancer since it is still not known whether both these phases are essential to the production of skin cancers in humans. If both phases are important in the production of cancers in humans, then this knowledge may profoundly affect our approach to the prevention of environmental cancer. These observations, as indicated, have been made only with the skin, and similar observations are not available concerning even the animal lung, much less the human lung. Remember that it is not even known whether polyaromatic hydrocarbons can produce experimental lung cancer, let alone whether promoting agents are of importance.

Several years ago an experimentalist reported that a virus could produce tumors in animals. Other observers obtained other viruses which would produce other tumors in experimental animals. The result was that overenthusiastic reports of these sound animal experiments concluded that viruses were responsible for all human cancers. Time and the increasing advances of our virus technology have now established the fact that viruses are responsible for few if any human cancers. Subsequent experiments suggesting that fungi had been isolated from human cancers were similarly heralded, only to fall by the wayside in the continued careful clinical and experimental observations on human cancer cases. Perhaps the most recent materials to receive attention have been the hormones. Experimental work has shown that marked hormonal imbalances may make certain animals more susceptible to cancer. In addition, injections of cortisone or ACTH may make it possible to transplant a tumor from one species to another—yes, even from humans to rodents. These observations, when coupled with the observations that marked hormone imbalances, when artificially produced in humans with cancer, will markedly alter the growth of cancers of certain organs in these humans, have led some to suggest that subtle hormonal imbalances are responsible for human cancer. These observations are extremely interesting and deserving of the most careful follow-up, but they should not be interpreted as universally applicable to all cancer.

In a recent article in the *British Medical Journal*, Sir Ernest Kennaway,[6] a distinguished British cancer investigator urges caution in the interpretation of certain observations about cancer. He points out that even though the distribution of cancer in different populations may be quite different, nonetheless, the total amount of cancer in these two populations is about the same. Dorn[7] has also similarly pointed out some interesting differences in cancer statistics which warrant careful study. Another observation of interest is that Negroes are much less susceptible to skin cancer from ultraviolet rays than whites. Is this difference due to the protective action of the pigment against the ultraviolet rays, or is it the result of other, more fundamental physiologic differences of the skin? To my knowledge no one has studied this most interesting observation. Finally, the well-known sex differences in lung cancer still require answers. The ratio of lung cancer in males to lung cancer in females may vary from as little as 2:1 in some countries to as high as 8 or 10:1 in others.

I simply have recounted for you some of the more interesting observations which have been made concerning human and experimental cancer research in order to point out that we, the medical profession, must not be stampeded into making dogmatic statements about environmental cancer until many more observations have been made. Our specific knowledge of environmental cancer, with the exception of sporadic clinical observations similar to those made by Sir Percival Potts in chimney sweeps, really only dates from about 1915. In that year two Japanese workers first produced cancer in mice by the continued painting of coal tar. Our specific knowledge of occupational bladder cancer dates from the monumental work of Hueper[8] as late as 1938. We are, therefore, really only in the infancy of our understanding of environmental cancer and must be interested but cautious in the interpretation of the significance of a vast multitude of literature on the subject. In the words of Kennaway: "...many investigations are reported which appear to promise further results, and yet, in say ten years' time, if they are remembered at all, they are found to have no progeny. This may be because they are inherently infertile or because the investigator has been diverted to other matters which appear more productive of results and annual grants."[6]

Environmental cancers are of significance to the community because they are preventable and because cancer is second only to heart disease as a cause of death in the older age groups. Therefore, if environmental cancers do constitute any significant segment of all cancer, the community has an opportunity to make some significant headway in counteracting this second cause of death. Recently, two important environmental factors have been suggested as causes of lung cancer. The first of these is the smoking of cigarets; the second air pollution. Those who believe that cigaret smoking has a causal relationship to lung cancer in men have presented a strong case in their favor. Statistical studies have shown that heavy cigaret smokers are likely to develop lung cancer 40 to 50 times as frequently as nonsmokers. The data, when stated differently, show that about ten out of 100,000 nonsmokers will develop lung cancer, whereas about 400 out of 100,000 heavy cigaret smokers will develop lung cancer. Stated in the reverse fashion, 99,990 nonsmokers will not develop lung cancer, whereas 99,600 heavy cigaret smokers will not develop lung cancer. Why does not this large segment of heavy cigaret smokers develop lung cancer? Perhaps a careful study of this group might be just as fruitful in understanding this situation as a study of the 400 who do. Other facts which need explanation are the marked sex differences in lung cancer. This is glibly explained by saying that women didn't start to smoke until after men. But how about the incidence of lung cancer in women who *have* been heavy cigaret smokers for over twenty years. Certainly there must be a statistically significant number of such women around. Finally, the data on pipe and cigar smoking are extremely variable, even among those who are united in their belief that cigarets have a causal relationship to lung cancer. I don't pretend to know what the answer to this most intriguing question may be, but I do propose that the community had better be sure of the facts before action is taken, because it will cost the community money. If cigarets are banned, it has been estimated that taxes will go up about $100 per family in the United States. Even if a carcinogen is found in cigarets and removed, there is no assurance that the lung cancer rates in smokers will be affected in any way. In addition, cigarets will most likely cost more, so that it should be ascertained that this increased cost is warranted.

In regard to air pollution the means are at our disposal to eliminate this, but it will cost money in terms of increased costs of goods. How much is the community willing to pay to eliminate air pollution? The investment of American communities in sanitary toilet, sewer, and water facilities undoubtedly runs into the hundreds of billions of dollars. This investment was, however, spread out over fifty or more years and is not required in isolated areas where its absence does not cause a public health hazard or constitute a public nuisance. The community did spend this money, however, probably not for health considerations, but rather to control the nuisance of smell and sight. The community was willing to spend $80,000 to prevent one case of paralytic polio, according to the figures of Salk and Francis. How much is the community willing to spend to control air pollution, and over how long a period will this investment be made? I am sure that you can see that the community must know what this air pollution causes. What then are the facts known today about air pollution? Benzpyrene has been isolated from the soot collected in cities. Is this a new observation? Certainly not. The soot in the chimneys of England which caused cancer of the scrotum in chimney sweeps in 1775 also contained benzpyrene. So we know that benzpyrene has been in our atmosphere for at least two centuries. Benzpyrene has been isolated from automobile and engine exhaust. Does this mean that because of the increasing number of automobiles the amount has increased? Data from Salford, England,[9] suggest that the benzpyrene content of the air over that city is from eight to nine times as great as the benzpyrene content of the air over Los Angeles[10] where there is said to be a very high concentration of automobiles. It thus appears that coal is a much greater contributor to the benzpyrene content of the air than automobiles. It is said that the concentration of our industries in our cities is responsible. But Kreyberg[11] in Norway has shown that lung cancer, although related to urbanization, is not related to industrialization. Finally, if air pollution is responsible, how can this account for the sex difference in the incidence of lung cancer?

Finally, in discussing air pollution in relation to the community, I do not wish to imply that lung cancer is the only consideration. Certainly the nuisance produced by eye and respiratory tract irritation, as evidenced by Los Angeles, will have to be taken into account by the community in determining how much it is willing to spend to control air pollution, and in the long run this may influence the community far more than health considerations.

Again, I don't pretend to know the answers to this problem. I only propose that the community had better be quite certain of its facts before it undertakes the expenditure of millions, possibly billions, of dollars to control air pollution. The facts, it appears to me, are not yet well established and require many more years of intensive research before they will become clear. My only plea is that we, as community members, and to our patients, as physicians, to be quite sure of *all* the facts first.

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RECENT ADVANCES IN MEDICINE AND SURGERY

A series of review articles dealing with medical progress

ROBERT TURELL, M.D., *Editor*

Studies in Myasthenia Gravis

KERMIT E. OSSERMAN, M.D., F.A.C.P., NEW YORK CITY

(*From the Myasthenia Gravis Clinic, Department of Medicine, Mount Sinai Hospital*)

Part I. Physiology, Pathology, Diagnosis, and Treatment*

In reviewing the literature for the past two years, one is impressed with the world-wide interest in myasthenia gravis. The character of the papers is changing; instead of mostly single case reports as in earlier years, now a good many are reports from treatment centers concerning studies of up to 150 cases or more.

In 1952 a Myasthenia Gravis Foundation with offices at the New York Academy of Medicine, 2 East 103rd Street, New York City, was founded, and in 1954 an international conference under its auspices was held in Philadelphia. Most of the papers were subsequently published as part of a Symposium Issue of the *American Journal of Medicine*, November, 1955.

These numerous reports emphasize further knowledge about the nature of the block at the neuromuscular junction; interesting observations on the pathology of the disorder; a rapid diagnostic test; tests which may be used in the management of therapy with cholinergic drugs; the fact that children also have myasthenia gravis; new drug therapies; and some classification for the indications of thymectomy. The endocrine approach has not been well delineated, but there are papers on the adrenocortical-pituitary influence and the thyroid. This new interest in myasthenia gravis is partially due to the increasing frequency with which the diagnosis is now being made, as well as the challenging pathophysiology at the neuromuscular junction.

Like other metabolic, enzymatic disorders, myasthenia gravis is a symptom complex comprised of many types with the common denominator, neuromuscular block. Thus, there is the transient neonatal myasthenic who has a transmission of some factor from its myasthenic mother; the juvenile type with bilateral, symmetric symptoms, often with a fair degree of familial incidence; the adult form may vary from a single group of muscles affected, such as in ptosis or diplopia of one eye, to the acute fulminating type seen frequently with thymoma. Another adult type is the unusual one in which muscle atrophy may develop.

Physiology

The modern era in the study of myasthenia gravis began about the year 1934 with the discovery by Mary Walker that this disorder, which resembled curare poisoning, could be reversed by the antidote physostigmine and later by Prostigmin.[1] The basic work of Loewi and Dale was the theoretic foundation for the neurohumoral approach of muscle action. More recently, Nachmansohn, whose work has been concerned with the action of acetylcholine in the generation of membrane action potential, explained the influence of electrical stimulation which results in a chemical reaction.[2]

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* Part II, Relationship of Thymus to Myasthenia Gravis, will appear in the September 1, 1956, issue of the JOURNAL.

In normal muscle contraction acetylcholine, which is held in a bound form, is released on nerve stimulation. This causes depolarization of the muscle membrane which increases the permeability of the membrane, permitting a shift of sodium into and potassium out of the cell.[3]

The enzyme acetylcholinesterase has been shown by Ravin,[4] Denz,[5] and Koelle[6] to be present at the neuromuscular junction about the palisade-like subneural apparatus of the end-plate. The acetylcholine is partly broken down by a specific cholinesterase enzyme into choline and acetate, permitting the muscle membrane to repolarize and be ready for the next chemical activation and further contraction. The choline and acetate are resynthesized to acetylcholine through the activity of the enzyme cholinacetylase. The depolarization of the end-plate membrane by acetylcholine can be almost completely prevented if sodium chloride is removed from the extracellular fluid.[7]

Blocking agents have been studied in the normal muscle, and two types of blocking have been described: a depolarizing block induced by such drugs as decamethonium (C_{10}) and succinylcholine and a nondepolarizing block or competition block as seen with curare. The problem of the nature of the block in myasthenia gravis has been studied by various means but largely by the electromyographic approach with intra-arterial injections of drugs such as curare, C_{10}, and acetylcholine. Harvey,[8] in studying the intra-arterial injection of acetylcholine, suggested that the defect is due either to a release of an insufficient amount of acetylcholine or to a blockade at the motor end-plate which prevents its stimulation by a normal amount of acetylcholine. A curare block in a myasthenic cannot be reversed by acetylcholine, whereas acetylcholine can overcome a myasthenic block.

Churchill-Davidson and Richardson[9,10] have studied the effect of C_{10} in high doses in myasthenia gravis. They found that the muscles most affected with myasthenia are the first to fail and that the clinically normal muscles have a marked tolerance to the depolarizing action. These data indicate that the end-plates of myasthenic muscles have less than normal sensitivity to cholinergic compounds like C_{10}.

In frog nerve muscle prolonged exposure of an end-plate to acetylcholine causes at first a depolarization and then a later recovery of the membrane resting potential. Despite the recovery of the membrane potential, neuromuscular block persists. This is an argument against the so-called depolarization block.[11-13]

Grob *et al.*[3,14,15] suggest that a continuing block exists in the resting myasthenic muscle. They consider that it is a competitive type of block due to choline liberated as part of the normal neuromuscular transmission process in which choline is released via the breakdown of acetylcholine by acetylcholinesterase. They present evidence that choline administered intra-arterially can duplicate the myasthenic abnormality in the myasthenic but not in the normal. This latter work, if substantiated, would seem to be an important advance in the study of the nature of the defect at the neuromuscular junction of the myasthenic since it postulates a block due to a normally occurring compound at the neuromuscular junction.

A number of papers point to the possibility that the defect in myasthenia may not be specific to the neuromuscular junction. Struppler[16] in animal experiments shows that decreasing electromyographic changes are due to a curare-like substance produced during muscle metabolism. The substance is probably an enzyme, and its effects on the neuromuscular junction are through the humoral pathway. Salmon[17] suggests that the disturbance is one of the autonomic nervous system marked by vagal hypotonia.

Lundervold,[18] using electromyographic technics, concludes that myasthenia gravis may affect normal fatigue mechanisms through other routes than the neuromuscular synapses. Pelikan[19] has pointed out that 4 per cent of normal subjects are as sensitive to curare as myasthenic individuals. Bergh[20] in studies of various species of animals found they reacted differently to flaxedil, C_{10}, and succinylcholine, probably due to differences in the motor end-plate.

Botelho[21,22] in two papers has drawn attention to certain discrepancies between electrical and chemical activity of skeletal muscles. In six patients studied simultaneously by tension curve and electromyography, the changes in tension reflect more accurately the degree of muscle weakness than those changes shown by electromyography. She concludes that in some muscles weakness results from a defect in contractability apart from or in addition to a defect in neuromuscular transmission. Her claim is that neostigmine is useful because, in addition to decreasing the neuromuscular block, it can alter the contractability of muscle. Her claim is not supported by the data she quotes. It would be valuable to have a comparison of the normal muscle tension and that in the myasthenic under adequate therapy.

The search to confirm Wilson and Stoner's[23] statement that there is a circulating curare-like substance in the blood of myasthenic patients has led to inconclusive results.[24] These experiments did show that the muscle membrane of the frog sartorius is affected by the serum of some of these patients. This work led to a study of the serum complement levels of 45 myasthenia patients and 12 controls. The complement level in myasthenia gravis is frequently below or above the normal range. In 75 per cent of the myasthenic patients changes in the complement level were related to the state of the patient, i.e., exacerbation, remission, or status quo.[25]

Lammers[26] used the serum of three myasthenic patients in which cholinergic medication was stopped for twenty-four hours. The serum was examined within two hours of sampling. This serum was tried on many species of animals without demonstrating the presence of a paralytic factor. Schwartz[27] attempted to find the curare-like factor by using transfusion technics in human subjects. He gave 1,500 cc. of blood from myasthenic patients with marked symptoms to a normal without creating weakness. Conversely, an exchange transfusion of 4,000 cc. of normal blood was given to a myasthenic patient without improvement.

Van Maanen[28] cautions that the method for assaying blockading agents may be too insensitive, for it does not detect curare in the serum of an animal fully paralyzed by the drug.

Pathology

The classic description of myasthenia gravis is muscular weakness with bulbar involvement without anatomic changes. The central nervous system, peripheral nerves, and muscles are without specific lesions. The appearance of lymphorrhages in skeletal muscles has long been known. As early as 1901 a thymoma was found in association with myasthenia gravis, and in various reports in the literature thymoma is said to occur in about 15 per cent of all myasthenic patients with thymic abnormalities in an additional 65 per cent.[29]

Recently histologic changes in striated muscles have been pointed out by Russell[30] and others.[31,32] Störtebecker[33,34] performed muscle biopsies and found that six of 13 myasthenic patients showed perivascular round cell infiltration similar to that seen in myositis and stated that it was difficult to differentiate this pathologic picture from that seen in dermatomyositis and the myopathies of muscular dystrophy. In control biopsies of hereditary myopathy and 12 cases of amyotrophic lateral sclerosis, no definite round cell infiltration was seen. He further stated that in 25 cases of myasthenia gravis, signs of infection were prominent. The sedimentation rate, differential white count, and cultures from throat swabs often showed pathologic findings. The serum determination of antistaphylolysin titer showed raised values in 72 per cent of the cases, the antistreptolysin titer in 36 per cent of the cases, and the coli agglutination titer in 64 per cent. He concluded that muscle biopsy cannot give a clear-cut diagnostic picture, confirming Adams *et al.*[35]

Mendelow and Genkins[36] in studies of the autopsy findings of 12 consecutive cases of myasthenia gravis found myocardial necrosis with secondary inflammatory reactions and similar lesions in striated muscles to be an integral part of the pathology of myasthenia gravis, particularly in those cases with thymic tumor. Frey[37] and Birkner[38] report cases of involvement of the cardiac muscle with questionable clinical and electrocardiographic changes in relation to Prostigmin medication, although previous investigation by Taquini[36] negates this. Rowland[39] in a review of 35 cases with 23 autopsies, showed a 30 per cent mortality, and 30 per cent of these cases had thymoma. There were two cases of myocarditis, three cases of myositis, and two cases of thyrotoxicosis.

Barnes[40] reports demyelination with organophosphorus compounds and concludes that the demyelinization is not solely or directly due to anticholinesterase agents. De Haene[41] reports a single case with 1 Gm. of albumin and four lymphocytes in the cerebral spinal fluid. Thévenard[42] studied the electrophoretic pattern of the proteins in six myasthenic patients. The total protein was normal. The albumin-globulin ratio was normal in four, increased in one, and inverted in one. The alpha globulins were diminished in five of six cases.

Diagnosis

A high degree of suspicion of myasthenia gravis is most important in the differential diagnosis of weakness. Proper history-taking includes information as to variability of symptoms related to rest, activity, and the time of day. Physical examination should include repetitive action of muscle groups in order to evaluate the influence of fatigue. The use of mechanical and electrical tests is rarely required to establish the diagnosis but can be helpful at times.

Responses to chemical agents have been the accepted criteria for diagnosis. There are two classes of drugs used: depressants and stimulants. The depressants, curare and quinine, are only used when the diagnosis of myasthenia gravis is sincerely doubted. Myasthenic patients are hypersensitive to curare, and as little as one twentieth of the curarizing dose for normals may cause distressing respiratory difficulties which may be irreversible.[43] The drugs used are the stimulating cholinergic drugs. Prostigmin responsiveness was introduced twenty years ago and remains a valuable test.[44,45] Most observers state today that only in myasthenia would improvement be unequivocal and diagnostic.[46] A total of 1.5 mg. Prostigmin Methylsulfate is administered intramuscularly, and the patient is examined at five to ten-minute intervals with good response appearing in fifteen to twenty minutes. Tether has used 0.5 mg. intravenously to obtain a faster result.[47]

Recently, Osserman *et al.* introduced Tensilon as a rapid diagnostic test.[48–51] Tensilon is a cholinergic drug characterized by prompt, brief action (thirty seconds to two minutes). The response consists of temporary increase in muscle strength and general subjective improvement. If the diagnosis is correct, there is no ensuing fasciculation in the muscles, and side-effects are minimal. If the subject is a psychoneurotic with abnormal fatigability, the effects of the drug can be duplicated by using a placebo. If the subject is normal, there is usually fasciculation without increase in strength. Excessive doses of the drug elicit false negative reactions in a small group of hyperreactive subjects. The recommended dosage based on a study of 300 patients consists of 2 mg. injected intravenously to be followed thirty seconds later by an additional 8 mg. if the first portion does not elicit a reaction.

Recently there has been some controversy concerning patients who show the typical signs and symptoms of myasthenia but have little or no response to Prostigmin.[46] It has been suggested that they may have polymyositis or a form of muscular dystrophy. The classification of these patients is difficult. It has been the experience of most authorities in the field that responsiveness to cholinergic drugs is never more than 90 per cent complete and may be as low as 10 to 15 per cent. As shown in the section on pathology, patients with unequivocal myasthenia may have necrosis and inflammatory responses in striated muscles typical of dystrophy or dermatomyositis.[52] Therefore, any syndrome of muscle weakness not accompanied by alteration of tendon reflexes in which strength improves after the administration of adequate amounts of Prostigmin or Tensilon should be considered to be myasthenia gravis. A history of remissions in the past tends to confirm the diagnosis.[46]

With more experience patients who have minimal manifestations are being diagnosed as having myasthenia gravis.[53–56] There may be insufficient weakness in any one group of muscles to test for an obvious response to Prostigmin or Tensilon. It is in such cases that Tether[47] has used the curare test. Usually I find that these cases can be diagnosed without resorting to a depressant drug. These are the cases in which mechanical aids, such as the ergograph, are most valuable. A baseline test is performed and then repeated at five-minute intervals, first using a placebo injection and then Tensilon. After Tensilon, if the ergogram shows marked improvement over control and placebo testing, the test is positive for myasthenia gravis.

Botelho[57] has shown that electromyography can be performed using the orbicularis oculi. Since these muscles are more frequently involved than the adductors pollici brevis and abductor digiti quinti, the tests are more accurate.

Hutchinson[58] used an intra-arterial injection of Prostigmin and found that it did not assist in the diagnosis of myasthenia unless the injected arm was affected.

Treatment

In the management of the myasthenic patient our most important concerns are early diagnosis and treatment tailored to fit the individual case. The drugs used are anticholinesterases. They reduce the activity of cholinesterase, permitting acetylcholine to function properly, and thus reducing the block at the neuromuscular junction.

There are three drugs currently being used in the treatment of myasthenia gravis: Prostigmin, Mestinon, and WIN-8077. The dosage of all these drugs varied markedly from one individual to another and may change from time to time in the same patient.

PROSTIGMIN.—Prostigmin has been used since about 1935. From as little as one-half of a 15-mg. tablet of Prostigmin Bromide three times a day in mild cases to over 100 tablets per day in severe cases may be needed. Many factors, such as menstrual periods, pregnancy, infection, or emotional stress, can alter the daily requirement. Each patient with the help of his physician must learn to adjust the dose of medicine to his immediate needs. This adjustment is based both on the degree of relief of myasthenic symptoms and on the appearance of side-reactions, such as sweating, salivation, lacrimation, nausea, abdominal cramps, diarrhea, and muscle fasciculations. The side-effects indicate that an overdose is being approached which may lead to cholinergic reaction. Therefore, the dosage of any cholinergic drug should be increased slowly.

Prostigmin has withstood the test of time and has long been the undisputed drug of choice for the treatment of myasthenia gravis. It has been effective in the treatment of the great majority of patients with this disease, especially those with the mild attacks of myasthenia gravis for whom relatively small doses of Prostigmin are necessary.

The two chief disadvantages of Prostigmin are its undesirable side-effects, such as gastrointestinal distress, and its relatively brief duration of action. Now being tested in the clinic are tablets of Prostigmin with an outer covering of 7.5 and 15 mg. for immediate therapy and cores of 15 and 30 mg. for prolonged action. These tablets may answer the problem of this drug's brief effect. No reports are available at present.

A third and most important disadvantage is that resistance to Prostigmin may occur in severe myasthenia so that even with increased dosages one cannot completely reverse the marked weakness of the patient.[59]

MESTINON BROMIDE.—In the past few years many new cholinergic drugs have become available for research in the treatment of myasthenia gravis. One of these, Mestinon bromide (pyridostigmine bromide), which is a dimethyl carbamate of 3-hydroxy-1-methylpyridinium bromide, has been used and reported from clinics throughout the world. At the present time there are reports on many hundreds of patients who have received this drug.[60–71]

In evaluating any drug therapy for myasthenia gravis, we believe that the following criteria must be considered:

1. What is the duration of action of the drug?
2. What relief of myasthenic symptoms does it afford?
3. Is the drug nontoxic?
4. Can the drug be helpful when the patient is resistant to Prostigmin?

Reports from Europe and from the major centers in this country show that Mestinon fulfills these requirements. It is definitely longer in action than Prostigmin, not so much during the daytime hours, but there is a definitely increased effect during the nocturnal hours with Mestinon, permitting the patient a full night's sleep. Mestinon gives marked relief from myasthenic symptoms. Results from various clinics report up to 70 to 75 per cent increased improvement as compared to Prostigmin.

With long-term use of Mestinon, as reported by Osserman in the recent symposium,[64] 45 per cent of the patients in the severe and moderate groups of myasthenia were so improved as to overcome their economic liability. Mestinon is definitely less toxic than neostigmine, and this is one of its most striking advantages. Schwab has commented on the possibility that in the absence of early warning symptoms of overdosage, special attention would be necessary to avoid cholinergic effects when using Mestinon. We found no difficulty on this account because the usual muscarinic side-reactions occurred as soon as overdosage of Mestinon was reached. In fact, it is easier to avoid overdosage with Mestinon than with Prostigmin because of the wider range between the therapeutic and the toxic effect.

In the past few months Mestinon bromide has been made available for study in the form of a long-acting tablet.[72] This has a core of 120 mg. of Mestinon with an outside covering of 60 mg. of Mestinon for immediate use. There have been no reports in the literature to date on its effectiveness, but in our clinic we have transferred 24 patients, and 17 state that it tends to last two and one-half to three times longer than regular Mestinon. It seems to have a smooth action in most patients, and this new dosage form of the drug may eventually replace to a great extent the use of regular Mestinon.

Regular Mestinon is available as a 60-mg. scored tablet so that dosages as small as 15 mg. may be given. One 60-mg. tablet of Mestinon is equivalent to one 15-mg. tablet of neostigmine in effect. Less than 1 per cent of patients are sensitive to the bromide in Prostigmin and Mestinon. For these patients, a special preparation of Mestinon Chloride may be obtained.

MYTELASE.—Recently there have been three papers published on the use of ambenonium, formerly known as Mysuran Chloride (WIN-8077). WIN-8077 is N, N^1-bis (2-diethylaminoethyl)oxamide bis-2-chlorobenzylchloride. In animal experiments this drug was two to four times as active in antagonizing tubocurare paralysis, and the effect was of much longer duration. Mytelase is available in 10-mg. and 25-mg. scored tablets. Only oral medication has been used.

Schwab[73,74] reports that of 75 patients transferred to the drug, 59 were still taking WIN-8077, of which 17 were using a combination with Prostigmin or Mestinon. His patients found it preferable to neostigmine because they had decreased side-reactions and prolonged effectiveness.

In Westerberg's[75] series of 33 patients, 26 found WIN-8077 to be an effective agent in increasing muscle strength, and seven found it ineffective. Thirteen patients preferred WIN-8077 to any anticholinesterase and continued to take it alone. Nine patients considered WIN-8077 equal to their other medication in effect, and six of these continued to use it regularly. Twelve patients had unsatisfactory results with the medication. She concludes that WIN-8077 is an effective drug in the treatment of myasthenia gravis and that for some patients it is the most effective drug available. WIN-8077 should be started with a cautious 5-mg. dose and slowly increased with close observation for side-reactions.

Applying the criteria for a new drug to WIN-8077, we find that it is effective in the treatment of myasthenia gravis in many of the patients who have taken it. It has a prolonged action as compared to Prostigmin and possibly longer than that of Mestinon, although Grob[76] found that Mestinon was equal, if not longer, in action to WIN-8077. It has fewer toxic side-reactions than Prostigmin but more than Mestinon. These side-reactions differ from those of Mestinon in that central nervous system side-reactions are more evident, particularly headache, than with either Prostigmin or Mestinon. Although gastrointestinal side-reactions are not nearly so common as with the other two drugs, they do occur when overdosage is approached. However, since they are late in appearance, muscle fasciculations and weakness are the early signs of overdosage with this drug. This is pointed out by Tether.[77]

As to the final point of evaluation, whether any drug can be effective when Prostigmin is not, the answer at the present time is that it is unlikely that Mestinon or WIN-8077 will help the resistant patient. There are a few cases in which they have been helpful because with decreased side-reactions, higher dosages of these drugs could be used than of the parent drug Prostigmin.[60] But we are still searching for a drug which will be effective when the patient becomes resistant to cholinergic drugs.

BC-40.—From Vienna there is report of further alteration of the Prostigmin molecule in which there is attached to the carbamic acid nitrogen a polymethylene chain of various lengths, from four to ten methylene groups. Thus, the pharmacologic character of these new substances is changed so that they are qualitatively identical to Prostigmin but are more active and have a much longer duration of action. Three drugs of this type have been reported: BC-40, BC-47, and BC-48.

BC-40 has been given to 11 patients and ten normal controls.[78] The undesirable side-effects were counteracted by atropine. The optimal intramuscular dose varied from 0.3 to 0.5 mg. in combination with 0.5 mg. of atropine sulfate. With this dose no unpleasant side-effects were noted. Twenty minutes after intramuscular injection the drug action starts and reaches its maximal effect at six hours. It retains a full effect for twenty-six hours, and then reduced doses of Prostigmin will suffice for an additional three-day period after the original injection. When optimal dosage is used, the treatment can be given at four-day intervals. The patients feel well, their appetite is increased, and they gain weight.

BC-47 and BC-48 are as yet untried in the human being. Pateisky[79] claims that these drugs are most potent. Two neostigmine radicals are combined by eight and ten methylene groups, respectively, having from ten to 100 times the acetylcholinesterase-inhibiting power of Prostigmin. The stability of the enzyme-inhibiting complex is also much greater, particularly in the dibasic compounds. He states that this explains its prolonged action. BC-48 gave partial protection against d-tubocurarine for one week in the experimental animals, whereas Prostigmin protected the animals for only two hours.

These are interesting compounds and will have to be followed more closely to see whether they will have any clinical value in the treatment of myasthenia gravis. We have just begun to use these drugs in our clinic.

ALKYL PHOSPHATE.—Drugs of this group, DFP,[80] TEPP,[81] HETP,[82] and OMPA,[83,84] have been used for the past number of years, some with good effect. However, the early acceptance of the use of OMPA has now changed to extreme caution.[85,86] Because of the great difficulty in its manufacture, it has been withdrawn from experimental study. TEPP is still being reported as having value in the treatment of myasthenia gravis.[87]

Wilson *et al.*[88,89] have studied PAM, which has the ability to reactivate an inhibited cholinesterase enzyme, thereby giving rise to the active enzyme with a postulated phosphorylated oxine as its final result. This has been pointed out as being of extreme value in the overcoming of nerve gas poisoning due to inhibition of the cholinesterase enzyme. This report may certainly reopen avenues of study for the use of the alkyl phosphates in the treatment of myasthenia since one of the great difficulties in using these substances was their tremendous toxic effect. Furthermore, PAM or some substance derived from it or similar to it may become of great value in the final treatment of cholinergic reactions, no matter what the drug used in myasthenia gravis. Currently, PAM has only been used in animal experiments. The toxic effects in animals have not been fully studied. We await further information about this compound and derived compounds.

ACTH.—When the adrenocorticotropic hormones became available, they were used for their effect in shrinking thymic and lymphatic tissues. Soffer *et al.*[90] administered ACTH to a case of known myasthenia gravis with an inoperable thymic tumor with subsequent temporary shrinkage of the tumor.

Torda and Wolff[91] reasoned that the thymus had some relationship to myasthenia gravis and that since ACTH could effect a diminution in the size of the thymus gland, it should be valuable in the treatment of myasthenia gravis. They reported remissions following its administration.

Subsequently, this procedure was tried in many clinics, and it was quickly recognized that the giving of ACTH to a myasthenic patient was an extremely hazardous procedure inasmuch as the patient became much worse on the first few days of receiving this drug, and in some cases death ensued. However, on withdrawal of ACTH, the patient responded by a rebound phenomenon, going into some remission.

Kane[92] concludes that corticotropin still has a definite, if distinctly limited, contribution to make in treating myasthenic patients. Incidentally, in his controlled experiment he concludes that cortisone and its derivatives are not nearly so valuable as is ACTH.

Because of the numerous deaths that occurred and the numerous respirator cases that evolved from the use of ACTH, many negative reports appeared in the literature. The first was that of Merritt,[93] soon followed by Schlezinger,[94] Grob,[95] Randt,[96] Westerberg,[87] etc. Currently, the opinion is that ACTH should not be used in the treatment of myasthenia gravis per se. However, when a myasthenia gravis patient develops an inoperable thymic tumor or any secondary condition which would require the use of the corticotropin, it may be used as long as the doctor realizes the danger of inducing myasthenic crisis and increases the cholinergic drugs considerably during the early phase of the use of ACTH. This is comparable to the use of ACTH in diabetes mellitus.

At a time when ACTH was difficult to obtain, Granirer[97] suggested the use of postpartum serum given weekly to patients with myasthenia gravis. We have seen a few of his patients and must state that some of them have done well on this regimen. However, we have been able to transfer these patients to regular cholinergic medication without any decrease in the efficiency of these patients.

OTHER DRUGS.—Urecholine[98] has been advocated for the therapy of myasthenia gravis. However, its value is only that of an adjunct to treatment with any of the other cholinergic drugs. More information about this compound will be required before full evaluation can be established.

Accornero[99] reports favorably on the combination of Prostigmin and acetylcholine in the treatment of myasthenia gravis. However, in all experiments acetylcholine is so short-acting that one cannot see how this particular combination could be as effective as the author states.

Dulce[100] reports on the use of glutamic acid in the treatment of myasthenia gravis and claims its action is on the central nervous system plus an uncertain effect on the neuromuscular system that seems to have some results for no known reason. In this there is agreement; there is no reason for any value here.

Billig[101] reports metabolic alterations during betain and glycocyamine feeding in myasthenia gravis. These are precursors of phosphocreatine. He found that giving betain and glycocyamine was better than giving creatine in the diet and that it was made available slowly over a long period of time. It is highly questionable whether there is a true creatine defect in myasthenia gravis.

Psychologic Aspects of Treatment.—Brolley and Hollender[102] have reported on the psychologic problems of patients with myasthenia gravis. They studied 12 patients and found many defects in living common to other chronic diseases but some specific to myasthenia gravis. It is easier to hear unpleasant facts when someone is standing by to provide support than it is to obtain them from cold print. Also, the element of hope can be stressed, and personal anxieties can be handled. Second, as with other chronic diseases, it is necessary to explain the rationale for continuous therapy and obtain the full cooperation of the patient. Therefore, once the diagnosis is made, the patient should be told the name of his condition, that the disease is chronic, and that myasthenia is a treatable, but not a curable disease at the present time. Finally, as with diabetes, medication will have to be taken indefinitely.

The manner of the reaction of the patient depends on how he is told the above facts. The final impact of the diagnosis and explanation is not always absorbed at the first sitting but may be fractionated and delayed so that the final reaction may be even as late as one year after the diagnosis is made. They feel, naturally, that one must be very careful in ward rounds not to impart information that the patient should not have. They found that much information about the patient's adjustment to his disorder can be obtained from the attitude of the patient toward taking medication, and much of the adjustment can be understood in terms of reaction to fear and dependency. To a limited degree myasthenia gravis is a two-phased illness: a primary phase of disability and a secondary phase during rehabilitation which usually starts when medication is first given. The patient's adaptation to the problems of these two phases depends on his previous personality makeup.

The symptoms of myasthenia gravis are intensified by emotional upsets. More specifically these seem to involve anger and envy. Their effect is possibly a direct one on the skeletal musculature. We have seen the effect of psychologic problems in our patients in that some have been thrown into myasthenic crisis by the hearing of bad news. Similarly, we have seen a case in severe myasthenic crisis brought into remission by the husband's bringing flowers and writing poetry to her as he did when she was being courted.

Summary of Treatment.—To summarize the section on treatment, there are three drugs which are now accepted as valuable in the treatment of myasthenia gravis: Prostigmin, Mestinon, and Mytelase. A 15-mg. tablet of Prostigmin is equivalent in action to a 60-mg. tablet of Mestinon. The equivalent in Mytelase has not been clearly defined, but it seems to be between 5 and 7.5 mg.

It is difficult to determine which drug will be the best for an individual patient. However, our experience would seem to indicate that Mestinon is the drug of choice in the treatment of myasthenia gravis since it controls best approximately two thirds, if not more, of the patients with minimal side-reactions. In the remaining group of patients, WIN-8077 or Prostigmin alone or in various combinations may be the better treatment.

Management of Myasthenia Gravis

Tensilon was first reported on by Westerberg[103] as a drug to be used in the treatment of myasthenia gravis. However, because its action was very rapid but short-lived, she felt that this drug probably would have no value for the treatment of myasthenia gravis. This very defect in its use as a therapeutic drug made it an excellent diagnostic test for myasthenia gravis, as previously reported by Osserman *et al.*[48]

After much testing it was found that the

Tensilon test can be an excellent tool for the management of the dosage of other cholinergic drugs in myasthenia gravis.[104] If a patient is tested one hour after taking a dose of cholinergic drug and is found to improve after an injection of Tensilon, then the dose of cholinergic drug was inadequate, whereas, if the patient is unimproved with minimal side-reactions, either with or without some fasciculations, one hour after his dose of cholinergic drug, then the previous dose was adequate. However, when one hour after a dose of cholinergic drug, the Tensilon test elicited a weakness in the patient with marked side-reactions and almost always with fasciculations, then definite evidence is present that the patient had received an overdose of cholinergic medication.

In any doubtful case, if a patient is not markedly improved by the dose of Tensilon, the dose of cholinergic medication should not be increased. This test also showed value in differentiating a myasthenic from a cholinergic crisis.[105]

Weakness and Crisis.—In 1952 Wilson, Williams, and Miller[106] pointed out the hazards of cholinergic crisis in the treatment of myasthenia gravis with octomethylpyrophosphoramine. Although it was known that this drug could create overdosage symptoms, as was pointed out by Schulman, Rider, and Richter[85] and others working with the phosphorylated compounds,[86] the effect of the quaternary ammonium salts was said not to create much distress except for muscarinic side-reactions. Therefore, it was felt that a myasthenic could always increase the dose of cholinergic medication to obtain better results. Osserman *et al.*[105] reported that myasthenic and cholinergic weakness did occur in the same patient and that the latter was due to overdosage with Prostigmin. They used the Tensilon test as a means of differentiating this weakness.

Subsequently, more and more reports are appearing in the literature.[107–109] Tether[110] has clearly defined this problem, giving the clinical picture of the two types of weakness. Tether further states that cholinergic weakness may occur before the onset of the warning symptoms of muscarinic side-reactions and, therefore, finds the Tensilon test an invaluable aid. In the discussion of twenty years experience with the Prostigmin test Schwab[45] agreed with Reese[45] that Tensilon is most useful in differentiating the cholinergic crisis from overdosage and the myasthenic crisis from insufficient Prostigmin. Reese further states that Tensilon was an excellent indicator to prove the effectiveness of the therapeutic regimen and to correct errors. In cases of crisis he states one must resort to Tensilon.

Rowland *et al.*[46] performed an experiment to find out whether Prostigmin could induce muscle weakness in a myasthenia gravis patient. They conclude that Prostigmin administered in large amounts intravenously can cause significant weakness in patients with myasthenia gravis; that the Prostigmin-induced weakness was usually preceded by improvement in clinically weak muscles, but that the improvement was usually incomplete. In one patient large amounts of the drug failed to invoke any improvement before eliciting weakness. There was no consistent pattern of weakness, but muscles which had not been clinically weak previously were usually affected simultaneously with myasthenic muscles.

Schwab[111] has pointed out the hazards of using atropine routinely in cases of myasthenia gravis since the atropine negates muscarinic side-reactions, permitting the patient to take more of the drug than he may possibly need and thereby covers up early signs of cholinergic reaction. The result of all these papers is that we are now completely aware of the fact that overdosage can induce muscular weakness in these patients and must be avoided in the treatment of our patients. Otherwise, we find that weakness induced by the drug is confused with weakness of the disease, and many of these patients keep increasing their drug until they get into real hazards of cholinergic crisis.

4 East 89th Street

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The Management of Moderate to Severe Hypertension with Rauwolfia and Veratrum

ARPAD BENEDIG, M.D., NEW YORK CITY

In 1945 the clinician had few useful drugs for the treatment of hypertension. Of the drugs available, e.g., thiocyanates, nitrates, barbiturates, theobromine, aminophylline, papaverine, etc., none was satisfactory. In 1955 so many new and potent hypotensive drugs are available that adequate therapy is possible for almost every hypertensive patient. The major problem today is to choose the drug or combination of drugs that best fits the needs of the individual patient.

Many reports during the past four years confirm the value of Rauwolfia serpentina in the treatment of mild, labile, and neurogenic types of hypertension.[1-19] Rauwolfia serpentina extracts are established as the remedy of choice in primary therapy of all grades of hypertension and as a synergist for more potent drugs in severe cases which are not relieved by Rauwolfia alone.[1,2,4,5,13,14]

Rauwolfia extracts are most valuable in mild and moderate hypertension, although a certain percentage of severe cases also respond satisfactorily. However, it will usually be necessary to add more potent hypotensive agents to the basic Rauwolfia therapy in severe cases. The problem is to select which of the more potent antihypertensive drugs should be added. The choice rests between:

1. Dihydrogenated ergot alkaloids, central adrenergic-blocking agents with bradycrotic and mild hypotensive action.
2. Veratrum viride extracts, centrally acting neurogenic vasodilator and bradycrotic agents.
3. Hydralazine, a centrally acting, adrenergic blocking, renal vasodilator and tachycrotic agent.
4. Dibenamine and Dibenzyline, peripheral adrenergic blocking and tachycrotic agents.
5. Hexamethonium or pentapyrollidinium, total ganglionic blocking and postural hypotensive agents.

Dihydrogenated ergot alkaloids have been disappointing since their hypotensive action is not dependable and tolerance usually develops rapidly.

Hydralazine is a moderately potent hypotensive drug. However, unpleasant side-actions usually occur early in therapy, and serious toxic side-actions may attend its prolonged use. These may not be reversible.[18]

Dibenamine is an unsatisfactory hypotensive agent. It is effective in less than 50 per cent of patients. Marked reactions are seen in even a greater number.[20,21] Dibenzyline has the advantage of being effective by mouth but unfortunately shares the same prohibitive side-actions as Dibenamine.[22]

Hexamethonium and pentapyrollidinium are potent hypotensive drugs. They must be used cautiously, and since dangerous side-reactions may attend their use, patients require careful supervision at all times. These ganglionic-blocking agents should be reserved, therefore, for those serious cases in which either severity or rapid progression of the disease warrants the risk and annoyance inevitably associated with this type of medication.

In many respects Veratrum comes closer to being an ideal potent hypotensive agent than any other drug currently available.[23,24] Veratrum produces an integrated arteriolar vasodilation, with a decrease in peripheral resistance and increased blood flow to major organs. Improvement in circulation is produced, resulting in better oxygenation.[25] Veratrum has often erroneously been called toxic, but Clarke,[1] as well as other investigators, has pointed out that in clinical practice it is a very safe drug, being free from organ toxicity. Clinically the dosage of Veratrum is critical because overdosage leads to uncomfortable (but not dangerous) side-actions, notably epigastric burning, sialorrhea, nausea, and/or vomiting. Extreme overdosage may produce hypotensive collapse. It has long been appreciated that measures capable of widening the therapeutic margin of

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TABLE I.—BLOOD PRESSURES, AGE, AND SEX OF 48 PATIENTS

Age Range	Blood Pressure	Males	Females	Total
26 to 35	158/101	3	1	4
36 to 45	161/108	2	2	4
46 to 55	190/110	6	10	16
56 to 65	195/114	6	7	13
66 to 75	203/114	3	8	11
		—	—	—
TOTAL	. . .	20	28	48

Veratrum would serve to extend the clinical usefulness of Veratrum appreciably.

Pharmacologic research has shown that the emetic action of Veratrum is of neurogenic origin.[26,27] It is logical to assume that centrally depressant drugs should raise the emetic threshold of Veratrum. Pharmacologic and clinical evidence indicates that Rauwolfia exerts a specific antagonism to the emetic action of Veratrum[28] and that when Rauwiloid* is added to Veriloid, the threshold dose of Veriloid for vomiting is raised, while the amount of Veriloid required to lower blood pressure is reduced.[1,2,4–8,13,14] Thus, there is rational basis for the use of a combination of Rauwolfia and Veratrum in those patients who do not respond to alseroxylon alone or in those whose disease has progressed to the point where alseroxylon alone is no longer adequate.

The three major objectives of our study were, (1) to evaluate the usefulness of Rauwolfia therapy alone in mild hypertension, (2) to evaluate the usefulness of a combination of Rauwolfia and Veratrum in moderate to moderately severe cases which did not respond satisfactorily to Rauwolfia alone, and (3) to determine the minimum dosage necessary to maintain a normal or near normal blood pressure.†

Material and Methods

Forty-eight patients were selected at random as they came to the office. There were 20 males and 28 females, ranging in age from twenty-six to seventy-five years. The average blood pressures and age and sex distribution are given in Table I.

TABLE II.—SYMPTOMS AND COMPLAINTS ACCOMPANYING HYPERTENSION

Complaint	Number of Patients
Nervousness, nervous tension	13
Agitation irritability, excitability	8
Dizziness	7
Anxiety	5
Indigestion, other gastrointestinal complaints	4
Headache	4
Neuralgias	3
Neurodermatitis	2
Crying spells	2
Persecution complex	1
Suicidal tendencies	1

TABLE III.—DISEASES ACCOMPANYING HYPERTENSION

Disease	Number of Patients
Arteriosclerosis	26
Obesity*	25
Cardiac complications†	13
Menopausal syndrome	9
Arthritis	5
Hyperthyroidism	5
Ulcer—gastric or duodenal	3
Diabetes	2
Hypothyroidism	1
Male climacteric	1

* Moderate 5, extreme 20.

† Hypertensive heart disease 7, arteriosclerotic heart disease 4, other 2.

A blood pressure of 150/100 was considered to be in the hypertensive range only in the patients in the age group twenty-six to forty-five. In addition to elevated blood pressures, all patients presented some or all of the usual train of subjective symptoms characteristic of hypertension, notably tension or tension anxiety states, extreme nervousness, headache and tachycardia. A significant degree of arteriosclerosis with or without complications was presented in 26 of the 48. Twenty were markedly obese; five others were mildly obese. Some degree of cardiac complications was present in 13 of the 48, chiefly hypertensive heart disease. Two patients were diabetic. Hyperthyroidism of some degree was present in five patients. Tension and anxiety were prominent in 14 patients, and it seems probable that deeper probing might have revealed psychogenic factors in at least some of the remaining patients. Some degree of arthritis was seen frequently. The hypertension was associated with the onset of the menopause in nine patients. Headache was a serious complaint in four patients. Seven patients complained of dizziness. Three patients suffered from peptic ulcer. Neurodermatoses were present in two cases. Frank angina pectoris was seen in only one case. One patient each presented symptoms of causalgia, sciatica, and neuralgia. The presenting complaints followed an almost standard pattern; in the order of frequency, they were (1) nervousness, (2) anxiety, (3) dizziness, (4) agitation, (5) excitability, (6) tenseness, (7) headache, and (8) various gastrointestinal symptoms, usually described as "indigestion" or "dyspepsia" (Tables II and III).

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* Rauwiloid, Riker Laboratories, Inc., Los Angeles, California, contains the alseroxylon fraction of Rauwolfia serpentina, which contains all of the clinically desirable alkaloids.

† We selected Rauwiloid and Veriloid, Riker Laboratories, Inc., for use in this study because this offered a combination of standardized alkaloidal extracts of Rauwolfia and Veratrum in one tablet.

All patients were started on alseroxylon* at a dosage of one tablet twice a day (8 A.M. and 8 P.M. daily). If the blood pressure response was not adequate after a few weeks trial, the patient was changed to Rauwiloid plus Veriloid,* the usual starting dose being one tablet three times daily. Although 4 mg. of alseroxylon have proved to be an adequate dose, the dose is not critical, and larger doses are well tolerated. It was always possible, therefore, to administer the combined tablets according to the Veriloid* requirements of the patient without regard to the alseroxylon content. At the optimum dose of Veriloid (administered as the combined tablet of Rauwiloid plus Veriloid), every patient had an effective but nontoxic dose of Rauwiloid.

We were also interested in determining whether there was any appreciable difference in clinical effect between alseroxylon and reserpine. Thus, some patients were changed from alseroxylon to reserpine. Here the usual starting dose of reserpine was 0.25 mg. Some patients were changed from alseroxylon to reserpine in order to achieve more sedative effect. Others were changed from reserpine to alseroxylon because of side-actions of the former.

To avoid complicating factors, we made a particular effort to avoid the use of other drugs, notably those that might have antihypertensive actions. The most frequent supplementary therapy consisted of occasional mild anodynes, and we found that smaller doses of these were effective when the patients were taking Rauwolfia.

All patients were ambulatory, and most of them had been followed for considerable periods of time prior to this study. Thus, the psychic effect of hospitalization, a new physician, or a totally new regimen was obviated. However, no particular effort was made to avoid the psychotherapeutic implication inherent in using any new drug. This factor was well controlled in most cases by previous therapeutic failures with other agents.

TABLE IV.—RESULTS OF THERAPY

Drug Used	Number of Patients	Average Control Blood Pressure*	Blood Pressure Average After Therapy*	Time for Response to Appear
Rauwiloid†	28	172.9/111.3	146.5/91.8	4.4 weeks
Reserpine**	6	177.8/103.2	150.3/84.0	2.3 weeks
Rauwiloid plus Veriloid	14	195.7/113.4	157.9/92.4	7.0 weeks

* Average of many readings.

† Four patients were changed to reserpine because a more pronounced sedative action was indicated.

** Five patients were changed to Rauwiloid, because of side-actions from reserpine.

The blood pressure readings, as recorded, represent the average of many readings. At least three readings were made at each office visit. They were ordinarily in different positions, i.e., standing, sitting, and recumbent. Since no posture effect was apparent from these drugs, the sitting pressures are recorded in the table. Both right and left arm readings were made and averaged.

We did not select the patients on the basis of age, sex, race, color, or occupation. Thus, this series of patients is a fairly accurate cross-section of hypertensive patients seen in office practice.

Results

The results are summarized in Table IV. Significant lowering of blood pressure was seen in 78 per cent. The average lowering of systolic blood pressure was 27.5 mm. Hg. The average lowering in diastolic blood pressure was 14.5 mm. Hg. Thus, the mean lowering of blood pressure for the entire group was very close to 30/15 which has long been considered a satisfactory hypotensive response.

The time required for a satisfactory objective response varied widely, ranging from four days to five months. As a general rule a good hypotensive response was apparent after four weeks of therapy (Figs. 1 and 2).

The bradycrotic action of Rauwolfia was very useful in abolishing the "heart consciousness" so frequent in hypertensive patients.

When we compared alseroxylon and reserpine in the same patient, it was readily apparent that the dosage of Rauwiloid was not critical. However, attempts to achieve an equivalent lowering of blood pressure with reserpine were often defeated by the appearance of lassitude, excessive sedation, and/or excessive nasal congestion. Where tension and anxiety were more prominent

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* Rauwiloid, Rauwiloid plus Veriloid, and Veriloid, Riker Laboratories, Inc.

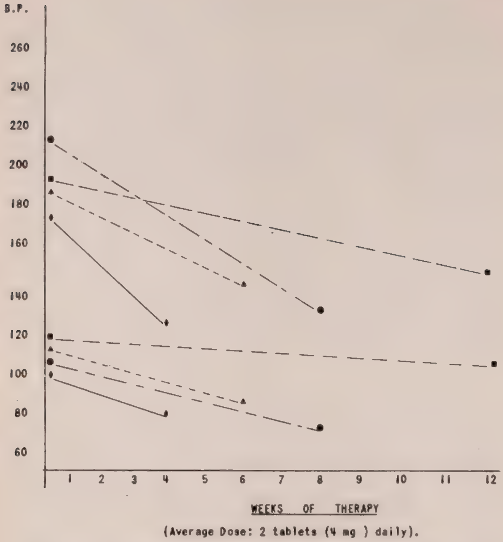

Fig. 1. Hypotensive response to Rauwiloid.

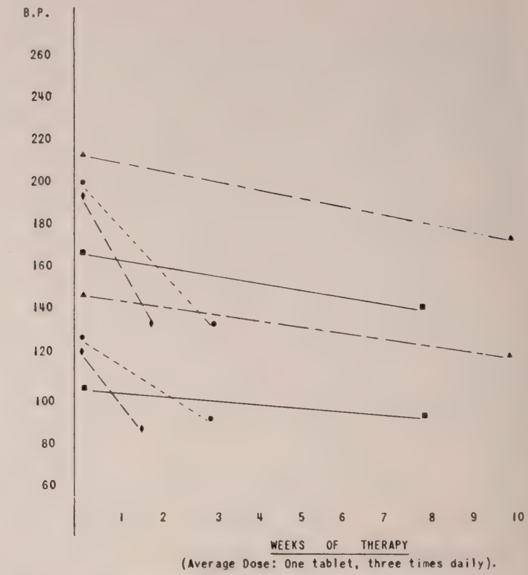

Fig. 2. Hypotensive response to Rauwiloid plus Veriloid.

than hypertension, a few patients were benefited to a larger degree by the marked sedative action of reserpine.

Side-effects with alseroxylon were rare and always mild. When seen, they consisted of mild stuffiness or dryness of the nose or an occasional report of a gastric upset or of diarrhea. All side-actions were relieved by either a decrease in the daily dose or stopping the therapy temporarily with later resumption at a lower dose. Side-effects were never serious enough to warrant discontinuing the therapy.

In general, reserpine seemed to produce more side-actions than alseroxylon, especially nasal congestion, lassitude, and sedation. Occasional mild mental depression was noted with reserpine but was never so severe as in the cases reported by Freis.[29]

We saw no instances of nausea and/or vomiting when Rauwiloid plus Veriloid was used.

The objective relief was gratifying in most of the patients in this study. The subjective relief was even more so. Practically all patients remarked that they felt better and more relaxed than they had ever felt before. The improvement in all subjective symptoms was notable.

The simplicity and ease of management with this therapeutic regimen is illustrated by the fact that only five of the original 48 patients failed to cooperate adequately and drifted away before their response to the therapy could be evaluated.

Comment

Over 90 per cent of hypertensives fall into the category of "essential hypertension." It is established that the etiology of essential hypertension is complex, and it is coming to be recognized that there is little hope that any single drug will be found which will in itself constitute a complete therapy for hypertension.[17,30] Combinations of drugs with different pharmacologic actions offer the best hope. Such combination therapy, together with treatment of the patient as a whole, both mentally and physically, constitutes the best available treatment. Combination drug therapy must be accompanied by the use of practical psychotherapy, as well as the inherent benefits of rest, relaxation, and recreation. Such a complete therapeutic approach offers the greatest hope for optimal treatment of each hypertensive patient.

Freis[8] states: "The three R's in the treatment of mild hypertension are reassurance, relaxation, and Rauwolfia." Our experience confirms this. Mild, labile, or neurogenic hypertensives seldom require any drug therapy other than alseroxylon. The effectiveness of this drug, as well as its remarkable freedom from toxicity, virtual lack of uncomfortable side-actions, and simplicity of dosage make it the remedy of choice. Rauwolfia should be the primary drug therapy in all cases and will serve well as the sole drug therapy in many cases. If, after a reasonable trial with Rauwolfia alone, the response is inadequate, other and more potent antihypertensive drugs should be added.

When treating moderate to moderately severe hypertension, there is a natural hesitation to use ganglionic or adrenergic-blocking agents because of their inherent dangers, the limitations they place on the patient, and the required extra supervision, all of which tend to create invalidism. These problems do not arise when Veratrum is used in conjunction with Rauwolfia. This combination is safe and effective, presenting a physiologic mechanism of action and producing no postural hypotension, no organ toxicity, and no sensitization reactions. Tolerance does not develop on prolonged administration. The sporadic occurrences of nausea and vomiting, which were formerly so troublesome when Veratrum was used alone, are not encountered. Life-threatening side-actions, a constant threat when ganglionic-blocking agents are used, are never seen with Rauwiloid plus Veriloid. The hypotensive action is steady and prolonged and persists over the entire twenty-four hours. Postural hypotension is not a problem. It is not necessary to elevate the head of the bed at night to achieve a lowering of blood pressure. It is also possible to interrupt administration at any time since the prolonged action of alseroxylon prevents abrupt rise in blood pressure, which is a serious threat when ganglionic blocking agents are interrupted, either deliberately or inadvertently.

It is obvious that a combination of Rauwolfia and Veratrum fills an important need since it offers a simple, safe, effective, and easy-to-manage therapy for that "middle class" of hypertensive patients who do not respond entirely satisfactorily to Rauwolfia alone but whose hypertension is not of sufficient severity to warrant the use of ganglionic or adrenergic blocking agents.

The availability of hypotensive agents, such as alseroxylon, which are effective and remarkably nontoxic makes it desirable to treat all hypertensive patients, regardless of how mild the disease. There was a time when it was not deemed advisable to treat mild hypertension because dangerous side-actions from the agents available usually outweighed their therapeutic value. Rauwolfia extracts, which can be given over long periods of time with relatively few acute or cumulative toxic side-actions, have made an eminently worth-while change in this picture.

This does not imply that Rauwolfia therapy can be administered indiscriminately or without supervision of the physician. Some patients may develop depression from Rauwolfia therapy; this is more likely to occur in patients who present a history of previous psychiatric illness. In such patients Rauwolfia therapy must be administered cautiously, and a close watch be kept for the development of prodromal symptoms that precede the development of depression or possibly melancholia. If a patient on Rauwolfia therapy begins to complain of lassitude, fatigue, a sense of futility, etc., this is a warning that Rauwolfia therapy should be stopped temporarily. In many cases it will be possible to resume therapy at a lower dose level at a later date.

We cannot say that all patients with mild hypertension will progress ineluctably to more serious hypertensive disease. But it cannot be denied that all patients with serious hypertensive disease started as mild hypertensives. In a recent panel on hypertension, Duncan[18] deprecated the practice of omitting therapy for patients with benign hypertension. Patients with benign hypertension still die from "strokes," which are now largely preventable. At the same panel discussion Schroeder reported that untreated essential hypertension has a mortality of 40 per cent, but when treated, the mortality drops to only 4 per cent. In malignant hypertension the mortality in untreated patients is 100 per cent; adequate treatment reduces this to only 10 per cent. Smirk[31] states that there is evidence that hypertension and the associated vasoconstriction, once they have reached a sufficient degree and have lasted long enough, become intermediate causes responsible for the clinical manifestations which are associated with all hypertensive diseases.

Wilkins[32] states that whether this long-term therapy, i.e., "preventive" use of Rauwolfia, is really worth while will be determined only by long-term studies. Wilkins further states that "Rauwolfia therapy can be carried on indefinitely without harm to the patient and with reassurance to the physician who believes that hypertension has an adverse effect upon the course of chronic vascular disease."[32] However, our present experience indicates that some patients may experience unfavorable reactions from Rauwolfia, and all patients who are receiving Rauwolfia therapy must be seen regularly by the physician.

The necessity for long-term studies on the ability of hypotensive agents to slow the rate or prevent the progression of hypertensive disease is obvious.

Rauwolfia extracts, plus combinations thereof, have placed in our hands for the first time adequate means for such studies. According to our present experience, it does not seem unreasonable that long-term results will be favorable and that adequate therapy will prove to halt the progress of hypertensive disease.

Summary and Conclusions

1. A Rauwolfia extract (alseroxylon) alone or in combination with an extract of Veratrum viride (Rauwiloid plus Veriloid) has been used in 48 cases of mild, moderate, and severe hypertension selected from the private practice of the author.
2. Rauwolfia therapy alone was effective in mild neurogenic hypertension and tension anxiety states.
3. Rauwolfia plus Veratrum was very effective in moderate to severe hypertension.
4. The addition of Rauwolfia to Veratrum reduces markedly the side-actions from Veratrum.
5. No toxic effects were seen either from Rauwolfia alone or from Rauwolfia plus Veratrum.

240 East 79th Street

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The Management of Postoperative Urinary Retention

Partial paresis of the bladder follows overdistention. Once this is permitted to occur, successive overdistentions follow with increasing ease, so that eventually the detrusor vesicae lose the normal ability to contract. Protection of the patient from such damage after surgery goes hand in hand with the problems of relief. After outlining certain routine measures both in assessing function and managing the simpler cases, Dr. Vincent Vermooten turns his attention to situations calling for special handling—those commonly confronted after a neurologic operation, spinal fusion, perineal repair, excision of rectosigmoid, or any operation that may involve the bladder or its nerve supply. In such situations he advocates a compromise between repeated catheterization on the one hand and the inlying catheter on the other, stressing prevention of infections and avoidance of urethral trauma.

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The Common Cold and Allergic Rhinitis

ABNER M. FUCHS, M.D., NEW YORK CITY

(*From the Department of Medicine, New York University Post-Graduate Medical School, and the Division of Allergy of the Medical Service, University Hospital*)

THE term "common cold" is generally considered to be a catch-all designation for a host of undifferentiated respiratory infections which show clinical similarity in some degree. Collectively, these so-called minor infections constitute a major public health problem. In terms of absence from work or school and resultant lowered productivity, their annual cost to the nation reaches several billion dollars.[1] In addition, they frequently precede and perhaps aggravate more serious illnesses, such as sinusitis and pneumonia and a number of chronic disorders of the respiratory tract. They are also hazardous and may lead to fatalities in debilitated patients, as in cardiac or kidney failure.

By means of tissue culture technics employed in the study of common respiratory diseases in the last few years, rapid progress has been made in a field of research that has long been a wasteland for investigators. Recent advances suggest that the cold type illnesses are caused by a host of agents, bacterial and viral, with no indication at this time of how many more may eventually prove to be involved.

The National Institute of Health, in collaboration with several other research centers, has made extensive and productive studies of the APC (adenoid-pharyngeal-conjunctival) viruses which derive their names from the human tissues which they usually attack.[2] Seventeen serologically distinct viruses in the APC group have already been isolated. APC infections are widely prevalent in the general population and are easily transmitted from one person to another. They cause a great variety of respiratory illnesses, and the symptoms are virtually indistinguishable from those of a simple cold, influenza, or streptococcal sore throat.[3] The National Institute of Health has announced that an experimental vaccine against Type 3 of the APC viruses has been developed. This virus causes a five-day illness marked by fever, sore throat, and conjunctivitis or "red eye."[4] The illness can be sporadic or epidemic. Work is now in progress to develop a multistrain experimental vaccine against the entire group of APC viruses and to determine the duration of protection in human beings. The 17 APC viruses are immunologically distinct but otherwise closely related.

The APC viruses do not cause the nonfebrile, running nose type of infection often called the "common cold" whose virus has not as yet been isolated, nor are there as yet specific laboratory procedures to establish the diagnosis. The assumption is that the infectious agent is a virus. A successful host, other than man and the chimpanzee, has not been found.[5] The only way in which it has been possible to infect human beings or chimpanzees has been by intranasal inoculations, and the only site from which the virus has been secured from patients with colds has been the nasal mucosa. It has been impossible to transmit the induced colds from person to person even by the most intimate contact, suggesting that artificially induced colds may differ from colds occurring naturally, which seem to be infectious.[6] The induced colds are somewhat milder than the natural colds. The exciting agent of the common cold appears to be a small virus about as small as the encephalitic viruses with a size of about 40 to 50 millimicra, about one-half the diameter of the influenza virus.

The virus of the common cold induces a very poor immune response and has no demonstrable antibody response. There is some evidence in volunteers that the occurrence of an induced cold increases resistance to reinfection with the same inoculum for two weeks but not for three weeks. In chimpanzees immunity to reinoculation often persists for as long as three months. The incubation period in volunteers, inoculated intranasally with bacteriologically sterile filtrates of nasal secretions obtained from patients with typical colds, is from one to six days with an average of two to three days. Experimental colds have been successfully induced in 55 per cent of the volunteers. The virus, inoculated intranasally, can be recovered as long as twenty-four hours before symptoms develop and may persist in the respiratory tract for as long as seven days from the onset of symptoms. Occasionally it has been possible to recover a virus from normal persons without symptoms of the cold, suggesting the possibility that there are normal carriers. Most workers now consider the possibility that there are a number of different strains of the virus and think it is likely that they do not immunize against each other.

The investigators are rightly not concerned with the cold virus alone but with the virus in relation to the body's defenses. Chilling and drafts appear to have no effect on susceptibility. Natural colds nearly always occur through contact with someone else who has a cold. The people in the United States have about 400 million colds a year. Children have about twice as many colds in a year as adults, and the mothers of school children have twice as many as the fathers. The school-age child, therefore, must be considered an important carrier.[7]

The common cold is essentially a self-limited disease. However, in contrast to an attack of measles or scarlet fever, it does not induce an immunity which will prevent the individual from having a cold soon again. About 23 per cent of the population have colds four or more times a year; 60 per cent have colds two or three times a year, and 17 per cent once a year or not at all. The symptoms usually begin with chilliness, malaise, irritability, loss of appetite, and no fever. Soon there may follow rhinorrhea, sneezing, and nasal obstruction. The nasal discharge is at first watery; then it becomes more viscous and purulent. With the nasal obstruction there may be headache, loss of sense of taste and smell, mouth breathing, and secondary pharyngitis and laryngitis. The symptoms may persist for two to more than fourteen days. However, the cold may abort after only one day. The common cold is itself harmless, but bacterial invasions frequently follow the initial infection, and it is these secondary invaders that induce disorders of serious consequences, such as sinusitis, otitis media, mastoiditis, and pneumonia. These complications occur because infection of the mucous membrane by any number of viruses results in considerable alteration in their normal function and may cause destruction of the lining cells and denudation. When this occurs, the tissues normally resistant to invasion by bacteria present in the respiratory tract become less resistant, and infection with bacteria ensues. It is also possible that viruses activate latent infections. Fortunately, these secondary invaders can now be controlled by the sulfa drugs and the antibiotics. These chemotherapeutic and antibiotic drugs have no effect on the virus of the common cold. Of the 60 viral diseases in man only four of them caused by large viruses—psittacosis, lymphogranuloma venereum, trachoma, and inclusion conjunctivitis—are effectively treated with sulfonamides, penicillin, or the broad-spectrum antibiotics.

The management of the common cold is at present largely symptomatic: adequate rest, temporary isolation to prevent the spread of the infection to others, an analgesic, light diet, and increase in fluid intake. For nasal blockage a mild vasoconstrictor, such as 1 per cent Neo-Synephrine or ephedrine, is helpful. Nasal medications containing histamines, antibiotics, or corticosteroids may produce harmful effects and sensitizations. They may also prolong and intensify a common cold. The sulfa drugs, penicillin, and other antibiotics are not only useless for a viral cold, but they may actually endanger health. Many individuals are allergic to penicillin and experience severe reactions following their use.[8-11] There is also the possibility of developing bacterial resistance to these drugs. Cold vaccines, composed of bacterial organisms comprising the flora of the nose and throat, are of no value as protection against the common cold and are of doubtful value against their complications. Control of or protection against the common cold by air disinfection with ultraviolet light or glycol vapor and dust suppression procedures have been employed without effect.[12] Attempts at increasing the resistance of the host by the use of vitamins, special diets, tonsillectomy, irradiation of lymphoid tissue of the pharynx, convalescent serum, and gamma globulin have been similarly disappointing.[13] Irrational treatments with purgatives, diuretics, diaphoretics, medicated gargles and sprays, and many varieties of "cold" tablets are being exploited, despite the fact that physicians generally agree that all these drugs do little to shorten, prevent, or cure a common cold.[14]

About half of the people who suffer from symptoms resembling the common cold have their symptoms because of allergy, and to the untrained observer these symptoms are indistinguishable from the syndrome caused by the cold virus. This condition is known as allergic coryza or allergic rhinitis. Allergy is a condition of altered reactivity occurring in response to a specific stimulus. There is no comparable response in nonallergic individuals. Allergic individuals have a common hereditary defect in varying degrees. Their tissue cells are impregnated with an antibody which is specific for one or several substances called antigens. The production of the allergic reaction depends on the release of some irritating substance, suspected to be histamine or H substance, which is produced by the interaction of the antigen, the material which specifically evokes the abnormal response and its antibody. This allergic reaction produces edema of the tissues. The site of the edema determines the clinical symptoms, and the organ or tissues involved in this allergic reaction is called the shock organ. In allergic rhinitis the mucous membrane of the nose is the shock organ.[15]

There are certain characteristics and procedures which help to distinguish allergic rhinitis from the common cold of viral origin.[16] In allergic rhinitis the symptoms have a tendency to continue indefinitely and to flare up on contact with the cause of the condition, whereas the viral colds are self-limited. In allergic rhinitis a nonviable factor is the responsible agent, usually an airborne substance such as pollen, dust, molds, animal danders, and face powders. Occasionally a food is incriminated and, more rarely, a drug. The greatest cause of allergic rhinitis in the New York area is pollen, which produces the seasonal type of allergic coryza during the warm weather commonly known as hay fever. There are about eight million hay fever victims in the United States who have symptoms resembling the common cold and also itching of the eyes, nose, and throat during the warm weather. They are sensitive to the pollens of the trees, grasses, and weeds. The most important and disabling types of pollen are produced by the high and low variety of ragweeds and are present in the air in high concentration from about the middle of August to the first frost. Allergic rhinitis cannot be transmitted to another person or even to a member of the family, except possibly by inheritance.[17]

TABLE I.—DIFFERENTIAL DIAGNOSIS OF HAY FEVER AND THE COMMON COLD*

	Hay Fever	Common Cold
Seasonal incidence	Present	Generally absent
Other allergy	Common	Absent or coincidental
Family history of allergy	Usual	Absent or coincidental
Inciting agent	Pollen	Virus or bacteria
Contagious	No	Yes
Fever	Absent	Occasional
Positive skin reactions	Almost always	Absent or coincidental
Itching of nose, eyes, or palate	Usual	Unusual
Severe sneezing spells	Common	Rarely marked
Sore throat	Rare	Common
Conjunctival congestion or edema	Common	Occasional
Nasal excoriation	Very rare	Usual
Pale, edematous nasal mucosa	Usual	Absent
Nasal polyps	Occasional	Usually absent
Congestion of the pharynx and nasal mucosa	Rare	Usual
Cervical lymphadenopathy	Absent	Common
Type of nasal discharge	Serous	Seropurulent
Eosinophils in the nasal secretion	Frequent	Absent
Antihistamines	Helpful	No effect

* Modification of table by Sheldon, Lovell, and Mathews.[18]

At times we can differentiate allergic rhinitis from the viral cold from the difference in appearance of the nasal membranes. The nasal membrane of the patient with allergic rhinitis is pale, boggy, and edematous, not inflamed, and is covered with a thin aqueous discharge, whereas the nasal membrane of the patient with a viral cold is inflamed, reddened, and often coated with a mucopurulent discharge. Eosinophils in the nasal smears are suggestive of allergy, particularly if abundant, but they are sometimes present when bacteria or their products are responsible.

The differentiation between the common cold due to a virus and allergic rhinitis is based on three diagnostic procedures: the history, skin testing, and the trial-and-error method. If there is a history of allergy in the family or other allergies in the same patient or if there is a history in the patient of previous attacks of coryza on contact with a specific substance in certain environments or at certain seasons of the year, an allergic condition is strongly suspected. Allergy must be considered seriously whenever coryza is associated with itching of the nose, eyes, pharynx, soft palate, or ears. The presence of allergic rhinitis can usually be confirmed by positive skin reactions on skin testing with extracts of the suspected offending substance, which is usually airborne, such as pollen, dust, or animal danders. The final proof is shown by the trial-and-error method of reproducing the symptoms when the patient is symptom-free and then comes in contact with the suspected cause. The diagnostic features of hay fever, the seasonal allergic rhinitis, and the common cold are quite distinctive (Table I).

The treatment of allergic rhinitis, whether seasonal or nonseasonal, yields effective results when the specific causes of the condition have been determined. Elimination or avoidance of the offending substances will often clear up the condition. When it is impossible or impractical to avoid an offending substance, such as dust, pollen, or molds, a process of immunization with extracts of the specific inhalant allergens is instituted which has the effect of building up a tolerance to the substances, thereby eliminating or reducing the severity of the symptoms.[19] Proper allergic management not only affords effective relief from the symptoms but also lessens the possibility of developing serious complications, such as bronchial asthma, sinus disease, nasal polyps, and progressive deafness. The antihistaminic drugs are valuable agents for temporary relief of mild symptoms in allergic rhinitis.[20,21] They greatly reduce the edema of the nasal mucosa. However, they can in no way be considered as a substitute for allergic treatment.[22]

Conclusion

While we can effectively control symptoms resembling "colds" due to allergy or bacterial infections, there appears to be no specific method as yet which will affect the course of the nonfebrile, running nose type of common cold due to a virus, except possibly by the promotion of good health habits, increasing general resistance to infection, and symptomatic management. An experimental vaccine against serotype 3 of the APC (adenoid-pharyngeal-conjunctival) virus has already been developed,[4] and much effort is being utilized to develop a multistrain vaccine against the entire group of APC viruses which are responsible for a great variety of febrile respiratory illnesses.

Many problems of the nonfebrile common cold will be solved when the virus or viruses have been isolated and characterized and when methods of studying the virus in the laboratory are devised without reliance on human volunteers. It is now possible to achieve effective chemotherapy with some diseases due to small viruses in animals.[23] Investigators at common cold research units both here and in England[24] know enough about the nature of the cold virus so that in the near future it is hoped that similar chemotherapy for the virus of the common cold in man and possibly an antiviral vaccine may be available for treatment.

29 East Ninth Street

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Medical Society of the State of New York
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Rooming-In Service in a Medium-Sized Community Hospital

Report on Four-and-One-Half-Years Observation

IRVING SEIDEMANN, M.D., BRONX, NEW YORK, AND HENRY EISENOFF, M.D., NEW YORK CITY

(*From the Department of Pediatrics and Obstetrics, Lebanon Hospital, New York City*)

The fact that there was not a single case of infection among the infants in the rooming-in division of Lebanon Hospital, New York City, throughout the four-and-one-half-year period since its inception and also the praise and enthusiasm on the part of the mothers of these infants have prompted us to offer this report. In addition, it is hoped that the widespread acceptance of this system will help reduce to a minimum infections in the nursery.

A number of reports have appeared since 1947 on rooming-in services throughout the country, and the writers describe their experiences with this revived type of old-fashioned care of the newborn. The opinions expressed are unanimously favorable to this type of service. Most of these reports emanate from hospitals of the teaching-institution type. This report concerns itself with a voluntary hospital not associated with a teaching institution.

Our purpose in this presentation is to attempt to correlate the course of the newborn infants during their stay in the rooming-in service with that of infants in the regular nursery service. It is readily understood that such a comparison is a most difficult one at best since there are no accurate means by which to equate both types of services. The patients admitted to the rooming-in service are entirely on a voluntary basis. The patient either inquires from her obstetrician about the type of service best suited, or the physician may offer to discuss with her the advantages or disadvantages of the respective care. The patient then selects what she likes best. Because of the close contact with her infant and the chance to learn better care, the rooming-in service is especially appealing to the primiparous mother; also because of the ideal setup breast-feeding methods are more often and more readily accepted by the mother. With this in mind it is hoped that important information may be obtained from the data to be presented.

Rooming-in service has existed in European hospitals as far back as we can trace it. It was in the 1890's that the nursery, as we know it today, first came into use in this country. It was thought that puerperal sepsis and the numerous infections in the newborn child could be traced to the close contact between mother and infant. It was also thought that mothers were too ill to care for their offspring shortly after delivery. With the great strides made in modern obstetrics these reasons for separation of the newborn from its mother are unwarranted.

There are many valid reasons for returning to the "old-fashioned" method of close contact between mother and baby. The good results of the rooming-in service obtained at the Jefferson Medical College Hospital,[1-3] St. Louis Maternity Hospital,[4] Duke Hospital, the New Haven General Hospital,[5] and many other institutions where this service has been inaugurated are conclusive enough evidence for its widespread adoption.

The largest series of cases available at the time of this writing is at the Duke Hospital where about 2,000 cases in a period of three years were observed. Very important is the report of a remarkable reduction in the incidence of infections among the infants in the rooming-in service as compared with the general nursery; also noteworthy was the increase in the number of cases of breast feeding and the great enthusiasm for this program by the parents.

The series of cases at the Jefferson Medical College Hospital represents 1,400 babies of the ward service cared for at the mothers' bedsides. Most remarkable is that the author cites that there was not a single case of skin infection or of any significant gastrointestinal disturbance among the infants in the rooming-in nursery.

At the St. Louis Maternity Hospital 522 cases were cared for in their rooming-in unit. However, their program is an elective one in contrast with the one at Duke University where rooming-in is compulsory on the ward service.

At Lebanon Hospital the rooming-in program was inaugurated in April, 1950. The period covered by the survey runs through September, 1953, and comprises 527 deliveries. In order to try to correlate the results with that of regular nursery care, a like number of successive deliveries were used, covering, of course, a shorter time interval since the census of the nursery is so much greater.

The nursery requires little detailed description, since it follows in detail the pattern of a modern nursery; to complete the picture a brief description follows. There is a separate premature nursery cared for by separate personnel. The average census of the nursery is about 35. It is housed at the end of the floor containing the semiprivate maternity rooms. After the first twenty-four hours the babies are brought to the mothers every four hours for feeding except the 2 A.M. feeding time. The only exceptions to this routine are those babies under 5 pounds, 4 ounces, or those requiring closer observation for any reason. During the time the babies are with the mothers there are no visitors allowed except hospital personnel or visiting doctors, who are required to cover their clothing with a hospital coat provided at the entrance to the floor. The mothers are required to be washed properly and to wear a mask. Those mothers who show any signs of any illness do not feed their babies. The average stay for mother and baby is six to eight days. Any evidence of infection in the baby is immediate cause for isolation and transfer to suspect nursery, located on an upper floor of the building.

The rooming-in unit of the hospital occupies an area of approximately 50 by 20 feet on the third floor of the building. This floor also houses the labor and delivery units as well as the chapel and the circumcision section. In an entirely separate area on this floor are the interns' quarters. The rooming-in unit is divided into two parts: the five cubicles for the residing mothers and the nursery and sterilizing area. There is a patients' bathroom and shower and a nurses' utility room. At the entrance there is a closet for visitor's clothing and hospital gowns to be worn by all visitors. These visitors are limited to two, designated by the mother, in addition to the husband. Substitution of visitors is not allowed. All visitors are obliged to wash properly and put on a hospital gown before entering the cubicle.

After delivery the baby is brought by the nurse to the rooming-in unit before the mother arrives. It is bathed, weighed, measured, and examined by the intern for any abnormalities. After the mother's arrival the father is allowed a brief visit. The baby remains with the mother in the cubicle in a bassinet unless the mother desires to remain alone. During the first twenty-four-hour period the mother is not required to participate in any of the baby's routine. After this period, however, she is gradually acquainted with the procedures of feeding, changing of clothing, sponge bathing, and general care. Babies are fed on a demand feeding schedule. During the daytime the attendants consist of one registered nurse, one practical nurse, and one nurse's aide. The 4 to 12 and 12 to 8 A.M. shifts are attended by one registered nurse. The pediatric staff of the hospital supervises the nursery in rooming-in as well as the regular nursery, and any suspects of infection are immediately removed from the nursery.

The observations to be expressed in this report are of interest from the pediatric as well as the psychologic viewpoint. The pediatric viewpoint includes the factors of morbidity, weight gain or loss, and the tendency to breast feed. The psychologic viewpoint includes the general behavior of the infant while at the mother's side as well as in the nursery section, the mother's behavior and general attitude toward the rooming-in program, as well as the educational benefits to the mother and all personnel in training.

Study

A study was made of 527 successive cases in both the rooming-in unit and the regular hospital nursery, a total of 1,054 cases occurring more or less simultaneously between April, 1950, and September, 1953, at the Lebanon Hospital. Newborns with birth weight under 5 pounds were omitted from the nursery since these cases were not permitted to remain in the rooming-in unit. The cases reported from the rooming-in unit started with the first day of the operation of this program, so that no allowance was made for "difficulties" in getting the unit started.

Of the 527 cases from the rooming-in unit, 311 were primipara (60 per cent) and 216 were multipara (40 per cent). Of this total number 133 infants were breast-fed, most of whom continued throughout the hospital stay. This represented approximately 25 per cent of the total number of cases. Montgomery[2] reports as much as 60 per cent of his semiprivate patients in the rooming-in unit were breast-fed. By the time our babies were sent home with their mothers, 393 regained or bettered their birth weight, representing approximately 60 per cent of the cases. There was an over-all average weight gain of 3.2 ounces per baby at the time of discharge. During the period covered by the survey there were only four cases requiring transfer to the pediatric service. One of these expired as a result of hemorrhagic disease of the newborn; one had a spontaneous pneumothorax and recovered, and two were well babies but were transferred because of respiratory symptoms in the mother. The following observation is most important. Not one single case developed evidence of an infectious ailment, either of the skin or respiratory or gastrointestinal tracts.

Examination of the records of 527 successive cases from the regular nursery showed that 35 infants required transfer to the pediatric service for various reasons. Of these 35 babies, three were premature and, therefore, not included in the survey, while 16 cases were due to infections of various types. This represents approximately 3 per cent of infection in the regular nursery. These cases were mainly gastrointestinal, respiratory, and skin infections. Of the total of 527 cases from the regular nursery, 174 of the mothers were primipara and 353 multipara. Breast-fed infants numbered 20, or about 4 per cent. Average weight change during stay in the hospital was minus 0.24 ounces, and 240 regained or surpassed their birth weight (Table I).

TABLE I.—COMPARISON OF ROOMING-IN UNIT AND NURSERY CARE

	Rooming-In Unit	Nursery
Number of cases	527	527
Primipara	311	174
Multipara	216	353
Breast feeding	133	20
Average weight change	±3.2 ounces	±24 ounces
Regained birth weight	393	240
Cases of infection	0	16

Comment

Consideration of these foregoing figures would certainly aid in convincing the skeptics and those not too well acquainted with the rooming-in system of its many advantages. The result of our experience at Lebanon Hospital in the past four-and-one-half years has been the most gratifying. The complete absence of infection, the increase in percentage of breast feeding, and the increase in weight gain are sufficient reasons to become enthused over this type of newborn care. Interesting information has been obtained from a questionnaire which the mothers voluntarily fill out when they leave the rooming-in unit. Unanimous approval of this method has been expressed by the mothers, and they seem eager to recommend this system to their friends. They all admit they learned more about their baby than they could have otherwise and, therefore, were better prepared to deal with the problems after they arrive home.

The success of this program depends greatly on the individual obstetrician and on his active interest, understanding, and participation, as pointed out by Levy[6] in his dissertation on the psychiatrist's point of view on rooming-in. The obstetrician is in a position to prepare the mother for what she might expect after her delivery. He is the one who knows the mother best and can exert a powerful influence in the right direction in establishing the all-important mother-child relationship. Levy also suggests that this type of program may be especially beneficial for some neurotic mothers since their attitudes and behavior could be more carefully scrutinized by the professional personnel. Reynolds[7] points out that the father, who ordinarily plays a minor role, has the opportunity in the rooming-in plan to visit at longer intervals with his wife and also observe some of the technics of the baby's care which might be useful later on. His sense of participation aids in establishing a more cooperative family triangle.

While from many points of view it may be desirable to have the rooming-in system receive universal acceptance, there are mothers who, because of certain temperament, may not be suited for this type of service. The obstetrician is in an ideal position to recognize and advise, whenever possible, the respective type of service.

Bakwin[8] states that having mother and child together in the hospital favors the development of intimacy which is so important in later life and in rearing the child. Montgomery,[9] in his comments on the subject, emphasizes that rooming-in is an attempt to retreat from practices which have a tendency to exaggerate or produce anxiety. It is an effort to strengthen the family at a crucial period in its life.

Summary

We have presented a study of the rooming-in program of infant care as it exists at the Lebanon Hospital. This study covers a period of over four-and-one-half years during which 547 babies were cared for in this manner. An attempt is made to correlate the incidence of infections in the rooming-in unit with those of the regular nursery service, as well as a comparison of weight change and breast-feeding attempts in both sections of the hospital. The figures presented appear more than sufficient to convince that the almost complete elimination of infection, the increase in breast feeding, and the increase in weight gains are important enough to advocate the practice of the rooming-in system in all institutions whenever possible. An attempt is made to review some of the literature on the subject with the addition of a discussion on some of the psychologic aspects of the problem.

Addendum

Since the writing of this report there have been 365 additional admissions to the rooming-in unit at Lebanon Hospital. The ratio of multipara to primipara has increased considerably, showing increasing popularity of this type of service. There were many repeat patients in rooming-in. There were 67 breast-fed infants. Of these additional 365 babies not a single one required isolation or transfer because of infection. This substantiates our conclusions that this type of newborn-service is most desirable and deserves widespread consideration.

The authors wish to express their sincere thanks to Dr. Milton J. Goodfriend for his enthusiastic support in the inauguration and fostering of this program at the Lebanon Hospital which made this survey possible.

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Explosive Behavior Anomalies in Children on an Epileptic Basis

FREDERIC T. ZIMMERMAN, M.D., NEW YORK CITY

(From the Department of Neurology, College of Physicians and Surgeons of Columbia University, and the Neurological Institute of the Columbia-Presbyterian Medical Center)

IN A large group of children examined over a number of years, many of whom had serious behavior disorders, it began to be noticed after a while that what appeared to be a special type of behavior syndrome was present in quite a few cases. These special conduct disorders at first had all the earmarks of the severely spoiled and maladjusted child in need of immediate psychotherapy. With increasing experience, however, it became apparent that these children did not respond very well to psychotherapy and that upon analysis they had certain characteristics in common which set them apart from the ordinary variety of severe behavior disorder. These common characteristics were periodic and violent outbursts of impulsive behavior which seemed to have almost a paroxysmal quality imbedded in a matrix of generally bad behavior. The behavior of these children also differed from that seen in postencephalitis in its predominant periodicity—the sudden starting and stopping—in contrast to the continuous hyperkinetic behavior of the latter.

No frank convulsive seizures were noted in any case, but the electroencephalograms of all the children in the group were abnormal and included features often found among patients with generalized seizures. These findings raised the question as to whether the paroxysmal behavior displayed might be the equivalent of an epileptic attack and prompted treatment of these children as potential epileptics with what might possibly be called a grand mal variant in the electroencephalogram.

Materials and Methods

Two hundred children and adolescents are included in this study. All had serious behavior problems, and all had the predominant cluster of periodic, erratic, impulsive, paroxysmal, explosive behavior standing out against a wide variety of personality patterns.

A neurologic examination was done in each case and was negative. An electroencephalogram and a battery of psychometric tests were done at the beginning and end of an interval ranging from six months to one year.

The initial electroencephalograms all showed such abnormalities as dysrhythmia, excessively fast or slow activity, a tendency to paroxysmal discharge, or other features commonly seen in epilepsy and considered consistent with, but not proof of, a convulsive disorder in the absence of frank seizures. An anterior temporal lobe focus, such as is typical of the electroencephalographic recordings of patients with frank psychomotor seizures, was not found in any of the cases, however.

While it is recognized that abnormal electroencephalograms are common among children with behavior disorders, the electroencephalographic findings plus the paroxysmal behavior of the children in a clinical sense suggested that there was an organic rather than a psychogenic basis for this type of behavior.

A battery of psychologic tests was also added in order to separate any organic problems from psychogenic behavior on the basis of psychologic criteria. The battery consisted of the Stanford-Binet Intelligence Scale (Form L, 1937 Revision) or the Wechsler-Bellevue Adult Intelligence Scale, the Merrill-Palmer or Pintner-Paterson Performance Tests, and such projective tests as the Rorschach, Bender Gestalt, draw-a-man test, thematic apperception test, etc.

The group ranged in age from six to sixteen years with an average age of twelve years. The average intelligence quotient was 90, with a range from 40 to 120, and with scores clustering around the average.

On the rationale of the paroxysmal quality of the observed behavior plus the abnormal electroencephalogram which was frequently paroxysmal in pattern, a course of Dilantin therapy was given over the experimental period. The average daily dose was 0.2 Gm. or 0.03 Gm. six times a day, with a range in dosage from 0.1 to 0.4 Gm. per day.

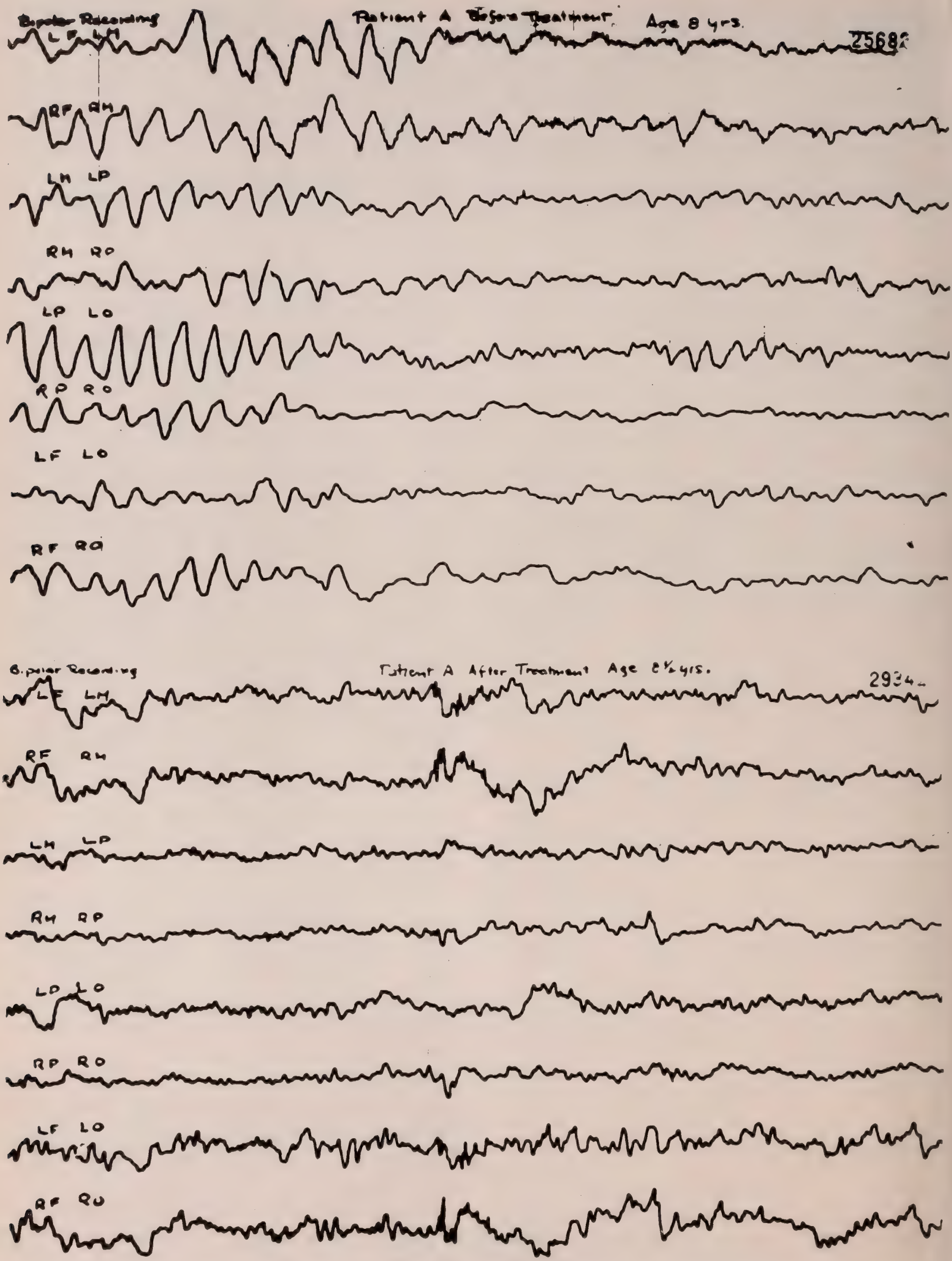
Bipolar Recording
Patient A Before Treatment
Age 8 yrs.
2568
LF LH
RF RH
LH LP
RH RP
LP LO
RP RO
LF LO
RF RO
Bipolar Recording
Patient A After Treatment
Age 8½ yrs.
2934
LF LH
RF RH
LH LP
RH RP
LP LO
RP RO
LF LO
RF RO

Fig. 1. Pretreatment and post-treatment electroencephalograms of patient A.

Results

Electroencephalographic recordings and psychometric examinations were obtained initially and were repeated after an interval ranging from six months to one year, as was mentioned previously. Clinical observation was used as a measure of

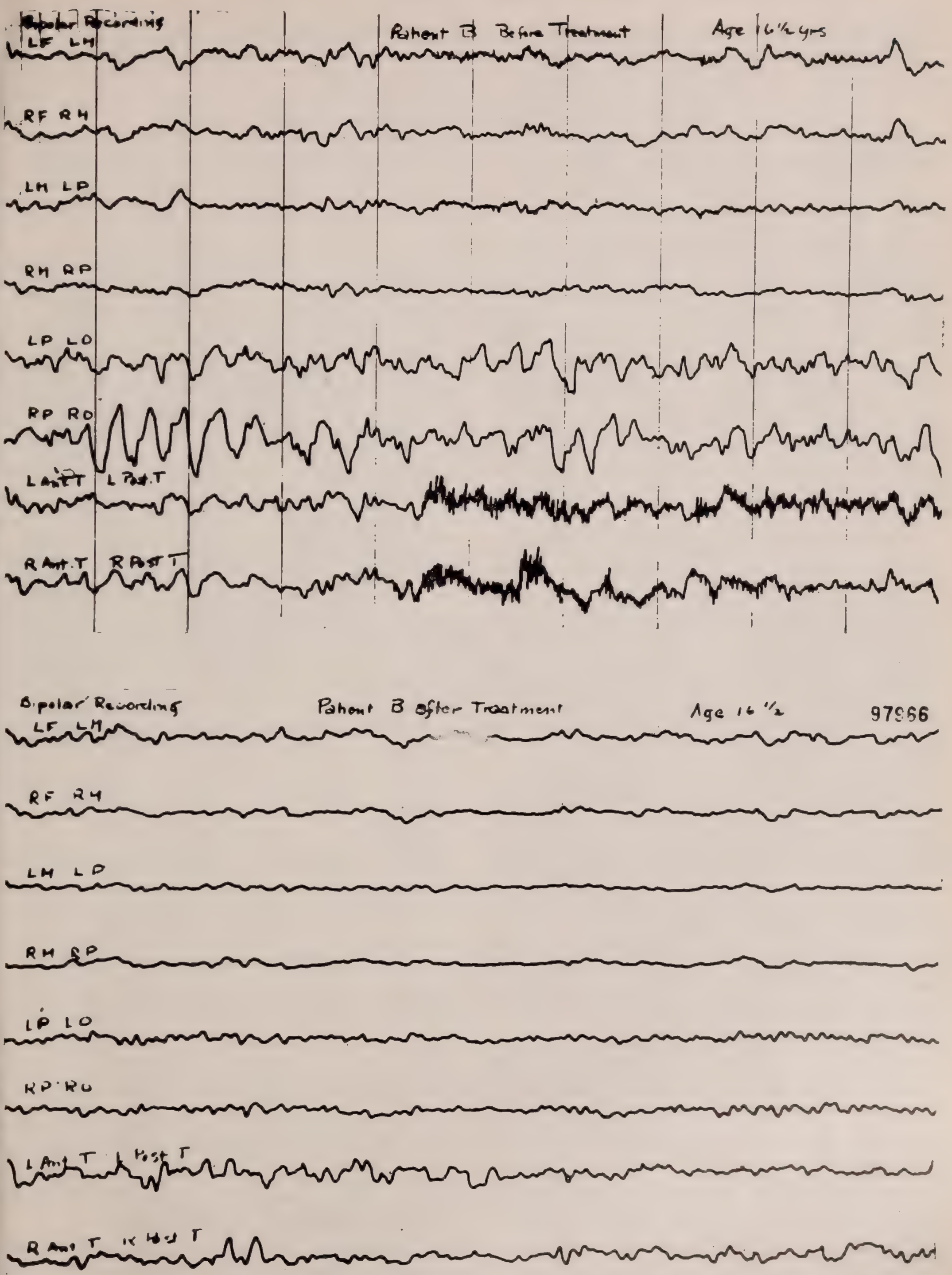
Bipolar Recordings
LF LH
Patient B Before Treatment
Age 16½ yrs
RF RH
LH LP
RH RP
LP LO
RP RO
L Ant T
L Post T
R Ant T
R Post T
Bipolar Recording
Patient B After Treatment
Age 16½
97966
LF LH
RF RH
LH LP
RH RP
LP LO
RP RO
L Ant T
L Post T
R Ant T
R Post T

Fig. 2. Pretreatment and post-treatment electroencephalograms of patient B.

improvement also.

Figures 1 and 2 show samples of pretreatment and post-treatment recordings and the changes typical of the recordings of patients who improved after therapy.

The initial recording of patient A is poorly

TABLE I.—CHANGES IN BEHAVIOR, ELECTROENCEPHALOGRAM, OR RORSCHACH PATTERNS FOLLOWING TREATMENT WITH ANTICONVULSANT DRUGS IN 200 PATIENTS

	Per Cent Improved	Per Cent Same	Per Cent Worse
Behavior	70	25	5
Electroencephalogram	50	20	30
Rorschach	55	40	5

TABLE II.—CHANGES FOLLOWING TREATMENT IN BEHAVIOR COMBINED WITH ELECTROENCEPHALOGRAMS AND/OR RORSCHACH RECORDS IN 200 PATIENTS

Improvement in	Per Cent
Behavior plus electroencephalogram plus Rorschach	25
Behavior plus electroencephalogram	35
Behavior plus Rorschach	50
Electroencephalogram plus Rorschach	35

organized and shows occasional slowing to the 3-per-second level with increase in voltage and tendency to paroxysmal burst (Fig. 1). Some fast activity is also present, especially in the frontal and motor leads bilaterally, which seems related to muscle tension. The post-treatment recording of patient A for the same run shows better organization and no longer slows to 3 per second. It is also less paroxysmal. Considerable dysrhythmia and muscle tension remain, however.

In the first recording of patient B the slowing and high voltage are especially prominent in the parietal and occipital leads bilaterally, the right side of the head showing more dysrhythmia than the left side (Fig. 2). Very fast activity associated with muscle tension is also apparent. Following treatment a decrease in voltage occurs with less dysrhythmia and less tendency to paroxysmal discharge.

The nature of behavior changes following treatment is hard to summarize, but where improvement occurred, it seemed to consist of a reduction in excessive reaction and modification of the degree of abnormality in the direction of less intense response. Less excitability, less severe and less frequent temper tantrums, less hyperactivity and distractibility, fewer fears, less tendency to go out of contact, etc., are some of the behavior changes reported.

Table I gives a summary of behavior, electroencephalogram recordings, and Rorschach test patterns, in terms of change following the interval of anticonvulsant drug therapy. In 70 per cent of the cases treated with anticonvulsant medication, behavior improved to a noticeable degree following the treatment interval. In 25 per cent it was considered to be the same, and in 5 per cent of the patients it was reportedly worse.

These interpretations were based on reports of parents and teachers and on observations made during the retest examination and psychologic test session.

Electroencephalographic findings reveal that 50 per cent of the patients had improved electroencephalograms on retest, while 20 per cent remained the same and 30 per cent were worse.

Rorschach protocols improved in 55 per cent of the patients, remained the same in 40 per cent, and were less satisfactory in 5 per cent. Improvement was noted both in quantity and quality of response, suggesting more productiveness generally and slightly better adjustment in excess of the change believed to be expected as the result of growth during the test-retest interval.

Results of other projective technics did not fall within the orientation of this particular study.

While changes in behavior were of primary interest in this study, findings were also considered in terms of individual differences in response to therapy using the various criteria of measurement. This aspect of the study was concerned with determining the degree to which individual cases showed improvement not only in behavior, but in the electroencephalograms and Rorschach records as well, separately or in combination (Table II).

It may be seen from Table II that in only 25 per cent or one fourth of the cases was improvement generalized within the individual to an extent which was reflected in behavior, plus electroencephalogram, plus Rorschach. The correlation between behavior changes and Rorschach protocol was greatest, as might be expected, but even here only 50 per cent of the cases showed this combination. The relationship between behavior and electroencephalographic changes or electroencephalogram and Rorschach improvement was quite low, being 35 per cent in each instance. Findings suggest, therefore, that there is not a high degree of consistency in individual response to therapy using these technics.

Since Rorschach records at the beginning of the treatment interval showed organic components in addition to emotional maladjustment in 110 cases or 55 per cent of the series, it was decided to divide results into two categories on the basis of the original Rorschach evidence: (1) emotional maladjustment without organic components and

TABLE III.—Effect of Anticonvulsant Therapy on Behavior and Electroencephalograms

	Number of Cases	Behavior (Per Cent)	Electroencephalogram (Per Cent)
Patients with initial nonorganic Rorschach	90	49	26
Patients with initial organic Rorschach	110	87	70

(2) emotional maladjustment plus organic components.

Table III gives the results of anticonvulsant therapy using the Rorschach dichotomy of organicity. Table III indicates that 87 per cent of the behavior improvement fell in the group having organic Rorschach records initially, whereas only 49 per cent of the nonorganic group showed improvement in behavior after treatment. Electroencephalograms also showed improvement in 70 per cent of the patients having an organic Rorschach and in only 26 per cent of those patients with a nonorganic Rorschach at the beginning of treatment. This reveals that treatment with anticonvulsant medication was much more effective where a combination of impulsive and paroxysmal behavior, abnormal electroencephalogram, and organic Rorschach was present initially.

Comment

A review of the literature[1-13] reveals that a number of investigators have been preoccupied with clinical phenomena similar to those described here. Several investigators have, in fact, reported on the effectiveness of Dilantin in the treatment of epileptic and nonepileptic behavior disorders, but the nature of underlying mechanisms responding to therapy has remained obscure to date.

Merritt[1] gives a comprehensive review of work on the treatment of behavior disorders with anticonvulsant drugs and also on the effect of these drugs on behavior disorders in patients with epilepsy. He concludes, however, that while improvement occurs in some patients following the administration of anticonvulsant medication, it is difficult to assess the role of the drug in this improvement from experiments reported upon to date.

Kalinowsky and Putnam[2] reported some improvement in behavior in about 50 per cent of 60 psychotic patients treated for a period of from two to five weeks. Results indicate that Dilantin had an effect on disturbances in mood, not only in epilepsy, but in various types of psychoses. Improvement in diminution of excitement and psychomotor activity was clear, regardless of the type of psychosis present. The data of these authors favor a chemical concept of both epilepsy and the major psychoses.

Walker and Kirkpatrick[3] obtained favorable results in all of ten cases of behavior disorders treated with Dilantin. Their electroencephalographic findings also support the assumption that organic or metabolic factors may be of etiologic significance. Lindsley and Henry[4] also reported positive results with Dilantin and other drugs in the treatment of behavior problems but found that electroencephalographic improvement was inconsistent and not directly related to clinical improvement. No attempt was made in their study, however, to distinguish which type of behavior disorder might respond more to one drug than to another.

Electroencephalographic studies without Dilantin therapy likewise favor a physiologic basis for certain behavior disorders. Strauss,[5] for example calls attention to the frequency of abnormal electroencephalograms among chronically ill neurotic patients and suggests that some cases may be discovered to be suffering from some chemical or biologic insufficiency. Freyhan[6] also cites an interesting case of Finley's in which catatonic excitement reflected itself in rapid frequency waves in the electroencephalogram during a state of emotional turmoil but decreased notably when the condition was in remission.

The entire picture, however, appears complicated further by problems of semantics and definition, as well as underlying pathophysiology. What are the limits of the term epilepsy by definition? Is it a convulsion or an attack? Which term is more suitable? Lennox prefers the term "attack," especially in describing petit mal reactions, and this is logical. The term "attack," however, is amorphous and elastic in a semantic sense and opens the door for the inclusion of other phenomena in the category of epilepsy. Where does one draw the line?

Strauss, Rahm, and Barrera,[5] in describing similar phenomena, used the term "epileptoid," indicating simultaneously their awareness of the possible relationship to epilepsy and their understandable reluctance to use the term "epilepsy" on the basis of the then existing evidence. Can a certain type of reaction, such as is described in the present study, be considered a form of epilepsy, or is one on more solid ground physiologically as well as semantically by postulating that epilepsy and any type of paroxysmal behavior disorder have a common underlying mechanism? Some evidence for this explanation may be found in Freyhan's[6] findings that Dilantin produces a favorable effect on psychoses but only on the states of excitement of the psychoses.

Findings in the present paper, it is believed, provide evidence for an underlying organic basis of this paroxysmal type of behavior.

Previous investigators were aware of the implications of paroxysmal behavior combined with an abnormal electroencephalogram quite similar to that seen in epileptics. As a matter of fact, in such electroencephalograms, if the electroencephalographer had an available history of epileptic attacks, he would have little or no hesitation in diagnosing such a record as belonging to an epileptic. In the absence of known attacks, however, paroxysmal behavior and such an abnormal electroencephalogram were considered as having possibilities for speculation only. The addition of an organic Rorschach in these cases, it is believed, provides valid evidence for a nonpsychogenic etiology.

Fisher and Gonda[7] recently published an article comparing the validities of standard and neurologic technics (neurologic examination, electroencephalogram, pneumoencephalogram, lumbar puncture, and skull x-ray) with the validity of a Rorschach sign method (Piotrowski) in the diagnosis of brain disease. While the Rorschach technic made errors in the direction of calling "false negatives" in 29 per cent of the cases, 94 per cent of neurologically proved organic cases were correctly diagnosed. "As an isolated procedure," the Rorschach was superior in this particular study to "the individual neurologic technics in detecting the presence of brain disease."[7]

This finding is in keeping with results reported in the present study where response to therapy was best among those cases having an initial organic Rorschach pattern in addition to an abnormal electroencephalogram and paroxysmal behavior. It has been the author's experience too that the Rorschach is an excellent ancillary tool for alerting the neurologist to the possible presence of fine shades of organicity which are not always immediately apparent in gross neurologic procedures.

It is also believed that the combination of paroxysmal behavior, abnormal electroencephalogram with frequent paroxysmal qualities, organic Rorschach, and definite improvement with Dilantin therapy warrants placing these children in the diagnostic category of "epileptic equivalents" rather than epileptoid personality.

Use of the term "epileptic equivalent" requires clarification. At the turn of the century and before electroencephalography came into vogue, an epileptic equivalent was considered a form of abnormal, sudden, often violent type of behavior which seemed to be released as a substitute for a more conventional grand mal attack. Later, with the advent of the electroencephalograph and greater emphasis on the physiologic rather than the psychologic level, the term "psychomotor epilepsy" came into being. This term served a useful purpose, but gradually it seemed more emphasis was placed on the "motor" part of the word than on the "psychic" part.

Still later the term psychomotor was redefined by the Gibbses[8] as being associated with an anterior temporal spike focus in the electroencephalogram. From their writing, however, especially the *Atlas*, the Gibbses also seemed to consider an anterior temporal lobe spike focus, or psychomotor epilepsy, as synonymous with the older term, epileptic equivalent. Nevertheless, they also note that in a small percentage of cases (about 1 per cent), the attack seems to originate outside the temporal lobes and in the frontal lobes instead.

It seems unfortunate that these two terms, psychomotor epilepsy and epileptic equivalent, are so often considered synonymous. The evidence in this study points away from epileptic equivalent and anterior temporal spike epilepsy being the same. Electroencephalographic findings here are more in line with what is often seen in grand mal and seem more in keeping with a frontal lobe origin.

It is felt, therefore, that a distinction should be made between epileptic equivalent and psychomotor epilepsy. If such a distinction is made, this group of children will be better delineated in this way for proper treatment and less likely to be lost among a large group of behavior disorders where psychotherapeutic methods alone produce poor results. It is also believed that with a more balanced approach and not quite so strong a psychogenic bias, this syndrome will be found to be more common than is generally realized.

Summary

Anticonvulsant medication was given to a group of 200 children having severe behavior disorders with the common characteristic of periodic, paroxysmal outburst of impulsive behavior which seemed imbedded in a matrix of generally bad behavior. No frank convulsive seizures were noted in any case, but the electroencephalograms of all of these children were abnormal and included features found among patients with generalized seizures.

Results show improvement in behavior in 70 per cent of the cases treated with anticonvalsant medication. Twenty-five per cent of the patients remained the same, and in 5 per cent worse behavior was reported following therapy. Electroencephalograms improved in 50 per cent and Rorschach protocols in 55 per cent of the patients. The addition of an organic Rorschach initially in the majority of cases showing improvement, it is believed, provides valid evidence of a nonpsychogenic etiology.

The nature of behavior change consisted in a reduction of excessive reaction and less intense response.

The presence of four positive factors—paroxysmal behavior, abnormal electroencephalogram, organic Rorschach, and definite improvement with the anticonvulsant drug Dilantin—warrants the inclusion of this group of children, it is believed, in the diagnostic category of epileptic equivalents.

It seems, however, that a distinction should be made between epileptic equivalent and psychomotor epilepsy, and evidence in this study points away from epileptic equivalent and psychomotor epilepsy being the same. Electroencephalographic findings are more in line with what is often seen in grand mal and seem more in keeping with a frontal lobe origin.

Finally, it is believed that thinking in epilepsy should be reoriented to the possibility that the phenomenon of the epileptic equivalent is not associated predominantly with adulthood but is more common in childhood than is generally realized.

11 East 68th Street

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Observations of the Effects of Intra-Articular Phenylbutazone

In a series of 33 patients the effects of intra-articular injections of phenylbutazone (Butazolidin, Geigy) were studied to observe clinical effects and, if possible, to demonstrate specific anti-inflammatory properties of the drug when locally administered. Clinical responses were evaluated according to subjective and objective criteria and synovial fluid changes as they were revealed by cytologic examination. All together 87 injections were given. Of the 33 patients, 18 had rheumatoid arthritis, 11 osteoarthritis, and four a variety of musculoskeletal disorders. Of the 18 with rheumatoid arthritis, seven showed major improvement, seven minor improvement, and four did not benefit. Of the 11 osteoarthritis patients, one exhibited marked improvement. Seven showed slight to moderate improvement, and three none. The other musculoskeletal disorders in the series were not significantly influenced. Although these observations suggest some anti-inflammatory effect, no such constant influence was demonstrated. Drs. David H. Neustadt and Otto Steinbrocker add that the possibility of a nonspecific physicochemical mechanism cannot be excluded.—*J. Lab. & Clin. Med., Feb., 1956*

proceedings

Special Committee on

INFANT MORTALITY

Medical Society of the County of New York

HAROLD ABRAMSON, M.D., *Editor*

EDITOR'S NOTE.—*In view of the increasing interest in ways to study and combat the persistently high perinatal mortality rates, we are pleased to present a hospital perinatal mortality conference held under the auspices of the Special Committee on Infant Mortality. The demonstration is by a team of experts who have pioneered in the field. It shows the value of coordinated study by the obstetrician, pediatrician, and pathologist working as a unit to solve the problems associated with fetal and neonatal loss. The anesthesiologist and the pharmacologist could well be included in a team of this type to consider problems of maternal anesthesia, resuscitation of the newborn infant, and maintenance of an adequate airway, as well as the effects of drugs on the mother and her infant. The conference is presented to stimulate the holding of similar conferences in all hospitals giving lying-in care.*

A Hospital Perinatal Mortality Conference

DISCUSSANTS

LOUIS M. HELLMAN, M.D., *Moderator,* Professor and Director, Department of Obstetrics and Gynecology, State University of New York College of Medicine at New York City

RICHARD DAY, M.D., Professor and Chairman, Department of Pediatrics, State University of New York College of Medicine at New York City

SCHUYLER G. KOHL, M.D., Associate Professor, Department of Obstetrics and Gynecology, State University of New York College of Medicine at New York City

PETER GRUENWALD, M.D., Director of Laboratories, Margaret Hague Maternity Hospital, Jersey City, New Jersey

VINCENT TRICOMI, M.D., Instructor, Department of Obstetrics and Gynecology, State University of New York College of Medicine at New York City

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Presented at an open meeting of the Special Committee on Infant Mortality, Medical Society of the County of New York, January 4, 1956; Dr. Carl Goldmark, chairman, and Dr. Harold Abramson, secretary, 145 East 61st Street, New York 21. The following are members of the committee: Drs. Virginia Apgar, Gustave Beck, Joseph Constantine, Edwin Gold, Peter Gruenwald, Duncan Holaday, Harold Jacobziner, David Lehr, Walter Levy, Benjamin Marbury, Jean Pakter, William Silverman, Laurence Slobody, Martin Stone, Lotte Strauss, Helen Wallace, Edward Wasserman, Leo Wilson, Louis Weymuller, and Mr. Herbert Rich.

Dr. Carl Goldmark: The subject tonight is a very important one, the problem of perinatal mortality. As you know, the American College of Surgeons now requests all hospitals with obstetric and newborn infant services to have perinatal mortality conferences. We have succeeded in bringing before you tonight a group that has led the way in holding these conferences. As someone said on the way here, we will really see the first team in action on how to conduct a perinatal mortality conference.

I want to introduce to you Dr. Louis Hellman, Professor and Director of the Department of Obstetrics and Gynecology of the State University College of Medicine at New York City, who will be the moderator and chairman of the conference. Sitting at his left is Dr. Schuyler G. Kohl, Associate Professor of Obstetrics and Gynecology at the State University. Next is Dr. Peter Gruenwald, Director of Laboratories at the Margaret Hague Maternity Hospital, Jersey City. At his left is Dr. Vincent Tricomi, Instructor of Obstetrics and Gynecology at the State University, and last, but by no means least, at his left Dr. Richard Day, Professor and Chairman of the Department of Pediatrics at the State University.

I am now going to turn the chair over to Dr. Hellman.

Dr. Louis M. Hellman: Ladies and gentlemen, there seems to be a spirit of levity abroad. Coming up in the elevator just now, the elevator operator just said: "Lectures to the right, lectures to the left, you can't go wrong." I hope you will find this evening profitable and that you haven't gone wrong.

We intend tonight to present a Perinatal Mortality Conference with a real case. This isn't something we've made up, although the case is good enough so that if we did make one up, we could hardly better this one. This is a real case, and except for the fact that Dr. Tricomi happens to be instructor in obstetrics rather than a resident, we will present it to you exactly as such a conference would be presented at the Kings County Hospital. As far as you in the audience are concerned, you would be physicians of the hospital, attending staff, interns, residents, and medical students, largely from the Departments of Pediatrics and Obstetrics. As such, you are privileged to interrupt any one of the speakers at any time to disagree with what he says or to ask questions for your own enlightenment.

As far as I know, the history of a Perinatal Mortality Conference such as this one dates back to shortly after the war, about 1946, when these conferences were started under the direction of Dr. George Anderson at the Johns Hopkins Hospital. Dr. Anderson was both an obstetrician and a pathologist. He acted as chairman of these conferences, and we had to feel our way. They were extremely interesting conferences because they brought to the floor many omissions, particularly in history and in data. One of the most concrete things that happened almost immediately was that the resident began to put into his histories the data that one asks for in such a conference. Almost immediately we noticed an improvement in both the obstetric and gynecologic histories. A resident doesn't like to be embarrassed by having someone at one of these conferences ask him how long it took the baby to breathe or what kind of pressure was used to resuscitate the baby and find that there is a blank on the history record and of course he cannot remember.

The second thing that happened was a gradual improvement in infant mortality and a decrease in certain types of deaths. When you run a very good obstetric service, a number of deaths fall into certain categories; you have premature babies, and you have babies that are born of mothers in whom the disease itself jeopardizes the baby's life. This is something that obstetricians and pediatricians may not be able to prevent. But always, no matter how tight your service is, there are errors of commission and omission, both on the part of the obstetrician and on the part of the pediatrician. These are relatively rare and do not come to the attention of those practicing medicine in the hospital unless one has a conference like this. If you have a conference like this, these errors stand out glaringly and usually only happen once or twice before somebody does something about the situation.

Finally, these conferences taught all participants what the various organs of normal and abnormal babies look like. I think all of us learned a great deal. For instance, we learned the appearance of infants' lungs. I thought that I was a pretty good pathologist at the time the conferences started, but I must say that after the first year I had an entirely different picture of what the newborn lung looked like under certain conditions. We learned a lot of other things about the pathology of the newborn infant which

TABLE I.—Perinatal Mortality Rates, Kings County Hospital, 1951–1955

Year	Stillbirth Rates	Neonatal Mortality Rates	Perinatal Mortality Rates	Perinatal Mortality Rates in Infants Over 1,000 Gm.
1951	33.55	29.48	63.03	42.19
1952	20.99	28.62	49.61	30.68
1953	23.42	27.18	50.60	31.77
1954	20.77	30.02	50.79	31.75
1955	24.21	29.01	53.22	31.80
Total deaths	448	545	993	606

TABLE II.—Fetal Loss Among Pregnant Women with Diabetes Mellitus, Kings County Hospital, 1951–1955

Year	Number of Cases	Fetal Loss Number	Fetal Loss Per Cent
1951	19	6	31.6
1952	15	4	26.7
1953	29	6	20.7
1954	20	4	20.0
1955	55	7	12.7
Total	138	27	19.6

the modern resident who attends these conferences for three or four years thinks of as pretty common stuff. To us it was rather new. Wherever these conferences have been organized, I think the same thing has happened, namely, an improvement in histories, a decrease in obvious errors, and a marked increase in the knowledge of pathology.

As leader in these conferences, Dr. Kohl usually starts off with some introductory comments for the edification of the audience, and then a history is given, the obstetric situation is discussed, followed by the pediatric situation, and finally, as usual, the pathologist gets up and has the last word to say and probably the last criticism. The hour is then up, and there is very little chance for rebuttal. Since we don't have to close quite so promptly, perhaps we may have a little chance for rebuttal.

Dr. Schuyler G. Kohl: Thank you, Dr. Hellman. Ladies and gentlemen, before we launch into our case, I wonder, Dr. Hellman, if I might digress for a moment to point up something which you mentioned. I have placed, on the board behind me here, this row of figures (Table I). These figures are the perinatal mortality rates of our own institution for babies delivered with birth weights more than 1,000 Gm. for the years 1951–1955. You might want to read some trends into these figures. During 1951 we inaugurated these conferences.

There were two important things that we think have done a great deal to help us reduce our perinatal mortality rate from a pediatric standpoint. One has been the establishment of a premature center at our hospital. The other, and much more important, has been the appointment of Dr. Day as the professor and chairman of the Department of Pediatrics.

The case we have for presentation today is a diabetic. This patient developed some complication of her pregnancy in addition to the diabetes. Inasmuch as this is a situation where a patient has diabetes in pregnancy, I thought I would let you know just how frequent this is and a few more facts about it.

At the top of the board you'll see that in the period 1951–1955 we had 138 patients delivered with the diagnosis of diabetes. This covers 16,057 deliveries. This represents 0.8 per cent of all patients delivered (Table II). Of the 138 patients delivered, 27 lost their infants, either as neonatal deaths or as stillbirths. This gives us a loss rate of 19.6 per cent over the period of time involved. I didn't want to put in a lot of detail, but I just want you to know a little bit more about it, showing you that the range of fetal loss has not been constant at 19.6 per cent. We're glad to say we have improved as we have gone along. The first year we didn't do so well; we lost 31.6 per cent of the babies of diabetic mothers. But for 1955 we have been very fortunate and lost only 12.7 per cent of those infants. I assure you that this lovely figure will not continue, but we always like to take credit for a few statistical quirks when they happen in our favor. Dr. Tricomi will present the details of the patient to you.

Case History

Dr. Vincent Tricomi: Mrs. B., a twenty-three-year-old, para 0-0-0-0, was admitted to the Obstetrical Service of the Kings County Hospital on June 23, 1950, on referral from the Obstetrical Outpatient Department because of uncontrolled diabetes mellitus. Her expected date of confinement was August 20, 1950. She was Rh positive and Wassermann negative.

The patient was a known diabetic since age fifteen and up to the present pregnancy apparently had been controlled with 45 units of protamine zinc insulin daily. In the early part of

February, 1950, at approximately the eighth week of gestation, she was admitted to the Medical Service of the Kings County Hospital in mild diabetic ketosis. This was treated rapidly and successfully, and after eight days the patient was discharged on 15 units of protamine zinc and 25 units of regular insulin daily to be coupled with an appropriate diabetic diet.

The patient was first seen in the Obstetrical Outpatient Department on February 21, 1950. At that time she weighed 130 pounds, her blood pressure was 110/70, and her uterus was gravid and enlarged to a size commensurate with the period of amenorrhea. She was placed on stilbestrol, 10 mg. a day, and this was gradually increased to 25 mg. twice a day by the thirty-second week. Following the initial clinic examination she was seen at three to four-week intervals, and apparently her course was benign until the sixth clinic visit on May 26. At that time her urine exhibited a 4 plus glycosuria and a 1 plus acetonuria.

She was permitted to return home and was next seen on June 23. At this visit she was noted to have gained 8 pounds for a total weight gain of 22 pounds; her blood pressure was 134/90, and she showed a 4 plus glycosuria. Furthermore, she had been experiencing frequent, intermittent episodes of vomiting since her last visit. In view of all these facts, she was referred for immediate hospitalization.

Physical examination on admission revealed a well-developed, well-nourished Negress in no acute distress. Blood pressure was 122/80, temperature 98.6 F., pulse 90, and respirations 18. The head, neck, chest, and heart were not remarkable. Abdominal examination revealed the uterus to be gravid to the size of thirty-two weeks. The fetus was in the right occiput posterior, and the fetal heart was heard at a regular rate of 146 per minute. On rectal examination the cervix was noted to be long, posterior and closed with the vertex dipping into the pelvis; the membranes were intact. There was 1 plus pitting edema pretibially and bilaterally. The hemoglobin was 9.5 Gm., and the urine showed 4 plus glycosuria and 2 plus acetonuria. The impression on admission then was (1) twenty-three-year-old gravida 4, para 0, at thirty-two weeks and (2) diabetes mellitus with diabetic acidosis.

During the two weeks following admission attempts at control, which included intravenous fluids, regular and long-acting insulins in various combinations, and special diabetic diets, were not entirely successful. The glycosuria varied from 1 to 4 plus as did the acetonuria; in addition, there was on occasion a trace to 1 plus albuminuria.

At 3 A.M. on July 7 the patient's blood pressure was noted to be 140/90. The fetus was estimated to weigh 2,700 Gm., and the fetal heart was good. The status of her cervix was unchanged. The urine showed 4 plus glycosuria, 2 plus acetonuria, and 4 plus albuminuria. Cesarean section was now deemed advisable. Accordingly, at 8:14 P.M. on July 7, 1950, the patient was delivered of a 2,608-Gm. male infant from the right occiput anterior via a low segment cesarean section, employing 1 per cent procaine as a local anesthetic supplemented with Sodium Pentothal.

The mother withstood the procedure well, and sixteen days after the cesarean section she was transferred to the Medical Service for definitive control.

At birth the infant cried spontaneously and well and was considered to be in good condition. He was transferred from the operating room to the regular nursery and placed in a Morganthaler incubator with continuous moist oxygen. There were to be no feedings for forty-eight hours, and he was to receive 300,000 units of Crysticillin parenterally on alternate days. Through the night the infant required frequent nasopharyngeal suctioning and gastric lavage.

At 7 A.M. on July 8, approximately eleven hours after birth, the infant's temperature rose to 100 F.; there was moderate edema of the hands and face, and light substernal retractions were noted. At 5 P.M. the temperature was 102.8 F. There was marked respiratory difficulty, and the infant was cyanotic. The course thereafter was rapidly downhill, and the infant expired at 5:25 A.M. in the thirty-third hour of life.

Discussion

DR. HELLMAN: At this point these conferences are open for any discussion or questions or points that anybody wants to make.

VISITOR: Were there any blood sugars done on the infant?

DR. TRICOMI: Eleven hours after birth there was one recorded at 63 mg. per cent.

DR. HELLMAN: Are blood sugars done on these infants routinely?

DR. TRICOMI: I wouldn't say that they are done routinely, and at our institution they were not done routinely at that time.

Dr. Hellman: I think Dr. Day will probably have more to say about blood sugars in these infants.

. . .

The statement was made that the baby should have been admitted to the premature nursery. I don't know whether Dr. Day agrees with this. At the time there was no premature nursery in this institution. I don't think it was necessary that the baby be admitted to the premature nursery as such. I would far rather have had the baby in what might be called a jeopardy nursery where all babies that are not premature babies, but who, for one reason or another, have undergone some experiences which may jeopardize their lives, would be placed. In this nursery I would gather the best nursing personnel and around-the-clock personnel that you could get. A well-baby nursery really needs very little nursing. I think we don't distribute our nursing personnel well, possibly by tradition, but it isn't necessarily the premature nursery that you need; it is a place with constant observation. I am sure Dr. Day will answer in more detail. Are there any obstetric questions on this case?

. . .

Dr. Hellman: The doctor would like to have a repeat on the sugar and acetone at the next to the last visit.

Dr. Tricomi: On May 26 her urine exhibited 4 plus glycosuria and 1 plus acetonuria.

Dr. Hellman: This again is the kind of point that is brought up in these conferences. One of the things that one must watch in obstetric care of these patients is the point that your prenatal care must be meticulous, that you must not slide over even minor aberrations.

Now the reason, I'm sure, that Priscilla White and the group in Boston have such a fine infant mortality in diabetes probably has nothing to do with the administration of stilbestrol but rather lies in the fact that the prenatal care of these patients is superb. The reason I say this, is that Dr. Shlevin and Dr. Pedowitz at the Jewish Hospital in Brooklyn have a mortality which is as good as the Boston group without any use of hormones but merely by meticulous prenatal care.

I have an obstetric question: "Is there any description of the placenta in this patient?" No. Well this is an omission. The placentas in a certain number of cases are abnormal; they're large; they present peculiar microscopic pictures. In all probability, what was done with this placenta is what happens to so many of them—they are discarded. I think this is unfortunate.

Would you say something about the anesthesia, Dr. Tricomi? How much Sodium Pentothal did this patient get?

Dr. Tricomi: At that time we employed the intermittent injection technic with a 2.5 per cent solution. She may have received something like 500 mg.

Dr. Kohl: Dr. Hellman, may I say something about prenatal care?

Dr. Hellman: Yes.

Dr. Kohl: This patient was first seen on February 21 and was seen at three to four-week intervals thereafter until May 26. We all agree that on May 26, when she showed evidence of being out of control, she should have been admitted to the hospital. I would like to point out that the patient did not return for her next prenatal visit for four weeks, June 23, in spite of the fact that the patient had been instructed to return in one week.

This is a thing we have observed from time to time. When you have a patient with a minor aberration which you think may clear up in a short time and you say, "Let her come back again next week and see how she is," so often she doesn't come back the next week. Therefore, I would like to reinforce the previous statement that the patient should have been admitted to the hospital on May 26. One makes a mistake when he trusts the patient to return within a week or any specified period of time. As soon as a diabetic gets out of control, she should be admitted to the hospital.

Dr. Helen Wallace: When the patient did not return the following week, what did you people do about trying to get her back?

Dr. Hellman: Dr. Wallace wants to know what we did when the patient did not return the following week? Dr. Wallace, I would like to answer that question, not on what was done in 1950 because I don't know, but I would like to answer the question on what is done in 1955. When this transpires, the patient is sent a postal card as a routine reminding her. However, if the patient is a special patient, like this particular one was, we are not satisfied with sending a postal card. We have a very fine working arrangement with the Visiting Nurse Association of Brooklyn, and they will make a home visit to the patient for us and report the results of their visit, so that we can take action immediately.

Dr. Southern (Visitor): It wasn't very clear in the history at what stage of gestation the cesarean section was performed.

Dr. Hellman: Dr. Tricomi, would you cover again the duration of pregnancy?

Dr. Tricomi: According to the history she was thirty-four weeks pregnant at the time of the cesarean section.

Dr. Southern: Is it advisable to do a cesarean section on a patient in uncontrolled diabetes having acidosis at the thirty-fourth week of pregnancy? By how long had the medical treatment for the pre-eclampsia and the diabetes in hospital preceded the section?

Dr. Tricomi: She had been hospitalized two weeks prior to the cesarean section.

Dr. Southern: Have you considered the factor of prematurity of the baby in the presence of ketosis as a contraindication to a premature cesarean section? Would you not think that might in fact jeopardize the infant?

Dr. Kohl: The question, I gather, is had we treated this patient sufficiently long for her ketosis and her pre-eclampsia before we terminated the pregnancy by cesarean section? I think that we had treated the patient sufficiently long. I am convinced that when pre-eclampsia supervenes in a patient with diabetes, unless delivery is accomplished soon thereafter, the perinatal mortality is prohibitive. These babies die very rapidly, and the reason for cesarean section being done at this time was because of the supervention of acute toxemia of pregnancy in the patient with diabetes.

Dr. Southern: Should pregnancy be terminated at a time optimal for the baby or for the mother?

Dr. Hellman: Well I think it is both. Certainly from the standpoint of perinatal mortality, it was to this baby's best interest to be delivered at this time. Also as far as the patient is concerned, I think it is pretty well agreed that the only definitive treatment we have for pre-eclampsia is to effect delivery. When this is superimposed on diabetes, we have a very severe situation, and delivery is indicated to an even greater extent.

Dr. Southern: First of all, there is no way of assessing the intrauterine condition of the fetus.

It is certainly a statistical fact that these infants may be jeopardized, but there is as yet no precise method of determining which infant is being affected either by the toxemia or by the diabetes. There is no basis for selection. Therefore, from that point of view one cannot say in all honesty, apart from statistical analysis which does not particularly affect the individual, that this baby is being jeopardized any more than it might be by being removed from that environment into a premature one. As far as the maternal aspect is concerned, I agree with you that termination of the pregnancy in toxemia is desirable, but I'm not convinced that it is desirable by cesarean section.

Dr. Hellman: This gentlemen has put his finger directly on the most crucial aspect. As obstetricians we have a lacking component, and that lacking component is the status of the baby in utero. Thus, when an obstetrician is faced with maternal disease which he knows statistically jeopardizes the baby, he must weigh (1) what he knows about the degree of jeopardy, which is a statistical fact, and (2) what he knows about the effect of prematurity, which is also a statistical fact. He sort of balances these and comes up with an answer which is by and large a guess. If he had the third component, namely, how badly off is this baby in utero, his decision would be of much greater value. He doesn't have that, so the type of reasoning he uses is based on something like this.

If you take the weight of the baby on this line, and this is 400 Gm. here, this is 3,400 Gm. here, which we will say is the average weight of the term baby. If you put on this line the per cent survival of babies born alive—now we are only talking about liveborn babies—and this up here will be 100 per cent and this 95 per cent and the 50 per cent figure somewhere down here and 0 per cent here, then you get a curve which looks approximately like this. Now it's a little flatter up here. The point where this curve begins to get flat is a very important point because beyond that point the survival of the baby is about equal whether the baby goes to term or not. Strangely enough, this line differs between white and Negro babies. The Negro baby curve is something like this, so that the plateau for Negro babies occurs with lighter babies than with the white baby so that you can deliver a Negro baby at a lighter estimated weight than a white baby and have equal survival at term, if that is clear. Now then, "term" and "small" are different things for different clinics because they differ from white to Negro, as I indicated. They also differ between ward and private patients. To some extent this depends on the nutrition of the patient. Our curves begin to flatten for the white baby at about 2,200 Gm. They are absolutely flat for the white baby at 2,500 Gm. They are absolutely flat for the Negro baby at 2,200 Gm. Now this is a much better estimate of baby survival than the duration of pregnancy. Granted, if we were able to know the duration of pregnancy accurately, maybe that would be better, but with the type of patients we see, weight of baby is a much better index than anything we could do with duration.

I will point out that this baby weighed 2,600 Gm. This may be misleading in this case because this baby might have been edematous. I don't know. We will have to wait for the pathologic report. From the weight of the baby alone, however, the time for doing the cesarean section was right. I will still bow to you and say that you have put your finger on the vital point in your question, and in my reasoning and in yours the missing factor is, how well was this baby doing in utero?

Now, I think that in all fairness we as obstetricians have monopolized the conversation a little bit. Dr. Day, do you want to come up here, or do you want to talk over there?

Dr. Richard Day: The history you have heard conforms to the pattern which is typical of those infants who succumb who are born to diabetic women. The predominant manifestations were those of cyanosis and respiratory difficulty. From reading the literature it seems that no one knows just what is really the matter with these infants, although there are a number of interesting features about them which deserve comment. It is well established that they are larger than babies of a comparable gestational age born to women who do not have diabetes. Part of this increase in size, but not all of it, is edema, and in a study by Cook and Smith in Boston, this edema appeared to be in part comparable to that which would be expected in an infant of the same degree of prematurity. In a study by Peterson in Copenhagen, in addition to the edema, there was a factor of growth. Infants born to women with diabetes were abnormally long, and this length was apparently not due to edema of the crown and heel but to a true increase in length. This increase in size is apparently not a sufficient explanation for the failure to survive. Obstetric complications which result from the added size only contribute a small fraction to the mortality.

I believe that infants born to women with diabetes die at approximately five to six times the rate of infants born to normal women. Of this mortality approximately half occurs in utero, approximately one-quarter during delivery, and approximately one-quarter after the baby is born, so that the pediatrician has to deal with only 25 per cent of the problem.

These infants, in addition to being large, have an increased incidence of congenital anomalies, again some five times as great as the incidence in infants born to women who are normal. However, these congenital anomalies do not account for the increased death rate. One gathers from the literature that they cause only a small fraction of the deaths.

At autopsy the striking features are as follows: First, the lungs appear to have suffered from the difficulties which premature infants suffer from but in greater proportion than would be expected on the basis of gestational age. These difficulties consist mainly of the atelectasis-hyaline membrane syndrome. Second, the viscera are large, and this excess size applies to the heart, liver, adrenal glands, kidneys, pituitary gland, etc.

Many people have commented on the curious appearance these infants present, which puts one in mind of Cushing's disease, and in an interesting paper last year I find that a Scandinavian worker, counting the proportion of the different cellular components of the pituitary gland, discovered that the basophilic cells were about three times as numerous as in infants who died from other causes. It is the basophilic cells in the pituitary gland which produce true Cushing's disease. One feature which reminds one of Cushing's disease is the prominence of the cheeks. As far as I know, hypertension is not present. I haven't seen a proper study of blood pressures, however. The infants certainly do not suffer from glycosuria or hyperglycemia, and in fact the question has been raised as to whether part of their difficulties may be the result of hypoglycemia. One other point on endocrine factors: it has recently been shown that the output of 17-ketosteroids is from two to three times as great as the output of normal infants.

Of the pathologic features which seem important and which seem to have played a role in this particular infant, the one which attracts attention is the pulmonary difficulty. Our infant was in respiratory trouble from the start. He manifested vigorous respirations with pronounced retractions. He had a great deal of mucus which had to be suctioned from his pharynx. He was a premature infant and the offspring of a diabetic woman. The supposition, therefore, is that he was suffering from the atelectasis-hyaline membrane syndrome. The tendency of diabetic infants to develop hyaline membrane disease is said to be out of proportion to their prematurity and perhaps arises from the fact that many of them are born by cesarean section. The infant we are discussing tonight died at thirty-three hours of age, which is a very average time for one to die who is suffering from this difficulty, and the progression of symptoms was characteristic.

Before one might answer the question of what there may be in the diabetic situation per se which could predispose to hyaline membrane disease, one would have to understand the etiology of the syndrome. Progress is being made in this direction. One interesting new contribution is that which has been put forward by Gitlin who believes that he has identified, by a fluorescent-tagging technic, the protein material which lines many of the air spaces as fibrin arising from the infant's bloodstream. The factor which may have precipitated the fibrin from pulmonary edema fluid, he believes, resides in amniotic fluid. This is a very satisfactory working theory and provides for interesting speculation in connection with some of the customary recommendations for treating infants born to diabetic mothers. For example, Gellis, as you all know, believes that one reduces the pulmonary complications by aspiration of the stomach, and our infant's stomach was duly aspirated. The idea is that one removes swallowed amniotic fluid so that it cannot subsequently be vomited and aspirated. And we now have a satisfactory explanation of why the inhalation of vomited amniotic fluid is dangerous; it may provide the factor which precipitates protein from pulmonary edema fluid.

Now why would one expect pulmonary edema fluid to be found in this infant? Here, as far as I can see, there are no clues except that there probably was cardiomegaly and may have been some cardiac decompensation.

Another measure which has been advocated is the use of a humidified atmosphere with the idea of retarding the drying of any secretions or liquid material within the lung. No one has published any adequate evidence that a moist atmosphere prevents or in any way modifies the hyaline membrane-atelectasis syndrome, and I would like to quote the work of Dr. Silverman at Babies Hospital, who, although not studying infants born to diabetic women specifically, nevertheless studied a large series of premature infants. Infants were placed either in a group that received added mist or in a group that were placed in a standard incubator atmosphere. There was no apparent effect of the added mist on the frequency of hyaline membrane disease in premature infants born to normal women.

The addition of oxygen seems like a natural maneuver when the infant is cyanotic. It is gratifying to see that this infant was treated in an old-fashioned Morganthaler incubator which has the distinction of never having been accused of producing retrolental fibroplasia. It leaks oxygen too fast to do that.

One of the subjects which attracts attention in this situation is the infant's blood sugar level. Dr. Alexis Hartman believes that hypoglycemia plays a role in some of these infants. On the other hand, the great array of work aligned against this opinion, I think, must carry the day. In particular, the very careful work of the Copenhagen investigator, Peterson, must be mentioned. He showed that there was no important difference in the blood sugar level taken at frequent intervals following birth in these infants as compared to normals and that there were no symptoms to be ascribed to hypoglycemia. Injection of glucose in the few infants who had levels of 20 or lower did not seem to alter the symptoms. More research is needed on this point.

The question of whether these babies should be put in a premature nursery is asked, and I would like to make a comment on this point. Premature nurseries are set up in order to provide as nearly clean an atmosphere and environment as possible. At Kings County Hospital the newborn nursery is, in my opinion, freer from infection stemming from the infants than the premature nursery. The pressure of circumstances leads our obstetricians to send the mothers home with their infants two or three or four days after delivery, an interval shorter than the incubation period of most of the infectious conditions which arise in nurseries. So we have no great problem of cross-infection in our nursery. In our premature nursery we do have cross-infections from time to time. What the infant of a diabetic mother needs is adequate observation. If he can get that in a term nursery, it seems to us like a satisfactory place for him.

It has been asserted that the edema which these infants suffer from contributes to the pulmonary edema and, therefore, should be treated by total privation, no food and no water for a period of twenty-four, forty-eight, or even seventy-two hours. This infant was started on such a career, but he died at thirty-three hours so he wasn't able to complete the treatment. Evidence that a "drying-out" period alters the mortality rate has not been shown in a controlled study so far as I am aware, although it seems rational and is a customary form of handling.

Dr. Hellman: Will you dispose of the hypoglycemia situation one way or the other? You just slid over it, sir.

Dr. Day: We have Priscilla White, Peterson, Gellis, and others who hold to the belief that hypoglycemia is not a factor in these infants except in the rare one whose mother receives a large dose of insulin shortly before delivery. On the other hand, Hartman and some others feel that there is a tendency to hypoglycemia which is predicated on islet cell hyperplasia caused by unknown factors. It is not thought to be compensatory hyperplasia induced in the infant's pancreas in an attempt to take over the function of the maternal pancreas.

Dr. Hellman: You will admit, though, that a not too small percentage of these babies do have hyperplasia of the islets.

Dr. Day: Oh yes, I think it is well established that a good proportion of these babies have such hyperplasia.

Visitor: What is the significance of the temperature rise to 100 F.?

Dr. Day: I have no idea. He might have contracted an infection, or he might have been overheated by this Morganthaler bed. There is no record of a blood culture having been taken or of the result if it was taken.

Visitor: I have come across several cases where the infant simulates the blood picture of erythroblastosis. Might not there be some endocrine disturbance which might explain many of these so-called cardiorespiratory disturbances?

Dr. Day: Infants born to women who develop their diabetes as much as twenty years later suffer from the same phenomena, and it seems a certainty that this is a manifestation of some form of endocrine difficulty. Priscilla White has recommended that stilbestrol be used to correct this abnormality.

Dr. White's thesis is contradicted by others. In an article published in *Lancet* this past October, a committee for the study of diabetes in pregnancy in England in a controlled investigation attacked the question of whether or not the administration of stilbestrol to diabetic pregnant women is beneficial. There were 76 women in one group and 71 in the other. They found no difference either in the mothers or in the offspring in any respect. Thus, although there is evidence of an endocrine abnormality, it is not understood and cannot be prevented.

Dr. Southern: If I may come back to the problem of hyperglycemia in these infants, for what it is worth. I think it was Himwich and his colleagues who showed that the known high tolerance of the fetus to anoxia is related very largely to its being able to utilize its own blood sugars. I think we should inquire into this possibility. The administration of insulin reduces the tolerance to anoxia, which tolerance is then no greater than in the adult. May this not be a factor here? Aside from its ability to utilize its blood sugar, a diabetic infant is more sensitive to variations of insulin level. An anoxic death is a secondary factor.

Dr. Day: You have just stated a theory which would seem possibly to be applicable here. You postulate that anaerobic metabolism, which would be useful to the cyanotic infant, would be handicapped by hypoglycemia. As I have stated, you would get pragmatic support from Hartman. Others, especially the Copenhagen workers, would say that there is no significant hypoglycemia, and when it is present, glucose injections are not beneficial. Hence your theory is not supported by experience, but obviously more research is needed on this point.

Dr. Hellman: I don't know whether the experiments of Himwich are applicable here. The anaerobic metabolism of the central nervous system demonstrated by him was for puppies. Apparently this disappeared with the first breath of these puppies, and then they couldn't go back and have anaerobic metabolism. This has been subject to a great deal of discussion ever since these experiments were done. They have been repeated on other animals and are apparently valid. But whether the human has anaerobic metabolism as a major method of keeping the brain alive and functional in utero and whether it makes this transition as the puppy does with its first breath and then resorts to aerobic type of metabolism, I don't think anybody knows.

We have a short time left. We have to give our pathologist time. I just want to say one word. The anesthesia which I prefer would be a spinal or perhaps an epidural block. There is one word of precaution in this situation. When one deals with acute hypertension, a spinal is very apt to give you a very profound fall in blood pressure, and this is doubly emphasized if the hypertension has been treated with magnesium sulfate. This represents a treacherous obstetric situation—acute toxemia, magnesium sulfate, spinal anesthesia. So that these falls in blood pressure, which can be readily controlled by a good anesthesiologist, still represent a source of danger for the baby, and there is no question that with such a fall, there is a higher fetal loss. It would be the type of thing one would like to avoid in diabetes. Therefore, if I had my choice and an anesthesiologist capable of carrying out this procedure, I would use fractional and very low dose spinal. I would give this anesthesia a considerable time before the operation, be sure that the blood pressure was stabilized, and then do cesarean section. Unfortunately, this sort of ideal anesthesia and the time it takes are not always available to us.

Dr. Gruenwald, I am not going to allow any more discussion. I turn the meeting over to you.

Pathologic Report

Dr. Peter Gruenwald: At autopsy this baby was 43 cm. long and weighed 2,380 Gm. It had lost over 200 Gm. of weight in these thirty-three hours. The gross findings were not particularly remarkable except that the lungs were very poorly aerated. Only at the anterior borders were there small areas of gross aeration. Before going on to the microscopic examination, I would like to show one slide with the weights of various organs because they are of particular interest in this case of a baby of a diabetic mother (Table III).

Table III shows some of the data given by Potter for normal babies weighing from 1,250 to 1,750 Gm. and from 1,750 to 2,250 Gm. These are normal values for body length and weight and weights of some organs. The figures in italics pertain to our present case. You will see that body length and weight of the brain fall between the values for the two normal groups. I think that the weight of the brain is quite a reliable indication of the degree of maturity; the brain apparently does not follow various abnormal trends of the viscera. Body length is probably also a relatively stable trait. I would think, therefore, that according to the stage of development this baby probably belongs somewhere between the two columns of normal values.

TABLE III.—Comparison of Data in the Present Case* with Normal Values (Potter)

	Normal	Case	Normal	Case
Body weight (Gm.)	1,250 to 1,750		1,750 to 2,250	*2,380*
Length (cm.)	42	*43*	46	
Brain (Gm.)	227	*240*	289	
Heart (Gm.)	11		15	*30*
Liver (Gm.)	66		88	*94*
Adrenals (Gm.)	4		5	*10*

* Figures for present case in italics.

However, if you look at the other measurements, you will find that the baby's body weight was out of line; actually it was close to 2,600 at birth. The weight of the liver is also excessive, past the 88 Gm. of the larger control group. The weight of the heart and the adrenals is way out of proportion; there is no group in Dr. Potter's table, which goes as far as newborn babies go, that has a 30-Gm. heart or 10-Gm. adrenals. This illustrates the point which was previously made by Dr. Day that these babies are not only overweight, but they also have an enlargement of certain viscera. The heart is not only enlarged but apparently is also prone to difficulty in some of these babies. If I am not mistaken, these babies of diabetic mothers are even given digitalis in some hospitals.

Now I want to show you some of the microscopic findings, first in the lungs. As Dr. Day suspected, the lungs show atelectasis of prematures, as I like to call it. This slide shows a relatively normal portion of the lungs. Many of these alveoli are not collapsed but filled with fluid and some with air. Some of these spaces are probably bronchioles and some alveoli. This is the usual appearance of lungs which are beginning to be aerated. However, in the atelectasis of prematures, conditions are usually different, and the next few pictures will show that.

Here is a picture that shows some of the respiratory bronchioles expanded and filled with fluid. Most of the alveoli are collapsed, so that all the solid tissue that you see here between these open spaces consists of collapsed alveoli. The open spaces—and you will see more of them—are oblong, are bronchioles. Here is a higher magnification showing one of those respiratory bronchioles distended with air, whereas most of the alveoli are almost completely collapsed here. I have purposely chosen an area in which the alveoli are not completely collapsed; otherwise you wouldn't see them at all. In most areas they are completely collapsed so that the tissue between one bronchiole and the next is entirely solid. This is the characteristic pattern of atelectasis of prematures, namely, extended bronchioles and collapsed alveoli.

Here is some more of this atelectasis of prematures, in this field with hyaline membranes in a respiratory bronchiole; the alveoli around it are collapsed. This baby was premature. If you remember where I placed it in the table, it was between the 1,250 to 1,750-Gm. and the 1,750 to 2,250-Gm. groups. It was also premature by dates, so we shouldn't be surprised. Here is another picture showing the collapsed parenchyma and the expanded or open respiratory bronchiole filled with fluid and lined by this hyaline membrane. Since these slides are not stained with casein, the membrane is not pink but, in this case, greenish. So this is the characteristic atelectasis of prematures with hyaline membranes.

This slide is a brain section. It shows a small area of hemorrhage. This is an indication, most people believe, of anoxia, probably not very mild anoxia at that. I have a suspicion that we cannot see the effects of mild degrees of anoxia in the brain.

Here is a heart section. This is a clue to some of the difficulties that newborn babies, not only those of diabetic mothers, may have. You see a frozen section stained for fat. The myocardial fibers of this heart are loaded with fat droplets which appear red or orange on the slide. This is degeneration due to anoxia. The heart was grossly dilated and flabby, and in these hearts, whenever we examine frozen sections (we don't do them often enough), we find fatty changes. That, as I said, occurs not only in babies of diabetic mothers, it is also one of the manifestations of anoxia and distress.

Here is a liver section. It shows remnants of extramedullary hematopoiesis which must have been just disappearing at thirty-three hours. It also shows the vacuolation of many of the liver cells which is again a nonspecific reaction to anoxia and, I presume, a reversible process. These vacuoles in the liver cells are either fatty or fat-free.

The manifestation of distress is also seen here in the adrenals. There is a focal area of hemorrhage, and one can usually show that these small areas of hemorrhage are associated with or perhaps caused by focal necrosis. There are also larger central areas of hemorrhage. This was one of several found on our sections. I believe, and I have not been able to find any better explanation, that this is the result of an overstimulation of the adrenals in distress.

Next is the pancreas, and it does show some tremendously enlarged islets of Langerhans. As was stated before, many of these babies have the large islets. The only thing that reduces the significance of this observation is that many other babies have them too, particularly erythoblastotic babies and a group in which we know of no abnormality. However, we do find this quite commonly in the babies of diabetic mothers.

Now let us go back to some of the manifestations of distress. Here is a section of esophagus which shows an ulceration covered with a membrane. These ulcerations are, I'm quite convinced, shock lesions of the same kind that one finds in humans, say postoperatively, or in experimental animals. The next slide shows a high-power picture of this area of ulceration with this slough. The membrane consists of leukocytes, fibrin, etc., and the leukocytic infiltration in the mucosa is visible below. By the way, we never diagnose anything as esophagitis unless it does show a leukocytic infiltration.

Now I want to go back very briefly to the atelectasis of prematures and to point out in sections from other babies that this atelectasis of prematures is characterized, as I said before, by solid atelectasis of the alveoli and the expansion of the respiratory bronchioles. These respiratory bronchioles may or may not be lined by hyaline membranes. Here is the good old eosin stain with the red hyaline membrane. This is a case where the lungs were full of these bronchioles with hyaline membranes. In another case some of the bronchioles had hyaline membranes, and some didn't. In this third specimen of lung there were no hyaline membranes but the same kind of atelectasis.

This atelectasis occurs only in prematures. The hyaline membrane is not the cause of this atelectasis. It is a concomitant condition, and it may make it harder for the baby to overcome atelectasis again. But basically the atelectasis of prematures is an inherent characteristic of premature babies. I don't want to go into ideas of what the basis of this may be, except to emphasize again that hyaline membrane is merely a complication of it, not the cause of the entire difficulty.

That an anatomic peculiarity of the lungs is involved can be shown by experimentally expanding lung specimens obtained at autopsy with air. Here is a lung from a 405-Gm. baby, very immature, but quite nicely expanded. There are no alveoli yet. All air spaces are future bronchi. Here is a full-term baby, 4,300 Gm.; the alveoli are well developed, and they expand well, along with the bronchioles. But here in between is the range of the viable premature, and in the viable premature the alveoli are apparently very small. For some reason, and I don't want to take time to go into this, these alveoli resist aeration. By artificially expanding these dead lungs we can reproduce the same condition and find the bronchioles expanded and the alveoli collapsed. In some of these lungs, you can use any pressure you like, and you cannot expand the alveoli. However, if you fill these lungs with fluid, they expand beautifully without overdistention of the bronchioles. This shows that anatomically the alveoli are able to expand, on the one hand, but there is some factor, on the other hand, which makes them resist expansion by air while the bronchioles are distended. This, I believe, is the basis of the atelectasis of prematures.

Finally, here is a summary of the anatomic findings of this baby under three headings: prematurity, perinatal distress, and maternal diabetes:

Prematurity:* *atelectasis, hyaline membranes in bronchioles.

Perinatal distress:* *aspiration of vernix, mild; dilatation, fatty change, heart; hemorrhages in brain, focal; hemorrhages in adrenals, focal; esophagitis; petechiae in viscera; degeneration of liver, moderate.

Maternal diabetes (by history):* *excessive body weight; enlargement of heart, liver, adrenals; enlarged pancreatic islets.

It is quite difficult to attribute death to any one of these factors. I'm quite sure that there is a combination, and I think your guess is as good as mine as to which one predominated over the others. However, I would like to emphasize that this baby was well within the premature range, even though it weighed over 2,500 Gm. at birth. I don't know whether it was this case or another similar one which caused quite a row at Kings County Hospital because the doctors wanted to admit such a baby in the premature nursery, knowing that it was premature. The nurses running the nursery refused because the baby weighed over 2,500 Gm., and won out. So I think that if you feel that in your particular institution the premature nursery is the haven for a baby that isn't doing well, you will have to point out to some people that a premature baby may weigh well over 2,500 Gm. if it comes from a diabetic mother.

DR. HELLMAN: I think Dr. Gruenwald has capped the climax on this case because he has shown, without any doubt as far as I am concerned, that this infant was premature regardless of its weight. So we come back to the question asked over here in this corner, "Did we not think that the cesarean section was done too soon?" The answer is probably in the affirmative—that it was done too soon. The only defense I can make on this point is that it has been our experience that when patients with diabetes develop toxemia, one is very apt to have a death in utero. It was probably this factor which led the obstetrician to do the cesarean section, possibly two weeks too early. It is a very short period of time that marks the difference between when babies develop this atelectasis with hyaline membrane disease and when they respire normally, not more than two weeks or ten days on a borderline period. I suspect that might have made the difference here.

This conference has been a little longer than our usual conference by about a half hour. We try to confine these conferences to one hour. That's about as long as you can hold an audience of medical students, or anybody else for that matter. My only apology is that we don't usually have as sophisticated an audience or one which asks such probing questions as we have had here tonight.

FUNDAMENTALS OF MODERN ALLERGY

A series of special articles sponsored by the New York Allergy Society and written by its members

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MURRAY ALBERT, M.D., JOSEPH FRIES, M.D., WILLIAM B. SHERMAN, M.D.

Hay Fever

MURRAY M. ALBERT, M.D., BROOKLYN, NEW YORK

(*From the Allergy Clinic of the Jewish Hospital of Brooklyn*)

Hay fever or, more accurately, pollinosis is an allergic disease characterized by the seasonal occurrence of attacks of excessive sneezing, rhinorrhea, nasal congestion, itching, and "tearing" of the eyes. This symptom complex was first described in 1819 by John Bostock who called it "summer catarrh." In 1831 Elliotson first suggested that pollen was probably the etiologic agent. In 1911 Noon demonstrated the practicality of the subcutaneous injection of pollen extract for the purpose of therapy by desensitization.

Etiology

Hay fever may have its onset at any age from birth to seventy years. However, it most commonly begins between the first and third decades. It occurs with equal frequency among males and females, and it is generally estimated that there are between three and five million hay fever sufferers in the United States. It is a malady which is confined almost exclusively to temperate climates.

Two factors are essential for the development of hay fever. The first is the inheritance of a capacity to become sensitized, and the second is adequate exposure to the pollen to which the individual has become specifically sensitive. In hay fever the capacity to become sensitized resides in the cells of the nasal mucosa which is called the "shock tissue." In asthma the "shock tissue" is the bronchial mucosa. The age of onset of hay fever depends on the degree of inheritance. The stronger the inheritance, the earlier the onset of symptoms. There also seems to be a tendency to transmit the specific allergic manifestation. Parents with hay fever are more likely to transmit hay fever to their offspring. The degree of contact with pollen is often a factor in determining the time of onset of hay fever. Undoubtedly, exposure to abundant amounts of pollen, such as occurs in the country, will hasten it. Not all types of pollen are capable of producing hay fever. Certain characteristics, as outlined by Thommen, are essential:[1]

1. *The pollen must contain a specific excitant of hay fever.* Pine pollen which, like ragweed, is abundant, buoyant, and windborne does not pro-

duce hay fever since it lacks a specific excitant.

2. *The pollen must be anemophilous or windborne.* Colorful plants, such as goldenrod, rose, sunflower, dandelion, daisy, etc., which are insect pollinated are of minor importance as causes of hay fever.

3. *The pollen must be produced in sufficiently large quantities.* Wind-pollinated plants fulfill this criterion.

4. *The pollen must be sufficiently buoyant to be carried considerable distances.* The specific gravity and form of tree pollen, grass pollen, and weed pollen meet this requirement.

5. *The plant producing the pollen must be widely and abundantly distributed.* Although almost every important hay fever-producing species is found represented in the flora of New York State, only a few trees, grasses, and weeds are abundant enough to cause hay fever.

There are several additional factors which determine the concentration of pollen in the air at any one time. The amount of sunshine or rain, the humidity, the direction and velocity of wind, and various atmospheric changes greatly influence the amount of pollen in the air. Symptoms are aggravated when high winds expel more pollen into the air. They are diminished when excessive humidity or rain lower the pollen content of the air. Sunshine stimulates the anthers to open and discharge pollen into the air which usually occurs between 4 and 8 A.M., which explains the fact that most hay fever patients experience their worst symptoms in the early hours of the morning.

There are three well-defined hay fever seasons on the eastern seaboard:

1. *Spring hay fever,* which is caused by *tree pollen* and runs from the latter part of March until early June.

2. *Summer hayfever,* which is caused by *grass pollen* and lasts from the latter part of May to the latter part of July.

3. *Autumnal hay fever,* which is caused by *ragweed pollen* and lasts from the middle of August to the end of September.

Pathology and Symptoms

The histopathologic changes observed in nasal tissues of patients suffering from hay fever are characteristic of the allergic reaction and consist chiefly of pronounced edema and eosinophilic infiltration of the mucous membranes.

The commonest symptoms of hay fever are paroxysmal sneezing, nasal congestion, rhinorrhea, lacrimation, and itching of the eyes. The onset may be gradual or quite sudden, depending on the degree of exposure to pollen. When the onset is gradual, the attack is usually preceded by a mild sensation of itching and burning of the eyes or mild irritation of the nose or itching of the palate. Hay fever attacks frequently are of sudden onset, ushered in by a violent, exhausting paroxysm of sneezing, especially in the early morning hours when there is a sudden increase in the concentration of pollen. Marked nasal congestion and profuse rhinorrhea usually follow the sneezing paroxysms. There is a sense of fullness in the ears. Itching of the eyes, marked congestion of the conjunctivae, profuse lacrimation, and photophobia may or may not accompany the nasal symptoms. Itching of the palate and the inner ear is a most annoying symptom. As the attack progresses, the nasal mucosa becomes highly sensitive and responds with sneezing to stimuli which were previously innocuous, such as the slightest draft, strong odors, or minute amounts of dust.

Many patients suffering from hay fever also complain of various constitutional symptoms, such as lassitude, loss of weight, loss of appetite, drowsiness, constipation, insomnia, etc. These symptoms are quite often due to the self-administration of antihistaminic drugs.

In some patients the ingestion of certain foods during the hay fever season produces an aggravation of the nasal symptoms. This is particularly true of the pitted summer fruits, shellfish, corn, etc. In most cases these foods are well tolerated at other times of the year or cause relatively mild discomfort.

"Hay asthma" (asthma caused by pollen) is a distinct form of pollen sensitivity not accompanied by nasal or ocular symptoms. It recurs seasonally the same as hay fever. This type of asthma is not very common. More commonly, asthma occurs as an accompanying manifestation of hay fever or as a complication of hay fever. The type of asthma which accompanies hay fever usually develops after several seasons of nasal symptoms. It may be preceded by an irritative cough and a sense of tightness of the chest. It usually begins in the second or third week of the hay fever season, is probably due to the action of inhaled pollen on the bronchial mucosa, and subsides at the termination of the hay fever season. In some asthmatic patients symptoms may continue beyond the pollen season and gradually become perennial in nature. In these cases other factors than pollen, such as molds, infections, physical agents, etc., prolong the asthma.

Diagnosis

The clinical or symptomatic diagnosis of hay fever is easily made from the history alone. The seasonal recurrence of sneezing, nasal congestion, rhinorrhea, itching of the eyes, and the presence of a positive family history of allergy are conclusive evidence of the presence of hay fever.

Further inquiry should be made as to the exact period when symptoms occur in order to determine which pollens are the likely offenders. The patient should be further questioned to determine whether there are other allergic manifestations, such as food sensitivity, urticaria, eczema, nonseasonal rhinitis, migraine, coughing, wheezing, etc. The proper management of associated allergic manifestations frequently determines the success or failure of hay fever treatment.

The specific diagnosis of hay fever is based on the skin test. The skin and mucous membranes of almost all individuals who suffer from hay fever contain reaginic antibodies which react in the presence of the specific pollen antigen.

There are two methods of skin-testing, the scratch method and the intracutaneous method, as previously described in the second paper of this series.[2] For the diagnosis of hay fever the scratch test is adequate. It may be performed with either dry pollen or a concentrated liquid extract. It does not require any specialized skill and is the much safer method for the general practitioner. Should a large reaction result, the material can be quickly wiped off the skin. With the intracutaneous method a small quantity (0.02 cc.) of sterile pollen extract is injected into the uppermost layer of skin, producing a small wheal. The reaction can be read within ten minutes. The intracutaneous technic is preferred by most allergists since by this method, using serial dilutions of pollen extracts, it is possible to determine quantitatively the degree of skin sensitivity. This affords some measure of the patient's tolerance for pollen dosage.

Employing quantitative tests makes it possible to classify the majority of hay fever cases according to the method of Cooke into four groups: Class A, B, C, and D depending on the concentration of the test extract needed to elicit a moderate to marked reaction with pseudopods. Class A cases are the most sensitive and usually tolerate only small doses of pollen extract, while Class D cases are the least sensitive and can tolerate high doses of pollen extract. The above classification can be made regardless of which method of standardization has been employed in the manufacture of the pollen extracts. Various manufacturers and laboratories may employ different standards, such as protein nitrogen units, Noon units, total nitrogen content, and weight by volume. Regardless of the method of standardization, most extracts are prepared in three dilutions in multiples of ten (1:10, 1:100, and 1:1,000).

In hay fever, in contradistinction to other allergic diseases, a positive skin test is almost conclusive evidence of clinical sensitivity. However, it must be remembered that a positive skin test may indicate present, past, or future sensitivity. A positive skin test for hay fever is significant only when it can be correlated with a clinical history of hay fever symptoms during the pollination period of the specific pollen. During the course of routine skin-testing with pollens many patients will show positive reactions to ragweed, grass, plantain, and trees, yet their symptoms may be confined only to the period of ragweed pollination. The positive reactions to the others indicate that in the future they may also develop true clinical sensitivity to these pollens. Contrariwise, there are other patients who, although they have lost all clinical signs of hay fever, retain their skin sensitivity to pollen.

In the small percentage of cases where skin tests with pollens yield negative results in presence of a definite seasonal history or when there are perennial symptoms without apparent seasonal aggravation, ophthalmic and nasal test with dry pollens or with pollen extracts may be employed for confirmation.

In the differential diagnosis hay fever must be distinguished from the common cold, vasomotor rhinitis, perennial allergic rhinitis, and vernal conjunctivitis.

Course and Treatment

Once hay fever has occurred, it will recur each year at the same season if there is exposure to the specific pollen. There is no way of determining for how many years hay fever will last. In a small number of cases spontaneous cures are observed after a few seasons. Most cases last more than ten years, although there is a tendency for the symptoms to abate in the later years.

In some instances there may be a free interval for a few years followed by recurrence of symptoms.

The treatment of hay fever is both symptomatic and prophylactic. Prophylactic treatment consists of the subcutaneous administration of progressively increasing doses of pollen extract in an effort to increase the patient's tolerance for the specific pollen to which he is sensitive. A special paper[3] in this series describes this form of treatment in greater detail.

Having determined the specific pollen or pollens which are causing symptoms, it is essential to use a potent, stable extract for the treatment. Where two different species of pollens are required for treatment, as, for example, ragweed and grass, it is best to employ two separate extracts rather than a mixture. The dosage to be administered is entirely dependent on the tolerance of the patient (see "Schedule of Doses" in the paper entitled "Specific Injection Treatment for Hay Fever and Asthma"[3]).

A rough estimate of the patient's tolerance can be elicited by performing an intracutaneous test with the weakest concentration of extract contained in the commercial packages. Thereafter three concentrations are employed in multiples of ten, the strongest being 100 times the concentration of the weakest. If standardized on the basis of total nitrogen, these would be 0.001 mg. N, 0.01 mg. N, and 0.1 mg. N. As the initial dose, 0.1 or 0.2 cc. of the most dilute extract is injected, and the subsequent doses are increased by 0.2 cc. until 1 cc. is reached. Thereafter the second concentration is employed, and the process is repeated. When the third concentration is reached, doses are increased in multiples of 0.1 cc., and the patient is carefully observed for any untoward reaction. Before the onset of the season the patient should receive the maximum amount of pollen extract which he can tolerate without developing a marked local or systemic reaction. It should be emphasized, however, that clinical results from treatment are not dependent on the amount of pollen extract which has been administered. Patients who can tolerate only small doses often obtain more satisfactory results than those who tolerate large doses. This illustrates the necessity for individualization of dosage rather than adherence to any set dosage schedule as contained in commercial packages.

There are three methods of hyposensitization therapy, *preseasonal therapy, coseasonal therapy, and perennial therapy:*

1. *Preseasonal therapy* is instituted three to four months prior to the onset of the season. Injections are usually administered every four to seven days so that the optimum dose is reached before the pollinating season begins. Between 15 and 20 doses are usually necessary. Preseasonal therapy may be terminated at the onset of the pollen season, or treatment may be continued coseasonally. During the season dosage is sharply reduced since the patient is inhaling considerable amounts of pollen from the atmosphere, and it is possible for the treatment to aggravate the symptoms rather than alleviate them. The maximum dose tolerated should be reduced 30 to 50 per cent or more during the season or discontinued completely if there is suspicion that it is causing an exacerbation of symptoms.

2. *Coseasonal therapy* alone is reserved for patients who present themselves just prior to or during the pollen season. It is possible to afford these patients some relief by the daily administration of very small doses of pollen extracts, either subcutaneously or intracutaneously. It is advisable to use very dilute pollen extracts and not to attempt to reach any sizable dose.

3. *Perennial treatment* consists of continuing pollen therapy after the termination of the season. When the maximum dose, which had been reduced during the season, is again attained after a series of weekly injections, the time interval between injections is first increased to two weeks, then to three weeks, and finally to four weeks if the patient can tolerate this interval between injections. This schedule is maintained all year round until the season when the dose is diminished. The perennial method has the disadvantage that the incidence of constitutional reactions is greater. However, most allergists believe that chances of "cure" are much greater under perennial therapy.

Constitutional reactions of the immediate or delayed types may follow pollen therapy. The symptoms vary in severity and range from excessive sneezing and itching of the eyes, nose, and palms to generalized urticaria, angioneurotic edema, coughing, wheezing, and dyspnea. Since most constitutional reactions usually occur shortly after an injection, it is advisable for the patient to remain in the physician's office for a short while after each treatment. The treatment of constitutional reactions is dealt with in other papers in this series.

The efficacy of specific pollen hyposensitization therapy is very difficult to evaluate accurately because there are so many variable factors. The lack of uniformity in the preparation of pollen extracts, the variation in dosage schedules, and the lack of a standard for estimating the degree of relief obtained render it impossible to arrive at accurate statistics. The general impression of most specialists in the field seems to be that about 90 per cent of the cases of early hay fever and about 80 per cent of the cases of late hay fever obtained satisfactory results from specific therapy.

The commonest causes of failure are the use of improper pollen extracts because of an incorrect clinical diagnosis; the employment of stale, deteriorated extracts which have not been under refrigeration; overdosage or underdosage; and the failure to recognize and control other nonpollen sensitivities which the patient may have. In spite of the failures encountered with specific pollen therapy, it is well to remember that over 30 per cent of the untreated hay fever patients subsequently develop asthma, and pollen asthma is more preventable by specific therapy than hay fever.

Palliative or symptomatic treatment in the form of nose drops, antihistaminic drugs, cortisone, and ACTH are much more efficacious when used with specific treatment than when used alone. The use of these drugs in allergic diseases has been discussed as a separate topic in this series.[4] The percentage of failures or poor results from specific therapy can undoubtedly be reduced to a minimum by a careful analysis of each case.

Summary

Hay fever is a hereditary disease characterized by the seasonal occurrence of attacks of sneezing, rhinorrhea, nasal congestion, itching, and tearing of the eyes. On the eastern seaboard there are three distinct hay fever seasons: the spring hay fever season caused by tree pollen, the summer hay fever season caused by grass pollen, and the autumnal hay fever season due to ragweed. The most serious complication which may result from hay fever is asthma which occurs in a considerable percentage of untreated cases. The treatment of choice for hay fever is hyposensitization therapy with the specific pollen extract, either preseasonally or perennially. This form of treatment, when combined with the present adjuvants, such as the antihistamines or steroids, affords relief in over 90 per cent of the cases.

50 PLAZA STREET

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(*Number nineteen of a series on Fundamentals of Modern Allergy*)

The New Rapid Test for Bilirubinuria

The best opportunity for establishment of a presumptive diagnosis of hepatitis in the preicteric phase is in the four days when the only definitive sign of the disease is bilirubinuria. A simple and rapid test for detection of bilirubinuria recently has been made available. In a series of 50 liver disease patients (40 with acute viral hepatitis) Dr. William S. Haubrich studied the correlation of bilirubinuria as revealed by the test with serum bilirubin levels. He concludes that the test is sensitive and reliable with reasonably good correlation between results of the urine test and concentrations of bilirubin in the serum. With the possibility of early detection of acute viral hepatitis prior to the frankly icteric phase, earlier hospitalization and treatment should be facilitated. Also, the test helps follow the course of the disease. Often signalling the return of normal serum bilirubin concentrations, it may serve as a criterion for beginning progressive rehabilitation activities.

—*U.S. Armed Forces Medical Journal, February, 1956*

CLINICAL ANESTHESIA CONFERENCE

A series of conferences on medical emergencies in the operating room including causes of death during anesthesia

Prepared by the Anesthesia Study Committee of the New York State Society of Anesthesiologists

MEREL H. HARMEL, M.D., *Chairman*

Local Anesthetic Reaction

LOCAL anesthetic reactions are a relatively commonplace occurrence wherever these drugs are employed. There are all degrees of reaction ranging from mild excitement to death. The physician who uses local anesthetics must be constantly alert to the signs and symptoms of overdose or toxicity and be prepared to institute immediate treatment. The case which follows illustrates the essentials of good treatment and a happy outcome in the face of a major type of reaction.

Case Report

The patient, a thirty-three-year-old, married, Negro female, was admitted to the hospital with a complaint of gas and cramping, suprapubic pain which radiated to the epigastrium. The pain had been present for eight days and was accompanied by postprandial nausea and vomiting on several occasions. For the two days prior to admission the patient had been constipated. On taking an enema the day before admission, bright red blood was noticed for the first time in her stools. On two occasions within the past three months, the patient had had similar gas and cramping colicky pain, which had spontaneously disappeared. Aside from her complaint, the patient's history was noncontributory. This represented her first hospital experience.

The patient had normal pulse, blood pressure 110/80, and temperature 99 F. She was a well-developed, well-nourished, Negro female with obvious abdominal pain. A physical examination was noncontributory except for findings referable to the abdomen, which was slightly distended and tense. There was generalized tenderness in both lower quadrants. Active bowel sounds were heard in association with the cramping pain. A questionable mass was palpated in the lower abdomen. X-ray examination showed moderate distention in the proximal part of the colon, and barium enema revealed an obstructing process in the lower part of the descending colon. A provisional diagnosis of carcinoma of the colon was made. In view of the acute lower bowel obstruction, the patient was prepared for a decompression operation.

Under spinal anesthesia exploratory laparotomy was carried out uneventfully on the evening of admission. This procedure lasted an hour and ten minutes, during which time the presence of a constricting lesion of the upper sigmoid was verified. A cecostomy was performed, and the patient was returned to the ward in good condition. Decompression was accomplished during the next few days, and the patient was prepared for hemicolectomy.

Immediately prior to the definitive procedure, seventeen days later, the patient was in good condition. The cecostomy was functioning; the abdomen was soft and not distended. Electrolyte studies were within normal limits; urine was normal and hemoglobin 11.5 Gm. Preoperative medication consisted of Demerol 50 mg. and atropine 0.4 mg. given an hour and three quarters before anesthesia.

Continuous epidural analgesia was the anesthetic procedure decided on. Following the institution of an intravenous infusion of 5 per cent glucose in water, a 16-gauge Huber needle was introduced without difficulty into the epidural space between the third and fourth lumbar vertebrae. A plastic catheter was then inserted 3 cm. beyond the needle. Following the test dose of 5 cc. Xylocaine 2 per cent, an additional 15 cc. were then injected over a five-minute period. As the last of the Xylocaine was injected into the epidural space, the patient suddenly began to have twitchings about the mouth, which rapidly spread to the hands, face, arms, and trunk, resulting in generalized clonic and tonic convulsions. This was accompanied by an abrupt loss of consciousness. Oxygen was immediately given by mask, and 175 mg. of Pentothal were injected via the intravenous tubing, which stopped the convulsions. As soon as the convulsions subsided, an endotracheal tube was inserted, and artificial ventilation with oxygen was continued. On arrival in the operating room the patient's blood pressure had been 110/80 and the pulse 100. Immediately after the convulsion the blood pressure was 130/80. The pulse was not recorded. Fifteen minutes after the convulsion the blood pressure was back to 110/80 and the pulse 100. Since there were no signs of returning convulsion and the circulatory system was apparently normal, it was decided to perform the operation.

The inhalation of nitrous oxide 75 per cent, oxygen 25 per cent was begun. Since the abdominal muscles were not relaxed, 6 mg. of d-tubocurarine were administered. During the course of the procedure an additional 18 mg. of curare were given to the patient. The operation was concluded two hours and thirty minutes later. On extubation the patient responded to her name, answered questions, and moved all extremities. The blood pressure at this time was 130/80, pulse 90, and respirations 28. She was then returned to the ward.

Her postoperative course was uneventful except for backache and headache, which lasted for the first two postoperative days. The patient was discharged thirteen days after the second operation.

Comment

Local anesthetic reactions fall into two main categories: (1) overdose and (2) idiosyncrasy. The former is characterized frequently by an initial apprehension, an event which may then proceed to convulsions, coma, and death. Cardiovascular collapse may occur, but usually it follows coma. With idiosyncrasy, on the other hand, relatively small amounts of drug may be accompanied by cardiovascular collapse and convulsions without an initial excitement. Idiosyncrasy has been almost always fatal.

The case presented undoubtedly falls into the category of overdose. The initiation of prompt treatment undoubtedly was the principal factor in the successful outcome. Whenever local anesthetics are used, oxygen with a means for administering it and barbiturate for intravenous injection should be at hand. In this circumstance the appropriate measures were carried out in proper sequence. This of course is to be expected in the operating room. However, this kind of complication can occur wherever local anesthetic drugs are given to patients—on wards, in the emergency room, or the doctor's office.

It is pertinent to point out that this complication occurred during a major regional technic in which large volumes of drug were used. While local anesthetic reactions are not uncommon in epidural and caudal procedures, they are not seen in spinal anesthetic technics where concentration and volume are small. Whenever large volumes of drugs like Xylocaine are employed, it is probably wise to use adrenalin (1:200,000 to 1:500,000) as a vasoconstrictor to prevent rapid absorption and consequent relative overdose.

Whenever cardiovascular collapse is a feature of this reaction, the use of a vasopressor drug by the intravenous route is indicated to maintain the circulation. One cannot overemphasize that for successful treatment of local anesthetic reaction, one must have available oxygen by mask, intravenous barbiturate, and vasopressor.

(*Number fifteen of a series of Clinical Anesthesia Conferences*)

Postgraduate Radio Programs

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The Present Status of Syphilis

CHARLES R. REIN, M.D., NEW YORK CITY

(From the Department of Clinical Dermatology and Syphilology, New York University Post-Graduate Medical School, and the United Nations World Health Organization Expert Advisory Panel on Venereal Infections and Treponematoses)

It is especially appropriate to discuss the present status of syphilis today since the year 1955 marks the fiftieth anniversary of the discovery of the Treponema pallidum by Fritz Schaudinn assisted by Erich Hoffmann. As pointed out by Alfred Hollander in a recent publication, the discovery of the T. pallidum gave tremendous impetus to the entire field of syphilis research. It made possible the exact and early diagnosis of syphilis; it stimulated the study of the pathology of this disease; it was most important for the development of the new antisyphilitic agents.

At the Annual Symposium on Recent Advances in the Study of Venereal Diseases which was held in Washington on April 28, Dr. J. E. Moore presented an excellent report on "The Role of Research in Venereal Disease Control, Past, Present, and Future," in which he pointed out some of the great discoveries of research in syphilis in the past fifty years:

1906—The application of the Bordet-Gengou complement fixation phenomenon to the laboratory diagnosis of syphilis by Wassermann, Neisser, and Bruck.

1907—The groundwork by Michaelis of the fundamental studies leading to present-day flocculation tests.

1907–1910—The discovery of salvarsan by Ehrlich as the first effective chemotherapeutic agent for syphilis.

1917—Wagner von Jauregg described the use of malaria in the treatment of general paresis.

1921—Severac and Levaditi introduced bismuth into the treatment of syphilis.

1928—The discovery of penicillin by Fleming.

1940—The demonstration of the antimicrobial activity of penicillin in man by Florey and his associates.

1943—The first demonstration of the efficacy of penicillin in the treatment of syphilis by Mahoney, Arnold, and Harris.

1949—The development of the T. pallidum immobilization test by Nelson and Mayer.

Yet despite these great discoveries the really basic problems related to syphilis are still unsolved, and syphilis is still far from complete eradication. Many syphilologists are in agreement with Dr. Moore who believes that the danger still exists and that with a new episode of population instability, as occurs with every war, a new epidemic might arise.

During the past twelve years there have been innumerable reports attesting to the efficacy of penicillin for the treatment of syphilis. Practically all syphilologists have discarded arsenic and bismuth and rely on penicillin alone for syphilis therapy because of the ease of administration, safety, the shortened course, and the low cost of treatment. Some physicians, and fortunately their numbers are constantly becoming fewer, still are undecided about which is the better course to follow: the administration of penicillin alone or combined with heavy metals and in some cases with fever in the therapy of the various stages of syphilis. A recent study by the World Health Organization of treatment schedules for early syphilis throughout the world indicates that penicillin therapy has apparently taken root more slowly in Europe than in other parts of the world, although it would appear that the acceptance of this antibiotic as the sole curative agent in early syphilis is gradually increasing in this area as well. The accumulated experiences of many physicians and numerous clinics treating hundreds of thousands of patients clearly indicate that penicillin alone is the treatment of choice for all stages of syphilis. With the development of the newer repository forms of penicillin it has been clearly demonstrated by our group at the New York University-Bellevue Medical Center that a single injection of as little as 1,200,000 to 2,400,000 units is adequate for the treatment of early syphilis.

Yet penicillin is useless against venereal disease unless this antibiotic can be administered to those who are affected. With the lowered index of suspicion of our physicians today, we are unquestionably missing many cases. Some years ago a well-known teacher always started his lectures on syphilis by quoting William Osler, "Know syphilis and the whole of medicine is opened unto you," and followed by the simple statement that he suspected everyone of having syphilis except himself and his wife but that sometimes he had his doubts about her. That is a very far cry from the low index of suspicion practiced today.

An editorial in the *Journal of the American Medical Association* in July, 1954, points out that every year the number of reported cases of early latent syphilis has exceeded that of primary and secondary syphilis. This clearly indicates that more than half of the cases of syphilis go into the latent phase undiscovered. The editorial states further that although great strides have been made in venereal disease control, complete control is far from being accomplished. There have been numerous editorial accounts in medical and lay journals dealing with the potential and actual resurgence of syphilis. There is no question about the need for wider dissemination of knowledge about syphilis. It is somewhat discouraging and quite embarrassing to find trainees in dermatology and syphilology not only fail to recognize active syphilis but actually fail to consider this disease in the differential diagnoses. Medical journals and medical societies are developing a false sense of security. The United States Public Health Service discontinued publication of the *Venereal Disease Bulletin.* In January, 1955, the *American Journal of Syphilis, Gonorrhea and Venereal Diseases* folded, and the A.M.A. *Archives of Dermatology* dropped the words "and Syphilology" from its name. In fact, there is at the present time no specialty medical journal in the United States dealing with syphilis and the other venereal diseases. At the 1955 annual meeting of the American Medical Association in Atlantic City the Section on Dermatology and Syphilology passed a resolution that henceforth it would be known only as the Section on Dermatology. A similar action, tried at the last meeting of the American Academy of Dermatology and Syphilology, failed by only a small margin. All of this is due to premature optimism and to a complacency about the syphilis problem that could prove dangerous.

The cause of syphilis is known. Yet if the disease goes undiagnosed and untreated for a year or more, it can cause irreparable harm. A simple, safe, and practical form of ambulatory therapy is now available. It is possible to cure this disease in a short period of time at a low cost. There is no reason why millions of people throughout the world need to be affected and subsequently develop the crippling and killing sequelae of syphilis.

There has been a marked decrease in the incidence of syphilis during the past decade as a result of improved diagnostic procedures, excellent public health control measures in the case-finding and case-holding programs, and the development of ambulatory treatment schedules with penicillin. In spite of all this, however, syphilis is on the rise again. A recent joint statement of the American Social Hygiene Association, the

American Venereal Disease Association, and the Association of State and Territorial Health officers described the situation as alarming. A nationwide analysis showed that, in the last six months of 1954, 20 states and eight major cities reported rising syphilis attack rates. The present importance of venereal disease as a national problem can be judged from the Public Health Service estimates that 1,921,000 people in the United States have syphilis requiring treatment and that, in 1954, 87,000 persons acquired syphilis. Many states and major cities find their venereal disease appropriations inadequate to permit an effective and progressive program. This report also pointed out that (1) military installations and defense plants contribute appreciably to the venereal disease problem and (2) that the transmission of syphilis through migrant laborers contributes significantly to the rise in the syphilis rate.

Of major concern is the fact that the high rates for primary, secondary, and early latent syphilis are in the age group of fifteen to nineteen, reaching a peak in the twenty to twenty-four group. Furthermore, many cases are not detected until after the lesions have disappeared. Thus, unsuspected or unsuspecting carriers of syphilis are active within the group for which society has its greatest concern, its young people. These teenagers who are not diagnosed and treated become candidates for the crippling disabilities and premature deaths from an easily preventable and curable malady. A frightening aspect of syphilis is the swift geometric progression of untreated infection in a population. In Greensboro, North Carolina, for example, a six-week epidemic involved 101 persons, of whom more than half were teenagers. A single infection in West Point, Georgia, involved 211 persons within six weeks, of whom 70 contracted syphilis. A girl in Kansas City, Kansas, set a chain of syphilis infections in motion which in five months involved 53 persons, and 17 of them had early syphilis when discovered. A chain of infection among a young group in Kentucky soon involved 70 persons, and 24 were found to be infected. All but five of these were between sixteen and twenty-six years of age.

The previously mentioned report also states that the rapidly declining rates over the past several years have prompted the optimistic demobilization of venereal disease control forces, reassignments of personnel, and reduction of casefinding and diagnostic and treatment facilities, leaving many areas without facilities to find cases or to combat sudden outbreaks. Eighteen states have already had such outbreaks, and 30 states have poorly covered areas where such outbreaks could and have developed.

Because of the manifestly grave danger in the present venereal disease situation, the three organizations who prepared this excellent and detailed report urged the Federal government to increase the appropriation from three to five million dollars in fiscal year 1956.

But even this is not enough. The problem is not a public health problem alone, and its solution cannot be left solely to public health agencies. In the long run the only firm bulwark against syphilis is a responsible and well-informed people. It is of utmost importance that the physician join with the home, school, church, and social agencies in sponsoring educational programs.

The Columbia University Press recently released a new movie, "The Invader," which was produced for the Georgia Department of Public Health. I was among the fortunate who saw the preview of this excellent forty-minute documentary which tells the story of man's efforts through five centuries to subdue syphilis. This is the first film on syphilis made specifically for showing to high school and college students. At the preview Dr. E. Gurney Clark, medical consultant for the American Social Hygiene Association, said, "This film is part of a challenging new approach to the problem of sex delinquency among teenagers." Physicians, venereal control officers, and health educators should encourage community groups working with teenagers to make use of this excellent film.

In a large American city a study was recently instituted to determine the role of the homosexual in the transmission of syphilis. In one social hygiene clinic it was found that 60 out of 164 male patients with infectious syphilis were either bisexual or homosexual. The bisexuals named the most contacts per patient, and their preference was decidedly homosexual. Previous to this study there was no indication that a homosexual problem existed in the clinics. When a major effort was exerted in this direction, however, it was soon discovered that almost one third of the males admitted with infectious syphilis could definitely be classified as homosexuals. Without a doubt homosexuals appear to be an important factor in the transmission of syphilis.

Physicians are often confronted with the problem of interpreting serologic results obtained from the laboratory in determining the presence or absence of a syphilitic infection. There is rapidly accumulating evidence that about 40 per cent of white persons of the upper socioeconomic and educational level who are routinely discovered to have positive standard serologic tests for syphilis in the absence of any clinical or anamnestic evidence of the disease or of reasonable opportunity for infection do not have syphilis and are biologic false positive reactors. It has also become quite evident that the chronic biologic false positive reaction represents an important and potentially serious medical problem since many nonsyphilitic seropositive patients have or may develop collagen vascular disease, including disseminated lupus erythematosus, rheumatoid arthritis, and rheumatic fever.

With the discovery of the T. pallidum immobilizing antibody and the development of the T. pallidum immobilization test by Nelson and Mayer, there is available a specific serologic procedure by which it may now be possible to differentiate the chronic biologic false positive reactor from the syphilitic. Numerous reports indicate that this test is highly specific for syphilis.

It is of the utmost importance that a specific test employing T. pallidum antigens be made available to those physicians who are frequently faced with the problem of deciding which of his seropositive reactors have syphilis and which are chronic biologically false positive reactors. With the development of the newer T. pallidum immune adherence, agglutination, and complement fixation tests, many laboratories may find it practical and feasible to perform a specific procedure of this type.

These newer tests have obvious advantages over the immobilization procedure in that killed treponemes or extracts thereof are used as the antigen. The antigens may be stored for months in the refrigerator and be made available to those laboratories which up to the present time do not have adequate facilities to cope with the technically more complicated immobilization test.

Some laboratories feel that they may soon discard the performance of the routine serologic tests for syphilis. It is generally accepted, however, that this is not feasible. In the first place the present routine serodiagnostic procedures have attained a high degree of sensitivity and specificity, even though the antigens employed are not specific in the true biologic false sense. Furthermore, by means of these routine tests it may be possible to detect the false positive reactors even before the individual has developed clinical manifestations of the disease responsible for the biologic false positive reactions. This is especially true of lupus erythematosus, where the patient may have positive serologic tests for syphilis for one or more years prior to the development of clinically recognizable evidence of the disease.

All patients in clinic or private practice should be subjected to an examination with the standard serologic tests for syphilis. Those seropositive reactors who present no clinical or anamnestic evidence of syphilis should then be retested with one or more of the specific serodiagnostic procedures employing T. pallidum antigens. A final diagnosis of syphilis should not be made on seropositive reactors unless confirmed by a test capable of demonstrating specific treponemal antibodies.

Special problems frequently arise in the diagnosis and management of syphilis. In the diagnostic and therapeutic management of such patients, antisyphilitic therapy should not be instituted indiscriminately without attempting to establish or exclude the existence of a specific infection. If the original diagnosis of syphilis is accurate and if the physician has a basic understanding of the value and limitations of various serologic tests, the frequency and amount of unnecessary treatment will be reduced considerably.

In conclusion, it should be emphasized that as physicians we have the diagnostic tools and the therapeutic agents to control and even eradicate syphilis. But we are failing because of our own complacency about the disease, because of neglected educational programs, especially for the teenagers, and because of lack of interest and funds to find and treat the infected person.

(*Number six of a series of Postgraduate Radio Programs*)

CASE REPORTS

Early Pre-eclamptic Toxemia as a Criterion in the Diagnosis of Hydatidiform Mole

LUDWIG J. CIBELLI, M.D., F.I.C.S., BROOKLYN, NEW YORK

(From the Department of Gynecology and Obstetrics, Prospect Heights Hospital)

A PATIENT with acute pre-eclamptic toxemia early in pregnancy was recently admitted to the Prospect Heights Hospital. The diagnosis of hydatidiform mole was made, and the treatment was hysterotomy followed by immediate hysterectomy. The case will be summarized after a brief review of the literature.

Cause and Incidence

The cause of hydatidiform mole is unknown. The incidence usually quoted in this country is 1:2,500 pregnancies. Whereas it was formerly thought to occur most frequently in elderly women of high parity, the latest reports seem to indicate that the incidence is greatest among the nullipara and low parity group predominantly between the ages of twenty and thirty.

Pathology

Microscopically, hydatidiform mole is characterized by (1) trophoblastic proliferation, (2) edema of stromal cells, and (3) absence or extreme scantiness of blood vessels. Because of these immature characteristics Hertig[1] has advanced the theory that mole is a type of missed abortion.

Macroscopically, it resembles a bunch of Catawba grapes of irregular size, most often without any trace of a fetus. Lutein cystomas are found in a certain proportion of hydatidiform moles. Since they undergo spontaneous involution within a few months after the expulsion of the mole, it must be assumed that at least a genetic relationship between the two exists.

Clinical Symptoms

The chief and usually initial symptom is a brownish, prune juice-colored discharge, which may develop into actual bleeding intermittently during the early months of pregnancy. While the first suspicion is of a threatened abortion, this may be thrown into doubt by the disproportionately large size of the uterus for the known period of gestation. The inability to palpate fetal parts, absence of fetal heart sounds, negative x-ray findings, abnormally high urinary gonadotropic titer after the third month of pregnancy, and the expulsion of the characteristic vesicles, all help to focus on the probability or certainty of hydatidiform mole.

Novak,[2-5] who has written extensively on the subject of hydatidiform mole, did not mention toxemia as a clinical symptom in his most recent article. Melody[6] in 1946 reported a case of hydatidiform mole with severe fulminating pre-eclampsia and, after a perusal of the literature, concluded that perhaps not enough emphasis has been placed on the signs of toxemia early in pregnancy as a clue to molar degeneration. Chesley[7] in 1946 reported a toxemia incidence of 15.8 per cent in a review of 57 cases. He quoted Page who observed that in his series, patients of less than four months amenorrhea or with the tumor below the level of the umbilicus, none had toxemia, while in those with more than four months amenorrhea or the tumor above the level of the umbilicus, 70 per cent had toxemia. Greene[8] in 1953 reported a case of acute fulminating pre-eclampsia associated with hydatidiform mole and quoted Hitschman as stating that the association of early pre-eclampsia with hydatidiform mole was so frequent that he included it as one of the diagnostic criteria. Greenhill[9] in his text states that toxemia without mole is rare in the early months of pregnancy and that nausea and vomiting especially constitute an important clue to its presence. Titus[10] in his text states that patients with mole invariably show excessive degrees of nausea and vomiting and other types of toxemia in the early weeks or months of pregnancy. He suggests that acute glycogen drain from the maternal organism by the rapidly growing chorionic tissue, whose glycogen content is high even in the normal placenta, may possibly be the cause of these toxic symptoms.

From the references given, it seems obvious that pre-eclamptic toxemia in the early months of pregnancy, manifested by severe nausea and vomiting and followed by the sudden onset of edema, hypertension, and albuminuria, should be included as one of the criteria in the diagnosis of hydatidiform molar degeneration.

Treatment

If spontaneous expulsion occurs or if circumstances necessitate surgical evacuation of the mole with ovum or sponge forceps, careful currettage four or five days later seems to be the most widely employed plan of management. Waiting these few days favors uterine contraction and lessens the danger of perforation. Hysterotomy is recommended, however, when the uterus is enlarged beyond the size of a twelve-week gestation. Hoffman,[11] who reported a case of hydatidiform mole complicated by early severe pre-eclampsia in 1953, quoted Hill who pointed out that (1) this procedure allows complete removal of the mole under direct vision; (2) macroscopic evidence of myometrial invasion can be seen, and immediate hysterectomy can be performed if indicated; (3) accidental perforation of the uterus is eliminated, and (4) hemorrhage is controllable.

If there is no recurrence of hemorrhage, the uterus involutes normally, and the pregnancy test becomes negative within two months after curettage, the danger of malignant change may be considered practically over, although it would be safer to have a pregnancy test and physical checkup monthly for another six months. Should bleeding persist after the curettage and the uterus fail to involute properly, especially in the presence of a persistent or rising gonadotropic titer, the following possibilities arise:

1. Residual benign trophoblastic tissue may still be in the uterus.
2. Enlarged cystic ovaries, which apparently serve as a reservoir for hormones, may be present.
3. Choriocarcinoma or chorioadenoma destruens may have developed.
4. The patient may be pregnant again.

The most common possibility is the first. However, since choriocarcinoma is such a lethal disease, a second curettage is advisable if the possibility of another pregnancy can be ruled out. Hysterectomy is justified when the repeat curettage fails to produce a negative test. In most instances all that will be found in the uterus when it is removed will be some residual benign molar tissue deep in the uterine wall beyond the reach of the curet.

In the patient over thirty-five years of age, if further pregnancies are not important and the mole is large, total hysterectomy with the mole in situ may be considered.

METASTASIS.—The trophoblast is a tissue which normally exhibits some of the attributes associated with malignancy. The ovum is implanted in the endometrium by a process of destructive invasion, and there is often a physiologic metastasis of trophoblast to the lungs, this being at times accompanied by attacks of hemoptysis, even though no lesion may be demonstrated on x-ray examination. Moreover, as a result of the still unknown maternal local and systemic defensive mechanism, the trophoblastic invasion of the uterine wall is held in normal restraint, and the trophoblast in the lungs apparently undergoes spontaneous lysis.

Case Report

L. D., a forty-three year-old, white female, gravida 3, para 2, was admitted to the Prospect Heights Hospital on February 9, 1955, because of hypertension and albuminuria. Her last menstrual period began on October 11, 1954. The admission diagnosis was toxemia of pregnancy. Her past history was not remarkable. The previous labors and puerpera were normal. In the middle of November she spotted vaginally for several days. On December 1 she consulted her family physician. On the basis of a positive Aschheim-Zondek test she was placed on a prenatal regimen. On January 5, 1955, her weight gain was normal, the blood pressure 120/70, and the urine negative. On February 5 her weight gain was excessive, and there was pitting edema of the lower extremities. The blood pressure was 190/100, and the urine showed 4 plus albumin. She was ordered to bed and placed on a salt-free, high-protein diet. A mercurial diuretic was prescribed. On February 9 the patient was seen at home. She had lost 10 pounds. There was no edema of the lower extremities. The blood pressure was 190/100, and the urine showed 4 plus albumin. The patient was hospitalized that afternoon.

On February 10 the blood pressure was 200/110. A catheterized urine was negative except for 4 plus albumin. The blood count was not remarkable. Blood chemistry revealed only a diminution of the protein elements. I was asked to see the patient on February 11.

The patient was lying comfortably in bed. She was of normal stature. She did not appear acutely or chronically ill and offered no complaints. The heart and lungs were normal. The blood pressure was 200/110. The ocular fundi were normal. Obstetrically, the uterus was symmetrically enlarged with the fundus at the level of the umbilicus, which was higher than expected. Fetal heart sounds were not heard. Vaginally, a prune juice-like discharge was present. The cervix was clean, bluish in color, closed, and soft in consistency. The adnexae were normal. On direct questioning the patient admitted having a prune juice-colored discharge at irregular intervals since the middle of November, 1954. It was scanty and did not require the use of a napkin. Also, until two weeks prior to admission there had been a persistent and annoying nausea with occasional episodes of vomiting. This was not experienced at any time during her two previous pregnancies. A tentative diagnosis of severe early pre-eclampsia due to hydatidiform mole was made.

On February 12, an x-ray of the chest revealed the heart, aorta, and lungs to be normal. An electrocardiogram revealed a normal tracing. An Aschheim-Zondek test was positive qualitatively; quantitatively it was positive at 1:50 dilution, negative at 1:100 dilution. On February 14, 1955, anteroposterior and oblique x-rays of the abdomen revealed a pelvic mass the size of a five-month pregnancy. No fetal parts were visible. The conclusion was pelvic mass, no evidence of pregnancy. Daily urine specimens persistently showed 4 plus albumin. The blood pressure was persistently between 190/100 and 200/110. A medical consultant reviewed the history and laboratory findings and examined the patient. He concluded that the toxemia was peculiar to pregnancy and was not caused by hypertensive arteriovascular or renal disease. On February 15 hysterotomy was advised. The preoperative diagnosis was hydatidiform mole with severe early pre-eclampsia.

Operation was performed on February 16. The uterus was found to be enlarged to the size of a five-month gestation. The ovaries were normal. The uterus was isolated with lap sponges and opened by means of a classic incision. A mole was evacuated without difficulty. The posterior wall was studded with numerous myomas. It was decided to proceed with a hysterectomy. Bleeding was not excessive, and blood which was available was not given.

The convalescence was uneventful. The patient was out of bed on the first postoperative day and discharged on February 24, the eighth postoperative day. At that time the blood pressure was 150/90, the urine 2 plus for albumin, and the Aschheim-Zondek test positive qualitatively, negative quantitatively. On March 12 the blood pressure was 140/80, the urine negative, and the Aschheim-Zondek test negative. On June 1 the blood pressure was 120/70, the urine negative, and the Aschheim-Zondek test negative.

PATHOLOGIC REPORT.—The specimen consisted of a uterus 30 cm. in its greatest diameter. The posterior wall contained multiple myomas. The endometrial cavity was filled with a red, granular, adherent mass which had the appearance of placental tissue. Accompanying this was a huge mole. The cluster was composed of small and large, grapelike, white masses, 1 to 3 cm. in greatest dimension.

The sections of the uterus showed interlacing whorls of smooth muscle and fibrous tissue characteristic of myoma. The sections of placenta showed villi which were markedly edematous and cystic and lined with both syncytial and Langhan layers. There was no evidence of hyperplasia or malignant changes.

Diagnosis was uterus with multiple myomas and hydatidiform mole.

Summary

1. The literature on hydatidiform mole has been briefly reviewed.
2. Pre-eclamptic toxemia in the early months of pregnancy manifested by severe nausea and vomiting and followed by sudden onset of edema, hypertension, and albuminuria should be included as criteria in the diagnosis of hydatidiform mole.
3. A case in point has been presented.

1 NEVINS STREET

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Emphysematous Cholecystitis

There have been only 34 previously reported cases of emphysematous cholecystitis (acute pneumocholecystitis, acute gaseous cholecystitis, gas gangrene of the gallbladder, etc.), a total brought to 35 by the one reported in the *Journal of the Florida Medical Association*, November, 1955, by Drs. Wade S. Rizk and Augustus E. Anderson, Jr. Preoperative recognition of this entity depends implicitly on roentgenographic findings, a fact stressed by these writers.

Along with a statistical survey of cases reported in the literature, they describe their own case in which cholecystectomy was performed when a conservative management failed. The small number of cases reported, they say, suggests that a certain number of them go unrecognized.

Treatment of Paroxysmal Supraventricular Tachycardia with Neo-Synephrine

HAROLD BERNSTEIN, M.D., F.C.C.P., ROCKVILLE CENTRE, NEW YORK

PAROXYSMAL supraventricular tachycardia is a term used to embrace both auricular and atrioventricular nodal tachycardia. The two disorders are difficult to differentiate, and it is rarely of clinical import to do so. Both the arrhythmias occur in much the same situations, and the treatment is identical. Supraventricular tachycardia is the most frequent paroxysmal arrhythmia. The apparent innocuousness of this condition is today being questioned.

Life insurance statistics tend to show that an increasing proportion of individuals who do experience this form of arrhythmia progress to the more serious cardiac disabilities and even death, although this is uncommon.

The major criteria of paroxysmal supraventricular tachycardia include the following:

1. The onset of the tachycardia is abrupt with a rate usually varying between 160 and 220.
2. The rate is regular and unaffected by exercise and postural alteration.
3. The duration varies from a few seconds to several weeks.
4. The relief is sudden, and the pulse returns to its normal rate in a few beats, which are often irregular in force and rhythm.
5. During the paroxysm violent jugular pulsation may be visible.

The causal agents are legion. Most commonly the precipitating agent may be tobacco, alcohol, infections, gastric distention, thyrotoxicosis, allergic reactions, tense emotional states, or organic heart disease (especially mitral stenosis).

The diagnosis can usually be made with ease from the history and physical examination. Whenever there is doubt, the use of the electrocardiograph will help to dispel it at once.

Since attacks of paroxysmal supraventricular tachycardia frequently disappear spontaneously or by maneuvers calculated to stimulate the vagus nerve, the general tendency in the therapy of this condition has been conservative. Examples of frequently successful vagal stimulating maneuvers include (1) sudden movements of the head, (2) holding the breath, (3) coughing, (4) vomiting, (5) eating, (6) lowering the head over the bed, (7) bending forward in a chair, and (8) Valsalva maneuver (attempted forced expiration against a closed glottis).

By the time the physician sees a patient with this condition, either the patient wants relief from the attack or relief from repeated paroxysms. The therapy of the former will be discussed.

The physician should develop a routine in his approach to aborting the paroxysm. First and foremost, the diagnosis must be made with certainty, using the electrocardiograph whenever possible for confirmation. Then, carotid sinus stimulation should be undertaken. The reason why there are frequent failures in this technic is due to lack of close attention to detail in its administration. With the patient recumbent and the head turned away from the side to be stimulated, one should feel for a pulsating area at the angle of the jaw, at the level of the thyroid cartilage. Apply pressure firmly toward the vertebral column for ten to twenty seconds in a rotatory manner. Do this first on the right side (it's the more sensitive) and then, if no effect is obtained, on the left side. Never exert pressure on both sinuses simultaneously. Discontinue pressure if slowing of the heart rate occurs. The next step should be the administration of a rapid-acting barbiturate, e.g., Sodium Seconal 50 mg., preferably intravenously. If the paroxysm still persists, the use of a rapid-acting vasopressor substance is indicated if time is of the essence.

In 1947 Youmans *et al.*[1] introduced Neo-Synephrine. In 1949[2] they presented another paper supporting their view that Neo-Synephrine can terminate, within thirty-five to seventy seconds, attacks of paroxysmal supraventricular tachycardia by the intravenous administration of 1 mg. or less. This information has not had the general application that one might expect. A review of the literature reveals that the medication is mentioned in almost all works but without complete suggestions as to dosage and usage.

Neo-Synephrine intravenously stops paroxysmal supraventricular tachycardia by producing a sudden vasoconstriction, which in turn causes a rapid rise in pressure in the aortic and carotid sinuses. These reflexes are very sensitive, and only a moderate rise in blood pressure is required to cause considerable cardiac inhibition. Conversion of the paroxysm is usual when blood pressure reaches 160 mm. Hg or less. Blood pressure gradually returns to normal in seven to ten minutes.

A test dose of 0.5 mg. is first administered. The dose may then be increased by equal increments after the blood pressure has returned to preinjection levels until the desired effect is obtained. Side-effects are minimal and inconsequential (tingling or

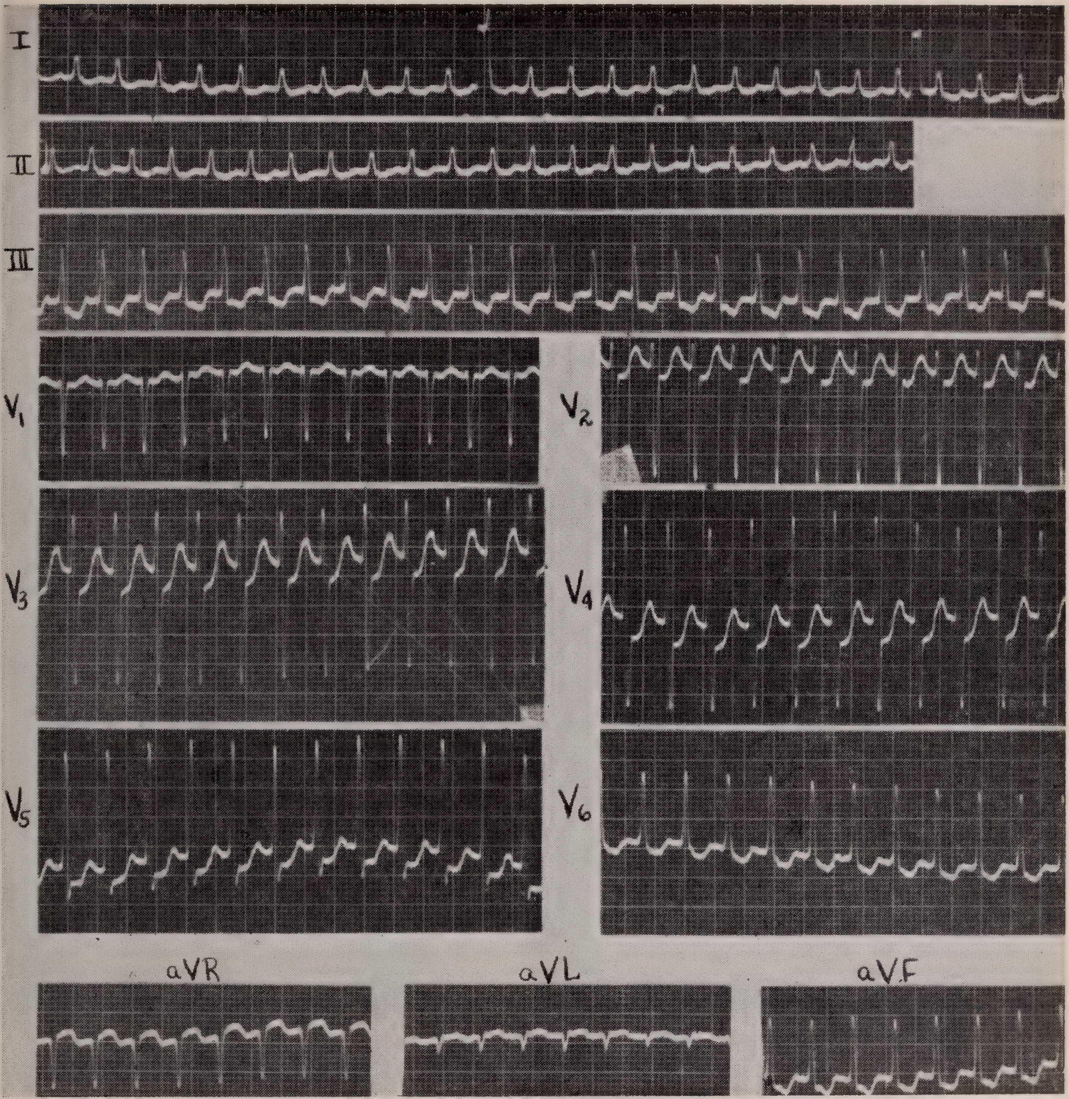

FIG. 1. Electrocardiogram taken before treatment was instituted at the height of the attack.

cooling of the skin, fullness of the head, and transitory precordial pain in individuals who have complained of this symptom previously during paroxysms). Neo-Synephrine is less effective when the blood volume is low. Consequently, in cases of shock, high doses up to 5 mg. may be necessary to produce a rise in blood pressure adequate to produce the desired effect.

The pressor action may be counteracted by previous administration of vasodilator drugs and also by heavy doses of barbiturates. Morphine and neostigmine increase the effectiveness of Neo-Synephrine by sensitizing the carotid sinus cardioinhibitory reflexes. Increased ventricular irritability, the presence of hypertension, and considerable impairment of coronary circulation may be considered as relative contraindications to intravenous Neo-Synephrine. In those circumstances digitalis and/or quinidine or Pronestyl (especially in ventricular irritability) should then be considered the drugs of choice.

The following case report demonstrates (1) the marked strain that an attack of paroxysmal supraventricular tachycardia places on the myocardium, as shown by the depressed ST segments and inverted T waves, and, therefore, the need for early termination of the attack; (2) the rapid disappearance of the paroxysm following the intravenous administration of Neo-Synephrine without discomfort or untoward sequelae in a patient with thyrotoxicosis

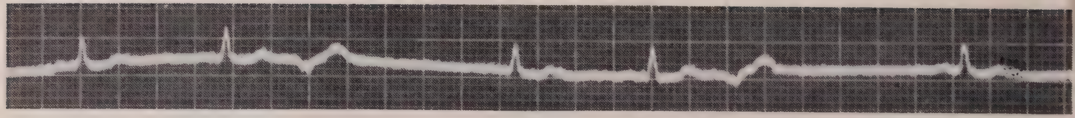

FIG. 2. Electrocardiogram taken thirty seconds after 0.5 mg. Neo-Synephrine intravenously.

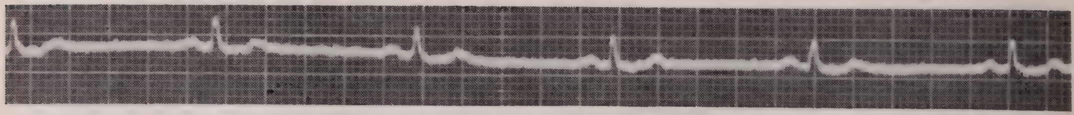

FIG. 3. Electrocardiogram taken one minute after administration of Neo-Synephrine.

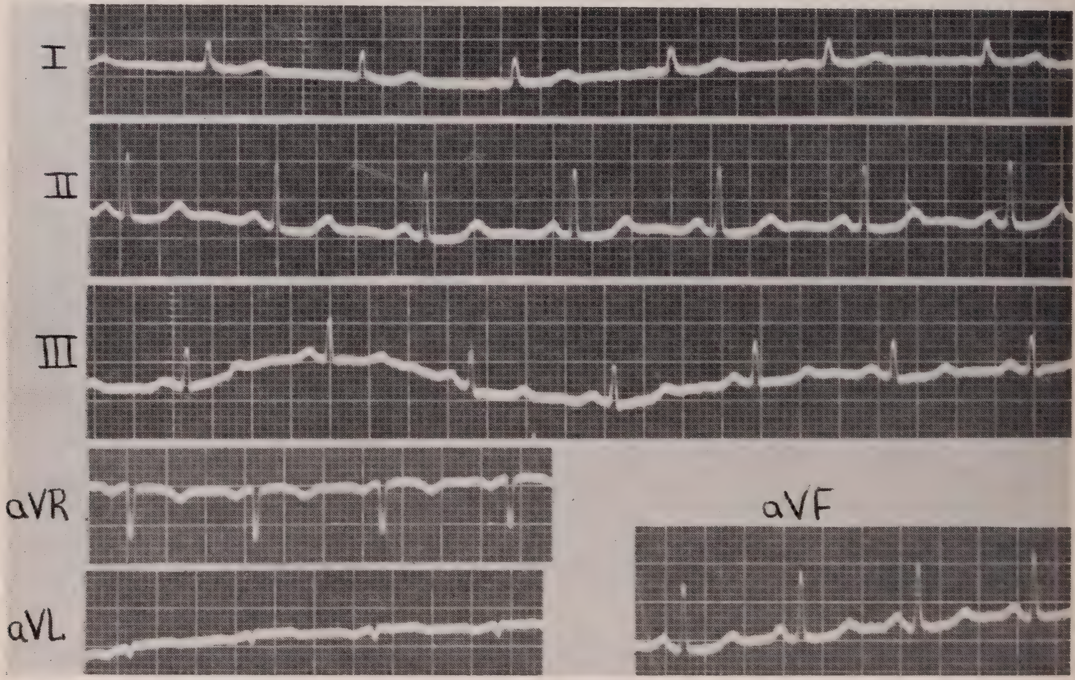

FIG. 4. Electrocardiogram taken three minutes after administration of Neo-Synephrine.

associated with angina pectoris, and (3) the rapid return to normal of the electrocardiogram, once the seizure was interrupted.

Case Report

L. M., a white female, age forty-two, a homemaker, had experienced relatively infrequent attacks of paroxysmal supraventricular tachycardia for the past twenty years, averaging about ten per annum. She had not sought medical advice for these paroxysms since they were of short duration (one to ten minutes), and she had found from experience that they stopped as abruptly as they started if she sat perfectly quiet or bent over forward. The patient was so unimpressed by her condition that she failed to make mention of it in giving her history. The reason she sought advice was due to swelling of ankles nocturnally and exertional dyspnea associated with mild substernal discomfort. The etiologic basis for this syndrome was found to be thyrotoxicosis with myocardial insufficiency.

On May 5, 1955, while sitting in my waiting room, the patient suddenly experienced an attack of tachycardia. She felt this was one of her usual reactions. Therefore, she made no effort to call the nurse but instead confidently took her usual rigid sitting position. At the end of approximately ten minutes, much to her surprise, instead of the attack disappearing, she became conscious of an increasing sense of substernal discomfort in addition to the pounding sensation in her chest. The nurse at that time noted her pallor, rapid pulse, and apparent, anxious look. On lying down, the patient was uncomfortable with anything less than three large pillows. On examination the appearance was that of early shock with thin, thready pulse almost impossible to count with accuracy and a blood pressure of 85/60 (patient's average normal was 110/70). An electrocardiogram was taken at once, confirming the diagnosis of paroxysmal supraventricular tachycardia (Fig. 1). The heart rate was approximately 220 per minute with marked depression of the ST segments in leads III, V_2 to V_6, and aVF and elevation of the ST segment in lead aVR.

Attempts to stop the arrhythmia were made in the following order: (1) carotid sinus pressure (both on the right and left side), (2) bulbar pressure (to both eyeballs), (3) retching, (4) amyl nitrite fume inhalation (3-mm. capsule), (5) Sodium Seconal 50 mg. intravenously, and (6) Valsalva maneuver. All these procedures were unsuccessful. In view of the angina pectoris and the patient's general condition, it was felt that time was of the essence. Therefore, Neo-Synephrine Hydrochloride (brand of phenylephrine hydrochloride) was administered intravenously in the amount of 0.5 mg.

Within thirty seconds the electrocardiogram was reverting to a normal rhythm (Fig. 2). In the tracing taken thirty seconds after intravenous Neo-Synephrine, note the apparent auricular fibrillation with premature extrasystoles following every two normal QRS complexes as the reversion took place. The tracing taken one minute after Neo-Synephrine administration showed a normal sinus rhythm with a rate of 60 per minute (Fig. 3).

A six-lead electrocardiogram (three standard and three aV leads) taken three minutes after Neo-Synephrine showed complete disappearance of the myocardial ischemia by the absence of ST segment deviations (Fig. 4). Her blood pressure at this time was 140/85 mm. Hg.

The patient felt no ill effects from the injection. She was able to continue on her usual regime on leaving the examining room. Up to the time of writing (November 1, 1955), the patient has not had another attack of paroxysmal supraventricular tachycardia.

Summary

Supraventricular paroxysmal tachycardia causes rapid, marked myocardial ischemia and may precipitate the patient into other more serious conditions. The physician should have a set routine for therapy of this condition. Neo-Synephrine is an excellent therapeutic agent. It stops paroxysms within a minute with no ill effects on the patient. This drug should be lifted from its present obscurity to a more general usage. Contraindications to the use of Neo-Synephrine are relative and not absolute.

128 De Mott Avenue

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2. *Idem:* Am. Heart J. **37**: 359 (Mar.) 1949.

Congressman Urges Physicians to Widen Their Civic Interests

American doctors should take a more active role in politics, says Representative Walter Judd (R., Minn.), himself a physician. Many physicians work such long hours and pay such close attention to their patients, he says, that they sometimes fail "to take the longer view... They won't get into politics; they won't discuss issues with their patients; they won't even bother to vote; they just go ahead and work. They're good in their profession. But what makes them good specialists sometimes makes them poor citizens."

The Congressman's opinions of his former colleagues appeared in the June issue of *Medical Economics*. He finds evidence for his views in the small amount of mail he receives from physicians on nonmedical issues.

"Doctors seem to concentrate on their own interests more than most groups," he comments. "I don't say this critically; it occurs as a result of their specialization. But we get less mail from doctors on general issues—international policies, farm policies, education, etc.—than from practically any other group in our population."

As further proof of physicians' occasional "narrowness," Dr. Judd cites the fact that they "pretty largely have the same point of view. They have lived together through medical school, in the medical society, and in the hospital staff rooms. They have a cup of coffee while they're in the OB room waiting for a baby. They're very much confined to their own group. They talk things over and little by little they come to think alike."

The antidote for such conformism? The doctor "ought to be more like the barber and talk to his own patients.

The barber talks to you about everything. But the doctor only talks about your gallbladder or your toenail."

NECROLOGY

Foster Hunter Bowman, M.D., of Bronxville and Yonkers, died on July 17 at the age of seventy. Dr. Bowman graduated in 1913 from the University of Pennsylvania School of Medicine and interned at New York Hospital. He was a surgeon and chief of the Tumor Service at Yonkers General Hospital, a consultant in surgery at St. Joseph's Hospital, Yonkers, and an assistant in gynecology and obstetrics at Lawrence Hospital, Bronxville. Dr. Bowman was a past president of the Yonkers Academy of Medicine, a Member of the American College of Gastroenterology, and belonged also to the Westchester County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Malcolm Goodridge, M.D., of New York City, died on July 16 at the age of eighty-three. Dr. Goodridge graduated from Columbia University College of Physicians and Surgeons in 1898. He was a consulting physician at Bellevue, New York, and Presbyterian Hospitals. Dr. Goodridge retired from active practice in 1939 and from 1939 to 1942 served as president of the New York Academy of Medicine. He was a former professor of clinical medicine at Cornell University Medical College. A Fellow of the Academy for fifty years, he formerly headed its committee on medicine and the changing order and served for many years on its committee on public health relations, and in 1956 was presented a plaque for distinguished service by the Academy. He was a member of the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Irving Leinwand, M.D., of New York City, died on July 13 at the age of forty-five. Dr. Leinwand graduated in 1936 from Rush Medical College. He was an assistant attending physician at University Hospital, an associate physician at St. Clare's Hospital, and a clinical assistant physician at Bellevue Hospital. Dr. Leinwand was a member of the New York Rheumatism Association, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

John Sanford Moyer, M.D., of New York City and Metuchen, New Jersey, died on July 10 at the age of sixty. Dr. Moyer graduated from the University of Pittsburgh School of Medicine in 1921 and interned at Manhattan Eye, Ear and Throat Hospital. He was an assistant in surgery at Manhattan Eye, Ear and Throat Hospital. Dr. Moyer received his degree of Doctor of Medical Science from the University of Pennsylvania in 1928. He was a Diplomate of the American Board of Otolarngology, a Fellow of the American College of Surgeons, and a member of the American Academy of Ophthalmology and Otolaryngology, the American Broncho-Esophagological Association, the New York County Medical Society, and the Medical Society of the State of New York.

Garry Mount, M.D., of Rochester, died on July 8 at the age of eighty. Dr. Mount graduated from Cleveland Homeopathic Medical College in 1899. A consultant in pediatrics at the Genesee Hospital, Dr. Mount was a member of the Rochester Pediatric Society, the Rochester Pathological Society, the Monroe County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Felix L. Pulese, M.D., of Southold, died on July 18 at the age of fifty-one. Dr. Pulese graduated from New York Homeopathic Medical College and Flower Hospital in 1928. He was attending physician at the Eastern Long Island Hospital, Greenport. Dr. Pulese served as a lieutenant commander in the Coast Guard during World War II and at one time was with the United States Public Health Service. He was a member of the Suffolk County Medical Society and the Medical Society of the State of New York.

Francis Berger Trudeau, M.D., of Saranac Lake, died on July 19 at the age of sixty-nine. Dr. Trudeau graduated in 1913 from Johns Hopkins University School of Medicine. He was an honorary staff member of General Hospital of Saranac Lake. For several years Dr. Trudeau had been chairman of the medical board of Trudeau Sanatorium, which was founded by his father, the late Dr. Edward Livingston Trudeau. He was a member of the American Clinical and Climatological Association, the American Trudeau Society, the Franklin County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Error of opinion may be tolerated where reason is left free to combat it.—THOMAS JEFFERSON

MEDICAL NEWS

American Neurological Association—At the 81st annual meeting of the American Neurological Association held in Atlantic City, June 18 through 20, the following officers were elected for the year 1956–1957: Dr. H. Houston Merritt, New York City, president; Dr. Israel S. Wechsler, New York City, president-elect; Dr. Richard B. Richter, Chicago, Illinois, first vice-president; Dr. Augustus Rose, Los Angeles, California, second vice-president; Dr. Charles Rupp, Philadelphia, Pennsylvania, secretary-treasurer, and Dr. William F. Caveness, New York City, assistant secretary.

New York Society for Clinical Ophthalmology—The newly elected officers of the New York Society for Clinical Ophthalmology for the 1956–1957 season are: Dr. Max Chamlin, president; Dr. Harvey E. Thorpe, vice-president; Dr. Jesse M. Levitt, recording secretary; Dr. Leon H. Ehrlich, corresponding secretary; Dr. Henry M. Kera, treasurer, and Dr. Robert S. Coles, historian.

Committee chairmen include: Dr. Abraham Schlossman, program; Dr. Arthur Linksz, instructive session; Dr. Benjamin C. Rosenthal, legislative; Dr. Howard Agatston, membership, and Dr. Edward M. Douglas, industrial.

Goiter Association Prize—The American Goiter Association will offer the Van Meter Prize Award of $300 and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The award will be made at the annual meeting of the Association which will be held in the Hotel Statler, New York City, May 28 through 30, 1957, providing essays of sufficient merit are presented in competition.

The competing essays may cover either clinical or research investigations, should not exceed 3,000 words in length, and must be presented in English. Duplicate typewritten copies, double spaced, should be sent to the secretary, Dr. John C. McClintock, 149$^1/_2$ Washington Avenue, Albany 10, New York, not later than January 15, 1957.

Caleb Fiske Prize—The subject for this year's Caleb Fiske essay will be "The Present Day Treatment of Infertility." The dissertation must be typewritten, double spaced, and should not exceed 10,000 words. A cash prize of $350 is offered. Essays must be submitted by January 10, 1957.

For complete information regarding the regulations write to the secretary, Caleb Fiske Fund, Rhode Island Medical Society, 106 Francis Street, Providence 3, Rhode Island.

Hill-Burton Grants—The Department of Health, Education, and Welfare reports the status of all Hill-Burton grants for the State of New York as of June 30. Projects approved during the past month include Beth Abraham Home in the Bronx at an estimated total cost of $2,507,891 with an approved Federal share of $348,054 and 209 additional beds; Tompkins County Memorial Hospital, Ithaca, at an estimated total cost of $945,000 with an approved Federal share of $281,667 and 40 additional beds; Sullivan County Home, Monticello, at an estimated total cost of $347,471 with an approved Federal share of $112,506 and 69 additional beds; Bellevue Medical Center, New York City, at an estimated total cost of $1,114,000, with an approved Federal share of $100,000 and 81 additional beds; and The Hospital, Sidney, at estimated total cost of $495,000, an approved Federal share of $165,000, and 29 additional beds.

Approved, but not yet under construction, including the above, are 77 projects at a total cost of $18,027,100 including $22,221,007 Federal contribution and designed to supply 4,364 additional beds.

Under construction are 20 projects at a total cost of $57,413,791, including Federal contribution of $8,589,990 and designed to supply 1,606 additional beds.

Completed and in operation are 12 projects at a total cost of $12,675,764 including Federal contribution of $3,471,705 and supplying 626 additional beds.

Chest Diseases Essay Contest—The Council on Undergraduate Medical Education of the American College of Chest Physicians offers three cash awards to be given annually for the best contributions prepared by undergraduate medical students on any phase in the diagnosis and treatment of chest diseases (heart and/or lungs). The first prize will be $500, second prize will be $300, and third prize $200. Each winner will also receive a certificate of merit.

Applicants are requested to study the format of *Diseases of the Chest,* the official journal of the College, as to length, form, and arrangement of illustrations to guide them in the preparation of the essay.

A copy of the College journal will be sent upon request.

Further information may be obtained by writing to the Executive Director, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois.

Personalities

Elected

Dr. Aaron Kottler, Brooklyn, as president of the Medical Society of Kings County . . . Dr. Paul H. Sullivan, Great Neck, president; Dr. Ralph S. Emerson, Roslyn Heights, president-elect; Dr. Ray M. Bowles, Garden City, vice-president; Dr. Louis Bush, Baldwin, secretary, and Dr. Joseph G. Zimring, Long Beach, treasurer, of the Nassau County Medical Society.

On Teaching Tour

Dr. John H. Garlock, clinical professor of surgery at Columbia University and director of surgery at the Mount Sinai Hospital, New York City, lecturing and holding didactic operative clinics in Colombia, Chile, Peru, Argentina, and Brazil, South America.

Appointed

Dr. Dallas E. Billman, formerly of Rochester, as medical director of the Corning Glass Works in Corning . . . Dr. Samuel W. Dooley, assistant professor of clinical pediatrics at Cornell University Medical College and president of the Public Health Association of New York City, as executive director of Cancer Care, Inc., of the National Cancer Foundation. . .Dr. Maurice R. Friend, New York City, to the faculty of the New York School of Social Work, Columbia University, to occupy the recently established Marion E. Kenworthy Chair in pyschiatry. . . Dr. John Edward Hall, professor of obstetrics and gynecology at the New York State College of Medicine, as director of the Department of Obstetrics and Gynecology of the Salvation Army's Booth Memorial Hospital in Flushing, Queens . . . Dr. Israel Magelaner, Brooklyn, as executive director of the Jewish Hospital of Brooklyn . . . Dr. Frank E. Stinchfield, New York City, as director of the orthopedic service of the Presbyterian Hospital and executive officer and professor of surgery of the Department of Orthopedic Surgery of the College of Physicians and Surgeons, Columbia University, both in New York City . . . Dr. Martin L. Stone, New York City, as professor of obstetrics and gynecology and director of that department at New York Medical College, Flower-Fifth Avenue Hospital.

New Offices

Dr. William E. Askue, Germantown, practice of pediatrics in Kingston . . . Dr. James Gilbert Cotanche, Jr., Sodus, general practice in Wolcott. . . Dr. Alexander E. Messer, Sodus, returning to New York City for the practice of surgery.

Speakers

Dr. Joe W. Howland, professor of radiation biology, and chief of the Division of Medical Services, Atomic Energy Project at the University of Rochester School of Medicine and Dentistry, before the Steuben County Medical Society on September 13 in Hornell on "Current Developments in the Use of Radioactive Materials for Medical Purposes" . . . Dr. Ernest B. Millard, instructor in medicine at the University of Rochester School of Medicine and Dentistry, before the Chemung County Chapter of the Academy of General Practice in Elmira on September 26, on "Treatment of the Average Diabetic" . . . Dr. Nathaniel E. Reich, Brooklyn, moderator of a panel on "Heart Function" at the fourth international congress of the American College of Chest Physicians in Cologne, Germany, on August 22.

Typical M.D. Travels 1,500 Miles on Vacation

What does the average doctor do on his vacation? According to survey results reported in the June issue of *Medical Economics*, he takes three weeks off, drives 1,500 miles, and spends nearly $1,000.

"Almost half the doctors surveyed took at least two vacations last year," the magazine reports. "About 15 per cent took three or more." And another 15 per cent took no vacation at all.

Most vacationing doctors travel by car. Some "70 per cent covered 1,000 miles or more. More than half this group put at least 2,500 miles on the speedometer."

The biggest proportion likes to go to the seashore. Another good-sized group prefers the mountains. The M.D.s' favorite vacation areas are Florida, New England, and the Rocky Mountains.

"Fishing is far and away the favorite vacation diversion. It draws top rating from 25 per cent of the respondents.

Sightseeing ranks second, followed by swimming, loafing, and golf."

Naturally, the doctor has a hard time *keeping* his vacation a vacation. Many people want free medical advice. To avoid this pitfall, reports the magazine, "almost half of all the doctors who take vacations travel incognito."

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MEDICAL MEETINGS

Postgraduate Medicine Courses

A total of 29 courses in postgraduate medicine will be offered by the Post-Graduate Medical School during the month of September, and 26 will be offered in October. These are among the nearly 200 postgraduate courses available at the school during the 1956–1957 academic year. Further information may be obtained by writing to the Dean, New York University Post-Graduate Medical School, 550 First Avenue, New York 16, New York.

Postgraduate Assembly

The tenth annual postgraduate assembly, sponsored by the San Diego County General Hospital, will be held on September 19 and 20 at the County Hospital. For further information write to Dr. Michael J. Feeney, 3415 Sixth Avenue, San Diego 3, California.

American Rhinologic Society

The American Rhinologic Society will hold its annual meeting in Chicago, October 9 through 13. The first evening will be devoted to a business session. A series of surgical demonstrations and seminars will be presented in the Illinois Masonic Hospital from 8 A.M. to 10 P.M. on the three following days. The annual scientific program will be presented in the Palmer House on the closing day.

Further information may be had by writing to Mrs. Mabel Campbell, corresponding secretary, 834 Wellington Avenue, Chicago 14, Illinois.

Institute on Cerebral Palsy

An Institute on Cerebral Palsy will be held on October 20 in the Walnut Room of the Berkshire Hotel, Reading, Pennsylvania, between 3:00 and 5:00 P.M. and 7:00 and 9:00 P.M.

Physicians and therapists are invited to register in advance by communicating with Dr. Herman L. Rudolph, 400 North Fifth Street, Reading, Pennsylvania. There will be no registration fee.

Academy of General Practice

The eighth annual scientific assembly of the New York State Academy of General Practice will be held at the Hotel Statler, Buffalo, from October 22 through 24.

A symposium on cardiovascular problems will be held in the afternoon of October 22, with Dr. Dexter Levy, assistant clinical professor of medicine at the University of Buffalo, and attending physician, Millard Fillmore Hospital, Buffalo, acting as moderator. The symposium on surgery, to be held on the morning of October 23, will be moderated by Dr. Henry Kenwell, associate professor of surgery at the University of Buffalo, and chairman and head of the Department of Surgery at Millard Fillmore Hospital in Buffalo. That afternoon there will be a symposium on practical obstetrics and gynecology moderated by Dr. Milton G. Potter, attending obstetrician at Millard Fillmore, Deaconess, and Lafayette Hospitals, all in Buffalo. The symposium on the morning of October 24 will deal with malignancies and be moderated by Dr. Glenn H. Leak, associate in surgery and cancer coordinator, University of Buffalo School of Medicine.

The Academy's annual banquet will be held on October 23 in the Grand Ballroom of the Statler. There will be no speeches, and entertainment will be featured.

Eastern Psychiatric Research Association

The Eastern Psychiatric Research Association, Inc., will hold its first annual convention in New York City on October 27 at the Hotel Waldorf-Astoria. Registration will be from 9 to 9:30 A.M. A one-day seminar on "Various Cerebral Electrotherapies Including Anesthesia for Same" is planned for the preceding day.

For further information address the secretary, Dr. Theodore R. Robie, 676 Park Avenue, East Orange, New Jersey.

Psychosomatic Forum of New York City

A panel discussion on the tranquilizing drugs will be held at 8:30 P.M. on October 30, in the Blumenthal Auditorium of the Mt. Sinai Hospital under the auspices of the New York Psychosomatic Forum and the Department of Psychiatry of the Mt. Sinai Hospital.

The panelists will be Dr. Paul Hoch, Commissioner of Mental Hygiene of the State of New York, who will speak on the clinical aspects of the tranquilizers; Dr. Murray Jarvick, assistant professor of pharmacology at the Albert Einstein College of Medicine, who will speak on the physiologic and pharmacologic aspects; Dr. Mortimer Ostow, New York City, who will speak on the psychologic implications these drugs have for dynamic theory, and Dr. Nathan Kline, director of research at the Rockland State Hospital.

Development of Physiologic Thought

The State University of New York College of Medicine at New York City will hold a series of symposia at its new Basic Sciences Building, 450 Clarkson Avenue, Brooklyn, during the coming academic year. These symposia will deal with the historical development of physiologic thought in the medical sciences. The first symposium will be held on November 13, 14, and 15.

Thomas William Salmon Lectures

The 24th series of the Thomas William Salmon

[Continued on page 2580]

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JULY through DECEMBER, 1956

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Radiology of the Chest	October 1 to 9
Radiology of Chest, Differential Diagnosis in	October 15 to December 17
Clinical Cardiology	October 16 to December 18
Physiology, Normal and Pathological	October 17, 1956 through April 17, 1957
Hematology	October 30 to December 18

Intensive Courses (Full-time)

Elementary Electrocardiography	October 15 to 19
Advanced Electrocardiography	October 22 to 26
Minor Surgery	October 29 to 31
Office Proctology	November 12 and 13
Spatial Vectorcardiography, etc	December 3 to 8

Courses for Specialists

Rhnoplasty and Otoplasty	July 14 to 28 (full-time)
Trans-meatal (Endaural) Surgery	September 10 to 21
Mobilization of Stapes	September 24 to October 12 (full-time)
Electroencephalography, Clinical	September 27, 1956 to January 10, 1957
Radioactive Isotopes, Clinical Use of	October 8, 1956 to May 27, 1957

Courses of which Dates are to be Arranged

Use of Radioactive Iodine	September to November 1956; December, 1956 to February 1957
Radiotherapy	A 6-month or 12-month course (full-time)

For application forms and information address the Registar for Postgraduate Medical Instruction, The Mount Sinai Hospital, Fifth Avenue at One-hundredth Street, New York 29, New York.

[Continued from page 2579]

Lectures will be presented at 4:30 and 8:30 P.M. in Hosack Hall of the New York Academy of Medicine in New York City, on November 15 by Horace W. Magoun, Ph.D., professor of anatomy at the University of California at Los Angeles. His subject will be "The Waking Brain."

Diagnosis of Tuberculosis

A course in laboratory methods in the diagnosis of tuberculosis will be offered from January 21 through February 1, 1957 by the bacteriology laboratories of the Communicable Disease Center, Chamblee, Georgia.

Application forms and information may be obtained from Laboratory Training Services, Communicable Disease Center, Public Health Service, P.O. Box 185, Chamblee, Georgia.

Pan American Association of Ophthalmology

The fourth interim congress of the Pan American Association of Ophthalmology will be held in New York City, April 7 through 10, 1957, with headquarters at the Hotel Statler.

Dr. Brittain F. Payne, New York City, president of the association, and Dr. Moacyr E. Alvaro, Sao Paulo, Brazil, executive director, have announced the appointment of the following local committees, with their chairmen: program, Dr. John M. McLean, New York City; motion pictures, Dr. Wendell L. Hughes, Hempstead; entertainment and special arrangements, Dr. Elizabeth Constantine, New York City; registration and housing, Dr. Girolamo Bonaccolto, New York City, and press and public relations, Dr. Frank Constantine, New York City.

The interim congress will be a joint meeting with the National Society for the Prevention of Blindness. The eye specialists will hold sessions in the mornings, while the National Society will present its programs in the afternoon.

American Psychosomatic Society

The American Psychosomatic Society will hold its fourteenth annual meeting at Chalfonte-Haddon Hall in Atlantic City on May 4 and 5, 1957.

Titles and abstracts of papers for consideration for the program should be received by the program committee no later than December 1. The time allotted for presentation will be twenty minutes.

Abstracts, in sextuplicate, should be submitted to the chairman, 551 Madison Avenue, New York 22, New York.

International Congress of Otolaryngology

The sixth International Congress of Otolaryngology will meet at the Hotel Statler in Washington, D.C., May 5 through 10, 1957.

Applications to present a voluntary paper, motion picture, or scientific exhibit must be made before October 1. Address inquiries to Dr. Paul Holinger, General Secretary, 700 North Michigan Avenue, Chicago 11, Illinois.

New A.M.A. Head Bids G.P.s Count Their Blessings

It's time the general practitioner woke up to the advances he's made in recent years. So says Dr. Dwight H. Murray, incoming president of the A.M.A. and himself a G.P.

Writing in the June issue of *Medical Economics*, he bluntly emphasizes his belief that "the G.P. of today has far more blessings to count than he realizes."

"Just nine short years ago," he points out, "the collective 'specialty' of general practice seemed stone-cold dead. There was no pride in the G.P.'s voice or manner when he called himself a family physician... In 1947, though, something happened that snatched the corpse from the embalming table and breathed new life into it: The American Academy of General Practice was formed."

The Academy, observes the new A.M.A. president, "has given the G.P. a much-needed feeling of 'belonging.' It has brought paternal guidance to a once-disorganized group." And most important he says, it has won wider hospital privileges for its members, wringing from the A.M.A. a promise that G.P.s won't have their privileges restricted by hospitals merely because they are G.P.s.

In view of these achievements, Dr. Murray tells the readers it's up to G.P.'s to prove individually that they can handle various hospital assignments. "If [a doctor's] honest with himself," he adds, "he won't then attempt anything that he's not fully qualified to do."

As generalists show their qualifications, Dr. Murray observes, the gap between the general practitioner and the specialist will be reduced. "We now have a fine opportunity to close it tightly," he says. "As a G.P., that's my fondest wish. As president of the A.M.A.... it's my dedicated objective."

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GERALD D. DORMAN, M.D., *Chairman, Council Committee on Workmen's Compensation*

Medical Society of the State of New York

The Early Rehabilitation of Workmen's Compensation Cases

Doctors Urged to Take the Initiative

PHYSICIANS treating compensation claimants are urged to bear in mind the possibilities and advantages of early rehabilitation of suitably selected cases.

We also advise physicians to cooperate fully with the representatives of insurance carriers and employers in this endeavor and to take the initiative in inviting the carrier's and employer's physician to talk over the possibilities of early rehabilitation.

During the early weeks of injuries which carry fixed fees including a number of weeks after care, the additional cost of determining the need for rehabilitation through consultation with physiatrists is justified. If, in the opinion of the attending physician, the patient's return to work can be hastened and the degree of disability lessened, these desirable eventualities should be drawn to the attention of the employer or carrier with the request either for consultation or for the referral of the patient to a specialist in physiatry. In many instances after consultation the attending physician or specialist may himself be deemed competent and equipped to carry out the recommended rehabilitative procedures.

Orthopedic surgeons and other specialists seeing acute traumatic injuries may deem it necessary, while continuing to treat the patient within the range of their special practice, to call on specialists in the field of rehabilitation for additional or special physiatric treatments. This, like any other consultation, should be an additional charge on the employer or carrier. Rehabilitation, when indicated, should not be delayed by the employer's or carrier's refusal of authorization during a fixed aftercare period. The cost of such rehabilitation should not be deducted from the fee included in the fixed fee of the attending physician.

We believe it is in the best interest of the patient that he remain under the care or supervision of his own physician even if it is advisable to transfer him to a physiatrist or to an institution for rehabilitation. It goes without saying that the patient should remain under the care of his attending physician or specialist until the patient's general medical condition warrants transfer.

Physicians are requested to report to their county medical societies and to this Bureau any lack of interest or of cooperation on the part of employers or insurance carriers or any refusal on their part to authorize consultation or necessary rehabilitative treatment.* Attempts on the part of insurance carriers to refuse to pay for rehabilitation treatments by physiatrists or for consultation during the fixed after-care period should be promptly reported.

It is our opinion that the present Workmen's Compensation Law provides ample means for the closest cooperation between employers and carriers and attending physicians without changes that might endanger the patient's right of free choice.

We invite insurance carriers and employers to bring to the attention of the county medical societies and of this Bureau instances where physicians fail or refuse fully to cooperate in this endeavor.

Our aim is to assure the patient every advantage of modern medical care, including such measures as will rehabilitate him and restore him to as full, useful, and productive a life as possible. The patient deserves no less from those who render the medical care and those responsible for the cost of same.

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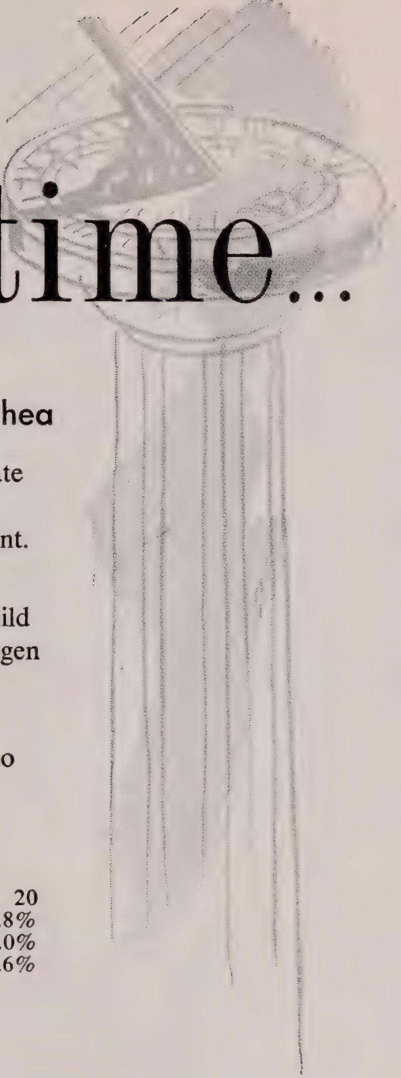
* "It is our opinion that an employer is presently required under the Workmen's Compensation Law to provide for the medical rehabilitation of his injured employees. . . Discussion between a carrier's medical director and the claimant's attending physician as to the advisability of instituting rehabilitative procedures with respect to the claimant, regardless of who initiates the discussion, is not a violation of the provisions of the Workmen's Compensation Law." (Statement by the Hon. Angela R. Parisi, Chairman, Workmen's Compensation Board, before the New York State Joint Legislative Committee on Industrial and Labor Conditions, December 15, 1955.)

Summertime...



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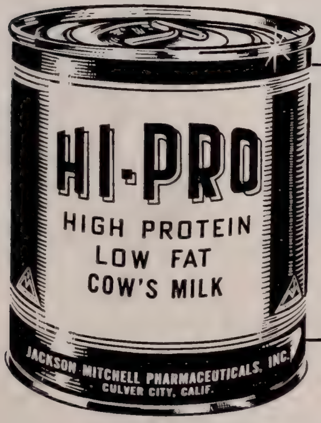
High in Protein
"The digestion of protein is little affected. The child with diarrhea continues to absorb and retain nitrogen and may even do so when moribund."[2]

Low in Fat
"In the presence of diarrhea, fats are most likely to escape absorption, as much as 25% or 50% being lost by way of the bowel."[1]

SIMPLE TREATMENT IN DIARRHEA

Hi-Pro–3 tablespoonfuls Water–6 ounces	=	Calories per fluid ounce	20
		Protein	6.8%
		Fat	2.0%
		Carbohydrate	5.6%

[1] Jeans, P. C. & Marriott W. McK. Infant Nutrition; 4th ed.
[2] Holt, E. M. Diseases of Infancy; 11. 223.



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BOOKS REVIEWED

The Surgical Clinics of North America. Nationwide Number. October, 1955. Octavo. Philadelphia, W. B. Saunders Company, 1955. Published Bimonthly, six numbers a year. Cloth, $18 net; paper, $15 net.

This volume contains a series of articles on various diseases and problems encountered by the general practitioner, general surgeon, and proctologist in the physiology, diagnosis, and treatment of anorectal and colonic diseases. The editors have certainly brought together a group of distinguished men to contribute to this volume. Dr. Robert Turell, the consulting editor, deserves a great deal of credit for the painstaking work in arranging this valuable symposium. The group of articles contained in the book demonstrates the tremendous progress the field of proctology has made since the turn of the present century. It is a volume worth reading.—A. J. Caliendo

Diseases of the Nervous System. Described for Practitioners and Students. By F. M. R. Walshe, M.D. Eighth edition. Octavo of 357 pages, illustrated. Baltimore, Williams and Wilkins Company, 1955. Cloth, $7.00.

The book is the eighth edition of a text that first appeared in 1940. It is, therefore, quite apparent that the author has realized the importance of revising the book frequently so as to include the newer concepts and contributions made to neurology by both clinicians and research workers. He has obviously kept pace with the many changes resulting from such contributions to the different phases of the subject. He has allotted more space to the more significant ones and has abbreviated the chapters dealing with subjects of lesser importance. Nevertheless, he devotes a full chapter to such topics as rheumatic chorea (Sydenham's chorea), bromide intoxication, and spasmodic torticollis. Evidently, he has written a book based primarily on his own rich and varied experience as a leading English neurologist. The book is well written and makes delightful reading and is particularly suited for the needs of practitioners and students of medicine. As such, it is highly recommended.—Irving J. Sands

The Pharmacological Basis of Therapeutics. A Textbook of Pharmacology, Toxicology and Therapeutics for Physicians and Medical Students. By Louis S. Goodman, M.D., and Alfred Gilman, Ph.D. Second edition. Quarto of 1,831 pages, illustrated. New York, Macmillan Company, 1955. Cloth, $17.50.

The first edition of this text established it as a classic invaluable to the student, investigator, and practitioner of medicine alike. The second edition, on which the authors have labored since the end of World War II, represents a complete revision necessitated by the enormous advances in pharmacology and therapeutics in the past fifteen years.

The text is well written, thoroughly documented, and up to date. It is without question the most comprehensive volume of pharmacology and therapeutics in the English language. If one were to choose one indispensable book for the practitioner of medicine, in the reviewer's opinion this would be it. The medical profession is much in debt to Drs. Goodman and Gilman for their superb endeavor.—Richard Gubner

Primary Anatomy. By H. A. Cates, M.B., and J. V. Basmajian, M.D. Third edition. Quarto of 339 pages, illustrated. Baltimore, Williams & Wilkins Company, 1955. Cloth, $5.75.

This is the third edition of a human anatomy book which is primarily designed for use in courses in anatomy for physiotherapists, occupational therapists, and students in physical and health education.

The text material is very well written and the liberal use of bold face print for important terms will certainly be of considerable aid for rapid study. The judicious use of many headings and subheadings also makes the book more readable.

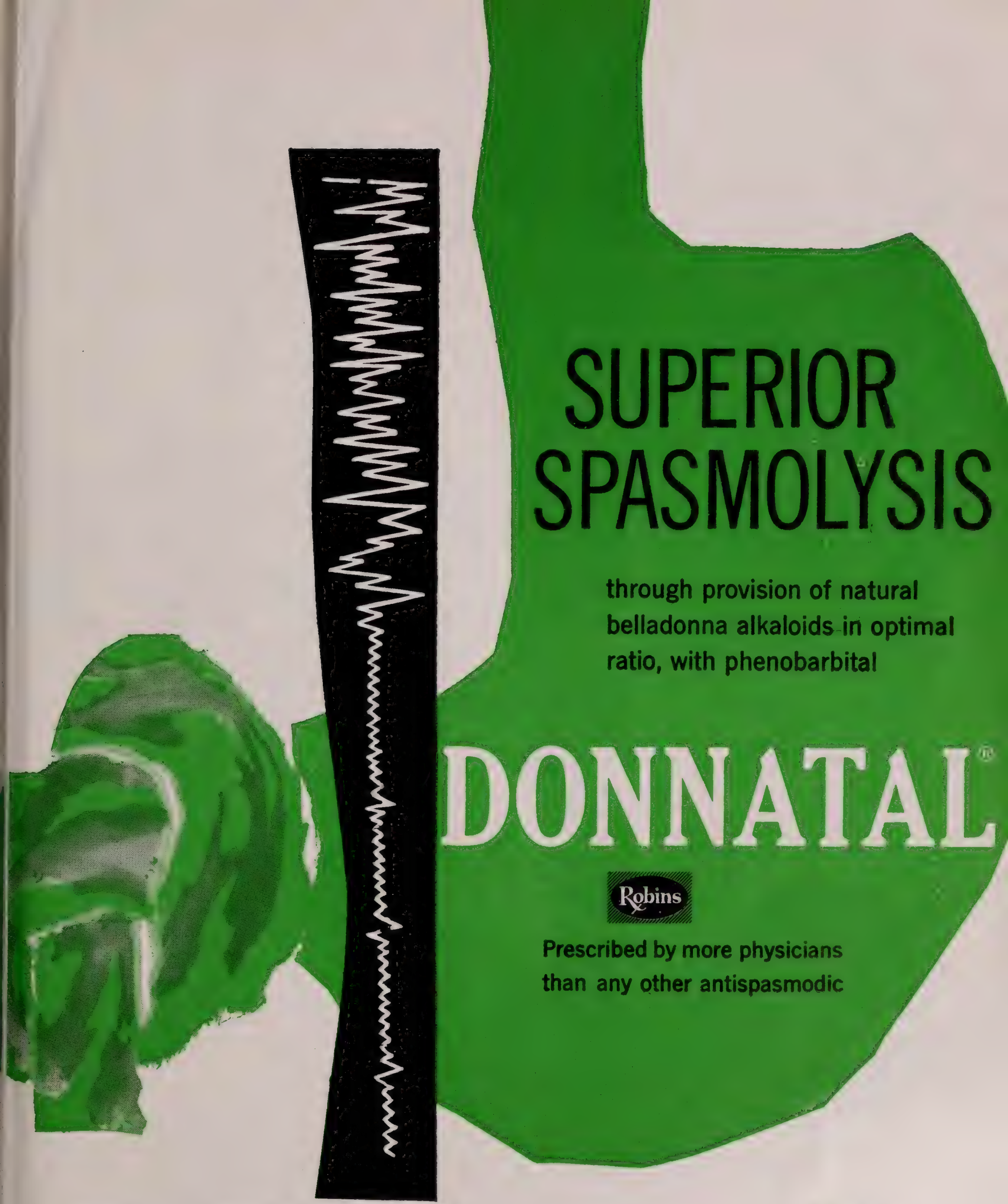
The illustrations on the whole are very simple and of the outline type. In some cases they are oversimplified to the point of being of little value but in other cases, particularly in the chapter on the muscular system where the origins and insertions of single muscles are clearly shown, they are extremely helpful.

Although the book is not designed for use by medical students, the clearness by which general principles are emphasized should make this book very useful to them for review purposes.—George B. Talbert

Reactions with Drug Therapy. By Harry L. Alexander, M.D. Octavo of 301 pages, illustrated. Philadelphia, W. B. Saunders Company, 1955. Cloth, $7.50.

This concise presentation of the reactions to the drugs in common use is well presented for reference for those who are in need of information. The

[Continued on page 2588]



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[Continued from page 2584]

therapeutic section leaves much to be desired but the types of reaction and the allergic reactions are well handled so as to be readily available. The explanation of the hepatitis resulting from the administration of cinchophen is not convincing. The author has accomplished his purpose in bringing together in a small volume the extensive literature relating individual untoward reactions to drugs in common usage. It is recommended as a ready reference.—Irving Greenfield

Medical Department, United States Army. Surgery in World War II. Hand Surgery. Edited by Sterling Bunnell, M.D. Quarto of 447 pages, illustrated. Washington, D.C., Office of the Surgeon General, Department of the Army, 1955. Cloth, $3.75.

The entire text is devoted to the delineation of the efforts to salvage crippled hands in the various overseas hand services and in the nine Zone of the Interior hand centers. The interchange of ideas of the plastic, orthopedic, neurosurgic, and hand surgeons (extremity surgeons) were basic components of the hand surgery centers. Special interest as well as ingenuity were required of the chiefs of the various centers. The exacting procedures from the time the wound is first incurred through the entire rehabilitation of the extremity are completely and concisely covered. The illustrations are extensive and supplement the text completely. All the procedures which were used are carefully discussed to give clarity and brevity consistent with accuracy. Line illustrations further enhance the value of the text.

The division of the text as to the procedures in the overseas and Zone of the Interior centers adds to the value of the material presented for the hand surgeon, whether in military or civilian life.

Hand Surgery can be suggested unreservedly for all surgeons who do any surgery of this nature. The volume is destined to take its place in the surgical libraries of any hospital. It must be studied really to be appreciated.—Earl W. Douglas

When Minds Go Wrong. By John Maurice Grimes, M.D. Revised edition. Octavo of 246 pages, illustrated. New York, Devin-Adair Co., 1954. Cloth, $3.50.

In his crusade for better care for the mentally sick people, Dr. Grimes has spared no punches in his fight against the neglect and mistreatment of psychiatric patients in different hospitals in many states of our country. He cites numerous examples where neglect has been a common practice. He speaks with considerable authority based upon personal experience in different psychiatric hospitals, and from his inspection tours of many institutions which he visited as a member of the Council on Medical Education and Hospitals of the A.M.A. He accuses many politicians of interfering with the management of psychiatric hospitals and does not spare the feelings of some doctors and attendants for their way of handling patients. It is not a pleasant picture which he is painting in his book, but one which will ultimately arouse the public to demand better and more humane care of the mentally ill people.—Irving J. Sands

Leukocytic Functions. Albert S. Gordon, Ph.D., John W. Rebuck, M.D., and Robert S. Spiers (Conference Co-Chairman). Octavo of 406 pages, illustrated. New York, New York Academy of Sciences, 1955. (*Annals of the New York Academy of Sciences*, v. 59, Art. 5, pp. 665–1070). Paper, $4.50.

This monograph is dedicated to Dr. Hal Downey. It consists of the most important contributions on the subject of leukocytic functions which were discussed in a symposium held at the Barbizon Plaza Hotel under the auspices of the New York Academy of Sciences.

Part one concerns itself with the introduction to the leukocytes. Part two deals with the technic in the study of leukocytic functions. Part three discusses the factors influencing numbers, distribution, and fate of leukocytes. Part four is a series of articles on the defense functions of the leukocytes. Part five takes up the chemical and metabolic aspects of leukocytic activity.

For the student of hematology this monograph, written by 36 of the most prominent workers in the field, is a sine qua non for the hematologic book shelf.—Maurice Morrison

The Physician and the Law. By Rowland H. Long. Octavo of 284 pages. New York, Appleton-Century-Crofts, 1955. Cloth, $5.75.

The author has a readable style and is to be congratulated on being able to put so much information between the covers of a comparatively small volume. This he has accomplished by removing repetitious verbiage, a talent possessed by few medicolegal lecturers and writers today.

This monograph should provide an insight into the pitfalls that confront the medical practitioner as well as members of the bar. These individuals may have some general knowledge of the rules which govern conduct in the physician-patient and lawyer-client relationship for guidance during litigation in personal injuries, but here they will find specific information and citations which will better qualify them to cope with medicolegal problems in their respective callings.

On the basis of having reviewed numerous publications on medicolegal jurisprudence in the past twenty-five years, your reviewer can heartily recommend this book to doctors and lawyers.—S. Ingram Hyrkin

Anxiety and Stress. An Interdisciplinary Study of a Life Situation. By Harold Basowitz, Ph.D., Harold Persky, Ph.D., Sheldon J. Korchin, Ph.D., and Roy R. Grinker, M.D. Octavo of 320 pages, illustrated. New York, The Blakiston Division,

[Continued on page 2590]

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[Continued from page 2588]

McGraw-Hill Book Company, 1955. Cloth, $8.00.

Anxiety is one of man's greatest problems, dealing as it does with one of the most powerful expressions of human emotions. The authors are eminent men who have established for themselves well-merited reputations in their respective fields of psychology, biochemistry, and neuropsychiatry. They have made an investigation on a cooperative basis in the field of anxiety and stress in a segment of human behavior as manifested by a group of paratroopers in training. The book is a record of that research project which may well serve as a model for further attempts at investigations in other fields of human behavior. The various aspects of psychologic, physical, and chemical changes occurring in young men under unusual strain and stress are carefully analyzed, arranged, and recorded in a most scientific manner. Due credit is given to some previous pertinent studies. The results of their investigations are carefully synthesized and integrated into highly valuable data. The implications of the results of the study are presented in an orderly and convincing manner. It is a most valuable work, one which should have a large appeal to all investigators and to all students of human behavior and its deviations from normal.—IRVING J. SANDS

Basic Anatomy. By G. A. G. Mitchell, D.Sc., and E. L. Patterson, M.D. Octavo of 438 pages, illustrated. Baltimore, Williams & Wilkins Co., 1954. Cloth, $10.

This is a new book which is based on an introductory course of lectures for medical and dental students. The first aim of the book, as stated by the authors, is to present basic information about human anatomy and to synthesize facts from various subjects into a story that may serve as a bridge between biology, anatomy, physiology, and clinical subjects. The authors do an admirable job in carrying out this aim in that the anatomy is presented almost entirely in relation to function.

The book is not intended to replace any of the standard anatomy texts since on the whole only broad principles are presented, with anatomic description limited to just the major structures in each organ system.

There are a large number of illustrations including some excellent microphotographs to supplement the text descriptions.

With the tremendous amount of reading material facing the beginning medical student, it is difficult to recommend that such a student take on additional reading, but the few hours necessary to read this well-written and interesting book would be well worth while to all students.—GEORGE B. TALBERT

Lectures on the Scientific Basis of Medicine. Volume III. 1953–54. Octavo of 398 pages, illustrated. University of London, The Athlone Press, (New York, John de Graff), 1955. Cloth, $6.00. (British Postgraduate Medical Federation University of London).

These 21 diverse but consistently stimulating contributions are of uniformly high scientific order, representing basic areas of investigation with varying applicability to current but undoubted universal applicability to future medical problems. A few seem laboriously developed and lengthy, but the majority benefit from the enviable British faculty for saying much while talking little. Sigerist's opening lecture on science and history sets an appropriate tone for succeeding sections in areas of experimental biology, pathology, endocrinology, neuropsychiatry, and immunology—from among which any particular selections for comment reflect more the interests of a reviewer than the relative merits of the article. From this necessarily biased viewpoint, the papers on biological synthesis, the genetics of some biochemical abnormalities, antiviral immunity, and experimental psychopathology seem especially stimulating. However, no chapter could be omitted without important loss, and the entire volume is recommended to all physicians hopefully maintaining their acquaintance with the major components of medical progress.—ROBERT W. HILLMAN

Bone and Bones. Fundamentals of Bone Biology. By Joseph P. Weinmann, M.D., and Harry Sicher, M.D. Second edition. Octavo of 508 pages, with 302 illustrations. St. Louis, C. V. Mosby Co., 1955. Cloth, $13.75

This is the second edition of a very comprehensive and detailed study of the fundamentals of bone biology. It represents one of the clearest expositions of the structure, growth, development, and pathology of bone that it has been the reviewer's good fortune to read.

The text is clear and well written, the illustrations profuse and beautifully reproduced, and the arrangement of the contents such that the material is readily available for reference. Although considerable emphasis has been placed on questions relating to jaw and teeth, every other section is equally well developed. A basic concept which treats bone as a tissue and bones as organs making up the skeleton makes for greater clarity.

An extensive and exceedingly well-arranged bibliography enhances the book's value as a text for students and as a reference work for the dentist, radiologist, and orthopedist.—MAX S. RABINOWITZ

Transplantation of Tissues, Cartilage, Bone, Fascia, Tendon, and Muscle. By Lyndon A. Peer, M.D. Volume I. Quarto of 421 pages, illustrated. Baltimore, Williams and Wilkins Company, 1955, Cloth, $13.50.

This book is a very timely and valuable contribution. It fulfills a long-felt need in the realm of tissue grafting.

The first part of the book, general considerations, introduces a very comprehensive discussion of cell life and its interrelation with its environment, chemical, and histopathologic vari-

[Continued on page 2592]

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[Continued from page 2590]

ations. The views of the author supplement the quoted authorities on various phases of the subject.

The remainder of volume one is devoted to a readable, well-organized presentation of the previous and current experimental work, personal experiences of the author, and practical applications of the use of cartilage, bone, fascia, tendon, and muscle in transplantation work.

The author's work in diced cartilage and transplanted nasal, vomer, and turbinate bones in soft tissue is a valuable contribution. His theory of cell survival is emphasized and illustrated to become a more concrete conception in plastic work.

Again this book is highly recommended because of its complete detail, bibliography, and comprehensive presentation on a controversial subject. It is valuable not only to the plastic surgeon but also to the general surgeon, medical student, and the experimental investigator.—David Teplitsky

Psychiatry for the Family Physician. By C. Knight Aldrich, M.D. Octavo of 276 pages, illustrated. New York, The Blakiston Division, McGraw-Hill Book Company, 1955. Cloth, $5.75.

The busy general practitioner would do well to find time to acquaint himself with this book. The chapters on diagnosis and treatment in the last section are especially worth while since numerous hints as to the evaluation of the patient, his problems, and how they should and should not be approached are given. The major part of the work deals with personality development, normal and abnormal. Even though one cannot always agree with the theoretic formulations, the material is lucid, well integrated, and interestingly presented in a lively manner.—Arthur J. Lapovsky

Ciba Foundation Colloquia on Ageing. Volume I. General Aspects. Editors for the Ciba Foundation, G. E. W. Wolstenholme, M.B., and Margaret P. Cameron, M.A. Assisted by Joan Etherington. Octavo of 255 pages, 38 illustrations. Boston, Little, Brown and Company, 1955. Cloth, $6.75.

Perhaps no other subject in the field of medicine has projected itself into the forefront as the subject of ageing. For this reason alone this book would be of value.

However, more than that, there are presented the opinions and thoughts of the leading medical men in the field in a lively, spontaneous, and enjoyable roundtable format.

An attempt is made to define ageing—chronologic and physiologic. The more basic questions concerning the inevitability of ageing are argued. Senescence is defined.

The discussions on mental changes and elastic tissue changes are particularly noteworthy. McCay's chapter on nutrition and its influence on ageing is particularly stimulating. This volume is highly recommended.—Felix Taubman

The Regulation of Hunger and Appetite. By Franklin Hollander, Ph.D. (chem) (Conference Chairman), J. Bandes, M.D., J. R. Brobeck, M.D., H. Bruch, M. I. Grossman, M.D., *et al.* Octavo of 145 pages, illustrated. New York, New York Academy of Sciences, 1955. Paper, $3.00. (*Annals of the New York Academy of Sciences*, V. 63, Art. 1, pp. 1–144).

This is an excellent monograph, one of the most consistently good collections of papers in the series under this sponsorship. As indicated by the title, the authors are concerned with the mechanisms governing the intake of food, uncompensated aberrations of which conduce to malnutrition, including underweight and hyperalimentation. That obesity is the result of overeating is accepted although some entries in the caloric ledger could still be clarified to advantage.

Attention here is directed to accounting for this discrepancy between intake and output. Experimental work and clinical observations are reviewed, hypotheses are presented, and there is some attempt to integrate the various physiologic and psychologic processes involved, both demonstrated and postulated. The obvious complexity of the problem and the difficulty of reconciling seemingly contradictory evidence should properly discourage therapeutic regimens predicated on the concept of a single cause for abnormal food consumption. The true, basic dynamics are really only now being explored. Further investigation will doubtless provide a more valid armamentarium for us impatient clinicians, who, in our concern for necessity's dystocia, must always be reminded that invention and discovery may be siblings, but not monozygotic twins.—Robert W. Hillman

The Spine. A Radiological Text and Atlas. By Bernard S. Epstein, M.D. Quarto of 539 pages. 721 illustrations on 331 figures. Philadelphia, Lea & Febiger, 1955. Cloth, $16.50.

This is an authoritative text on the radiologic aspects of disease as it affects the spine. It was written by a highly competent and imaginative radiologist and is the fruit of long association with top-notch neurosurgeons, orthopedists, and diagnosticians.

It is profusely illustrated with roentgenograms, strongly seasoned with clinical information, and coherently written. It should be owned by those who have a general interest in the spine and by those whose specialized work, such as orthopedics, radiology, or neurosurgery, requires a reference which gives detailed and specific information.

The author is known to many of us as a hardworking, brilliant, and enthusiastic student of radiology who worked diligently at the Jewish Hospital of Brooklyn for over twenty years. He is now the chief of the Department of Radiology at the Long Island Jewish Hospital at New Hyde Park. The text is a credit to his reputation as a radiologist of fine stature.—Mortimer Richard Camiel

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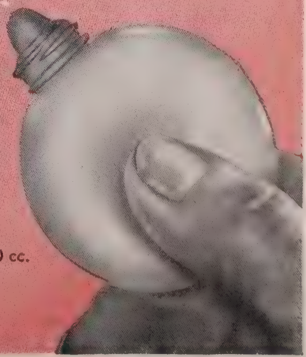

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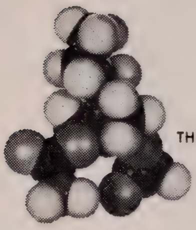

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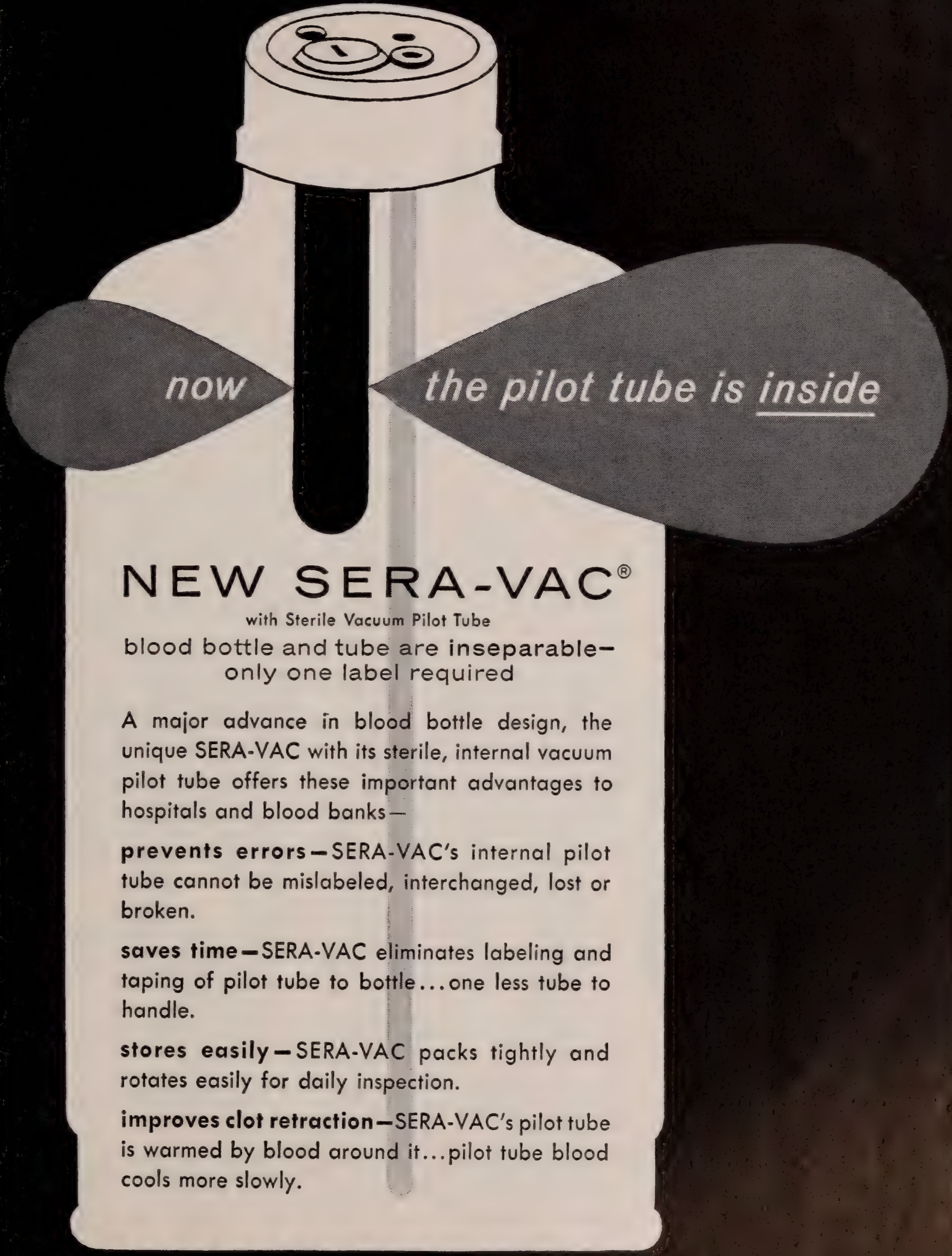
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pain is relieved... function returns...
swelling subsides... residual tenderness disappears

this is the response pattern in acute and subacute bursitis with only 7 or 8 injections.[1] An average of 9 injections in chronic calcified tendinitis produces "unusually good results."[2]

Literature available to physicians—write Medical Service Department.

references: (1) Rottino, A.: Journal-Lancet *71*:237, 1951. (2) Susinno, A. M., and Verdon, R. E.: J.A.M.A. *154*:239 (Jan. 16), 1954.

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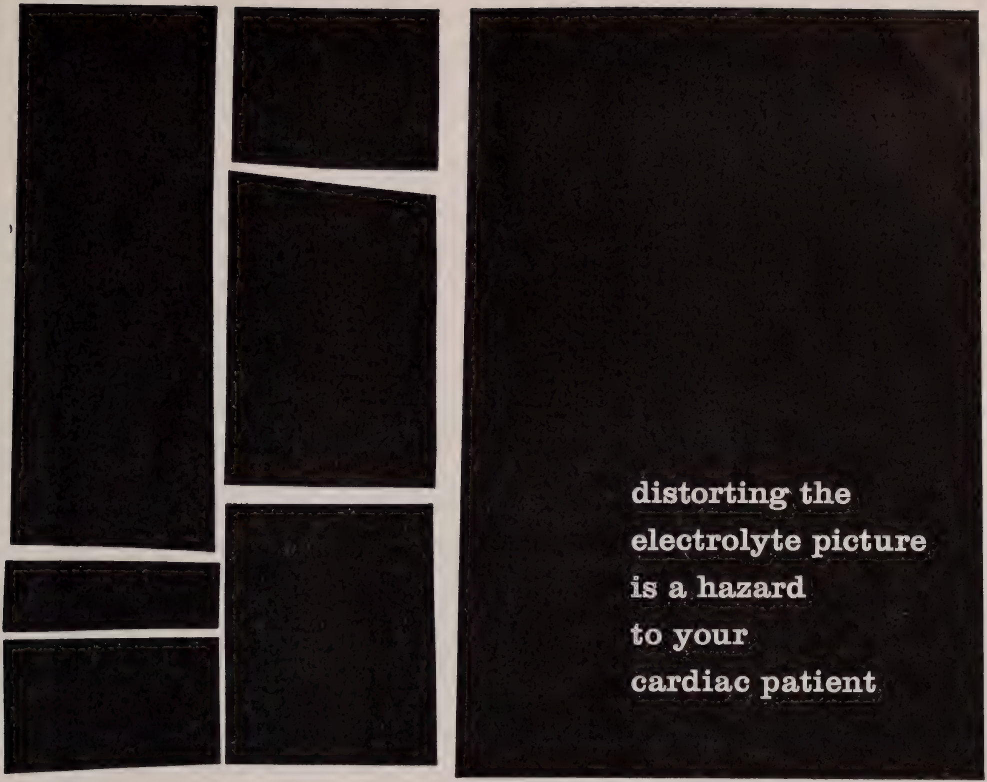

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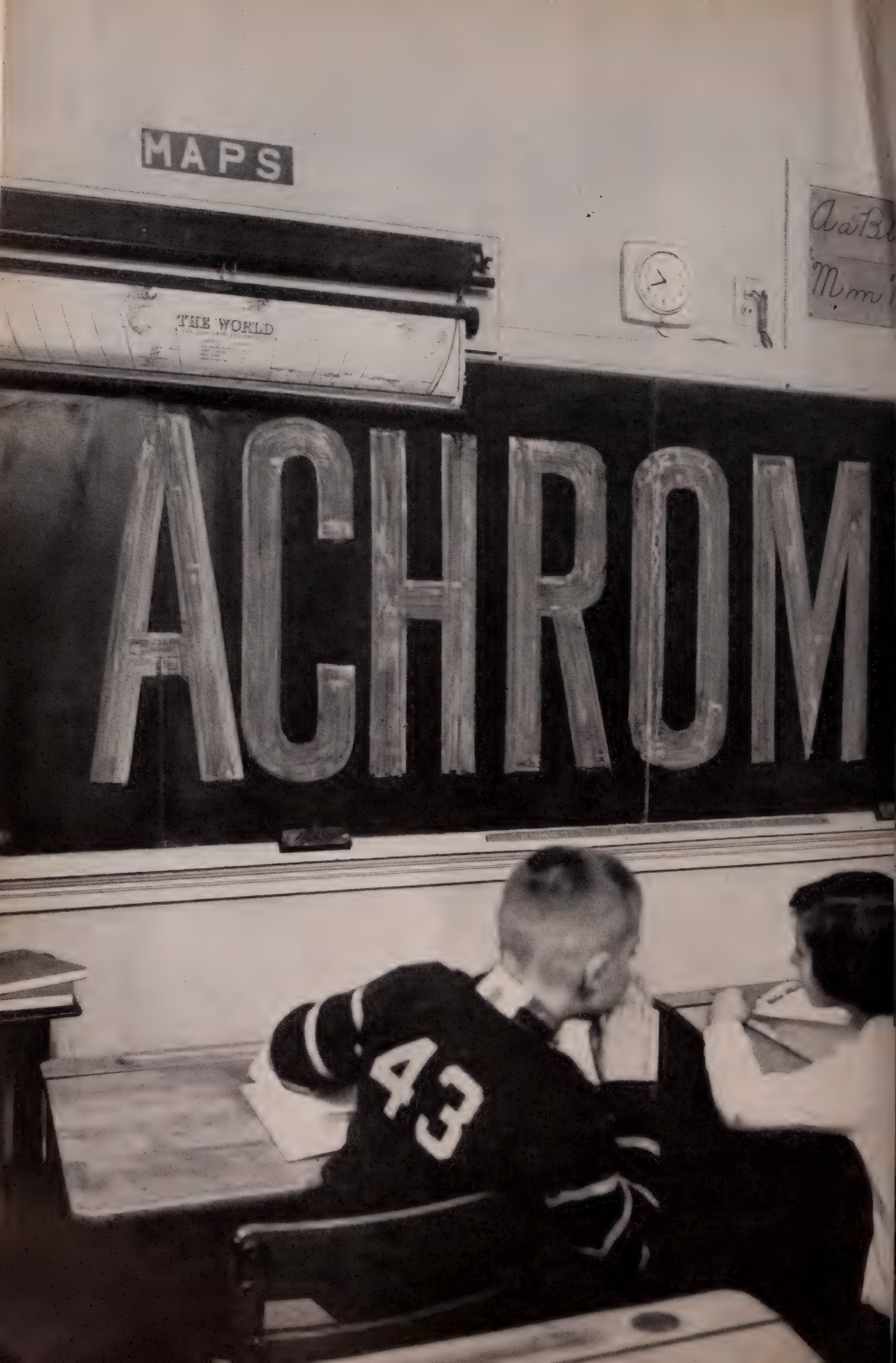
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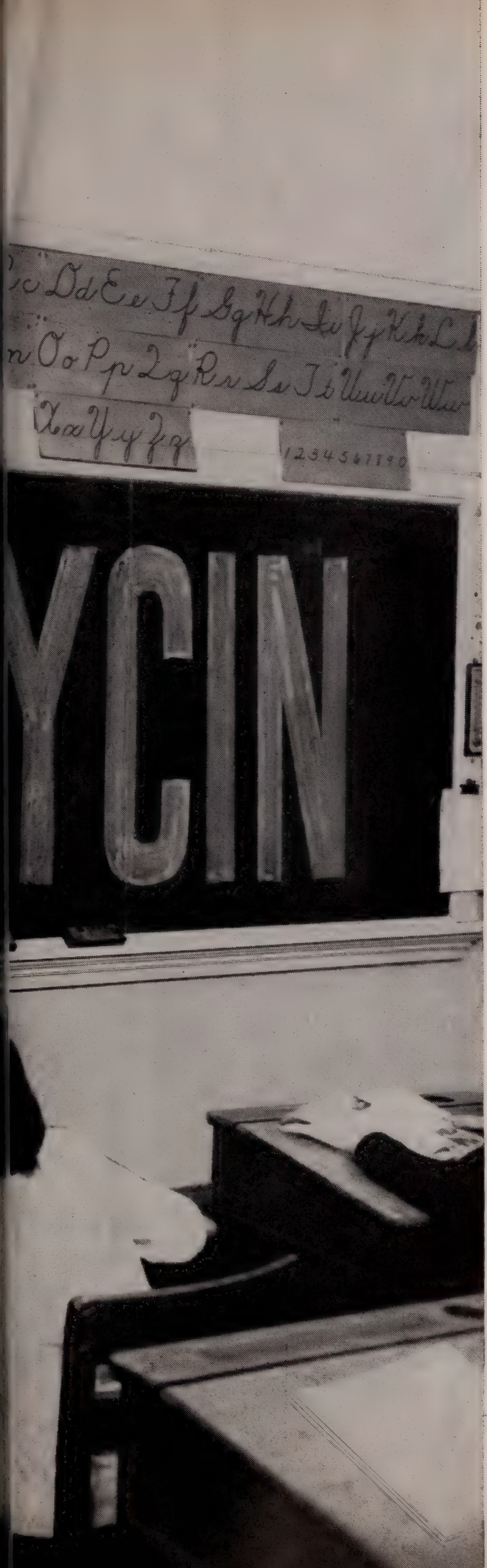

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In the treatment of

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January and his associates[1] have written on the use of tetracycline (ACHROMYCIN) to treat 118 patients having various infections, most of them respiratory, including acute pharyngitis and tonsillitis, otitis media, sinusitis, acute and chronic bronchitis, asthmatic bronchitis, bronchiectasis, bronchial pneumonia, and lobar pneumonia. Response was judged good or satisfactory in more than 84% of the total cases.

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[1] January, H. L. et al: Clinical experience with tetracycline. *Antibiotics Annual* 1954-55, p. 625.

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without adding bulk

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for adults and older children

Mild constipation or prevention:
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Initially: 1 to 2 cc. twice daily for 3 days
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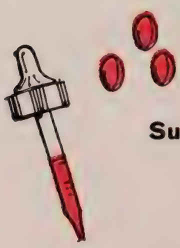

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†Antos, R. J.: A New Approach to the Treatment of Severe Constipation, Southwestern Medicine 37: 236-237 (April) 1956.

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by reducing surface tension, increases the wetting and penetrating efficiency of fluids in the colon, keeping stools soft.

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*Silbert, N. E., Ciba Clinical Symposia; 6: 86; May 1954
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Rosen, F. L., J. Med. Soc. N. J.; 51: 110: March 1954
Mueller, H. L., & Hill, L. W.: N. E. J. of Med; 249: 726, 1953

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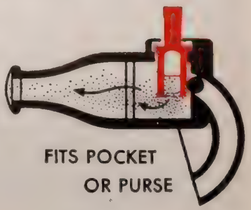

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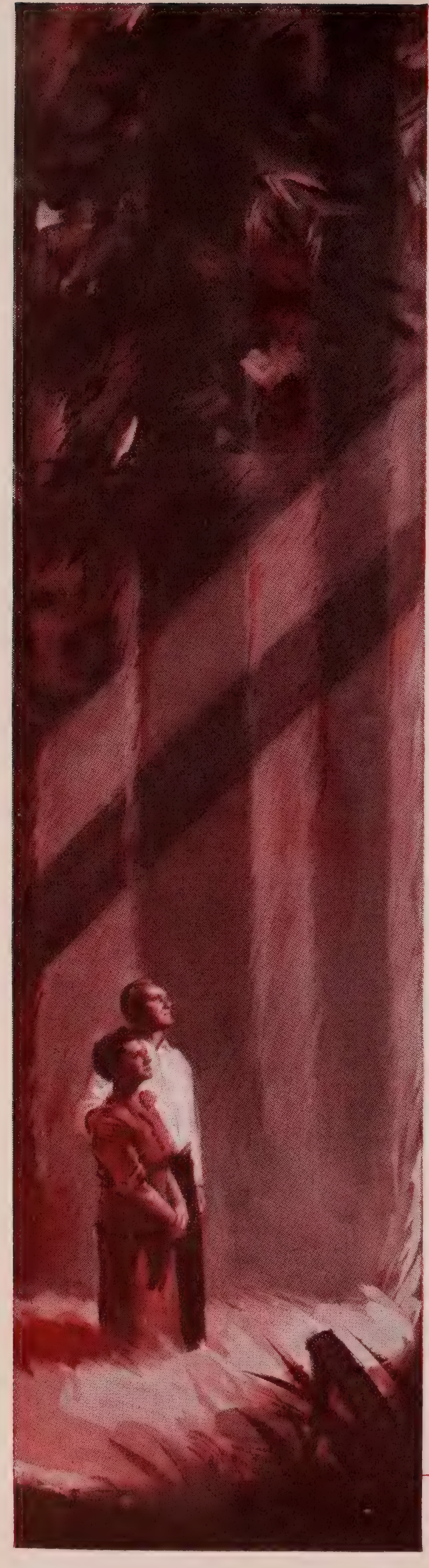

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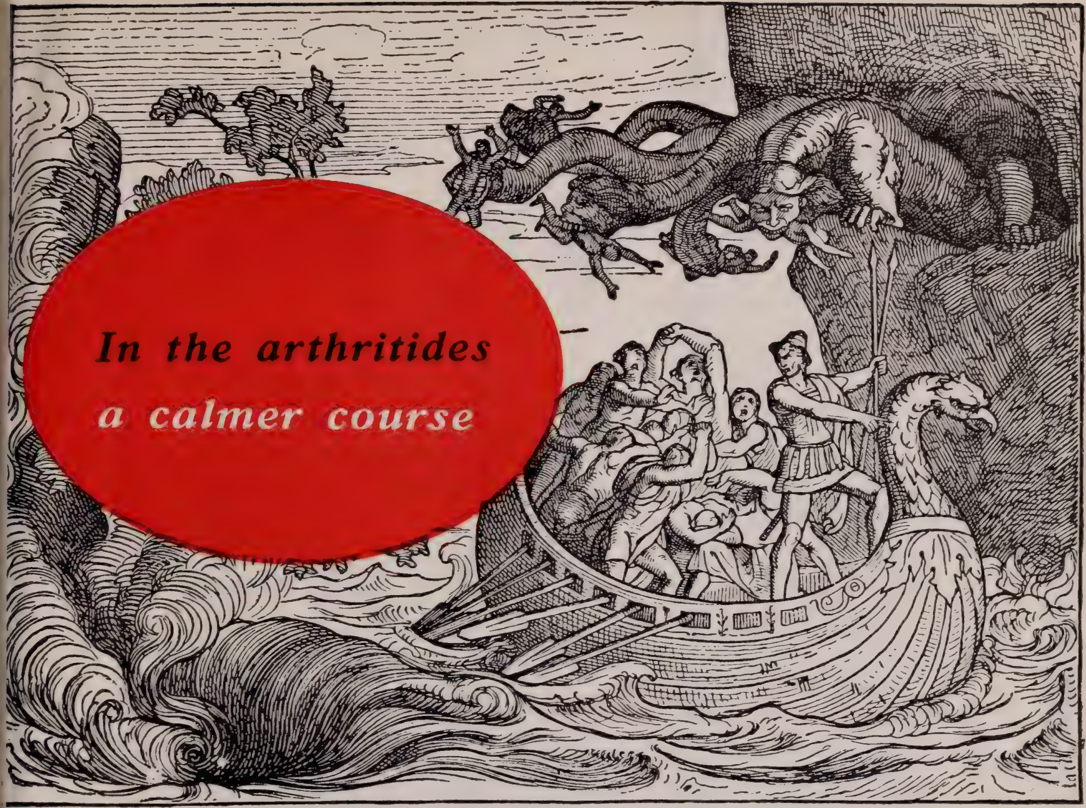

Ulysses between Scylla and Charybdis—Bettmann Archive

*between the hazards of high steroid dosage
and the frustration of inadequate relief*

Because of the complementary action of cortisone and the salicylates, Salcort produces a greater therapeutic response with lower dosage. Side effects are not encountered, and no withdrawal problems have been reported.

One study concludes: "Salicylate potentiates the greatly reduced amount of cortisone present so that its full effect is brought out without evoking undesirable side reactions."[1]

SALCORT®*

indications:

Rheumatoid arthritis . . . Rheumatoid spondylitis . . . Rheumatic fever . . . Bursitis . . . Still's Disease . . . Neuromuscular affections

each tablet contains:

Cortisone acetate	2.5 mg.
Sodium salicylate	0.3 Gm.
Aluminum hydroxide gel, dried	0.12 Gm.
Calcium ascorbate	60.0 mg.
(equivalent to 50 mg. ascorbic acid)	
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[1] *Busse, E.A.: Treatment of Rheumatoid Arthritis by a Combination of Cortisone and Salicylates. Clinical Med.* 11:*1105*

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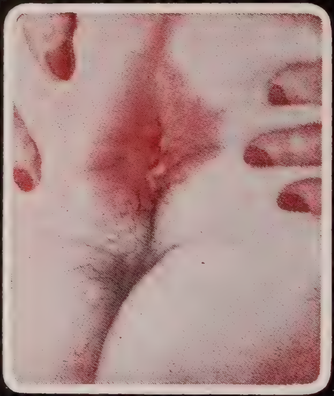
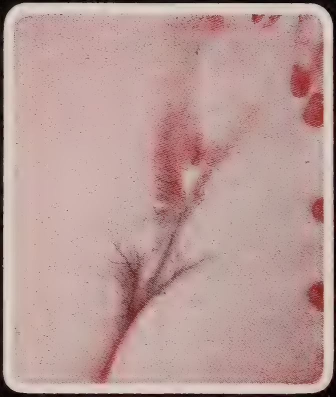


BEFORE: Female, 61 years. Severe itch in anorectal and vulval areas for 7 years. Area about rectum and vulva reddened and fissured, sensitive, painful. Itching continuous. Moderate crythema.



AFTER: Hydrolamins applied 2 or 3 times daily. Itch and pain relieved first week. Within 3 weeks no irritation, erythema or itch.

STOPS the silent agony of PRURITUS ANI in 98% of cases*

Breaking the itch-scratch-itch cycle is essential to control of pruritus ani. Topically applied Hydrolamins Amino Acid Ointment relieves itch *with anesthetic speed*—but without danger of tissue reaction.

In a series of 100 unselected sufferers from pruritus ani, the author* reported "Relief... experienced immediately in 98 cases." Moreover, in 88% of cases, "Within a few weeks' time there is every appearance of normal skin."

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*Bodkin, L.G., and Ferguson, E.A., Jr.: Successful Ointment Therapy for Pruritus Ani, Am. J. Digest. Dis. 18:59 (Feb.) 1951.

maximum efficacy with minimum risk

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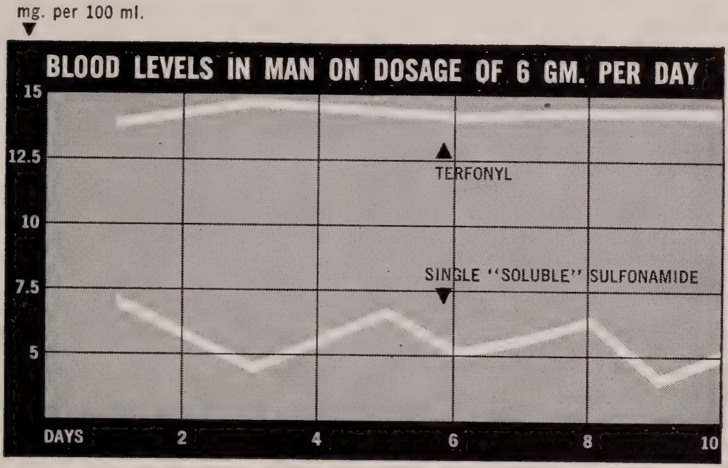

— After Lehr, D., Modern Med. 23:111 (Jan. 15) 1955.

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0.167 Gm. each of sulfamethazine, sulfadiazine and sulfamerazine per tablet or per 5 ml. teaspoonful of suspension.

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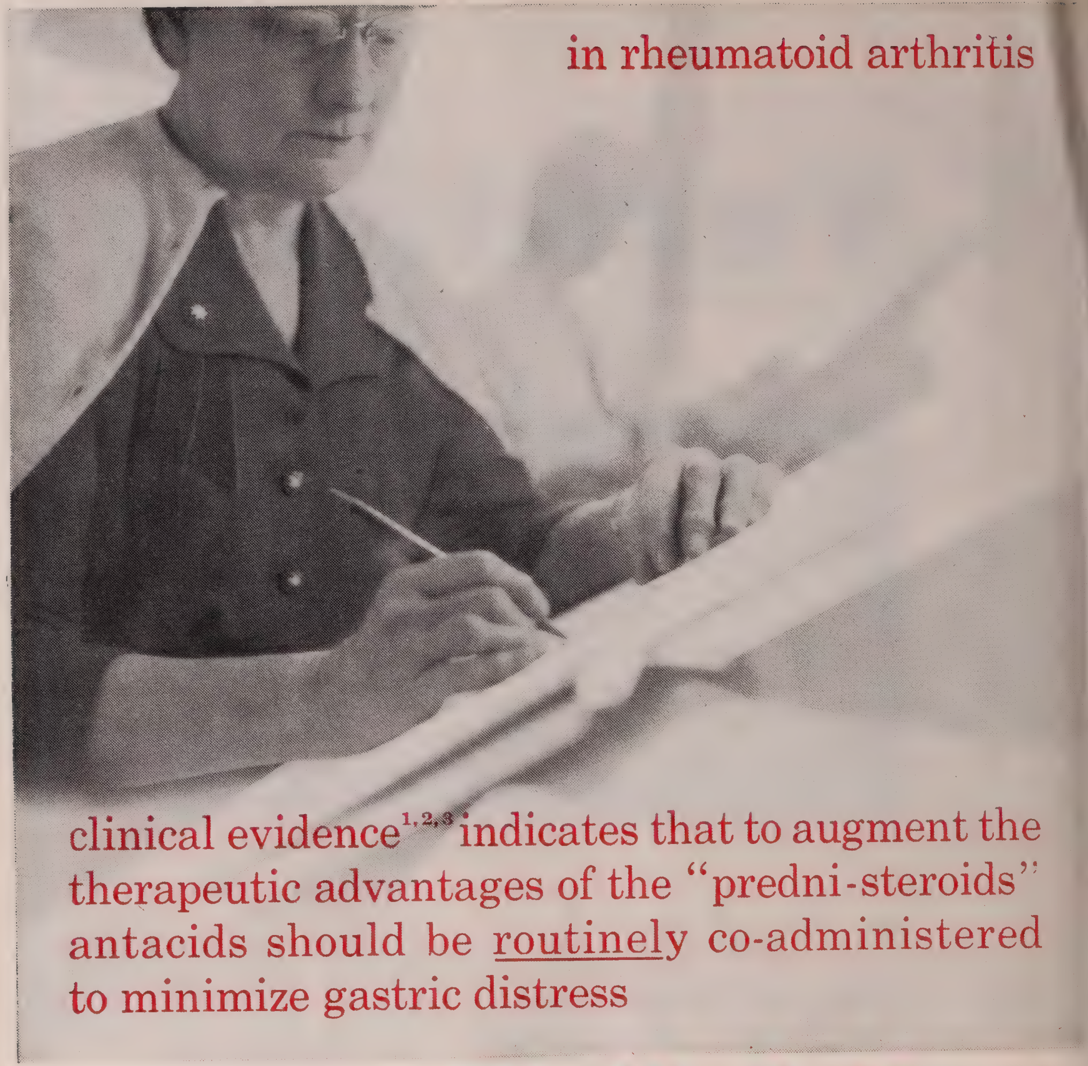

in rheumatoid arthritis

clinical evidence[1,2,3] indicates that to augment the therapeutic advantages of the "predni-steroids" antacids should be routinely co-administered to minimize gastric distress

ROUTINE CO-ADMINISTRATION MEANS

'Co-Hydeltra'

(Prednisolone Buffered)

Multiple Compressed Tablets

2.5 mg. or 5 mg. prednisone or prednisolone with 50 mg. magnesium trisilicate and 300 mg. aluminum hydroxide gel.

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(Prednisone Buffered)

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plus positive antacid action
to minimize gastric distress

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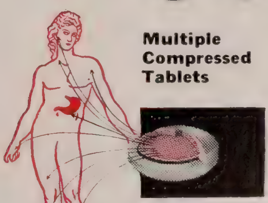
'Co-Deltra'
(Prednisone Buffered)

**Multiple
Compressed
Tablets**



'Co-Hydeltra'
(Prednisolone Buffered)

Clinical evidence[1,2,3] indicates that to augment the therapeutic advantages of prednisone and prednisolone, antacids should be *routinely* co-administered to minimize gastric distress.

References: 1. Boland, E. W., *J.A.M.A.* 160:613 (February 25) 1956. 2. Margolis, H. M. *et al., J.A.M.A.* 158:454 (June 11) 1955. 3. Bollet, A. J. *et al., J.A.M.A.* 158:459 (June 11) 1955.

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prednisone or
prednisolone with
50 mg. magnesium
trisilicate and
300 mg. aluminum
hydroxide gel.**

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BREAK THE RE-INFECTION CYCLE OF

CONJUGAL PARTNERS

IN VAGINAL TRICHOMONIASIS

VAGINAL TRICHOMONIASIS, common in women, is now recognized as a disease whose causative agent also infects the male. The number of women harboring trichomonads "...has recently been put as high as 24%."[1]

Not uncommon in husbands—Evidence shows trichomonads can be found in from 5 to 15 per cent of the male population,[2,3] or even more. Freed reported that 28.5 per cent of men in his studies were carriers.[4] In Feo's investigation, "the incidence of non-specific urethritis cases which may be attributable to *Trichomonas vaginalis* was 36.9 per cent."[5] Karnaky found the parasites in the urethra and prostate or under the prepuce in 38 among 150 husbands with infected wives.[6]

The symptomless vector—"... many patients with trichomonas vaginitis are infected and reinfected by coitus ..."[7] with husbands who may be highly infective without showing clinical symptoms.[4] Infected wives can in turn reinfect husbands.

Protection against re-infection—To break the cycle of re-infection, authorities agree that the husband should use prophylactics regularly while the wife is under treatment and until it is established that *her* infection has cleared—then until *he* is free from infection.[2,3,8,9] Karnaky advises a period of as long as four to nine months. By this time the husband's infection will usually die out of its own accord.[8] Davis states: "Obviously the man who has a chronic trichomonas infection ... will continue to reinfect his wife unless he wears a sheath during coitus."[9]

Prescription of prophylactics—Seek the aid of the husband when you treat the wife. "How The Husband Can Help," a booklet for patients, explains his role in the control of trichomoniasis. Copies are available upon request. Use this booklet to gain his cooperation, make explanations easier, save your time.

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References: 1. McEntegart, M. G.: J. Clin. Path. *5*:275 (Aug.) 1952. 2. Draper, J. W.: Internat. Rec. Med. *168*:563 (Sept.) 1955. 3. Bernstine, J. B., and Rakoff, A. E.: Vaginal Infections, Infestations and Discharges, New York, The Blakiston Co., 1953. 4. Freed, L. F.: South African M. J. *22*:223 (Mar. 27) 1948. 5. Feo, L. G.: Am. J. Trop. Med. *24*:195 (May) 1944. 6. Karnaky, K. J.: Urol. & Cutan. Rev. *42*:812 (Nov.) 1938. 7. Lanceley, F.: Brit. J. Ven. Dis. *29*:213 (Dec.) 1953. 8. Karnaky, K. J.: J.A.M.A. *155*:876 (June 26) 1954. 9. Davis, C. H. (Ed.): Gynecology and Obstetrics (revision), Hagerstown, W. F. Prior, 1955, vol. 3, chap. 7, pp. 23-33.

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[1] Cohen, B.M.; Cross, E.B., and Johnson, W.: Am. Pract. 6: 1030, 1955.

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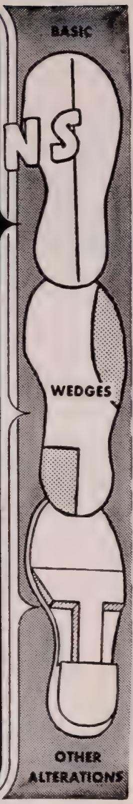

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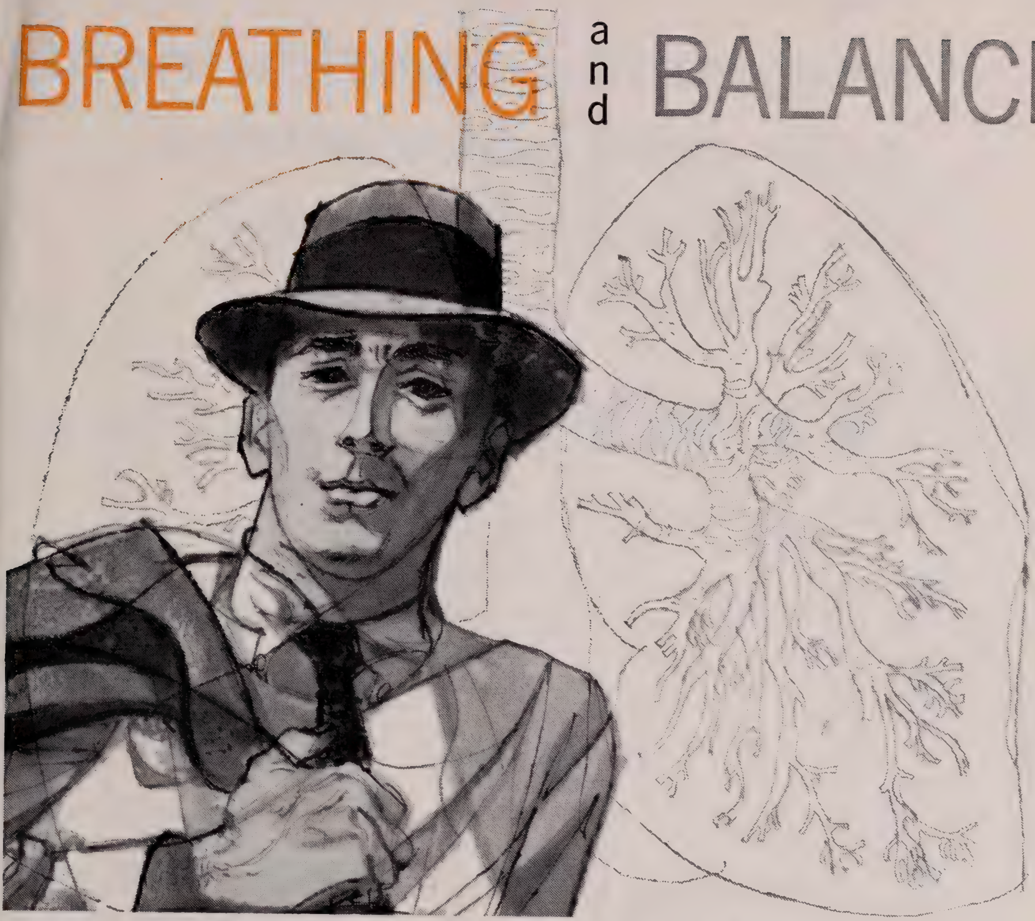

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*Schwartz, E.: New York J. Med. 56:570, 1956.

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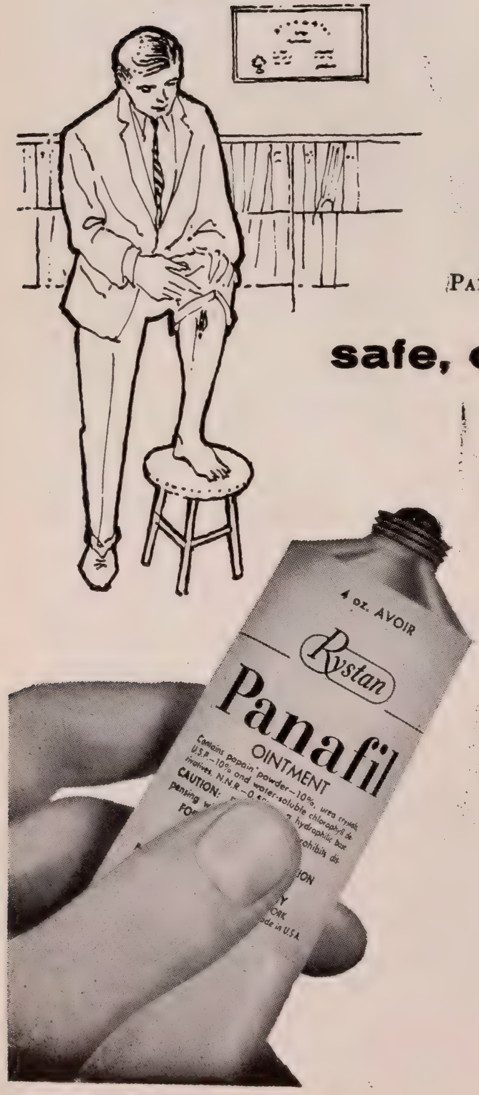
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References: 1. Miller, E.: New York State J. Med., to be published. 2. Reports to Clinical Research Division, Rystan Company.

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so I wouldn't
roll over on it."

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I was getting
too old
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down to
the ankle."

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EDITORIALS

Medicine and Public Information—Part IV

For purposes of clarity the Medical Society of the State of New York outlines the following principles to guide physicians who appear on TV or radio programs:[1]

(*a*) Doctors of medicine are expected to refrain from sponsoring products directly or by implication that are not accepted by the medical profession, i.e., patent medicines.

(*b*) When introduced as a doctor, such individual cannot escape the implication of representing the medical profession, and his conduct should be in keeping with the high standards of the profession.

(*c*) Sound judgment, good common sense, and adherence to the *Principles of Professional Conduct* are expected of any physician when appearing on radio or television in whatsoever capacity. It is the responsibility of the county society Board of Censors to discipline its own members who violate these fundamental qualities.

We live in times when means of communication have vastly improved, particularly with regard to speed and variety: newspapers, magazines, radio, and television. Interest in medical progress continues to be paramount, and executives of these media of public information whose concern it is to disseminate news are more and more turning to the doctors as authoritative sources. This is quite proper, but it places the doctor in an unaccustomed spot. His professional education and experience have not particularly equipped him to cope with a situation in which he must cooperate with media of publicity. Until recently he has not known what to do about it. And his instinctive reaction is to "clam up," to use the vernacular.

Now, his professional societies have recognized his predicament and have come to his assistance with an unusually clear, short pamphlet, the "Guide for Cooperation," from which we have reprinted above certain principles to be followed. The need for authoritative medical news sources is recognized in this pamphlet which we advise all physicians to study carefully. It may be obtained from the Bureau of Public and Professional Relations of the Medical Society of the State of New York, 386 Fourth Avenue, New York 16, New York.

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[1] Guide for Cooperation, Public Relations Committee, Medical Society State of New York, p. 3, paragraph 8.

Ciliocytophthoria

It is the privilege of the editors of the Journal to present in this issue, on page 2647, some recent observations by Dr. George N. Papanicolaou in sputum smears of "a mass degeneration and destruction of the ciliated cells of the bronchial mucosa." Observation of changes of a similar nature seem to open a new approach to the investigation of problems related to infections and other pathologic conditions of the lung.

This study was aided by a grant from the American Cancer Society, Inc., and funds from the same source have permitted the preparation and publication herewith of four color engravings illustrating the salient characteristics of the pathology observed. Dr. Papanicolaou states that the manifold morphologic and clinical aspects of this phenomenon and its relationship to cancer of the lung are now the subject of a more intensive study.

We call the particular attention of our readers to this article by a distinguished author as offering a possible cytologic criterion in the diagnosis of diseases of the lung.

State-wide Campaign of Professional and Lay Education

The Council Committee on Public Health and Education of the Medical Society of the State of New York, through its Subcommittee on Geriatrics, is joining forces with the New York State Department of Health in a new and ambitious program devoted to chronic disease in the aged. It is planned to make these campaigns an annual event, concentrated each year on one specific condition which commonly affects older people. For 1956–1957 the topic will be "The Diagnosis and Management of Hemiplegia in the Elderly."

The objectives may be stated as follows:

1. To disseminate modern viewpoints on the management of chronic disease of the aged to the medical profession.
2. To foster more active programs aimed at chronic illness.
3. To stimulate research on the problems of chronic disease.
4. To acquaint professional nurses and social workers with new technics in this field.
5. To improve public understanding of these problems.

The cooperation of the New York State Nurses Association and the New York State Welfare Conference, as well as the Woman's Auxiliary of the State Society, has already been assured. The educational programs for physicians will be highlighted by postgraduate teaching sessions in medical schools and county medical societies, local academies of medicine and general practice, and by the distribution of a reprint on the management of hemiplegia by Dr. Howard Rusk, as well as by special papers to be published in the NEW YORK STATE JOURNAL OF MEDICINE.

Postgraduate education for nurses and social workers will consist of special articles in selected journals of nursing and of social work, by teaching sessions on hemiplegia in schools of nursing, and by conferences of medical consultants with social workers and county public health nurses.

Education of the public on hemiplegia will be effected through selected articles in the lay press and the use of other media of mass communication, distribution of a popular pamphlet on "strokes," as well as by special programs for nursing home proprietors.

A film, "Still Going Places," devoted to the active management of disability in the aged, will be available for showing to professional groups. A special lay version of this film will be ready in the fall through the film library of Charles Pfizer and Company.

The planners of this far-reaching program are to be congratulated on their courage and imagination. Their efforts are praiseworthy because they will involve the physician in relation to the entire community. Success will depend on the wholehearted cooperation of every member of the State Society under the leadership of their county society officers. At long last, forces are being mobilized that will actually do something about the problems of chronic illness, particularly as they affect our older patients. The pressing situation demands action rather than conversation.—F. D. Z.

Editorial Comment

Graduates of Foreign Medical Schools. At its last meeting in Chicago, the American Medical Association clarified somewhat the status of graduates of foreign medical schools.

The House of Delegates approved in principle a program for the evaluation of graduates of foreign medical schools seeking hospital positions in the United States. The proposed program was developed by the

Cooperating Committee on Graduates of Foreign Medical Schools, representing the A.M.A. Council on Medical Education and Hospitals, American Hospital Association, Association of American Medical Colleges, and Federation of State Medical Boards of the United States.

The following principles were emphasized by the Council on Medical Education and Hospitals in its report recommending A.M.A. participation in the program:

1. Although the responsibility to share educational opportunities in medicine is recognized, the primary concern must be for the health care of the American public. Thus, before assuming responsibility for the care of patients as interns or residents, all graduates of foreign medical schools (immigrants, exchange students, and American graduates of foreign medical schools) should give evidence, as nearly as can be measured, of having reached a level of educational attainment comparable to that of students in American schools at the time of graduation.

2. The primary objective of this Committee is to devise an effective mechanism for measuring educational attainment in the absence of intimate and continuing knowledge of the educational background of foreign-trained physicians. This mechanism should provide hospitals with pertinent information regarding the medical qualifications of foreign-trained physicians seeking positions as interns or residents. It should not interfere with the hospital's privilege of making its own selection among qualified physicians, nor should it serve as a substitute for or interfere with the normal licensure procedures of the various state boards.

3. It is intended that this mechanism be applicable to those foreign medical school graduates in this country as temporary students participating in programs of medical and related studies in recognized universities, medical schools, and postgraduate schools, who by the very nature of their study are not involved in the responsibility of patient care.

The proposed plan calls for establishment of a central administrative organization to evaluate the medical credentials of foreign-trained physicians desiring to serve as interns or residents in American hospitals. Basic requirements would include satisfactory evidence of at least eighteen years of total formal education, including a minimum of thirty-two months in medicine exclusive of any time which in this country would be considered as premedical study or internship. Applicants with satisfactory credentials then would take a screening examination to determine their medical knowledge and their facility with the English language. Successful applicants would be certified to hospitals and other interested organizations, with the approval of the foreign-trained physician concerned.

District Branch Meetings

PROGRAMS

for Third and Sixth District Branches on page 2717

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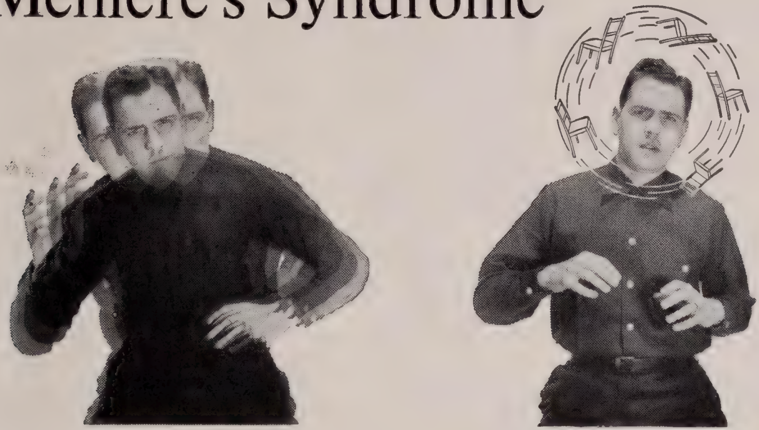
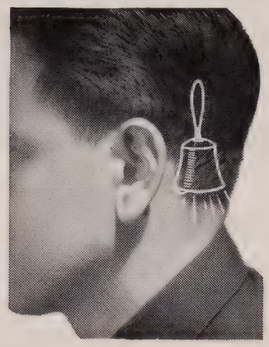
Notes on the Diagnosis and Management of "Dizziness"

Ménière's Syndrome



1. Paroxysmal Whirling Vertigo. *This consists of sudden attacks of dizziness, often when the patient is at rest or asleep. The patient may feel that he himself is whirling or that fixed objects about him are whirling. The attack usually lasts for a few minutes; occasionally it is severe for weeks or subacute for months.*

2. Subtotal Hearing Loss. *Deafness will usually affect the high tones and it may be unilateral or bilateral. Sometimes the hearing loss is severe and also progressive.*



3. Tinnitus. *This is usually unilateral and present in the ear with greater hearing loss and is without a definite pattern.*

Fewer diagnostic errors[1] will result if a "triad of symptoms" is required of patients with suspected Ménière's syndrome. These are the symptoms of typical Ménière's syndrome:

1. Severe paroxysmal vertigo which may be of two types; either the patient feels that he is whirling or that objects about him are whirling.
2. Fluctuating subtotal hearing loss, usually affecting the higher tones, is noted at the same time as vertigo.
3. Tinnitus, usually unilateral, is associated with the deafness and dizziness.

With Ménière's syndrome there is no definite localization[2] by the Bárány (vestibular reaction) test and results of the caloric test are not diagnostic. Physical examination should rule out disease of the central nervous or cardiovascular systems before a diagnosis is made.

"Treatment with Dramamine®. . . is effective[3] in aborting and preventing attacks of Ménière's syndrome . . . will prevent or arrest attacks of vertigo. It will also reduce the intensity of the tinnitus and so may save some of the hearing in the affected ear."

Dramamine is recommended for Ménière's syndrome as the sole therapy or in combination with other treatment programs.

It is a therapeutic standard also for motion sickness and is useful for relief of nausea and vomiting of radiation sickness and fenestration procedures.

Dramamine (brand of dimenhydrinate) is supplied in tablets (50 mg.); Supposicones® (100 mg.); ampuls (250 mg.); liquid (12.5 mg. in each 4 cc.). G. D. Searle & Co., Research in the Service of Medicine.

---

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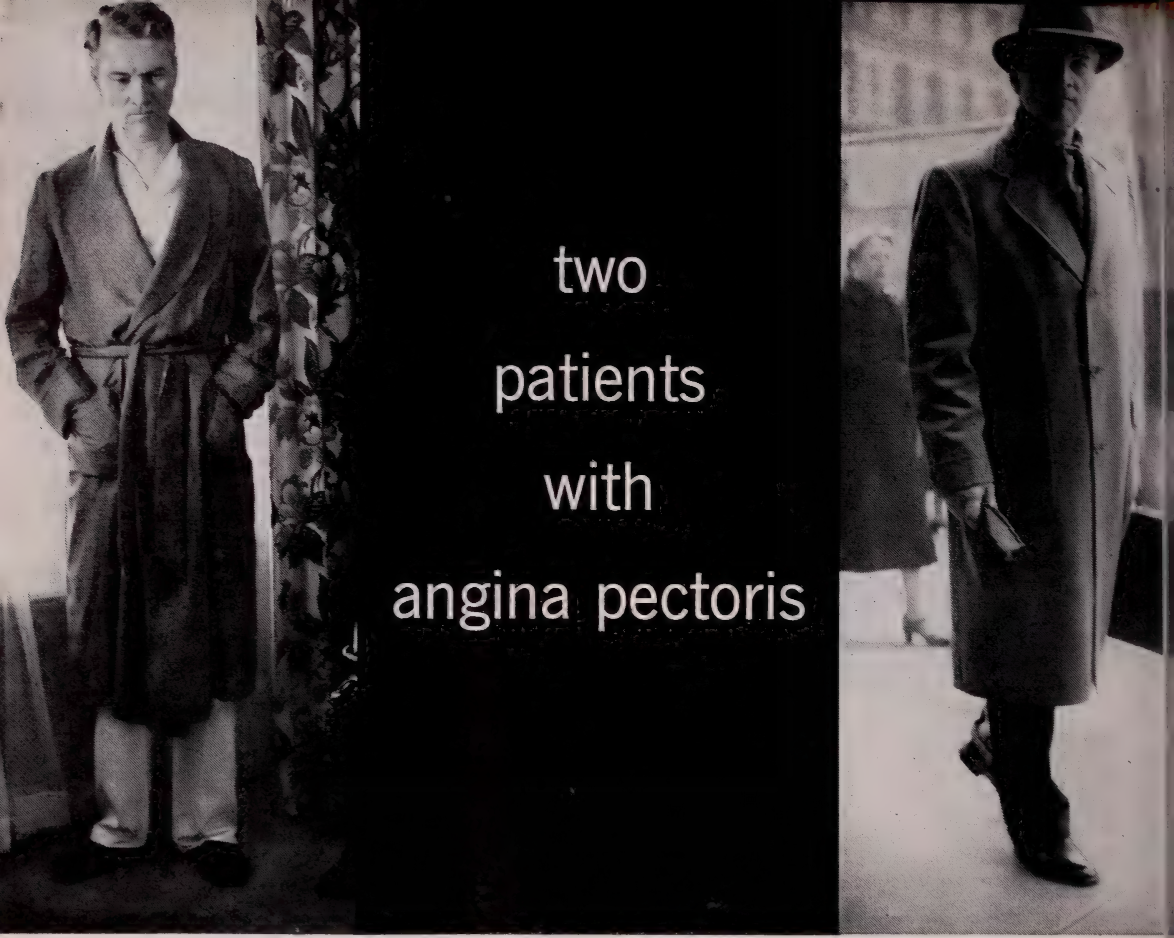

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SCIENTIFIC ARTICLES

Degenerative Changes in Ciliated Cells Exfoliating from the Bronchial Epithelium as a Cytologic Criterion in the Diagnosis of Diseases of the Lung

GEORGE N. PAPANICOLAOU, M.D., NEW YORK CITY

(From the Papanicolaou Research Laboratory Department of Anatomy, Cornell University Medical College)

It was in 1948 that my attention was first called to the presence, in a sputum specimen smear, of a number of small ciliated tufts which appeared to be broken-off anucleated tips of ciliated cells of the bronchial epithelium (Plate 1:1,2). A subsequent search for similar structures in sputum specimens routinely sent to our laboratory for a cytologic diagnosis showed them to be present in many specimens from patients suffering from acute and chronic inflammatory conditions of the lung. The relatively uniform symptomatology in these cases pointed to a close relationship between the presence of these odd looking structures in the sputum smears and the clinical syndrome of the disease.

The impression gathered from these observations was that of a mass degeneration and destruction of the ciliated cells of the bronchial mucosa ("ciliocytophthoria"*). Such an extensive damage would tend to deplete the ciliated components of the bronchial epithelium and, by impairing their functional role of eliminating efficiently the bronchial discharge, cause a functional disturbance culminating in the appearance of a characteristic symptomatologic pattern.

A more meticulous microscopic exploration of smears positive for "ciliocytophthoria" (CCP) at a high magnification, mostly under oil immersion, revealed the presence of several other atypical forms of ciliated cells or of fragments of such cells indicative of a degenerative change. In some instances the pinching off of tufts from the distal portion of ciliated cells could be clearly visualized (Plate 1:3–6). The nucleated basal fragments of cells deprived of their distal ciliated portion could be recognized in the smears as small, rounded cells resembling undifferentiated reserve cells of the bronchial epithelium (Plate 1:7,8). Some ciliated cells exhibited a characteristic pattern of nuclear degeneration consisting in the concentration of the chromatin into a number of dense, deeply stained clumps arranged peripherally along the inner surface of the nuclear membrane (Plate 1:9–14). Other cells showed more advanced necrosis, as indicated by the fading or total resorption of the nuclei (Plate 1:15,16). Necrotic cells and the detritus resulting from their disintegration were phagocytosed by polymorphonuclears and histiocytes which as a rule were numerous in all CCP-positive smears (Plate 1:17,18 and 25,26).

In many of the degenerating cells the cytoplasm contained round acidophilic inclusions of various sizes, ranging from a small granule to a relatively large globule (Plate 1:4,10–16, and 19–22). Such inclusion bodies were also noted within the nucleus, sometimes in direct contact with the clumps of chromatin (Plate 1:19–21). In some necrotic cells the whole nucleus was totally replaced by a large acidophilic body (Plate 1:23,24). The nature and significance of these acidophilic inclusions is not clear. In some instances their pattern within the cytoplasm and the nucleus

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Aided by a grant from the American Cancer Society.

* Phthora (φθορά) meaning destruction.

resembled that described in various cell types as resulting from virus activity, while in others it gave the impression of a degenerative change, as seen in exfoliated cells from other organs.

Degenerative changes similar to those described here in ciliated cells exfoliated from the bronchial epithelium have been previously observed in the ciliated cells of the nasopharyngeal mucosa. Hilding[1–3] has given an excellent description of the epithelium of the mucous membrane of the nasopharynx on the basis of scrapings and biopsies performed on normal controls and on patients suffering from the common cold. He noted that in such patients there were extensive degenerative and necrotic changes in the early stages of the disease, resulting in the disintegration and sloughing off of the epithelial cells of the mucosa. He also described and illustrated the process of formation of the anucleated tufts through the constriction and severance of the distal portion of the ciliated cells. The end of the acute symptoms was marked by an extensive regeneration process of the epithelium.

It is to the painstaking work of William and Marian Bryan[4–6] that we owe a more precise description of the many characteristic cell forms of degenerated ciliated cells exfoliating from the nasopharyngeal mucosa, as seen in smears prepared from the nasal discharge of persons afflicted with acute infections of the upper respiratory tract. According to these investigators the pattern of the structural changes exhibited by these markedly atypical cells exfoliating from the epithelium of the nasopharynx during acute upper respiratory infections is characteristic of virus etiology. The cytologic examination of nasal discharge was found by them to be a simple, reliable laboratory test for the diagnosis of the common cold and its differentiation from allergic and radiation reactions and other pathologic conditions, such as subacute and chronic sinus infections.

The observation of changes of a similar nature in cells exfoliating from the bronchial epithelium, as herein reported, opens a new approach to the investigation of problems related to infections and other pathologic conditions of the lung.* An analysis of our cases* shows, as already stated, a close correlation between this phenomenon of a mass destruction of ciliated cells and the clinical picture of certain pulmonary infections. This correlation was more clearly indicated in the acute cases in which the smears prepared from specimens of sputum generally contained numerous degenerating and disintegrating forms of ciliated cells. Some of the usual clinical symptoms prevailing in these cases were cough, sometimes violent, mostly productive; purulent or bloody sputum; dyspnea; breathlessness; chest pain (more frequently on the right side); wheezing; rales, and fever. In most instances the clinical diagnosis has been virus or pneumococcic pneumonia or pneumonitis, bronchitis, asthmatic bronchitis or bronchial asthma, virus influenza, pulmonary emphysema, or bronchiectasis.

In cases in which the infection has assumed a chronic course, symptoms such as cough or hemoptysis showed a tendency to persist over a long period of time. Recurrences of acute attacks have also been observed. During the periods of symptomatic improvement there has been as a rule an abatement in the exfoliation of atypical ciliated cell forms.

A point of particular interest is the relatively high incidence of carcinoma of the lung noted in CCP-positive cases, especially in those with chronic symptoms. A preliminary tabulation of 150 cases, in which the presence of CCP was established by the cytologic examination of sputum specimens, showed that 18 (12 per cent)† were proved to harbor a bronchogenic carcinoma.

Plate 1. Explanation of photomicrographs: (*1, 2*) Anucleated fragments of ciliated cells ("tufts"). (*3–6*) Degenerated ciliated cells showing pinching off of tufts. (*7, 8*) Basal remnants of fragmented ciliated cells. (*9–14*) Necrotic ciliated cells showing a characteristic pattern of nuclear degeneration. Some of the cells contain acidophilic inclusions.

(*15, 16*) Necrotic anucleated ciliated cells with acidophilic inclusions. (*17, 18*) Basal remnants of fragmented ciliated cells engulfed by a histiocyte (*17*) and a polymorphonuclear (*18*). (*19–22*) Degenerated ciliated cells with pyknotic nuclei and acidophilic inclusions, some intranuclear (*19–21*). (*23, 24*) Necrotic ciliated cells with a pale acidophilic nucleus. (*25, 26*) Cells interpreted as histiocytes (dust cells) which have phagocytosed necrotic ciliated cells, as indicated by the protruding cilia. Note the dust particles which reveal the type of the cells. (*27–29*) Cells interpreted as malignant. (*30*) Cells interpreted as metaplastic.

(Color plate provided through the courtesy of American Cancer Society division of New York State.)

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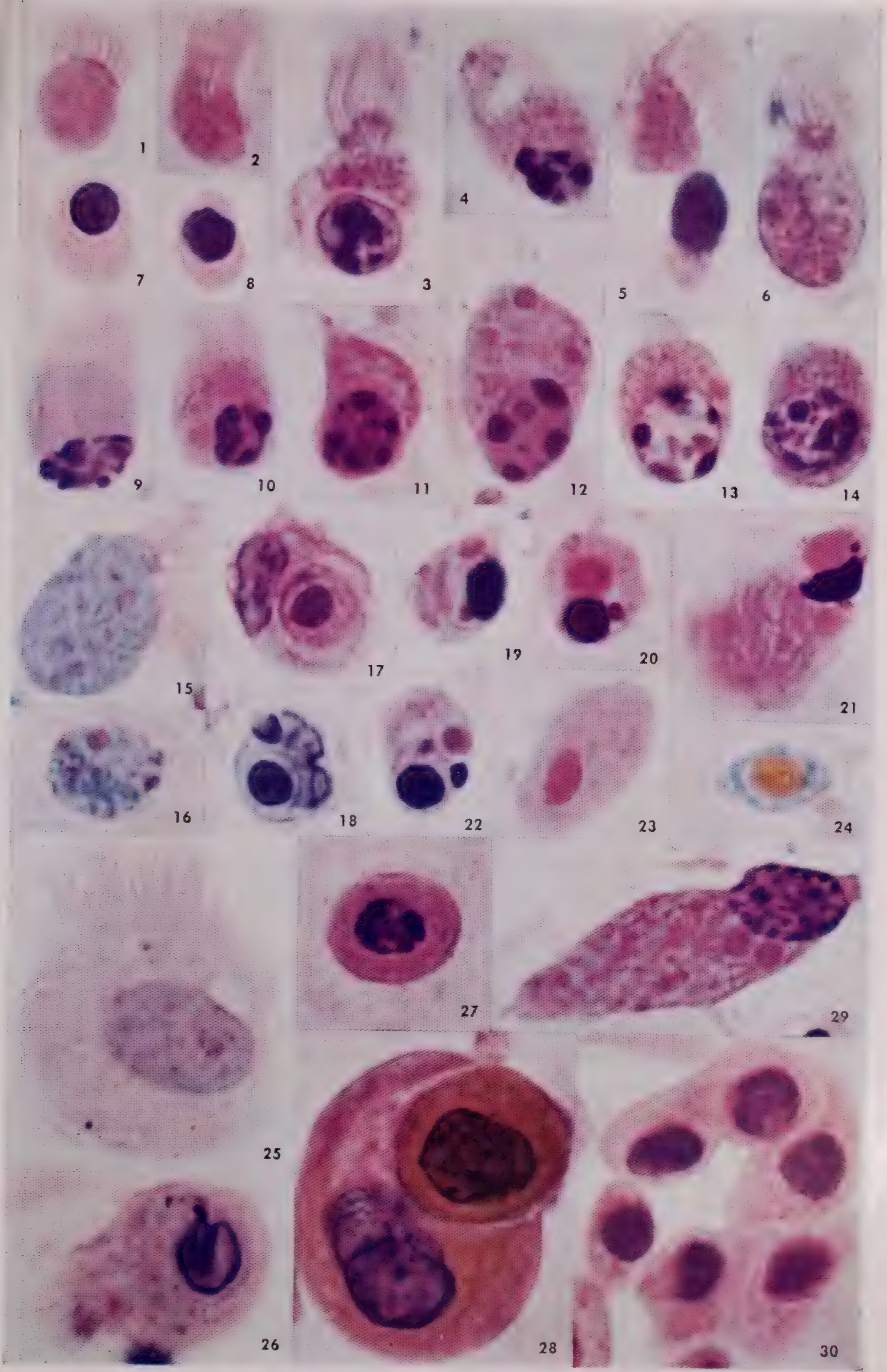
* A degenerative pattern similar to the one described in this paper was also observed in a number of ciliated cells found in endocervical smears. The characteristic nuclear pattern, illustrated in Plate 1: 9–14, and the pink cytoplasmic inclusions were likewise noted in exfoliated epithelial cells seen in breast secretion and urine sediment smears. Because of the relatively small number of cases in which these changes have been observed in organs other than the lung, no definite conclusions as to their significance can be drawn as yet.

* Thus far, a total of approximately 300 cases with positive CCP were observed.

† In 110 men the incidence was 15 (13.63 per cent), in 40 women three (7.5 per cent).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This figure, although based on a relatively small number of cases, appears to be significant since it is twice as high as that calculated in 500 consecutive cases with sputum or bronchial washing specimens referred to our Cytology Laboratory at Cornell University Medical College for a routine cytologic examination because of an obscure clinical picture. The average number of proved cancer cases in this group was approximately 6 per cent.

Among the CCP-positive cases in which the presence of cancer of the lung was proved, two were very early, as indicated by the pathologic diagnosis of carcinoma in situ. In the smears prepared from the sputum specimens of these cases, in addition to cells characteristic of CCP, there were also cells suggestive of a malignant lesion (Plate 1:27–29). In one of the two cases, which was reported in 1950,[7] the presence of CCP cells was verified at a subsequent review of the smears. In both instances there has been cytologic evidence of squamous metaplasia (Plate 1:30). Small and large metaplastic cells were also noted in several other CCP cases, both nonmalignant and malignant.

In a recent case, not included in the abovementioned preliminary tabulation, in which CCP cells were found in smears prepared from a nasopharyngeal washing, a subsequent biopsy showed the presence of a carcinoma of the antrum. CCP cells were also found in a sputum specimen from this patient.

These observations, if corroborated by more conclusive data, may afford evidence of a hitherto unsuspected factor contributory to the development of pulmonary cancer, the incidence of which has shown a notable increase in the past few years. It is conceivable that the marked deterioration of the ciliated elements of the bronchial epithelium and the ensuing impairment of their functional activity added to the intrabronchial irritation caused by a protracted chronic inflammatory process may pave the way for the development of a malignant neoplasm. The view that a chronic pulmonary infection may predispose to cancer finds some support in a recent statement by Case and Lea[8] that deaths due to cancer of the lung among 1,421 World War I pensioners who were known to have bronchitis at the time they were pensioned were twice the rate of the general population.

Summary and Conclusions

The conclusions to be drawn from the observations described in this preliminary report may be summarized as follows:

1. A distinct cytologic pattern reflecting an extensive degeneration and mass destruction of ciliated cells of the bronchial epithelium can be recognized in smears prepared from sputum specimens in cases of certain acute and chronic inflammatory conditions of the lung.

2. The cytologic examination of smears may prove valuable for the diagnosis of pulmonary infections belonging to this special group as well as for a study of their etiology and the relative value of various modes of therapy.

3. In a relatively high percentage of CCP-positive cases (12 out of 100) the presence of a bronchogenic carcinoma was established by clinical and pathologic findings.

The manifold morphologic and clinical aspects of this phenomenon and its relationship to cancer of the lung are now the subject of a more intensive study.

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District Branch Meetings

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Ulcerative Colitis as Affected by Pregnancy

BURRILL B. CROHN, M.D., HARRY YARNIS, M.D., ROBERT I. WALTER, M.D., AND LESTER J. GABRILOVE, M.D., NEW YORK CITY, AND EDWARD B. CROHN, M.D.,* KENT, CONNECTICUT

(*From the Departments of Medicine and Gynecology and Obstetrics of the Mount Sinai Hospital, New York City*)

LONG years of clinical experience have led us to infer that ulcerative colitis and pregnancy are poor concomitants. The course of an inactive colitis is often seriously activated by the occurrence of pregnancy. The health—at times, the lives—of patients suffering from active colitis may be seriously compromised by pregnancy. Colitis as a complication in a gravid woman, either during the gravidity or as a postpartum manifestation, implies a serious illness. These have been our impressions. In order to substantiate these clinical observations and to base them more firmly on a statistical, scientific basis, we have undertaken an analysis of the clinical data at our disposal. Published medical literature to date substantiates to a great degree this clinical impression. Bargen[1] observed 18 deliveries, four of which were miscarriages, but noted an aggravation of the course of the ulcerative colitis in only five of these cases. Twelve years later a similar group of authors from the Mayo Clinic[2] still deprecated the idea that pregnancy was an unfavorable factor in colitis but now took note of six cases in which the colitis appeared *de novo* during pregnancy. Kirsner and Palmer[3] in 1948 found serious aggravation of the course of the disease in nine out of 16 pregnancies.

The most significant paper on this subject was published in 1951 by Abramson, Jankelson, and Milner.[4] The number of cases in their series was larger; they were closely observed and scientifically grouped into categories. Twenty-four of 37 gestations occurring during ulcerative colitis showed a severe exacerbation of the disease during or after the conclusion of the pregnancy; in four of these cases the course was fatal.

A review of the reported literature, undertaken in 1952 by Machella[5] and in 1953 by Foster and Cohen,[6] reveals a serious exacerbation of the course of ulcerative colitis in 47 to 50 per cent of the pregnant cases. The most recent review of the subject by Zetzel[7] in 1954, while confirming the stormy course of colitis complicated by pregnancy, makes the important observations that the pregnancy itself is little affected, that the fetus is viable and a normal child is born, and that the incidence of spontaneous abortion and premature delivery is no greater than in a control group of normal gravidities.

TABLE I.—RESULTS IN 150 PREGNANCIES

	Cases	Pregnancies	Results Good	Results Poor
Group I—Previous colitis, quiescent at time of pregnancy	47	74	32 (44%)	40 (56%)
Group II—Colitis active at conception	25	38	9 (24%)	29 (76%)
Group III—Onset during pregnancy	19	19	(24%)	(76%)
Group IV—Onset postpartum	19	19	. . .	19 (100%)
Total	110	150		

Present Study

This study is based on 150 pregnancies in 110 women, these patients having had either active or inactive colitis at the time of conception or, in the minority, the ulcerative colitis having occurred initially during the course of the pregnancy or as a postpartum manifestation (Table I). These were all private patients, most of them observed during the child-bearing periods in which accurate observations and follow-up were continuously available. In grouping these cases for study we have accepted the excellent classification adopted by Abramson, Jankelson, and Milner[4] as the most satisfactory and have arranged the material in four categories:

Group I—Colitis quiescent at time of conception.

Group II—Colitis in an active phase at time of conception.

Group III—Onset of ulcerative colitis during course of pregnancy.

Group IV—Onset of colitis postpartum.

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* By invitation.

Presented at the 150th Annual Meeting of the Medical Society of the State of New York, New York City, Section on Gastroenterology and Proctology, May 10, 1956.

TABLE II.—GROUP I CASES, PREVIOUS ULCERATIVE COLITIS QUIESCENT AT TIME OF PREGNANCY

	Number
Total patients*	47
Total pregnancies	74
Children born before onset of chronic ulcerative colitis	7
Results	
Uneventful, favorable pregnancies	32 (43.2%)
Recurrences during pregnancy	31 (40%)
Recurrences postpartum or postabortion	9 (12%)
Not stated	2
Total	74
Recurrences by trimesters	
First	20
Second	7
Third	4
Recurrences postpartum	9
2 months	1 mild
4 months	1 mild
3 months	1 mild
$3^1/_2$ weeks	1 prolonged
3 weeks	2 prolonged
6 weeks	2 prolonged
Not stated	1
Spontaneous abortions	6
Third month	2
Fourth month	2
Not stated	2
Abdominal hysterotomy (fifth month)	1
Cesarean sections (eighth month)	2
Therapeutic abortions	5

* Age range 17 to 39 years, average 27.1 years.

TABLE III.—GROUP II, COLITIS ACTIVE AT CONCEPTION

	Number
Total patients*	25
Total pregnancies	38
Children born before onset of chronic ulcerative colitis	7
Severity of colitis at time of pregnancy	
Mild	14
Severe	15
Moderate	2
Not stated	7
Result	
Good, uneventful	9†
Poor, exacerbation	29
Total	38
Time of exacerbation	
First trimester	12
Second trimester	2
Third trimester	2
Total	16
Postpartum recrudescences	
3 weeks	2
4 weeks	5
4 months	1
6 months	2
Total	10
Cesarean	1
Stillbirth	2
Early spontaneous abortion	1
Therapeutic abortion	1
Late spontaneous abortion	3
Eclampsia	1

* Age range 22 to 28 years, average 27 years.
† 1 case postileostomy.

GROUP I: COLITIS QUIESCENT AT TIME OF CONCEPTION.—This group comprises 74 pregnancies in 47 women who had had ulcerative colitis; at the time of conception the course of the disease was inactive or completely quiescent (Table II). In 40 of the 74 pregnancies (54 per cent) the ulcerative colitis became reactivated, either during the course of the pregnancy or in the postpartum period.

The first trimester is the period of greatest incidence of recurrence; the postpartum period constitutes the next most frequent time for recrudescence, particularly the first two to six weeks but at times as long as eight to sixteen weeks after the delivery. The postpartum recurrences are marked by excessive and prolonged severity. Only 32 women (43 per cent) of Group I had a normal pregnancy and delivery without a recrudescence of the disease.

Among the 40 pregnant women who suffered a recurrence of the disease during pregnancy, there were six spontaneous abortions, five therapeutic abortions, one stillbirth, and three cesarean sections. Six spontaneous abortions in the early months out of 40 cases is unusually high. Following therapeutic abortion the disease subsided quickly. Premature, induced delivery in the later months was often carried out because of the gravity of the clinical intestinal picture and was usually followed by a continued severe and protracted illness.

GROUP II: COLITIS ACTIVE AT CONCEPTION.—This group comprises 38 pregnancies in 25 patients who at the time of conception had evidence of active colitis (Table III). About half of these women were only mildly ill at the moment of conception, but the other half were conscious bearers of moderate or severe colitis. In 29 of these 38 pregnancies (76.3 per cent) the course of the disease was materially worsened, particularly in the first trimester. In ten of these women the course of the disease was little altered by the presence of gravidity, but within three or four weeks of the postpartum period the symptoms of colitis flared into serious activity.

In nine of the 38 pregnancies (23.7 per cent) the course of the disease was not altered for the worse; in fact, in some the gain in weight and the happy well-being of the patient resulted in an amelioration of the symptoms.

Group II constitutes the crux of the problem since in 76.3 per cent of the pregnancies the course of the colitis was definitely worsened. Again the first trimester stands out significantly as the most sinister time factor.

GROUP III: ONSET OF ULCERATIVE COLITIS DURING PREGNANCY.—In 19 women who constitute this group, colitis occurred for the first

TABLE IV.—Group III, Onset of Colitis During Pregnancy

	Number
Total patients	19
Total pregnancies	19
Children born before onset of chronic ulcerative colitis or present pregnancy	16
Onset	
First trimester	10
Second trimester	3
Third trimester	5
Not stated	1
Severity	
Mild	6
Severe	13
Cesarean	2
Miscarriage seventh month	1
Therapeutic abortion	1
Episiotomy	1
Stillbirth	1
Follow-up of cases	
Mild course	3
Moderately severe course	2
Severe, prolonged course	9
Fatal	1
Postpartum psychosis	1
Well after birth	1

time as a complication of the pregnancy (Table IV). Ulcerative colitis occurred initially in the first trimester in ten cases, the middle periods of gravidity being the safest area. In most of these cases the course of disease was unusually severe during and after delivery; in one instance a fatality followed an emergency ileostomy and colectomy. On one occasion a therapeutic abortion was deemed wise in the early months; premature delivery was effected in the seventh month in one case. Cesarean section was performed twice.

Group IV: Onset of Colitis Postpartum.—This group of 19 patients, after an uneventful pregnancy, suffered the onset of ulcerative colitis during the postpartum period (Table V). The first four weeks postpartum marked the initiation of the disease in ten of the cases, the remaining occurring two to six months after the birth of the child. In two instances the disease began not after a normal birth but after abortion, and these cases ran a course as severe as those which occurred after a completed pregnancy. Sixteen normal children were born to these 19 mothers. In many of these instances the course of the disease was unusually severe, lasting five to twelve years. In some the course was milder and transient and gave a more favorable impression than those cases in Group III in which the disease was initiated during pregnancy.

Four of these women, after subsidence of the disease, attempted a later pregnancy, but all four suffered a rapid recrudescence of the colitis during the subsequent pregnancies.

TABLE V.—Group IV, Onset of Colitis Postpartum

	Number
Total patients*	19
Total pregnancies	19
Children born before onset of chronic ulcerative colitis	12
Onset—postpartum, postabortion, or postmiscarriage	
Immediate	6
1 month	4
2 months	2
3 months	2
6 months	2
Total	19
Postabortion	1
Post-induced abortion	1
Poststillbirth in toxemia of pregnancy (6 months postpartum)	1
Postmiscarriage	1
Severity of colitis—duration	
Rapid improvement, well	1
5 weeks	2
2 months	3
5 years (mild)	1
6 to 12 years (severe)	6†
Not stated	6
Total	19

* Age range 24 to 55 years, average 33.1 years.

† 1 case requiring ileostomy and colectomy.

Summary.—Ulcerative colitis occurs most frequently in the child-bearing period. Many of these women had had multiple pregnancies before the onset of disease (43 births). Fertility is apparently not affected by the disease, as noted by the fact that many of these mothers became pregnant even after the onset of the chronic disease process.

In Group I, quiescent colitis at time of conception, we note a recrudescence of the latent disease in 54 per cent of the cases.

In Group II, active colitis at time of conception, this figure rises to 76.3 per cent.

In Group III, colitis originating *de novo* in pregnancy, this unhappy figure falls slightly to 63.2 per cent but includes an unusually severe course with the only fatality in the entire series of 150 pregnancies.

In Group IV, postpartum onset of colitis, the course is sometimes less severe and less protracted, but the effect is carried on into later pregnancies.

A typical case history may serve to illustrate some of the salient points of this problem.

Case 1.—A twenty-six-year-old woman, who had previously borne normal children, in the sixth month of a more recent pregnancy developed acute fulminating ulcerative colitis (Group III). Diarrhea was severe, hemoglobin values dropped to 5 Gm. per cent, but she accomplished a normal delivery of a viable child. Six weeks postpartum a severe exacerbation of the colitis occurred which lasted for half a year and then subsided. After a lapse of a year she again conceived. In the sixth week of this pregnancy (the first trimester), she again noted severe diarrhea, fever, and prostration. Therapeutic abortion was carried out with temporary subsidence of symptoms, but two weeks postabortion the symptoms recurred with a violence that threatened intestinal perforation.

This one case illustrates many of the salient points: onset of the disease during pregnancy, severity of the course, birth of a healthy viable child after a normal term, and postpartum recurrence of the disease. During a subsequent pregnancy one notes the recrudescence of colitis in the first trimester, the indication for and accomplishment of a therapeutic abortion, and again a postpartum (postabortion) reactivation of the intestinal disease.

The accent on the multiplicity and severity of recurrences of the colitis during pregnancy does not preclude a sizable percentage of normal births following a term of uneventful pregnancy. Approximately 40 per cent of pregnancies in the combined Groups I and II accomplished a successful gravidity without encountering serious symptoms of the previous colitis.

Management of Pregnancy Complicated by Colitis

The attitude of both the internist and the obstetrician is usually—and logically—one of conservative expectancy. While colitis constitutes a grave complication, the life of the mother is rarely threatened, the viability of the fetus is not compromised, and the percentage of premature deliveries, stillbirths, and spontaneous abortions, although high, is not excessive and lies within the range of such mishaps in the normal control population. Since the evil effects of the disease are observable in 50 to 76 per cent of the pregnancies, there would be a natural tendency to discourage conception under these circumstances, particularly when the disease is in an active phase.

Truly, colitis is a disease with prolonged and severe manifestations, many complications, and a recognized tendency to recurrence over the lifetime of the individual. However, faced with the accomplished fact, should the clinician terminate the pregnancy prematurely; should he consider a therapeutic abortion in the early and most susceptible first trimester? In the 40 per cent of favorable cases the course of the disease is ameliorated during the pregnancy. In the 60 per cent of less favorable, often serious cases the decision must be an individual one in each instance. On three points the clinician can be assured: The child will probably be a normal one; the delivery will be a normal one; the life of the mother will rarely be threatened. If life and survival of the mother were alone involved, this would give great potency to the arguments of those who oppose interruption of pregnancy under any and all conditions. But the health and well-being of the mother is a most serious consideration; the avoidance of periods of semi-invalidism and repeated future recurrences of the disease is a momentous consideration. This holds true in spite of the recent wide usage of the antibiotics and the corticosteroids, particularly ACTH, and the favorable response of most cases of ulcerative colitis to this type of therapy. The employment of ACTH and the corticosteroids is not only not contraindicated in pregnancy but exerts a most favorable response in spite of the high titer of estrogens usually present during the gravid period.

Factors Influencing Decision to Terminate Pregnancy

Ulcerative colitis is accepted by most internists as one of the so-called psychosomatic diseases. Certainly the course of the disease is adversely altered by traumatic psychic factors and by subconscious resentments. An undesired pregnancy, one that arouses the latent animosity of the mother toward her conception, may have serious influences on the course of the colitis and may constitute a factor which is far from negligible and which must receive due consideration when and if the question of interruption of pregnancy is raised.

The obstetrician may ask: Is the course of the disease truly modified by the pregnancy, or would recurrences have taken place whether or not gravidity had occurred? This argument is difficult to answer since the known life history of ulcerative colitis is so variable that the true course of the disease can never be accurately plotted. Yet the recurrence rate in Groups I and II are so high (54 per cent and 76.3 per cent, respectively) that this figure seems far beyond the average expectancy of recurrences in the life history of colitis, not to mention the unusual severity of the recrudescences of the disease.

In Group I, where the patient had previously suffered with ulcerative colitis but it was quiescent at conception, interruption of pregnancy would seem to have little ground for argument. The patient is already familiar with the disease, the chances of a satisfactory pregnancy with little threat to life or future efficiency is good (43 per cent), and even when the course of pregnancy is adversely affected, the disease can be tolerated and cared for under intelligent conservative therapy.

Group II is a more grave problem for here one has active colitis at conception, a high rate of exacerbation of the disease (76.3 per cent), and a most serious course. Obviously this patient should have been warned against pregnancy by a wise and experienced and interested physician, even though one cannot prophesy from past experience in a given patient what the effect of pregnancy will be. The problem of interruption of pregnancy becomes most critical during the first trimester since this is both the optimal time for interference and the most usual period for severe recrudescence of symptoms.

In Group III the question of interference is of moment only if the disease is initiated in the first trimester. If one anticipates the severe course that the disease is likely to take, even to the point of threatening life, the indication to interrupt pregnancy by an early therapeutic abortion would have a logical basis and probably should be urged if the threat to the life and future well-being of the mother is considered to be great.

Therapeutic abortion is a curative procedure and is usually followed by subsidence of symptoms. If the disease occurs *de novo* in the second or third trimester, obviously the clinician will make every effort to carry this patient to term or near term.

From the viewpoint and experience of the obstetrician the percentage of spontaneous abortions, premature deliveries, and stillbirths is not higher than in the control population. The method of delivery of the colitis patient should not differ from the normal one; episiotomy should be avoided where rectal complications exist or existed; cesarean section is rarely if ever indicated. In the severely ill patient premature induction of labor is often performed and is justifiable and good procedure.

Patients who have undergone surgical procedures, usually colectomy and permanent ileostomy, tolerate pregnancy very well. The course of the pregnancy and the delivery are usually uneventful. This applies also to those cases of segmental or right-sided colitis in which intestinal continuity has been re-established after subtotal colectomy by ileosigmoidostomy.

Endocrinology of Normal Pregnancy

It would be of interest to formulate a theory to explain why ulcerative colitis exerts a deleterious influence on pregnancy or why pregnant women are more prone to recurrences of the disease or to initiation of the disease. Since pregnancy is known to be associated with marked endocrine changes, consisting usually in acceleration of endocrine elaboration at certain periods and deceleration at other periods, are these variations related causally to the occurrence or recurrence of the severe symptoms of ulcerative colitis? Colitis itself has certain endocrine aspects; it is known that cases of colitis have markedly lowered serum values for ACTH and the steroids.[8] The beneficial therapeutic effects of ACTH and the corticosteroids in producing rapid remissions of the symptoms and a restitution often to a normal sigmoidoscopic mucosal picture would seem to indicate a deficiency of such endocrines in ulcerative colitis. A definite clinical improvement results when such steroid endocrines are replaced by oral or parenteral substitution.

Why is the first trimester of pregnancy the period of most frequent and most severe recurrences? Why are the second and third trimesters of pregnancy relatively safe periods? Why is the postpartum period so prone to occurrence and recurrence of the disease process? Can such questions be answered by correlating these clinical facts with variations in the endocrine elaborations during pregnancy and after delivery? The endocrinology of normal pregnancy has been well studied and tabulated. The endocrine variations of pregnancy as affected by ulcerative colitis are completely unknown. The endocrinologic variations of normal pregnancy are various and often profound (Fig. 1):

1. *Gonadotropins*: The quantity of chorionic gonadotropins excreted in the urine during pregnancy increases rapidly from the time of nidation to a maximum at fifty to seventy days from the time of the last menses. The greatest increase, therefore, occurs in the first trimester. From a maximum of 70,000 to 200,000 units for twenty-four hours the titer rapidly decreases to a level of 1,000 to 10,000 units except for a slight transitory rise in the last trimester. Within three to ten days postpartum the urinary excretion of gonadotropins returns to its prepregnancy levels.

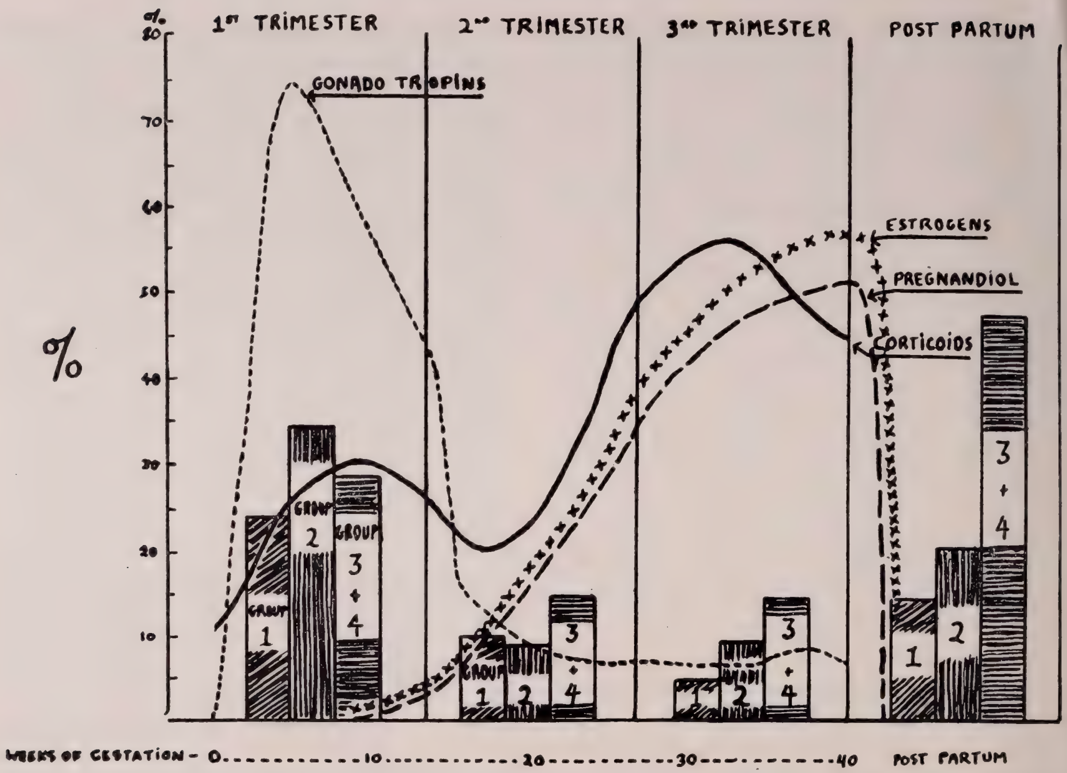

FIG. 1. Colitis, onset or recurrence, in relation to hormonal secretions. (This chart is formulated essentially from the diagram in the article by Venning.[9])

2. *Estrogens and progesterone:* During early pregnancy the urinary estrogen levels are only slightly increased. Shortly after the maximum rise of gonadotropin levels in the first trimester, the titer of the estrogens rises rapidly and reaches peak levels of 40,000 to 50,000 micrograms per day at term. The increase is due almost entirely to estriol. Pregnandiol, the metabolic end product of progesterone, follows a pattern similar to that of estrogen, maximum values of 50 to 100 mg. a day being found at term with an abrupt disappearance of this compound from the urine immediately postpartum.

3. *17-Ketosteroids and 11-oxycorticoids:* The urinary excretion of the neutral 17-ketosteroids is increased only slightly during pregnancy. The corticoids exhibit two peaks. During the first trimester the titer rises to approximately 100 glycogenic units per day, coinciding with the peak of the gonadotropin level. The secondary rise accompanies the increasing titers observed for estrogens and pregnandiol.

4. *Thyroid function,* as reflected in the serum protein-bound iodine, rises within three to six weeks of conception and remains elevated during pregnancy (6.2 to 11.2 gamma per cent against normal values of 4 to 8 gamma per cent).

Can one apply any of these data to explain why the first trimester and the postpartum weeks are most susceptible to recurrence or occurrence of colitis or why the second and the third trimesters are relatively safe periods? In the first trimester the only endocrine that rises rapidly is the gonadotropin, the remaining endocrines as yet showing little rise. In the second and third trimesters the corticoids, estrogens, and pregnandiol show maximum titers. In the postpartum periods all endocrines abruptly fall to normal or subnormal levels. The first trimester is unprotected by the subsequent rise of corticoids and estrogens; the second and third trimesters are possibly protected by the high titer of these latter endocrines. In the postpartum period all endocrines previously highly elevated fall abruptly. The very striking therapeutic effects of ACTH and the corticoids in the treatment of ulcerative colitis may lead one to speculate that absence of a rise in the corticoids and perhaps also of the estrogens in the first trimester and their abrupt postpartum fall may account for some of the periodicity of the occurrences and recurrences of ulcerative colitis when the disease occurs as a complication of pregnancy.

To date there is no clinical or experimental evidence on hand to demonstrate any effect of gonadotropic hormones on cases of ulcerative colitis. It has never been demonstrated that adrenocortical insufficiency is etiologically related to ulcerative colitis any more than to other diseases, such as rheumatoid arthritis, acute rheumatic fever, disseminated lupus, etc. However, the beneficial effects of the therapeutic administration of steroid hormones (particularly ACTH) in ulcerative colitis are well known and generally accepted, and this fact should be borne in mind in attempting to formulate a hypothesis to explain the variables in the relationship between ulcerative colitis and pregnancy.

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Children Under Five Respond Well to Polio Vaccine

Polio vaccine appears to work as well in infants and preschool children as it does in school children providing they receive at least two and preferably three inoculations, a recent Michigan study has shown.

Field trials of the Salk polio vaccine were carried out in 1954 among first, second, and third-grade children. Although the age range was extended greatly in 1955, little information has been obtained about responses in different age groups.

Since most immunization programs are begun in the early months of life, information about the response of infants to the polio vaccine is important, Gordon C. Brown, Sc.D., and Donald C. Smith, M.D., Ann Arbor, Michigan, said.

They found that three inoculations evoked a satisfactory response in infants and in children one to five years old. Two inoculations appeared to be less effective and one injection in infants was definitely inadequate, they said in the June 2 *Journal of the American Medical Association.*

A booster inoculation six months after the first series raised the number of antibodies in the children's blood regardless of how many initial inoculations they had, or how they responded to the first shots. Even those who did not respond to the original vaccination did develop antibodies after the booster shot.

The researchers studied the responses of 135 infants and 116 preschool children. They were divided into five groups; each group received vaccines, made by different companies, on different dosage schedules.

The response to the vaccine was checked by means of a virus neutralization test, which measured the ability of antibodies in the patient's blood serum—when mixed with virus—to prevent infection of a tissue culture by the virus. Three types of virus were used in the test.

In two groups receiving three injections of different vaccine at monthly intervals, the majority of infants, including those under six months, responded with increased antibodies to all three types of vaccine. In another group that received two injections the response was not as good as in those receiving three inoculations. A group of infants receiving only one injection did not respond at all.

A fifth group responded well to the booster shot despite the ineffectiveness of their original shots, which consisted of weakened vaccine.

The researchers concluded that infants and preschool children respond well to poliomyelitis vaccination and that the vaccine should be effective in these age groups.

Also investigated was the transmission of antibodies from mothers to their newborn infants. Preliminary observations suggested that even when the mother has a high antibody level, the amount found in the infant is low for three to four months and it can rarely be detected by the age of five to six months. This portion of the study will be completed soon, they said.

Dr. Brown is from the Department of Epidemiology of the University of Michigan School of Public Health and Dr. Smith is from the Department of Pediatrics and Communicable Diseases of the University of Michigan Medical School. The study was aided by a grant from the National Foundation for Infantile Paralysis.

An Evaluation of a Prepared Childbirth Program

C. LEE BUXTON, M.D., NEW HAVEN, CONNECTICUT

(*From the Department of Obstetrics and Gynecology, Yale University School of Medicine*)

An interesting reorientation of the attitude of the obstetrician toward his specialty has occurred over the past forty years in almost all civilized countries, but possibly especially in the United States. Not only we as members of the medical profession but all well-informed laymen in this country today appreciate the extraordinary advances that have been made in obstetrics in terms of reduction of maternal mortality over the past thirty years. As recently as 1920 the maternal mortality in this country was almost nine per 1,000. This is only a little less than one out of every 100 deliveries. Thirty-five years later, in our present era, about one mother per every 1,000 has died in childbirth; ten times as many mothers died forty years ago as do today, and the decrease is still continuing. This is indeed one of the many modern miracles of medicine, and these four decades may reasonably be considered the most dramatic and significant of any other four decades in the history of obstetrics.

The gradual, but as yet by no means complete conquering of the three main maternal hazards of obstetrics—toxemia, hemorrhage, and infection—has permitted the obstetrician to pursue some of the less vital, but nevertheless crucial aspects of obstetric care. He need no longer use his entire skill and energies in the struggle to bring a mother through alive and undamaged. This can now be done and still leave the obstetrician an opportunity to practice some of the refinements of maternal care and welfare which are of great practical and psychologic importance to the mother, both at the time of delivery and in her subsequent career of motherhood. One of these ancillary interests, which has always been in the background of obstetric activity but which within the past forty years has increasingly occupied the thoughts and aspirations of obstetricians, is the relief of pain in childbirth.

Since about the middle of the nineteenth century when among others Sir James Y. Simpson in Edinburgh and Walter Channing in Boston struggled against great opposition to incorporate anesthesia into the armamentarium of the accoucheur, there has been a gradually increasing interest in devising some means whereby, without increased danger to the mother or child, the pain and distress of labor and delivery could be alleviated.[1] The growing trend in recent years toward analgesia during labor was greatly enhanced by the report from the Boston Lying-in Hospital in 1934 by Irving, Berman, and Nelson[2] describing the great advantages and minimal dangers of the use of barbiturates and scopolamine during labor. The rapidly developing reduction in maternal mortality enabled the obstetrician to deviate his concentration somewhat from the all-important problem of maternal survival and the physical destiny of the pregnant woman and to explore these possibilities for relieving her of the age-old tradition that childbirth was a dreadful and harrowing experience.

For those of you who are interested in knowing just how harrowing, frightening, prolonged, and dreadful the mind of woman can imagine this ordeal to be, I recommend the description of Kristin Lavransdatter's accouchement in the trilogy of the same name by Sigrid Undset. Labor begins on page 332 and it is not until 13 pages of dismal and profound Nordic gloom and excruciating pain have passed that, with a final climactic shriek, Kristin delivers her ill-gotten child.[3] Although, to be sure, this is a description of medieval obstetrics, it does seem that a lot of the folklore and ignorant apprehensions concerning parturition have been perpetuated by tradition down to the present day. This attitude has of course stimulated attempts to relieve women of these dread superstitions, and in a way the subject which we are to consider today has as one of its objectives an attempt to do that.

From 1934 until the present innumerable articles have appeared in the obstetric literature describing successes or failures with innumerable kinds of analgesia and anesthesia. This has represented a very definite attitude of mind on

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the part of the obstetrician. This attitude is well expressed by one of the most experienced and capable users of obstetric analgesia when he says: "The ultimate object (of analgesia) is a creation of complete amnesia without affecting the course of labor."[4]

On a well-controlled teaching service where patients are cared for by experienced specialists and where the anesthesia is administered by well-trained technicians—usually, in fact, doctor-anesthetists—such an attitude may be comparatively safe, but statistics attest to the fact that this attitude is not without considerable danger. By 1952 anesthesia as a cause of maternal mortality had reached fifth place in New York City, behind hemorrhage, infection, toxemia, and heart disease.[5] By this time it may well be higher. Turner,[6] describing 79 anesthesia deaths between 1946 and 1954 in Nashville, calls anesthesia "the fourth horseman of the obstetrical apocalypse." An equally impressive title is that of James Herron's[7] in the *Bulletin of Maternal Welfare* for March and April, 1956, in which he discusses anesthesia as a killer in obstetrics. Twelve per cent of the maternal deaths in Philadelphia from 1949 to 1952 were due to anesthesia,[8] and Fitzgerald and Webster[9] found that no less than 44 per cent of all maternal deaths in three St. Louis hospitals were from anesthesia. Thus, the expressions of apprehension concerning anesthesia continue to grow. Therefore, it is only reasonable to suggest that any obstetric technic which can in any way reduce the amount and frequency of analgesia and anesthesia and still retain the eminently worth-while and charitable objective of relieving pain in childbirth is of profound practical value, even for this reason alone.

In spite of the tremendous importance of finding a satisfactory technic for reducing anesthesia hazards and still attempting to relieve pain in childbirth, this is by no means the only objective of the Prepared Childbirth Program. Completely aside from the advantage of decreased anesthesia and analgesia which this program hopes to provide, it has other less tangible but nevertheless almost as important objectives, and it is about these I wish to speak mainly today.

Many of us who have had the opportunity of observing obstetric attitudes over the past decade have been aware of a certain dissatisfaction, not only among many obstetricians but possibly even more so on the part of the obstetric patient, concerning attempts at more or less complete amnesia. Aside from the above-mentioned anesthesia hazards, the disadvantages of this technic from a physical point of view lay in the frequent restlessness and intractability of the mother and in the narcotized baby who nevertheless could be made to respond fairly adequately to appropriate stimulus within a reasonable time after delivery.

There has been a gradually increasing awareness, possibly stimulated by obstetric patients themselves, that the psychologic reaction on the part of the woman to complete amnesia during labor and delivery frequently was one of great dissatisfaction, frustration, and real unhappiness. To be sure, the patient greatly appreciated, as any normal individual would, the relief from prolonged and severe pain. On the other hand, there was no question but that countless patients felt they had been deprived of the privilege of participating in and being aware of one of the great and climatic events of their lives. The process of birth may be to a woman the finite representation of her greatest physiologic usefulness and ability in life, and to deprive her of the opportunity of sharing in this unique physical accomplishment, should she so desire, may be unfair and psychologically traumatic. In our humane and charitable attempts to relieve her of pain, we may possibly have deprived her of something even more important—her own profound and stimulating satisfaction in the awareness of her contribution to humanity. Dr. Helen Deutsch states, "Childbirth is the greatest, most gratifying experience of woman, perhaps of human beings."[10]

Thus, there has been reaction to complete amnesia as an ideal for labor and delivery, and impetus to this reaction was provided by the ideas of Grantly Dick Read, as expressed in his two books *Natural Childbirth* and *Revelations of Childbirth,* and by Helen Heardman, an English physiotherapist, in *A Way to Natural Childbirth.*[11] In 1947, possibly for the first time in this country on an organized basis, Herbert Thoms inaugurated a study to evaluate the possibilities inherent in a Preparation for Childbirth Program to determine whether it was possible by these methods to reduce the excessive use of analgesia in labor and delivery and still fulfill the ideal of permitting a woman to deliver her baby in reasonable comfort and still be conscious.

In spite of frequent publications by Thoms and his coworkers explaining their principles and technics, the Preparation for Childbirth Program has been frequently misinterpreted and misunderstood, and it is the intention of this discussion to try to describe and explain this technic, as it is practiced today at the Yale-New Haven Medical Center, from the point of view of one who has had an opportunity to observe it over a period of two years.

At the outset a quotation from Thoms should immediately alter the impressions that some might have concerning this program: "The program is often referred to as the Natural Childbirth Program, a somewhat unfortunate title which seems to have acquired inferences quite unwarranted as far as our regime is concerned. In some minds this title connotes that spontaneous birth without anesthetic aids is a goal to be pursued chiefly for benefits of its own even beyond the dictates of sound obstetrics and common sense. In our program anesthetic aid is always given whenever the patient desires it and in many instances is urged as an aid in her efforts at relaxation. Our criteria for operative assistance have not undergone modification and we regard them as consistent with sound principles."[12]

It is not unreasonable that one of the most articulate criticisms of a Prepared Childbirth Program should have come from the very clinic which so successfully established a good regimen of barbiturate and scopolamine analgesia technics in 1934.[13] In brief rebuttal to the statements of Reid and Cohen concerning the program, it may be said that at no time throughout the years during which the study has been carried out at Yale has there ever been an idea expressed that (1) labor and childbirth are painless or (2) analgesia and anesthesia are ever withheld from a patient when she needs it or wants it. Neither has the assertion ever been made from this clinic that labor and delivery among primitive peoples is relatively painless and easy.

We have all had some experience with pain, and we all know that it is indeed a relative phenomenon. In their extensive studies concerning the physiology and pathology of pain, Wolff and Goodell[14] state, "attitude and suggestion may modify both the pain threshold and the manner of reaction to pain" and that "attitude engendered by situation and experience may be accompanied by alterations in the pain threshold and in the manner of reaction to pain." In another communication, Wolff[15] states, "instances of dissociation of pain perception from the pattern of reaction to pain are seen in the indifference to injuries sustained during the excitement of games or combat, the apathy or 'quietism' that accompanies tissue damage during religious or mystical practices; the indifference to tissue damage during sexual excitement; the indifference to pain often witnessed during parturition in women who are confident in their physician and desirous of bearing a child."

Possibly, in essence, the Preparation for Childbirth Program is designed to educate and prepare a woman for the inevitable natural and expected travail and pain associated with labor and delivery so that she need not approach it with apprehension and fear but, rather, with anticipation and confidence; with awareness of the process through which she is about to go; with the knowledge that should she need and desire it, she will receive whatever analgesia and anesthesia is considered necessary; and that she has within reach every available modern aid to obstetrics which will be instantly used if necessary for the culmination of this experience in safety to her and her unborn child.

Up to now we have spoken mainly of the psychologic advantages of this program. Does it have physiologic advantages as well? Under this regime are there shorter labors, less traumatic deliveries, less postpartum hemorrhage—in short, more efficient obstetrics?

It may be reasonably asked by reasonably skeptic individuals what real proof we have that a Preparation for Childbirth Program produces an actual tangible value in terms of physiologic advantage. Although the skeptic individual may well agree with its possible psychologic advantages and with the desirability for the mother to take part in labor and delivery unless the pain is too great, he will still wish to know of the advantages or disadvantages of this procedure in terms of the usual obstetric measuring units, such as length of labor, amount of analgesia or anesthesia necessary for reasonable control of pain, percentage of operative deliveries, percentage of fetal anoxia, amount of postpartum hemorrhage, obstetric morbidity, etc. This has already been partially answered in a review of 2,000 deliveries of patients engaged in this training, reported by Thoms and Karlovsky.[16]

Table I represents a classification of this

TABLE I.—CLINIC STATUS, PARITY OF MOTHER, AND INFANT DEATHS IN 2,000 DELIVERIES UNDER PREPARED CHILDBIRTH PROGRAM[16]

	Number of Cases
Clinic status	
Ward	1,446
Private or semiprivate	554
Parity	
Primipara	702
Multipara	1,297
Infant deaths	
Total infants delivered (1,500 Gm. or over)	2,024
Antenatal	8
Intranatal	4
Neonatal	30 (1.43%)
Total (uncorrected)	

TABLE II.—TYPE OF DELIVERY IN 2,000 DELIVERIES UNDER PREPARED CHILDBIRTH PROGRAM

Type	Primipara	Multipara	Total	Per Cent
Spontaneous	550	1,211	1,761	88.1
Operative	153	86	239	11.9
Forceps	122	44	166	8.3
Cesarean section	31	42	73	3.6

TABLE III.—ANALGESIA AND ANESTHESIA IN 2,000 DELIVERIES UNDER PREPARED CHILDBIRTH PROGRAM[16,*]

	Number	Per Cent
Analgesia		
None	660	34.2
Single dose (Demerol or Seconal, not more than 125 mg.)	1,195	62.0
Anesthesia		
None	562	29.1
Intermittent Trilene or nitrous oxide	1,275	66.1
General or spinal	90	4.5

* 1,927 vaginal deliveries.

obstetric population, and it is not especially important, except to call attention to the preponderance of ward patients and of multiparas in this series. The perinatal mortality is also presented in Table I, the uncorrected total comparing favorably with over-all nation-wide statistics.

Table II demonstrates the types of delivery occurring in patients in this program with an incidence of spontaneous delivery which is higher than that in most teaching hospitals. There was no hesitation in carrying out operative delivery whenever it was considered obstetrically advisable, but the conscious cooperation of these patients has been such that for the most part they require a minimum of operative assistance from the obstetrician. It is interesting to note that although the forceps rate is low, the cesarean section rate approximates that of many obstetric services throughout the country, the variations in rate being, according to Eastman,[17] between 2 and 6 per cent. This possibly may indicate that the patients in this series have about the same incidence of cephalopelvic disproportion and other indications for cesarean section. There were no cases in this series that were described as cervical dystocia, however.

Table III demonstrates the small amount of analgesia and anesthesia that was considered necessary in this series. Of the cases where general anesthesia was used, a large proportion were cesarean sections. A certain number of cesarean sections, however, were done under local anesthesia.

We are more than willing to admit that these data are by no means conclusive. We are at present in the process of making as critical as possible an evaluation of this program by the usual measurable obstetric methods. We do believe, however, that these results are suggestive of obstetric benefit from a tangible, physiologic point of view.

Of what, then, does this program really consist? Contrary to some of the unfortunate publicity which it has received in the lay press, it is neither an amazing and revolutionary new discovery, nor is it an infallible or universally applicable technic. It is nothing more than a development and refinement of attitudes that have been known and practiced probably as long as human beings have been taking care of each other during the process of labor and parturition. Certainly many of the principles of this program have been practiced by understanding and conscientious obstetricians and doctors for many years. We believe, however, that this program has identified, defined, and organized these principles so that they can be so emphasized by the obstetrician that there will be great advantage to the patient.

In essence, the Preparation for Childbirth Program has two main characteristics. The first is education and training of the patient during her prenatal course, and the second is a technic of support during labor. All patients of course go through the usual series of monthly, and, during the latter part of pregnancy, biweekly and weekly antepartum visits now so well established as being a requisite to good obstetric care. In addition to these visits, they have eight "Mothers' Classes" and five evening classes for both expectant mothers and fathers. The Mothers' Classes consist of lectures by nurses and doctors, concerning the anatomy and physiology of pregnancy and labor. Every effort is made during these classes to create such an attitude of cooperation and informality that the massive amount of misinformation which patients have almost invariably accumulated concerning these matters can be corrected by simple, easily understandable explanations. Thus, it is hoped that through understanding the mother is relieved of unnecessary fear—fear arising from ignorance. The titles of these nurses' and doctors' talks are as follows:

1. Introduction to Pregnancy
    - Intrauterine growth of the embryo
    - Anatomy and physiology of the female reproductive tract as it pertains to pregnancy
2. Adaptation to Pregnancy
    - Signs and symptoms during the three trimesters—their practical aspects
3. Diet During Pregnancy
4. Labor
    - Onset—signs and symptoms
    - Stages of labor—discussion of physiologic progress
5. Delivery
    - Description and explanation of delivery
    - Review of stages of labor
6. Postpartum Care and Rooming-In—plus Tour of Labor and Delivery Room Suite
7. Breast Care (optional)
8. Baby Care (optional)

Exercise classes accompany these lectures, and patients are taught muscular relaxation technics and postural and breathing exercises. The opportunity for cooperation on her part during her labor seems to be of great value to the patient, and she almost invariably seems to be anxious to know what is expected of her and to be trained in a technic which will make it be actually physically possible for her to assist in the process of labor and parturition. That it is possible for a patient to do this may actually be surprising to some obstetricians, but one only has to see it in action to appreciate its real significance. In her publication on prepared childbirth, previously mentioned, Helen Heardman stated, "How is it that we have allowed women whose function is the reproduction of the race by muscular effort to embark on the heavy muscular effort of labor without even a second of real training—and in fear?"[11] This is not an unreasonable question.

There is no doubt but that labor and delivery is a muscular effort of both involuntary and voluntary musculature, and as we who are obstetricians can testify from countless observations, the actual voluntary bearing-down of a woman during second stage is an invaluable asset to parturition. Thus, a developed technic of conscious relaxation, appropriate breathing, and posture during the first stage seems to reduce its length and increase the efficiency of its contractions. Exercises in these technics of posture, relaxation, and breathing are therefore taught to patients along with their instruction in the anatomy and physiology of parturition. During these classes they are taken on a tour of the labor and delivery room suite where they become acquainted with the environment in which they will carry out the parturient process; they are shown in detail the mechanical and anesthesia appliances of the delivery rooms and the details of the restraints to their arms and the stirrups to their legs on the delivery table. They meet various members of the nursing, resident, and anesthesia staff, and the entire admission process and the attentions they will receive are explained to them in detail. Different types of anesthesia, such as local, caudal, or inhalation anesthesia, are explained to them, and such surgical procedures as episiotomy and forceps deliveries are discussed and their rationale explained so that the patient will not consider herself to be abnormal or "unsuccessful" if operative procedures are carried out.

Evening classes for the mothers and fathers concentrate on the mutual parental responsibilities of pregnancy and labor. The physiologic and psychologic changes through which a woman goes during pregnancy are explained to the husband so that he may appreciate the changes in his wife's physical and psychologic attitudes. It is on these occasions that a question-and-answer period proves to be of great value, for the husband is often found to be even more ignorant of the processes of parturition than his wife. It is explained on these occasions that the husband is allowed to stay with his wife during labor, if he and she so desire, but that under no circumstances is he allowed in the delivery room during the process of delivery.

By this time the patient and her husband understand what is meant by "support during labor." The patient is assured of having a labor room of her own where the labor can be carried on in reasonable privacy but under the constant surveillance of an attendant, be it obstetrician, nurse, medical student, or resident. An attempt is made to make the mother feel that everyone realizes that she is the central figure in the situation, and as a result of her past training it is possible for her to be aware of the progress of her labor. Measures are used to promote relaxation, such as the previously mentioned privacy, quiet surroundings, and any other physical technics available to make her comfortable. She carries out the exercises she has learned in relaxation through abdominal breathing and, when the time comes, for pushing with expulsive contractions. Whenever the mother desires it, appropriate medication is given, but it has been most interesting to notice under these circumstances that 50 or 75 mg. of Demerol are frequently sufficient to make the patient feel so comfortable that she desires no further medication.

It is unquestionably true that this type of obstetric care during labor takes time and effort on the part of the personnel and the availability and frequent presence of the obstetrician. Let me quote, however, the opinion of an individual who through the years has been an outstanding expert in the technic of the administration of analgesics to the point of amnesia during labor. In 1936 Virgil Damon[4] stated: "At the outset, let us take the most burdensome feature (of good analgesia), namely, the necessity for the constant presence of the obstetrician. This is of course the primary disadvantage, but it is my conviction that it is very essential to successful analgesia. So numerous are the factors requiring his personal interpretation that his presence is imperative. I have been consistently unsuccessful in 'remote control' of analgesia. To illustrate how this is linked up with the process, I will point out one important feature in this work, namely, the psychic attitude of the patient. An agreeable, relaxed, fearless mental state as opposed to a tense, fearful one is desirable before the first dose is given. This can be best attained through the reassuring presence of her physician." Thus, we find that the enthusiast for amnesia during labor and delivery begins with an attempt to create within the patient's mind the same attitude as that desired by the proponents of prepared childbirth. I would suspect that many of the proponents of the complete amnesia technics of a decade or two ago may now be equally enthusiastic about a Preparation for Childbirth Program because the motivation—ultimate maternal welfare—is the same.

In substance, then, a Preparation for Childbirth Program is not a mysterious, difficult, or even very revolutionary technic of practicing obstetrics. The principles may be very simply expressed as follows: We believe in the great intrinsic values of education for the mother, an understanding on her part of the process through which she is going. We believe that familiarity with the environment in which she expects to have her baby, acquaintance with and confidence in the personnel who expect to take care of her, and assurance that she will be cared for competently, sympathetically, and constantly will be factors of great help in the actual physical process of labor and delivery. We are fully aware of the fact that labor is painful; we believe that anybody who denies this is not facing reality. We are very firmly of the belief that this pain should be controlled as much as possible, with the restrictions that its control result in no harm to the mother or the baby and that the mother retain an awareness of the progress of her labor and delivery as much as possible. We have no hesitation whatsoever in carrying out operative obstetric deliveries or appropriate episiotomy if it is in the best interests of the mother and the infant. We believe and we think we have evidence to suggest that the equanimity and confidence with which the educated, prepared mother comes to the labor room with ample support during labor results in shorter, more efficient labors, more successful deliveries, and last, but by no means least, a lowered maternal mortality.

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Doctor Calls for Better Nutrition in Aged

Better nutrition in old age—as well as in earlier years—will help "add life to years, not just years to life," a Massachusetts physician has stated.

Good nutrition will slow the aging process, making it possible to live longer and grow old more comfortably, Dr. Max Millman, Springfield, Massachusetts said in the May *Today's Health*, published by the American Medical Association.

Malnutrition, present in a "significant segment" of the population, is detrimental to people in all ages, but especially to those above middle age, when resistance to disease is lowest, he said.

The most common reason for malnutrition in the aged is the "rigidity of their eating habits," Dr. Millman said. Many older persons fail to eat enough meat, vegetables, and milk, because they never have.

Decayed or missing teeth or ill-fitting dentures also contribute to the problem by forcing oldsters to exclude all solids from their menus. Habit again may take over and doom these people to diets of soft, mushy, and soupy food. The remedy, he said, is quite simple: correction of the dental problems by a dentist.

Another factor is money. The aged who have to get along on shrunken budgets often feel that meat, fruits, and vegetables are too expensive, so they eat starches which are cheaper and easier to obtain, prepare, and eat.

A better knowledge of food values and cost coupled with proper marketing and budgeting can insure an adequate diet on a modest or even meager income, he said.

Malnutrition usually suggests underweight, but sometimes it is masked by overweight. Obesity in the aged often proves disabling, in addition to predisposing its victims to diabetes, high blood pressure, and heart disease, all especially dangerous to the aged. Reducing is more difficult for the aged, not because their fat is "glued" on more firmly, but because their eating habits are rigid. Thus weight reduction should be begun as early in life as possible, he said.

The diet needs of the normal oldster are almost, but not quite, the same as those of a younger person. The elderly need fewer calories because advancing age lowers metabolism and diminishes physical activity.

According to the Food and Nutrition Board of the National Research Council, a man at sixty-five requires 600 calories a day less than the 2,400 to 3,000 required at twenty-five. In women the difference is 500 calories, or 1,500 to 1,900 daily.

Dr. Millman suggested that the daily diet of the aged person include one pint of milk; butter or margarine fortified with vitamin A; peanut butter or other vitamin rich fats; and one serving each of oranges, grapefruits, or tomatoes; green or yellow vegetables; potatoes or other vegetable or fruit; whole grain cereal; eggs; meat, poultry or sea food, and enriched or whole grain bread.

The diet should contain ample protein, which the aged often find difficult to retain in their systems. Less than the usual amount of fat and oil seems advisable because the percentage of body fat in the elderly is greater than in the young.

Newer Laboratory Procedures Indicating Rheumatic Activity

SAMUEL LOSNER, M.D., AND BRUNO W. VOLK, M.D., BROOKLYN, NEW YORK

(From the Isaac Albert Research Institute of the Jewish Chronic Disease Hospital)

EVER since Fahraeus' work[1] on the suspension stability of the blood, the erythrocyte sedimentation rate has been widely used as a laboratory tool to evaluate the activity of a rheumatic process. Since this simple test is nonspecific and also may be abnormal in apparently healthy persons, the results are frequently difficult to interpret. It depends on a variety of factors, such as the fibrinogen concentration, the globulins, the electrostatic charge of the red blood cells and the plasma proteins, the cholesterol level, and other constituents of the blood. The erythrocyte sedimentation rate is also inversely related to the hematocrit reading inasmuch as an accelerated rate is observed in anemia, whereas low readings are seen in rubremia or conditions associated with dehydration and hemoconcentration. The fact that an increase of any serum globulin is reflected in an accelerated rate makes this test an indicator of a deranged serum protein pattern. Thus, rheumatic diseases are frequently characterized by a reversal of the albumin-globulin ratio and, therefore, also by an accelerated erythrocyte sedimentation rate. Although this finding is commonly encountered in rheumatic fever, it is not specific because many other inflammatory or neoplastic conditions exhibit the same or similar protein patterns.

Among the more recently introduced nonspecific laboratory tests indicating the presence of an inflammatory process are the mucoproteins, hexosamines or hyaluronidase inhibitor, the antistreptolysin O titer and the C-reactive protein. In our hands serial determinations of the fibrinogen concentration, although nonspecific in nature, have also proved to be extremely valuable in the estimation of rheumatic activity.

It has been stated that the greatest single advance in the understanding of rheumatic fever has been the discovery of its apparent relationship to a preceding infection with hemolytic streptococci.[2-4] The presence of an elevated antistreptolysin O titer, which is commonly considered as evidence of a recent infection with hemolytic streptococci, does not necessarily indicate the presence of rheumatic fever. This test, as well as the determination of hyaluronidase inhibitor, is not proof of a rheumatic state. In fact, when coexisting arthritis is due to causes other than rheumatic fever in the presence of a recent infection with hemolytic streptococci, these tests can be misleading.[2] On the other hand, it is an established fact that the antistreptolysin O titer has been found to be exceedingly high in 85 per cent of children with rheumatic fever tested within one month of onset of the disease.[5]

Since 1930 it has been known that the somatic polysaccharide C of pneumococci gives a precipitate when mixed with the serum of patients with pneumococcal pneumonia during the acute phase of the disease but not during convalescence.[6] Since then the precipitation reaction obtained after mixing of serum and C-reactive protein antiserum has been found to be present in a variety of conditions, including infections in general, neoplasm, and vascular occlusion such as that associated with acute myocardial infarction. Similarly, in rheumatic fever the presence of C-reactive protein is entirely nonspecific. When negative, however, it is of considerable significance. It is also useful in the evaluation of the intensity of a rheumatic process when serial determinations are carried out. The technic to determine the C-reactive protein is relatively simple. It is done with serum and takes twenty-four hours for its completion. It readily becomes negative on institution of adequate cortisone or ACTH treatment. When cortisone is discontinued and a "rebound" occurs, the C-reactive protein reappears in the serum and again becomes negative whenever the rheumatic process subsides. A major disadvantage shared by this test with all

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other nonspecific "acute phase reactants"[7] is the fact that it is suppressed by both cortisone and ACTH. No inference can be drawn from a negative test in a patient with rheumatic fever undergoing hormone therapy.[2]

In recent years it has been demonstrated that in active rheumatic disease the fibrinogen concentration is significantly elevated.[8–11] In the authors' experience an elevated fibrinogen concentration provides more significant, although less sensitive, evidence of an inflammatory process than the erythrocyte sedimentation rate and perhaps the C-reactive protein. The fibrinogen concentration can be determined rapidly within a few minutes after withdrawal of venous blood by the clot density method developed in this laboratory.[12] It has the dual advantage that this procedure also yields the prothrombin time. Although the prothrombin time per se is in no way directly connected with the rheumatic process, it is significantly prolonged in the presence of right-sided heart failure[11] because of hepatic congestion and dysfunction. It is of interest that in cases with marked congestive failure the fibrinogen concentration is hardly affected. On the other hand, the inflammatory process which represents acute rheumatic fever and rheumatoid arthritis manifests itself in characteristic elevations of the plasma fibrinogen level. The greater the severity of the rheumatic process, the higher is the fibrinogen concentration. Similar to the C-reactive protein the fibrinogen level is also suppressed during the administration of cortisone or ACTH. This reduction of the fibrinogen level leads not only to a normalization of the values but to distinctly subnormal concentrations. When cortisone is discontinued and the "rebound" appears, the fibrinogen concentration usually rises to high levels, only to subside again as a precursor of clinical improvement, thus indicating that no rheumatic exacerbation has taken place. The declining fibrinogen level after the plateau of the "rebound" has been reached is the first indication of subsidence of the acute manifestations and usually precedes the decline of the C-reactive protein by one or more days and of the erythrocyte sedimentation rate by as much as one week or more.

In rheumatic fever with good prognosis as to the particular episode at hand, the fibrinogen level frequently declines spontaneously even before cortisone is instituted. Other acute phase reactants may display considerable abnormalities in the presence of an intercurrent upper respiratory infection, whereas the fibrinogen level is not increased above normal during such episodes complicating rheumatic fever. This holds true particularly for the C-reactive protein which is commonly found to be positive in the presence of relatively minor infections. The erythrocyte sedimentation rate is even more sensitive and, therefore, less reliable in the differential diagnosis of an exacerbation of rheumatic fever. The fact that the fibrinogen level is hardly affected by a desquamatory inflammation makes it an important diagnostic aid in the evaluation of a patient with known rheumatic heart disease who has sustained an intercurrent infection.

In a general way, however, the C-reactive protein and fibrinogen level have shown a good correlation. A rise of fibrinogen is usually accompanied by the appearance of C-reactive protein in the serum in a semiquantitative relationship. At times there may be a lag of one or the other protein. As a rule the fibrinogen declines to normal values before the C-reactive protein disappears when the rheumatic process subsides or when a "rebound" comes to an end.

Recently, it has been shown that heparin plasma obtained from patients with active rheumatic disease yields large amounts of a cold-precipitable protein assumed to be closely related to fibrinogen.[13] While this phenomenon has been considered to be the result of a possible qualitative alteration of the fibrinogen molecule in active rheumatic disease, it seems quite likely that the quantitative increase of the cold-precipitable material simply indicates the significant rise of the fibrinogen level in this condition.

In view of the fact that the "acute phase reactants," including the C-reactive protein and the fibrinogen level, are nonspecific indications of an inflammatory process, more specific laboratory procedures have been sought. One such test has been developed by us and termed "fibrinogen polymerization test."[14] It is based on the finding that in a distinct group of diseases the polymerization of plasma fibrinogen is accelerated. Coexistence of fibrinogen and thrombin without coagulation has been observed by us in the phenomenon of fibrinogen preservation in serum by heparin.[15] Whenever minimally heparinized blood coagulates, considerable amounts of fibrinogen can be demonstrated subsequently in the serum of such a specimen. Since further coagulation can be precipitated almost instantly after addition of protamine sulfate, it seems obvious that the "serum" thus obtained contains plasma fibrinogen, thrombin, and heparin in an equilibrium. The coexistence of fibrinogen and thrombin in plasma represents a system similar to that in which the polymerization of a thrombin-containing fibrinogen solution is interfered with by lowering of the pH or the addition of urea or hexamethylene glycol.[16,17] It appears reasonable, therefore, to assume that heparin interferes with polymerization of fibrinogen in addition to its other anticoagulant actions, such as the antithrombic, antiprothrombic, and antithromboplastic effects.

The phenomenon of fibrinogen preservation in serum has offered a tool to distinguish between normal and accelerated fibrinogen polymerization in a given blood specimen. When critical dosages of heparin, such as 8 micrograms per 3 cc. of blood are employed, the citrated serum two hours after gross coagulation normally contains detectable amounts of fibrinogen, indicating normal fibrinogen polymerization or a "negative" fibrinogen polymerization test. Fibrinogen polymerization is accelerated and the fibrinogen polymerization test called "positive" when such a specimen of serum no longer contains any clottable fibrinogen.

Up to this date 476 tests have been carried out on patients with a great variety of clinical conditions. Of this number 209 were carried out serially on 21 patients with acute rheumatic fever in whom other acute phase reactants were studied similarly. The fibrinogen polymerization test was almost uniformly positive and remained so during the greater part of the course of cortisone therapy. The acute phase reactants, however, were suppressed and could no longer be utilized as criteria of rheumatic activity as long as cortisone was administered. In two of these 21 patients the fibrinogen polymerization test was initially doubtful, became positive soon afterward, and remained so during all subsequent examinations. At the end of the cortisone treatment 15 of these 21 patients had negative tests, while the six remaining patients still exhibit positive tests and have continued to stay under observation. An additional smaller group of eight patients with arthralgia following an upper respiratory infection who did not fulfill the criteria of Jones also revealed positive fibrinogen polymerization tests. In six of these eight patients the tests became negative coincident with clinical amelioration, whereas two other patients continued to have positive tests.

Six patients with nonspecific myocarditis and pericarditis[18] gave positive fibrinogen polymerization tests from the beginning of the observation period till over six to twelve months after the onset of the disease.

Six patients with chorea minor were followed serially over a period of about four months each, during which time the fibrinogen polymerization test was uniformly positive and turned negative before the discharge of the patients.

Four patients with acute glomerulonephritis had a negative fibrinogen polymerization test during the first week of illness. From the second to the fourth week, however, it became positive, only to turn negative thereafter.

In view of the fact that the conditions enumerated herein, in which the test has been found to be positive, represent sequelae of an infection with hemolytic streptococci, it was attempted to obtain data on this test in experimentally produced hyperergic reactions such as the Shwartzman phenomenon. Although this reaction per se does not represent an experimental equivalent of rheumatic fever, it is assumed that it constitutes a hyperergic response to an antigen-antibody reaction.[19] In order to support our hypothesis that a positive fibrinogen polymerization test may be considered as evidence of a hyperergic state, a localized Shwartzman reaction was produced in a series of rabbits. While 22 out of 24 such animals with positive Shwartzman reactions gave positive fibrinogen polymerization tests from the tenth to the fourteenth day after appearance of the hemorrhagic necrosis, none of the surviving rabbits had positive tests three weeks later. On the other hand, out of 40 normal control rabbits, 32 animals had negative fibrinogen polymerization tests. It seems, therefore, that a statistically significant number of animals had positive fibrinogen polymerization tests in the presence of a positive Shwartzman phenomenon, while the large majority of normal animals gave negative results. These experimental data seem to support the assumption that the accelerated fibrinogen polymerization, as observed in patients with active rheumatic disease and allied disorders, may be caused by a hyperergic response to the preceding streptococcic infections. Further experimental studies to elucidate this problem are in progress.

Summary

"Acute phase reactants," such as erythrocyte sedimentation rate, C-reactive protein, and plasma fibrinogen concentration, are nonspecific indicators of inflammatory processes. Nevertheless, a correlation between these tests and the degree of rheumatic activity is demonstrable. They are easily suppressed by therapeutic administration of cortisone or ACTH. A newly elaborated procedure, the fibrinogen polymerization test, is independent of the effects of cortisone or ACTH.

It seems to indicate more specifically the presence or absence of a rheumatic process. The fibrinogen polymerization test has been found positive in acute rheumatic fever, active rheumatoid arthritis, nonspecific pericarditis and myocarditis, chorea minor, and in early glomerulonephritis.

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ANNOUNCEMENT

SCIENTIFIC EXHIBITS

SESQUICENTENNIAL CONVENTION

MEDICAL SOCIETY OF THE STATE OF NEW YORK

Applications for space for the scientific exhibits should be made directly to the Chairman of the Subcommittee on Scientific Exhibits of the Convention Committee:

William L. Watson, M.D.
340 East 72nd Street
New York 21, New York

The Sesquicentennial Convention will be held February 18 to 21, 1957, at the Hotel Statler, New York City.

No applications can be considered after November 1, 1956.

There will be two groups of awards:

Group I: Awards in Group I are made for exhibits of individual investigation, which are judged on the basis of originality and excellence of presentation.

Group II: Awards in Group II are made for exhibits which do not exemplify purely experimental studies and which are judged on the basis of presentation and correlation of facts.

W. P. Anderton, M.D., *Secretary*
Medical Society of the State of New York

Malpractice Litigation and Prevention Programs

EDWIN J. HOLMAN, LL.B., CHICAGO, ILLINOIS

(*From the Law Department of the American Medical Association*)

To say that there is much talk and little objective, factual information about professional liability is to understate the fact. Every medical society, every medical journal, and every doctor is conversant with malpractice. Committees have been formed to investigate professional liability; studies have been made and reports have been prepared on the subject; and the general consensus is that doctors are being taken advantage of by litigious patients and profit-seeking insurance carriers.

More than one hundred years ago, in 1848, the published *Transactions of the American Medical Association* included the statement that malpractice litigation then in progress was deserving of notice. In 1873 these *Transactions* reported a colloquy between delegates in which one stated that physicians in Pennsylvania had had a great deal of trouble, caused by the desire to bring lawsuits against surgeons for malpractice. This delegate said, "It is very difficult in Pennsylvania for any surgeon, however skilled in his profession, to discharge his professional duties and not be liable to be brought into suits of this kind." The delegate from Mississippi arose and said, "Experience with these cases leads me to believe that the whole fault lies in the profession. . .Imprudent remarks on the part of physicians very often induce patients to bring suits. . .If physicians would be more guarded in giving advice, or announcing their discoveries there would be no such thing as suits for malpractice and hence we must begin with the profession." The discussion was terminated with this motion, from Michigan, "I move that the matter be dropped and something of more importance to the profession at large be taken up. We are here to discuss medical subjects and not malpractice cases."

In 1901 these *Transactions* contained this report: "In some sections damage suits against physicians and hospitals have become so frequent that the practice of medicine and more especially surgery has become so perilous to the pocket that some good operators have thought of giving up the practice."

In 1939 the then Bureau of Medical Economics of the Association, in its report to the Board of Trustees and the House of Delegates of the Association, noted that reports indicated that in the past few years there had been changes in malpractice policies and rates and that increasing losses had caused insurance companies to become concerned over the selection of risks. This, the Bureau reported, might be due to many causes, among which may be noted: the increasing complexities of medical practice; resentment on part of certain patients of efforts of physicians to collect payments for delinquent accounts; critical comments by some physicians; and general attempts to discredit the medical profession.

Not only is the matter of malpractice nationwide, it appears to be world-wide. The *Journal of the American Medical Association* has carried news reports of malpractice problems in Norway, England, Sweden, and Spain.

Despite the efforts devoted to exploring the many aspects of professional liability, there is little we can say with certainty about it. We do not *know* that more claims are being filed per physician today than there were five, ten, or twenty years ago. We have reason, however, to suspect that this is true. We do not *know* the relation, if there is any, between claims and specialty practice; we do not *know* whether specialization has increased the number of claims or whether it has but shifted emphasis from one practitioner to another. We do not *know* the relation between premium and loss in the area of professional liability. We do not *know* the relation between professional liability and other insurance coverages and losses. We do not *know* the relation of claims against members of medical societies and claims against nonmembers.

Regardless of the unknowns, regardless of what answers may have been found to the questions posed before, malpractice litigation

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and malpractice claims must be reduced to the irreducible minimum if physicians are to be permitted to practice good medicine and to give the public that high quality of medical care which it has grown to expect. Claims and litigation must be reduced if the science of medicine and the practice of medicine are to be permitted to continue the phenomenal development in alleviating sickness, disease, pain, and suffering.

We have approached the problem empirically up to this point. In the hope that we will be able to attack the problem at its source, the American Medical Association, on behalf of its members, is currently engaged in a nationwide, full-fledged study of professional liability.

This study is being conducted by the staff of the Law Department and the staff of the Council on Medical Service. From the point of view of the Law Department it is a task of major importance intended to develop factual information of practical value in considering the many aspects of professional liability.

A member of the American Medical Association staff will visit a representative number of state medical societies, and the remaining societies will be contacted in writing concerning their experiences. Emphasis will be laid on obtaining factual information: What has happened in each state? How many claims are known to have been made in a given period? How many have been settled, dismissed, gone to trial? What is opinion locally concerning the validity of claims? What have been the amounts of settlements or verdicts? How many contested claims or suits have been resolved in favor of physicians? What were the causes, primary and motivating, for initiating claim or suit.

Then, personal visits are contemplated with several insurance companies which wrote or are currently writing this type of coverage to determine in as great detail as possible their experience for a five to ten-year period. Information relative to rate increases and variations, the reasons for such changes, the differences in claim settlement policies, the experiences of claims prevention program, as well as the opinions of insurance officials as to future trends and desirable, corrective measures, should be obtained in this phase of the study.

Next, individual cases will be studied. A significant and representative number of cases will be analyzed to elicit complete information as to the cause of the complaint, the validity of the cause of action, the circumstances which gave rise to the claim, the soundness of the settlement or judgment, and the reaction of the physicians, attorneys, and claimants as to the fairness of the final settlement.

This will permit the preparation of a report which will clearly indicate the exact, current national picture concerning professional liability insurance. From these data the causes for the present supposed situation can be determined, as well as the reasons why problems appear to be or are aggravated in certain areas. From these facts a long-range educational program of claim prevention can be planned and implemented. Current studies so far reflect that uniform statistical patterns are difficult to obtain and utilize because of the time interval between issuance of contract and reporting claim, because of the time interval between report of claim and final settlement, because of the insidious nature of onset of claims, and because of the seeming lack of protection afforded by statute of limitations.

From preliminary studies and reports made by several medical societies, we have gleaned some information. Since 1952, basic rates for professional liability insurance were reduced 25 per cent in one state and have increased from 7 to 100 per cent in 30 states with the median being 40 to 43 per cent. "Basic rates" apply to physicians who do not practice in partnership, who do not engage in major surgery, or who are not identified with the ownership or operation of a hospital or clinic. Basic rates do not cover radiology, surgery, cosmetic surgery, or shock therapy.

Even as studies and statistics are being developed, the serious problems of professional liability are of great concern. It is of little solace to know that others are affected by similar problems. It is recognized that juries are influenced by the increased costs of living or that they are being swayed by exaggerated emotional appeals of claimant's attorneys. To report that the average jury verdict in the Supreme Court of New York increased 149 per cent from 1941 to 1951 is of no assistance. It is known that individuals and groups other than medical are also harrassed and annoyed and damaged by litigious-minded individuals who seemingly are obtaining settlements or verdicts beyond the limits which appeal to reason.

Since 1848 at least, malpractice has been a problem in the United States, and for many years surveys and studies have been conducted. Committees have been formed and have functioned well in efforts to prevent malpractice claims and defend malpractice litigation; yet the problem, if it isn't worse, is definitely no better.

There is an answer. It is simple—simple in saying, even though imposing in implementation. Studies are not self-executing. Surveys are post facto. All the studies and all the surveys in themselves will not reduce the incidence of malpractice claims or lessen the cost of malpractice insurance one iota. A malpractice claim can arise only out of the practice of the physician. It is incontrovertible that the one against whom claim or suit may be brought is the only one who can reduce malpractice claims to the irreducible minimum.

No committee can reduce malpractice; no survey can reduce rates for professional liability insurance. The individual practicing physician alone must observe his obligations to himself, to his colleagues, and to his patients to remove the causes which lead to litigation. Personal, serious, conscientious effort is indicated. Every practicing physician must realize that every patient is a potential claimant. He must realize that "it can happen to him." No one has special immunity, and it is hazardous to proceed on the assumption that although it happened to others, it won't happen to me.

In January, 1955, the *Journal of the Florida Medical Association* carried this editorial comment: "What can be done to remove the trend toward ever-increasing rates for malpractice insurance? We can begin by cleaning house at home and taking seriously our personal relations with patients as well as our public relations with the community. Putting grievance committees out of business for lack of complaints will be better malpractice insurance than money can buy."

It is the unanimous opinion of all who have given serious study to the increase in incidence of malpractice litigation that all physicians should sedulously observe the following practices:

1. Keep adequate records.
2. Obtain proper authorization for medical or surgical procedures.
3. Make adequate use of diagnostic aids.
4. Seek consultation when doubt exists in the physician's mind; when patient complains of lack of progress or the course of treatment; when social or economic aspects of care so indicate.
5. Do not abandon patient; give notice of termination of services.
6. Insist on qualified assistants.
7. Maintain equipment.
8. Avoid mention of insurance coverage.
9. Guarantee no results.
10. Avoid fields in which not properly qualified.
11. Avoid loose, careless talk, and do not criticize previous treatment, unless in possession of all the facts.
12. Maintain confidence and respect of patient, for the incidence of malpractice is in inverse ratio to the degree of personal relationship between physician and patient.

A statement made by the late Dr. Louis Regan, noted authority on professional liability, crystallizes the preferred prevention program: "In the final analysis, it is the physician himself who is responsible for the continuing existence of the vicious malpractice situation. He must be brought to realize that his money payment is only a part of his insurance premium. A much more important part is his contribution of time, of study, and of putting into effect all possible measures to safeguard himself and his colleagues."

Gentlemen—it is up to you!

Sesquicentennial Meeting — February 18 to 21, 1957

RECENT ADVANCES IN MEDICINE AND SURGERY

A series of review articles dealing with medical progress

ROBERT R. TURELL, M.D., *Editor*

Studies in Myasthenia Gravis

KERMIT E. OSSERMAN, M.D., F.A.C.P., NEW YORK CITY

(*From the Myasthenia Gravis Clinic, Department of Medicine, Mount Sinai Hospital*)

*Part II. Relationship of Thymus to Myasthenia Gravis**

There is no more confused problem in myasthenia gravis than that of the thymus gland, its relationship to myasthenia gravis, and the necessity or advisability of thymectomy. As early as 1901 it was found that the thymus gland was enlarged and often associated with tumor formation in myasthenia gravis. As more and more cases came to autopsy, the finding of an enlarged thymus or presence of a thymoma was statistically evaluated. Fulghum[112] states that 50 per cent of the thymus glands in myasthenia gravis showed demonstrable pathology, of which 15 per cent were thymoma.

Furthermore, there are well-documented cases such as Fershtand's[113] and Fisher's[114] in which a malignant tumor of the thymus gland was removed and myasthenia gravis developed subsequent to its removal. I have personally seen two cases in my series where this occurred.

It is now accepted routine to x-ray patients with myasthenia gravis for a mass in the anterior mediastinum. It was found that these could be easily overlooked unless careful technics, including tomography, were performed.[115] Currently, it is advisable to take not only a posterior anterior view but also oblique and lateral x-rays. If there is any suspicion, lateral tomography should be performed.

Bétoulières *et al.*[116] suggest a technic of pneumostratigraphie mediastinal. This is a technic long used by Italians in which a gas or air is introduced into the anterior mediastinum to see the relationship of the thymus to the other structures of the mediastinum.

Hurxthal[117] stated that the incidence in myasthenia gravis was one case in 50,000 of the general clinical admissions to the hospital, that 50 to 75.6 per cent of myasthenia gravis patients have enlargement of the thymus, and that 15 per cent of these have thymomas.

Castleman[29]* reports that 75 per cent of the thymomas remain encapsulated and 25 per cent extend beyond the confines of the thymus into the mediastinal structures. True embolic metastasis is denied by Castleman. He raises the question of whether or not thymomas are malignant. There are reports which state that the pathologist finds that these tumors are benign in histologic character. However, the surgeon performing thymectomy finds that these glands invade pleura and pericardium and have pericardial and pleural implants.[118–125]

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* Part I, Pathology, Physiology, Diagnosis, and Treatment, appeared in the August 15, 1956, issue of the JOURNAL, page 2512.

* See References, Part I.

There are other forms of thymoma associated with true metastasis, and these are probably not the usual type of thymoma but may be Hodgkin's disease or true carcinomas.[126] Thus, 25 per cent of all thymomas found are considered to be malignant in nature, even if not histologically malignant in appearance.

These findings have given rise to the theory that the thymus gland may contain and release a blocking or depressing substance in myasthenia gravis. For several years Wilson[127] has been studying this particular problem and has noted that the extracts of thymus glands, especially that of the fetal whale, contain a depressing substance. The action of these extracts does not resemble that of the ordinary blocking drugs and is not influenced by Prostigmin. The nature of the material is not known.

Zack[128] pointed out that thymic extracts made by some other technic may contain sufficient potassium to account for some of the depression observed. The efforts of Rider[129] to show that a difference in the effect of thymic extracts in the myasthenic and normal subjects or the serum from the myasthenic fail to demonstrate any difference in the cat neuromuscular preparation. Schwartz[130, 131] had animals which, with injection of thymus extract, showed either convulsions or spasms along with vomiting, collapse, and weakness. Therefore, on the basis of this type of experimental work at the present time we are unable to relate the thymus directly to the production in animals of a condition resembling myasthenia gravis. Further work along this line will be done.

Wilson[132] studied the thymus glands removed by Keynes surgically from patients with myasthenia gravis. He studied 42 of these glands and prepared an acetone and later a water extract of these glands. These extracts showed evidence of a neuromuscular blocking action on biologic preparations, including the sciatic, gastrocnemius, and phrenic diaphragm preparations. The effect of tubocurare was used as a control standard. Controls taken from the normal adult thymus showed no such blocking action. In the myasthenic thymus he found three particular groups which he labelled "X," "Y," and "Z." The highest activity of neuromuscular block was in the "X" group but was not due to a greater weight or size of the gland. He compared his "X" group to the "A" and "B" clinical results from Keynes's group, which were complete or almost complete remission, and his "Y" and "Z" groups to the "C" and "D" groups of clinical response in Keynes's series, where there was less or no significant effect from thymectomy. In another paper Wilson[133] gave the statistical values for these groups.

The first operation on the thymus gland was performed by Blalock in 1939[134] in which there was an apparent success in the treatment of myasthenia gravis by the removal of a thymic tumor. At the present time there is no unanimity of opinion on the value of thymectomy in the treatment of myasthenia gravis. This lack of unanimity after seventeen years of performing the operation has caused a great deal of confusion. This is reflected in the opinions of Westerberg,[87]* Mackay,[135] and Schlesinger,[136] who state that thymectomy is evidently not of great value or it would not have been so difficult to determine whether or not it is a helpful procedure.

At first all patients, regardless of age, sex, or the presence of a thymoma, were operated on for relief of their myasthenic symptoms. At Johns Hopkins, after performing a number of thymectomies, they discontinued the operation because of disappointing results. Keynes[137] in England early pointed out that the results in those patients who had a tumor of the thymus gland were entirely different from those who did not have such a mass. Therefore, he began to separate his statistics on the basis of the presence or absence of a thymoma.

Eaton[138,139] published statistics and changed his opinion on the advisability of the operation from pro to con to pro at various times. Finally, Schwab and Leland[140,141] did a statistical survey of those patients who had had the best results from thymectomy. Myasthenia gravis is twice as common in the young female as in the young male and twice as common in the older male as in the female. In their study of 78 cases treated with thymectomy and compared to a control group, they found the following:

1. In patients with thymoma the myasthenia was not benefited.
2. In males they could find no evidence of benefit. Therefore, it is contraindicated, especially if the onset occurred after thirty years of age.

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* See References, Part I.

3. In females without thymomas 53 patients or 63 per cent benefited from this operation, as compared to 34 per cent in the control group. The mortality, including the operative deaths, was 15 per cent in the thymectomized female compared to 28 per cent in the control group.

They concluded that the indication for thymectomy should be the young female under thirty years of age who has had the disease for less than five years and who does not have a thymoma.

Keynes[137] has divided his cases according to results, "A" and "B" being those patients who were quite well or greatly improved following thymectomy and "C" and "D" those cases with somewhat to no improvement following this operation. He found that 60 to 70 per cent of his patients fell into the "A" and "B" classes in his 1945 and 1949 series. He criticized Eaton and Clagett and Grob for not breaking down their figures more properly by excluding the thymoma cases. Keynes does not make a distinction between male and female. He quotes Ross[142] who found that in the medical management remissions do not last as long as surgical remissions. An interesting sidelight of Keynes's report is that he accepts as remission residual symptoms in which there may be some muscular weakness which is irreversible. One or more ocular muscles may not respond to drug therapy. Therefore, he states that drug therapy can be stopped without affecting the patient's health. Here again he quotes the work of Russell[30]* showing that there is muscle necrosis. He feels that there might be irreversible changes in myasthenia gravis which neither thymectomy nor drug treatment can reverse.

Against the performance of thymectomy as a routine measure are Grob,[143] Hoefer,[144] Jørgensen,[145] Bergh,[146] Johnston,[147] Bonduelle,[148] and Ferguson.[149] Some of these men do perform thymectomies in selected cases. Some series are small; therefore, conclusions may not have the validity of those of authorities who have had large series to evaluate. Hoefer[144] reports that they have had spontaneous remissions in 33 of 95 patients and that a few of these patients have had several spontaneous remissions. He states that the first two years of the disease are the most critical in the patient's life.

Grob,[143] in a study of 202 patients with myasthenia gravis followed at Johns Hopkins from one to thirty-four years, found 13 per cent were in complete or near complete remission, 25 per cent had been moderately improved, 20 per cent unchanged, and 10 per cent worse. One-fourth had complete or near complete remission at some time, and the average length of the remission was 4.6 years. Forty-four patients who were thymectomized and 40 who had radiation of the thymus had only a slightly better course than 118 patients who had neither done. Fifteen patients had thymoma; ten of these had a rapid, fulminating course with death, whether or not thymectomy was performed.

Jørgensen[145] treated 12 cases with thymectomy. Two died right after operation; one died five years later. A follow-up of the nine remaining cases revealed that eight reported improvement, and one patient with malignant thymoma was better for one year and then deteriorated. Seven could reduce their dose of Prostigmin, and two had to increase their daily dose. He concludes that thymectomy is justified if the patient's life cannot be rendered tolerable by administration of Prostigmin. He has no control series.

Bergh[146] reported 12 cases, two with thymoma, and four postoperative deaths. He concluded that myasthenia gravis should be treated conservatively until convincing evidence for the operation is presented. A study of the age and sex of his patients shows that most of them were females in the twenty-one to fifty-year age group. Johnston[147] reports a case successfully brought out of crisis by thymectomy.

Recently, Ferguson[149] reported on the medical management of myasthenia gravis. He quotes Kennedy and Moersch (1937)[150] in a review of 87 cases followed for an average of four years prior to the availability of Prostigmin when thymectomy was not practiced. They noted complete, spontaneous remissions in 27 patients. These remissions ranged in duration from one month to fifteen years with an average of 2.2 years. Ferguson studied 85 cases of myasthenia gravis from 1932 to 1954 which had been optimally treated with Prostigmin earlier and some with Mestinon in more recent years. Seventy-five of these cases were treated medically. There were 60 survivors who were re-examined in 1954. Forty-nine of the cases were female and 26 male. The average age of onset was thirty-four years, but the range was from the first day of life to seventy-one years of age.

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* See References, Part I.

It has long been recognized that myasthenia may restrict itself to the ocular muscles only.[151–157] Grob[143] in 1953 drew attention to the need for segregation of the ocular group for purposes of assessment. This was done by Eaton et al.[139,158,159] in 1953, but Keynes's figures do not seem to take this factor into account, for the functional studies by Ross include no reference to it. In 44 of the 75 cases of Ferguson the onset was signaled by ocular symptoms only, and in 27 of these cases the disorder remained confined to the ocular muscles. Only one of the patients died (carcinoma of the tongue). Grob takes the view that when the ocular form persists for more than two years, extension to the generalized form is unlikely. However, Ferguson found that in seven of his cases the ocular weakness extended to the other muscles at intervals ranging from three to thirteen years after the first symptoms. Ferguson assumes, therefore, that in assessing clinical progress, patients with this benign ocular type, in which any method of treatment will give good results, should always be separated from patients with the generalized type. Thirty-two of Ferguson's patients had remissions, and some had repeated remissions so that there were 81 in the entire series. The average duration of remission was 4.9 years. He concludes that a decision to advise thymectomy may be made if the condition is generalized at an early stage and cannot be controlled adequately with Prostigmin. The extension of the ocular form to the generalized type might also be an indication for operative treatment.

In an attempt to evaluate the indication for thymectomy, Eaton and Clagett[160] reviewed all the cases operated on at the Mayo Clinic, using the statistical analysis advocated by Schwab and Leland. They reported that their data were remarkably similar to those of Schwab and Leland in that there were good results with female patients but that they failed statistically to demonstrate good results in the male patient. Fifty-three per cent of the female patients from whom a non-neoplastic thymus was removed obtained complete remission or considerable improvement, whereas only 20 per cent of control female patients obtained comparable status without surgery. Furthermore, only 13 per cent of the female patients treated surgically became worse or died, whereas 33 per cent of the control female patients were in those categories. They also broke down their statistics on the older female patients, and it appears that results with older women are not significantly different from those in younger females.

Objection has been raised on the basis that this does not seem logical. Why should the female and not the male be helped by the operation? If the thymic gland has some influence in myasthenia gravis, why should not the patient who has a thymoma with a marked increase in thymic tissue be helped by this operation? Nevertheless, we cannot avoid the statistical findings of investigators like Keynes, Schwab, Viets,[161] and Eaton and Clagett who have shown that by performing this operation the remission rate can be increased by about 100 per cent.

I think a caution should be raised here in that the female who fulfills all these requirements, but has a relatively mild onset without progression, should not be subjected to the operation, while the patient who has an acute, fulminating onset or who has a rapid progression from a simple to a major form of myasthenia should be the case selected for the operation.[162]

Thymoma

So far we have been discussing the problem of thymectomy in the myasthenic patient who does not have a thymoma. What is the indication for thymectomy in the patient who does have a thymoma? Most investigators feel that since 25 per cent of these cases are potentially malignant, these tumors should be removed regardless of the fact that the patient has myasthenia gravis. Nevertheless, there are reports, single cases and some small series, in which patients who did have a thymoma and myasthenia gravis were helped by the operation.[163,164] However, we must recognize that the patient with thymoma is much more ill, has a higher operative mortality than the patient without thymoma, and is more likely to have a stormy postoperative course.

Keynes[165] reports that 41 of his 260 patients with myasthenia gravis had thymoma, an incidence of 15.4 per cent. He was able to find ten other cases from a colleague which he added to his series for analysis. Out of 51 cases there were 22 males and 29 females. Keynes feels that the term "malignant" has been too rigidly interpreted, and he gives reasons why all these tumors are in some respect malignant. He states that the symptoms are always severe with tumors, that the response to Prostigmin is slow and sometimes incomplete, and that there is a rapid, severe onset associated with tumors. Before 1947 he treated all of these cases with a primary operation. He had 11 such cases; only three survived for more than two years, and only one is alive at the time of his 1954 report.

Since 1947 he has begun to treat these cases with x-ray radiation, and he has so treated 26, using 4,000 r in divided doses over a period of four weeks or longer prior to surgery. Subsequently, 21 of these 26 cases came to surgery. One was inoperable, and the patient died eighteen months later. Of the remaining 20, four died, one was no better, three were improved at first and later relapsed, eight showed considerable improvement, and four were quite well and asymptomatic. Thus, he makes a strong point for treating these cases with x-ray radiation first and subsequently removing the thymoma by surgery.

Williams[166] has reported on 13 cases, nine of which were operated on but had received 4,000 r to the anterior mediastinum either preoperatively or postoperatively. Four cases were treated by x-ray alone. He feels that x-ray yields almost as good results as x-ray and thymectomy.

Bonduelle[148] claims that radiotherapy is the best treatment in these conditions. LaGarde[167] had a case of malignant thymoma which was treated with 1,500 r per field. He claims that the x-ray had no effect on the clinical state or the size of the tumor, and the patient died. The autopsy confirmed the diagnosis. Masson[168] had three cases of thymoma in males where the tumor was found by x-ray. They were treated with x-ray therapy, 6,000 to 9,000 r. One case died rapidly from hepatopancreatic metastasis. The two others had regression of x-ray shadow, followed by improvement of their myasthenia. I must agree with Keynes that x-ray therapy followed by surgery would be the best treatment.

Radiotherapy to Create a Remission

Kennedy,[169] on the basis that the thymus might be involved in myasthenia gravis, treated his myasthenia patients with 200 r on three separate occasions for a total of 600 r as a means of inducing remission. He claims to have obtained remissions in a number of patients. Recently, Westerberg[37]* published the same technic and recommended it in the treatment of myasthenia. We have seen an occasional remission brought on by such a course of treatment.

Anesthesia

We can find no papers directly related to the surgical care of the myasthenic patient, but in a number of papers, particularly from the English authors on thymectomy, there are excellent rules laid down for the proper care of the myasthenic patient. The anesthetist or the physiotherapist should teach the patient to breathe properly, cough, and take care of himself in his postoperative period.

A number of papers have been published on the use of anesthesia in these patients.[170-175] As has been pointed out, myasthenia gravis patients are particularly sensitive to curare, and in all of these papers this fact is re-emphasized.

Lande[172] used local anesthesia, 10 cc. of procaine, for carotid sinus denervations. For thymectomy he found that general anesthesia was best. He rejected all products that irritated the respiratory tract, such as ether or trichloroethylene. He found that the best gas inhalation was nitrous oxide or cyclopropane. If he needed a relaxant, he used decamethonium or succinyl choline. He used endotracheal intubation to insure proper oxygenation throughout the operation and repeated intratracheal aspiration to avoid any blocking of the respiratory tract. The patient must be protected against pulmonary atelectasis and collapse. He does not say how except through clearing the bronchial tract. Postoperatively, antibiotics and Prostigmin are given, and the patient is watched closely to make sure that he gets good thoracic expansion—as complete as possible before coming off the table.

Bergh[171] found that myasthenia is a contraindication to the use of relaxants, especially curare. Succylmethonium chloride may be given safely. He reports the case of a Bantu with combined thyrotoxicosis and myasthenia gravis in which he had to resort to a relaxant and used succylmethonium chloride since the patient coughed and strained with the general anesthesia, even though he was intubated. The patient withstood an initial dose of 25 mg. with only slight respiratory depression not preceded by fasciculation. A further 100 mg. were given slowly with marked respiratory depression but not complete apnea. In another report he states that succinyl chloride is the only relaxant to use.

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* See References, Part I.

Dundee[174] again states that the patient is sensitive to curare and flaxedil, which cause a neuromuscular competition block. However, decamethonium acts by a depolarization block, and myasthenics show a normal response to it. MacKenzie[175] states that no relaxers are needed when using cyclopropane. Later, large doses of Prostigmin are essential to restart the spontaneous breathing.

Foldes[176] has an entirely different approach to this problem from previous authors (Churchill-Davidson). He states that the noninvolved muscles of the myasthenic patient are less sensitive to depolarizing muscle relaxants than those of normal individuals. Furthermore, the involved muscles may have an increased sensitivity to these compounds, and the block produced would be a typical nondepolarizing, curare-type block, reversible by neostigmine, Tensilon, or similar compounds. Consequently, the dose of depolarizing relaxant necessary to produce adequate surgical relaxation in the noninvolved muscle might be a severe overdose to the involved muscle. Therefore, Foldes suggests the careful use of d-tubocurare or flaxedil in these patients. The initial dose of d-tubocurare should be 0.3 mg. If this does not produce relaxation, additional doses should be given three minutes apart until the desired relaxation is obtained. The development of apnea should be avoided in these patients. Assisted instead of controlled respiration should be resorted to. Fractional doses of 0.3 mg. or more should be given as required.[177] The initial dose of flaxedil should be 5 to 10 mg. However, in my opinion the use of d-tubocurare or flaxedil cannot be recommended until further corroborating experience is obtained.

In summary, the best preparation for a patient for anesthesia is proper use of cholinergic drugs without the use of atropine which can thicken bronchial secretions and mask overdosage of the cholinergic drugs. Demerol is probably the best preoperative sedative. Anesthesia is started with cyclopropane. The patient is intubated and carried with positive pressure anesthesia during thymectomy. Very rarely, if ever, should relaxant drugs be used in these cases. At the end of the operation the lungs should be thoroughly inflated and washed with oxygen. Cholinergic medication should be given throughout the operation as indicated. Following the operation the patient is placed on a maintenance dose of his cholinergic medication. Postoperatively the patient is followed by a team consisting of the internist or neurologist, the surgeon, the anesthetist, and the otolaryngologist to ensure full coverage for all emergencies.

Carotid Sinus Denervation

In an attempt to influence the course of myasthenia gravis, denervating the carotid sinus was started in France. A number of reports have come from Thévenard,[178,179] and subsequently reports have come from various sections of Europe,[41]* the most recent being from Mertens[180] in Germany. This operation was first performed in 1943 by LaGarde. Thévenard reports 20 cases of his own. Fifteen were of severe myasthenia gravis with unquestioned diagnosis. He states that much is unknown about the physiology of the operation but that favorable effects occurred in varying degrees in 60 per cent of the cases operated. The operation has an antimyasthenic effect with stabilization of the disease. However, it takes time before the full effect occurs. There may be a delay of up to a year. The rationale for this operation was animal experiments which showed that carotid sinus denervation is followed by adrenocortical hypertrophy. The early reports on cortisone and ACTH, which showed favorable results in the treatment of myasthenia gravis, were the inspiration for the continuation of this work.

Mertens has collected 28 cases published in the literature, including four of his own. He states that results have been reported favorable in 60 per cent of the cases and that age does not play a role. There are no complications from the operation. However, he states that his own results are not so good as those reported in the literature, and he cannot personally recommend the operation. Mertens operated on four cases. He first used Novocain block anesthesia to assess results. Case 1 was considered a good result. The second case was excellent for nine months and then exacerbated. His other two cases did not do well at all.

If a thymoma is present, the denervation operation is done first, and then, when the patient responds, the secondary thymectomy is performed. The operation is performed under local anesthesia. Thévenard demands that a bilateral operation be performed. No such operation has been reported in this country; thus, there is no way to evaluate the procedure.

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* See References, Part I.

Influence of Pregnancy and Menses

There have been very few reports in the recent literature on this subject. Keynes[181] in 1952 wrote about the effect of menses. In 65 patients the symptoms were made worse in 31 patients and were unaffected in 31. In 16 patients after thymectomy symptoms were unaffected.

Schaposnik[182] reviewed the literature and found that pregnancy had some definite effect on myasthenia gravis, causing either exacerbation, remission, or absence of any noticeable effect. Also, there might be an irregular course of exacerbation and remission in the same pregnancy. There were different effects in various pregnancies of the same woman. The pregnancy effected a marked precipitating course of the myasthenia in some of these women.

Schlezinger[183] reported on four patients with six pregnancies which seemed to illustrate the unpredictable reaction of myasthenia during pregnancy. In a discussion of the paper Kosovsky, Speert, and Osserman[184] reported on 22 myasthenic patients having a total of 33 pregnancies. Thirty-two per cent showed a definite remission; 34 per cent showed no change, and 34 per cent showed a definite relapse associated with the pregnancy. In those patients who had repeated pregnancies, each pregnancy had its own influence on the myasthenia. They reported six therapeutic abortions and seven spontaneous miscarriages in the series. The occurrence of spontaneous abortion bore no apparent relationship to the degree of severity of the myasthenic symptoms. However, following the spontaneous abortion marked symptomatic improvement was observed.

Delivery and labor were normal, provided adequate cholinergic therapy was given. Myasthenia gravis is not an indication for cesarean section, and the decision to perform a section is governed solely by obstetric considerations. A three-month postpartum follow-up usually reflected the myasthenic status during the pregnancy. In those cases showing postpartum deterioration the added physical burden on the mother of the newborn may have been an added factor.

Transient Neonatal and Juvenile Myasthenia Gravis

Myasthenia gravis in infants and children is not so rare as it has been considered to be. In a historical review of myasthenia gravis Viets[185] found eight cases reported to the year 1900. Only eight cases are recorded in the literature from 1908 to 1930.[186–193] With the introduction of the Prostigmin test the diagnosis was made more often. Thus, in the decade of the thirties there are four reports.[194–117] Nevertheless, in 1940[198] it was reported that myasthenia in children was both infrequent and dubious. In the decade of the forties 16 reports are recorded in the literature.[198–213] Since 1950 a total 51 reports dealing with myasthenia in children have been published.[46,75,107,110,*137,144,146,180,214–254] Thus, to date, we have found 217 cases of myasthenia in infants and children in the literature.

In 1942[201] the first case of myasthenia gravis in a baby born to a myasthenic mother was reported in detail. Subsequently, the term "neonatal myasthenia gravis" was used to describe the transient type, and "congenital myasthenia gravis" was used for the persistent form in children of nonmyasthenic mothers.[208] The latter group was further subdivided[244] into "congenital" and "acquired" types depending on age of onset. Teng and Osserman[254] suggest the use of the term "juvenile myasthenia gravis" to clarify "congenital," the symptoms of which may develop at birth or at any time during the growing years.

Currently there are 27 cases of neonatal myasthenia gravis described in the medical literature. The first reported case of a neonatal myasthenic infant[201] died of respiratory failure on the seventh day despite treatment with neostigmine. In 1944[205] the birth of myasthenic infants in two successive pregnancies of a myasthenic woman was reported. Other cases have been described.[46,107,110,*201,205,209–211,213,220–223,227–229,233,234,244,245,254]

A study of these cases showed that there was no correlation between the severity of the infant's symptoms and the duration of the mother's illness or the severity of the mother's myasthenia during pregnancy. The literature reveals three cases[209,211,223] in which thymectomy performed on mothers prior to pregnancy did not prevent signs of myasthenia gravis from occurring in their three infants at birth.

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* See References, Part I.

Symmetric muscular weakness is a feature in infants affected by this disorder. These infants are described as being limpy, motionless, or with feeble movements of the limbs. The muscles are atonic or markedly hypotonic. The Moro response is usually absent or very weak. Prominent symptoms are exhibited by bulbar muscles, such as feeble or voiceless crying, inability to suck, difficulty in swallowing and breathing, and an expressionless face.

The extraocular muscles are rarely affected. Ptosis is also uncommon. This is in contrast to the symptoms in juvenile and adult patients in whom involvement of the extraocular muscles is most common.

Neonatal myasthenia gravis is a disease of short duration. Its natural course usually lasts from a few hours to seven weeks. Recovery is complete. The diagnosis of transient neonatal myasthenia is not difficult to establish if one bears in mind that a myasthenic mother might give birth to an infant affected by the same disease. Once this condition has been noted, the pregnancy should be particularly suspect and followed closely at term. Once the diagnosis is established, the infant is treated with a maintenance dose of cholinergic drugs, such as Prostigmin or Mestinon, in order to relieve the symptoms. The dosage of Prostigmin which has been used in these patients varied from 0.05 to 1 mg. of the injectable preparation and from 1 to 5 mg. by mouth with each feeding. This range indicates that an adequate dose of cholinergic drug differs in each individual case.

Myasthenia gravis in children is being diagnosed more frequently, and there are 190 cases reported to date. The preponderance seems to be in females in about the same ratio as in adults. The age of onset can occur from birth or in the first hours of life up to adolescence.

Although myasthenia gravis is said not to be a hereditary disease, in the juvenile form the frequency of sibling incidence is fairly high; Teng and Osserman[254] reported seven of 19 patients with a family history including brothers, sisters, and first cousins. Hart,[190] Rothbart,[195] Riley,[204] Bowman,[207] Levin,[208] and Mackay[225] had previously reported this familial incidence. Nevertheless, a genetic basis for myasthenia gravis is difficult to accept.

The symptoms and signs observed in children differ from those in adult patients. The distinctive characteristic in children is the general bilateral and symmetric distribution of weakness, involving the eyes, face, neck, body, and limbs. In adults weakness is usually asymmetric. This is borne out in children having bilateral, symmetric ptosis with a complete or fairly complete ophthalmoplegia without diplopia. Weakness in facial and skeletal muscles is almost always present.

The diagnosis depends on a high degree of suspicion, and a family history should make one suspect the condition, particularly in the newborn. Recourse to Prostigmin or Tensilon will establish the diagnosis; 0.05 to 0.1 cc. of Tensilon is given parenterally to the newborn and 0.2 cc. to the growing child.[254]

The prognosis in juvenile myasthenia is much better than for the adult form. The mortality rate is reported as 4 per cent as compared to 15 to 28 per cent in the adult. The disorder in children responds well to treatment. Crisis occurs infrequently, and spontaneous remissions do occur, although not often. Thymectomy is now being tried in children, but definitive reports in sufficient numbers are not as yet available.[137]

Endocrines

The role of the thymus has been fully discussed. The thymus appears to act as an end organ, similar to the thyroid in hyperthyroidism. The pituitary and adrenal glands have been discussed through the use of their products ACTH and corticotropin. Zondek[255] reports a case of concomitant myasthenia and exophthalmos treated successfully by radiotherapy to the pituitary.

The influence of the sex glands has been discussed to some extent in the influence of pregnancy and menstruation in the female. Research is in progress but is as yet unreported in this field. Ingle[256] reported on the effect of endocrine glands on normal muscle work.

The thyroid gland has long been found to be overactive in myasthenia gravis, perhaps more so than one would expect. In fact, because hyperthyroidism causes lymphorrhages and asthenia, the question has been raised as to whether these patients are truly myasthenic or may be toxic hyperthyroids. Numerous articles on this subject have been published but not too many recently.

Maclean,[257] quoting earlier authors, states that thyrotoxic asthenia can be helped by Prostigmin. He sees a typical see-saw relationship which has been reported between thyrotoxicosis and myasthenia gravis, with both existent in the same patient; that is, as one treats a thyrotoxicosis, the myasthenia gets worse, and the converse is equally true. Therefore, he states that one must not be overvigorous in the treatment of the thyrotoxicosis. He uses propylthouracil instead of surgery. This opinion has been challenged.

Summary

The recent literature has emphasized rather important developments in the field of myasthenia gravis:

1. The various clinical types of myasthenia gravis described lead one to believe that it is a symptom complex with the common denominator of neuromuscular block rather than a single disease.
2. There is now definite recognition that cholinergic weakness can be induced by overtreatment with cholinergic drugs.
3. Mestinon and Mytelase are now accepted drugs in addition to Prostigmin in the treatment of myasthenia gravis.
4. The indications for thymectomy are now slowly being resolved. The weight of statistics currently is in favor of surgical intervention in the young female. However, the thymus seems to be an end organ rather than a prime cause of myasthenia gravis.
5. It is now recognized that there is a definite pediatric form of myasthenia which may be either (*a*) transient neonatal in those children born of myasthenic mothers, a temporary form of myasthenia gravis, or (*b*) the juvenile type in children born of nonmyasthenic mothers, which is characterized by bilateral symmetric symptoms and very frequently by a history of more than one case in the family.
6. A new operation, carotid sinus denervation, has been reported in the foreign literature. This operation has not been performed in this country, and we must await further information on the value of this procedure.
7. New drugs are still being tried, but we must await further information on their usefulness.
8. A rapid diagnostic test, Tensilon, has been brought into use in the last few years. It has proved to be a valuable test in the differential diagnosis of muscular weakness and a useful adjunct in the evaluation and stabilization of the treatment requirements of the patient with myasthenia gravis.

4 East 89th Street

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(*Number seven of a series on Recent Advances in Medicine and Surgery*)

Sheehan's Syndrome: Postpartum Panhypopituitarism

Although not a common syndrome, postpartum panhypopituitarism, resulting from obstetric hemorrhage at term with attendant shock, should be considered as a possibility in all cases where these complications occur. This is particularly important since current treatment can ameliorate the symptoms, protect the patient in times of stress, and prevent secondary glandular hypofunction by indicated replacement therapy. Where there has been a history of hemorrhage, the patient should be watched for failure of lactation, loss of pubic and axillary hair, later amenorrhea, amelioration of existing diabetes, and signs associated with pituitary hypofunction. Because of the lowered stress tolerance of such patients, they should be carefully evaluated before anticipated surgery or in the presence of a developing infection. A single case is presented in which brief follow-up showed a gain of five pounds in one month with general improvement under the outlined regimen of hormone therapy.—*A. M. Taylor, M.D., Journal of the Tennessee State Medical Association, December, 1955*

Paravertebral Procaine Block for the Treatment of Herpes Zoster

STEPHAN S. ROSENAK, M.D., F.A.C.S., NEW YORK CITY

THE vast literature of the past two decades on herpes zoster agrees in principle on the etiology and underlying pathologic process in this disease. There is suggestive direct and circumstantial evidence that the causative agent is the Varicella virus.[1,2] Thus the hypothesis of Bokay formulated at the turn of the century has gained acceptance. There is substantial proof of the presence of the virus in the liquid of the blister formations of the skin,[3,4] as well as at the central sites of the pathology.

It is further agreed that this disease is substantially a posterior poliomyelitis,[5] involving the spinal cord and the analogous cranial structures. It affects primarily the dorsal root and sympathetic ganglia. Both structures are embryologically a part of the spinal cord, although they became anatomically extrapolated in later development. It is known that the pathology affecting these structures may extend to the anterolateral cell group of the cord proper and, occasionally, to the anterior root motor neurons. In this case sensory disturbances are found to be associated with motor nuclear disturbances as well.[6,7]

Fortunately, such an extension of the disease is rare, and sensory disturbances are prevalent. These occur in the acute phase of the disease in the form of severe pain or burning sensation, parietal and/or visceral, and in the postherpetic phase as steady pain or paresthesias without motor involvement in the affected segments. While the disease is basically of segmental nature, more than one segment is commonly involved, either simultaneously or in staggering fashion. This can be unilateral or bilateral. Occasionally, diffuse systemic symptoms and signs suggestive of encephalitis are encountered.

While the etiology and pathology, as mentioned above, are well accepted today, there is a disheartening lack of conformity in the method of treatment of this particular disease.

Treatment

In the absence of a specific antiviral agent, the multitude of recommended medical therapeutic measures indicates that none of them is convincingly satisfactory.

The efficacy of any therapeutic procedure is difficult to assess in herpes zoster because the disease is usually self-limited. Its duration may vary from eight days to about three weeks or even longer. The accompanying pain may be either slight or excruciating; the skin lesions are missing altogether on occasion or are hardly noticeable, while severe necrosis with secondary infection may incapacitate some patients.

In view of the variable course and duration of this disease any form of treatment which calls for repeated and prolonged administration or medication is of questionable value. This applies specifically to the regional and systemic application of thiamine chloride[8]; oral medication with ganglion-blocking agents; injections of prostigmine; posterior pituitary extract; nonspecific protein therapy such as autohemotherapy; injections of diphtheria antitoxin, protamide, cobra venom; the use of antibiotics such as sulfapyridine, Aureomycin, and related chemicals (except for combating mixed infections of the skin lesions); ultraviolet and infrared radiations to the affected skin segments; and ACTH therapy.[9–14] X-ray therapy appears to have more merit, although it shares with the aforementioned modalities the necessity of protracted medication for a period of time which extends often to the usual life span of the disease.

To date the only treatment which shows a dramatic or consistently fast relief of the symptoms and a clear-cut shortening of the duration of this disease is the paravertebral block therapy. The efficacy of this method was accidentally discovered by me in 1936[15] in a case of mild peripheral vascular disease when an extremely painful gluteal pain was promptly and permanently relieved by a diagnostic paravertebral block with 0.5 per cent procaine hydrochloride. On re-examination of the patient the day after the injection, dried blisters of a typical herpes zoster eruption were discovered. Encouraged by this experience, within one year I deliberately treated 21 cases with paravertebral block with most gratifying

TABLE I.—Summary of 47 Cases Treated

Case*	Sex	Age	Side	Site**	Duration (Days)	Procaine (Per Cent)	Time Required for Improvement (Hours)		Results
							Pain	Skin	
1	M	50	R	L 1 to 5	2	0.5	?	24	Satisfactory
2	M	52	R	D 12, L 1	3	0.5	?	24	Satisfactory
3	M	62	R	D 7 to 9	3	0.5	?	48	Satisfactory
4	M	17	R	D 11, 12 L 1	3	0.5	?	48	Satisfactory
5	F	34	R	L 4, 5	5	0.5	?	48	Satisfactory
6	M	30	L	C 5 to D 2	2	0.5	?	48	Satisfactory
7	F	63	R	D 5, 6	10	0.5	24	48	Satisfactory
8	M	48	R	D 1, 2	2	0.5	?	48	Satisfactory
9	F	54	R	D 5, 6	2	0.5	?	48	Satisfactory
10	M	41	R	D 6	7	0.5	?	48	Satisfactory
11†	F	47	R	C6 to D 1	14	0.5	..	..	Failure
12	F	74	L	D 9 to 12	4	0.5	24	48	Satisfactory
13	F	62	R	D 3 to 7	4	0.5	24	48	Satisfactory
14	M	40	R	L 3 to 5	2	0.5	0	48	Satisfactory
15	F	72	R	C 7 to D 1	3	0.5	?	48	Satisfactory
16	F	45	R	D 1, 2 and 6 to 8	10	0.5	..	..	Failure
17	M	64	L	D 2, 3	4	0.5	?	48	Satisfactory
18	F	36	L	D 6, 7	?	0.5	?	24	Satisfactory
19	F	64	R	D 6, 8	2	0.5	0	48	Satisfactory
20	F	32	L	V Cranial I	3	0.5	8	48	Satisfactory
21	F	77	L	V Cranial I	4	0.5	24	24	Satisfactory
22	M	23	R	D 4, 5	4	1.0	8	24	Satisfactory
23	M	38	R	L 2, 4	6	0.5	16	48	Satisfactory
24	F	34	R	D 11, L 2	3	0.5	22	48	Satisfactory
25	F	26	L	V Cranial	2	0.5††	6	24	Satisfactory
26	M	48	R	D 4	6	0.5	12	48	Satisfactory
27	M	38	R	V Cranial	3	0.5††	8	24	Satisfactory
28	F	58	Bilateral	D 6 to 8	14	0.5	?	..	Failure
29	M	64	L	L 4, 5	3	1.0	24	36	Satisfactory
30	M	68	R	D 12, L 2	4 to 5	0.5	24	48	Satisfactory
31	M	61	R L	D 6 L 2	4 to 5	1.0	22	48	Satisfactory
32	F	26	R	C 8	3	1.0	16	40	Satisfactory
33	M	28	L	C 8, D 1	8	1.0	8	48	Satisfactory
34	M	45	L	D 10	8	1.0	24	48	Satisfactory
35	F	68	L	L 3	2	1.0	8	30	Satisfactory
36	M	18	L	D 1	2	1.0	6	24	Satisfactory
37	F	22	Bilateral	D 10	3	1.0	16	24	Satisfactory
38	M	28	R	L 5	5	1.0	24	48	Satisfactory
39	F	18	R L	D 12 L 1	2 to 3	1.0	24	48	Satisfactory
40	F	26	L	D 9, 10	4	1.0	8	48	Satisfactory
41	M	54	R	L 2 to 5	3	0.5	24	48	Satisfactory
42	F	68	R	D 4	8	0.5	8	24	Satisfactory
43	F	64	R	D 5, 6	12	0.5	12	48	Satisfactory
44	M	48	R	D 11, 12	16	1.0	..	..	Failure
45	F	80	R	C 6 to 8	4	0.5	?	48	Satisfactory
46	M	56	R	D 11	6	1.0	8	48	Satisfactory
47	M	59	R	L 2 to 4	8	0.5	24	48	Satisfactory

* Cases compiled from a previous publication.[9]

† Responded 28 days after onset of herpes zoster to another block at levels C 4 to 6 and D 1, 2; pain and a new crop of vesicles disappeared in 48 hours.

** L, lumbar; D, dorsal; C, cervical levels.

†† Gasserian ganglion block.

results. Since this time I have had 26 more cases which were treated in similar fashion with comparable results. Table I gives the summary of my entire material consisting of 47 cases treated between 1936 and 1954.

Technic and Results

Procaine hydrochloride 0.5 to 1 per cent was used. In most cases the afflicted segment was injected, as was the segment above and below it. In the first series (Cases 1 to 21) of cases in which many segments were involved, in older individuals, and in cases with ophthalmic involvement in which the Gasserian ganglion was injected, 0.5 per cent solution was used; otherwise the 1 per cent solution was used. The solution was freshly prepared in most instances. The injections had a double purpose: to block both the intervertebral ganglia and the segmental portions of the sympathetic chain. I employed the standard technic of Kappis[16] for these injections. For the cervical region I followed exclusively the posterior route, which I considered the safest. For a block of Gasser's ganglion I followed Härtel's[17] technic.

Mishaps of no major consequence occurred three times in 174 blocks. In one case the procaine solution injected in the intervertebral ganglion of the sixth dorsal nerve on the right side in twenty minutes caused a bilateral segmental anesthesia at the fifth and sixth dorsal nerves, indicating the presence of the solution in the epidural space. The anesthesia wore off in twenty minutes without further consequence and with satisfactory effect on the course of the disease. In one instance the needle had to be withdrawn after an attempt to inject the fourth dorsal nerve on the right side because of a coughing spell occurring when the needle approached the paravertebral space. In another case a coughing spell followed the injection of procaine in the same area. This patient showed signs of a mild pleural irritation, such as pain on breathing and pleural rub over the right lung, for three days. Thus, inconsequential complications occurred in 1.7 per cent of the blocks. Needless to say, the skill and experience of the operator are necessary requisites for this therapy.

Results are summarized in Table I. They were generally gratifying in over 90 per cent of the cases. The course of the disease showed definite improvement; pain disappeared or diminished about fifteen minutes after injection. Such anesthesia or hypesthesia lasted usually twenty to forty-five minutes. Spontaneous diminution of pain started in most cases eight hours after injection, and complete cessation occurred in twenty-four hours. By that time the specific inflammatory reaction around the blisters subsided, and in most cases the blisters dried up within forty-eight hours. No other supporting therapy was given except in four cases where suppuration of the skin lesion due to secondary infection appeared, for which topical antibiotics were used.

Complete failure of paravertebral block therapy was seen in four patients. All four had common features: The disease was in its tenth day or more at the time of the block therapy; it extended to a number of segments, and new segmental involvement became apparent the day after the nerve block. In addition, signs and symptoms of encephalitis developed in one patient about three days after our therapeutic attempts. In two additional cases the block therapy had to be repeated. One was a female in her fifth decade in whom the block was ineffective and had to be repeated twenty-eight days after onset of the disease (Case 11), this time with success. The other was a male in the same age group who had extensive blister formation at the right second to fourth lumbar levels. Paravertebral block abolished pain and skin lesions promptly in the corresponding dermatomes, but the patient continued to complain of a deep visceral burning sensation, necessitating repetition of the sympathetic block on the right side, this time with complete relief.

Comment

This paper was prompted by several inquiries about further experiences in this field since my first publication in 1938.[15] A number of investigators tried this therapy, following my recommendations.[5,18–21] Their results are essentially comparable to mine. Those who treated early cases had excellent results and appear enthusiastic about this modality of therapy, such as Findley and Patzer[21] and Lovell,[18] who stated that paravertebral block therapy for herpes zoster was the "treatment of choice, making every other modality obsolete." The largest number of cases, besides those reported by me, were published by Ferris and Martin[5] in 1950. In 22 cases of comparatively early herpes zoster, they reported complete recovery from one block treatment in 75 per cent of their patients, while the rest responded to a second block two days later. Interestingly enough, some of those who use purely sympathetic blocks or local injections[22] report no influence on skin lesions,[19] while those who inject the segmental nerve roots, with or without the sympathetics, observed regression of the skin lesions.

This is particularly interesting in ophthalmic herpes zoster where procaine injection into the Gasserian ganglion will arrest the disease promptly, while block of the cervical sympathetic pathways appears to be less effective. Subcutaneous Novocain infiltration of the skin lesion[22] is of questionable value for relief of pain, in the clinical course of the skin lesions, and for prevention of postherpetic pains.

The treatment of postherpetic pain with paravertebral block appears to be disappointing. I tried it in three cases, only to observe a shortlived anesthesia, a finding which has been reported by others. This fact is understandable when one considers that even chordotomy at high level will not abolish such pain, indicating that the seat of the pathology is probably in the brain stem or the thalamus. Another interesting observation is the lack of development of postherpetic pain in those who have been successfully treated by paravertebral block. This, of course, is difficult to evaluate because the exact frequency of the incidence of postherpetic pain is not known. The only data I could find were on ophthalmic herpes zoster.

Tatlow[23] reported 58 cases, 47 of which were traced. One of these developed severe postherpetic pain, but out of 29 examined patients seven had persistent pain of milder degree and diminution of some sensory modalities. Five more had sensory diminution without pain. These data, representing an incidence of 17 per cent, are statistically significant enough to permit the assumption that paravertebral block in our material was instrumental in the prevention of postherpetic pain. This is the more likely because only severe cases of the common herpes zoster reach the anesthetist or surgeon, while practically every case of ophthalmic zoster will seek medical advice.

The preventive protection of paravertebral block against postherpetic pain and the interesting course of the relief of pain after the block treatment would call for a revision of our concept of the mode of action of procaine on the diseased segments. The hypothesis that the beneficial effect of block therapy can be explained on the basis of abolition of noxious proprioceptive reflexes is not supported by practical experience. First, subcutaneous block, as discussed above is ineffective. Second, the anesthesia following paravertebral block is at first temporary; the pain usually returns after a brief period of anesthesia, only to vanish gradually after a few hours or even a day later without further medication. It appears rather that procaine interferes locally with the action of the virus itself either in its original form or, as is more likely, by its breakdown product, para-aminobenzoic acid. According to experimental work by others, even the systemic application of both procaine[24] and para-aminobenzoic acid[25] have beneficial effects on the course of herpes zoster. The facts that a dramatic effect is not seen except from topical application and that, after injecting one segment, new eruptions may follow in another point to the importance of a critical, topical therapeutic concentration of the drug, which has an evanescent action due to its rapid breakdown by esterase activity.

Summary

Forty-seven cases of herpes zoster treated by paravertebral and sympathetic block with procaine hydrochloride are reported. These cases represent the personal experience of the author from 1936 to 1954. The results were satisfactory in 90 per cent of the cases. In general, a single block was sufficient. Failures occurred in patients who had been suffering from herpes zoster for ten days or longer. The successfully blocked patients did not develop postherpetic pains; therefore, the method is believed to afford protection. For ophthalmic zoster blockage of the Gasserian ganglion appeared to be superior to cervical sympathetic block. It is believed that procaine or its derivative, para-aminobenzoic acid, interferes with the activity of the virus in the nervous elements. Paravertebral block therapy should only be given by those familiar with the technic of deep nerve blocks. This will insure both proper results and a negligible incidence of complications. Supporting literature is cited.

1100 Park Avenue

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Some Aspects of the Pharmacology and Clinical Application of a Parasympatholytic Agent, Aminopentamide

G. A. CRONK, M.D., AND D. E. NAUMANN, M.D., SYRACUSE, NEW YORK

(*From the Department of Health and Preventive Medicine, Syracuse University*)

Some observations are presented in this report on certain aspects of the pharmacologic activity in normal human male and female volunteers of a synthetic, parasympatholytic agent, dl-*alpha*, *alpha*-diphenyl, gamma dimethylaminovaleramide hydrogen sulfate,* having the generic name aminopentamide. The administration of this compound in a large number of clinical conditions characterized by marked parasympathetic nerve stimulation and overactivity of its effector organs has produced uniformly gratifying results.

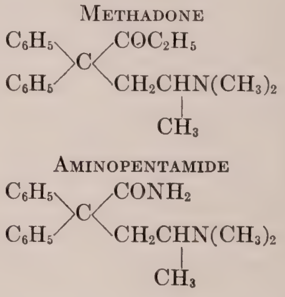

Fig. 1. Comparison of structural formulas of methadone and aminopentamide.

Historical Background and Chemistry

The disclosure[1] of the discovery by German scientists of the potent analgesic drug, methadone (Fig. 1), led to the systematic alteration of its molecule[2–7] with the objective of enhancing the analgesic potency and/or lowering undesirable properties. Although the specific objective has not been realized, the striking anticholinergic activity of a closely related basic amide, aminopentamide, was discovered during the course of the pharmacologic screening program.[8,9] Some related amides were described years ago by Bockmuhl and Ehrhart,[6] but it was not until the antispasmodic properties of aminopentamide were observed by Hoekstra and Dickison[8,9] that information on the pharmacology of these earlier compounds became available.

Pharmacologic Activity

The parasympatholytic activity of aminopentamide in laboratory animals and its effect on isolated tissue preparations has been reported by Hoekstra and Dickison,[8,9] Cazort,[10] and others.[11] The antisecretory and antispasmodic activity of this agent on the gastrointestinal tract of normal humans has been studied and reported by Wollum and Pollard[11] and Bolt *et al.*[12] In the opinion of these latter investigators, aminopentamide had parasympatholytic effects on the gastrointestinal tract approximately equivalent to atropine sulfate.

In the present study aminopentamide was given to 12 normal human volunteers in varying doses ranging from 0.5 to 3.0 mg. on different dosage schedules. The medications were given both orally in the form of tablets and parenterally in sterile aqueous solutions. These volunteers were then observed for the effect of the medication on the effector organs of the parasympathetic system.

Aminopentamide administered orally in single doses of 0.5 mg. was well tolerated by all patients. When this dose was administered on an empty stomach, nine of the 12 volunteers reported varying degrees of dryness of the mouth, nose, and eyes within twenty to forty minutes. These subjective symptoms of parasympathetic blockade continued for from three to five hours. When 1 mg. of aminopentamide was given orally, all volunteers experienced mucous membrane dryness in twenty to thirty minutes. The duration of subjective symptoms again persisted approxi-

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* Centrine, trademark of Bristol Laboratories, Inc.

mately three to five hours in spite of the increased dosage. It is of considerable interest to note that increasing the single oral dose to 3 mg. of aminopentamide did not materially increase the symptomatic response. If, however, 3 mg. of aminopentamide were given in divided doses of 0.5 mg. every three hours, the antisecretory effects in the upper respiratory tract were considerably prolonged, giving rise to difficulty in speaking and deglutition in several volunteers. When the frequency of administration of aminopentamide in doses of 0.5. mg. was established at four to five-hour intervals, the parasympatholytic effect was obtained without interference with speech or deglutition. This dosage schedule is suitable for ambulatory patients.

The above observations would suggest that aminopentamide is probably metabolized fairly rapidly. It is further suggested that relatively small amounts at any given time (0.5 to 1 mg.) will produce the desired parasympatholytic effect and that medication in excess of this (excluding lethal or extremely large amounts) does not enhance the activity of the drug which is probably metabolized and/or excreted.

Aminopentamide is very soluble and stable in water and can be used parenterally with ease in concentrations of 0.5 to 1 mg. per ml. The administration of these concentrations subcutaneously or intramuscularly in multiple experiments on 12 volunteers and as part of a therapeutic program in 60 patients revealed no evidence of local or systemic toxicity. The parasympatholytic action of the drug administered parenterally is almost identical in comparable doses to that obtained from oral administration. Parenteral administration is highly desirable when the gastrointestinal route of absorption is precluded, as it frequently is in situations associated with excessive parasympathetic activity.

Parasympatholytic Activity

Eyes.—Three of the 12 volunteers receiving single doses of aminopentamide from 0.5 to 3 mg. orally or parenterally developed a mydriatic effect which interfered with reading and was associated with mild photophobia. This effect lasted from three to five hours after the drug was administered. When the drug was administered in small doses of 0.5 mg. at frequent intervals of three hours for several doses, nearly all volunteers developed varying degrees of interference with reading. These symptoms ceased also approximately three to five hours after the last dose.

Respiratory Tract and Mouth.—Doses of 0.5 to 1 mg. of aminopentamide produced fairly marked depression of the salivary glands and other secretory glands of the mouth, pharynx, and nose. The secretory depression is further prolonged and enhanced by repeated doses of 0.5 mg. at three-hour intervals. It is probable that this effect is not so much a quantitative increase in secretory depression but rather a persistence of the depression which impresses the investigator and the volunteer. The lack of secretion in the mouth, upper respiratory tract, and upper esophagus in a few volunteers and patients caused speech to become hoarse and deglutition of even fluids difficult. In one volunteer with a pathologic secretion from the nose associated with allergy, there was complete cessation of nasal secretory activity during the drug adminstration.

Skin.—Reduction in sweat production was noted in several volunteers and patients, particularly when repeated doses of aminopentamide were used. The skin was usually warm and dry. Flushing of the skin due to capillary dilatation, as occasionally seen following atropine administration, was not observed.

Cardiovascular System.—All volunteers in this study were followed with serial electrocardiograms, blood pressure, and pulse rate determinations. After doses of 0.5 to 3 mg. of aminopentamide given either orally or parenterally, there were no significant changes in the serial electrocardiograms, blood pressure readings, or pulse rate determinations. This is not unexpected because the heart and cardiovascular system have long been known to have the ability to compensate for this type of parasympathetic blockade.

Gastrointestinal.—Intubation and balloon studies were not done in this study. The work of others[11] has demonstrated in normal humans that aminopentamide significantly reduced the gastric pH, motility, and emptying time. In this study two of the 12 normal volunteers receiving repeated doses of 0.5 mg. every three hours developed constipation which continued as long as the drug was maintained.

Urogenital.—Three of the 12 volunteers receiving single doses of 1 to 3 mg. either orally or parenterally complained of difficulty in getting urination started. This continued only during the drug administration and lasted approximately four to five hours after the drug was discontinued.

Clinical Application

Acute Visceral Spasm.—Sixty patients were admitted to the Syracuse University Infirmary with acute visceral spasm characterized by abdominal pain, nausea, vomiting, and diarrhea. Aminopentamide 0.5 mg. per ml. was administered subcutaneously to these patients. There were no local reactions. In twenty to thirty minutes the symptoms of visceral spasm had subsided in all of the 60 cases. Several of the patients promptly went to sleep for several hours. In six of the cases 0.5 mg. of the drug was administered by the subcutaneous route in three to four hours because of the recurrence of symptoms. Most patients in this group were given an oral maintenance dose of 0.5 mg. of aminopentamide every four hours after the acute symptoms were controlled.

Early in this study seven patients with acute visceral spasm with symptoms similar to the above group were treated with a placebo solution subcutaneously. One of the patients experienced symptom control, while the remaining six continued to exhibit symptoms of visceral spasm for several hours.

Peptic Ulcer.—Two patients in this group with proved duodenal ulcers were treated with aminopentamide, 0.5 mg. given orally every three hours while awake. On this dosage and time schedule the symptoms of nausea and epigastric pain were readily controlled without other medication. Unfortunately, the metabolism of this drug is fairly rapid, and both of these patients experienced 2 to 3 a.m. epigastric pain which soon required additive therapeutic regimes. This preparation would appear to be an effective member of the peptic ulcer armamentarium.

Nausea and Vomiting of Pregnancy.—Three patients with moderately severe nausea, vomiting, and secondary dehydration during the first trimester of pregnancy were easily and effectively controlled with aminopentamide in doses of 0.5 mg. every three to four hours. This dosage was associated with all the symptoms of parasympatholytic action in areas other than the gastrointestinal tract; these associated symptoms were considered by both patients and clinicians as less annoying than those associated with the paradoxically high hunger symptoms which were constantly blocked by nausea and vomiting. This potential application of the drug is deserving of further investigation.

Acute Cystitis.—Four young married females were admitted to this clinic with acute cystitis involving a Proteus organism in one and a coli organism in the others. The symptoms most important to the patients were the extreme urgency, frequency, and inability to empty the urinary bladder completely. Along with the antimicrobial agents, aminopentamide 0.5 mg. was administered to these patients every three to four hours. The symptoms of bladder muscle spasm were relieved in approximately thirty to sixty minutes after the oral administration of the drug. The relaxation could be maintained by repeated medication at three or four-hour intervals. It would appear that aminopentamide is effective in relieving spasm of bladder muscle.

Hyperhidrosis.—One Hawaiian male was seen in the University Outpatient Department complaining of excessive sweating to the point that it pooled in the palms of his hands and kept his clothing wet. The sweating was not materially affected by weather or environmental stress. The use of sedatives and psychotherapy was ineffectual. The patient received aminopentamide, 0.5 mg. orally every three to four hours during the day. After the third dose of the drug this patient's skin was dry. According to the patient he could not remember having had dry skin. Since this original experience the patient has been taking aminopentamide 0.5 mg. four times a day for five months with excellent control of his excess sweating.

Uterus.—The use of aminopentamide in localized dysmenorrhea has been uniformly unsuccessful.

Projected Uses.—Experience to date indicates that aminopentamide is an excellent parasympatholytic agent. It is entirely reasonable to assume that this drug holds promise of being effective in many clinical states not included in this report.

Some of the potential fields of application are (1) hypersecretion in the mouth and upper respiratory tract associated with respiratory infections or allergic reactions which are inadequately controlled by antihistamines; (2) control of pain associated with diseases of the salivary apparatus; (3) enuresis; (4) spasms of ureteral or bile duct muscles; and (5) combating the parasympathetic overactivity associated with many stress syndromes. Further experience should also be obtained in control of the nausea and vomiting of pregnancy.

Summary and Conclusions

1. The parasympatholytic activity in normal human volunteers of aminopentamide is presented.

2. The maximum parasympatholytic effect of aminopentamide is obtained after single doses of 0.5 to 1 mg. given orally or parenterally. The effect of the drug lasts approximately three to five hours. Single doses in excess of 1 mg. up to 3 mg. did not enhance the parasympatholytic effect.

3. Aminopentamide in doses of 0.5 to 1 mg. every three to five hours has been administered in a wide range of clinical disorders associated with excessive parasympathetic overflow. In all cases the symptoms associated with the parasympathetic overflow were promptly and adequately controlled.

111 Waverly Avenue

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Congenital Syphilis Rate in 995 Infants Studied

There is little chance that a baby will be born with congenital syphilis if his syphilitic mother previously has had at least one adequate course of treatment for the disease.

Dr. Nels A. Nelson and Virginia R. Struve, R.N., Baltimore, reported on 1,220 children of 423 syphilitic mothers in the June 30 *Journal of the American Medical Association.* The researchers had conclusive data on 995 of the children.

They found no cases of congenital syphilis among 654 infants born of infected mothers who had had at least one full course of treatment before delivery and who had had no relapses or reinfections. The authors defined course of treatment as "the amount of treatment that was held to be desirable at the time the mother was treated."

A full course of treatment was as effective in preventing infection in the infant when it was given one month before delivery as when it was given twenty-four months before. Type of treatment, whether arsenical, penicillin, bismuth, or a combination of these, also made no difference in the effectiveness, provided a full course was given.

Among 199 children of syphilitic mothers who had not been treated, there was an infection rate of 13.4 per cent, while among 142 children born to diseased mothers who had had less than one course of treatment, the rate was 5.8 per cent.

Time itself may reduce the occurrence of congenital syphilis in infants of even those syphilitic mothers who have had no treatment for the disease, they said. However, among 130 first-born children of untreated mothers, 21 had congenital syphilis, a rate of 16.2 per cent. There were 252 first-born children in families of mothers who had one or more courses of treatment before any of their children were born. None of these children had congenital syphilis.

Dr. Nelson and Miss Struve said that if a child showed no signs of syphilis by the age of three months, he was considered to be free of the disease. They never found a case in an older child who had not shown signs at the age of three months.

They also said that if a mother has congenital syphilis it is extremely unlikely that her children will have congenital infections.

Dr. Nelson is director of the bureau of venereal diseases and Miss Struve is supervisor of public health nursing of the Baltimore City Health Department.

The Control of Infection in Allergic Rhinitis

MILTON S. DUNN, M.D., ALBANY, NEW YORK

The nasal smear in chronic rhinitis is useful as a guide to diagnosis and to proper therapy. In allergic rhinitis the nasal secretion may contain eosinophils in a concentration ranging anywhere from 5 or 10 per cent to 100 per cent of all cellular elements.[1-3] Again, nasal smears may be useful to differentiate between allergy and infection since nasal cultures do not give consistent results.[4] In the past we have used nasal smears in patients with allergy to determine the type of rhinitis present. Interestingly enough, in a large group of our allergic patients we have observed that the nasal symptoms persisted in the face of continued antiallergic therapy. This study deals with the treatment of such patients and the use of the nasal smear as a guide to effective therapy.

Control Series

In an effort to establish the reason for the persistence of nasal symptoms in allergic patients we studied a control series of 25 patients with a chief complaint of allergic rhinitis. We placed them on our usual antiallergic regimen and followed them for a period of six months. We found that the original nasal smear contained a large number of eosinophils as well as leukocytes. As the general allergic status was controlled and improved, the eosinophils disappeared, and the leukocytes became proportionately more predominant. In spite of continued antiallergic therapy the rhinitis persisted, and the nasal smear continued to show large numbers of leukocytes.

This condition lasted in all of these patients for the control period of six months. This led us to believe that the infectious state was the causative factor in preventing the rhinitis from clearing on antiallergic therapy.

Recent literature shows the value of an antibiotic nasal spray in the control of nasal infections.[5-11] It was believed advisable, in view of the above observation, to employ topical antibacterial medication to control the allergic rhinitis in our patients already on an antiallergic regimen. It was felt that an antibiotic nasal spray, in addition to this therapy, would prove beneficial.

TABLE I.—EFFECT OF ANTIBIOTIC NASAL SPRAY ON NASAL SMEARS OF ALLERGIC RHINITIS

	—Per Cent of Patients—	
	Before	After
Neutrophils		
0	0	69
1+	7	17
2+	21	11
3+	34	3
4+*	38	0
Bacteria (primarily of coccal group)		
0	0	71
1+	5	15
2+	23	13
3+	31	1
4+†	41	0
Eosinophils		
0	88	98
1+	10	2
2+	2	0
3+	0	0
4+**	0	0

* Average of 10 fields with 50 neutrophils per field considered 4+.

† Under oil immersion, 100 cocci in single field considered 4+.

** Based on number of neutrophils. If total eosinophils equal half of leukocytes (25), this would be considered 4+ eosinophils.

The solution employed* had been found previously to be effective and safe in allergic and infectious rhinitis, sinusitis, coryza, etc.[5-11]

Results

In a series of patients with typical nasal symptoms nasal smears were performed prior to treatment and repeated after one week of combined antiallergic and topical nasal medication. The patients were instructed to spray the nose four times a day. Clinically, prompt response was obtained. The results of nasal smear examination are shown in Table I.

Clinically, the following changes were observed: marked diminution in rhinorrhea; marked decrease in nasal congestion; character of mucus changed from a viscous yellow and yellowish-green to a thin, clear secretion. Patients reported that all of their nasal symptoms were improved markedly, particularly the nasal itching and the postnasal drip. There were no reported side-effects from the use of the nasal spray. Most of the patients remarked on the benefits obtained since most of the symptoms had been present for long periods. We noted also that about 5 per cent of patients had an excoriation of the nares and upper lip which cleared in forty-eight to seventy-two hours following the use of the nasal spray.

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* Biomydrin Nasal, Nepera Chemical Co., Yonkers, New York.

Medication was continued in most cases for four weeks. At this time the majority of the patients had been symptom-free for at least one week. After cessation of therapy patients began to return, complaining that their condition had recurred, since they again had nasal congestion with thick, yellow nasal secretions. Nasal smears again showed a large percentage of leukocytes, as well as eosinophils, indicating that the allergic state and subsequent infection had recurred. The condition was controlled again by the administration of the nasal spray with no evidence of sensitization from the previous application.

We also studied a second group of patients in order to establish the value of hydrocortisone alcohol when used topically in allergic rhinitis. The identical solution previously used, with the addition of 0.02 per cent hydrocortisone alcohol,* was employed. Nasal smears again were used as a means of evaluating the therapeutic action of the preparation. Again neutrophilia was controlled quickly. Actually, in this respect there was little difference between the two solutions. However, the addition of the hydrocortisone seems to have certain definite advantages: (1) a more rapid decongestive action; (2) there seems to be a more complete control of the inflammation so that the passages are clearer, and (3) longer duration of symptomatic relief following each local application.

Comment and Summary

We believe that the reason so many of our allergic patients continued to complain of rhinitis in spite of antiallergic therapy was because this therapeutic approach did not affect the infectious aspect of their condition. Nasal smears showed continued presence of leukocytes for six months during antiallergic therapy. When these patients were given supplemental medication of a nasal antibiotic solution, with or without hydrocortisone, there was prompt clinical improvement. Nasal smears also showed disappearance of leukocytes.

The Biomydrin solutions employed contain two antibiotics which are used primarily for topical application so that the chances of sensitizing these patients were almost nil. Most of these patients have a thick mucous secretion at the start of therapy, so that the ordinary nose drops or nasal spray will fail to reach the site of infection. Biomydrin, however, contains a mucolytic agent which apparently does liquefy the mucus enough to permit the active ingredients to reach the mucosa. This assures prompt therapeutic action.

From our results we feel justified in concluding that infection plays a major role in the continuation of nasal discomfort in patients with allergic rhinitis. In order to give these patients relief it was found absolutely necessary to control both the infection and the allergic reaction. This must be done simultaneously. Controlling the allergic reaction alone without treatment of the infectious element will almost always lead to poor results. The presence of eosinophils in nasal smears is not constant enough in allergic infected rhinitis cases already under antiallergic treatment to be used as a criterion of therapeutic effectiveness. However, the presence of neutrophils can be employed as a guide since they were found to be a constant finding in such cases. Topical nasal antibiotic therapy was effective, as shown by clinical improvement and diminution of leukocytes in the nasal smear. The addition of hydrocortisone to the antibiotic solution did not alter the findings on nasal smear examination but apparently increased rapidity of therapeutic activity and the duration of symptomatic relief.

310 State Street

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* Biomydrin F, Nepera.

CLINICOPATHOLOGIC CONFERENCE

STATE UNIVERSITY OF NEW YORK COLLEGE OF MEDICINE AT NEW YORK CITY AND THE UNIVERSITY DIVISION-MEDICAL SERVICE, KINGS COUNTY HOSPITAL, BROOKLYN, NEW YORK

Conducted by ROBERT AUSTRIAN, M.D.

MARCH 10, 1955

Case History

This fifty-year-old, white male, a former bartender, was relatively well all his life until six months prior to admission when he developed an ear infection which was treated by penicillin. Thereafter he felt weak and below par. Three months prior to admission he consulted his physician, who obtained a gastrointestinal series and an electrocardiogram which were said to be normal. Five weeks prior to admission he developed epigastric fullness and anorexia which persisted and finally precipitated hospitalization. Four weeks prior to admission his right ankle became swollen and red. Aspirin therapy produced a remission within twenty-four hours. He noted increasing paroxysmal nocturnal dyspnea and three-pillow orthopea. His dyspnea limited his walking to half a block without rest. In the two days prior to admission he had developed edema of both ankles and legs.

The past history and review of systems were essentially unremarkable except for persistent night sweats during the previous summer. There was no history of rheumatic fever or venereal disease by sign or symptom. He had noted some rectal bleeding from hemorrhoids. The family history was unremarkable except for one brother who died of a "heart attack."

PHYSICAL EXAMINATION.—Blood pressure was 140/0, temperature 99.4 F., pulse 100, and respirations 24. The patient was a pale, white male, appearing acutely and chronically ill. He was dyspneic and orthopneic. The skin was warm and dry. There was no rash or petechiae. Examination of the eyes was unremarkable. The neck veins were distended. The anteroposterior chest diameter was increased. There were fine crepitant rales in both lower lung fields. The heart was enlarged to the anterior axillary line, and there was a diffuse apex impulse. The rhythm was regular. There was a thrill in diastole at the left sternal border. The second pulmonic sound was greater than the second aortic sound. There was a grade III blowing systolic murmur at the apex and a separate grade III harsher systolic murmur at the aortic region which was transmitted to the neck vessels. There was a long, blowing decrescendo diastolic murmur along the left sternal border transmitted to the apex. The abdomen was soft. The liver was palpable three fingerbreadths below the right costal margin. The liver was tender and pulsatile. There was no splenomegaly. There was 1 plus pretibial and ankle edema. There was marked clubbing of the nails. The peripheral pulses were bounding.

LABORATORY DATA.—Urine specific gravity varied between 1.007 and 1.010; albumin was 2 plus to 0; 5 to 7 red blood cells, 2 to 4 white blood cells were present; hyaline and granular casts were seen on admission but not subsequently. Hemoglobin was 11 to 12 Gm., white blood cells 11,500 with normal differential; erythrocyte sedimentation rate 23; Mazzini positive; Kolmer 3 plus; VDRL positive. Blood urea nitrogen was 33; albumin-globulin ration 4.0:2.7; creatinine 2.2; bilirubin 1.6; thymol turbidity 16; antistreptolysin titer less than 50 units.

Lumbar puncture on the fourth hospital day showed pressure 430, Pandy negative, 4 red blood cells, 3 white blood cells, and serology and colloidal gold normal.

Venous pressure was 170 mm. on admission, and blood circulation time was thirty seconds. There were three negative cultures, two showed hemolytic Staphylococcus albus in broth only, and one showed coli-aerogenes in broth only.

The electrocardiogram revealed normal sinus rhythm with a digitalis effect. X-ray of the chest revealed an increased transverse diameter of the heart to the right and left with prominent vascular markings. Cardioesophagram revealed moderate left auricular enlargement.

Course.—The patient was put on bed rest and low-sodium diet, digitalized with digitalis leaf, and Mercuhydrin was administered intermittently. His temperature ranged from 99 to 101 F. during the first six days, and pulse was 90 to 120. On the seventh hospital day, aspirin, 6 Gm. daily, was started. Thereafter he remained afebrile and had no tachycardia. Although his ankle edema cleared, the basilar pulmonary rales did not completely clear. He lost much of his anorexia and felt improved, so that he was allowed some ambulation by the fourteenth hospital day. His weight had dropped from 137 to 130 pounds. He developed some purpuric spots over both feet and ankles on the fourteenth day without fever or tachycardia.

On the sixteenth day, after a bowel movement, he noted some bright red blood in the bowl. After returning to his bed, it was noted that he was cyanotic and dyspneic. He had more rales in both lung fields than previously. Blood pressure was 140/40, pulse 96, respirations 38, and hemoglobin 12 Gm. He responded well to morphine, aminophylline, and oxygen. An electrocardiogram taken two and one-half hours after the onset of this episode showed no change from the previous tracing. Rectal examination revealed a fecal impaction. The stool benzidine was slightly positive. Eight hours later, at 4:30 A.M., he again became dyspneic and cyanotic and developed rales to the apices. Tourniquets were applied; morphine and aminophylline were again administered. He gradually improved, and later the same morning he was observed to be alert and in no distress, although the rales at both bases persisted.

At 8 A.M. he again suddenly became dyspneic and expired.

Discussion

Chairman Robert Austrian: The Clinicopathologic Conference will be opened by Dr. J. H. Crawford, clinical professor of medicine at this University and at Long Island College Hospital. Dr. Crawford.

Dr. J. H. Crawford: It gives me great pleasure to come out to the County again and attend a clinicopathologic conference. I did it for a good many years before, and it is quite a pleasure to come back again.

From the development of the illness to death was approximately six and one-half months, which in chronic disease is a short time relatively. The first symptoms followed an ear infection. Presumably penicillin was used. This was acute otitis media. Thereafter he became weak. He later developed gastrointestinal symptoms and saw a physician. The fact that the initial symptoms followed an infection suggests that this infection may have persisted in the body. The onset of heart failure is frequently precipitated by an infection. The fact that he had further gastric distress and anorexia suggests that all abdominal symptoms were really due to heart failure with increase in pressure in the portal circulation. He rapidly developed signs of both right and left heart failure. The cause of the swollen right ankle is not apparent. The fact that it cleared in twenty-four hours does not suggest a manifestation of rheumatic fever. Indeed, at his age the occurrence of rheumatic fever is rare.

Although the date of admission to the hospital is not given, one presumes that the night sweats during the summer before admission followed the ear infection. Frequently, debilitated cases in heart failure show evidence of marked sweating during the summer without any evidence of infection. There is no comment that the night sweats continued during the winter when the weather was cold.

On admission to the hospital the patient showed right and left heart failure, as shown by the rales in the lungs, enlargement of the liver, distended neck veins, and peripheral edema. The pulsations may have been due to pulsations of the liver or transmitted from the aorta or enlarged heart. It is sometimes difficult to make up your mind whether actually you have a true pulsation of the liver, as you all know. There seems little doubt that aortic insufficiency was present. That is one of the things that I think we would all agree on.

A question arises with regard to the harsh systolic murmur which was transmitted to the neck. Was this murmur secondary to aortic stenosis? One can often hear a systolic murmur in the neck when there is some dilatation of the aorta. In the absence of a systolic thrill one hesitates to make the definite diagnosis of aortic stenosis, especially when there is no specific comment as to a diminution of the aortic second sound but only a statement that the second pulmonic sound is greater than the second aortic sound. With an obvious rise in pulmonary pressure being present, it is possible for the second pulmonic sound to be increased and the second aortic sound a little altered. With the pulmonary congestion obviously the pressure in the pulmonary circulation would be increased. From the protocol one cannot decide this point.

The diastolic thrill along the left border of the sternum is disturbing. I would have preferred to feel the diastolic thrill myself. This is a rare finding in aortic insufficiency of either rheumatic or syphilitic origin. The commonest cause would be a ruptured aortic valve. This usually follows the more virulent infections in the valve. It is most common in acute septic valvulitis and rare in subacute bacterial endocarditis. In the chronic type of infection it is almost never seen.

The clubbing of the fingers is the next important point. The common causes of this are chronic lung disease, subacute bacterial endocarditis, and congenital heart disease. No apparent evidence of chronic lung disease exists except for the possibility of emphysema, which is indicated by an increase in the anteroposterior diameter of the chest.

In order to arrive at a diagnosis of subacute bacterial endocarditis one would prefer to have petechiae and an enlarged spleen with consistently positive blood cultures. We all know that you can have subacute bacterial endocarditis with negative cultures. Later in the protocol it is stated that fourteen days after admission he had purpuric spots in the feet and ankles. In view of the fact that none was seen elsewhere and no temperature was present, these were most probably not true petechiae. Individuals who have edema and congestion of the lungs frequently show hemorrhagic spots in the lower part of the legs. Some individuals show clubbing of the fingers which they have always had and for which no adequate explanation is available.

The only support for the diagnosis of congenital heart disease is the clubbing and the possibility of subacute bacterial endocarditis.

I believe that the urinary findings can be explained as due to congestion. This is supported by the fact that the urine improved with the relief of decompensation. He had moderate anemia and leukocytosis with increase in sedimentation rate. He undoubtedly had old syphilis. There was a tremendous increase in thymol turbidity and an increase in bilirubin. These are greater than one would expect with congestion. They suggest liver disease. I would like to have had the thymol turbidity checked, as it presumably was, because 16 is a very high thymol turbidity. With such an elevation of bilirubin one would have expected to have some jaundice present. The fact that he was a bartender would suggest that he may have had cirrhosis of the liver. The data are even high for this and more like those seen in acute liver disorders.

The venous pressure and circulation time confirm the heart failure. There were three positive blood cultures, two hemolytic Staph. albus and one coli-aerogenes. These are both unusual organisms to be associated with subacute bacterial endocarditis. It strongly suggests that they might be contaminants. The fact that the temperature disappeared on aspirin is strongly against subacute bacterial endocarditis.

On the sixteenth day he had bright red blood in the stool. He had had hemorrhoids, and rectal impaction was found; it seems possible that he had strained at stool, causing the hemorrhoids to bleed, and by straining had precipitated recurrence of left heart failure. The history does not suggest to me that he had an embolic episode, and the characteristic findings did not develop. He had another acute attack of heart failure eight hours later, from which he recovered. He finally died shortly thereafter, presumably in another acute attack of heart failure.

From the protocol the reporter appears to me to be trying to convince one that the patient had bacterial endocarditis. I feel, however, that there are too many missing links. There are also suggestions that he may have had rheumatic heart disease. This is a possibility in view of the fact that he had aortic insufficiency. If one were to assume that he had subacute bacterial endocarditis, this would be the most probable diagnosis for it is very rare to have this disease grafted on syphilitic valves. There is adequate proof he had syphilis. The disease appeared to me to have progressed more rapidly after failure began than is usual in rheumatic aortic insufficiency and to be more suggestive of syphilis. We all know that cases of aortic insufficiency, after they decompensate, progress rapidly regardless of the cause, but it has always seemed to me that the decline is more rapid in syphilis than in cases secondary to rheumatic fever. In other words, where the syphilitic stays relatively well for a long time, after he gets into trouble, he has a rather precipitous course, whereas the rheumatic goes downhill more gradually from aortic insufficiency and usually has more preliminary symptoms before serious heart failure supervenes.

Knowing that only unusual cases are presented at conferences such as these, one could arrive at a diagnosis of syphilitic aortic insufficiency with subacute bacterial endocarditis, a rare condition, and rupture of one of the cusps of the aortic valve, which suddenly increased the insufficiency, thus precipitating more marked decompensation with the possibility that he also had cirrhosis of the liver of the Laennec type.

However, I feel that one could rationalize it more readily as aortic insufficiency due to syphilis with syphilitic aortitis and with the possibility, in view of the liver findings, of a Laennec's cirrhosis with added congestion.

There appears to me to be a good case also for rheumatic heart disease as the cause of the valvular lesion, especially if one were to interpret the grade III systolic murmur at the apex as indicating disease of the mitral valve. That would rule out syphilis as the cause. In view of the facts this seems to me less probable, but still I think it would have to be seriously considered. Individuals with rheumatic heart disease can get syphilis which may not severely affect the vascular system, especially if they have been adequately treated.

The diastolic thrill still bothers me unless one could explain it on the basis of a ruptured cusp.

Chairman Austrian: Thank you very much, Dr. Crawford. Dr. Greenfield, will you show the x-rays?

Dr. H. Greenfield: There were two examinations of the chest, on December 2 and 7, 1954; the latter was about eleven or twelve days before the patient expired.

The first examination was a single posteroanterior 6-foot film examination of the chest (*film*). The left lower border of the heart was elongated downward and somewhat outward, suggesting the presence of an enlarged left ventricle. There was no definite evidence of any enlargement of the outflow tract of the right ventricle since the normal indentation of the left upper border of the heart was maintained. The aorta did not appear to be enlarged. The chest was sufficiently oblique so that the superior vena cava was fairly well demonstrated. The right auricle appeared to be somewhat out on the right but not sufficiently to indicate definitely right auricular enlargement. There was no definite hypervascularization of the root shadows or congestive changes in both central and basal lung fields.

The second study consisted of a posteroanterior examination of the chest with right and left oblique and esophagram studies (*film*). This examination was taken with the patient in deep inspiration. The findings were not remarkable other than that the esophagus was opacified and displaced somewhat to the right. The aorta did not appear to be enlarged. In the left anterior oblique view of the chest, the left ventricular border extended posteriorly and indicated enlargement of both inflow and outflow tracts of the left ventricle. The anterior bulge of the right ventricle was not remarkable and did not suggest enlargement of the right ventricle. The body of the right auricle was not too well demonstrated, but the auricular appendage was somewhat elongated, suggesting the possibility of early right auricular enlargement. The left main bronchus assumed a normal direction. The angle was not widened, and there was no compression or elevation of the left main bronchus to indicate the presence of an enlarged left auricle. The aortic arch was not too well defined. In the right anterior oblique with the esophagus opacified, there appeared to be a definite indentation of the opacified esophagus, indicative of an enlarged left auricle. There was no density in the posterior retrocardiac space to indicate an enlarged right auricle. There appeared to be a definite bulging forward of the outflow tract of the right ventricle into the substernal space, indicative of enlargement of the right ventricle. The left ventricle was somewhat enlarged. That is all.

Chairman Austrian: Dr. Crawford, would you care to make any additional comments after having seen the roentgenograms?

Dr. Crawford: I don't believe they add anything. We assumed that the heart was enlarged, particularly the left ventricle, which supports the diagnosis of aortic insufficiency that I feel sure he had.

Chairman Austrian: Would anyone else care to comment now about this record?

Physician: I wonder if Dr. Crawford would comment on the spinal fluid pressure?

Dr. Crawford: I wasn't tremendously impressed with that. I thought it was part of the general increase in the congestion.

Medical Student: In regard to the clubbing of the fingers, isn't that sometimes seen with cirrhosis of the liver? That could explain this case.

Chairman Austrian: Yes, conceivably there are other causes which may turn out to be more adequate explanations for this finding.

Does anyone else wish to make any comments or to ask questions?

We have here the list of the diagnoses made by the students at their conference before this meeting: Eight diagnosed the illness as aortic insufficiency; eight luetic heart disease; four made a diagnosis of rheumatic heart disease, and three the diagnosis of acute rheumatic fever. The most favored diagnosis was that of subacute bacterial endocarditis, which was entertained by 15 students.

Physician: The apical systolic murmur—can that be explained on the basis of acute dilatation of the left ventricle leading to incompetence?

Dr. Crawford: I don't know whether you would explain it as acute dilatation because it apparently was present all the time and at a period when he was not acutely decompensated. I felt that it was either a transmitted murmur or just due to chronic dilatation of the heart so that you had mitral insufficiency.

Dr. H. Siegel: In the light of what was present in the region of the aortic valve, I was interested in Dr. Crawford's comment on the cause for the systolic murmur over the aortic area.

Did not anyone note the character of the small hemorrhages? Were they flat or nodular?

Doctor: There was no elevation of the surface of the skin, merely discoloration. These lesions were small with irregular margins.

Pathologic Report

Dr. Siegel: Dr. Shaftan will present the gross findings.

Dr. Gerald Shaftan: The body was that of a fairly well-developed male weighing about 135 pounds. The only external features of note were the many petechiae over both legs. The heart was enlarged and weighed 560 Gm. The pericardium was thin and smooth. There were a few petechiae at the apex. The myocardium of the left ventricle was 17 mm. thick and that of the right 4 mm. The tissue was firm and red.

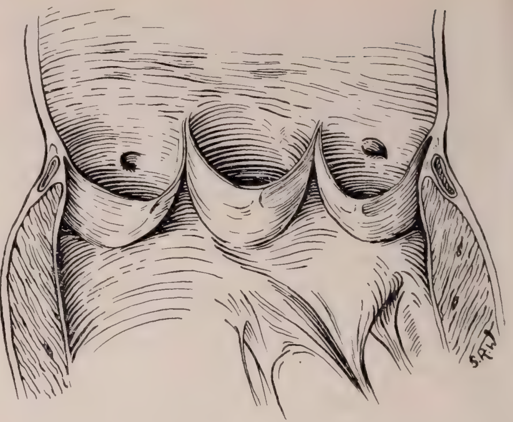

Fig. 1. Normal aortic valve.

The aortic valve was bicuspid and was composed of a right posterior cusp and a left anterior cusp. Both cusps were of equal size. The ostia of both coronary arteries were behind the left anterior cusp. The posterior commissure was normal. The anterior commissure was slightly enlarged, and the cusp presented no evidence of a congenital ridge. The left anterior cusp was slightly and diffusely thickened, and in the region of the nodulus Arantii there was a small, soft, grayish-red vegetation measuring 3 by 4 mm. The right posterior cusp was partially destroyed and ulcerated by large soft, grayish-red vegetation. Approximately one third of the substance of the cusp was gone. The vegetation on the ventricular surface of the cusp measured approximately 5 by 6 by 8 mm. This vegetation was in contact with and adherent to the base of the anterior mitral leaflet. The sinus of Valsalva of the left anterior cusp was natural. However, that of the right posterior cusp presented an outpouching of the wall of the aorta. The mitral, tricuspid, and pulmonic valves were normal. The coronary arteries were markedly sclerotic, but the lumina were patent throughout.

The right lung weighed 1,250 Gm. and the left lung 850 Gm. Both lungs were similar. They were large, dark grayish-red, firm, and subcrepitant. The cut section was brownish red and presented a fine granular appearance. The spleen weighed 280 Gm. There was a triangular-shaped, firm, yellowish opaque area 1 by 2 by 1 cm. beneath the capsule. The brain was edematous. Scattered throughout the subcortical white matter of both cerebral hemispheres were a number of minute petechiae. The liver was apparently normal.

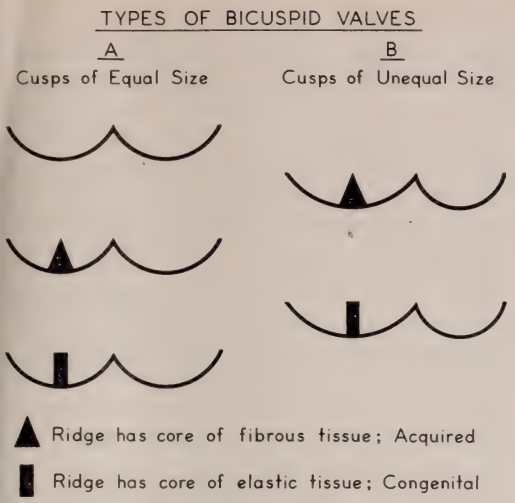
TYPES OF BICUSPID VALVES
A
Cusps of Equal Size
B
Cusps of Unequal Size
▲ Ridge has core of fibrous tissue; Acquired
▮ Ridge has core of elastic tissue; Congenital

FIG. 2. Types of bicuspid valve.

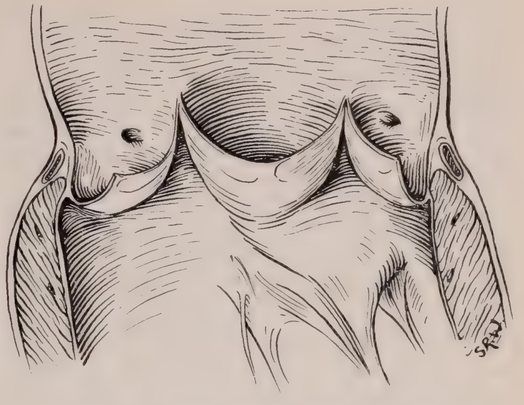

FIG. 3. Aortic valve of case described.

Dr. Siegel: Because not everyone may be well versed in the anatomy and histology of the aortic valve region, as well as its congenital anomalies, I thought that it would be best to present first some schematic illustrations so that we may all talk the same language.

The first illustration is a drawing from a normal specimen showing the aorta, left ventricle, anterior mitral leaflet, and the three cusps of the aortic valve (Fig. 1). This is the noncoronary or the right posterior cusp. These are the anterior and left posterior cusps.

The next illustration presents drawings of the five different types of bicuspid aortic valve, both the acquired and the congenital varieties (Fig. 2). There are two types with cusps of unequal size and three types with cusps of equal size. In both instances of the former and in two of the three types of the latter group, a short ridge of tissue extends for several millimeters toward the aorta. A transverse section through this ridge would establish its congenital nature if the core were composed of elastic tissue and its acquired nature if composed of fibrous tissue. The present case was definitely congenital because of the equal size of the cusps and the absence of a ridge or commissure.

This is a drawing of the aortic valve region of the case being presented today (Fig. 3). Two cusps are present. Both coronary ostia are behind the left anterior cusp.

The next drawing illustrates the exact sites from which the histologic sections were prepared (*slide*). The vegetation eroded the left portion of the right posterior cusp and was adherent to the anterior mitral leaflet (*slide*). In the light of Dr. Crawford's comment, it is of interest to note the presence of an aneurysm of the sinus of Valsalva (*slide*). The left anterior cusp was still intact, slightly fibrosed and with foci of calcification (*slide*). This illustrates how completely this portion of the right posterior cusp has been eroded away and that the vegetation was creeping down the ventricular endocardium (*slide*). Higher magnification reveals the dense fibrosis and calcification of the left anterior cusp (*slide*). This is part of the congenital lesion. Other areas reveal the composition of the vegetation, the proliferative reaction, the inflammatory cells, the necrotic material, and a few multinucleated giant cells (*slide*).

This is a section of the lung (*slide*) and illustrates the tremendous number of heart failure cells and the thickening of the alveolar wall, and the last section illustrates a bronchopneumonia (*slide*).

To summarize then—

Dr. Crawford: Was there any section of the liver?

Dr. Siegel: The liver showed severe chronic passive congestion.

Dr. Crawford: How do you explain the chemical findings?

Dr. Siegel: I am not sure that the morphologic changes in the liver can completely explain the chemical findings pointing toward liver disease. Other than the changes of chronic passive congestion there was one unusual feature; the vascular changes extended away from the central veins for a somewhat greater distance than is usually present in chronic passive congestion (*slide*).

In summary, the principal findings included congenital bicuspid aortic valve with a superimposed subacute bacterial endocarditis, aneurysm of the sinus of Valsalva, mild interstitial myocarditis, thrombosed aneurysm of the superior mesenteric artery, chronic congestion of the lungs and liver, bronchopneumonia, mild diffuse proliferative glomerulitis, old infarct of the spleen, embolic foci of the brain, and cerebral edema.

Other findings included coronary arteriosclerosis, hypertrophy of the myocardium, subendocardial focal fibroses and one area of miliary necrosis, atherosclerosis of the aorta, and perivascular lymphocytic foci in the adventitia of the aorta.

The cause of death was congenital bicuspid aortic valve and subacute bacterial endocarditis.

Chairman Austrian: Thank you very much, Dr. Siegel. Dr. Crawford, would you care to make some comments?

Dr. Siegel: I have the heart here in case anyone wishes to see it.

Dr. Crawford: Of course, one knows that in bicuspid aortic valve, subacute bacterial endocarditis is common, and I considered bicuspid aortic valve and could not convince myself of its presence because there was no clinical way that I know that you can make a diagnosis of bicuspid aortic valve. It is usually a postmortem diagnosis.

If one took this case not at a clinicopathologic conference, he would make a diagnosis of subacute bacterial endocarditis, I think, but the natural inclination in a conference is not to take what they appear to be shoving at you. That biased me against subacute bacterial endocarditis, plus the fact that they did not get consistently the same organism. Did you culture the organism at postmortem?

Dr. Siegel: It was cultured. The culture was negative. I understand that this man received antibiotics.

Intern: No. The antibiotics were ordered on the last day.

Dr. Siegel: He did not get any?

Intern: He actually did not get any.

Dr. Siegel: The smear was negative, the culture was negative, and the many Gram stains of the histologic sections were all negative.

Dr. Crawford: Attention was drawn to the fly in the ointment, which was the diastolic thrill. That was an indication, assuming it was present, that you had a ruptured valve, which would adequately explain the thrill. This was found at autopsy. The diastolic thrill continuously bothered me throughout because usually there is one thing in most of these cases that gives you an indication of the correct diagnosis. I think that was actually it, because there is no other way that you could think of which would explain it except a ruptured valve.

With regard to the aortic systolic murmur, you could have two causes for this. As a result of the vegetations you have some obstructions, so that although it was not a fibrous and calcified type, as seen in rheumatic fever, it could give the signs of some stenosis at the aortic valve. The aneurysm of the sinus of Valsalva would give you whirling in the aorta which could add to the systolic murmur that was heard transmitted to the vessels of the neck.

Chairman Austrian: I wonder if it might not be more probable that this man died of a healed bacterial endocarditis and cardiac failure secondary to rupture of an aortic valve. We have seen a number of patients with pneumococcal infection who have developed acute bacterial endocarditis with perforation of an aortic cusp, and it is conceivable that this man may have had pneumococcal bacteremia and endocarditis in association with the infection of his ears months previously. Such an infection can be eradicated by penicillin with a fairly high degree of efficiency, but if the patient has had endocarditis with perforation of the aortic valve, he will probably succumb. I have seen six patients with this disorder, and they died within a year of progressive left ventricular failure. A sequence of events of this type explains the inability to obtain organisms from the valve of this particular patient.

Dr. Siegel: Because of the marked inflammatory response I expected to find bacteria. None was found. It was originally assumed that our failure to demonstrate organisms was because the patient may have received antibiotics. Now we have been informed that he never received any. The explanation for our failure to demonstrate organisms is not clear because the lesion is definitely bacterial endocarditis. I am uncertain as to whether the lesion was an endocarditis lenta, de novo, or an acute bacterial endocarditis whose course had been made subacute by some past therapy.

Chairman Austrian: Your inability to demonstrate bacteria may lead you to suspect he was cured of infection but died of the mechanical residua affecting the circulation.

Dr. Siegel: Mechanical residua may have contributed to his death, but he was not cured of the infection.

Dr. Crawford: I would not be surprised if he started off, not with the subacute but with acute bacterial endocarditis, which passed into the subacute stage.

Thus, it was not really a true subacute bacterial endocarditis.

Dr. J. J. Kelly, Jr.: Dr. Siegel, can you judge the age of the rupture of the cusp? I ask this because of the evidence. The clinical history of his congestive failure was of very rapid onset, which was consistent with a ruptured cusp four or five months prior to admission to the hospital and with the recent accident due to another rupture or some other such event.

Dr. Siegel: I would be inclined to say, from the character of the reaction, that it is of relatively recent vintage, probably weeks to months. I would hesitate to attempt a closer estimate.

Chairman Austrian: Are there any other questions or comments? If not, then we can adjourn.

Rara Avis

I

Still as stillest night
The shaft now is so gaunt
With winged birds in flight
While air in eddies flaunt
The mark of needless fray
Can wings my fears allay?

II

Gather in the wind
Sort it, strike disorder
Time undisciplined
Crushed inside a mortar
Halt the master blind
One must avoid that kind.

III

Rapt in truth and lies
That alternately steals
This same and useless prize
The rainbow still reveals
It mustn't wrest the trust
From him we know who must.

IV

Linger yet who will
Despair not you who can't
The bird learned well to trill
Held off the urge to rant
Single strand or double
Standards make for trouble.

V

Still as stillest night
That alternately steals
Over winged birds in flight
The rainbow still reveals
What man alone can say?
"From this my trust can't stray."

—*Joseph H. Werk, M.D., Bulletin of the Suffolk County Medical Society, October, 1955*

CASE REPORTS

Adenocarcinoma of the Duodenum

LESLIE L. ALEXANDER, M.D.,* BROOKLYN, NEW YORK

(*From the Department of Roentgenology of the Kings County Hospital Center*)

CANCER of the intestine is common. The most frequently encountered sites are the rectum, cecum, and pelvic colon. Cancer of the small intestine, however, is rare and comprises approximately 3 per cent of all intestinal carcinomas.

Duodenal malignancies are exceedingly infrequent. Eger[1] surveyed the literature in 1933 and noted that of 350,286 autopsies only 104 or 0.033 per cent occurred primarily in the duodenum and accounted for 0.3 per cent of all gastrointestinal carcinomas. Hoffman and Pack[2] in 1937 reported a similar percentage of 0.033 in over 176,000 autopsies. Between 1938 and 1948 only 14 cases were reported in the British literature. In 1952 nine more cases were added.[3-5]

The great majority of the earlier cases of carcinoma of the duodenum were diagnosed at autopsy without previous clinical awareness of the condition. Later the diagnosis was made at laparotomy or at autopsy. Within recent years the attention of the physician as well as the public has been focused on the prevalence of cancer, and now tumors are being recognized more frequently. This has been due also to the widespread use of x-rays and fluoroscopy and to improved surgical technics in the treatment of intestinal malignancies. Since some carcinomas of the duodenum are amenable to surgery, it is important that an early diagnosis is ascertained.

Although many observers have attempted to establish a causal relationship for the relatively low incidence of carcinoma of the duodenum, the exact reason is unknown. Favored theories include absence of bowel segmentation and absence of mechanical irritation such as is found in the stomach and colon. Nor is there any etiologic correlation between duodenal ulcer and malignancy of the duodenum. Carcinoma of the first portion of the duodenum is very rare, while 99.2 per cent of all duodenal ulcers occur in this region.[6]

The sex incidence of carcinoma of the duodenum favors males over females in the ratio of three to one. The age range varies from twenty-seven to sixty with an average of fifty years.

Pathologically, malignancies of the duodenum may arise from (1) duodenal mucosa, (2) duodenal mucosa covering the ampulla of Vater, (3) Brunner's glands, (4) epithelium lining the ampulla of Vater, (5) the lower end of the common duct, (6) the pancreatic and accessory pancreatic ducts, and (7) aberrant pancreatic tissue. They may be polypoid, constricting, infiltrative, or colloid in type.

Classification is based on the location of the growth in relation to the papilla or ampulla of Vater. Halligan *et al.*[6] have estimated that 45 to 65 per cent of all duodenal carcinomas occur in the peripapillary portion, 12 to 26 per cent in the infrapapillary portion, and the remainder in the suprapapillary region. A number of the peripapillary neoplasms are of duodenal origin and do not arise from the common bile duct as is frequently thought at laparotomy.

Spread is usually by way of the subserosal or muscle lymphatics and by extension and erosion. Perforation, fistula, and abscess formation are often encountered. Early metastasis to the regional lymph nodes is common.

Clinically the symptomatology will depend on the nature, extent, and location of the lesion and usually appears in six to twelve months. Obstruction is seen most frequently and is due either to the presence of a polypoid lesion in the lumen of the duodenum or to a stenosed lumen from an encircling lesion. Associated with the obstruction will be nausea, vomiting, dehydration, gastric dilatation, anorexia, weight loss, weakness, and pain. Jaundice may or may not be present or may be intermittent, depending on whether the lesion is located at the level of, above, or below the ampulla of Vater or depending on the involvement of the pancreatic and biliary ducts. Pain may be entirely absent or may be vague, cramplike, or simply an epigastric discomfort associated with fullness and eructation.

The findings on physical examination are not remarkable and are usually negative in early cases. Anemia and pallor may be present, depending on the

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* Fellow, National Medical Fellowships, Inc., Chicago, Illinois.

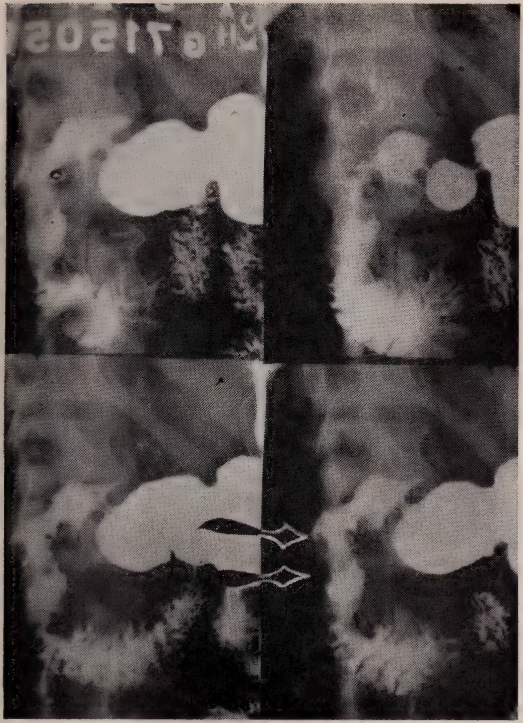

FIG. 1. The initial duodenogram taken in the outpatient department two months before admission showing a suspicious deformity of the mid-duodenum, suggestive of an encircling infiltration (arrows). A repeat study was advised.

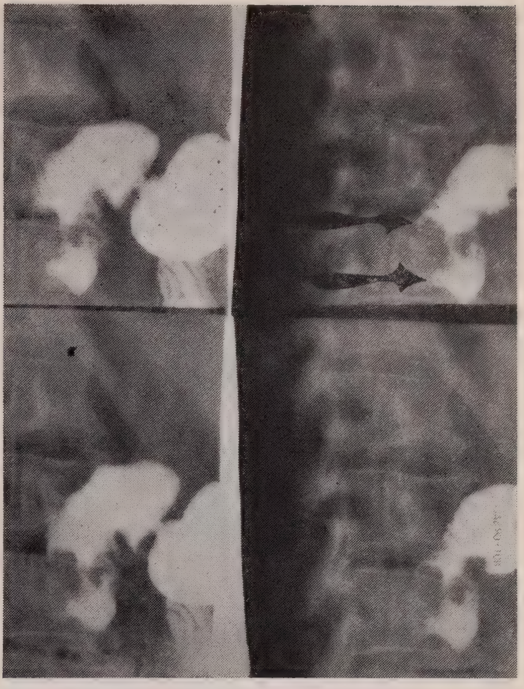

FIG. 2. Repeat duodenogram on hospital admission revealed a typical "apple-core" lesion indicative of a neoplasm (arrows). The lumen had narrowed considerably, but no gross obstruction was noted.

amount of blood loss. Obstructive phenomena are usually confined to the stomach. Icterus and palpable masses are late manifestations of extension and metastasis.

Laboratory tests are nonspecific. Electrolyte imbalance is seen from vomiting and dehydration. Carbon dioxide combining power is elevated along with the nonprotein nitrogen. Stools may or may not be yellow, depending on the presence or absence of biliary obstruction. If the bile ducts are occluded, the serum bilirubin will be elevated.

The diagnosis is made by x-ray. In the case with an encircling lesion, the diagnosis is accurate. Oftentimes, however, a cystic or polypoid lesion is seen or a filling defect noted. In some instances evidences of chronic duodenal obstruction are noted on x-ray. In these cases malignancy is considered, and surgical exploration is obligatory. The diagnosis is then confirmed at laparotomy.

The differential diagnosis is not too extensive or too difficult. Most diagnoses suggest surgical intervention, and little extra time is lost. Among the diseases to be considered are benign and malignant duodenal ulcers; pancreatic cysts; tumors of the cystic and common ducts; gallbladder, pancreatic, and large bowel tumors; perforated gallbladder due to stones, and retroperitoneal lymphadenopathy.

Surgery is the treatment of choice. The procedure depends on the extent of involvement. Radical pancreaticoduodenectomy, including a choledochojejunostomy and partial gastrectomy, is often performed. Resection of the duodenum may be done or such palliative operations as gastroenterostomy, duodenojejunostomy, or gastrojejunostomy with cholecystogastrostomy. If there is superior mesenteric vessel or portal vein involvement, retroperitoneal node metatasis, or spread beyond the pancreas, the lesion is not resectable. Prognosis is poor even with surgery. Felson and Wolarsky[7] have observed that infrapapillary duodenal carcinoma without surgery has an expectancy of from five to nineteen months to four years.

Case Report

This patient, a fifty-four-year-old, white housewife, was admitted to the hospital complaining of a nervous stomach associated with feelings of fullness and mild aches after meals of six months duration. Four months before admission the patient noticed an intolerance to cabbage, cauliflower, and nuts; vague lower stomach pains; an inability to belch; intermittent light-colored stools, and later a constant dull aching sensation below her right shoulder. No other complaints were noted except nervousness. Patient denied nausea and vomiting,

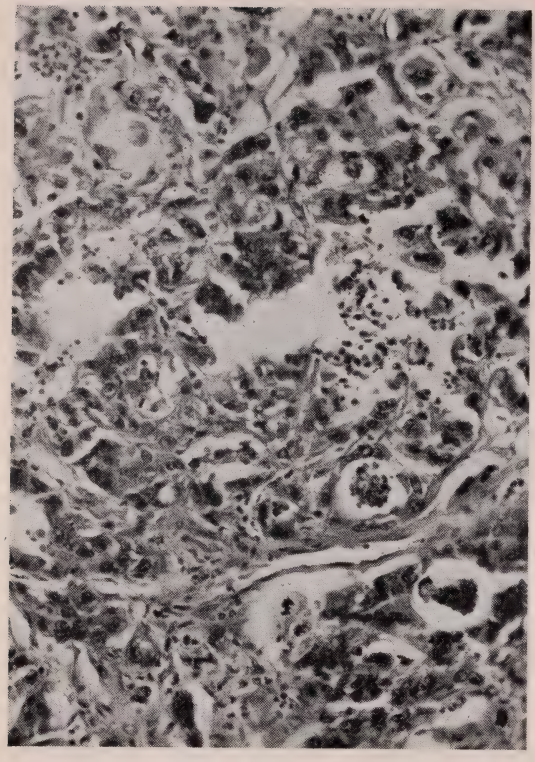

FIG. 3. Photomicrograph of biopsied section of tumor of duodenum. Note irregularity and hyperchromatism of the nuclei and the variation in size of the tumor cells.

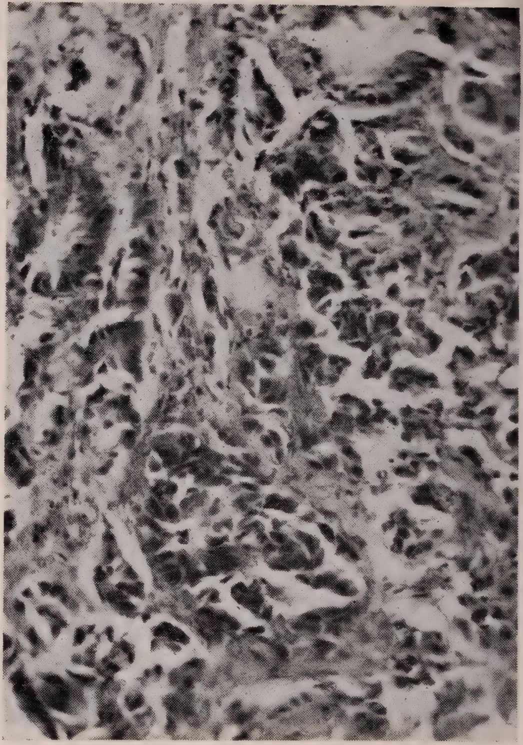

FIG. 4. Another photomicrograph of tumor specimen showing formation of dark, irregular glandular spaces with the acini almost filled by the lining cells. Note the solid columns of cells without basement membrane extending through the tissue.

melena, weight loss, severe abdominal pain, and jaundice. In general, the patient described her health, eating, and sleeping habits as good, although she admitted to infrequent use of antacids during the previous six years for gastric discomfort after the supper meal.

Two months prior to admission the patient had an upper gastrointestinal series on an outpatient basis (Fig. 1). A persistent stenosing deformity of the midportion of the duodenum was noted. Because of the patient's vague gastrointestinal complaints, hospitalization was advised for further evaluation and possible exploration. This was refused. A thirty-day follow-up roentgenogram of the duodenum was then suggested.

Physical examination revealed a well-developed, well-nourished, comfortable patient with a blood pressure of 138/68, a regular pulse of 70, respirations 20, and a temperature of 99.8 F. The weight was 158 pounds. There was no noticeable pallor of the skin, and jaundice was not apparent. The sclerae were not remarkable, although a slight conjunctival injection was present. The posterior pharynx also was injected. The hard palate contained a 2 by 3-cm., firm, nontender mass at its center. There was also a single 1 by 1-cm., firm, nontender lymph node in the left midaxilla. The heart and lungs were not unusual. The breasts were negative. The liver was palpated at 1 cm. below the right costal margin but was not nodular. No abdominal masses were felt, although there was mild tenderness in the midepigastrium on superficial and deep palpation.

The laboratory data revealed a white blood cell count of 10,000 with a normal differential, hemoglobin 11.5 Gm., blood Wassermann negative. The urine was not remarkable except for a 3 plus albumin. The stool was negative for occult blood. The various blood chemistry and liver function tests were as follows: blood urea nitrogen 15; blood sugar 124 mg. per cent; total protein 6.2 Gm. per cent; albumin-globulin ratio 4.1:2.1; carbon dioxide combining power 58 volumes per cent; chlorides 106.2 mEq. per L.; sodium 138 mEq. per L.; potassium 4.0 mEq. per L.; calcium 11.4 mg. per cent; phosphorus 3.7 mg. per cent; alkaline phosphatase 2.1 Bodansky units. The serum amylase was 110 Somogyi units, total cholesterol 168 mg. per cent, and icteric index 3 units. All of the above values were entirely normal.

A repeat upper gastrointestinal series was done (Fig. 2). The previously observed stenosed protoduodenum was again visualized. The lumen was now smaller due to extension of the constricting lesion. A typical "apple core" configuration was clearly demonstrated (see arrows). The diagnosis was carcinoma of the duodenum.

At laparotomy a constricting suprapapillary lesion of the second portion of the duodenum was found. There was a small perforation at the anterior mesial aspect of the lesion with erosion into the transverse mesocolon, into the head of the pancreas, and along the portal vein. There were nodules on the liver and nodes along the common duct. Frozen section revealed adenocarcinoma of the duodenum (Figs. 3 and 4). A palliative gastrojejunostomy and cholecystogastrostomy was performed. The patient expired on the twenty-second post-operative day.

Comment

This case is one of a proved suprapapillary adenocarcinoma of the duodenum in a patient with a relatively short history of minimal gastrointestinal complaints. The physical findings were nonlocalizing, and the laboratory findings were entirely normal.

The diagnosis was established exclusively by x-ray, although not sufficiently early for a surgical cure. A duodenogram two months prior to hospital admission was suspicious of malignancy, but the patient was not fully investigated. Although this middle-aged patient presented herself for medical attention only four months after onset of symptoms, her survival time from onset of symptoms was not altered appreciably. Undoubtedly this discouraging picture illustrates the present outlook for patients with cancer of the gastrointestinal tract in general. This is due in part to difficulties in diagnosis and to the unfortunate fact that most gastrointestinal tumors are silent; by the time symptoms are produced, the tumor has grown to large size or has already spread.

Summary

1. A case of suprapapillary adenocarcinoma of the duodenum is presented.
2. The diagnosis was proved clinically by x-ray and confirmed by surgery.
3. Because the symptoms and physical findings are minimal and the laboratory studies are unrevealing, early diagnosis of carcinoma of the duodenum is extremely difficult.
4. A review of the literature reveals that this entity is rare and constitutes about 0.033 per cent of autopsy findings.
5. X-ray is an important diagnostic aid in tumors of the duodenum but is insufficient unless the diagnosis is made early.

257 New York Avenue

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Combined Hormonal-Antibiotic Therapy in Patients with Fulminating Infections

Experiments with over 300 patients during the last five years convince the authors that any bacterial infection of unusual severity for which a specific antibiotic is available is an indication for simultaneous corticoid therapy. The underlying idea is that this therapy keeps the severely ill patient alive until indicated antibiotics have time to take effect. As an example, the case of a child with peritonitis is cited. The child's appendix had ruptured a few days before admission, and despite administration of antibiotics the patient was in critical condition. Corticoid therapy was introduced, and in twenty-four hours the child's temperature was almost normal, peristalsis was active, and there was a spontaneous stool. Drs. Laurance W. Kinsell and John P. Jahn believe that corticoid therapy is also always indicated in shock except when it is due to simple blood loss with replacement therapy available. In general, corticoid therapy is contraindicated in infections for which there is no antibiotic with the possible exceptions of severe viral hepatitis and mumps orchitis.—*Archives of Internal Medicine, September, 1955*

Lymphosarcoma Preceded by Longstanding Graves's Disease

JOHN E. ULTMANN, M.D.,* AND WILLIAM N. CHRISTENSON, M.D., NEW YORK CITY

(*From the Department of Medicine, New York Hospital-Cornell Medical Center*)

GRAVES'S disease is frequently associated with lymphoid hyperplasia manifested by enlargement of lymph nodes, thymus, and, more rarely, the spleen. However, the development of generalized malignant processes in such hyperplastic lymphoid tissue of this disease has not been described. We are reporting a patient who developed lymphosarcoma after having had Graves's disease for many years.

Case Report

S. L., a sixty-seven-year-old, white male, entered the New York Hospital with the chief complaint of bulging eyes of four months duration. At the age of twenty-two years, he first noted exophthalmos (Fig. 1). Subsequently he experienced increasing nervousness, sweating, and intolerance for heat. He was told he had "thyroid trouble" and was placed on various medications, including iodine. Under this treatment his symptoms improved, but his eyes remained prominent. Over the next thirty years the patient was seen by a number of physicians for recurrence of symptoms. At age sixty, when he was seen in another exacerbation of his Graves's disease, examination† showed hypertension, bilateral exophthalmos associated with a lateral deviation of the right eye and poor convergence, an enlarged thyroid gland, especially of the left lobe, and deviation of the trachea to the right. However, there was no lymphadenopathy or hepatosplenomegaly. The basal metabolic rate on two occasions was plus 40 and plus 35. Following a course of treatment with propylthiouracil the patient improved and did well without medication for the next six years. Four months prior to admission he noted recurrence of eye symptoms, nervousness, insomnia, intolerance to heat, increased frequency of stools, and weight loss. Two months prior to admission a private physician placed him on ACTH gel with improvement of eyes in three weeks. There was a prompt exacerbation of the eye symptoms on withdrawal of ACTH. The patient was then referred to the New York Hospital for study and treatment. Further review of symptoms, past history, and family history were not contributory.

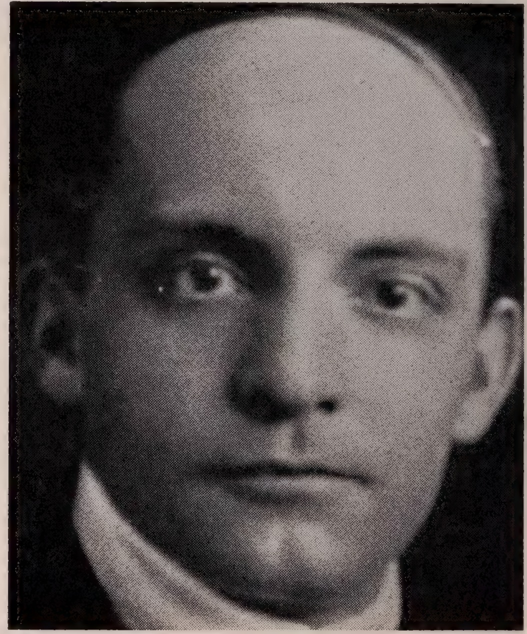

FIG. 1. Photograph of the patient at the age of twenty-two showing exophthalmos.

Physical examination on admission showed normal vital signs except for a blood pressure of 206/102. The patient was slightly hyperactive but in no acute distress. The skin was moist and cool except where it was covered by blankets. There was marked exophthalmos with restriction of movement of both globes on looking in all directions. There was a prolapse of the lower lid conjunctiva on the right and chemosis bilaterally (Fig. 2). Exophthalmometry (Hertel) at this time with base setting at 115 mm. showed a reading of 31 mm. right eye and 28 mm. left eye. Examination of the head was otherwise unremarkable. The thyroid gland was enlarged to about three times its normal size. It was firm and without bruit. The chest was emphysematous. The lungs were clear. The heart was moderately enlarged. Rhythm was regular, but frequent extrasystoles and a grade II apical systolic murmur were heard. Axillary lymph nodes were enlarged and firm bilaterally. The liver and spleen were each enlarged about 5 to 6 cm. below the costal margins. There was slight wasting of the muscles of the shoulder girdle. A fine tremor of the extended hands was noted. The neurologic examination was essentially normal.

Significant laboratory findings were as follows: Hemoglobin and red blood cell count were within normal limits. The white blood cell count ranged between 14,800 and 21,200 with about 28 per cent lymphocytes. Examination of the sternal marrow revealed no abnormalities. Bromsulfalein retention was 4.4 mg. per cent after forty-five minutes.

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* Trainee of the National Cancer Institute, National Institutes of Health, U.S. Public Health Service. Present address: Francis Delafield Hospital, 99 Fort Washington Avenue, New York 32, New York.

† We wish to thank Dr. J. Goodgold for making his records available to us.

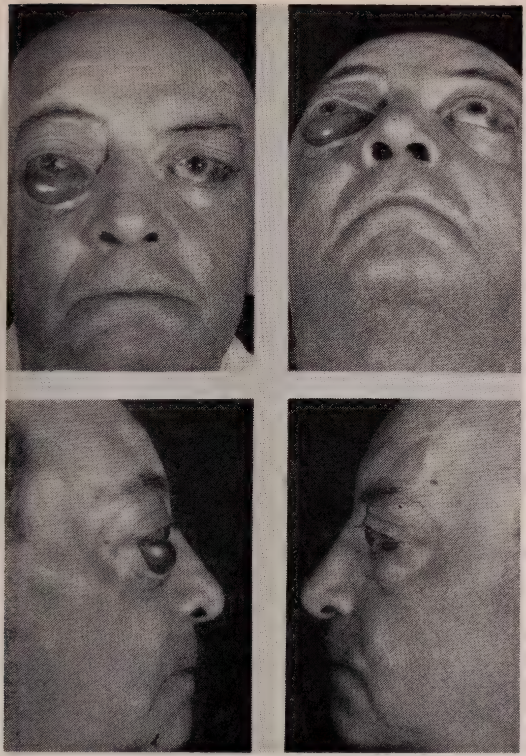

FIG. 2. Photograph of the patient prior to therapy showing exophthalmos and chemosis bilaterally and prolapse of the lower conjunctiva on the right.

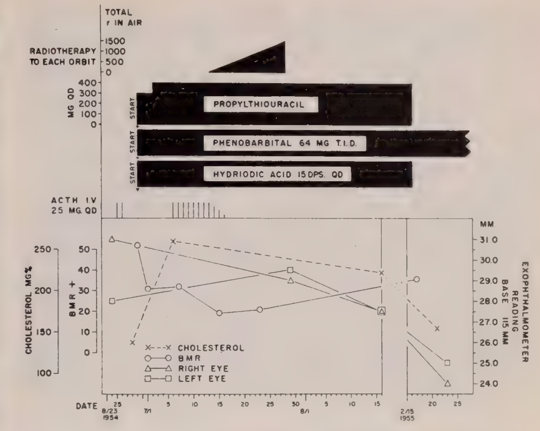

FIG. 3. Results of laboratory examinations before and during treatment.

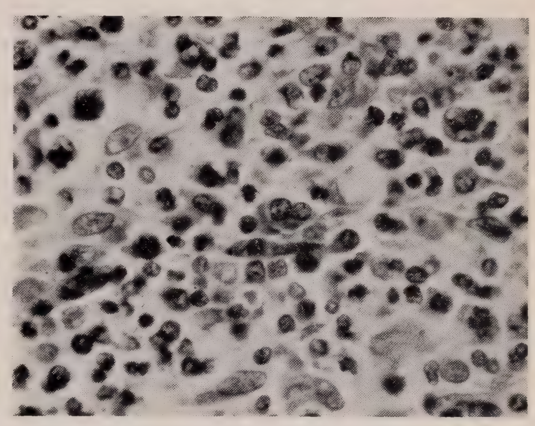

FIG. 4. Section of the right axillary lymph node showing large lymphocytes and lymphoblasts. (*Hematoxylin-eosin*)

Blood urea nitrogen was 24 mg. per cent. Urea clearance was diminished to 39 per cent in the first hour and 25 per cent in the second hour. Prior to any therapy except intravenous ACTH, basal metabolic rate was plus 52, protein-bound iodine 4.7 mg. per cent, and cholesterol 139 mg. per cent. Subsequent determinations are listed in Fig. 3. The urinary creatine was 0.225 Gm. on the control day (normal up to 0.050 Gm.). However, the creatine tolerance test was normal. A tracer with radioactive iodine after one month of treatment with propylthiouracil recorded an uptake of 37.5 per cent over the neck with excretion of 42.7 per cent on the first day and 5.4 per cent on the second day. Radiologic examination revealed fullness of the soft tissue of the root of the left side of the neck with a questionable indentation of the thoracic inlet and no calcification or substernal extension of the thyroid.

On admission the patient was placed on intravenous ACTH. A few days later a regimen of propylthiouracil, syrup of hydriodic acid, and phenobarbital was started (Fig. 3). Continued proptosis of the eyes and increasing eversion, especially on the right side, necessitated suturing of the lids. During this time a number of observers became increasingly concerned with the extent of axillary lymphadenopathy and hepatosplenomegaly. Accordingly, a right axillary lymph node was removed on the fourteenth hospital day. The specimen consisted of a single mass of pinkish soft tissue. The microscopic report (Dr. John M. Pearce) was as follows: "The normal architecture of this single lymph node is obscured by the diffuse infiltration of moderately widely separated neoplastic lymphocytes and lymphoblasts. The nuclei of the latter are large, pale, vesicular structures with an occasional nucleolus and surrounded by a moderate amount of eosinophilic cytoplasm. The capsule of the lymph node is absent, but small portions of fat present in the section appear to contain tumor cells. Diagnosis—lymphosarcoma (lymphoblastic type)" (Fig. 4). Lymph node touch preparations done by one of us (J.E.U.), stained with Wright-Giemsa technic, showed small, medium, but mostly large lymphocytes and many lymphoblasts. Interpretation was also lymphoblastic lymphosarcoma (Fig. 5).

The antithyroid medications were continued, and ACTH was discontinued. The patient was then given radiotherapy to both orbits with shielding of the lenses with lead; 1,500 r in air (200 kilovolts, 50 cm. skin target distance, half-value layer 1.8

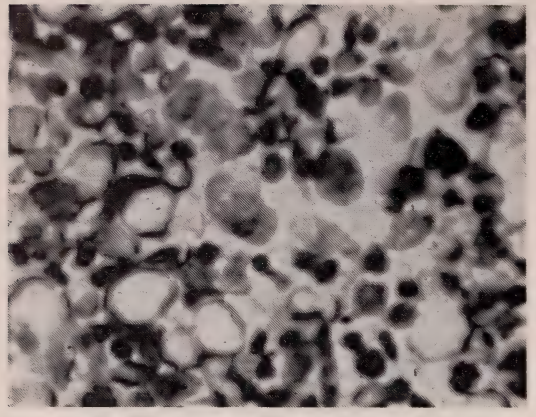

FIG. 5. Lymph node touch preparation of the right axillary lymph node showing mostly large lymphocytes and lymphoblasts. (*Wright-Giemsa*)

mm. copper) to each orbit over a fifteen-day period with a single cone 6 cm. in diameter. There was gradual decrease of the exophthalmos, eversion, and chemosis (Fig. 3). The patient was subsequently followed in the clinic. His symptoms of nervousness, insomnia, and anorexia improved, and he gained weight. On his last visit, eight months after discharge, he was taken off all medications except sedation. Exophthalmometric readings at that time with base setting at 115 mm. were 24 mm. right eye and 25 mm. left eye. Because of the gradual increase in cervical lymphadenopathy and hepatosplenomegaly, the patient was given further radiotherapy to the involved areas.

Comment

It is apparent that our patient had suffered with recurrent Graves's disease for about forty-five years. The exophthalmos seen in photographs submitted by the patient supports this. There is documentation of an exacerbation of the thyrotoxicosis six years prior to the present admission with absence of lymph node enlargement and hepatosplenomegaly and a good response to propylthiouracil alone. It is difficult to appraise the degree of thyrotoxicosis during the present admission. The elevated basal metabolic rate may well be ascribed to the generalized lymphosarcoma.[1] One protein-bound iodine determination was normal. The radioactive iodine uptake was not significantly elevated. The rapid fall of the basal metabolic rate on antithyroid medication without therapy of the lymphosarcoma, the low cholesterol rising rapidly on treatment of the thyrotoxicosis, and the spontaneous creatinuria of significant degree all speak in favor of Graves's disease. Response of exophthalmos to radiation therapy can be seen with Graves's disease[2] or lymphosarcoma.[3] The lymphadenopathy appeared to be more marked than one would expect, even with this longstanding Graves's disease, and hepatosplenomegaly of this degree is rare. The suspicion of a malignant lymphoma was confirmed by pathologic examination both in our surgical pathology laboratory and by Dr. C. V. Weller of the University of Michigan.[4]

Several statistical analyses suggest a high cancer death rate in communities where the incidence of goiter is also high. However, no mention of an increased incidence of chronic lymphatic leukemia or lymphosarcoma is made.[5-9] On the other hand, two recent statistical surveys of Graves's disease and concurrent malignancies suggest a less than random incidence of neoplastic disease.[10,11] Reports on Graves's disease written during the period preceding the use of any specific antithyroid medication fail to reveal a single case of concurrent lymphatic leukemia or lymphosarcoma.[12-14] Mention is made only of the lymphoid hyperplasia, splenomegaly, persistence of thymus gland, and thyroid gland enlargement, often referred to as "Graves's constitution."[15-17] This marked lymphoid hyperplasia has been seen *only* in Graves's disease and *not* in a simple hyperthyroidism ("toxic adenoma") and has been reported to reach occasionally the degree seen in the lymphomas.[18-21] Nevertheless, a review by Keating in 1939 of 5,000 patients seen at the Mayo Clinic with exophthalmic goiter failed to reveal a single instance of lymphosarcoma.[10] More recent texts make no mention of the occurrence of lymphatic leukemia or lymphosarcoma in patients with Graves's disease.[22-24] There are reported very rare instances of lymphosarcoma of the thyroid gland.[24] The possibility of the transition from struma lymphomatosa (Hashimoto) to localized lymphosarcoma was considered by one author.[25] A survey of the records of this hospital (since 1932) and of the records of the Memorial Center for Cancer and Allied Diseases (since 1950) discloses no other cases of concurrent Graves's disease and malignancies of lymphoid tissue.

Summary and Conclusion

The unusual association of longstanding Graves's disease and generalized lymphoblastic lymphosarcoma has been described in a sixty-seven-year-old male. A review of the literature fails to reveal any previously reported instances of this concurrence. The rarity of the occurrence of a malignant process in hyperplastic lymphoid tissue of chronic Graves's disease suggests that the association in this case is coincidental.

The authors wish to express their appreciation to Dr. Rulon W. Rawson for his advice and encouragement.

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Ureteral Calculus of Giant Size

FRANCIS PATTON TWINEM, M.D., F.A.C.S., NEW YORK CITY, AND SAUL SIEGENDORF, M.D., PASSAIC, NEW JERSEY

(*From the Department of Urology, Lincoln Hospital, New York City*)

How large does a ureteral calculus need to be to be classed as "giant?" The limit set is of course arbitrary. One may say that any ureteral calculus weighing 50 mg. or more may well be classed as "giant" size.

As far as we can determine, the ureteral calculus here reported is about the fourth largest on record. The largest by all odds (286 Gm.) was reported by Mayers[1] in 1940. No other ureteral calculus approaching Mayers' in weight has been found in the literature. The next largest, so far as we could discover, dropped to 125 Gm.[2] In Collinson's[3] case two calculi with a total weight of 83.2 Gm. formed a complete cast of the ureter. In the case reported by Harris[4] the giant calculi were bilateral. In *Campbell's Urology* the largest ureteral calculus cited is one weighing 66 Gm., reported by Tennant.[5]

Case Report

Mrs. S. B., a forty-two-year-old, white female, was admitted on October 1, 1952, to the Gynecologic Service of Lincoln Hospital, for intermittent vaginal bleeding and fever of two weeks duration. Her past history was irrelevant except for chronic backache which, several months prior to admission, simulated left renal colic.

The initial physical examination revealed a pale, obese female (weight 230 pounds). Blood pressure was 120/80 and temperature 103.2 F. Crepitant rales were heard at the base of the left lung. Also observed were ventral hernia, relaxed pelvic floor, and a uterus the size of a three-and-one-half-month gestation, with a left adnexal mass which was thought by the gynecologist to be continuous with the uterus. The initial impression was fibroid uterus and left lower lobe pneumonia.

Laboratory tests revealed the following: sedimentation rate 130 mm. in sixty minutes; 2 plus albuminuria and 20 white blood cells per high-power field in the urine; negative Mazzini; hemoglobin 8 Gm.; red blood cells 2,000,000; white blood cells 15,400 with polymorphonuclears 86 per cent, lymphocytes 8 per cent, and stab cells 6 per cent; nonprotein nitrogen 23.5 mg.; blood sugar 92 mg. per cent, and essentially normal urinary concentration and phenolsulfonphthalein test. Chest x-ray showed a consolidating process occupying the entire left lower lung fields. An intravenous pyelogram on October 3, 1952, revealed normal filling of the right renal pelvis, absence of contrast medium on the left, a large, soft tissue mass in the left upper abdomen, and a slightly curved, sausage-shaped, opaque mass overlying the left portion of the sacrum, extending upward almost to the upper border of the sacrum, and measuring 12 cm. in length and 4 cm. in width (Fig. 1). A lateral view located this calcific mass somewhat anterior to the sacrum. An electrocardiogram was suggestive of coronary insufficiency. The differential diagnosis considered by the gynecologist included (1) Meigs's syndrome, (2) calcified ectopic pregnancy or tumor (teratoma, dermoid cyst, fibroid, or foreign body), and (3) tuberculous, calcified pyosalpinx.

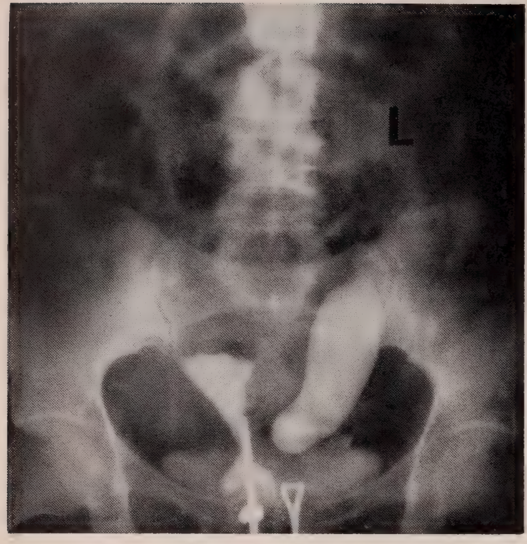

FIG. 1. X-ray showing uterine cavity filled with contrast medium.

On the advice of the internist, urologic examination was held in abeyance until the acute pulmonary process subsided. Despite negative sputums for acid-fast bacilli, multiple transfusions, and vigorous antibiotic and chemotherapy (6,000,000 units penicillin, 8 Gm. streptomycin, 5 Gm. Aureomycin, 11 Gm. Terramycin, and 12 Gm. Gantrisin), a low-grade fever persisted with only slight clearing of the pneumonic process.

On October 23, 1952, the patient underwent cystoscopy. Bladder urine collected via cystoscopy was grossly clear with a subsequent negative culture report. However, on distention of the bladder with resultant hydraulic opening of the normal-appearing left ureteral orifice, a column of toothpaste-like, purulent material was seen extruding from this orifice. The orifice did not drain unless the bladder was distended. A ureteral catheter met obstruction at 4 cm. A right retrograde pyeloureterogram was normal. On November 3, 1952, the left flank was opened through a lumbar incision, revealing a large, fixed, football-sized kidney, which extended up to the eighth rib. The pelvis was opened, yielding a measured 12,000 cc. of thick, purulent material, which grew Escherichia coli on culture. The incision was extended down the thickened, dilated ureter measuring 2 inches in diameter, and an elongated ureteral calculus was removed, measuring 11 cm. in length and 3.5 cm. in diameter at its widest point (weight 102 Gm.)

Because of a marked fall in blood pressure it was decided to perform a nephroureterectomy at another sitting. The wound was drained and closed with interrupted chromic sutures. Postoperative convalescence was uneventful, and the patient was discharged on November 16, 1952, with instructions to return for further surgery. Chemical analysis of the calculus showed it to consist of ammonium and calcium phosphate.

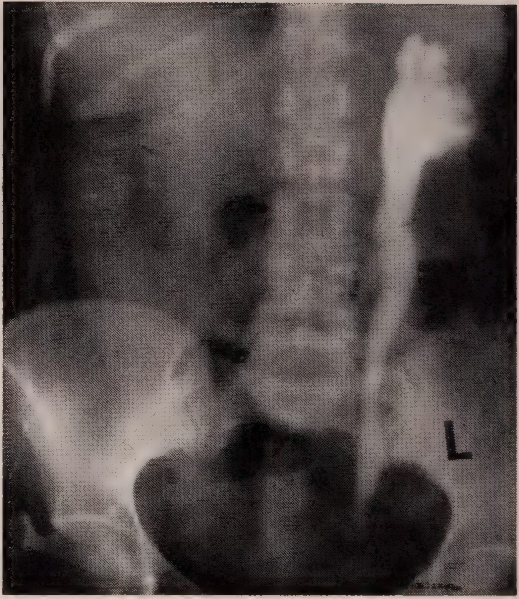

FIG. 2. Left pyelogram taken a few months after removal of calculus and drainage of 12,000 cc. of purulent fluid from left kidney. Note the small size of the kidney.

The patient was readmitted (at a later date than requested) on April 9, 1953, at which time all laboratory tests, including calcium, phosphorus, and uric acid, were within normal limits. A repeat retrograde pyelogram showed a normal-appearing right upper urinary tract and a left hydronephrosis and hydroureter without function (Fig. 2). X-ray of the chest was entirely normal. On April 20, 1953, a left subcapsular nephrectomy and ureterectomy were performed. The kidney was 9.5 cm. in length and 5 cm. in width. The cortex in some areas measured only 3 mm. in thickness. The diameter of the thickened ureter was approximately 1 inch at this time. The patient had a normal postoperative course, except for prolonged drainage from the operative site, and was discharged on May 17, 1953. A recent checkup indicates that she has continued to be well as far as the urinary tract is concerned.

901 LEXINGTON AVENUE
260 HARRISON STREET

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FUNDAMENTALS OF MODERN ALLERGY

A series of special articles sponsored by the New York Allergy Society and written by its members

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The Use of Antihistamines in Allergic Disease

FREDERICK R. BROWN, M.D., NEW YORK CITY

(*From the Allergy Clinic of Bellevue Hospital, Third Division*)

IT HAS been generally accepted that histamine plays an important role in the allergic reaction. When allergen and allergic antibody combine, histamine or a similar substance is released, producing its physiologic effects on the organism. There are four major methods used to prevent allergic reactions: (1) elimination or avoidance of the allergen, (2) specific hyposensitization by means of allergenic extracts, (3) suppression of the action of histamine by means of antihistamines, and (4) inhibition of the allergic reaction by means of steroid therapy.

After years of search for substances antagonistic to the action of histamine, Fourneau and Bovet reported that certain phenolic ethers had this property. The early antihistamines proved too toxic for human use, but since that time many different types of compounds have been found to have antihistaminic effects without undue toxicity.

The chief action of antihistamines is to compete with released histamine at its site of action, preventing its effect on the receptor cells. Experimentally the antihistamines have been found to prevent histamine and anaphylactic shock in animals, inhibit experimental induction of asthma in guinea pigs by histamine aerosols, inhibit wheal and flare produced by histamine, prevent histamine contraction of smooth muscle in vitro, and act as local anesthetics.

Respiratory Allergy

The best results of antihistamine therapy are obtained in seasonal hay fever. Relief is most pronounced in the edematous phases of the illness: sneezing, rhinorrhea, and itching. When nasal obstruction is present, much less relief is obtained, and often patients note that the drying effect increases their nasal obstruction. Antihistamine therapy produces greatest relief at the beginning of the season when the symptoms are mildest; in the latter part of the season when symptoms are more severe, the relief obtained is less complete. The use of antihistamines is no substitute for specific hyposensitization with pollen extracts. Those patients receiving pollen therapy usually note that their attacks of hay fever are considerably milder, and the use of antihistamines during the season may complete the therapy, providing excellent relief. Occasionally, antihistamines may be used to increase the patient's tolerance for pollen dosage, either by oral use an hour before an injection or by combination of an injectable form of the drug with the pollen extract. This is most useful in those patients very susceptible to systemic reactions after pollen injections, but in general, one cannot raise dosage adequately by this method.

In perennial allergic rhinitis the results of antihistamine therapy are not as good. The greater incidence of nasal obstruction and secondary changes due to the more prolonged exposure to both intrinsic and extrinsic factors probably accounts for the difference in response. When extrinsic factors are the major cause, greater relief is obtained. Most patients with nasal allergy have their most prominent symptoms early in the morning, and the use of an antihistamine at that time may be all that is necessary. Others find that a decrease in symptoms after arising may occur when prolonged-action antihistamines or a combination of a regular and a delayed form of the drug are taken just before retiring. In daytime use the beneficial effect of the drug should appear within an hour after administration. If no relief is evident and toxic effects are absent, the dosage of the drug should be increased or a different type of antihistamine should be tried. Occasionally a patient with very resistant symptoms may be helped by a topical antihistamine spray, but often this type of local therapy may be irritating and increase sneezing. More recently, the addition of hydrocortisone to topical spray preparations has improved their effectiveness.

In bronchial asthma the response to antihistaminic drugs is poor. Those patients who report improvement are benefited subjectively by reduction of the asthmatic or preasthmatic cough. The latter symptom is more frequent in children and responds well to small doses of antihistamines prescribed in elixirs or syrups. Administration of the drug to children before retiring produces the best effects and often assures a good night's sleep. The antihistamines which produce sedation seem to be more effective in children, even in small dosage. In adults with frank asthma very little benefit is noticed with no change in dyspnea or wheezing, and in many patients the symptoms are aggravated by the drying effect of these drugs on bronchial secretions. Symptomatic therapy in adult asthma is much more effective with sympathomimetic drugs. Some patients do find that they can abort a mild asthmatic attack by taking the drug early. An occasional patient will respond better to a combination of an antihistamine with ephedrine or aminophylline than to the bronchodilator drug used alone. The antihistamines have no real effect in pollen asthma, which is effectively controlled by hyposensitization.

Allergic Dermatoses

URTICARIA.—Generally our best results with antihistamine therapy occur in *urticaria*, primarily due to the antipruritic effect of these drugs. When pruritus is relieved and scratching ceases, secondary irritation usually disappears, and no new lesions due to localized trauma develop. There may be only slight effect on the edematous lesions already present, but new lesions may be prevented. The response of angioedema to these drugs is much less prominent, but even here the duration and size of the edematous areas may be reduced. The drugs are more effective in acute urticaria than in chronic urticaria. The dosage frequently depends on the severity of the lesion, often requiring two to four times the usual dose of the antihistamine. The highly sedative antihistamines and those with prolonged action are usually more effective in the relief of urticaria. One may find it necessary to try several different drugs before effective relief is obtained in these syndromes. Topical application of antihistaminic ointments may be effective in localized lesions due to insect bites.

ATOPIC AND CONTACT DERMATITIS.—In *atopic dermatitis* one often fails to control the symptoms with antihistaminic therapy alone. Here again, the antipruritic action will sometimes allow the lesions to heal and thus aid in discovering the etiologic factors by other means. Since steroid ointments topically applied to the lesions are much more effective in this condition, we no longer use antihistaminic ointments. The latter are frequent causes of sensitization by contact, and this factor alone limits their use. The sedative and prolonged-action antihistamines are preferred in atopic dermatitis, particularly since the condition may be a psychosomatic expression in many patients.

In *contact dermatitis* one may use topical preparations of the drugs because the lesions are usually well localized, but here also more effective steroid preparations now exist.

Drug Allergy

In the serum sickness type of penicillin reaction, the antihistamines are useful in controlling the urticarial and edematous lesions but often fail to affect the fever or arthralgia usually present. The course of serum sickness is not affected, and the drugs are merely palliative. Administration of an antihistamine concurrently with penicillin has not proved adequate to prevent either immediate or delayed reactions to the drug in most instances. In drug allergies manifested by urticarial lesions, the antihistaminic drugs frequently will control and sometimes prevent lesions. If another drug can be substituted for the offending drug, this should be done rather than use antihistaminic suppression.

Miscellaneous Allergies

In *allergic conjunctivitis* topical antihistaminic therapy often will control the pruritic symptoms, allowing more rapid healing of the condition, but steroid solutions are probably more efficient.

In *gastrointestinal allergy* due to foods, the oral use of an antihistamine prior to the ingestion of the known allergen will sometimes prevent the symptoms, but in most patients it is more logical to avoid the suspected food. One should prescribe those antihistamines which do not produce gastrointestinal symptoms as side-reactions.

Mention should be made of the use of antihistamines for the *common cold.* We have no good evidence that antihistamines affect either the course or incidence of the common cold, although symptoms such as sneezing and rhinorrhea may be relieved. It is often difficult to distinguish between infective and allergic rhinitis, and those patients who are on prolonged antihistaminic therapy seem to have the same incidence of colds as do nontreated individuals.

Antihistamines fail to alter effectively the course of the *collagen diseases.* The use of antihistamines to prevent *transfusion reactions* is often inadequate to prevent severe symptoms.

Administration of Antihistamines

The usefulness of an antihistamine must be evaluated for each individual by comparing the amount of relief obtained with the side-effects encountered. The antihistamine of choice would be that one which is most effective with the fewest side-reactions.

The antihistamines tend to fall into three main groups, depending on the side-reactions produced:

Group I—These are least potent and least reactive: Antistine, Neo-hetramine, Theophorin.

Group II—These are moderately potent and moderately reactive: Pyribenzamine, Chlor-Trimeton, Trimeton, Diatrin, Perazil, Histadyl, Neo-Antergan, Tagathen, Ambodryl, and Clistein.

Group III—These are highly potent but also highly sedative: Benadryl, Decapryn, and Phenergan.

Several of the antihistamines have a prolonged action, particularly Perazil and Phenergan. Some of the drugs are available in delayed-action and repeat-action tablets and in a form that is slowly but continually absorbed.

Oral administration is the method of choice with antihistamines. The dose will vary greatly with each individual, and the smallest dose that is effective should be used. For nighttime therapy larger doses and prolonged or delayed-action forms of the drug may be used. If no relief is obtained within an hour of administration, the dosage should be increased or another antihistamine tried.

Parenteral use of these drugs is rarely necessary but may be resorted to when rapidity of action is desired or failure of absorption is present. Topical application in the form of ointments, eye drops, nasal sprays, and aerosols has been previously mentioned.

Sometimes a sedative side-reaction may be combated by a combination of the antihistamine with ephedrine, caffeine, or amphetamine. Antihistamines can be combined with aminophylline or ephedrine in antiasthmatic preparations, but it is doubtful whether the antihistamine adds to the effectiveness of the bronchodilator drug. These drugs have been incorporated into expectorant cough mixtures and in this form are quite useful for children.

Toxic Reactions

Sedation is the most common side-effect. This action frequently limits the use of a particular antihistamine during the day. The sedative type of antihistamine should be avoided if the patient's work involves fine motions or driving a vehicle.

Central nervous system stimulation may be a side-reaction with some antihistamines, producing such symptoms as irritability, tension, insomnia, vertigo, and tachycardia. Stimulation occurs more frequently when large dosage is used. Convulsions have been noted rarely, usually in fatal poisoning from these drugs.

Gastrointestinal disturbances, such as abdominal cramps, nausea, vomiting, and diarrhea, are frequently encountered. Perazil, Pyribenzamine, Chlor-Trimeton, and Diatrin tend to produce this type of toxic reaction, and these drugs should be avoided in patients who have a previous history of peptic ulcer or gastrointestinal irritability.

Other side-effects not infrequently noted are dryness of the mouth, urinary retention, and palpitation. In some patients continued use of the drug over a long period results in tolerance with disappearance of side-reactions. Rarely, psychosis has been noted and, very rarely, bone marrow depression. In most instances the side-effects cease promptly when the drug is discontinued.

Summary

The antihistamines are most useful in the acute exudative types of allergy, such as pollenosis and urticaria. One should always remember to try several different drugs in different dosages before concluding that antihistamines are ineffective in any individual. This group of drugs is palliative only and should be used to complement rather than to substitute for specific immunologic therapy.

145 East 52nd Street

(*Number twenty of a series on Fundamentals of Modern Allergy*)

Stuttering Called Personality Defect

Stuttering is a personality defect rather than a speech defect, and treatment must be aimed at the underlying emotional difficulties, a New York psychiatrist said.

In a signed editorial in the April 28 *Journal of the American Medical Association*, Dr. Smiley Blanton of the American Foundation of Religion and Psychiatry said there are three functions of speech: expressing emotions, adjusting to other people, and expressing ideas.

Stuttering is a blocking of a person's ability to adjust to other people, arising from anxiety in meeting various social situations. Stutterers usually can talk to themselves, to animals, and often to people with whom they are friendly, but not in situations where fear and anxiety are aroused, he said.

Studies have been made to show that there is some organic cause of stuttering, but no positive evidence has been found that nervous or physical deformities cause stuttering, except in occasional cases. Another theory offered, but not accepted by most investigators, is that stuttering springs from making a left-handed child write with the right hand.

Dr. Blanton said there are about 600 speech sounds in the various languages of the world. The baby in his babble stage uses hundreds of these sounds, but when he begins to speak, he must exclude all the sounds except about 56 which are used in the English language. Stutterers seem to fail to make this exclusion.

The treatment of the stutterer consists of building up his confidence, giving him loving attention and teaching him to adjust to groups, Dr. Blanton said. It is helpful for the child to receive speech training, but some of the results obtained in classes may be due more to the loving attention the child gets than to the treatment itself, he said.

In the case of the very young child who stutters, there is need for a reorganization of the family life so that he will receive the right amount and kind of love and affection so as to develop a sense of security, Dr. Blanton said, concluding:

"There is no short cut to the treatment of stuttering. When stuttering persists on into adolescence and adulthood, the person's whole personality is involved and not just the speech organs. He must be trained to understand himself and to learn to adjust to other people without fear and without tension."

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A Challenging Pain Problem

The management of intractable pain, whether it be that which results from malignant disease or from other pathologic entities which produce pain, is a challenging problem continually facing the physician. The use of narcotic drugs, chemical section with regional nerve block, and surgical procedures all have their place in the management of specific problems, each of which must be carefully weighed to suit the individual patient. The solution to the problem of pain, which this case presentation emphasizes, illustrates the successful use of intrathecal alcohol for the relief of pain.

Case Report

The patient, a forty-seven-year-old, white male had been hospitalized with pulmonary tuberculosis for the past four years. Medical therapy had been ineffective; therefore, surgical treatment had been instituted. In the course of the last two and one-half years he had had a right upper lobectomy and a seven-rib thoracoplasty on the same side. In spite of these measures his disease remained active. In addition, he had developed a right-sided empyema with a bronchopleural fistula. This was further complicated by breakdown of the chest wall and a persistent infection associated with incapacitating pain. During the last eighteen months this pain could only be controlled with large amounts of Demerol, to which the patient had become habituated, if not addicted. It was felt, therefore, that other measures for pain relief should be considered.

The patient appeared chronically ill. He was in considerable discomfort, continually complaining of his pain, which was severe enough to interfere with sleep in spite of sedation. Examination of the chest revealed a gaping defect in the right lateral chest wall, extending from the sternal border anteriorly to within 3.5 cm. of the vertebral column. This defect was over 10 cm. wide in the midaxillary line. Through the defect the pleura covering the upper part of the lower lobe could be seen to move with respiration. The whole area above was moist and draining purulent material. As far as could be determined, there were no areas of anesthesia or hypalgesia about the defect.

It was decided that block with absolute alcohol was the procedure of choice. Because of the presence of infection in the posterior vertebral area, paravertebral block could not be performed. The lesion seemed also to preclude the use of intrathecal alcohol at the level of involvement. It was then suggested that a catheter be passed upward via the subarachnoid space to the level of the involved dermatomes without fear of passing through an infected area. A radiopaque ureteral catheter ($3^1/_2$ French) was introduced at the third to fourth lumbar level and advanced under x-ray control to the third thoracic level (marked with a penny taped over the third thoracic vertebra). Having previously determined the volume of the ureteral catheter to be 0.4 cc., 1.4 cc. of 1:2,000 Pontocaine (hypobaric) were then injected, with the patient lying right side up. Pontocaine in this dilute solution was selected to conform as closely as possible to baricity of absolute alcohol in order to test the potential efficacy of the procedure. This resulted in total relief of all pain for one hour.

The patient was then placed in bed in the left lateral decubitus position, and 0.65 cc. of absolute alcohol was injected. This resulted in 0.25 cc. of alcohol being deposited at the third thoracic level. The patient remained in this position for one hour. At this time there was marked but not complete relief of pain. The catheter was left in place for future injections. However, when he was seen the following day, the pain relief was complete, and there was anesthesia from the third to the fifth thoracic level. The catheter was removed. The relief of pain has now continued for four months. Narcotics have been discontinued, and the patient's mental outlook has improved greatly.

Comment

The relief of pain by whatever means is not often so dramatic and satisfying as occurred in this instance. It is pertinent to point out that when first presented, the situation seemed insurmountable because of the presence of infection coupled with the extensive nature of the lesion. The technic of intrathecal injection of alcohol with a catheter has previously been employed for the relief of intractable pain resulting from pleural metastases. Because the intrathecal injection of absolute alcohol carries with it the hazard of disagreeable paresthesias, rectal and fecal incontinence, and motor paresis of the extremities, it has generally been reserved for those patients in whom the prognosis was not only hopeless but also short-lived. A single injection of larger volumes of alcohol (1 to 3 cc.) certainly is hazardous, but in malignant disease the consequences are acceptable. The use of the catheter diminishes to a considerable degree the possibility of complications by permitting the slow instillation of very small volumes of alcohol at a selected level. More precise localization can thus be achieved with less hazard.

Like the neurosurgeon, the anesthesiologist can only take part in these problems when his services as a consultant are solicited. Through his knowledge and skills the anesthesiologist has much to offer those patients in whom intractable pain cannot be satisfactorily controlled with narcotic drugs.

(Number sixteen of a series of Clinical Anesthesia Conferences)

Clinical Aspects of Arteriosclerosis of the Extremities

Arteriosclerosis may be roughly subdivided under three headings: (a) medial-sclerosis, in which the medial coat of the artery is mainly involved and in which calcinosis is common (b) atheromotosis, in which, with advancing years, the intima becomes involved with local cholesterol and lipoid plaques with associated thrombotic masses partially or completely occluding the lumen. This is the type that usually brings the patient to the physician. It usually involves the larger or medium-sized arteries of the extremities. (c) The type associated with hypertension, which generally involves the smaller arteries. After discussing the clinical and laboratory pictures of peripheral arteriosclerosis, Dr. A. Wilbur Duryee outlines the objectives and modes of management. While management may present frustrating problems, a general approach which has developed over the last twenty-five years forms a basis for achieving satisfactory results in many instances.—*Minnesota Medicine, December, 1955* *fiftieth annual*

DISTRICT BRANCH MEETINGS

Medical Society of the State of New York

SIXTH DISTRICT BRANCH

Wednesday, September 19, 1956

Canasawacta Country Club and Eaton Laboratory Research Center, Norwich

Morning

Golf at Canasawacta Country Club

Afternoon

12:30 P.M.—Registration at Eaton Laboratory Research Center

1:00 P.M.—Tour of Eaton Laboratory Research Center

2:30 P.M.—Panel Discussions at Canasawacta Country Club

1. "Industrial Medicine"
   PETER J. DI NATALE, M.D., *Moderator*, Batavia, Chairman, Committee on Industrial Health, Medical Society of the State of New York
   PAUL MACLEOD, M.D., Norwich, Director, Eaton Laboratories
   JAMES STERNER, M.D., Rochester, Council on Industrial Health, American Medical Association
2. "Malpractice and Malpractice Insurance"
   JOSEPH A. LANE, M.D., *Moderator*, Rochester, Chairman, Malpractice Insurance and Defense Board, Medical Society of the State of New York
   JOHN F. KELLEY, M.D., Utica, Member, Malpractice Insurance and Defense Board
   MR. HARRY F. WANVIG, New York City, Indemnity Representative
   MR. WILLIAM F. MARTIN, New York City, Counsel, Medical Society of the State of New York

3:45 P.M.—Panel Discussion: "Trauma"

EDWARD A. SWIFT, M.D., *Moderator*, Syracuse, Assistant Clinical Professor of Medicine, State University of New York at Syracuse, College of Medicine; Assistant Surgeon, University Hospital; Voluntary Assistant Surgeon, St. Joseph's and Crouse-Irving Hospitals

1. "Thoracic Injuries"
   JOSEPH E. DELMONICO, JR., M.D., Syracuse, Assistant Thoracic Surgeon, University and St. Joseph's Hospitals; Voluntary Assistant Thoracic Surgeon, Crouse-Irving Hospital; Thoracic Surgeon, Veterans Administration Hospital
2. "Abdominal Injuries"
   LEON G. BERMAN, M.D., Syracuse, Attending Surgeon, Syracuse General and University Hospitals; Consulting Surgeon, Veterans Administration Hospital
3. "Head and Neck Injuries"
   DAVID B. STARK, M.D., Syracuse, Clinical Assistant Professor of Plastic Surgery, Syracuse Memorial and University Hospitals; Assistant Plastic Surgeon and Assistant Surgeon in Otolaryngology, Syracuse Memorial and University Hospitals

5:30 P.M.—Cocktail Party (courtesy of Norwich Pharmacal Company)

Evening

6:30 P.M.—Dinner

Introduction of Officers

Address: JAMES GREENOUGH, M.D., President, Medical Society of the State of New York

Remarks: MRS. ALBERT VANDER VEER, II, Albany, President, Woman's Auxiliary to the Medical Society of the State of New York

"Federal Legislation as It Affects the Medical Profession" MR. PAUL MARTIN, chief of Washington Bureau, Gannett News Services

Officers—Sixth District Branch

President	William T. Boland, M.D., Elmira
First Vice-President	James Greenough, M.D., Oneonta
Second Vice-President	C. Stewart Wallace, M.D., Ithaca
Secretary	George F. Nevin, M.D., Cortland
Treasurer	George G. McCauley, M.D., Ithaca

Presidents—Component County Medical Societies

Broome	Raymond S. McKeeby, M.D., Binghamton
Chemung	Earle G. Ridall, M.D., Elmira
Chenango	Hugh D. Black, M.D., Norwich
Cortland	Robert T. Corey, M.D., Cortland
Delaware	Scott L. Bennett, M.D., Hancock
Otsego	Cornelius F. Ryan, M.D., Oneonta
Schuyler	James J. Norton, M.D., Montour Falls
Tioga	Welton D. Brown, M.D., Nichols
Tompkins	C. Douglas Darling, M.D., Ithaca

THIRD DISTRICT BRANCH

Thursday, September 20, 1956
Colonie Country Club, Albany

Morning

10:30 A.M.—Registration

11:00 A.M.—Business Meeting—Election of Officers

12 Noon— Cocktails and Buffet Luncheon

Introduction of Officers

Address: James Greenough, M.D., President, Medical Society of the State of New York

Remarks: Mrs. Albert Vander Veer, II, Albany, President, Woman's Auxiliary to the Medical Society of the State of New York

Afternoon

Blood: Panel Discussions

2:00 P.M.—"Hematology"

1. "Basic Concepts of Hematology"
2. "Management of Anemias"
3. "Management of White Cell Disturbances"
4. "Management of Thrombocytopenic Purpura"

Simon Propp, M.D., Albany, Associate Professor of Medicine, Chief of Sub-Department of Hematology, Albany Medical College

Charles A. Hall, M.D., Albany, Assistant Professor of Medicine, Albany Medical College; Chief of Hematology, Veterans Administration Hospital

William B. Scharfman, Albany, Instructor in Hematology, Albany Medical College

Discussion

Richard T. Beebe, M.D., Albany, Chairman of Department of Medicine, Albany Medical College

William P. Nelson, III, M.D., Albany, Assistant Professor of Medicine, Albany Medical College; Chief of Medicine, Veterans Administration Hospital

General Discussion

3:30 P.M.—"The Transfusions in Medical Practice Today"—Benjamin F. Norris, M.D., Albany, Attending Hematologist, Bender Hygienic Laboratory

Discussion: John J. Clemmer, M.D., Albany, Director, Bender Hygienic Laboratory; Past President, Blood Banks Association of New York State

Officers—Third District Branch

President	Everett A. Jacobs, M.D., Hudson
First Vice-President	Edwin G. Mulbury, M.D., Windham
Second Vice-President	Clement J. Handron, M.D., Troy
Secretary and Treasurer	Henry J. Noerling, M.D., Valatie

Presidents—Component County Medical Societies

Albany	Thomas I. Tyrrell, M.D., Albany
Columbia	Carl G. Whitbeck, M.D., Hudson
Greene	Alfred O. Persons, M.D., Lexington*
Rensselaer	John P. Jaffarian, M.D., Troy
Schoharie	Robert J. Shelmandine, M.D., Sharon Springs
Sullivan	Morris A. Cohn, M.D., Monticello
Ulster	John A. Olivet, M.D., Kingston

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* Acting President.

NECROLOGY

Ludwig A. Anfanger, M.D., of New York City and Jackson Heights, died on July 27 at the age of fifty-six. Dr. Anfanger received his medical degree in 1925 from the University of Wurzburg. Dr. Anfanger was a senior clinical assistant physician at Mount Sinai Hospital and an associate attending physician at Parkway Hospital. He was a Diplomate of the American Board of Internal Medicine and a member of the Clinical Society of the New York Diabetes Association, the Rudolf Virchow Medical Society, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Walter Bardeleben, M.D., of New York City, died on July 27 at the age of sixty-six. Dr. Bardeleben received his medical degree from the University of Berlin in 1918. He was a member of the New York County Medical Society and the Medical Society of the State of New York.

Reul Allen Benson, M.D., of New York City, died on August 6 at the age of seventy-eight. Dr. Benson graduated from New York Homeopathic Medical College and Flower Hospital in 1903. He was a consultant in pediatrics at Metropolitan Hospital and attending pediatrician at Flower and Fifth Avenue Hospitals. Dr. Benson had been associated with Flower and Fifth Avenue Hospitals for over fifty years as a medical student, intern, practicing physician, and professor of pediatrics. The Frederick S. Wheeler Laboratory in pediatrics was established by him. Dr. Benson taught for over fifty years and following his retirement as professor of pediatrics continued as professor of graduate pediatrics. He was a member of the editorial board of the *Archives of Pediatrics*, a member of the health and safety committee of the Girl Scouts of America, and at one time was awarded a certificate of merit by the City of New York for a career of "distinguished and exceptional public service." Dr. Benson was a Licentiate of the American Board of Pediatrics and a member of the American Academy of Pediatrics, the New York Academy of Medicine, and in 1932 was president of the Homeopathic Medical Society of the State of New York, now inactive, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Eugene Davidoff, M.D., of Schenectady, died on July 23 at the age of fifty-five. Dr. Davidoff graduated in 1927 from the State University of Iowa College of Medicine. He had been chief of psychiatry at the Ellis Hospital, Schenectady, and formerly had directed the Veterans Administration's neuropsychiatric work in New York State. He was a Diplomate of the American Board of Psychiatry and Neurology and a member of the American Orthopsychiatric Association, the American Psychopathological Association, the American Association on Mental Deficiency, the American Group Psychotherapy Association, the American Psychopathological Association, the Association of Military Surgeons of the United States, the Mohawk Valley Neuropsychiatric Society, the Schenectady County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Leonard James Druckerman, M.D., of New York City, died on July 30 at the age of forty-nine. Dr. Druckerman graduated from Cornell University Medical College in 1931 and interned at Mount Sinai Hospital. He was an associate attending surgeon at Mount Sinai Hospital and a former member of the staff of Governeur Hospital. A Diplomate of the American Board of Surgery and a Fellow of the American College of Surgeons, Dr. Druckerman was a member of the New York Surgical Society, the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Elihu Katz, M.D., of New York City, died on July 20 at the age of sixty-eight. Dr. Katz graduated in 1914 from Columbia University College of Physicians and Surgeons. He was a professor of gastroenterology at New York Polyclinic Hospital and clinical professor of gastroenterology at the Bronx Municipal Hospital Center. A gastroenterologist at Polyclinic and Sea View Hospitals, he was also a consultant in gastroenterology at the Bound Brook, New Jersey, Hospital, and Richmond Memorial Hospital. Dr. Katz was a Diplomate of the American Board of Internal Medicine, Gastroenterology, a Life Fellow of the American College of Gastroenterology, and a member of the International Academy of Proctology, the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Charles George Koehler, Jr., M.D., of Brooklyn, died on July 20 at the age of seventy-two. Dr. Koehler graduated in 1906 from Cornell University Medical College. He had practiced medicine in Brooklyn for fifty years.

Walter H. Krombein, M.D., of Buffalo, died on

July 24 at the age of fifty-six. Dr. Krombein graduated from the University of Buffalo School of Medicine in 1924. He was an attending physician at Buffalo General Hospital and a consulting physician in internal medicine at St. Francis Hospital, Buffalo. Dr. Krombein was a Diplomate of the American Board of Internal Medicine, a Fellow of the American College of Physicians, and a member of the Buffalo Academy of Medicine, the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Vincent D. Leone, M.D., of Eggertsville, formerly of Niagara Falls, died on July 6 at the age of fifty-five. Dr. Leone graduated in 1925 from the University of Buffalo School of Medicine. During World War II he served as a lieutenant commander in the U.S. Navy and on December 11, 1950 was named director of the first local emergency medical service plan for atomic warfare in Niagara Falls. Dr. Leone retired from practice in 1954. He was a Fellow of the American College of Surgeons and a member of the Buffalo and Niagara Falls Academies of Medicine, the Niagara County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Ira W. Livermore, M.D., of Gowanda, died on June 27 at the age of eighty-four. Dr. Livermore graduated in 1899 from the University of Buffalo School of Medicine. During World War I he served as a major with the U.S. Army Medical Corps and later saw service with the Royal Medical Corps in England. From 1920 to 1953 he served on the Gowanda Water Board. He was a member of the Buffalo Academy of Medicine, the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Frederick Coe McClellan, M.D., of Canandaigua, died on July 4 at the age of seventy-two. Dr. McClellan graduated from the University of Buffalo School of Medicine in 1917. For twenty-two years he served as city health officer in Canandaigua and was also a surgeon for the Pennsylvania and New York Central Railroads. He had been a director at Thompson Hospital where he was also a surgeon, and was a past director of the State Urological Society. Dr. McClellan was a Fellow of the American College of Surgeons and a member of the Ontario County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Agnes Purcell McGavin, M.D., of Greystone Park, New Jersey, formerly of Buffalo, died on May 6 at the age of sixty-three. Dr. McGavin graduated in 1920 from the University of Toronto Faculty of Medicine. Director of the Mental Hygiene Clinic at the New Jersey State Hospital at Greystone Park, she was a member of the American Psychiatric Association, the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Pasquale Frank Montilli, M.D., of New York City, died on April 13 at the age of fifty-five. Dr. Montilli graduated from the Medical College of Richmond, Virginia, in 1926. He was a clinical assistant attending physician in tuberculosis at the Harlem Hospital Outpatient Department.

Frank Joseph Peterson, M.D., of the Bronx, died on August 3 at the age of seventy-one. Dr. Peterson graduated in 1919 from Fordham University School of Medicine. He was an assistant attending surgeon in ear, nose, and throat at the Bronx Eye and Ear Infirmary. Dr. Peterson was a member of the Bronx County Medical Society and the Medical Society of the State of New York.

Eli Sinins, M.D., of New York City, died on April 23 at the age of fifty-three. Dr. Sinins graduated from the New York Homeopathic Medical College and Flower Hospital in 1929. He was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Michael Joseph Thornton, M.D., of New York City, died on July 23 at the age of ninety. Dr. Thornton graduated from the Albany Medical College in 1901 and interned at Bellevue Hospital. In 1934 he retired as general medical superintendent in the Department of Hospitals. Formerly he had served at Bellevue Hospital where he became medical superintendent and during World War I he served in France and was discharged as a lieutenant colonel of the infantry. He was a member of the New York Neurological Society, the New York Society for Clinical Psychiatry, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Francis William Welch, M.D., of Buffalo, died on July 2 at the age of sixty-four. Dr. Welch graduated from the University of Buffalo School of Medicine in 1914. Until his retirement in 1950 Dr. Welch served as health inspector for the City of Buffalo and was a former member of the staffs of the Lafayette General Hospital and City Hospital (now Meyer Memorial Hospital).

Max Wender, M.D., of New York City, died on August 5 at the age of sixty-nine. Dr. Wender graduated in 1911 from New York University and Bellevue Hospital Medical College.

Alfred E. Wood, M.D., of Brooklyn, died on April 2 in the Jersey City Medical Center at the age of seventy-two. Dr. Wood graduated from Fordham University School of Medicine in 1911.

James C. Yard, M.D., of New York City, died on July 28 at the age of seventy-one. Dr. Yard graduated from Meharry Medical College, Nashville, Tennessee, in 1925. He was a clinical assistant attending physician at the Harlem Hospital.

Jerome Zuckerman, M.D., of New Rochelle, died on July 21 at the age of seventy-one. Dr. Zuckerman graduated in 1908 from Cornell University Medical College and interned at Mount Sinai Hospital. He was a member of the Westchester County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

ANNOUNCEMENTS

The following announcements concerning suspension, revocation, annullment, and cancellation of medical licenses have been received from Dr. Stiles D. Ezell, secretary, Board of Medical Examiners, University of the State of New York, State Education Department:

License Suspended.—JEAN BERTRAM KOUPAL, Toledo, Ohio: medical license number 20842, issued under date of July 1, 1926, permitting her to practice medicine in the State of New York, suspended for a period of six months. The Order of Suspension was served on Dr. Koupal on March 2, 1956, and her medical license, therefore, stands suspended from March 2, 1956, to September 2, 1956.

License Suspended.—GEORGE WASHINGTON PAPEN, Albany, New York: medical license number 7120, issued under date of May 19, 1905, permitting him to practice medicine in the State of New York, suspended for a period of one year. The Order of Suspension was served on Dr. Papen on February 20, 1956, and his medical license, therefore, stands suspended from February 20, 1956, to February 20, 1957.

License Revoked.—RUTH J. CHALFANT, Rochester, New York: medical license number 32265, issued under date of June 25, 1936, permitting her to practice in the State of New York, revoked, annulled, and canceled. The Order of Revocation was served on Dr. Chalfant's Committee, Frank J. Horton, on January 20, 1956, and her medical license, therefore, stands revoked as of that date.

License Revoked.—FRANCIS E. KENT, Beacon, New York: medical license number 20769, issued under date of July 1, 1926, permitting him to practice medicine in the State of New York, revoked, annulled, and canceled. The Order of Revocation was served on Dr. Kent's Committee on March 5, 1956, and his license, therefore, stands revoked as of that date.

License Restored.—LAWRENCE RADIN, Brookfield, Connecticut: medical license number 34238, issued under date of October 7, 1937, permitting him to practice medicine in the State of New York, restored. The Order of Restoration was served on Dr. Radin on July 14, 1956, and his medical license, therefore, stands restored as of that date.

MEDICAL NEWS

Nassau Otolaryngological Society—At the annual meeting of the Nassau Otolaryngological Society held on May 23, the following officers were elected: Dr. Nathan Steinberg, Rockville Centre, president; Dr. Walter Glass, Great Neck, vice-president; Dr. Benjamin H. Budoff, Hempstead, secretary-treasurer, and Dr. Edward Orzac, Valley Stream, assistant secretary-treasurer.

Course in Gynecologic Endocrinology—The New York University Post-Graduate Medical School will hold a full time course in gynecologic endocrinology from October 8 through 12, under the direction of Dr. Herbert S. Kupperman.

March of Dimes Grants—Nineteen March of Dimes grants and appropriations totaling $1,211,983 for professional education relating to the treatment of polio patients have been announced by the president of the National Foundation for Infantile Paralysis.

New York State institutions receiving grants are: Cornell University Medical College, New York City, $154,408 to continue support for two years of its March of Dimes-financed program of teaching the concept and technics of rehabilitation to medical students; American Physical Therapy Association, New York City, $71,134 to continue support of services to physical therapy schools, prospective students and members, liaison with the medical profession on matters of education and practice, and intensive program of student recruitment; National Association of Social Workers, New York City, $53,185 for the medical social work section, to continue support of the medical social consultant service in the fields of education and professional practice to social work schools, hospitals and community agencies, and National League for Nursing, New York City, $78,553 for an advisory service to schools of nursing and state nursing organizations to improve the quality of care for polio and other patients requiring rehabilitation.

Course for Prosthetists and Orthotists—The Institute for the Crippled and Disabled, rehabilitation center in New York City, will sponsor its second annual nine-month course for prosthetists and orthotists, starting September 24.

The Institute will accept eight students for the course, with their selection based on the adequacy of their preparation for the training, and the urgency of the area from which they come for technicians with this type of skill.

Requests for information and application forms should be directed to Mr. Charles Goldstine, Director, Prosthetic and Orthopedic Appliance Laboratories, at the Institute for the Crippled and Disabled, 400 First Avenue, New York 10, New York.

American Medical Education Foundation—New York State contributors to the American Medical Education Foundation for the month of June were: *Albany*—Dr. E. G. Rerrick; *Arcade*—Dr. G. G. Davis; *Astoria*—Dr. P. A. Saponaro; *Auburn*—Drs. D. F. Blair, B. L. Cullen, F. L. DeFurio, R. H. Joachim, A. J. Olicker, E. S. Platt, W. W. Robertson, G. C. Sincerbeaux, R. J. Thomas, and R. P. Worden; *Baldwin*—Dr. Joseph J. LaVine; *Batavia*—Drs. Peter J. DiNatale, Robert S. Jenks, P. J. Maloney, B. S. Mansueto, and J. Tannenberg; *Bath*—Dr. Donald Hutchings; *Beacon*—Dr. Frank E. Hacker; *Brasher Falls*—Dr. R. L. Cudlipp; *Bronx*—Dr. Hubert S. Goldsmith; *Bronxville*—Dr. James M. Jones; *Brooklyn*—Dr. M. Waxgiser; *Caledonia*—Dr. M. Hare; *Cambria Heights*—Drs. William J. Gaitland and Joseph Schepis; *Canastota*—Drs. Richard B. Cuthbert, Jr., and George S. Pixley; *Canton*—Drs. W. Sapsin and E. H. Stretton; *Cattaraugus*—Dr. Harry C. Law; *Cazenovia*—Dr. Edward R. Cannon; *Central Valley*—Dr. F. M. Bullard; *Cincinnatus*—Dr. George R. Landwehr.

Also: *Corfu*—Dr. S. L. McLouth; *Corona*—Dr. George P. Josephson; *Cortland*—Dr. Howard D. Kelley; *East Meadow*—Drs. Irwin H. Friedman and Avron H. Ross; *Elmhurst*—Drs. John F. Connell and S. J. Hodkin; *Elmira*—Drs. Everett W. Corradini, Edward L. Curvish, Morris Dreyfuss, Raymond E. Frisk, Harold Game, Jr., Donald N. Groff, James A. Mitchell, Charles H. Ott, Robert V. Powell, Philip J. Reilly, Joseph F. Shortsleeve, Robert V. Siliciano, R. G. Turner, Joseph F. Valicenti, and Meredith H. Wyttenbach; *Endicott*—Drs. Karl D. Rundell and Donald E. Stack; *Fair Haven*—Dr. G. B. Hanford; *Far Rockaway*—Dr. Lester J. Greenberg; *Flushing*—Drs. Alfred Berman, Thomas M. d'Angelo, Henry M. Kleinman, George J. Lawrence, Jr., Samuel B. Lerman, Vincent A. Parnell, Sydney J. Rose, M. Schochet, and Henry Shankman; *Forest Hills*—Drs. Francis X. Fallon, Matthew Freid, George Jaspin, C. A. Mahoney, Anthony Mira, and W. E. Stumpf; *Fort Covington*—Dr. Philip W. Gorman; *Franklin Square*—Drs. Bruno Landau and Ira S. Rubenstein; *Franklinville*—Dr. Robert D. Kelsey; *Freeport*—Dr. James A. McAleese; *Gainesville*—Dr. F. D. Dreyfuss; *Garden City*—Drs. Eben Breed, Earle G. Brown, B. F. Dennis, Janith S. Kice, James L. McCartney, and Thomas V. Miles; *Glen Cove*—Drs. James L. Boyd, Gilbert N. Taylor, and Warren I. Titus; *Glen Head*—Dr. Thomas J. Sheehy; *Gouverneur*—Drs. E. L. Adler and G. H. Hanlon.

Also: *Gowanda*—Dr. Roy J. Thurn; *Great Neck*—Drs. F. E. Lane and Abraham S. Lenzner; *Hempstead*—Drs. Ruel L. Alden, William P. Bartels, Carl F. Freese, Alex E. Gold, Otho C. Hudson, and R. R. Steen; *Hewlett*—Drs. John M. Butterly and E. R. Maillard; *Hicksville*—Dr. Chester E. Kaminester; *Highland Falls*—Dr. F. H. Darragh; *Hilton*—Dr. Robert N. Blodgett; *Hollis*—Drs. Abraham Appel and Peter V. Gugliuzza; *Hoosick Falls*—Dr. H. Stacy; *Ilion*—Dr. Donald R. Davidson, II; *Ithaca*—Drs. Henry W. Ferris and George G. McCauley; *Jackson Heights*—Drs. Fred S. Grunwald, Richard R. Panebianco, and Patrick W. Valicenti; *Jamaica*—Drs. Emmett Altman, Morris S. Bender, Harry Goldberg, J. P. McManus, Francis G. Riley, Jack Spivak, William Stark, Else Steiner, and Milton C. Wilson; *Johnson City*—Dr. A. A. Kosinski; *Keene*—Dr. A. R. Goff; *Kew Gardens*—Dr. Harold Linsky; *Kingston*—Drs. John L. Alley, Herbert Derman, F. W. Holcomb, Sr., Walter Levy, and Elbert F. MacFadden, Jr.; *Lawrence*—Dr. Adrian Brodey; *Levittown*—Dr. David J. Posner; *Little Falls*—Dr. Robert C. Ashley; *Locke*—Dr. Manes Kesten; *Long Beach*—Dr. Frances Karp; *Long Island City*—Dr. Michael Pollack; *Manhasset*—Drs. A. G. Borden, John G. Connell, William H. Horan, and Ralph U. Whipple; *Massena*—Drs. J. Chibnik, P. Mardon, and J. B. Pike; *Mount Vernon*—Dr. Milton B. Philips; *Newburgh*—Drs. C. B. Reed and W. A. Shearer; *New Hyde Park*—Dr. Arthur B. Nightingale.

Also: *New Paltz*—Dr. Erhard Boetzel; *New Rochelle*—Drs. Raymond F. Kiernan and Daniel A. Sherber; *New York City*—Drs. Olav Austlid, A. B. Carrasco, George S. Cattanach, Leo B. Halleran, Murray Israel, D. R. Jensen, Milton M. Kardon, A. R. Martin, Gorman J. McVeigh, Herbert S. Ogden, Robert F. Russell, and Henry B. Safford; *Norwood*—Dr. Henry Vinicor; *Oakfield*—Dr. R. L. Warn; *Ogdensburg*—Dr. W. Heller; *Olean*—Drs. Joseph E. Anderson and James A. Doucett; *Oneida*—Drs. Ernest Freshman, William L. Lanyon, and Anthony J. Zaia; *Ossining*—Dr. Richard Perlini; *Ozone Park*—Dr. Henry Cymerman; *Parishville*—Dr. Max Thaler; *Pavilion*—Dr. W. Heuman; *Penn Yan*—Drs. W. G. Roberts and B. S. Strait; *Perry*—Dr. W. J. Chapin; *Plandome Heights*—Dr. John J. Snodgrass; *Plattsburgh*—Drs. William W. Johnson, Eric D. Pearson, and Harold Singer; *Port Jervis*—Drs. A. H. Keniston and J. C. Keniston; *Portville*—Dr. Henry C. Hackett; *Potsdam*—Drs. J. Carson, W. R. Carson, R. L. Hatch, and T. M. Watkins; *Poughkeepsie*—Drs. Charles DeBold, Jr., Lloyd Kest, Henry F. Kreckman, Melvin Matlin, James J. Toomey, S. R. Watsky, and George T. Way; *Richmond Hill*—Drs. Edward L. Glynn and Morris Wein; *Ridgewood*—Dr. Max Gutmann; *Rochester*—Drs. Donald G. Anderson, Alfred J. Angelico, Ralph T. Collins, Eugene Duggan, David W. Fassett, W. W. Howe, Jr., John S. McIntosh, Frederick Offenberger, M. Rathbun, Edward C. Riley, Edward H. Townsend, Jr., and Paul A. Zwick.

Also: *Rockville Centre*—Dr. Frank M. Green; *Roslyn Heights*—Drs. Louis S. Bardoly, William L. Kron, L. S. Kryle, and A. T. Scanlon; *St. Albans*—Drs. Hans Bergmann and E. P. King; *Salem*—Dr. Gerald P. Finke; *Schenectady*—Drs. Richard T. Arnest, Jr., F. A. Groff, Jr., Frank P. Marra, Herbert Monheimer, Philip Parillo, Morris A. Shapiro, and C. A. Welsh; *Seaford*—Dr. Horst Lange; *Staten Island*—Drs. N. M. Fedde, Sidney N. Kessler, and Thomas J. Quigley; *Stone Ridge*—Dr. Anthony J. Tocco; *Strykersville*—Dr. M. A. Valente; *Syracuse*—Drs. William W. Faloon, Joseph A. Head, Alice Jaros, George B. Madison, and John A. Root; *Troy*—Drs. J. V. Barrett and W. Z. Schwebel; *Valatie*—Dr. H. J. Noerling; *Valley Stream*—Dr. Samuel Jackson; *Warsaw*—Drs. P. A. Burgeson, C. H. Harville, J. W. Leachman, C. J. Regan, C. O. Wagenhals, and R. T. Williams; *Watervliet*—Drs. E. J. Hanratta, Jr., and W. A. Stewart; *West Brentwood*—Dr. Albert E. Paganini; *Westbury*—Drs. Karl H. Behm and Robert S. Millen; *West Winfield*—Dr. Leslie MacNaughton; *White Plains*—Dr. Ralph T. DiPace; *Whitestone*—Drs. Saul B. Monto and John J. Vasile; *Woodhaven*—Drs. Olga K. Kiss, Stephen Kiss, and Anthony W. Russo; *Woodside*—Drs. Thomas Costigan and Paul Weiss; and *Yonkers*—Dr. Charles W. Aitcheson.

Surgical Implications on Nonthrombocytopenic Purpura

Intestinal lesions, usually benign with a tendency to spontaneous recovery, are the direct cause of severe abdominal pains which may usher in the nonthrombocytopenic purpura syndrome (Henoch-Schonlein purpura). Because of this pain the patient may come to the attention of the surgeon who, if he is unfamiliar with the signs and symptoms, may be tempted to perform an exploratory operation. Laparotomy with resection is indicated only when perforation or intussusception is suspected. The protean signs of this disease, including prominent skin, joint, cerebral, renal, eye, and visceral manifestations, may bring the patient to any one of a number of specialists. Drs. James P. Muldoon, Alfred M. Berg, and David W. Kinnaird deal with the entire list, but place the stress on visceral symptoms, presenting three cases illustrative of the latter. Except in the occasional case where surgical intervention is indicated, treatment is directed toward supportive care.—*Annals of Surgery, November, 1955*

NEWS FROM THE MEDICAL SCHOOLS

Albany Medical College of Union University

Public Health Service Awards—Grants totalling $22,098 from the U.S. Public Health Service for postgraduate teaching and training of psychiatrists have been received by the College; $14,800 will be used for training and $7,298 for teaching resident psychiatrists. The funds will be administered by Dr. William L. Holt, Jr., professor and chairman, Department of Psychiatry, and Dr. William Sands, educational director of the College's postgraduate psychiatric training program.

Also from the U.S. Public Health Service is a grant for research in changes in cell structure associated with secretion of hormone for Dr. Richard A. Miller, professor of anatomy.

New York Medical College

Appointed—Dr. David Lehr, formerly of the faculty at University of Vienna Medical School, Royal University of Lund, Sweden, and instructor in pharmacology and medicine at the College since 1941, appointed director of the newly combined Department of Physiology and Pharmacology.

New York University College of Medicine

Honors Program and Merit Scholarships—To encourage and support students who wish to prepare for careers of investigation and teaching in medicine, an honors program and merit scholarships have been provided by the Commonwealth Fund. The honors program is open to 12 to 15 students in each class and will begin in the fall of 1956. Admission will be on a volunteer basis for students qualified to carry additional work which the program will add to the regular assignments of the present curriculum and may be made at the time of applying for admission to the College, or any student may join the program in his second or third year if qualified. Each student will be eligible for a position as research assistant in one of the departmental research laboratories during the second, third, and fourth years.

The merit scholarships begin in September, 1957, and will be awarded annually to college students who desire careers of investigation and teaching in the medical sciences. Each scholarship will provide $1,500 annually for tuition and other expenses renewable each year for four years for qualified students. Application should be submitted at the time application is made for admission to the College, and the program is open to students throughout the country.

Practical English Course—Beginning September 27 and ending January 17, from 6:15 to 8 P.M., will be offered a new course in practical English for foreign physicians. The course is open to doctors, interns, and hospital administrators whose native tongue is not English, and will be conducted by Grant Taylor, director of the Division's English language program for international students. Interested persons may register either by person or through the mail from now until October at the Division of General Education, New York University, 1 Washington Square North, New York 3, New York.

State University of New York College of Medicine in Syracuse

Cum Laude Doctor of Medicine Degrees—Six students received the doctor of medicine degree cum laude at the commencement exercises on June 11. Dr. William R. Willard, dean, conferred the honor on Drs. Albert Frankel, Syracuse; Walter N. Garger, Yonkers; I. Michael Samloff, Rochester; Irwin M. Weiner, New Egypt, New Jersey; Michael D. Yablonski, North Haledon, New Jersey, and Frank E. Young, Merrick. Seventy students received the doctor of medicine degree.

Grant—Dr. Paul Bunn, professor of medicine, has received a grant of $18,348 from the Bristol Laboratories, Inc., Syracuse, for the support of the Department of Medicine's antibiotic control laboratory.

Dr. Richard H. Phillips, Department of Psychiatry, has received a $25,000 research grant from the U.S. Public Health Service, National Institutes of Mental Health for the support of psychiatric teaching of medical students. The grant is for the 1956–1957 year and will be spent largely for professional teaching personnel and equipment.

Dr. Paul F. Wehrel, assistant professor of pediatrics, received a three-year research grant from the U.S. Public Health Service to cover investigations into the many unanswered questions as to how and why polio virus is transferred from human to human. Beginning this month $21,534 will be administered through the Research Foundation of the University for this year.

Resigned—Dr. William R. Willard, dean, has resigned to accept the positions of dean and vice-president at the new medical school of the University of Kentucky at Lexington which will begin operations in 1959.

Appointed—Dr. Thomas Stephen Szasz has been appointed professor of psychiatry. Dr. Szasz has been on active duty with the U.S. Navy since 1954 and was discharged on August 1. Until entering the Navy, Dr. Szasz was on the staff of the Institute for Psychoanalysis, Chicago, as well as in private practice in Chicago.

Dr. Marc H. Hollender, associate professor of psychiatry, University of Illinois, and staff member of the Institute for Psychoanalysis, Chicago, has been appointed professor and chairman, Department of Psychiatry at the College.

State University of New York College of Medicine at New York City

Appointments—Dr. Kwang Soo Lee, formerly associate professor of pharmacology, Jefferson Medical College, Philadelphia, has been appointed associate professor of pharmacology. Dr. Joseph B. Pincus, formerly clinical professor of pediatrics at the College and part-time chief of pediatrics Jewish Hospital of Brooklyn, has been appointed professor of pediatrics at the College and full-time director of pediatrics at Jewish Hospital. Dr. Jose del Castillo, professor of biophysics, University College, London, England, has been appointed visiting professor of physiology at the College for the year 1956–1957.

Alumni Association—Dr. Frank Giustra, Class of 1932, when the College was known as the Long Island College of Medicine, has been elected president of the Alumni Association for 1956–1957.

Research Society—The following officers of the Research Society of the College have been elected: President, Dr. Julius Belford, associate professor, Department of Pharmacology; Vice-President, Dr. Richard Day, chairman and professor, Department of Pediatrics, and Secretary-Treasurer, Dr. Albert Hirschman, assistant professor, Department of Anatomy.

Testimonial Dinner—Dr. E. Jefferson Browder, director of the neurosurgical service at the Kings County Hospital and professor of neurosurgery on the faculty of the College, was honored at a testimonial dinner attended by residents who graduated from the Hospital's neurosurgical service during the past twenty-five years. A portrait of Dr. Browder was presented to the Hospital and the College by the former residents.

MEDICAL MEETINGS

Symposium on Occupational Noise

A symposium on occupational noise will be held at the Yale-New Haven Medical Center on September 17, presented by the Yale University School of Medicine and Grace-New Haven Community Hospital Hearing and Speech Center in cooperation with the Liberty Mutual Insurance Company.

Further information may be obtained by writing to the Assistant Dean of Postgraduate Medical Education, Yale University School of Medicine, 333 Cedar Street, New Haven 11, Connecticut.

Medical Alumni Conference

Medical alumni of the University of Michigan Medical School will meet in Ann Arbor, Michigan, September 27 through 29 for their sixth triennial medical alumni conference. A special program of scientific presentations, panels, and clinics will highlight the scientific portion of the program, while a banquet, special convocation for the Medical School, and the Michigan-UCLA football game will feature the pleasure side.

Information can be obtained by writing to A. C. Furstenberg, Dean, University of Michigan Medical School, Ann Arbor, Michigan.

Academy of Psychosomatic Medicine

The Academy of Psychosomatic Medicine will hold its third annual meeting at the Hotel Plaza, New York City, on October 4, 5, and 6. It will be on "Aspects of the General Practice of Medicine." Among the speakers will be Dr. Milton Rosenbaum of the Albert Einstein College of Medicine of Yeshiva University, and Dr. George Train of the State University of New York. For further information, contact the secretary, Dr. Ethan Allan Brown, 75 Bay State Road, Boston 15, Massachusetts.

Woman's Auxiliary
to the MEDICAL SOCIETY OF THE STATE OF NEW YORK

Tenth Annual Conference

THE TENTH annual conference of county presidents, presidents-elect, and State committee chairmen of the Woman's Auxiliary will be held in Syracuse at the Hotel Syracuse, October 9 and 10, 1956. The purpose of the conference is to bring the county presidents and chairmen together to acquaint them with all phases of the Auxiliary program for the year ahead. The conference plan has, without a doubt, proved to be of great value to those attending. However, still far too few of the county presidents avail themselves of this opportunity to meet with others to discuss their projects and problems while they also promote self-education so that they may successfully carry out the objectives of the Auxiliary and of organized medicine.

The conference will consist of panel discussions moderated by the State chairmen with county presidents as the participants. Some of the panels planned by Mrs. Albert Vander Veer, II, president, and Mrs. Leif G. Jensen, president-elect, are: recruitment, program and safety, American Medical Education Foundation, mental health, public relations, legislation, Auxiliary publications, and group discussions which will include civil defense, health poster contest, councillors, and voluntary health plans.

Special features will include a board of directors dinner on Monday, October 8, plus meetings of the board of directors, nominating committee, and councillors. Chairmen and presidents who arrive on Monday evening will view the following films: "The Case of the Doubting Doctor," a film designed to acquaint physicians and their wives with the many services available from the AMA; "On Impact," a safety film made with the cooperation of the Ford Motor Company; "You're In Charge," a guide for baby sitters to supplement our GEMS (Good Emergency Mothers Substitute) project, and "Medical Technologist," which also will be an educational supplement to our recruitment program (formerly nurse recruitment).

Members of the State Medical Society and representatives from the State headquarters office will be guests at the dinner on Tuesday evening when we will have two speakers, one to be from the AMA.

Physicians whose wives are county presidents or presidents-elect can help by urging their wives to attend the conference which is planned entirely in accord with their suggestions and specific requests. We know you want your wife to be a well-informed and well-equipped president.

The conference committee and the Woman's Auxiliary to the Onondaga Medical Society are happy to be hostesses for this important meeting and have planned for the comfort and entertainment of those attending. Syracuse is easily reached by car, plane, bus, or train, and it is hoped that this meeting will be attended by the largest number of members ever.

MRS. GERALD C. COONEY, *Chairman*
Conference Committee

1309 Oak Street
Syracuse

Medical Society of the State of New York
Sesquicentennial Meeting—February 18 to 21, 1957

Meat...

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Meat has an appropriate place in the moderate-protein, low-sodium, acid-ash diet advocated in the dietary management of patients with congestive cardiac failure.[1] When extreme sodium restriction is necessary, the meat allowance is regulated accordingly.

Lean meat allows maintenance of a positive nitrogen balance without excessive protein intake, because its amino acids match the quantity and proportions needed for tissue synthesis and repair.[2,3] In the fresh state as purchased it supplies only small amounts of sodium ranging from approximately 50 to 100 mg. per 100 grams. Due to its acid-ash composition (equivalent to 4 to 38 ml. of normal acid per 100 grams of meat) it may facilitate diuresis.[1]

In addition to these important features, meat contributes valuable nutritional factors by virtue of its generous supply of high quality protein, B vitamins, and essential minerals—iron, phosphorus, potassium, and magnesium.

Easy digestibility, a prime requisite of foods eaten by the patient with congestive cardiac failure, is another outstanding quality of meat.

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1. Odel, H. M.: Nutrition in Cardiovascular Disease, in Wohl, M. G., and Goodhart, R. S.: Modern Nutrition in Health and Disease, Dietotherapy, Philadelphia, Lea & Febiger, 1955, p. 709.
2. Berg, C. P.: Utilization of Protein, J. Agr. & Food Chem. *3*:575 (July) 1955.
3. Best, C. H., and Taylor, N. B.: The Physiological Basis of Medical Practice, ed. 6, Baltimore, Williams & Wilkins, 1955, p. 638.

The nutritional statements made in this advertisement have been reviewed by the Council on Foods and Nutrition of the American Medical Association and found consistent with current authoritative medical opinion.

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OPENINGS FOR PHYSICIANS IN NEW YORK STATE

GENERAL PRACTICE

Albany County

Altamont.—Population approximately 2,300 in 15 to 20-mile radius. Hospitals 9 and 15 miles distant. Privileges immediately available. Positions as village health officer and school physician may be available. Contact Dr. D. W. Sweeney (phone Altamont 4741); Mr. Raymond Brunk (phone Altamont 2371); Reverend C. Meyer (phone Altamont 4981); Miss Marion Keenholts (phone Altamont 4301); Mrs. Van Loon (phone Altamont 3321).

Allegany County

Belfast.—Population 2,500 in 8 to 10-mile radius. Hospitals with immediate privileges 15 and 20 miles distant. Possible opening for village health officer and school physician. Contact Dr. Dorothy Grey, 2 South Street, Belfast; also Mr. Percy Collins, Supervisor, Main Street, Belfast.

Friendship.—Population 2,000 in 6 or 7-mile radius. Hospitals with immediate privileges 8 and 12 miles distant. Opportunity for school physician. Contact Dr. E. S. Webster, Friendship (phone Friendship 2101 or 2301).

Broome County

Harpursville.—Population 4,000 in 10-mile radius. Hospitals with immediate privileges 17 miles away. Openings for town health officer and school physician available as well as for physician and surgeon for Delaware & Hudson Railroad. Contact Mr. Douglas J. Osterhoudt (phone Harpursville 5-1151); Mr. Ray King (phone Harpursville 5-1353); Mrs. A. M. Torrance (phone Harpursville 5-1051).

Cayuga County

Cayuga.—Population 500; service area with population 2,000 plus. Two hospitals at Auburn 9 miles distant. Contact Dr. Henry J. Romano, Secretary, Medical Society of the County of Cayuga, Auburn Memorial Hospital, Auburn.

King Ferry.—Population 250; eight villages and hamlets within 8 miles with population 1,200. Additional 1,500 in surrounding farm area; summer population adds another 1,500 to 2,000. Radius of 2 to 12 miles. Appointment as school physician available. Town health officer and insurance examiner position may be available. House with office space for sale or rent. Three hospitals within thirty minutes at Auburn and Ithaca. Contact Mr. G. J. Cummings, Box 145, King Ferry.

Chautauqua County

Cherry Creek.—Population 1,000 in 10-mile (plus) area. Immediate privileges in hospitals 20 miles distant. Opening for town health officer available. Contact Major Irwin Millspay, Cherry Creek.

Findley Lake.—Population 1,000 in 10-mile (plus) area. Immediate privileges in hospitals 25 miles distant. Opening for town health officer available. Contact Mr. Ray O. Jones, Supervisor, R.D. #1, Sherman.

Chenango County

Afton.—Population 2,047 in 10 to 15-mile area. Immediate hospital privileges at Bainbridge (private) $5^1/_2$ miles, Sidney 12 miles, and Binghamton 22 miles. Opening for town health officer. Contact Mr. C. Wayland Guy, First National Bank of Afton (phone: office, Afton 7-2281; home, 7-1131); Supervisor Ernest Poole, R.D. Nineveh (phone: office, Afton 7-1071; home, Harpursville 5-2775); Mayor Alden A. Mudge, Jr. (phone: office, Afton 7-2331; home, 7-2101).

McDonough.—Population 200; population 1,000 within a radius of 10 miles. Hospital at Norwich 18 miles; Greene 13 miles; Binghamton 32 miles. Contact Mr. J. J. Duell, Town Supervisor, McDonough.

Clinton County

Altona.—Population 2,000. Radius about 15 miles including villages of Ellenberg, Mooers Forks, Sciota, and West Chazy. Two hospitals in Plattsburgh, about 20 miles. Excelsior mill and milk plant. Private residence, rent free for one year. Appointments as school health officer and medical officer for industries available. Contact Mr. Halsey J. Stark, County Clerk, Altona.

Mooers.—Population 500; population 3,000 to 5,000 in 12-mile radius served. Hospitals in Plattsburgh 25 miles. Position of school physician available, possibly town health officer. Contact Mr. M. B. Stewart, Mooers, and Dr. Aaron Davis, 9 Rugar Street, Plattsburgh.

[Continued on page 2730]

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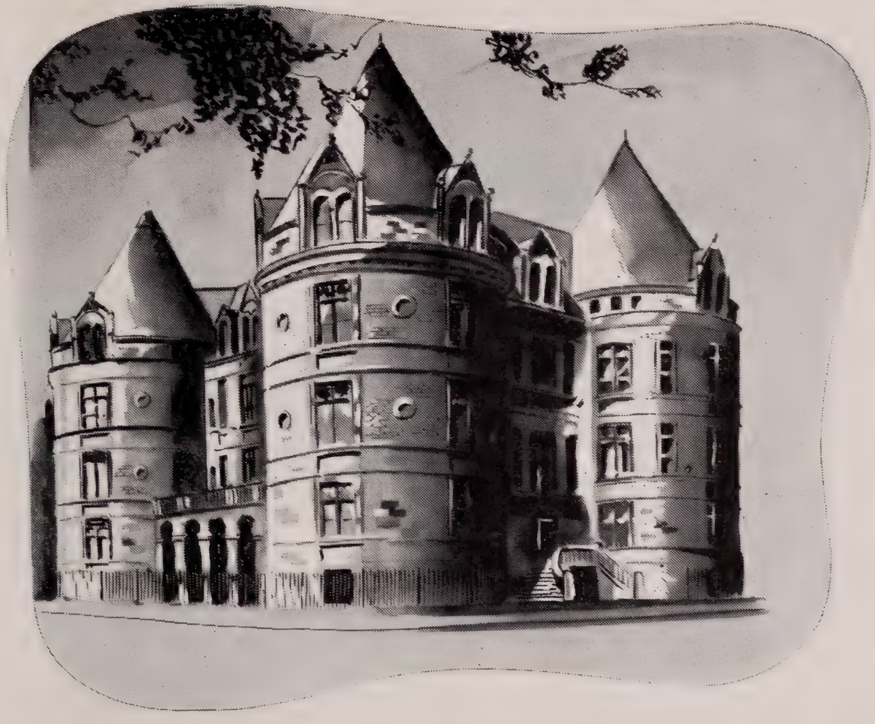

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[Continued from page 2728]

Delaware County

Andes.—Population 2,000 within 12-mile radius. School physician and health officer positions available. Hospitals 13 miles distant at Delhi and Margaretville. Contact Miss Eleanor W. Palmer, Box 105, Andes.

Franklin.—Population 1,200 in 8 to 12-mile area. Immediate privileges in hospitals 12 miles (Oneonta) and 14 miles (Sidney). Positions available as district health officer, town health officer, and school physician and in Scintilla Division of Bendix Aviation Corporation in Sidney. Contact Mr. Harold Hyzer (phone Franklin 103R3); Mr. Hector Howard (phone Franklin 102J3); Mr. Cecil Fowlston (phone Franklin 27R3); Mr. Charles D. Stinard (phone Franklin 104).

Essex County

Au Sable Forks.—Population 5,000 in 10-mile area. Hospitals 20 and 27 miles away. Compensation work for large mill. Contact Mr. James Rogers, Mr. Andrew Huntington, Mr. Daniel Manning, or Dr. Joseph Scott, Au Sable Forks.

Essex.—Population 1,000 plus; about 2,000 in summer in 8 to 10-mile radius. Hospitals at Elizabethtown and Mineville 16 miles and at Plattsburgh 30 miles. Position of town health officer available at $350; also post as school physician. Contact Mr. Leonard E. Dempster, Essex (phone Essex 2-573).

Jefferson

Cape Vincent.—Population 1,900 in 15-mile radius. Hospitals at Watertown 27 miles distant and Alexandria Bay 26 miles distant, with privileges after a few months. Appointments as town health officer and school physician available. Contact Dr. Charles A. Prudhon, Watertown; also Mr. Arthur Parker, Cape Vincent.

Madison County

Georgetown.—Population 800 in 10-mile area. Hospital at Hamilton 12 miles distant with privileges at once. Openings for town health officer and school physician. Contact Mr. Edgar Angelo, Georgetown (phone Georgetown 5).

Madison.—Population 2,500; area 100 square miles; five villages. Doctor expecting to come by the day. Hospitals at Hamilton 7 miles, Oneida 20 miles, Syracuse 40 miles. Positions as school physician and town health officer available. Contact Dr. B. L. Rockwell, Oriskany Falls.

New York County

New York City.—570 Grand Street. Largest cooperative housing community in New York City. Middle income clientele. No other physician in development. Contact Mr. Ralph Lippman, East River Housing Corporation, 570 Grand Street, New York City (phone OR 3-3900).

Niagara County

Rapids.—Population 150 families in 8-mile radius. Hospitals in Buffalo 25 miles and Lockport 7 miles. Opening as examining physician for school at $1.00 per pupil. Contact Mrs. George W. Dietz, Sr., Route 5, Lockport.

Oneida County

Clayville.—Population 719; 3,800 more population within 6-mile radius in prosperous farming territory. Three industries in Clayville with 525 employes. Hospitals and laboratory facilities in Utica 8 miles distant. Town health officer position probably available. Home and office of former doctor for sale, possibly equipment. Contact Mr. M. Donohue, Real Estate Broker, Sauquoit (phone Utica 7-7383).

Vienna.—Population 2,175 in 10-mile radius. Hospitals 10 to 16 miles. Openings for town health officer and school physician. Contact Mr. Russell Brown, Sylvan Beach (phone Poplar 2-4785); Mrs. Eileen Phelps, Verona Beach (phone Poplar 2-4637); Mrs. Althea J. Babcock, Sylvan Beach (phone Poplar 2-4617); Mrs. Lillian Sawner, Sylvan Beach (phone Poplar 2-4736).

Onondaga County

Lafayette.—Population about 2,080, comprising also villages of Pompey, Cardiff, Apulia, and Apulia Station in 10 square mile area rapidly growing. Hospitals at Syracuse 7 miles. When privileges may be obtained is undetermined. Opening for town health officer. Opening available for school physician. Contact Mrs. Marion Leckonby, c/o Dr. Leo E. Gibson, 831 James Street, Syracuse (phone Syracuse 9-2849); Mr. Charles Adsitt, Town Supervisor (phone OR 7-3107); Miss Bernice Amidon (phone OR 7-7562).

South Onondaga.—Population 10,000. Hospitals twenty to thirty minutes distant. Positions of town health officer, $1,500; school physician, $1,100; and physician to Indian reservation may be available at $3,000. Contact Mr. Walter Wheeler, R.D. #1, Nedrow (phone Syracuse 9-2680).

Ontario County

Hall.—Population 300; population 2,000 within surrounding prosperous farming area. Midway between Penn Yan and Geneva, each about 8 miles distant. Fifty-bed hospital at Penn Yan; 80-bed hospital at Geneva. Rochester 45 miles; Syracuse 50 miles. Contact Dr. Ray E. Deuel, Jr., 508 Castle Avenue, Geneva, or Mr. Joseph Robson, Hall.

Honeoye.—Population 1,300; population 4,000 in area. Present doctor leaving to specialize. Hospital at Canandaigua. Positions of local health officer and school physician available. Contact Dr. William J. Meyer, New York State Department of Health, Glens Falls.

Orange County

Unionville.—Population 500; additional 400

[Continued on page 2732]

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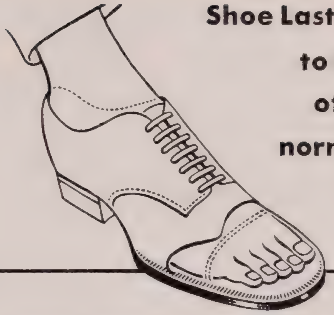

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This question assumes increasing importance when it is considered that the majority of patients with acute myocardial infarction are treated at home by general practitioners, rather than by specialists in research hospitals where facilities exist for adequate supervision of such therapy. The author tabulates eight signs pointing to poor prognosis and statistical summaries both from his experience and reports by other investigators.—*Connecticut State Medical Journal, December, 1955*

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Medical Society of the State of New York

The following series of decisions in heart cases were rendered under the provisions of the Workmen's Compensation Law. These abstracts appeared in the *Workmen's Compensation Law Reports*, published by the Commerce Clearing House, Inc. They show the trend with respect to claims for compensations as a result of coronary thrombosis sustained in the course of employment. These decisions should be of assistance to physicians who may be called on to treat cardiac conditions sustained in the course of employment.

(1726) *Gallo* v. *Town of Islip Highway Department.* New York Supreme Court, Appellate Division, Third Judicial Department. No. 324-1. December 23, 1955.

Coronary Insufficiency—Death Benefits—Strain and Exertion.—The dependent wife of a deceased highway maintenance man was properly awarded death benefits for the death of her husband who died of a coronary insufficiency while cutting weeds along the highway where the evidence was sufficient to sustain the finding that his death was causally related to his work. The court ruled, while there was some conflict of medical opinion, the record contained sufficient medical evidence that decedent's death of an acute coronary insufficiency was brought about by his employment. Affirmed.

(1727) *Snyder* v. *NYS Veterans Emergency Housing Project.* New York Supreme Court, Appellate Division, Third Judicial Department. No. 385-15. December 23, 1955.

Heart Condition—Death Benefits—Strain and Exertion—Causal Connection.—The dependent wife of a building superintendent was properly awarded death benefits for the death of her husband who died of a heart attack where the evidence was sufficient to sustain the finding that the strain and exertion of shoveling coal and a conversation relative to the eviction of a tenant were causally connected with the fatal heart attack. The court ruled that the effect of these exertions on his pre-existing cardiac condition contributed to his death. Affirmed.

(1728) *Olmstead* v. *Perland Realty Corp.* New York Supreme Court, Appellate Division, Third Judicial Department. No. 330-7. December 23, 1955.

Coronary Sclerosis—Death Benefits—Strain and Exertion—Causal Connection.—The dependent wife of a deceased employe who died of coronary sclerosis was properly awarded death benefits where the evidence was sufficient to sustain the finding that the strain and exertion caused by the cleaning of a chimney was a contributing factor in his death. The court ruled that while the testimony of the claimant's physician upon the hearing was simply to the effect that the decedent's activity on the morning of the fatal attack "could have been responsible" for his death, his written report, which was admitted into evidence, stated unequivocally that the "physical activity in which he was engaged shortly before his death was a contributory factor in his death." Affirmed.

(1764) *O'Neil* v. *Blasdell High School.* New York Supreme Court, Appellate Division, Third Judicial Department. No. 4-4. February 21, 1956.

Football Official—Death Benefits—Coronary Thrombosis—Employment Relationship—Question of Control.—The widow and dependent children of a deceased football official who died of a coronary thrombosis after officiating at a high school football game were properly denied a death benefits claim against the high schools for whom decedent officiated when they failed to establish that an employe-employer relationship existed between the decedent and the high schools. The court ruled that the traditional test of the employer-employe relationship is the right of the employer to control the work. The principal factors showing right of control are (1) direct evidence of right or exercise of control, (2) method of payment, (3) the furnishing of equipment, and (4) the right to fire. From the record in this case it could be found that the alleged employers exercised no control over the manner in which the decedent performed his work, that the method of payment was indicative of an independent contractor status, that no equipment was furnished to decedent, and that the alleged employers had no right to discharge him. Affirmed.

[Continued on page 2738]

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[Continued from page 2736]

(1770) *Waskewicz* v. *Diamond.* New York Supreme Court, Appellate Division, Third Judicial Department. No. 20-19. February 21, 1956.

MYOCARDIAL INFARCTION—DEATH BENEFITS—STRAIN AND EXERTION—CAUSAL CONNECTION BETWEEN DECEDENT'S WORK AND DEATH.—The dependent wife of a building superintendent was properly awarded death benefits for the death of her husband due to a myocardial infarction where the evidence was sufficient to support the finding that a causal relationship existed between the strain and exertion of shoveling coal and his death and that there thus occurred an industrial accident for which an award was properly made. The court ruled that the board was entitled to find upon circumstantial evidence that at or immediately prior to the decedent's death, he was engaged in the arduous labor of shoveling coal and ashes and transporting heavy loads of each. Affirmed.

(1839) *Washko* v. *George L. Ruckno, Inc.* Pennsylvania Superior Court. No. 12. March 26, 1956.

HEART ATTACK—FAILURE TO PROVE CAUSAL CONNECTION WITH EMPLOYMENT.—The dependent wife of a nursery employe was properly denied death benefits for the death of her husband where the medical evidence was insufficient to show a causal connection between the strain and exertion of shoveling snow and the fatal heart attack. The record showed that the decedent and a fellow employe arrived at work on a snowy morning. Instead of doing their regular work they were instructed to shovel snow and push stalled cars in the parking lot. After finishing these tasks they were sent home for the day. Decedent died in the automobile on the way home. The court ruled that where there is no obvious causal relationship, unequivocal medical testimony is necessary to establish the causal connection. In such event the medical witness must testify, not that the injury or condition might have, or even possibly did, come from the assigned cause, but that in his professional opinion the result in question did come from the assigned cause. The court further ruled that nowhere in the testimony did the claimant's medical witness state that the decedent died as a result of a heart attack which was caused by overexertion. The decedent's death was not so immediately and directly, or naturally and probably, the result of his alleged overexertion as to obviate the necessity for unequivocal medical testimony establishing a causal connection. Affirmed.

(1830) *Welch* v. *Werthan Bag Corp.* Tennessee Supreme Court. March 9, 1956.

HEART CONDITION—STRAIN AND EXERTION—CONCLUSIVENESS OF TRIAL COURT'S FINDINGS—SUFFICIENCY OF EVIDENCE.—The dependent wife of a deceased workman who died of a heart attack was properly awarded death benefits where the trial court's findings were supported by inferences which could reasonably be had from the evidence, although the evidence could be reasonably capable of opposing inferences. The employer contended that the decedent's employment had nothing to do with his fatal heart attack and that he would have suffered it whether he was working or not. The evidence disclosed that at the time decedent was found, it appeared that he had been carrying a box of rollers which were strewn around him on the floor. The court ruled that where it is shown that the employe is subjected to physical exertion and while so exerting himself is caused to be stricken with an ailment from which he dies, a prima facie case, that the injury arose out of the employment, is made. Affirmed.

(1816) *Berger* v. *Atlantic Metals Co.* New York Supreme Court, Appellate Division, Third Judicial Department. No. 8-8. February 21, 1956.

CORONARY ARTERIOSCLEROSIS—FAILURE TO PROVE CAUSAL CONNECTION BETWEEN HEART ATTACK AND EMPLOYMENT.—The dependent wife of a welder who suffered a heart attack and fell, fracturing his skull, which resulted in his death, was properly denied death benefits where there was no proof that his employment had anything to do with the fall. The claimant contended that the decedent slipped or stumbled on the platform and that caused his fall. The claimant also contended that an extra hazard was involved in the fall by reason of the employment. The court ruled that the board was justified, upon the evidence, in rejecting these contentions. Affirmed.

(1817) *Burris* v. *Lewis.* New York Supreme Court, Appellate Division, Third Judicial Department. No. 13-14. February 21, 1956.

CHRONIC RHEUMATIC HEART DISEASE—STRESS AND STRAIN OF EMPLOYMENT—CAUSAL CONNECTION—DEATH BENEFITS.—The dependent wife of a deceased employe of a mason contractor was properly awarded death benefits for the death of her husband where there was medical proof to the effect that the "stress and strain" of the work which the decedent had undertaken, operating upon the preexisting heart disease, was a competent producing cause of his death. The evidence disclosed that on the day preceding the fatal attack, the decedent had helped to dig a trench for footings about $1^1/_2$ feet deep and 1 foot wide. On the day of the attack he had been engaged in putting up panels for the concrete. At the end of the day, as he was lifting a nail keg containing his tools, weighing about 50 pounds, he collapsed and died shortly thereafter. The board was justified in finding that this type of work contributed to his death.

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BOOKS RECEIVED

(*The following books were received during the month of July, 1956*)

Clinical Urology. By Oswald Swinney Lowsley, M.D., and Thomas Joseph Kirwin, M.D. Drawings by William P. Didusch. Third edition. In two volumes. Quarto of 985 pages, illustrated. Baltimore, The Williams & Wilkins Company, 1956. Cloth, $32.50.

Polysaccharides in Biology. Transactions of the First Conference, April 27, 28, and 29, 1955, Princeton, N.J. Edited by Georg F. Springer, M.D. Octavo of 271 pages, illustrated. New York, Josiah Macy, Jr. Foundation, 1956. Cloth, $5.00.

Neuropharmacology. Transactions of the Second Conference, May 25, 26, and 27, 1955, Princeton, N.J. Edited by Harold A. Abramson, M.D. Octavo of 328 pages, illustrated. New York, Josiah Macy, Jr. Foundation, 1956. Cloth, $4.25.

The Premarital Consultation. A Manual for Physicians. By Abraham Stone, M.D., and Lena Levine, M.D. Octavo of 90 pages, illustrated. New York, Grune & Stratton, 1956. Cloth, $3.00.

The Great Physiodynamic Therapies in Psychiatry. An Historical Reappraisal. Editors, Arthur M. Sackler, M.D., Mortimer D. Sackler, M.D., Raymond R. Sackler, M.D., and Felix Marti-Ibanez, M.D. With personal contributions by Ugo Cerletti, M.D., Roy G. Hoskins, M.D., Laszlo Joseph Meduna, M.D., Egas Moniz, M.D., and Manfred J. Sakel, M.D. Quarto of 190 pages, illustrated. New York, Hoeber-Harper, 1956. Cloth, $5.75.

Diagnosis and Treatment of Peripheral Vascular Disorders. By David I. Abramson, M.D. Quarto of 537 pages, illustrated. New York, Hoeber-Harper, 1956. Cloth, $13.50.

Alcoholism as a Medical Problem. H. D. Kruse, M.D., Editor. A Conference held under the auspices of the Committee on Public Health of The New York Academy of Medicine and the New York State Mental Health Commission. Octavo of 102 pages. New York, Hoeber-Harper, 1956. Cloth, $3.00.

Sports Injuries Manual for Trainers and Coaches. By Donald F. Featherstone. Octavo of 132 pages, illustrated. New York, Philosophical Library, 1956. Cloth, $6.00.

The Society of the New York Hospital. Annual Report for the Year 1955. Octavo of 86 pages. New York, The Society, [1956].

Textbook of Urology. By Victor F. Marshall, M.D. Octavo of 268 pages, illustrated. New York, Hoeber-Harper, 1956. Cloth, $5.50.

Anatomy for Surgeons: Volume 2. The Thorax, Abdomen, and Pelvis. By W. Henry Hollinshead, Ph.D. Quarto of 934 pages. 1,109 illustrations. New York, Hoeber-Harper, 1956. Cloth, $20.

Psychoanalysis of Behavior. Collected Papers. By Sandor Rado, M.D. Octavo of 387 pages, illustrated. New York, Grune & Stratton, 1956. Cloth, $7.75.

Changing Concepts of Psychoanalytic Medicine. Proceedings of the Decennial Celebration of the Columbia University Psychoanalytic Clinic, March 19 and 20, 1955. Edited by Sandor Rado, M.D., and George E. Daniels, M.D. Octavo of 248 pages, illustrated. New York, Grune & Stratton, 1956. Cloth, $6.75.

Metabolism and Function of Iron. Report of the Nineteenth Ross Pediatric Research Conference. Octavo of 93 pages, illustrated. Columbus, Ross Laboratories, 1956.

Supplement 1. Atlas of Exfoliative Cytology. By George N. Papanicolaou, M.D. Quarto. v.p. Illustrated. Cambridge, Mass., Published for the Commonwealth Fund by the Harvard University Press, 1956. Looseleaf pages, $4.00.

Hutchison's Food and the Principles of Dietetics. Revised by V. H. Mottram, M.A., and George Graham, M.D. Eleventh edition. Octavo of 630 pages, illustrated. London, Edward Arnold, (Baltimore, The Williams and Wilkins Company), 1956. Cloth, $8.25.

Patterns of Mothering. Maternal Influence During Infancy. By Sylvia Brody, Ph.D. Octavo of 446 pages. New York, International Universities Press, 1956. Cloth, $7.50.

The Ford Foundation Annual Report, October 1, 1954 to September 30, 1955. Octavo of 170 pages, illustrated.

Personal Health Record. By Carl A. Dragstedt, M.D. Tall octavo of 64 pages. Harrisburg, Military Service Publishing Co., 1956. Paper, $1.00.

Essential Urology. By Fletcher H. Colby, M.D. Third edition. Octavo of 656 pages, illustrated. Baltimore, The Williams and Wilkins Company, 1956. Cloth, $8.00.

A Follow-Up Study of War Neuroses. By Norman Q. Brill, M.D., and Gilbert W. Beebe, Ph.D.

Octavo of 393 pages, illustrated. Washington, D.C., Veterans Administration, 1955.

Plastic Repair of Genito-Urinary Defects. By George Bankoff, M.D. Octavo of 355 pages, illustrated. New York, Philosophical Library, 1956. Cloth, $17.50.

The Nutritive Values of California Prunes. Third edition. Octavo of 14 pages, illustrated. San Francisco, 2 Pine Street, California Prune Advisory Board, 1955. Paper. Gratis on request.

Blakiston's New Gould Medical Dictionary. A modern comprehensive dictionary of the terms used in all branches of medicine and allied sciences, including medical physics and chemistry, dentistry, pharmacy, nursing, veterinary medicine, zoology and botany, as well as medicolegal terms; with illustrations and tables. Editors, Normand L. Hoerr, M.D., and Arthur Osol, Ph.D. With the cooperation of an editorial board and 88 contributors. Second edition. Octavo of 1,463 pages. New York, The Blakiston Division, McGraw-Hill Book Company, 1956. Cloth, $11.50.

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn 16, New York. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selections for review will be based on merit and interest to our readers.

The Hans Zinsser Memorial Fund

Establishment of the Hans Zinsser Memorial Fund of the Harvard University School of Public Health is being undertaken by friends, colleagues, and students of the late Hans Zinsser, M.D. (1878–1940). Noted as a teacher, research scientist, and author, Dr. Zinsser was a Harvard faculty member from 1921 until his death in 1940.

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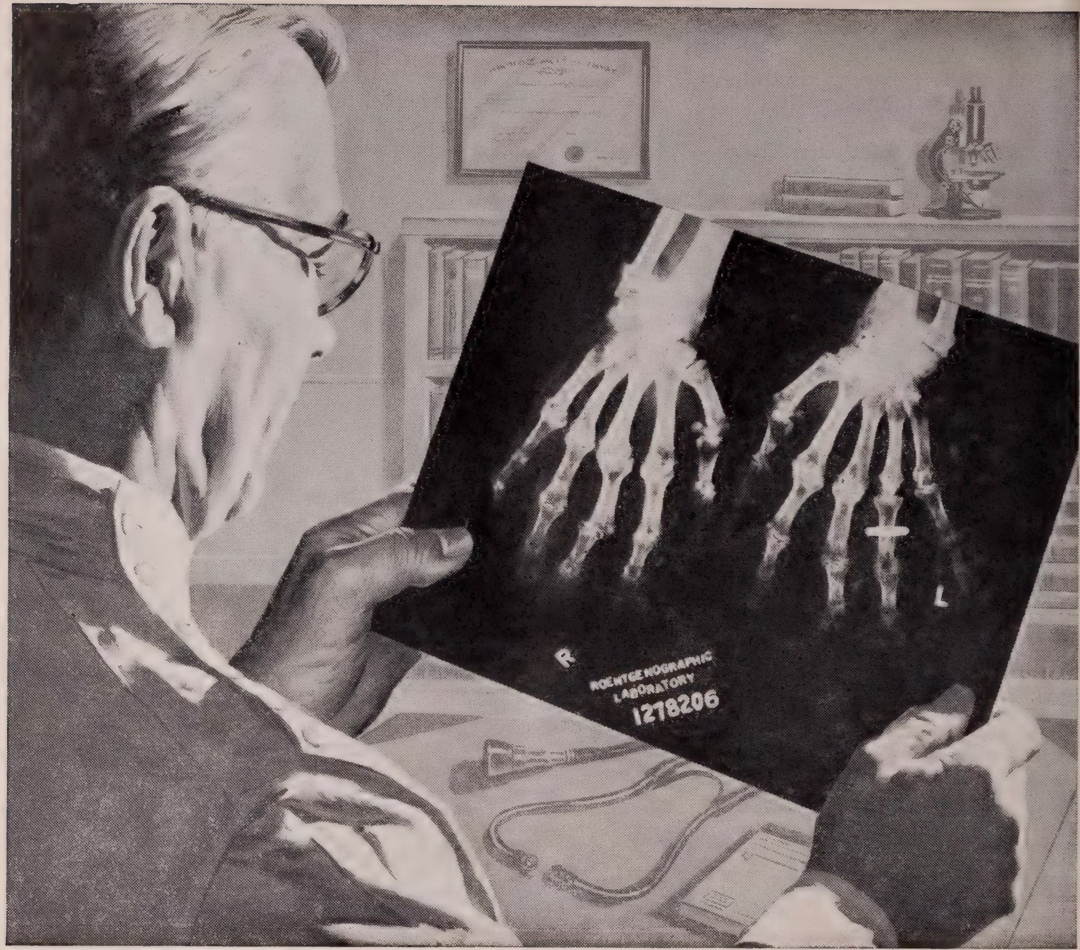
Contributions to the Hans Zinsser Memorial Fund may be sent to The Secretary, Harvard School of Public Health, 55 Shattuck Street, Boston 15, Massachusetts. Checks should be made payable to Harvard University.—*Harvard Medical Alumni Bulletin, April, 1956*



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1. J.A.M.A. 159:645 (Oct. 15) 1955.
2. J.A.M.A. 158:386 (June 4) 1955.

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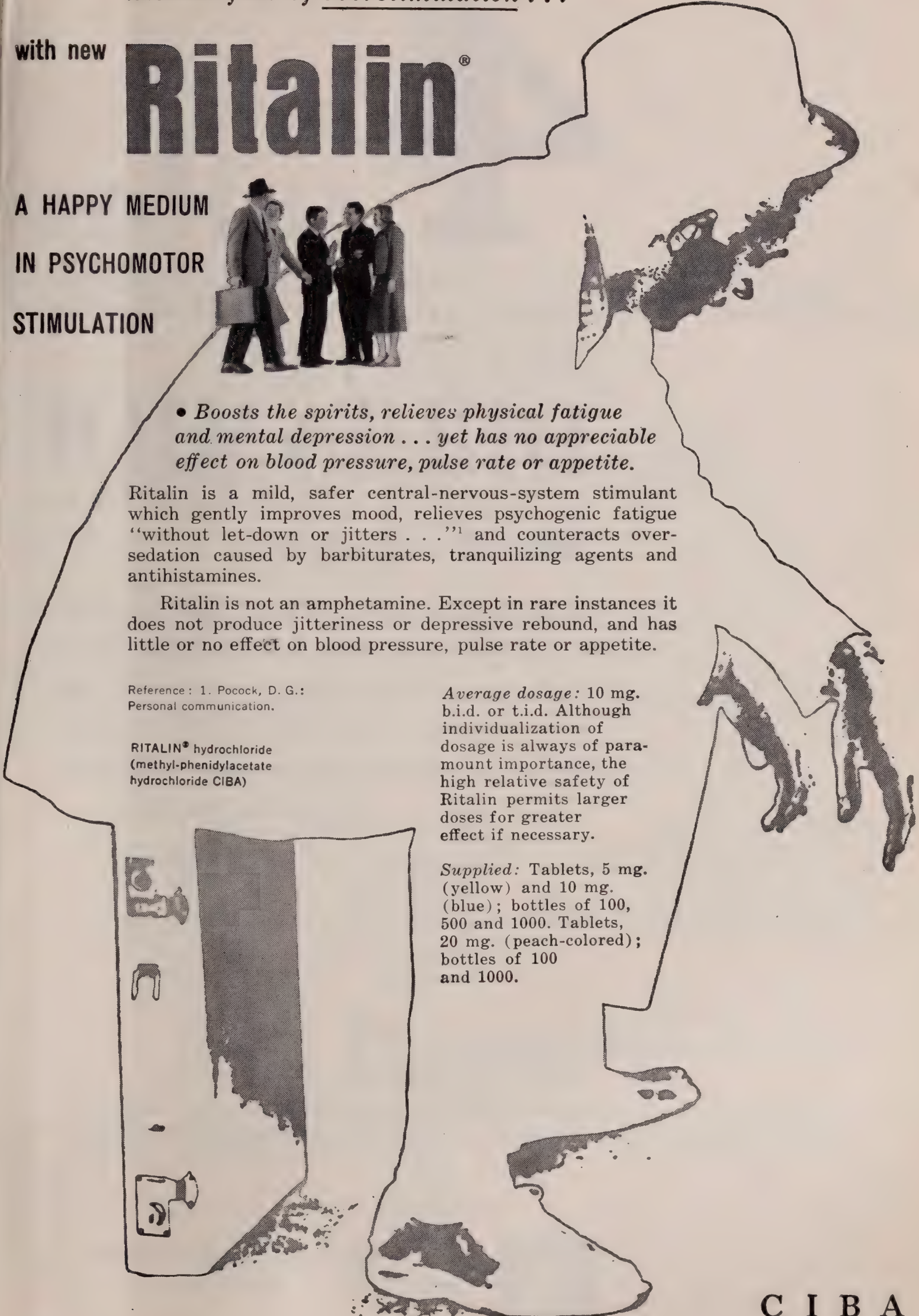

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Reference: 1. Pocock, D. G.: Personal communication.

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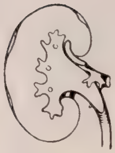

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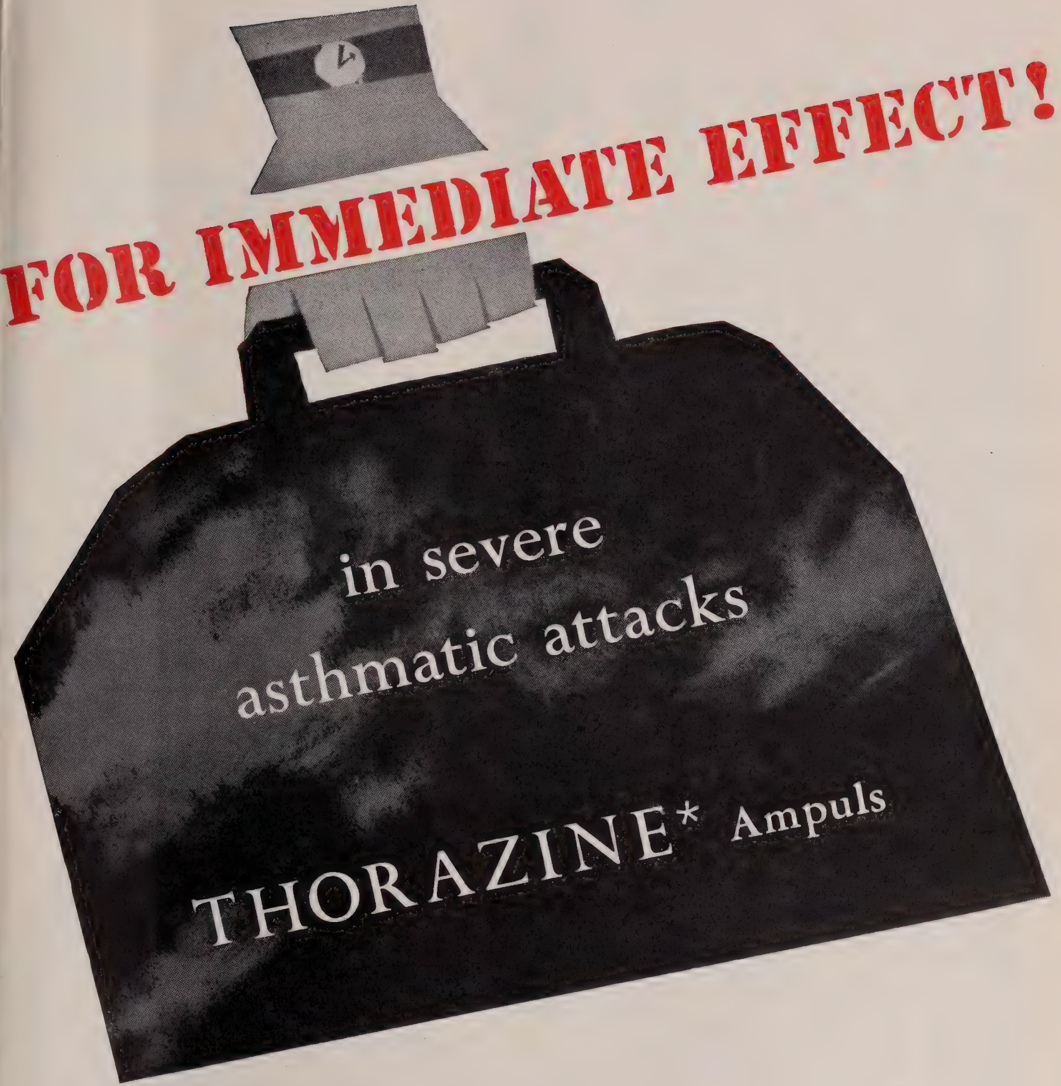
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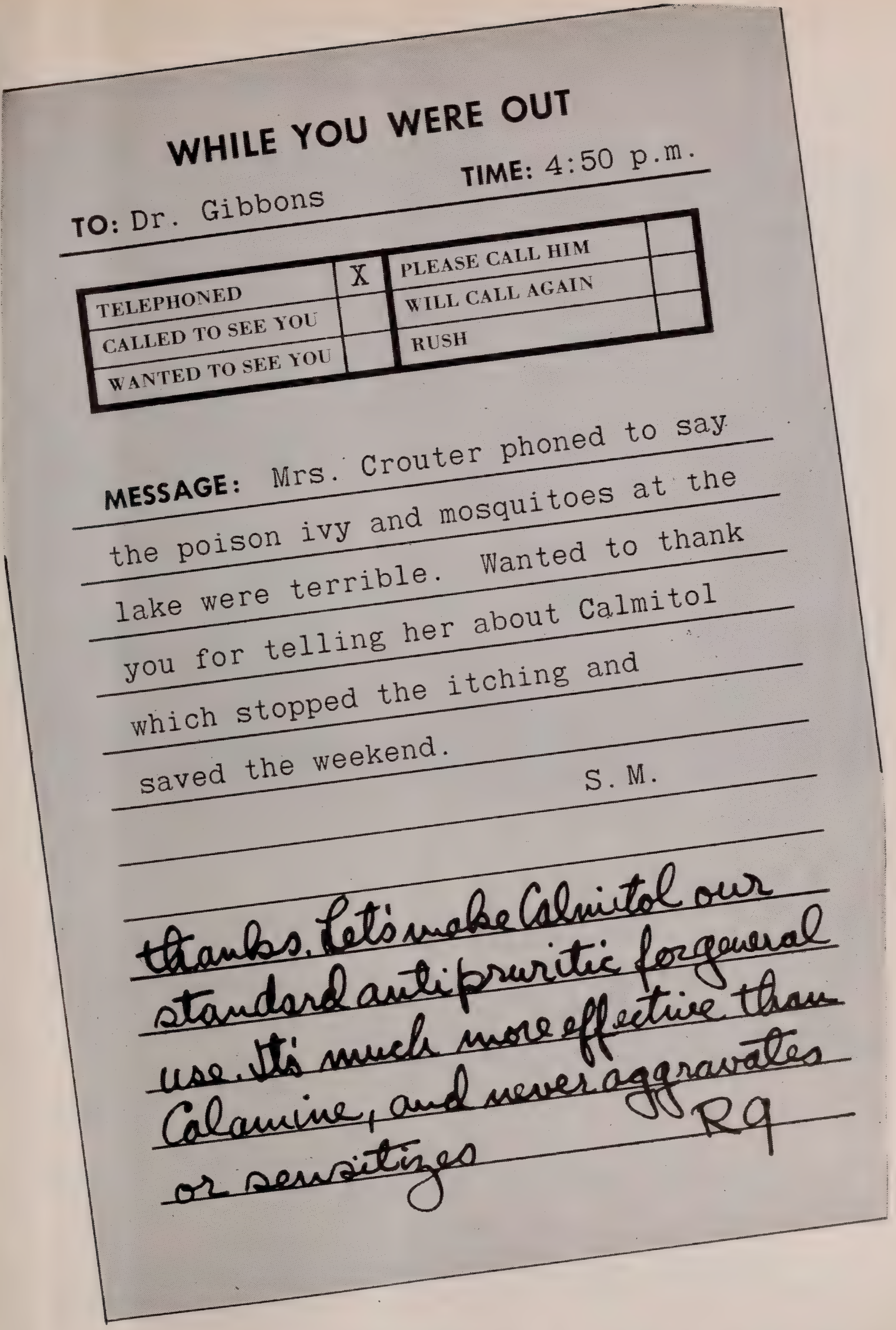

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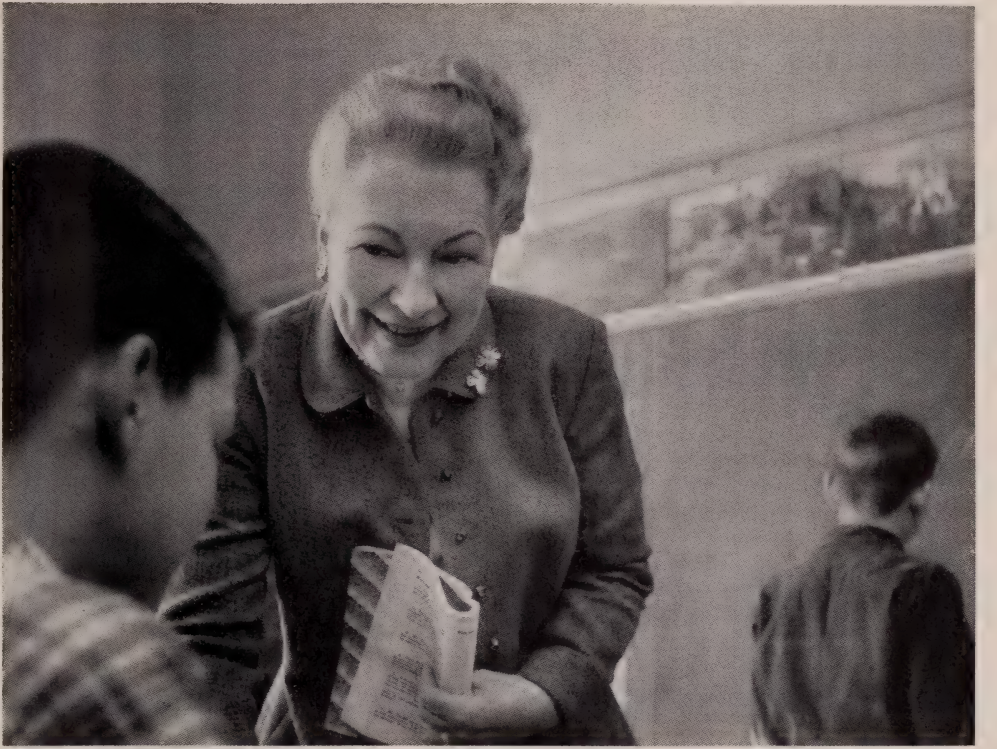

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Ulcer protection that lasts all night:

Pamine* BROMIDE

Tablets

Each tablet contains:
Methscopolamine bromide .... 2.5 mg.

Average dosage (ulcer):
One tablet one-half hour before meals, and 1 to 2 tablets at bedtime.

Supplied: Bottles of 100 and 500 tablets

Syrup

Each 5 cc. (approx. 1 tsp.) contains:
Methscopolamine bromide .... 1.25 mg.

Dosage:
1 to 2 teaspoonfuls three or four times daily.

Supplied: Bottles of 4 fluidounces

Sterile Solution

Each cc. contains:
Methscopolamine bromide .... 1 mg.

Dosage:
0.25 to 1.0 mg. (¼ to 1 cc.), at intervals of 6 to 8 hours, subcutaneously or intramuscularly.

Supplied: Vials of 1 cc.

*TRADEMARK, REG. U. S. PAT. OFF.—THE UPJOHN BRAND OF METHSCOPOLAMINE

The Upjohn Company, Kalamazoo, Michigan

all "baby desserts" aren't alike, either...

There's a difference:

Comparative composition of 100 gram portions: rennet-custards and commercially canned "Baby Desserts".

	Cal.	Prot. gm.	Fat gm.	Carbo. gm.	Ca. mg.	P. mg.	Vit. A I.U.	Ribo. mg.
*DESSERT A	94	2.0	2.7	20.2	76	63	Trace	0.111
*DESSERT B	100	2.32	1.89	17.72	76	43	25 (USP)	0.160
*DESSERT C	102	2.4	3.2	16.5	75	69	228	0.110
*RENNET-CUSTARDS (average of seven flavors)	96.5	3.2	3.6	12.7	123	102	175	0.164

**Nationally distributed "ready-to-serve" dessert.*
**Made with fresh milk and "Junket" Rennet Powder.*

Fresh milk is the basis of "Junket" rennet-custards. That is why they are higher in nutritional value than many commercially canned "Baby desserts". Rennet-custards furnish valuable protein, calcium and phosphorus needed for sturdy bone development and growth.

Rennet-custards, made with *fresh* milk and "Junket" Rennet Powder or Tablets, are widely advocated as one of the first solid foods in the infant dietary . . . and as a refreshing, readily digested dessert for toddlers and older children too.

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RENNET POWDER

Makes *Fresh* Milk into Rennet-Custards

"Junket" Rennet Powder — Vanilla, Raspberry, Lemon, Orange, Chocolate, Maple, Strawberry.
"Junket" Rennet Tablets — not sweetened or flavored.

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Continuous Drip Ulcer Therapy

WITHOUT HOSPITALIZATION
...AND GOOD TASTING, TOO!

A recent clinical study* of 46 ambulatory non-hospital patients treated with Nulacin† and followed up to 15 months describes the value of ambulatory continuous drip therapy by this method. Total relief of symptoms was afforded to 44 of 46 patients with duodenal ulcer, gastric ulcer and hypertrophic gastritis.

The delicately flavored tablets dissolve slowly in the mouth (not to be chewed or swallowed). They are not noticeable and do not interfere with speech.

Nulacin tablets are supplied in tubes of 25 at all pharmacies. Physicians are invited to send for reprints and clinical sample.

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*Steigmann, F., and Goldberg, E.: Ambulatory Continuous Drip Method in the Treatment of Peptic Ulcer, Am. J. Digest. Dis. *22*:67 (Mar.) 1955.

†Mg trisilicate 3.5 gr.; Ca carbonate 2.0 gr.; Mg oxide 2.0 gr.; Mg carbonate 0.5 gr.

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henothiazine
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Promazine Hydrochloride HCl
10-(γ-dimethylamino-*n*-propyl)-phenothiazine hydrochloride

For Rapid, Predictable Control of the Acutely Agitated Patient

- The acute alcoholic
- The acute psychotic
- The drug addict

Supplied: Tablets, 25, 50, and 100 mg., bottles of 50 and 500; 200 mg., bottles of 500. Injection, 50 mg. per cc., vials of 2 and 10 cc.

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Philadelphia 1, Pa.

An Exclusive Development of Wyeth Research

relieves pain

lowers fever

combats rhinorrhea

curbs congestion

heightens morale

Coricidin *forte* Capsules provide more complete relief and control of even the severest colds by the addition of two new anticold factors to clinically proved Coricidin:*

- the stress and anti-infection support of vitamin C
- the antidepressant and analgesic potentiating benefits of methamphetamine

each Coricidin *forte* Capsule provides:

Chlorprophenpyridamine maleate • 4 mg.
Salicylamide • 190 mg.
Phenacetin • 130 mg.
Caffeine • 30 mg.
Ascorbic acid • 50 mg.
Methamphetamine hydrochloride • 1.25 mg.
Bottles of 100 and 1000.

**a name synonymous with cold control*

Coricidin,® brand of analgesic-antipyretic.

Schering

CN-J-996

with one combination the cold relieved infection checkmated

CORICIDIN* with Penicillin Tablets provide a dual attack that prevents the cold from becoming a problem:

1. *Almost immediate relief of symptoms* by means of the unexcelled antihistamine, chlorprophenpyridamine maleate, and the widely recommended APC combination.

2. *Prevention or control of complications frequently caused by bacterial invaders* by means of oral penicillin.

**a name synonymous with cold control*

each tablet contains:
Penicillin G Procaine • 150,000 units
Chlorprophenpyridamine maleate • 2 mg.
Aspirin • 0.15 Gm.
Phenacetin • 0.12 Gm.
Caffeine • 0.03 Gm.

packaging: CORICIDIN with Penicillin G Procaine Tablets, bottles of 24 and 100.

CORICIDIN,® brand of analgesic-antipyretic.

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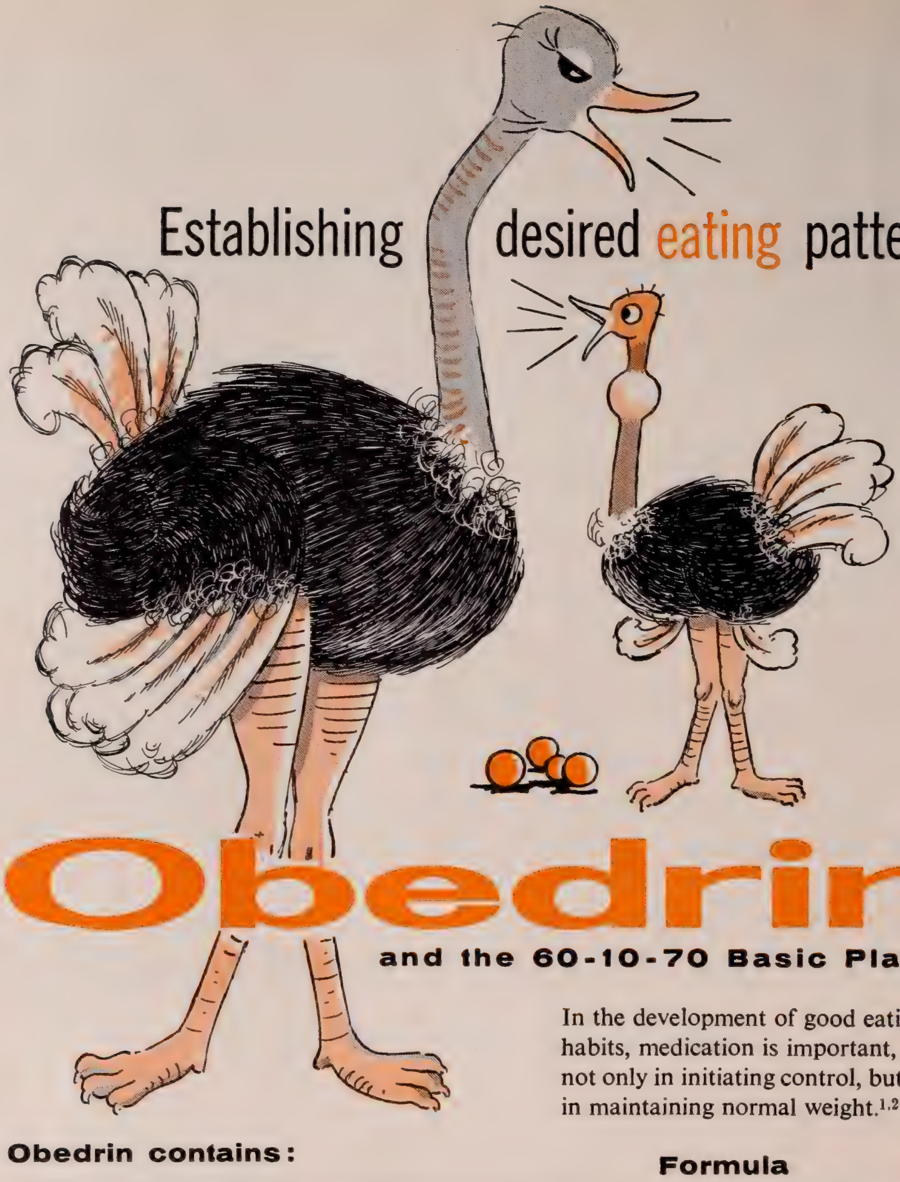
CN-J-696



Establishing desired eating patterns

Obedrin®

and the 60-10-70 Basic Plan

In the development of good eating habits, medication is important, not only in initiating control, but also in maintaining normal weight.[1,2,3]

Obedrin contains:

- Methamphetamine for its anorexigenic and mood-lifting effects.
- Pentobarbital as a balancing agent, to guard against excitation.
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- Ascorbic acid to aid in the mobilization of tissue fluids.

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1. Eisfelder, H.W.: Am. Pract. & Dig. Treat., 5:778 (Oct.) 1954).
2. Sebrell, W.H., Jr.: J.A.M.A., 152:42 (May, 1953).
3. Sherman, R.J.: Medical Times, 82:107 (Feb., 1954).

Write for
60-10-70 Menu pads, weight charts,
and samples of Obedrin.

THE S. E. MASSENGILL COMPANY
BRISTOL, TENNESSEE

recognized

as a potent, specific anti-arthritic

established

by over 100 million patient days

substantiated

in more than 700 published reports

BUTAZOLIDIN®

(phenylbutazone GEIGY)

potent, specific anti-arthritic

Based on an impressive background of achievement attained over a period of four years involving both long-term and short-term therapy in all the major forms of arthritis, BUTAZOLIDIN is recognized as one of the most effective anti-arthritic agents currently available.

relieves pain

improves function

resolves inflammation

BUTAZOLIDIN being a potent therapeutic agent, physicians unfamiliar with its use are urged to send for literature before prescribing it.

GEIGY

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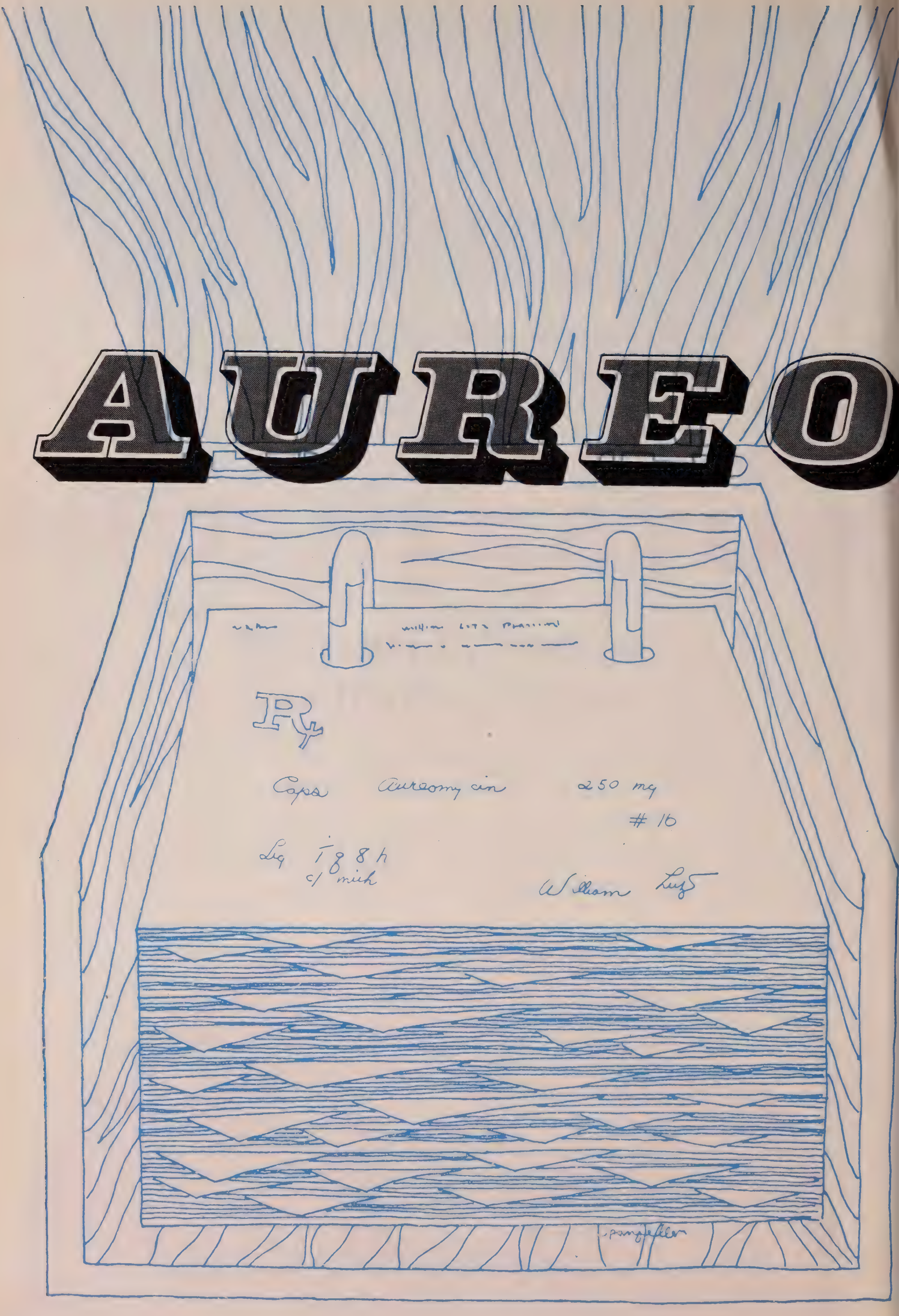
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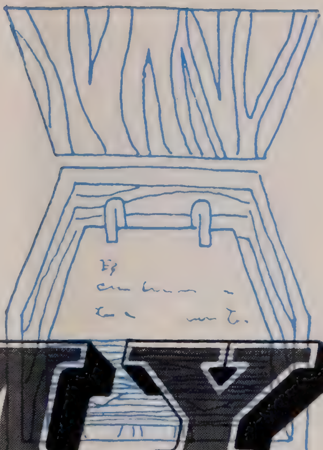
#16
Sig i q 8 h
c/ milk
William Lutz



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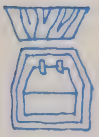
Lederle

stands on

its record!



Eight years of world-wide use . . . more than a *billion* doses administered . . . millions of patients restored to normal health, many saved from death—this is the unsurpassed record of AUREOMYCIN* Chlortetracycline.

AUREOMYCIN, the first extensively prescribed broad-spectrum antibiotic, must certainly rank with the major therapeutic agents available.

Thousands of published clinical trials have established its efficacy in combating many kinds of infection. Thousands of doctors give it their highest acclaim by regularly employing it in their practices.

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Chlortetracycline with Stress Formula Vitamins.

For Patients with Prolonged Illness AUREOMYCIN SF combines effective antibiotic action with Stress Formula vitamin supplementation to shorten convalescence and hasten recovery. One capsule, q.i.d., supplies one gram of AUREOMYCIN and B complex, C and K vitamins in the Stress Formula suggested by the National Research Council. AUREOMYCIN SF Capsules are dry-filled and sealed, contain no oils or paste.

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AUREOMYCIN Chlortetracycline	250 mg.
Ascorbic Acid (C)	75 mg.
Thiamine Mononitrate (B_1)	2.5 mg.
Riboflavin (B_2)	2.5 mg.
Niacinamide	25 mg.
Pyridoxine (B_6)	0.5 mg.
Folic Acid	0.375 mg.
Calcium Pantothenate	5 mg.
Vitamin K (Menadione)	0.5 mg.
Vitamin B_{12}	1 mcgm.

LEDERLE LABORATORIES DIVISION *AMERICAN CYANAMID COMPANY* PEARL RIVER, NEW YORK Lederle

*REG. U. S. PAT. OFF.

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How to reform a persnickety eater

REDISOL®

CYANOCOBALAMIN (CRYSTALLINE VITAMIN B_{12})

Weight gain and increased interest in food often follow the use of REDISOL as a dietary supplement. The cherry-flavored Elixir or the soluble Tablets are both readily miscible with liquids.

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DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.

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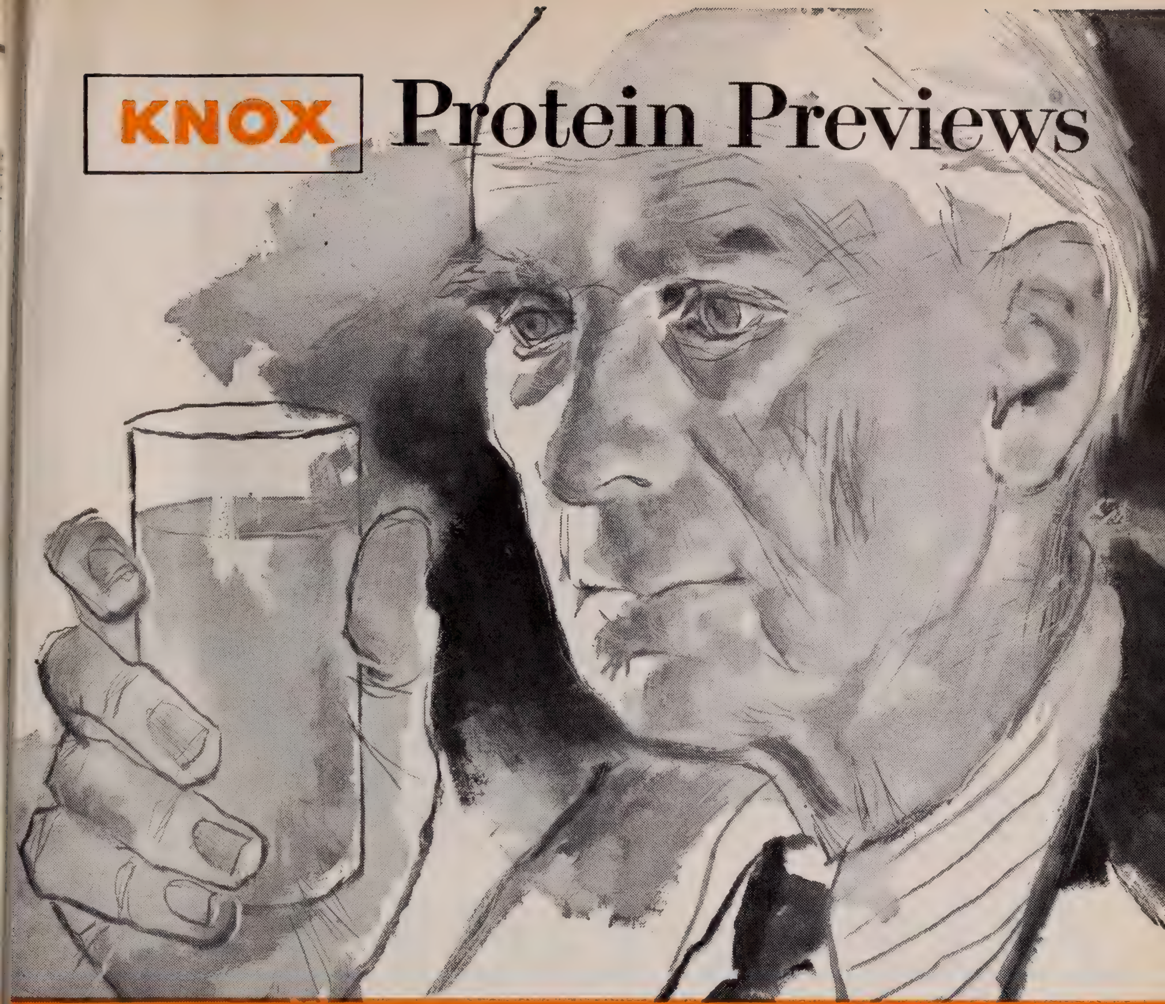

Maintaining Lean Body Mass in the Edentulous Geriatric Patient

KNOX
32 ENVELOPE ECONOMY DIET SIZE
UNFLAVORED
GELATINE
THE HIGHEST QUALITY

Extensive loss of body protein can occur in either the spare or obese geriatric patient. But whatever the patient's somatotype, a decrease in lean body mass is usually the result of inadequate protein intake due to poor dentition, slowed-down digestion and quite frequently, unappetizing main dishes.

Knox Gelatine is an excellent non-residue protein which is easy to chew and readily digested and assimilated. As a vehicle for many foods, Knox Gelatine brightens bland diets, giving a new interest to jaded appetites. As a concentrated protein drink, Knox Gelatine supplies seven out of eight essential amino acids and a majority of the other amino acids composing protein.

Specific suggestions on how to use Knox Gelatine in different types of geriatric diets are described in the booklets listed in the coupon below.

Chas. B. Knox Gelatine Company, Inc.
Professional Service Department NM-15
Johnstown, N. Y.

Indicate number of special diet booklets desired for your patients opposite title:

GERIATRIC______ REDUCING______
DIABETIC______ CONVALESCENT______
YOUR NAME AND ADDRESS

for
preventing and
treating upper
respiratory
infections

new!

Achrocidin*

TETRACYCLINE-ANTIHISTAMINE-ANALGESIC COMPOUND

ACHROCIDIN provides in one tablet all the drugs which are often prescribed separately for the prevention and treatment of cold complications—conditions such as otitis, adenitis, sinusitis, and others.

This comprehensive formula 1) provides potent therapeutic and prophylactic action against a wide variety of infective organisms, 2) relieves pain and discomfort, 3) depresses fever, 4) alleviates nasal congestion.

Available on prescription only

Each tablet contains:

ACHROMYCIN® Tetracycline	125 mg.
Phenacetin	120 mg.
Caffeine	30 mg.
Salicylamide	150 mg.
Chlorothen Citrate	25 mg.

Bottle of 24 tablets.

Average adult dose: 2 tablets, 4 times daily

LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY, PEARL RIVER, NEW YORK Lederle
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quicker relief
and shortened disability
in Herpes Zoster and Neuritis

Protamide®

. . . Five Year Clinical Evaluation

With only one to four injections of Protamide® prompt and complete recovery was obtained in 84% of all herpes zoster patients and in 96% of all neuritis patients treated during a five-year period by Drs. Henry W., Henry G., and David R. Lehrer (Northwest Med. 75:1249, 1955).

The investigators report on a total of 109 cases of herpes zoster and 313 cases of neuritis, all of whom were seen in private practice. All but one patient in each category responded with complete recovery.

This significant response is attributed to the fact that Protamide therapy was started promptly at the patient's first visit.

The shortening of the period of disability by this method of management is described as "a very gratifying experience for both the physician and the patient."

Protamide® is a sterile colloidal solution prepared from animal gastric mucosa . . . free from protein reaction . . . virtually painless on administration . . . used intramuscularly only. Available from supply houses and pharmacies in boxes of ten 1.3 cc. ampuls.

Protamide®

. . . a product of *Sherman Laboratories*
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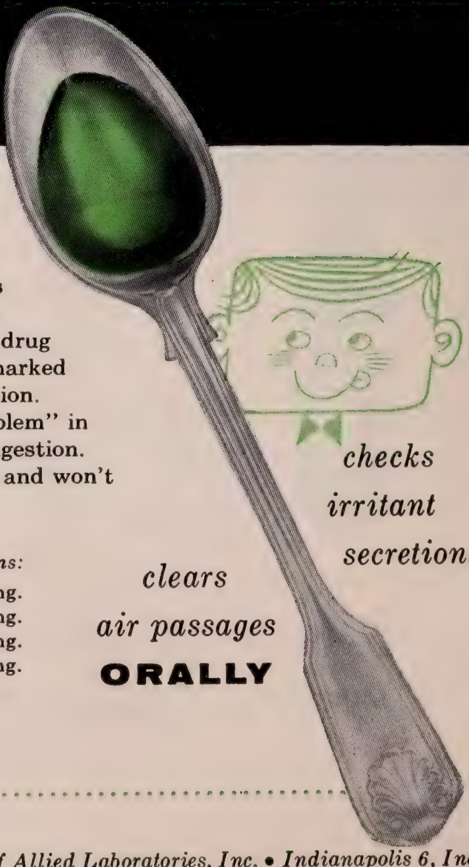
Start **Protamide®** *Promptly*

FOR YOUR "LITTLE DRIPS" DURING THE

Allergy season

NOVAHISTINE®

ELIXIR



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UNITENSEN	RESERPINE	UNITENSEN-R
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DISADVANTAGES nausea and emesis in higher dosage some flatulence, nervousness and urinary frequency	**DISADVANTAGES** slow acting not effective alone in moderate and severe hypertension may cause nasal stuffiness, weight gain... depression in some patients	

[1] Cohen, B.M.; Cross, E.B., and Johnson, W.: Am. Pract. 6: 1030, 1955.

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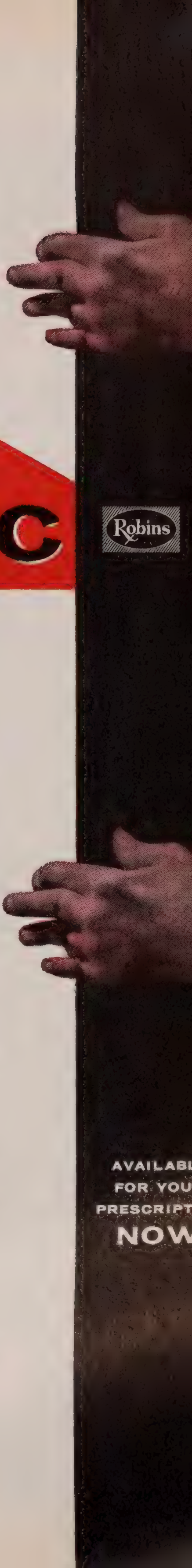

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1. Smith, R. T.; Kron, K. M.; Peak, W. P., and Hermann, I. F.: J.A.M.A. 160:745 (Mar. 3) 1956.

*T.M.

†U.S. Patent Pending

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Protein	41.0%
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Moisture	3.0%
Calcium	1.15%
Phosphorous	1.65%
Potassium	1.17%
Calories	121
Calories per tbsp.	40

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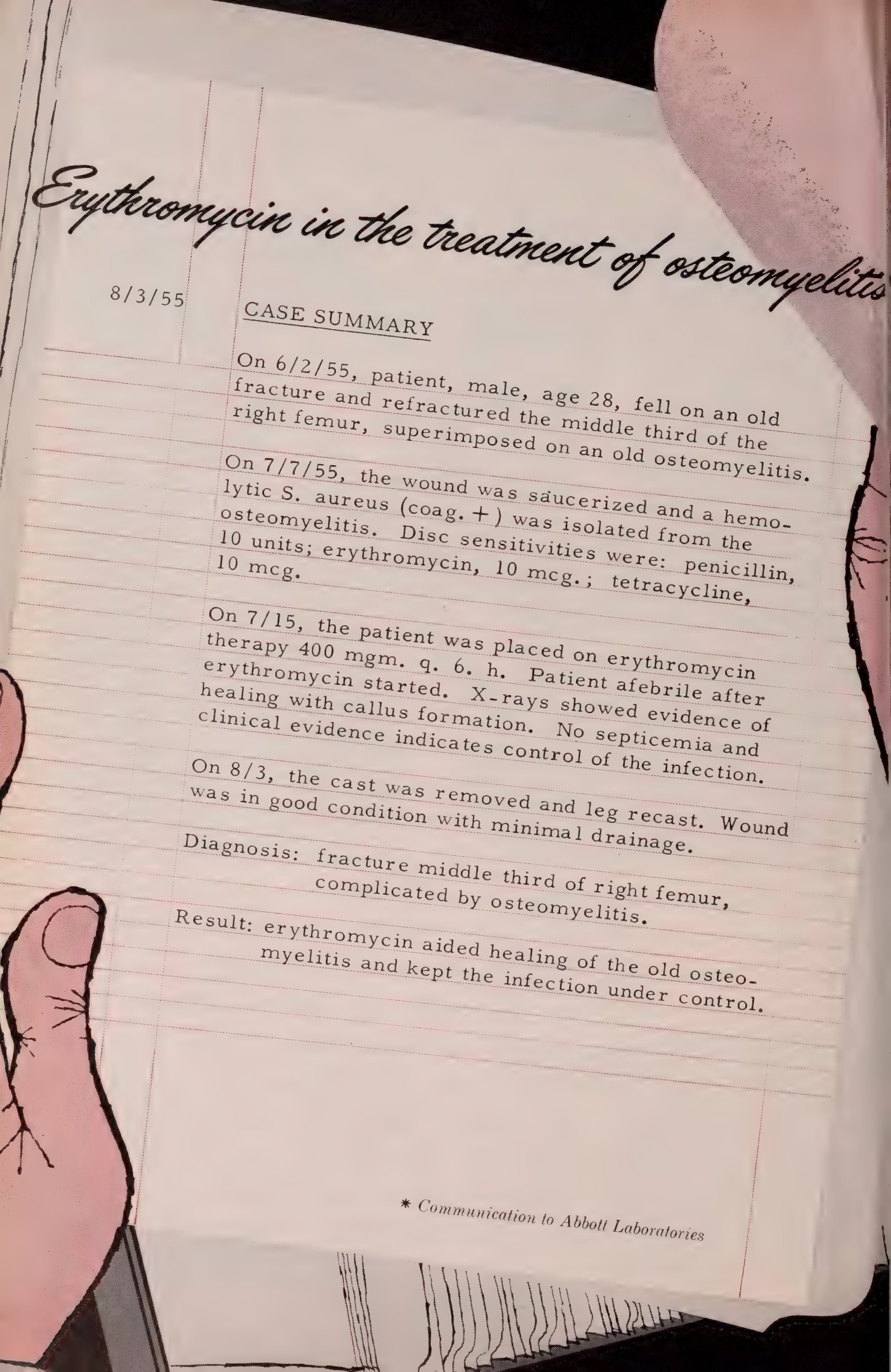

Erythromycin in the treatment of osteomyelitis

8/3/55

CASE SUMMARY

On 6/2/55, patient, male, age 28, fell on an old fracture and refractured the middle third of the right femur, superimposed on an old osteomyelitis.

On 7/7/55, the wound was saucerized and a hemolytic S. aureus (coag. +) was isolated from the osteomyelitis. Disc sensitivities were: penicillin, 10 units; erythromycin, 10 mcg.; tetracycline, 10 mcg.

On 7/15, the patient was placed on erythromycin therapy 400 mgm. q. 6. h. Patient afebrile after erythromycin started. X-rays showed evidence of healing with callus formation. No septicemia and clinical evidence indicates control of the infection.

On 8/3, the cast was removed and leg recast. Wound was in good condition with minimal drainage.

Diagnosis: fracture middle third of right femur,
complicated by osteomyelitis.

Result: erythromycin aided healing of the old osteomyelitis and kept the infection under control.

* *Communication to Abbott Laboratories*

specific against coccic infections

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- Aerosol dose released is always the same, does not depend on patient strength or on amount in bottle. One or occasionally two inhalations provides relief for most patients. Notably safe for use with children.

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0.5% solution of epinephrine U.S.P.

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In your first prescription for the patient be sure to write for medication (whichever you choose) AND the Medihaler Oral Adapter (packaged and sold separately), since medications cannot be used without Adapter. For refills, write Rx for medication only.

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another indication for Diamox*

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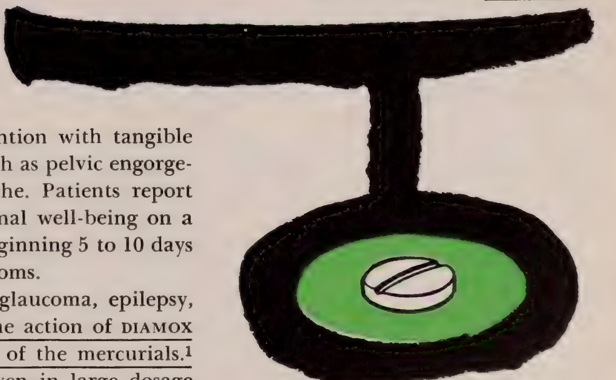

A single tablet of DIAMOX controls fluid retention with tangible relief of symptoms of premenstrual tension such as pelvic engorgement, tightness of skin, pruritus and headache. Patients report marked improvement of physical and emotional well-being on a simple regimen of DIAMOX: one tablet daily, beginning 5 to 10 days before menstruation, or at the onset of symptoms.

Of proven value in cardiac edema, acute glaucoma, epilepsy, obesity, toxemias and edema of pregnancy, the action of DIAMOX is considered a welcome departure from that of the mercurials.[1] It is well tolerated orally and even when given in large dosage side effects are rare.[2] Excretion by the kidney is complete within 24 hours with no cumulative effects.[2]

A safe, versatile drug, DIAMOX is effective not only in the mobilization of edema fluid but in the prevention of fluid accumulation as well.[2] A single dose is active for 6 to 12 hours, offering convenient daytime diuresis.

Supplied: Scored Tablets of 250 mg. (Also in ampuls of 500 mg. for parenteral use in critical cases).

[1] Krantz, J. C. and Carr, C. J.: The Pharmacologic Principles of Medical Practice. Ed. 3. The Williams & Wilkins Co., Baltimore, 1954, p. 1014.

[2] Goodman, L. S. and Gilman, A.: The Pharmacological Basis of Therapeutics. Ed. 2. The Macmillan Co., New York, 1955, p. 856.

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GENERAL INFORMATION

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EDITORIAL

Medicine and Public Information—Part V

It may happen that a doctor of medicine may be queried by representatives of media of public information about certain scientific subjects. If this occurs, what should the doctor do?

If the doctor happens to be an officially designated spokesman, there is no problem, but if not, should he comply with such requests? The answer is yes whenever he has accurate information to give. It should be remembered that many of the present executives of news media were reporters themselves in the past. In that capacity some at least may have had some difficulty in obtaining from a doctor the information the reporter was assigned to get. Perhaps his contact with the doctor resulted in a "brush-off," or a refusal not too diplomatically handled. This could have occurred in the past and doubtless did with some frequency. Now that same former reporter may be an executive of his paper or magazine. He would be less than human if perhaps some memory of his reportorial days did not remain in his subconsciousness. Here could be a possible source, among others, for today's alleged occasional "bad press."

The "Guide for Cooperation" between the medical profession and the media of public information is published by the Medical Society of the State of New York for the express purpose of promoting better understanding. On this subject the "Guide" says:

> Doctors of Medicine, other than officially designated spokesmen, when approached by representatives of the press, radio, television, science or magazine writers for information relating to scientific subjects are urged to comply with such requests. In cases where premature release of scientific information is a concern, a frank discussion of the problem is suggested between the doctor and the press representative.

After all is said there are few problems that cannot be solved by the use of common sense, courtesy, and a strict adherence to the rules governing professional conduct.

1956 District Branch Meetings

PROGRAMS

for Second, Fourth, and Eighth District Branches on page 2892

The Doctor in CIVIL DEFENSE

Medical Defense Committee of the Medical Society of the State of New York and the Office of Medical Defense, New York State Department of Health

J. G. FRED HISS, M.D., SYRACUSE, *Chairman*

Mobile Hospital Outfit Exhibitions

New York State physicians will soon have an opportunity to examine at first hand the specially developed emergency medical equipment earmarked for improvised emergency hospitals.

This special equipment, which is part of 18 million dollars worth of medical supplies available for use in time of disaster, will be shown this fall in 11 upstate communities. In early 1957 it will also be shown in New York City and 11 additional cities.

The large display, made up of the Mobile Hospital Outfit, will be housed in local National Guard armories and arenas during these exhibitions and will feature all the sections of the 200-bed improvised emergency hospital.

According to the New York State plan, improvised emergency hospitals will be set up after attack in schools or other buildings, using this Mobile Hospital Outfit. In the event of evacuation some patients in permanent hospitals in a threatened city may have to be moved into improvised hospitals in rural areas.

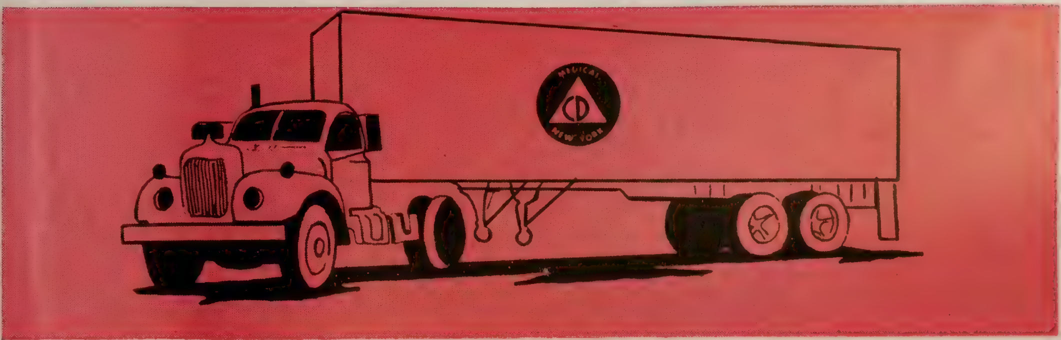
Every physician is urged to attend this exhibition so he can be familiar with the supplies and equipment that will be available.

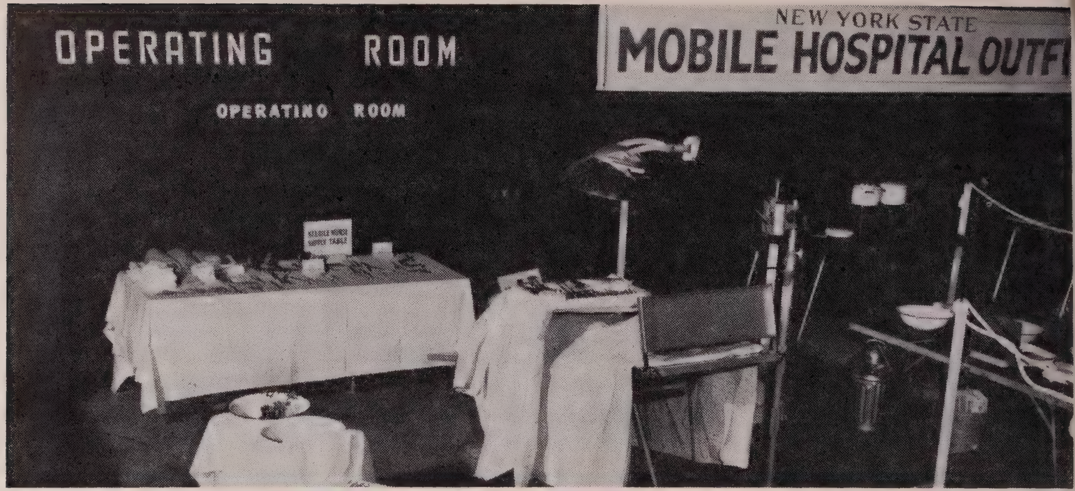
The exhibition will be open for two days at each location, from 1 to 5 P.M. and from 7 to 9 P.M. Physicians and Emergency Medical Services personnel are invited to attend during the first afternoon or evening and on the second afternoon up to 4 P.M. The public has been invited to attend on the second evening.

During the sessions which will be devoted to medical personnel, guided tours will be given of the complete exhibition, after which participants may visit sections which interest them for more detailed information. The professional staff of the New York State Department of Health Office of Medical Defense will be on hand to exhibit the equipment and answer any questions.

The Mobile Hospital Outfit contains all the equipment necessary to set up a 200-bed emergency hospital and to keep it in operation for about ten days. With additional personnel and

Two tractor-trailers and a passenger car and two-wheeled x-ray unit trailer are required to transport the New York State Civil Defense mobile hospital outfit used to set up a 200-bed improvised emergency hospital.





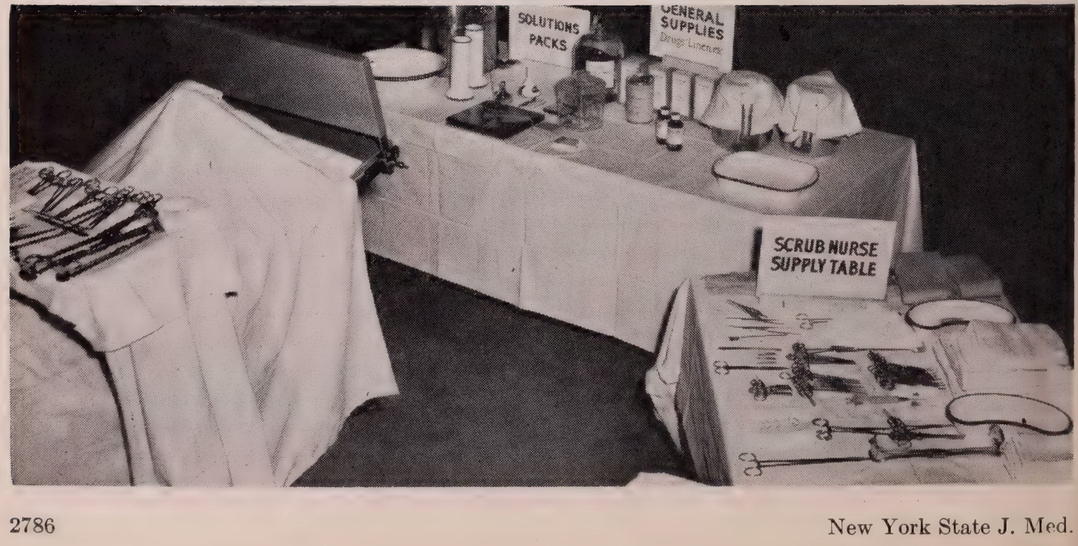
Shown here is a section of the operating room of the improvised emergency hospital as it was displayed at the annual Lake Placid Health Conference in June of this year. At center is the simplified operating table and portable light. At left, rear, is the sterile nurse supply table. To the right are sections of the scrub area and sterile supply section. *(Photo by New York State Department of Health)*

supplies and tiered litter-cots, it can be used to care for 400 to 500 patients. At the end of ten days it is expected that additional supplies will be available from Federal stockpiles or private manufacturers.

The hospital outfits contain equipment for four operating room units, treatment rooms and wards, preoperative and postoperative shock rooms, obstetric service, laboratory, sterile supply, fluoroscopic and x-ray service, and food service. Samples of most of this equipment will be shown at the exhibitions. Nine of the 13 sections which are planned for the improvised hospital will be set up in detail. Some of the equipment was developed by the New York State Department of Health specifically for this emergency program. Among them are such items as the operating table, oxygen therapy equipment, electrical distribution system, portable autoclaves, xeroradiograph, and litter-cots.

To the extent that time permits, participants will be invited to take their own x-rays with the

Equipment on display at the exhibitions of the mobile hospital outfit to be held throughout New York State during the coming year will be clearly identified. Note the general supply and scrub nurse tables at right and the special operating instrument stand containing the basic dissecting set (laparotomy) at left. *(Photo by New York State Department of Health)*



The operating tables furnished with the New York State Civil Defense mobile hospital outfit are simple, yet meet all necessary requirements. The instrument stand over the dressed "patient" is also included in the unit. Surgical instruments of the outfit have been stockpiled in sets for common surgical procedures. (*Photo by New York State Department of Health*)

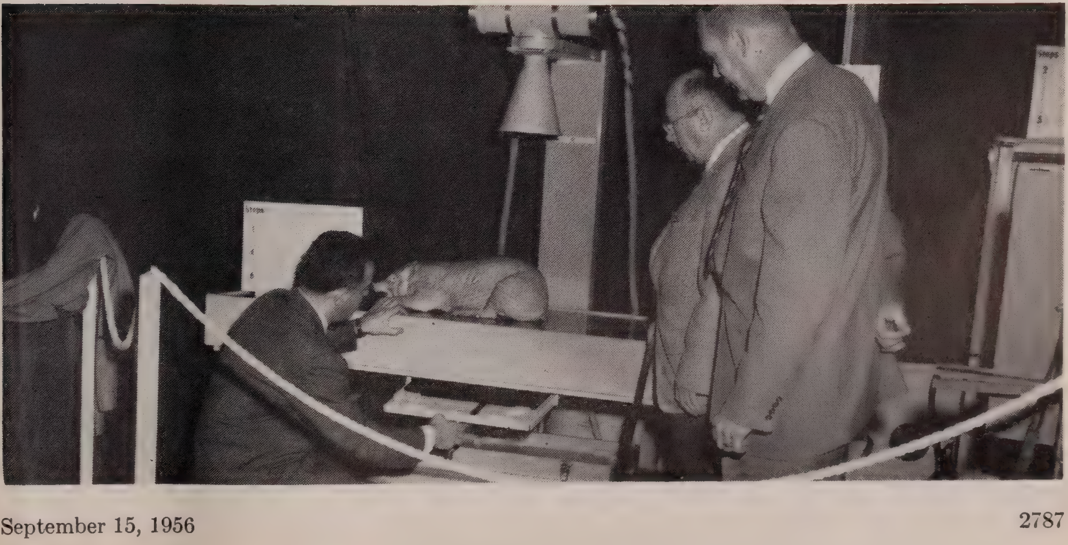
xeroradiographic equipment. Through the use of xeroradiography the process of making an x-ray picture has been reduced to a series of simple steps.

For other wards and special sections not being set up in detail, appropriate descriptive materials will be displayed. There will also be information and displays on how to convert a school into a hospital, a display of specialist's surgical kits which have been stockpiled, and a display of medical defense training materials.

It is vitally important that every physician have some conception of the plan for setting up improvised hospitals and a knowledge of their supplies and equipment. If New York State should be attacked in the near future or suffer serious natural disaster, what is seen and heard at the exhibitions will help physicians and medical workers adjust to the emergency conditions.

The knowledge gained may save hundreds of lives.

The specially-developed xeroradiographic equipment, which uses no film, can easily be operated by persons with little or no previous training. Here, a spectator at the annual Lake Placid Health Conference, where the unit was displayed earlier this year, inserts the xeroradiograph plate prior to taking an x-ray of a suckling pig. (*Photo by New York State Department of Health*)



SCHEDULE

Mobile Hospital Outfit Exhibitions

Be sure to attend one of the following sessions:

Date	*Place*	*Location*
September 12 to 13	Glens Falls	Warren Street Armory
September 19 to 20	Lake Placid	Olympic Arena
September 26 to 27	Ogdensburg	Elizabeth Street Armory
October 3 to 4	Utica	Parkway East Armory
October 17 to 18	Rochester	East Main Street Armory
October 24 to 25	Buffalo	Masten Avenue Armory
October 31 to November 1	Jamestown	Porter Avenue & Front Street Armory
November 8 to 9	Niagara Falls	Main Street Armory
November 28 to 29	Binghamton	West End Avenue Armory
December 6 to 7	Syracuse	East Genesee Street Armory
December 12 to 13	Elmira	Church Street Armory

(It is also planned to hold exhibitions of the Mobile Hospital Outfit during the Spring of 1957 in New York City, Hempstead, Patchogue, White Plains, Kingston, Oneonta, Hornell, Olean, Batavia, Geneva, Watertown, and Albany. Dates and locations will be announced later.)

HOURS

First Day—1 to 5 P.M. and 7 to 9 P.M.
Second Day—1 to 4 P.M.

A special session for public school superintendents and principals will be held on the *second day* from 4 to 5 P.M., and the exhibition will be open to the public and interested groups from 7 to 9 P.M. on the *second day.*

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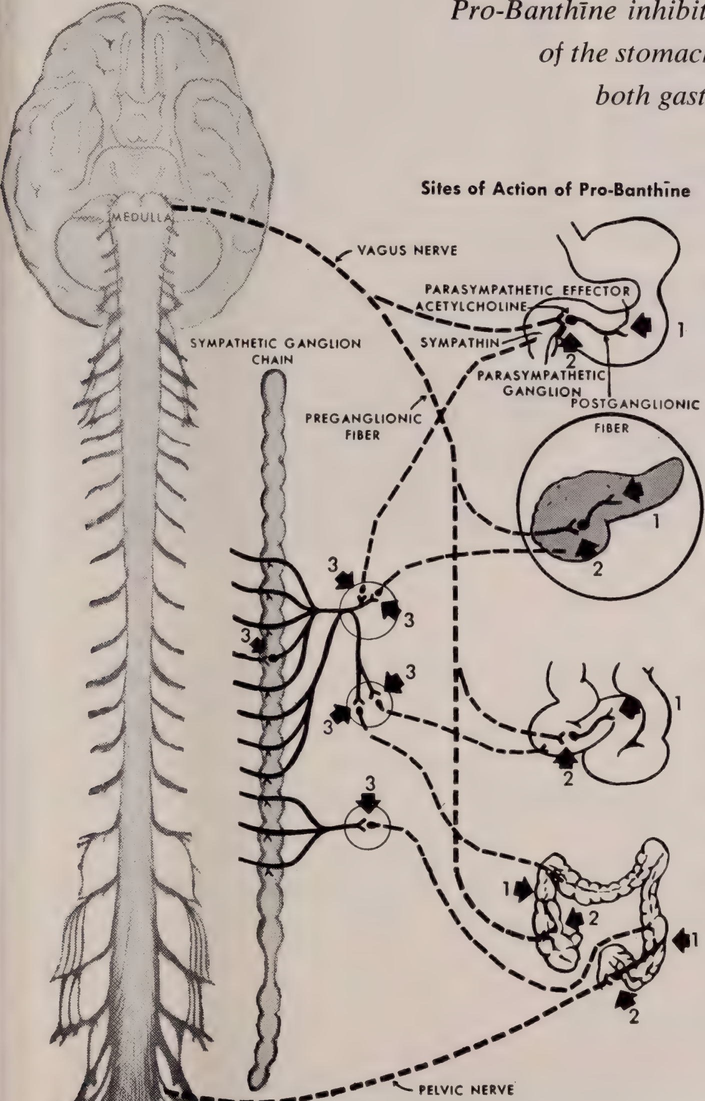
Sites of Action of Pro-Banthīne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1
2
3

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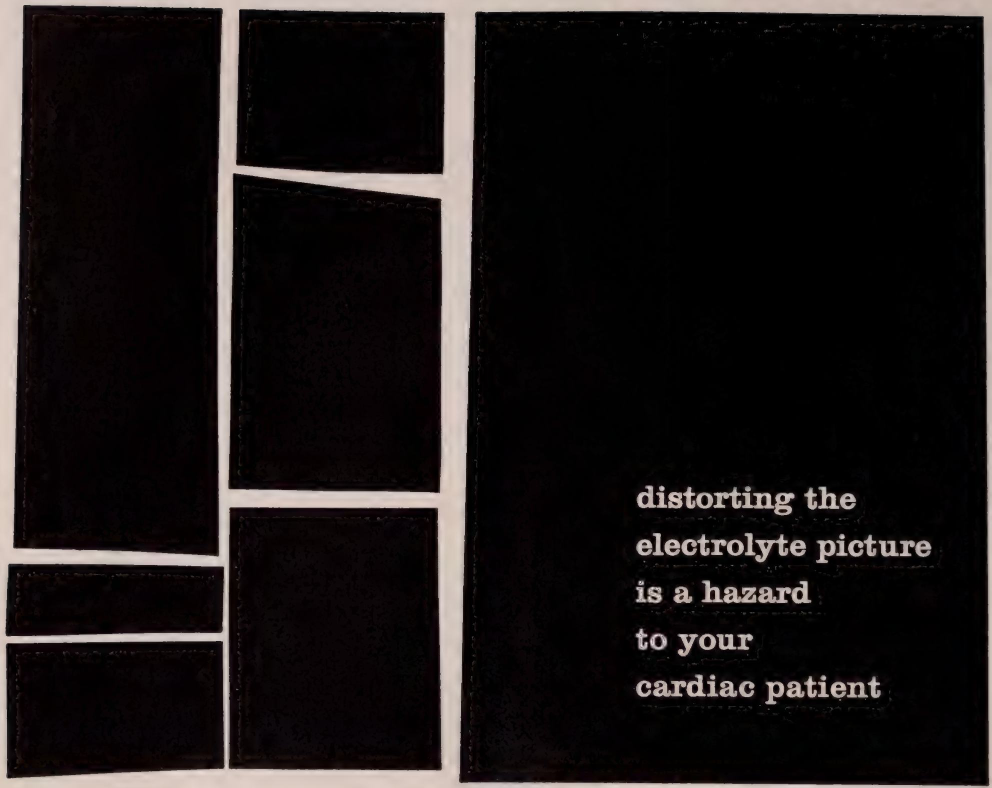
Sites of Action of Pro-Banthīne. *The principal site of action of Pro-Banthīne is on the parasympathetic system where it exerts a dual action while exerting a single and lesser action on the sympathetic system: (1) parasympathetic effector; (2) parasympathetic ganglion; (3) sympathetic ganglion (see arrows).*

SEARLE



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SCIENTIFIC ARTICLES

Chemotherapy in Child Psychiatry

LAURETTA BENDER, M.D., AND SOL NICHTERN, M.D., NEW YORK CITY

(*From the Department of Psychiatry, Children's Service, Bellevue Hospital*)

A NUMBER of chemotherapeutic agents have been found helpful in the management and treatment of emotionally disturbed children at Bellevue Psychiatric Hospital. Although some of these drugs are useful as tranquilizing agents, equally important are their apparently favorable effects on the functioning of the central nervous system. Their proper use in the treatment of the disturbed child may sometimes produce positive changes in different areas of performance, including vegetative, motor, perceptual, intellectual, and social. The achievement of these improvements is the principal aim of chemotherapeutic procedures for children.

The anxious and impulsive child becomes more disorganized by his own lack of controls and resulting failures in performance. He suffers from his inability to experience everyday living gainfully. His achievements are scant. His aptitudes may be disrupted and few satisfactory relationships established. His symptomatology may also frequently incorporate deviations of biologic and psychologic maturation. It may combine such features as acceleration or retardation, precociousness or regression, or defective functioning or acute behavior disorder. At the same time the disturbed child must also be viewed as a growing organism constantly evolving into more complex stages of development and integration. Any alteration of one stage results in marked changes in the next.

If a drug can be found to alter favorably any existing disorganizing process, the child may begin to enjoy more positive experiences. By relieving anxiety, helping control impulsivity, or decreasing excessive motor activity, some of these newer drugs appear to aid the disturbed child toward better living. Help stop a child's stuttering, and his performance in all areas improves. Help an enuretic remain dry, and see his gains in family acceptance. Thus, the specific needs of the child and relief of presenting symptomatology become a definitive goal of drug therapy. Indirect effects of such help may include improved interpersonal relations, diminished frustrations, strengthened self-esteem, and reduction in distortions of reality. Normal levels of biologic and psychologic maturation may be facilitated and strengthened. With this subtle influence on the maturational process, beneficial results may sometimes persist after the drug is discontinued.

In our evaluation of the effectiveness of various drugs, direct clinical observation was found to be the most productive. A particular drug was given to children presenting a variety of symptoms. When improvement was noted, it was then administered to other children with the same symptom complex. By this procedure a number of drugs were identified as having favorable clinical results. The multiple nature of the investigation frequently served to control the observations. At least four or five drugs were in use on the ward population at the same time. Ward personnel were generally unaware of which drug was being given and when changes were made. Some medications were deliberately discontinued at the height of clinical improvement to produce changes. Other drugs were some-

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times substituted for comparative responses. Dosages were varied in an attempt to establish optimum schedules and determine side-effects. In several instances, as with Benadryl[1] and Tolserol,[2] we attempted to confirm clinical observations by means of double blind studies. Psychiatric and psychologic examinations performed at different times in the course of treatment resulted in reportable changes. From these experiences have come an armamentarium of drugs which have varying applications in the treatment of emotionally disturbed children.

Occasionally there is the need for the emergency management of the acutely disturbed and agitated child. For many years the pharmacologic therapy of psychotic behavior was limited to the use of barbiturates and other sedatives. Recently, chlorpromazine has proved to be of inestimable value in these cases. It lends itself to rapid administration by the intramuscular route and to continuation of effect with oral dosage. Because it not only sedates but frequently relieves the accompanying anxiety of the disturbed child, it appears to be far more effective than the barbiturates. The patient remains easily aroused, simplifying further nursing care and ward management. Limited experience with Phenergan intramuscularly suggests clinical results similar to chlorpromazine. In the acute emergency situation, safe, effective initial dosage appears to be in the range of 1 mg. per Kg. body weight with either drug. The barbiturates remain as highly effective therapeutic agents in children presenting agitated behavior associated with organic brain disease with or without convulsive disorders or epileptic equivalents. As a rule the phenothiazine derivatives should not be used together with the barbiturates in emergency management. However, chlorpromazine has been described to augment the action of reserpine and may be used for this purpose.[3]

The prolonged use of drugs in the treatment of emotionally disturbed children appears to be the more fruitful therapeutic application. A number have emerged as effective agents. Their proper utilization in a total therapeutic program may simplify procedures and facilitate psychiatric treatment. The most effective group of drugs comes from the broad antihistamine family. We tested a large number. Results varied. There were favorable clinical experiences with Benadryl (diphenhydramine hydrochloride), Thorazine (chlorpromazine), Phenergan (promethazine), Frenquel (azacylonol hydrochloride), and Bonamine (meclizine hydrochloride). When effective, they seemed to modify anxiety, decrease impulsivity, and diminish hyperactivity. Our experiences with Benadryl proved it to be most efficacious in those children with primary behavior disorders and impulsive behavior.[4] Thorazine was more effective in the schizophrenic child. Results with Phenergan paralleled those of Thorazine. Frenquel helped in several diagnostic categories. Bonamine appeared to be useful in children with spatial disorientation. When poor results were seen with one drug, the substitution of another might result in improvement. When favorable results were observed, the child functioned in a more integrated manner. Social gains were always noted. Better relations with peers and adults were evident.

The dosage range for all of these drugs was similar. Best uniform results were achieved with 1 mg. per pound of body weight per twenty-four hours in divided doses. This level could frequently be doubled without adverse reactions. At higher doses a sedative response was seen. This undesirable side-effect was avoided. The one advantage of Frenquel was the absence of sedative features. In no instance were serious toxic symptoms seen. There were occasional transient somatic complaints. These included anorexia, vague abdominal discomfort, dizziness, and irritability. Reduction of dosage nearly always caused the rapid disappearance of these symptoms.

We have had a number of distinctive experiences with each of these drugs which give clear indication of their potential. In individual cases self-mutilating activity has been stopped, tics quieted, and stutterers helped. In some instances psychologic performance has been altered; visual motor responses improved; spatial orientation made better, and intellectual functioning raised. In other cases judicious use of these drugs has permitted seriously disturbed children to be maintained in the community. Some of our methods of application of drugs in the management of schizophrenic children have been reported by Silver[5] and in controlling the manifestations of Sydenham's chorea by Taranta.[6]

Other workers have reported various successes. Gatski[7] described the effectiveness of chlorpromazine in decreasing aggressive behavior and achieving greater tractability of the child. This then facilitated the relationship to the therapist. Freed[8] described lessening of overactivity and aggressiveness and some improvement in learning ability with chlorpromazine. Bair[9] demonstrated an average increase in I.Q. of 10.4 points in a group of hyperactive mentally retarded children who had been given chlorpromazine for sixty days. Davies[10] reported improvement in general physical condition and diminished destructive and aggressive tendencies in a group of mental defectives on chlorpromazine. Denhoff and Holden[11] treated a group of cerebral palsied children with chlorpromazine and noted particular improvements in behavior adjustment. The children ate, slept, and functioned better. It was the feeling of these investigators that the drug influenced psychologic factors, such as anxiety and self-awareness, associated with physical disequilibrium in space. These observations parallel our own with the schizophrenic child demonstrating diffuse anxiety and spatial disorientation. We have had similar positive experiences with Bonamine in a few of these children. Bonafede[12] described more successful management of disturbed epileptic patients with the addition of Thorazine to the usual anticonvulsant therapy.

Phenergan, which is chemically related to Thorazine, has proved itself to be equally effective in a limited group of our children. In two severely agitated youngsters who had already received large doses of Thorazine with only partial success in controlling their disturbed behavior, Phenergan seemed more effective. Several other children who were receiving this drug were followed by visual-motor tests and showed better integration of performance. Another twelve-year-old child, who demonstrated serious anxiety-provoking homosexual impulses, while on the drug appeared to lose this disorganizing drive. Accompanying impulsive behavior was also much better controlled.

Frenquel, which has been described as an antihallucinatory drug and is an antagonist to LSD experimental psychosis, appears to have definite uses with emotionally disturbed children. Its effect on children seems different from that reported with adults. Our experiences would suggest that it helps decrease impulsivity and integrates total functioning. It frequently softens the presenting symptomatology of the disturbed child and makes him more amenable to other therapeutic procedures and routine. One severely autistic child was admitted with head banging to the point of self-destruction. Frenquel in proper dose resulted in almost immediate cessation of this activity. Another severely impulsive eleven-year-old child was functioning in the mental defective range. After two months on Frenquel, during which time there was a marked decrease in aggressive, impulsive behavior, retesting revealed a rise of 12 points in total performance on the Wechsler Intelligence Scale for children. All gains appeared in the area of better integration of function. As retested, she was in the borderline range of low normal intelligence. This completely altered her educational outlook, her prognosis, and her ultimate therapeutic program. Another clinical observation on Frenquel was its reduction of diffuse anxiety. In this symptomatic area Frenquel appeared to be effective with some of the schizophrenic and organic children.

Clinical experiences with Benadryl have been encouraging. Its most successful application has been in the relief of impulsive behavior which the child himself finds difficult to control. This kind of impulsive action appears to be of neurogenic origin. Benadryl seems to dampen these disturbing internal stimuli. In isolated cases we have been able to control tics, head banging, body rocking, and other repetitive motor activities. Aggressive and disruptive behavior originating in the same mechanism has also been favorably modified. The elimination of such symptomatology becomes an important therapeutic objective as a prelude to the creation of new and more favorable patterns of behavior.

Our best experiences with the amphetamines (Benzedrine and Dexedrine) have been with neurotic behavior patterns. The majority of children become quieter, more cheerful, and relaxed. Mood swings decrease. Better socialization occurs. They appear to experience a relief of tension and a temporary escape from conflict and anxiety. Their art and fantasy productions reflect this distinctly. There is also a specific application of the amphetamines to the child with disruptive sexual preoccupation and tension. This frequently leads them into sexual activities, which produce guilt, further tension, and, ultimately, psychic disorganization. Benzedrine or Dexedrine relieves the sexual drives and tension, permitting the child to establish new and better modes of relationship. Best results with Benzedrine occur with a single daily dose of 20 mg. in the morning. Dexedrine is equally effective in half the dose. Considerable individual adjustment may be necessary. As a rule children do not demonstrate loss of appetite or become stimulated by the amphetamines. Other psychologic responses of children to the amphetamines have been reported in a number of papers.[13–18] Benzedrine was described as decreasing restlessness, noisiness, hyperactivity, and distractability. Occasionally the underactive, withdrawn child has been stimulated to a more active and successful participation. Improvement in school adjustment and academic and intellectual performance has been described.[19–22] Favorable effects on children with convulsive disorders and accompanying behavior problems have also been reported.[23,24] All of these observations are similar to our own.

Electroencephalographic studies of delinquent and behavior problem children suggest the presence of an underlying abnormality in brain function in a relatively high percentage.[25–35] Most of these children do not present clinical evidence of convulsive disorders. Gross neurologic examinations are usually negative. These findings serve to emphasize the need for anticonvulsive therapy for certain emotionally disturbed children with abnormal electroencephalographic records. Children with organic brain disorders may show a multiplicity of psychologic distortions and maturational lags[36] which serve to disrupt normal personality development. These disorders give rise to defects in body image formation and severe, diffuse anxiety stemming from inadequate maturation in such areas as perception, language, and locomotion. This primary anxiety disrupts personality integration. It is here that the judicious application of chemotherapeutic measures serves so useful a role. By their reduction of the disruptive forces within the child, the integrative processes of maturation are facilitated, and atypical behavior and development of personality are minimized. Dilantin, barbiturates, and other anticonvulsants have often produced favorable responses in our psychiatric management of emotionally disturbed children with organic features. A number of other workers have also reported distinct improvement in behavioral patterns with anticonvulsant drugs.[37–39] The antihistamine derivatives and the amphetamines have sometimes served to augment this effect. The hyperactive, impulsive, distractable organic child can be helped in his living and his achievements by proper application of these drugs.

Another chemical group with which we have had some success is the mephenesin derivatives and related compounds (Tolseram, Tolserol, Equanil, and Miltown). As a result of the probable synaptic action or quieting effect of these drugs on the central nervous system some disturbed children improve. There is considerable lessening of hyperactivity and diminution in anxiety. In our experience results are variable. The degree and areas of clinical improvement have not yet been clearly defined. In several isolated cases the presenting clinical picture was exaggerated. The children demonstrated a wide range of tolerance to the drugs up to adult dosage levels. Further exploration of their application and usefulness is definitely indicated.

Considerable attention has been recently directed toward reserpine. This drug has already had extensive application in adult psychiatry. It has been reported to be helpful in relieving tension, restlessness, noisiness, agitation, assaultiveness, and low frustration tolerance. Because of these results reserpine has had a number of preliminary trials in children.[40–42] When used with anticonvulsant therapy in epileptics, it appeared to reduce further the number of seizures and in some cases resulted in better behavior. Improvement was noted in the performance of mental defectives. Nicolaou and Kline[43] felt that the psychologic defenses of disturbed adolescents were qualitatively altered with reserpine, setting the stage for corrective emotional experiences. It was their impression that this drug might be most useful in those cases where aggressive "acting out" characterized the social behavior of the children. All of these workers described variability of response and occasional adverse disturbances in homeostasis. Our own limited experience with reserpine in children parallels these observations. In the autistic, schizophrenic child who ordinarily shows great variability in homeostatic control, the action of reserpine is completely unpredictable. The impulsive, aggressive child with manifest anxiety is helped if the reserpine does not increase autonomic lability. Tolerance of the drug was variable, and dosage schedules had to be individualized.

Other chemotherapeutic agents[44-47] have been used in the past. New ones are appearing constantly. In so rapidly expanding a field, it is impossible to mention all of the drugs which may have positive therapeutic effects. Only the most favorable with the broadest application have been reviewed. Our experiences would suggest that chemotherapy has an important role in the proper management of the emotionally disturbed child.

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Colds

Dr. George J. Boines and Steven Horoschak, of the National Drug Company in Philadelphia, noted that poliomyelitis patients, given hesperidin and ascorbic acid (Hesper-C, National Drug Co.) to maintain capillary integrity, appeared to be less susceptible to colds than their families and other contacts. After observation of 48 patients one year and 42 of the same group the next, a controlled study was undertaken for two successive years. The subjects were divided into two groups, one of which was treated the first year (that is, the third year of the total study period) and the other group the second year, and the incidence of upper respiratory infections compared with that of the control group. Although the authors recognize the variability of seasonal incidence of colds, they believe the results justify a large-scale study.—*International Record of Medicine, February, 1956*

The Present Status of the Diagnosis and Treatment of Syphilis

JULES E. VANDOW, M.D., AND NATHAN SOBEL, M.D., NEW YORK CITY

(*From the Division of Social Hygiene, Bureau of Preventable Diseases, New York City Department of Health, and the Department of Clinical Dermatology and Syphilology, New York University Post-Graduate Medical School*)

THIS paper is concerned with present-day methods of diagnosing syphilis, with special reference to the use of the new serologic procedures and the status of antibiotic therapy in this disease.

The diagnosis of syphilis has become increasingly difficult because of the frequency of biologic false positive serologic reactions. Considerable progress is being made toward solving this problem as a result of the recent development of a number of new laboratory tests. This presentation describes these tests and the principles on which they are based and reviews their practical application. In addition, the results of 234 Treponema pallidum immobilization tests performed for New York City physicians in private practice will be reported.

Since 1943, when penicillin was first introduced for the treatment of syphilis by Mahoney,[1] greatly improved preparations have become available. Main reliance is placed on the use of long-acting repository salts or preparations. Current schedules of treatment will be outlined and discussed. The use of other effective antibiotics in individuals sensitive to penicillin will be described.

Diagnosis of Syphilis

Since the discovery of the T. pallidum by Schaudinn and Hoffman in 1905 and the introduction of the Wassermann test in the following year, laboratory examinations have been used to corroborate the clinical diagnosis of syphilis. In the seronegative stage of primary syphilis, dark-field examination is the only method available for laboratory confirmation. In the seropositive stage of primary and secondary syphilis, the dark-field technic is an additional aid in diagnosis. In the latent phase of the disease, when there are no visible lesions, a positive serologic test may be the only evidence of infection. This is diagnostic when there is a clear-cut history of previous infection. When such a history is not available, it is necessary to differentiate true from false positive serologic reactions.

The technical false positive reactions are due to such factors as mislabeling specimens or using faulty materials or technics. The biologic false positive reactions are chiefly found associated with lupus erythematosus, leprosy, malaria, infectious mononucleosis, and many other febrile diseases of bacterial, rickettsial, viral, or plasmodial origin.[2] In fact, the positive serologic test may be the first evidence of one of these pathologic conditions.[3] The serologic reactions found in other treponemal diseases, such as yaws, pinta, and bejel, are considered to be true positives.

When the basis for the positive serologic test is analyzed, it is not at all surprising that such reactions are found in nonsyphilitic individuals. The antigens that are utilized for both complement-fixation and flocculation tests for syphilis are nonspecific since they are not derived from the infectious agent. Instead they are obtained from such nonspecific materials as beef heart. Furthermore, reagin, the syphilitic antibody in the blood serum responsible for positive reactions, is not a specific antibody since it may also be found in the nonsyphilitic diseases previously mentioned. Because of this, there has been an intensive search for a test which would depend on the use of a specific antigen. In the past few years four such tests have been devised which utilize virulent T. pallida or their extracts as antigens. These react with specific antibodies (not reagin) present in the blood of syphilitic patients. These new procedures and their usefulness for diagnosis will now be described.

Presented at the 150th Annual Meeting of the Medical Society of the State of New York, New York City, General Sessions, May 10, 1956.

TABLE I.—Results of Treponema Pallidum Immobilization Tests Performed for New York City Physicians, May, 1955, to March, 1956 (247 Serums)

Test Report	Male		Female		Total Tested	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Reactive	41	49.4	40	24.4	81	34.6
Weakly reactive	1	1.2	1	0.6	2	0.9
Nonreactive	37	44.6	114	69.5	151	64.5
No report*	4	4.8	9	5.5	..	..
Total	83	100.0	164	100.0	234	100.0

* Serum bacterially contaminated; tube broken in transit, etc.

TABLE II.—Comparison of Results of Immobilization Tests and Diagnoses of Referring Physicians and Consultants of New York City Health Department, May, 1955, to March, 1956

Diagnosis	Referring Physician			Consultant		
	Number of Cases	Reactive Test		Number of Cases	Reactive Test	
		Number	Per Cent		Number	Per Cent
Syphilis	27	16	59.2	129	65	50.4
Biologic false positive	191	66	34.6	87	14	16.1
Yaws	0	..	..	1	1	100.0
Undetermined	10	3	30.0	11	5	45.4
Total	228	85	37.2	228	85	37.2

Treponema Pallidum Immobilization Test

For many years investigators sought a method for culturing T. pallidum without loss of virulence. No success followed such attempts. Nelson[4] in 1948 devised a special medium which could maintain the organisms alive and motile from five to ten days. However, they did not multiply. With suspensions of such treponemas, Nelson and Mayer[5] demonstrated the presence of a specific antibody, separate and distinct from reagin, in both man and infected rabbits. In the presence of complement, this antibody immobilized the treponemas in vitro and also rendered them nonpathogenic for rabbits. This phenomenon was the basis for their T. pallidum immobilization test. The patient's blood serum is mixed with guinea-pig complement and a suspension of live treponemas and is then incubated at 95 F. (35 C.) for eighteen hours. The test is considered positive if the treponemas lose their motility when observed by dark-field examination.

The T. pallidum immobilization test is positive in individuals infected with syphilis, acquired or congenital. It does not, however, become positive as early as the serologic test. The latter test becomes weakly positive as early as a week after the appearance of the primary lesion. The immobilization test, however, may not become positive for a number of weeks after the appearance of the primary lesion or even not until the secondary lesions are well developed.[6]

Patients who are adequately treated in the first and secondary stages of syphilis usually have a reversal of both the serologic and the immobilization tests, more slowly in the latter. Untreated or inadequately treated patients usually retain positive reactions to both tests. If treatment is delayed beyond the secondary stage, the immobilization test remains positive even if the patient is cured, whereas the serologic test may become negative.[2]

According to published reports,[7] the T. pallidum immobilization procedure has a margin of error of less than 2 per cent. It remains the best test available for differentiating a biologic false positive reaction from a true positive serologic test. The immobilization test is also useful for detecting late syphilis when the serologic test is negative. This may occur occasionally, for example, in some patients with neurosyphilis. In such patients the spinal fluid may also be found to react positively to the immobilization test and yet be negative with the serologic test.[8] Recently, Miller, Slatkin, and Hill[9] found this to occur in about 12 per cent of their patients with neurosyphilis.[9]

Immobilization Test Results in 234 Patients.—For a period of nine months beginning May, 1955, the New York City Health Department obtained blood serum from selected patients of physicians in private practice. These specimens were sent to the Public Health Service laboratory at Chamblee, Georgia, for immobilization testing. The following is an analysis of the results.

In Table I 247 blood specimen reports are tabulated. The serums were obtained from 83 males and 164 females, ranging in age from eight months to seventy-one years. Of these, 30 were from Negroes, 217 from whites. Results of immobilization tests have been received on 234 of the specimens submitted. Reactives occurred in 50 per cent of the males and in only 25 per cent of the females. A higher percentage of females had biologic false positive reactions (69.5 per cent) than males (44.6 per cent).

Table II compares the results of immobilization tests with the diagnoses of the referring physician and the Health Department consultant. A diagnosis of syphilis by the referring physician was confirmed by the immobilization test in 59.2 per cent of the cases, and the consultant's diagnosis was confirmed in 50.4 per cent. This difference is not statistically significant. A diagnosis of a biologic false positive reaction was made by the referring physician and confirmed in 65.4 per cent of the cases, while the same diagnosis made by the consultant was confirmed in 83.9 per cent. When this is tested statistically, it yields a chi-square of 7.04 which is very significant. A clinical diagnosis was not made in ten cases by referring physicians and in 11 cases by the consultants. Positive immobilization tests were reported in three of the former and five of the latter.

The diagnoses of probable syphilis by the Health Department consultants were not verified by the immobilization test in half the patients. This demonstrates the difficulties in the diagnosis of latent syphilis when based only on positive serologic findings. On the other hand, the immobilization test was positive in one sixth of the patients diagnosed by the consultant as probable biologic false positive reactors. This group with syphilis would have been missed if only the serologic test had been used.

Other Tests

A simpler procedure than the immobilization test has been sought by a number of investigators. Three other procedures based on the use of dead organisms or their extracts have been described.

Treponema Pallidum Immune-Adherence Test.—In 1953 Nelson[10] reported the results of his experiments on the immune-adherence phenomenon. This is an immunologically specific reaction between microorganisms and erythrocytes leading to enhanced phagocytosis. He observed this phenomenon using Diplococcus pneumoniae, Salmonella typhi, Salmonella para typhi, Micrococcus pyogenes, Mycobacterium tuberculosis, and also Treponema pallida. In performing the test, adherence of treponemas to the erythrocytes is the only portion of the phenomenon required to indicate the presence of a specific syphilitic antibody. A standardized suspension of killed treponemas is added to a mixture of patient's serum, washed human erythrocytes, and guinea-pig complement. The mixture is left at 37 C. for thirty minutes, then centrifuged for five minutes at 500 revolutions per minute. The treponemas in the supernatant fluid are then counted by dark-field microscopy. The patient's serum is considered to be syphilitic if the treponema count shows a marked reduction in number from the standardized suspension.

While the test appears promising, the number of reports are insufficient for any proper evaluation at this time.

Treponema Pallidum Agglutination Test.—Shortly after the discovery of the T. pallidum, agglutination of treponemas by syphilitic serum was noted. In 1940 Tani[11] demonstrated the presence of specific agglutinating antibodies. Many refinements were developed to prepare treponemal suspensions which would not agglutinate spontaneously. Such suspensions are in use by a number of laboratories investigating the practical application of this specific agglutination factor. The test is said to be simpler and more suitable for use by small laboratories than the immobilization test. As performed, normal agglutinins are removed from human serum by means of sheep cells. This absorbed serum is added to a suspension of killed treponemas, shaken for two hours, and then left in a water bath at 41 C. for two hours. When marked clumping of treponemas is found by microscopic examination, the test is considered positive.

Although Hardy,[12] using various modifications of the agglutination test, has found that it can be a very sensitive and highly specific test comparable to the immobilization test, there is still considerable disagreement as to its value.[13] The test requires further study before it can be accepted as reliable.

Treponema Pallidum Complement-Fixation Test.—The original Wassermann test utilized extracts of infected tissues containing tremendous numbers of T. pallidum. It was soon found that extracts of noninfected mammalian tissues were just as satisfactory and were substituted in the test. Thus, a nonspecific antigen has been in general use ever since. While generally the results are dependable for diagnosis, as already stated above, in certain cases a test is still required that depends on the use of a truly specific antigen. Recently, Portnoy and Magnuson[14] have obtained an antigen from virulent T. pallidum by removing the lipid fractions and extracting the remainder with a solution of sodium desoxycholate, sodium citrate, and sodium chloride. The resulting antigen is then used in a complement-fixation test. Since a nonlipid extract of the treponemas is used as antigen, the test is entirely different from the present-day Wassermann test and its many modifications.

While the test appears to be promising, proper evaluation, as with the immune-adherence and agglutination tests, must await further study. Rein, Kostant, and Kelcec[15] have examined 1,200 specimens of blood with the T. pallidum complement-fixation test, and they conclude that the test appears to be sensitive, specific, and satisfactory for demonstrating treponemal antibodies.

Treatment of Syphilis

The introduction of salvarsan by Ehrlich in 1910 marked the beginning of effective antisyphilitic therapy. Mercury continued to be used in combination with salvarsan but was eventually replaced by the less toxic bismuth preparations. The era of metal chemotherapy was superseded by the discovery of penicillin by Fleming and its application to syphilotherapy by Mahoney in 1943.

The soluble, rapidly absorbed forms first used were later replaced by long-acting procaine penicillin G in oil suspensions combined with 2 per cent aluminum monostearate (PAM). This is the preparation in general use today. A more recently developed, longer-acting repository preparation also being used is benzathine penicillin G, a benzyl amine penicillin salt in aqueous suspension, marketed under such names as Bicillin, Tardocillin, Penidural, and Extencillin.

Experience has shown that it is necessary to maintain a pencillinemia of 0.03 units per ml. of serum for five to seven days in seronegative primary syphilis and for about two weeks in all other stages of the disease.[16] This can be accomplished by several intramuscular injections of PAM, using an average dose of 1,200,000 units at two to four-day intervals or by a single injection of 2,400,000 units of the benzyl amine penicillin salt. It should be noted that an injection of procaine penicillin G aqueous suspension produces the required serum concentration for only twenty-four hours and, therefore, must be injected daily for satisfactory results.

The schedules of treatment with PAM in use by the New York City Health Department are as follows:

1. *Seronegative primary, seropositive primary, secondary, early latent, and syphilis in pregnancy*
   First injection of 2,400,000 units given intramuscularly.
   Second, third, and fourth injections of 1,200,000 units each, given intramuscularly at two to four-day intervals.
   Total dose 6,000,000 units.
2. *Late Latent, Cardiovascular, Gummatous, and Osseous*
   Five intramuscular injections of 1,200,000 units each at two to four-day intervals.
   Total dose 6,000,000 units.
3. *Neurosyphilis*
   Ten intramuscular injections of 1,200,000 each at two to four-day intervals.
   Total dose 12,000,000 units.
4. *Congenital Syphilis*
   (*a*) *Early congenital* (*less than two years*)
      Ten intramuscular injections of 150,000 to 300,000 units each at one to two-day intervals.
      Total dose 1,500,000 to 3,000,000 units adjusted to weight of child.
   (*b*) *Late congenital* (*over two years*)
      Same dosage as in comparable manifestations of acquired syphilis. In young children, dosage should be adjusted to weight.

As regards the treatment of syphilis in pregnancy, several details must be clarified. Heretofore, to prevent congenital syphilis it was considered essential to give a course of treatment during every such pregnancy. Recent experience has modified this concept. Women who have had previous adequate penicillin treatment and show no evidence of relapse or reinfection do not require further treatment.[17] When continuous observation during pregnancy is not possible, it is better to give treatment.

Certain types of syphilis may require adjunctive therapy. The lightning pains in tabes dorsalis may be alleviated by steroids; optic atrophy and general paresis may be benefited by some form of fever therapy; interstitial keratitis under the additional supervision of the ophthalmologist may require steroid or other local treatment.

A single injection of 2,400,000 units of benzathine penicillin G may be substituted for PAM in primary and secondary syphilis. Although experience with this drug is based on a small series of cases, the results appear most satisfactory.

Prophylactic treatment with penicillin is indicated whenever there is exposure to a person with infectious syphilis. If untreated, many of those exposed develop the disease.[16] A single injection of 2,400,000 units of PAM or benzathine penicillin G will prevent this possibility. Although this is almost uniformly successful, a three-month observation period which includes periodic serologic and physical examinations is advisable as a safeguard.

Reactions to penicillin occur in approximately 3 per cent of treated cases.[16] Most of these reactions are urticarial in nature and not severe. Occasionally serum sickness or severe erythema multiforme-like eruptions may occur. Recently, anaphylactoid reactions have been more frequently noted. It has been estimated that as many as 1,000 deaths may occur annually in the United States from the general use of penicillin.[18]

As a precaution against such reactions, each patient must be questioned carefully to determine whether there is a history of even a slight sensitivity to the drug and/or whether there is an allergic background, such as asthma, hay fever, urticaria, or atopic dermatitis. In such patients penicillin must be avoided. Should sensitivity develop during a prescribed series of injections, further penicillin treatment must be withheld.

Oral broad-spectrum antibiotics may be substituted in all cases of penicillin sensitivity. Aureomycin, chloramphenicol, Terramycin, and Tetracyn are among those that have been found efficacious. The recommended daily dose of these drugs is 4 Gm. in divided doses. A total of 40 to 50 Gm. is sufficient for all stages of syphilis except neurosyphilis, when twice this dose is given. If these large amounts are not well tolerated, the daily dose may be decreased to not less than 2 Gm. and the course of treatment correspondingly lengthened.

The Public Health Service recommends that following treatment, clinical and serologic observation for a period of five years should be carried out according to the following schedule:

1. In primary, secondary, and early congenital syphilis, monthly for six months; then at nine, twelve, eighteen, twenty-four, thirty-six, forty-eight, and sixty months.

2. In latent, cardiovascular, gummatous, osseous, and late congenital syphilis, at six, twelve, twenty-four, thirty-six, forty-eight, and sixty months.

3. In syphilis with pregnancy, monthly if possible; especially during the last month.

4. In neurosyphilis at three, six, nine, twelve, eighteen, twenty-four, thirty-six, forty-eight, and sixty months.

In patients with early syphilis (primary, secondary, and early congenital), the spinal fluid is examined routinely about one year following treatment. In patients with latent or late syphilis the spinal fluid is examined shortly after completion of therapy, and, if negative, the test need not be repeated in the absence of signs of clinical progression. If serorelapse occurs, the spinal fluid should be re-examined. In cases of neurosyphilis the spinal fluid is examined every three months for the first year and thereafter as indicated.

The schedules of treatment and post-treatment follow-up described are in general use and are recommended by the World Health Organization and the U.S. Public Health Service.[16,19,20] The results that have been obtained are excellent for all stages of syphilis as evidenced by (1) the absence of relapsing clinical lesions for a period of two years in early cases of acquired or congenital syphilis; (2) the persistence of negative serologic tests for one year in seronegative primary syphilis; (3) the reduction of quantitative serologic titers to negative or to low levels persisting for one year in cases of seropositive primary, secondary, latent, or late syphilis; (4) decrease in the cell count, total protein, and serologic test titer of the spinal fluid in cases of neurosyphilis. When new lesions develop following the treatment of early syphilis, the possibility of reinfection should be considered. Reversal to seronegativity is expected if treatment is given during the early stages. If treatment is delayed until the late stages, Wassermann-fastness is the rule.

In our experience the results that have been obtained with the above schedules are as follows: Over 98 per cent of patients with primary, secondary, early latent, and early congenital syphilis do not require retreatment for satisfactory clinical and serologic response is obtained. In all other types of syphilis we have not usually found it necessary to repeat penicillin treatment. Occasionally retreatment is required when there is evidence of clinical progression or when the serologic response is unsatisfactory as judged by a rise or inadequate fall in titer. In cases of neurosyphilis, where there is insufficient improvement in the spinal fluid findings, further treatment is also necessary.

Comment

The clinical manifestations of early syphilis are now seen infrequently. For this reason every physician should be more ready than ever to suspect syphilis in any patient presenting a genital lesion or skin eruption. The dark-field examination remains the best means of diagnosing the disease when such early lesions occur. In the seronegative stage demonstration of T. pallidum by dark-field microscopy is the only method of diagnosis. With secondary syphilis the serologic test is always positive. This finding is extremely important for differentiating syphilitic from many other skin eruptions and emphasizes the value of routine blood testing. In early syphilis these laboratory procedures are adequate, and there is no need for the newer tests described above. Actually, a positive immobilization test is not found for several weeks or more after the first appearance of a positive serologic test. Therefore, the serologic test is more reliable for diagnosis of the early manifestations.

A great challenge to the physician today is the diagnosis of latent syphilis in the absence of a history of infection. This condition is always suggested when the serologic test is positive in a patient who presents no clinical evidence of syphilis. As has been already shown in our series, about 50 per cent of suspected cases of latent syphilis are found to have biologic false positive reactions when tested by the T. pallidum immobilization procedure.

In late syphilis, notably where there is involvement of the nervous or cardiovascular systems, there may be negative serologic findings. In these patients the immobilization test is often positive.

A diagnosis of early congenital syphilis is based on clinical evidence which can always be confirmed by positive serologic findings. At present most diagnoses are made when verified positive serologic test results occur. Occasionally roentgenograms of the long bones may give additional aid. It should be emphasized that both reagin and immobilizing antibody may be transmitted through the placenta and persist in the newborn for several months after birth. This may lead to an incorrect presumption of congenital syphilis unless the serologic test is followed every two to four weeks for four to six months. A fall in serologic test titer during this period to seronegativity indicates absence of infection. On the other hand, a diagnosis of congenital syphilis is made when there is a rise or persistence of the titer. In untreated early congenital syphilis the immobilization test becomes positive and remains so throughout life. This may be helpful in diagnosis of later stages of congenital syphilis should the serologic test prove negative, which may occasionally occur.

Numerous reports indicate the value of the immobilization procedure as an additional diagnostic test in syphilis. This test has its main usefulness as a verification test for the positive standard serologic test, helping to separate biologic false positives from positive serologic tests. It is especially useful when the serologic reactions are weakly positive; experienced clinicians are apt to dismiss such cases as being biologic false positives when in reality they are due to syphilis. It is also useful in those cases, usually late syphilis, where there is a negative serologic test, as in cardiovascular or central nervous system lues. The test has certain limitations. For example, it is not of much value for following a patient's progress after treatment has been given. Furthermore, unlike the standard serologic test it is not of help in determining whether additional therapy is necessary. While one of the other new tests (immune-adherence, agglutination, or complement-fixation test) may, eventually replace the immobilization test, their reliability has not yet been fully determined.

In contrast to the prolonged courses of antisyphilitic treatment given in the prepenicillin era, present treatment is completed very rapidly and is safer and more effective. The recommended preparations are procaine penicillin G with 2 per cent aluminum monostearate (PAM) or benzathine penicillin G. There is no need for the arsenical or heavy metal therapy formerly used. When penicillin is contraindicated because of an allergic background or when there is a history or evidence of penicillin sensitivity, the broad-spectrum antibiotics already noted can be substituted.

Summary

1. Four new serologic procedures and their application to the diagnosis of syphilis have been discussed. These are the Treponema pallidum immobilization, immune-adherence, agglutination, and complement-fixation tests.

2. These new tests are additional diagnostic aids in special situations but have not replaced the standard serologic test for routine use.

3. In a study of 191 patients with positive blood tests suspected to be biologic false positive reactions, the immobilization test was reactive in 66 (34.6 per cent), indicating that syphilis was actually the cause of the positive serologic test in one third of the cases. The clinical impression of a biologic false positive reaction was confirmed in the remaining 125 individuals, two thirds of this group.

4. In this same study, where the clinical data suggested a diagnosis of latent syphilis, this was verified in only half the patients.

5. Current schedules of penicillin and other antibiotics recommended in the treatment of syphilis have been described.

200 Central Park South
124 East 40th Street

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Current Status of Antibiotic Therapy in Shigella and Salmonella Enteritis

While the effectiveness of sulfadiazine in shigellosis is established, limiting factors in its routine use are also recognized; organism resistance, patient sensitivity, and hazards of dehydration in hot climates. In a seven-year evaluation program, 304 cases of Shigella enteritis were treated with one or another antibiotic. From results obtained, it was concluded that chloramphenicol, chlortetracycline, oxytetracycline, tetracycline, polymyxin B, and streptomycin are all highly effective against Shigella. At present, says Dr. Sydney Ross, no categoric statement can be made regarding the drug of choice. Because of evidence that a large number of Shigella strains have become resistant to sulfonamides, and because of the hazard of such drugs in the tropics, the fact that there are available six effective antibiotics appears to be of some importance. During the same period and in a similar manner, 122 cases of Salmonella enteritis were treated with antibiotics with what are described as disappointing results. It was concluded, however, that a combination of chloramphenicol and oral streptomycin, given ten to fourteen days, gave the most consistently favorable response.

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Recent Advances in Ocular Therapy

Therapy of Ocular Infections

IRVING H. LEOPOLD, M.D., PHILADELPHIA, PENNSYLVANIA

(*From Wills Eye Hospital and the Graduate School of Medicine of the University of Pennsylvania*)

At the present time we have available for therapy and trial in ophthalmology innumerable antibiotics. Foremost among these are penicillin, streptomycin, dihydrostreptomycin, Aureomycin, Terramycin, tetracycline, chloramphenicol, neomycin, bacitracin, erythromycin, polymixin, isoniazids, para-aminosalicylic acid, Nystatin, and sulfonamides. New antibiotics are introduced regularly. One of the most recent has been called Novobiocin, also known as Albomycin or Cathomycin or Streptonivicin.

The picture is complicated by the fact that many drug houses use different names for the same basic substance. With the antibiotics which are presently available and the great number which will soon be made available, the problem of selection of the proper antibiotic for ocular use is not a simple one. We are indebted to many individuals, such as von Sallman, Bellows, Struble, Braley, DeRoetth, Sorsby, Robeson, Sauberman, Lepri, Abraham, and Burnett, Ormsby, and many others, for studies which aid in the proper selection. Factors that are essential in the general consideration of all antibiotics are important in ophthalmology. Certainly the choice of drugs for therapy will depend on such factors as effectiveness, toxicity, and ease and cost of administration.

The principles of antibiotic therapy in ophthalmology are well known. Whenever possible, the infecting agent should be identified so that the physician can be guided in the proper selection of the antibiotic. This is not always possible in ophthalmology. Whatever agent is chosen should be used in adequate concentrations, and the route of administration should be one which will cause the patient the least discomfort, will deliver the antibiotic in proper concentration to the infected tissue, and will have the least possibility of developing toxic symptoms. When one has used the antibiotic in proper concentration by the proper route of administration and the infection still does not subside, it is reasonable to assume that the organism responsible is not susceptible to the antibiotic selected. A new antibiotic substance or antibiotic combination should then be instituted as therapy.

There is no doubt that there has been a great reduction in visual loss due to infection with the advent of antibiotics and chemotherapeutic agents. Remarkable as the statistics may be in this regard, there are still eyes lost today because of the inability to control a variety of ocular infections in spite of vigorous antibiotic therapy.

Reasons for Failure of Antibiotic Therapy

There are several possibilities as to why intraocular infections occasionally fare badly with antibiotics or chemotherapy. It may be that the dosage employed or the route of administration was inadequate or improper. One must be certain that the concentration of antibiotics and chemotherapeutic substances reaching the infected tissue is adequate. It may be that the organism responsible for infection is not susceptible to the antibiotic selected. It may be that the infectious process has progressed so far before institution of therapy that considerable destruction of normal tissue has already taken place, and although the antibiotic is successful in overcoming the organism, the ocular destruction resulting from the previously uncontrolled infection is responsible for the continued visual loss. The earlier this type of ocular infection is treated, the better the chance for retaining a visually useful eye.

Corneal abscesses, for example, extensive when therapy is introduced, may become sterile under the course of treatment, but because of the tissue destruction associated with the infectious process, the cornea may perforate. Some of these eyes may be retained by means of therapeutic transplant.

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Prophylactic Therapy

In the potentially infected wound, e.g., penetrating foreign body injury, it is advisable to treat the eye as though it were infected. One should use a broad-spectrum antibiotic or a combination of antibiotics which would allow one to attack a variety of potentially infecting agents. They should be employed in adequate concentration and by a route of administration which will guarantee effective ocular tissue levels with the chosen drug or drugs.

There is considerable question as to the advisability of prophylactic antibiotic therapy in eyes undergoing intraocular surgery. Fortunately, the incidence of infection after intraocular surgery is extremely low. There are many toxic features to antibiotic therapy so that some ophthalmologists are reluctant to use prophylactic anti-infectious drugs when the possibility of such an infection is not great. Here again the art of medicine becomes apparent. The ophthalmologist must be able to weigh the advantages to the patient against the risks involved. It is true that the ophthalmologist whose patient has recently lost an eye as a result of intraocular infection after intraocular surgery becomes an ardent advocate of prophylactic antibiotic therapy in future cases of intraocular surgery.

Problems of Prophylactic Therapy

There has been within the last two years a considerable question raised about the value of antibiotics before and after operation.[1] Surgical cases are usually classified as clean, contaminated, or infected, according to whether the involved tissues are initially free from bacteria, are soiled during operation by microorganisms indigenous to the body area, or are already infected at the time of surgery. No one questions the use of chemotherapeutic agents for the prevention of invasive infection in the infected case. The major problem is the use of antibiotics in clean and contaminated cases.

All the wounds which we inflict on the eye with the keratome or knife and scissors can be contaminated. The sources of such contamination include the patient's adjacent skin, the air, the respiratory tracts of those in the operating room, and the accidentally punctured glove. The universality of bacterial contamination at the end of operation has been used by some to justify routine antibiotic prophylaxis in all cases. In spite of all precautions, there is an incidence of infection in most large series of intraocular surgical cases of approximately 0.5 per cent. The severity of the resulting infection will depend to some extent on the degree of contamination, the blood supply to the area, the natural resistance of the patient, the extent of damage to the ocular tissues by the surgical procedure, and the presence or absence of blood.

The causal organism most frequently encountered is the staphylococcus. The coliform bacillus, Proteus, and Pseudomonas species and, occasionally, hemolytic streptococci comprise the remainder of the contaminants. With the exception of the hemolytic streptococcus, these organisms are frequently resistant to the commonly employed antibiotics. This handicap, coupled with the fact that antibiotics are inefficient in the presence of dead tissues, makes it unlikely that routine chemoprophylaxis will further reduce the current low incidence of postoperative infections in clean surgical cases. Clean cases represent a substantial percentage of everyday operative procedures. There is little evidence that antibiotics enhance resistance to postoperative infection in patients with endocrine, metabolic, and other physiologic derangements.

The Contaminated Case

The threat of postoperative infection and delayed wound healing is greater in the contaminated than in the clean case because of the greater numbers and varieties of microorganisms colonized in the operative field. Because the ocular tissues are so very close to the otopharynx, it may be that we should consider this a contaminated field. Certainly when the eye is injured and surgery is done on the injured eye, one must consider this a contaminated case.

Prophylactic chemotherapy or antibiotic therapy for elective surgery in contaminated cases is generally accepted on the premise that infection is avoided and optimal wound healing obtained if microorganisms indigenous to the operative area are kept to the lowest possible number. Primary emphasis, therefore, is on preoperative reduction of the bacterial flora, the antibiotic being chosen on the basis of prior knowledge of the bacteriology and culture sensitivity of the body area involved. This means that in ophthalmology we should culture the ocular cul-de-sac, the nasolacrimal apparatus, and the nasopharynx and select our antibiotic so that it would hit these organisms. On the other hand, such a course of action will not guarantee protection against the possibility of contamination from the respiratory tract of the operator or from a punctured glove.

The use of antibiotics in traumatic open wounds of the eye should begin at once and continue through the operative period and for seventy-two hours thereafter. The antibiotics are chosen to block off the possibility of Clostridia, gas gangrene, the hemolytic streptococcus, the staphylococcus, the coliform organisms, Pyocyaneus, and Proteus. Of course, tetanus immunization should also be performed in such cases. Seventy-two hours after surgery the ocular appearance will determine whether or not the antibiotic should be continued.

The difficulty in assessing the efficacy of antibiotic prophylaxis in surgery is evidenced by the extremely small number of case publications. On the other hand, the recent literature abounds in reports on the superinfections, sensitizations, and other untoward reactions and the increased numbers of drug-resistant microorganisms encountered in hospitals as the price paid for the widespread use of antibiotics. It behooves the surgeon, therefore, to re-examine the circumstances in which antibiotics before, during, or after operation are likely to be beneficial and to limit the duration of their administration to the period of time in which such benefits are apt to be obtained without the risk of harmful and costly results.

The majority of the undesirable features of prophylactic antibiotic therapy really belong to the study of the toxicity of the various antibiotics. The arguments against prophylaxis are (1) that one may allow resistant organisms to develop; (2) that the organisms responsible may be resistant to the antibiotic chosen; (3) that one may allow fungous infections or superinfections with other organisms to develop; (4) that one unnecessarily predisposes the patient to the toxic action of antibiotics.

Use of Steroids in Combination with Antibiotics

There has been a recent change in the attitude of investigators who are dealing with the problem of infection. With the advent of the antibiotics the main emphasis was laid on discovering the invading organism so that one could find the specific agent to counteract this invader. This, as we have seen, has been a very successful approach. However, certain difficulties have arisen. It became apparent that responses to antibiotic therapy in infections will vary with individuals and with the individual's own ability to resist infection, and this variation could not always be explained on the basis of specific immunity. Some strains of animals, for example, were refractory to certain highly infectious agents; some animals of the same species could be infected readily, while others were markedly resistant to experimentally introduced agents. There seemed to be relationships between seasons of the year and attempts to produce infection. The very young and the very old are notoriously more susceptible to infection than young adults. Thus, it is apparent that there may be many important factors unrelated to specific immunity which may play a role in determining the predisposition or resistance of the host to any one infection. There has been a tendency in recent years, therefore, to shift attention, not entirely but at least in part, from the causative agent to the host. One of the greatest stimulants to this has been the advent of adrenocorticotropin, cortisone, hydrocortisone, and other steroids.

There are certain effects one can expect from cortisone, hydrocortisone, or ACTH. The beneficial actions anticipated would be those of reduced signs of inflammation. One cannot expect these hormones to have any bacteriostatic or bactericidal action on the infecting agent. The deleterious actions which can be anticipated are interference with the natural resistance of the host and, possibly by reducing the increased permeability of the blood-aqueous barrier, reduction to some degree of the penetration of the various antibiotics that might be used in the therapy of intraocular infection.

Innumerable combinations of antibiotics with cortisone or hydrocortisone have been prepared and are widely used by ophthalmologists today. These are employed particularly for external ocular diseases, such as conjunctivitis, episcleritis, keratitis, and blepharitis. They are used with the hope of cutting down on the inflammatory reaction and shortening the convalescent period of the patient by means of the steroid portion of the combination and of overcoming any possible infection or secondary invader by the antibiotic in the combination. Clinically, this combination is dangerous when one might be dealing with a herpes keratitis, which does badly in most instances under steroid regimens, particularly in the acute phases. This combination might be poor where the host resistance would be able to overcome the infection alone and where the antibiotic has no specific effect on the organism. In other words, the steroid substance might interfere with the resistance of the host sufficiently to allow the infecting agent to multiply more rapidly and harmfully. In dealing with external infections this is not a great danger for by constant observation of the patient, the ophthalmologist can readily decide whether or not the lesion is progressing. At such a time he may stop his therapy and switch to other forms of treatment. At such a time he will no doubt resort to smear and culture studies if they have not been done previously and will thus be directed to more specific medication.

It has been amply demonstrated by Thygeson and his coworkers, Woods, Leopold, and others that these agents have no beneficial effect on bacterial conjunctivitis and bacterial keratitis except in reducing the inflammatory signs. If the specific antibiotic will overcome the infecting agent, these steroids will not produce a harmful effect; in fact, they will perhaps reduce the subjective symptoms for the patient and the objective signs. If the infection is due to an organism not susceptible to the chosen antibiotic, the steroid substances may interfere with the natural resistance of the host and thus interfere with rapid recovery.

In dealing with intraocular infections it may be difficult to decide whether or not to use the steroid substances. Again, the most to be gained would be the reduction of the inflammatory reaction. This may be important in intraocular inflammation, for the smaller the amount of inflammatory reaction, the less intraocular tissue damage results and the less the subsequent visual loss. In the past only a very few eyes, if any, with intraocular infection have improved by virtue of the host's resistance alone, once the infection has reached the stage where the clinical diagnosis can be made. In fact, even with the advent of antibiotics, many of these eyes are lost. Antibiotic therapy will sometimes lead to control of the infectious agent, only to have the eye visually lost as a result of the marked and severe inflammatory reaction. Therefore, if some method could be found for reducing the inflammatory reaction while the specific antibiotic acted, it is conceivable that visual loss might be reduced. For this reason steroid substances may play a role in intraocular infections, particularly post-traumatic or postsurgical. Perhaps one should use antibiotic substances alone immediately after establishing the diagnosis of an intraocular infection. If no improvement occurs with the antibiotic substance within twenty-four hours, it is evident that another antibiotic must be chosen. It is known that if the infection persists more than twenty-four or forty-eight hours, there is a great deal of visual loss, even if the infection is controlled subsequently. Therefore, at this point ACTH therapy can be instituted along with the new antibiotic.

ACTH is perhaps superior to cortisone or hydrocortisone in that it mobilizes other adrenal steroids as well as cortisone or hydrocortisone. These other steroids may have some resistance-enhancing properties in themselves and may counteract some of the deleterious action of cortisone and hydrocortisone on infection. This latter is purely theoretic. At the present moment this is an unsolved problem and awaits further study.

Antibiotics for Prophylaxis or Active Therapy of Intraocular Infections

The combination of penicillin and streptomycin provides a broad antibacterial spectrum and, when used in adequate concentration, should be bactericidal against many organisms that are perpetual secondary invaders in the eye. However, penicillin is a notorious sensitizer, and all patients must be skin-tested prior to its systemic administration. There is still danger of anaphylactic shock which may not show up by skin testing. The threat to the inner ear by the use of streptomycin is not great with therapy which continues for only two or three days.

Chloramphenicol may be recommended on the basis of its broad antibacterial spectrum and also because of its great penetration into the ocular tissues when systemically administered. The chief contraindication to chloramphenicol is the potential development of a blood dyscrasia. It has been shown by the work of Leopold, as confirmed by Langham, Abraham, Burnett, and, most recently, Bleeker and Maas,[2] that chloramphenicol does have excellent ability to penetrate the blood-aqueous barrier.

Tetracycline has been shown, by Hallett,

AGENT	DOSAGE	TIME OF ADMINISTRATION	
		PRE-OP	POST-OP
1. CHLORAMPHENICOL	*(INITIAL)* 3 Gm. orally	3 hrs.	
	(MAINTENANCE) 1 Gm. every 6 hrs.		48 hrs.
2. PENICILLIN*	*(INITIAL)* 1,000,000 units - I.M. or I.V.	1 hr.	
STREPTOMYCIN	2 Gm. I.M. or I.V.	1 hr.	
PENICILLIN	*(MAINTENANCE)* 1,000,000 units every 8 hrs.		48 hrs.
STREPTOMYCIN	1 Gm. every 8 hrs.		48 hrs.
3. TETRACYCLINE	*(INITIAL)* 3 Gm. orally	3 hrs. *(or earlier)*	
	(MAINTENANCE) 1 Gm. every 6 hrs.		48 hrs.
4. GANTRISIN or SULFONAMIDE COMBINATIONS	*(INITIAL)* 2 Gm. orally		
	(MAINTENANCE) 1 Gm. every 4 hrs.		48 hrs.
5.	*(SUBCONJUNCTIVAL AT TIME OF SURGERY)*		
ERYTHROMYCIN	2.5 – 5 mgm./0.5 ml.		
or BACITRACIN	10,000 units/0.5 ml.		
or NOVOBIOCIN +	15,000 units/0.5 ml.		
POLYMYXIN B	50,000 units/0.5 ml.		

* "BENEMID" – 2 Gm. ORALLY WITH INITIAL DOSE OF PENICILLIN.
½ Gm. EVERY 6 HOURS FOR MAINTENANCE.

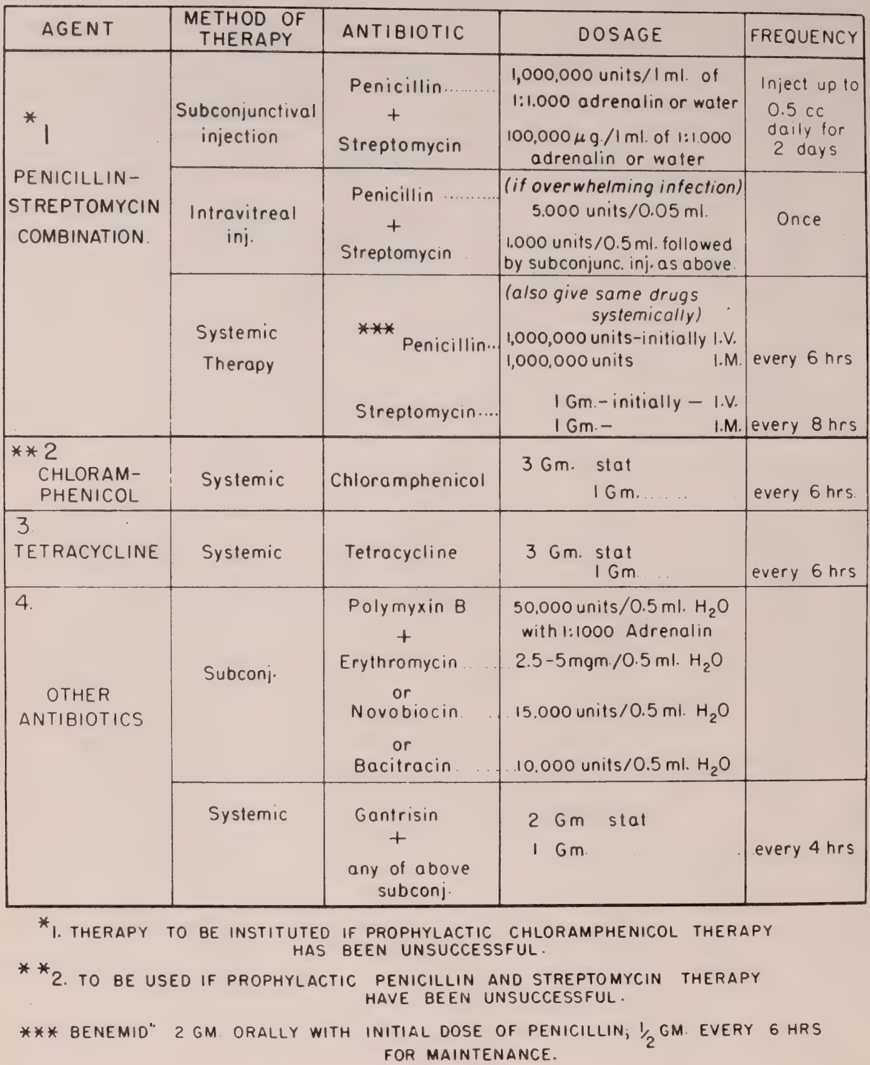
Fig. 1. Prophylactic antibiotic therapy.

Naib, and Leopold[3] and Abraham and Burnett,[4] to penetrate into the intraocular tissues and fluid when used in massive doses intravenously and orally. The chief disadvantage of tetracycline is that there are many strains of Staph. aureus that are resistant to this agent. Also many patients develop nausea and other gastrointestinal symptoms following the oral ingestion of tetracycline. It has been suggested that the use of milk taken at the same time as tetracycline capsules may prevent the development of nausea.

The frequency of Staph. aureus resistant to penicillin is increasing. For this reason some individuals have recommended the use of erythromycin combined with Gantrisin for prophylaxis against ocular infection.

Unfortunately, there are many strains of Staph. aureus which have already developed resistance to erythromycin, so that this combination may not offer any advantage over the penicillin and streptomycin administration. Erythromycin has been shown to penetrate through the bloodstream across the blood-aqueous barrier, particularly when given intravenously or intramuscularly in maximally tolerated doses.[3]

One of the latest antibiotics, Novobiocin, penetrates poorly into the intraocular tissues when systemically administered.[5] However, it will penetrate following subconjunctival injection in tolerated dosage. It should be reserved for use against those organisms which fail



AGENT	METHOD OF THERAPY	ANTIBIOTIC	DOSAGE	FREQUENCY
*1 PENICILLIN-STREPTOMYCIN COMBINATION.	Subconjunctival injection	Penicillin + Streptomycin	1,000,000 units/1 ml. of 1:1.000 adrenalin or water 100,000 μg./1 ml. of 1:1.000 adrenalin or water	Inject up to 0.5 cc daily for 2 days
	Intravitreal inj.	Penicillin + Streptomycin	(*if overwhelming infection*) 5.000 units/0.05 ml. 1.000 units/0.5 ml. followed by subconjunc. inj. as above.	Once
	Systemic Therapy	*** Penicillin	(*also give same drugs systemically*) 1,000,000 units–initially I.V. 1,000,000 units I.M.	every 6 hrs
		Streptomycin	1 Gm.– initially — I.V. 1 Gm.– I.M.	every 8 hrs
**2 CHLORAMPHENICOL	Systemic	Chloramphenicol	3 Gm. stat 1 Gm.	every 6 hrs.
3 TETRACYCLINE	Systemic	Tetracycline	3 Gm. stat 1 Gm.	every 6 hrs
4. OTHER ANTIBIOTICS	Subconj.	Polymyxin B + Erythromycin	50,000 units/0.5 ml. H_2O with 1:1000 Adrenalin 2.5-5 mgm./0.5 ml. H_2O	
		or Novobiocin	15,000 units/0.5 ml. H_2O	
		or Bacitracin	10,000 units/0.5 ml. H_2O	
	Systemic	Gantrisin + any of above subconj.	2 Gm stat 1 Gm.	every 4 hrs

*1. THERAPY TO BE INSTITUTED IF PROPHYLACTIC CHLORAMPHENICOL THERAPY HAS BEEN UNSUCCESSFUL.

**2. TO BE USED IF PROPHYLACTIC PENICILLIN AND STREPTOMYCIN THERAPY HAVE BEEN UNSUCCESSFUL.

*** BENEMID" 2 GM. ORALLY WITH INITIAL DOSE OF PENICILLIN; ½ GM. EVERY 6 HRS FOR MAINTENANCE.

FIG. 2. Therapy of intraocular infection.

to respond or are not susceptible to the above-mentioned drugs.

Figures 1 and 2 summarize the use of the various antibiotics for prophylactic or active therapy of intraocular infection.

Anti-Inflammatory Agents

Mention should be made of Butazolidin or phenylbutazone. This compound was given extensive trial in Europe, usually in combination with aminopyrine where it was known as irgapyrin. In this country attention has been paid to Butazolidin alone for its ocular effects. Yourish and his coworkers in 1955 demonstrated that phenylbutazone administered intramuscularly was capable of blocking inflammatory effect produced by irritants injected into the anterior chamber of the rabbit eye. Butazolidin did not work when applied locally to the eye; only when it was systemically administered did it have a therapeutic effect. In many aspects it resembles the action of cortisone, suggesting it might be a simple stimulant of the pituitary-adrenal axis. However, there has been no evidence presented that phenylbutazone affects urinary ketosteroid excretion, the eosinophil count, or insulin requirement in diabetes. This is definitely a toxic agent and should be employed only with a full awareness of its potential dangers.

It is approximately seven years since cortisone was first used in the therapy of ocular disease. Since that time many new compounds have been tried for their local effects in ophthalmology: hydrocortisone acetate or alcohol, hydrocortisone T-butyl acetate, 9-alpha-fluorohydrocortisone acetate or alcohol, and most recently Δ^1dehydrocortisone and Δ^1dehydrohydrocortisone acetate and alcohol.

Hydrocortisone T-butyl acetate appears to offer no advantage over hydrocortisone acetate in ocular disease.

It has been found that 9-alpha-fluorohydrocortisone acetate exerts an anti-inflammatory effect greater than cortisone acetate or hydrocortisone acetate when compared in equal concentrations. The systemic use of this new agent is limited by its salt-retaining effect. It tends to produce more edema than that encountered with the early systemic use of cortisone or hydrocortisone. The chief value of 9-alpha-fluorohydrocortisone would appear to lie in its local application.

Prednisone and Prednisolone

Meticorten or prednisone and meticortelone or prednisolone appear to be about four times as potent as cortisone in their anti-inflammatory effect on rheumatoid arthritis. The important features of the use of these substances are reported as (1) *notable absence of major side-effects,*[6,7] (2) intensified potency (three to five times more potent than hydrocortisone),[6,8] (3) lessened incidence of sodium and water retention and potassium depletion, and (4) encouraging results with refractory ocular conditions.[9] King and Weimer[9] found clinically that several conditions of the eye which did not seem to respond favorably to previously employed cortisone or hydrocortisone reacted dramatically to meticorten (or prednisone).

In addition to rheumatoid arthritis and allied conditions, these new steroids have appeared to be of value in bronchial asthma,[8,10,11] in the adrenogenital syndrome,[12] pemphigus vulgaris,[13] various dermatoses,[14] iridocyclitis, diffuse uveitis, postoperative inflammation, marginal ulcers, vernal conjunctivitis, episcleritis, and allergic conjunctivitis.[9,15] In analyses of their experimental and clinical studies, King and coworkers[15] found these two new synthetic corticosteroids, prednisone and prednisolone, *effective anti-inflammatory and antiallergic agents in acute ocular diseases.*

Experiments with the *intramuscular* administration of these drugs in animals with uveitis induced with horse serum revealed that prednisone was more than two times as potent as cortisone and was slightly less effective than an equal dosage of hydrocortisone. Prednisolone gave better results than the same amount of hydrocortisone. Prednisolone was a little less effective and more irritating than a double dose of hydrocortisone when given by the intravenous route. Both prednisolone and hydrocortisone were less effective when administered *intravenously* than when administered intramuscularly.

Topical therapy with either prednisone or prednisolone employed for a variety of external conditions or anterior segment inflammation results in rapid improvement clinically. Prednisolone in ointment, suspension, or solution appears somewhat more potent than the other steroids.

Prednisolone or prednisone when administered *orally* was found to be beneficial in a variety of inflammatory diseases of the anterior segment in uveitis and in various involvements of the posterior segment. Results were often more rapid than with hydrocortisone, and toxic side-effects were usually absent. It was possible to obtain full therapeutic effect which could not be attained in many cases with cortisone because of the occurrence of serious complications from that medication. Remissions can be maintained with a small dosage in most instances. King and his coworkers[15] found that the indications and contraindications for these new compounds are the same as those commonly accepted for other corticosteroids. They did have a few cases which had failed to respond to orally administered hydrocortisone that did respond to either prednisone or prednisolone given in the same manner.

Gordon[16] has had experience with these agents in 54 patients in whom he tried prednisone and prednisolone and compared their activities with those of cortisone and hydrocortisone, 9-alpha-fluorohydrocortisone, and corticotropin. He employed both the free acetate and the alcohol varieties of the new compounds in strengths varying from 0.125 to 1 per cent. It was his impression that the 0.5 per cent concentration was optimal, and no additional benefits accrued from the use of 1 per cent prednisolone or prednisone suspension or ointment. From his experience in these cases he felt that prednisolone acetate appeared to be the preparation of choice.

Gordon's experience with a variety of ocular disorders, such as episcleritis, conjunctivitis, blepharitis, anterior uveitis, posterior uveitis, optic neuritis, orbital pseudotumor, central serous retinopathy, and keratitis, has been very similar to that obtained by the earlier use of hydrocortisone in adequate dosage. He feels that his results indicate a superiority of these compounds over hydrocortisone and cortisone for ocular use. In favor of the newer agents are their rapid action, their ability to maintain remissions on low maintenance dosage, and lack of serious side-actions.

Hogan, Thygeson, and Kimura[17] also have noted the excellent anti-inflammatory and anti-allergic activity of prednisone and prednisolone when locally and systemically applied. They were not as impressed with the superior action of these compounds in that they had no instances in which an eye had failed to respond to the earlier steroid preparations and did respond to the newer ones. However, the anti-inflammatory activity of these drugs took place at a lower concentration than that required for hydrocortisone and cortisone.

King and his coworkers[15] found prednisolone alcohol to be more effective locally than the acetates, and King's oral dosage of prednisolone reached a maximum of 40 mg. daily in severe cases. Hogan and coworkers[17] employed as much as 80 mg. to control some ocular inflammations. Each of these observers reduced the concentration of steroid to that minimal daily level which kept the lesions quiet.

Gordon[16] also employed initial doses as high as 80 mg. per day with rapid decreases as the condition responded. As he acquired more experience, Gordon recommended that 40 mg. daily should be the standard initial dose in severe conditions and 30 mg. in those which are less severe, agreeing with the observation of King *et al.*[15]

King encountered untoward side-effects which required discontinuance of the drug in only three patients. He had one individual who developed heartburn at night after eleven days of therapy, one who showed loss of appetite beginning after thirty days, and one who had emotional instability which eventually reached the point of hysterical blindness after three weeks of steroid therapy. This cleared after therapy was discontinued. A fourth patient developed insomnia on the third day, but therapy was not discontinued for that reason. Gordon[16] encountered four patients among the several that he treated who exhibited manifestations similar to those of Cushing's syndrome. One patient who showed a marked reaction of this type to cortisone showed a minimal additional effect by switching to prednisone. One patient developed an acneform eruption of the face which disappeared after cessation of therapy.

TABLE I.—RESULTS IN OCULAR DISEASES TREATED UNSUCCESSFULLY WITH ORAL HYDROCORTISONE FOLLOWED BY Δ^1 DEHYDROHYDROCORTISONE*

Disease	Number of Cases	Results Excellent	Fair	Poor
Diffuse uveitis	7	0	1	6
Diffuse scleritis	1	..	..	1
Scleromalacia perforans	1	..	..	1
Sympathetic ophthalmia	1	..	1	..
Junius Kuhnt macular degeneration	1	..	..	1
Central serous retinopathy	3	..	..	3
TOTAL	14	0	2	12

* Patients treat with Δ^1dehydrohydrocortisone to a maximally tolerated dose, usually in a range of 80 to 100 mg.

The incidence of side-effects in Hogan, Thygeson, and Kimura's[17] series was about the same order of frequency as they had encountered with cortisone and hydrocortisone. This was especially true when larger doses were required and when the patients were children. Two of his individuals developed psychoses, one on the sixth day and one the tenth day of treatment. Both patients were on maintenance dosage of 50 mg. per day. Two other patients developed gastric ulcers. In our series at Wills, where over 200 patients have been treated with prednisone or prednisolone, three cases of psychoses have developed, and gastrointestinal symptoms were encountered in six cases. No peptic ulcers were found, although gastrointestinal complaints were frequent. Moon faces and hirsutism occurred in two patients.

Most workers have agreed that an average therapeutic dosage of either prednisone or prednisolone produced appreciable sodium retention, fluid retention, and marked potassium and nitrogen loss in short-term periods of observation. If high doses are used, there may be loss of sodium chloride with diuresis and a negative nitrogen balance together with moderate loss of calcium and potassium. Inhibition of endogenous corticotropin with diminished 17-ketosteroid and corticoid excretion was noted, similar to that previously seen with cortisone but induced by

TABLE II.—Results of Concurrent Studies of Oral Therapy with Hydrocortisone, Dehydrocortisone, and Dehydrohydrocortisone

Disease	Number of Cases	Hydrocortisone			Dehydrocortisone			Dehydrohydrocortisone		
		Excellent	Fair	Poor	Excellent	Fair	Poor	Excellent	Fair	Poor
Orbital pseudotumor	5	1	..	1	..	..	1	..	1	1
Scleromalacia perforans	2	..	..	1	..	..	..	..	..	1
Diffuse episcleritis	4	..	1	..	..	..	..	1	1	1
Ocular pemphigus	2	..	..	1	..	..	..	..	..	1
Herpes zoster	10	..	3	1	..	2	1	1	2	..
Iridocyclitis, nongranulomatous	71	12	10	7	12	8	4	12	4	2
Uveitis, granulomatous	36	5	3	4	4	4	3	5	3	5
Sympathetic ophthalmia	3	1	..	..	..	1	..	1	..	..
Central serious retinopathy	11	1	..	3	..	..	1	1	2	3
Total	144	20	17	18	16	15	10	21	13	14

TABLE III.—Side-effects

Side-effects	Hydrocortisone	Dehydrocortisone	Dehydrohydrocortisone
Psychosis	2	1	2
Gastrointestinal symptoms	1	2	3
Acne	1	1	1
Hypertension	1	1	1
Weight gain	1	0	1
Moon face	2	1	1

much smaller doses of prednisone. One worker found that prednisone administration increased the gastric production of free hydrochloric acid to a relatively greater degree than cortisone or hydrocortisone. The effects of prednisone and prednisolone on the blood elements, the sedimentation rate, serum proteins, and the C-reactive proteins were all of a type similar to those seen with cortisone but of a degree proportional to the increased potency of the newer steroids.

Several investigators noted that prednisone interfered with normal glucose tolerance curves to a greater degree than either cortisone or hydrocortisone with the appearance of glycosuria in some patients. A significant finding by several workers was that prednisone and prednisolone could be used for treatment of a disease even in the presence of cardiac failure. Hypertension and psychosis occur. Moon face with increased supravesicular fat deposits, acne, hirsutism, and the development of striae were seen as frequently or even more frequently than with hydrocortisone therapy. These are undesirable effects but do not necessarily demand the cessation of therapy.

Practically every series that was reported has included some individuals with gastrointestinal dysfunction, abdominal cramps, and bloating. Also a disproportionate number of peptic ulcer have been reported.

From the data available it may be that prednisone and prednisolone have a proportionately greater diabetogenic effect than cortisone and hydrocortisone.

One must keep in mind that there occasionally will be an individual who seems to escape from the effects of prednisone when continued over a period of time or after a few months of therapy. This was remedied by administering a larger dose or by changing from prednisone to prednisolone in equal doses.

In order to obtain a somewhat controlled study of these new agents, alternate cases at the Wills Eye Hospital were treated with hydrocortisone, Δ^1dehydrocortisone, and Δ^1dehydrohydrocortisone. In this way, over almost the same time interval, patients with the same types of diseases but of possibly varying severity were tried with each of the drugs. Results of these studies are included Tables I, II, and III. It can be seen that there was no really significant difference between any of these agents. There is no doubt from these data and from those which have been produced by King and his associates, Gordon and coworkers, and Hogan and his coworkers that the dehydrocortisone and dehydrohydrocortisone are effective agents for the control of a variety of ocular diseases. They can be effective at a decidedly lower dosage schedule than that required for hydrocortisone. One may expect a greater anti-inflammatory action from Δ^1dehydrohydrocortisone in dosage equal to that used for hydrocortisone. At this higher dosage, however, it is likely that more undesirable side-effects will be encountered. At the lower dosage one may encounter fewer undesirable side-effects than have occurred with hydrocortisone. However, this will require several more years of observation to establish. The same precautions that had to be observed with the use of hydrocortisone should be observed with Δ^1 dehydrocortisone and Δ^1 dehydrohydrocortisone.

1930 Chestnut Street

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Discussion

John F. Gipner, M.D., *Rochester, New York.*—Dr. Leopold mentioned the principles of antibiotic therapy and stressed proper selection of the antibiotic and administration in adequate concentrations by the route which causes the patient the least discomfort and with least possibility of developing toxic symptoms. He spoke of prophylactic therapy for penetrating ocular injuries and of the advisability of prophylactic therapy before ocular surgery in a clean and in a contaminated case. I believe that routine instillation of an antibiotic into the conjunctival sac prior to elective intraocular surgery is sound, provided one uses an antibiotic not likely to cause local or generalized reaction. One can use Terramycin and polymixin B combined or a mixture of polymixin B, bacitracin, and neomycin. I further believe that every intraocularly operated case should be inspected in twenty-four hours and sooner if the patient has any complaint suggesting an intraocular infection. The sooner an intraocular infection is detected, the better the chances of arresting the process early by adequate systemic and local antibiotic therapy.

Dr. Leopold spoke of the combination of the steroids with antibiotics and pointed out that these hormones are only anti-inflammatory in action and are not bactericidal or bacteriostatic agents. He suggested that antibiotics alone should first be used immediately after establishing a diagnosis of intraocular infection. If no improvement occurs within twenty-four hours, another antibiotic must be tried, and treatment with ACTH can be started with the new antibiotic. I agree with him that ACTH is superior to cortisone or hydrocortisone and should be used in severe cases.

Dr. Leopold mentioned the advantages and disadvantages of combined penicillin and streptomycin, chloramphenicol, tetracycline, erythromycin with Gantrisin, and Novobiocin. Of the anti-inflammatory agents he discourages the use of Butazolidin. He discussed the use of cortisone, hydrocortisone, 9-alpha-fluorohydrocortisone acetate, Δ^1 dehydrocortisone acetate, and Δ^1 dehydrohydrocortisone. He found prednisolone in ointment, suspension, or solution more potent than the other steroids. Gordon reports the same finding in an article in the April issue of the *American Journal of Ophthalmology.* Dr. Leopold and Dr. Gordon both report that the systemic effect in ocular conditions is much the same as with cortisone and hydrocortisone but that smaller doses are required. The incidence of important side-effects is not significantly different from other steroids.

Dr. Leopold's comparative studies with hydrocortisone versus Δ^1 dehydrocortisone and Δ^1 dehydrohydrocortisone indicate that these agents are effective for the control of a variety of ocular diseases and are effective in much lower doses than required for hydrocortisone. I have found this to be true in the few cases I have treated with these drugs.

A very sublime and grand thing is Truth, in its way, though like other sublime and grand things, such as thunderstorms and that, we're not always over and above glad to see it.—The Old Curiosity Shop, Charles Dickens

Clinical Equivalents of Pulmonary Function Tests

HOWARD G. DAYMAN, M.D., BUFFALO, NEW YORK

(From the Department of Medicine of the University of Buffalo and the Chronic Respiratory Center and the Buffalo Respiratory Center of the Chronic Disease Research Institute, University of Buffalo)

THE respiratory tract from nares or lips to respiratory bronchioles is a tubular system of airways which conducts gases to and from the terminal pulmonary spaces. Disease of the airway system does not always produce a recognizable departure from normal ventilatory function, but when it does so, there is altered airway resistance with distinctive manifestations in the volume rate of flow, implicating the site and suggesting the nature of the disturbance.

One over-all measure of ventilatory flow is, of course, the maximum breathing capacity which reflects with utilizable accuracy the degree of impairment but not necessarily the cause. When used for comparison with a purely volumetric test, such as the vital capacity, one may be able to distinguish between conditions primarily affecting the volume of gas which can be displaced in or out of the thorax, such as lobar pneumonia or pleural effusion, and those affecting the time required to displace a unit of volume, as exemplified by bronchial asthma. A continuous record of air flow gives additional information. The vital capacity spirogram, probably the most frequently used test of pulmonary function, traces the rate of flow for expiration at maximal speed and amplitude, a breathing maneuver which involves the relationship between two critical factors for appraising ventilation, the application of high pressure throughout the utilizable range of lung volume.

In our experience the most rewarding diagnostic test of ventilatory function is the pneumotachogram, and certainly it is the most interesting in its capacity to exhibit in the pattern of flow the subtle effects of mechanical factors hitherto only suspected. For us such studies in flow have refined and clarified clinical diagnostic evaluation. However, we still hold the position that it will be some time before applied physiology discovers the physical examination.

To appraise the effect of obstructive conditions, one must take into account the dynamics of the airways and a few elementary physical principles governing flow through tubes. It takes pressure to cause flow. That required for quiet breathing in health is very small, but to surmount airway obstruction it can and often does reach levels of plus 80 to plus 120 mm. Hg for expiration and minus 40 to minus 80 mm. Hg for inspiration, respectively. Taking into consideration the cross-section area of the body, the total force with which the abdominal contents may be thrust against the lung bases in a patient with serious expiratory obstruction and distressed breathing may exceed 100 pounds for every expiration! Pressures of this magnitude come into play because of a check valve mechanism which modifies the effect of all obstructing lesions.

From the orifices where air enters the respiratory tract down to the level in the trachea where it enters the thorax, the airways are inspiratory check valves. Manifestations include collapse of the nostrils on sniffing, collapse of the pharynx in snoring, and the click of laryngeal closure in hiccough. Serious closure is normally averted by the action of voluntary muscles, but failure does occur in abductor laryngeal paralysis, acute epiglottitis, bulbar poliomyelitis, and laryngeal swelling. Closure may be due to weakness of dilator muscle, or such muscles may be of normal strength but still be unable to withstand the compression when airways upstream, with respect to inspiratory flow, are obstructed. It is part of the nature of check valves that obstruction so located enhances the tendency to closure. That is why one primes a dry pump with water.

Intrathoracic airways are check valves on expiration. For nearly a century this possibility had been considered since the resulting phenomena were repeatedly observed and meticulously described, but persistent belief in the "passive" nature of expiration led to dismissal of the idea until 1951[1] when it was pointed out that under fluoroscopic observation the intrathoracic trachea and major bronchi exhibited check valve collapse

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during cough the moment the glottis opens; that under certain conditions intrathoracic expiratory obstruction can be rendered virtually absolute if sufficient pressure is applied; and that the most important safeguard is adequate parenchymal recoil to keep the bronchioles open during expiration. Elastic recoil of surrounding parenchyma normally supports the bronchioles against expiratory check valve closure to the same purpose that abductor muscles secure laryngeal patency on inspiration. Complete loss of either safeguard is a major ventilatory disaster.

Larger airways are necessarily subjected to greater compression, being situated downstream with respect to the direction of expiratory flow, but they are armored with cartilage so contrived that they can meet increasing compression with increasing resistance to collapse. Two thirds to three quarters of the circumference of trachea and main bronchi consists of cartilage, the remainder of posterior membrane, which presumably endows these structures with some control over caliber through the action of smooth muscle. The range of contraction must be small and cannot possibly obliterate the lumen or even approach obliteration. Circumferential constriction (with heavy string, for example) to produce marked narrowing has to effect buckling or overlap of cartilaginous plates. William Snow Miller[2] in his monograph, *The Lung*, states that complete cartilaginous rings are to be found in the larger lobar bronchi.

Regardless of structural impediments to active bronchial narrowing, the endoscopic appearance suggests that some degree of concentric respiratory expansion and narrowing occurs which would be compatible with a passive function, that of withstanding the effect of subatmospheric pleural pressure which distends the bronchi, particularly during inspiration. Pronounced change in diameter depends far more on the dynamic and often sudden shifts of intrathoracic pressure, which bring about propulsion of air, rather than on the minor static effect of lung recoil. When the glottis opens to initiate the expulsive phase of cough, the bronchi may collapse to the point of arresting flow and then rebound to a patulous condition—all within one tenth of a second. Notwithstanding such speed bronchial peristalsis has been repeatedly invoked, partly for lack of other discernible cause, partly because the check valve mechanism does "milk" the bronchi with a sort of peristaltic action, and partly because viscid lipiodol may be pushed through the lumen as a fusiform bolus. During expiratory check valve collapse, pressure invaginates the posterior membrane and reduces the lumen to a crescentic slit. The precise shape and, indeed, the degree of collapse produced by pressure from without depends a good deal on the thickness and stiffness of the cartilage.

Final proof that marked narrowing is not due to smooth muscle contraction is to be found in the response of excised lungs devoid of humoral, neural, and muscular influences. Attached to a device such as the Buffalo Cough Caddy which can ventilate or cough the organs with a controllable pressure range up to 40 mm. Hg on inspiration and 120 mm. Hg on expiration, the over-all ventilatory response closely resembles that during life. Visible expiratory check valve collapse of major airways is induced by pressure gradients in keeping with those in life, and the same parallelism obtains in the sequential effects of lung volume, lung recoil, bronchiolar caliber, and bronchiolar resistance to flow. The bronchiole is suited by structure and location to govern the functionally effective cross section of the entire intrathoracic airway system.

Throughout the vital capacity range normal lung resists inflation with a pressure directly proportional to the volume inhaled. Probably the parenchyma tears to some extent in everyone as the years pass, but if dehiscence is considerable, the remaining elements of the complex elastic network, fragmented and slack at their attachments, permit a greater volume of inflation before they can be made to exert countertension. Even at a position of maximum inspiration the pressure to be derived from parenchymal recoil is then low. Parenchymal dehiscence characterizes a condition which has sometimes been called anatomic emphysema because of the structural changes. Serious loss of elastic recoil results from the parenchymal breakdown in advanced anatomic emphysema. Recoil also becomes progressively depleted as a normal person exhales, and depending on certain factors, such as body position, it becomes zero near the expiratory terminus of the vital capacity. From whatever cause loss of recoil enhances the tendency to expiratory check valve closure, permitting bronchiolar collapse.

Lesions intrinsic to the airways themselves and directly encroaching on airway lumina also increase the tendency to check valve closure for

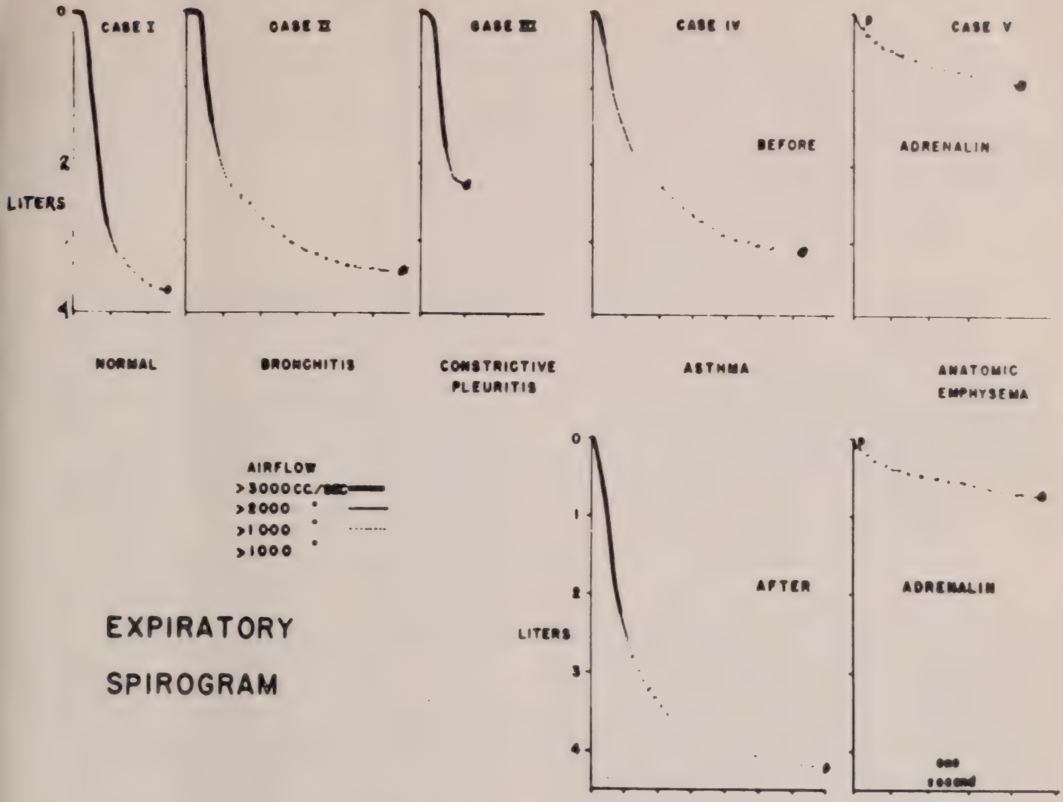

Fig. 1. Expiratory spirograms.

points downstream with respect to the direction of expiratory flow. It is for this reason that breathing during a seizure of allergic bronchial asthma simulates that in severe anatomic emphysema. The same can be said when tumor, stricture, or foreign body obstructs the intrathoracic trachea.

If the spirogram is recorded on a fast-moving drum—2.54 cm. per second is convenient—it brings out in the tracing certain relative differences which are likely to be missed at slower speeds. Knowing time and volume, one can plot slopes for selected rates of flow: 3 L. per second, 2 L. per second, etc. Then a transparent ruler scored with longitudinal parallel lines enables one to spot the portions of the breath expelled at rates of flow in excess of those selected. Rather than grade obstruction by the volume exhaled in an arbitrary period of time, we prefer to express it in the positive terms of the volume exhalable at physiologically useful rates. If 800 cc. can be expelled at rates exceeding 2 L. per second, ventilatory function is adequate for light work in obstructive pulmonary conditions.

The spirographic tracings of Cases I to V exemplify the expiratory pattern of air flow in certain obstructive and nonobstructive ventilatory disorders (Fig. 1):

Case I—This illustrates a normal spirogram at this drum speed. Progressive deceleration is always present to some extent when approaching expiratory termination, even in health. In the zone of reserve air, lung recoil is approaching zero, thereby inviting check valve closure and increased resistance to what is essentially leakage air flow. If the air is expelled by intermittent but higher pressures of successive coughs, the same pattern is traced except for a brief (0.04 second) peak of flow for each cough preceding Point of Closure.

Case II—Mild bronchitis, in this case due to or aggravated by cigaret smoke, can make leakage flow even slower at small lung volume. Wheezing is audible from point indicated by the dots to the end of expiration. The more violent the expiratory effort, the earlier and louder the wheeze is heard and the earlier flow begins to decelerate.

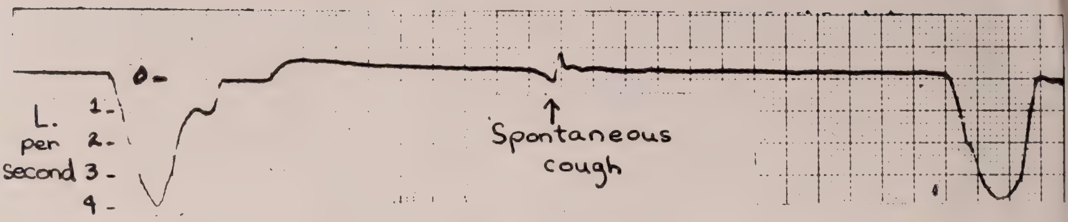

FIG. 2. Maximum inspiration.

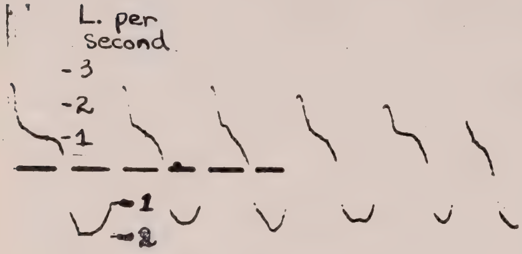

FIG. 3. Hyperpnea.

Case III—This spirogram illustrates volumetric change without airway obstruction, in this case bilateral fibrous thickening of the pleura. Pleural pain, interstitial pneumonitis, and the like can produce a similar spirogram. The chest is usually small, and breathing is by rapid, shallow, frequent respiratory movements.

Case IV—This spirogram is from a patient with allergic asthma. Clinically the attack is marked by slow, labored, noisy expiration at a tidal range close to the maximum inspiratory position. Depressed diaphragm restricts inspiratory movement of important breathing ribs (five through nine). Spirographic pattern reverted nearly to normal when the attack subsided. With reference to expiratory wheezing, the same comment holds as in the tracing for Case II. In both Case II and Case IV the progressive pattern of deceleration indicates that elastic recoil is present over a large tidal range and quantitatively varies with lung volume. Intrinsic airway obstruction is present, although parenchymal integrity is retained. Adrenalin improved but did not eradicate the obstruction.

Note that the important restriction in bronchial asthma is the reduced volume which can be expelled at high rate of flow. Primary disturbance in obstructive respiratory disease is one of flow, not volume.

Case V—This is a spirogram of a patient with advanced anatomic emphysema, "dry type." No cough nor expectoration is present. Expiratory wheeze consists of "prolonged expiration" because flow is virtually nil through tightly compressed airways, and audibility is damped by peripheral bullae. Portions of the diaphragm were inverted. Thoracoabdominal antagonism was pronounced and unalterable. Spirogram traces an erratic course at Point of Closure where violent expiratory effort causes such abrupt check valve closure that the spirometer bell is shaken. This is not coincidence but a consistent feature of the condition which is found when approximately 150 cc. of air have been expelled at maximum speed. Most of this volume consists of dead space air extruded by tracheobronchial collapse. The airways literally snap shut. This maneuver, "bronchial milking," can be repeated with sufficient frequency to nullify the significance of maximum breathing capacity test in such cases. Inspiratory volume in this and other instances of "dry" emphysema is necessarily limited by the ceiling of maximal inspiratory position but can be carried out at good rates of flow which approach normal range. The obstruction is not altered by adrenalin.

CASE F. S.—This patient was referred for treatment of emphysema. The tracings illustrate some of the information to be gained from air flow analysis in the detail provided by the pneumotachograph. Downward deflections indicate inspiratory flow, and 5 mm. of deflection indicate 1 L. per second air flow. It is observed that inspiratory effort at maximal speed and amplitude produced peak flow (°p) of 4 L. per second (Fig. 2). This is immediately followed by a spontaneous cough which reached only 0.8 L. per second peak flow. Moreover, this expiratory flow was followed within 0.06 second by Point of Closure, and leakage flow thereafter was reduced to less than 0.4 L. per second.

The next tracing (Fig. 3) was taken during voluntary hyperpnea, a panting type of breathing which emphasizes rapid acceleration of pressures on both inspiration and expiration. Expiratory pressures, nevertheless, are lower than those prevailing under conditions of cough when pressure is mounted against a closed glottis. It is to be noted that in hyperpnea, expiratory peak flow is considerably higher, and

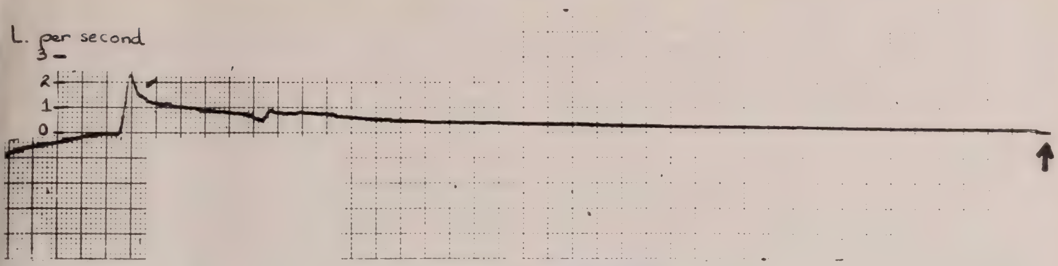

FIG. 4. Maximum expiration.

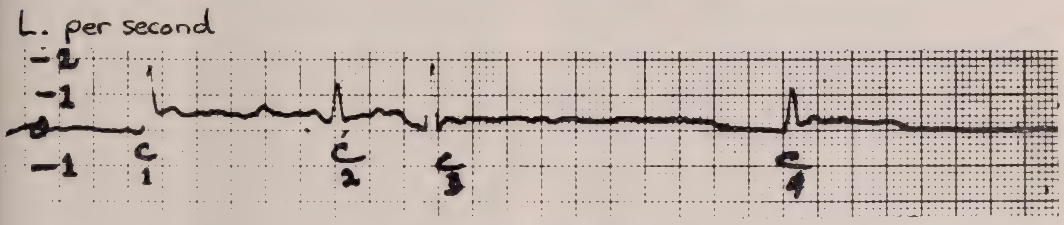

FIG. 5. Successive coughs.

Point of Closure is at approximately 1.2 L. per second.

In the next tracing (Fig. 4) an expiration of maximal speed was initiated from a position of maximum inspiration. Peak flow reached 2.3 L. per second, and Point of Closure was 1.6 L. per second. Leakage flow after Point of Closure continued for nearly nine seconds. There was a progressive decline in the rate of leakage flow.

In the final tracing the lungs had been filled to the position of maximum inspiration, and successive cough was employed to empty the lungs (Fig. 5). Peak flow is again restricted by the greater expiratory effort. Flow at Point of Closure is likewise reduced again to 0.5 L. per second. The second cough shows nothing conspicuous, but the third has a higher peak flow. The reason for this is the momentary pause prior to initiating the expulsive phase. Very often in successive cough the glottis closes far enough to obstruct materially the flow of air and permit the buildup of high intrathoracic pressure; then the glottis is immediately opened. In the third cough of the present tracing, glottic closure was held long enough for the intrathoracic airways to redistend and fill from the parenchyma. In the ensuing cough the expulsive phase prior to Point of Closure shows an augmented volume of air "milked" from the tracheobronchial tree. The same thing occurred in the fourth cough and did so in spite of the fact that lung volume had been partially depleted.

The implications are clear. Expiratory flow was far more limited than inspiratory flow. Application of greater expiratory pressure restricted expiratory flow. This verifies the check valve mechanical nature of the obstruction. The maximal expiratory pressures of cough restricted leakage flow to such an extent that one might think that advanced anatomic emphysema was present. However, there was a detectable decline in leakage flow following cough. With the application of less pressure, as in maximum expiration, the progressive decline of leakage flow was definite. This variability of flow at Point of Closure and the fact that expiratory flow was affected by lung volume and lung tension indicate that the patient retained considerable elastic recoil. In view of this fact, the expiratory check valve mechanism must be contingent primarily on the presence of intrinsic narrowing of the intrathoracic airways themselves. The conclusions were borne out by the results of treatment. After six years of discouragement because he was considered to have irrevocable handicap from anatomic emphysema, he responded to the use of bronchodilators to the extent that he could work as a taxi driver in comfort.

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Discussion

Harold A. Lyons, M.D., *Brooklyn, New York.*—First, we would like to state that we are heartened by the fact that Dr. Dayman has emphasized the value of the clinical examination of the patient in demonstrating the abnormal pulmonary function. We also feel that the clinical examination and the radiologic examination are most important procedures in the evaluation of the pulmonary status of a patient. We employ the x-ray film and a careful fluoroscopic examination, and by observation of the fluoroscopic motion of the lungs, especially in forced expiration, and noting the separation of the finer bronchiovascular shadows or their apposition, we can gain a significant knowledge of the bronchiolar obstruction.

We would also like to emphasize, just as Dr. Dayman has, that a full expiratory radiogram of the chest is necessary for a complete examination. The example that Dr. Dayman has shown illustrates the great value of this method. In addition to these procedures we have also found angiocardiography to be another helpful procedure in the study of pulmonary disease. Often areas of hyperaeration may be delimited by this procedure and not any of the others. It also will give some information relative to the ventilation perfusion relation of an area of the lung.

The expiratory spirogram which Dr. Dayman has discussed has been found to be a most useful procedure in our laboratory. His interpretation of the records showing a decreased elasticity and/or the presence of an obstruction is also in keeping with our own experience and interpretation of these records. We believe that this method of assessment of pulmonary function will be most valuable and certainly is the easier to perform, needs less complicated and less expensive apparatus, and is also reproducible and requires minimal patient cooperation. For all of these reasons we believe that it is a better method than the maximum breathing capacity and perhaps even will replace the maximum breathing capacity. We can only say that we are in full agreement with Dr. Dayman's interpretation and use of the expiratory spirogram.

We have profited from the extensive experience of Dr. Dayman with the pneumotachogram and his careful analysis of patterns of flow. The emphasis which he has placed on the mechanical factors and his making us familiar with the expiratory check valve mechanism on the terminal bronchioles have given us a great insight into the events that are taking place. Proctor has reported similar findings, which are in complete agreement with those presented this morning. Rienzo, with his studies of dynamic bronchography, has given us visible evidence of the check valve mechanism that occurs on expiration in obstructive emphysema. (*Two lantern slides were shown.*) The first slide illustrates a recording of intraesophageal pressure and flow on maximum expiration in a normal subject. One can see the maximum peak of flow attained with very small pressure; that flow continues even as the intraesophageal pressure rises, and then both end at the same moment. In contrast to this pressure-flow relationship, in the next slide one can see in this emphysematous subject a small peak of expiratory flow. Then as the intraesophageal pressure continues to rise, there is a sudden cessation of flow to 0, even while the pressure continues to rise. This demonstrates the mechanism which Dr. Dayman has described to us of a check valve mechanism abruptly causing the cessation of expiratory flow. No matter how much additional pressure this patient can exert, no further flow is possible. This dramatically illustrates how the transpulmonary pressure exceeds the intraluminal bronchiolar pressure, causing complete collapse of the bronchiole. This, I think, indicates how completely we are in agreement with Dr. Dayman's concepts of the mechanical involvement.

A word is to be said about the work of breathing which Dr. Dayman has mentioned. This last slide illustrates that no matter how much work this patient puts into respiration, nothing further can be gained. Thus, that work, as already pointed out, depends on other states of respiration. Work of breathing is not a very good measure, and we believe that the force exerted for respiration is a much more important measurement than the measurement of work. This has more meaning than work.

Gustav J. Beck, M.D., *New York City.*—The stunning complexity of pulmonary function tests employed in the modern cardiopulmonary laboratories testifies to the intricacies involved in the quantitative expression of the patient's symptoms, signs, the cause of his disability, his exercise tolerance, and his response to therapy. The multiplicities of these laboratory examinations are also testimony to the fact that no single test is available which will give us a clear image of the subject's respiratory status. The interpretation of a so-called "complete" respiratory function report in some instances results in a Quixotic illusion of mistaking an array of figures for experience and wisdom. Dr. Dayman has confessed that it will take the respiratory physiologist a long time before discovering the intrinsic value of the physical examination.

He has also found fluoroscopy one of the most useful means of arriving at a functional diagnosis. A mediastinal shift, visualized fluoroscopically in unilateral emphysema, gives evidence of the marked interference with ventilatory gas exchange which cannot be discovered by differential bronchospirometry because of the innate nature of this procedure. By occluding each main stem bronchus separately, the effect of paradoxic expiratory inflation and inspiratory deflation of the affected lung portion becomes obscured. Only physical examination or fluoroscopy affords us a means of determining the activity of the diaphragm during respiration. Clinicians are aware of the hyperactivity of the thoracic cage and accessory muscles in most types of respiratory insufficiency. Yet no function test has yet been devised which can separate the ventilatory effects of thoracic, diaphragmatic, or accessory muscle respiration. "Shortness of breath" is reported by patients and observed by physicians many times in daily practice. Still, no clear explanation of the physiologic nature of dyspnea has been developed by pulmonary physiologists.

The physiologic concepts developed by Dr. Dayman from his thorough studies of bronchial dynamism by means of spirographic and pneumotachographic analysis of quiet breathing, coughing, and the vital and maximum breathing capacity have been amply confirmed. The nature of the check valve mechanism, suspected since Laennec's original treatise on emphysema, can be very well demonstrated by the procedures outlined by Dr. Dayman.

These tests have been most useful to my collaborators, Drs. Barach and Bickerman, and me in the confirmation or disproving of the soundness of therapeutic procedures. The increase in the volume expired during the first two to three minutes of a vital capacity has been a valuable test in the determination of the effectiveness of bronchodilator aerosols, continuous positive pressure breathing, oral bronchodilators, adrenal hormone therapy, or elimination of secretions by means of exsufflation with negative pressure. Similarly, the pneumotachograph in quiet respiration, during a natural or mechanically induced cough, and in hyperventilation has provided a valuable means of quantitatively expressing the patient's response to the various therapeutic measures. The disappearance of the check valve closure notch found in the expiratory pneumotachogram during a therapeutic procedure such as continuous positive pressure breathing in pulmonary emphysema, where ventilation takes place in a more inspiratory position and where the diameter of the entire bronchial tree is expected to be increased, is proof not only of improved alveolar ventilation but also of the original concept of inadequate ventilation due to check valve mechanisms existing in the bronchioles.

The one additional laboratory examination which has been shown to have an extremely high correlation with the clinical severity, progress, or improvement of the patient with chronic pulmonary disease is the determination of the difference of the minute volume during quiet respiration when breathing air and breathing 100 per cent oxygen. Bickerman and Barach have reported an excellent correlation of the decrease and increase of this difference in pulmonary ventilation with improvement or increase in severity of symptoms, respectively, in pulmonary emphysema.

Clinical Application of Studies of the Physiologic Disposition of Thiopental

LESTER C. MARK, M.D., AND J. J. BURNS, PH.D.,* NEW YORK CITY, BERNARD B. BRODIE, PH.D.,*
BETHESDA, MARYLAND, AND E. M. PAPPER, M.D., NEW YORK CITY

(From the Department of Anesthesiology, Columbia-Presbyterian Medical Center, and New York University Research Service, Goldwater Memorial Hospital, New York City, and the Laboratory of Chemical Pharmacology, National Heart Institute, National Institutes of Health, Bethesda, Maryland)

The clinical use of a drug is largely empiric until its physiologic disposition and chemical fate in the body are known. Some of this information concerning thiopental has already been reported.[1] It was shown that thiopental is metabolized very slowly in man at a rate of only 10 to 15 per cent per hour. The rate of chemical transformation is not altered by the use of adjuvant drugs, such as nitrous oxide, morphine, and curare. Plasma concentrations of thiopental bear no fixed relation to the signs of anesthesia. For example, the conjunctival reflex reappeared at a plasma level of 17 mg. per L. ninety minutes after a 2-Gm. dose of thiopental given intravenously and at a plasma level of 26 mg. per L. two hundred minutes after completion of a 3.25-Gm. dose in the same patient. We are now reporting the results of the most recent studies of thiopental, which have per-

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* By invitation.

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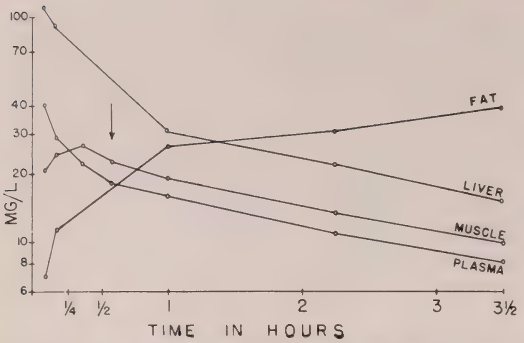

Fig. 1. Tissue thiopental levels after 25 mg. per Kg. intravenously in five minutes.[3]

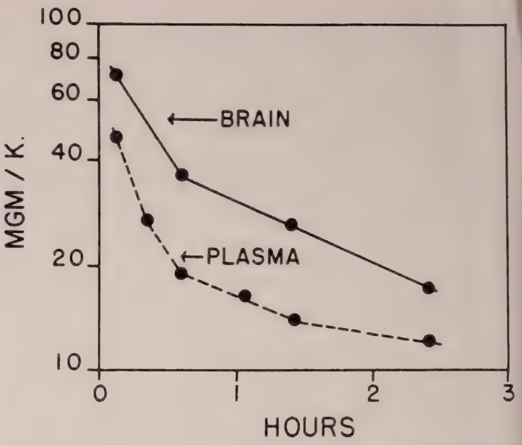

Fig. 2. Thiopental levels in dog after intravenous injection of 40 mg. per Kg.[4]

mitted more precise definition of the range of usefulness of this drug in clinical anesthesia.

Thiopental was administered intravenously to dogs in doses of 25 mg. per Kg. over a period of five minutes, and at various time intervals thereafter samples of plasma, liver, gluteus muscle, and lumbodorsal fat were taken for analysis by the method of ultraviolet spectrophotometry previously described.[2] The concentrations of drug in liver and plasma were found to be maximal immediately after its administration, whereas the drug concentrations in muscle, although also high, continued to rise further for a short period (Fig. 1).[3] Liver, muscle, and plasma concentrations then declined in parallel fashion, rapidly for the first hour and then more slowly. On the other hand, concentrations in fat were negligible at the beginning of the experiment but rose rapidly to a peak in about three hours. Fat levels then fell gradually, parallel to, although about ten times higher than, those in liver, muscle, and plasma.

The extent of fat storage of thiopental is worthy of emphasis. The total amount of thiopental deposited in fat may be calculated by multiplying the total fat in the body by the average concentration of the drug in fat. The thiopental content of the rest of the body may be approximated by multiplying the fat-free phase or lean body mass by the average concentration of drug in tissues. The lean body mass may be calculated from total body water as measured by antipyrine; the fat phase is the total body weight minus the lean body mass. The application of these calculations to two dogs indicated that about 70 per cent of the anesthetic agent remaining in the body after three hours was localized in fat.

Since the desired clinical effects of thiopental are exerted on the central nervous system, it was considered particularly pertinent to study the passage of thiopental into the brain. Craniotomies were performed in dogs during cyclopropane anesthesia. The cyclopropane was then blown off rapidly, and thiopental, 25 mg. per Kg., was administered intravenously. At various times thereafter, samples of brain and plasma were taken and analyzed for their thiopental content. Maximal concentrations of drug appeared in the brain almost instantaneously (i.e., within one or two circulation times) after injection (Fig. 2).[4] The brain and plasma concentration time curves fell in a parallel fashion and in the manner described above for plasma, liver, and muscle (Fig. 1).

It should be noted that thiopental concentrations in the brain resemble those in the other organ tissues and plasma rather than those in fat depots, even though the brain is relatively high in lipid content. This is readily understood when it is recalled that the major part of the lipid material in brain is not neutral fat but consists largely of phospholipids and cholesterol used in the structural organization of the cells.

The question has arisen as to whether there is selective localization of thiopental within the various components of the central nervous system. Three dogs were sacrificed by the intravenous injection of saturated potassium chloride solution, which produced immediate cardiac standstill thirty seconds, twenty minutes, and twenty-four hours, respectively, after the intravenous administration of thiopental in suitable dosage. The brains were removed intact, and various portions were analyzed for

TABLE I.—Distribution of Thiopental in Various Brain Areas of Dogs

Dog 1 received 20 mg. per kg. intravenously and was sacrificed 30 seconds later. Dog 2 received 25 mg. per kg. and was sacrificed in 20 minutes. Dog 3 received 65 mg. per kg. and was sacrificed in 24 hours

	Concentration of Thiopental (Mg. per Kg.)		
	Dog 1	Dog 2	Dog 3
Cerebral cortex	42	29	16
Diencephalon	43	29	18
Cerebellum	40	26	15
Pons and medulla	38	30	18
Plasma	29	20	16

their thiopental content. Thiopental concentrations in cerebral cortex, diencephalon, cerebellum, and pons and medulla were essentially uniform (Table I).

These data indicate that thiopental passes into all parts of the brain with extraordinary rapidity, apparently unhindered by the blood-brain barrier. Indeed, it seems probable that the rate of passage of thiopental into the brain is limited only by the rate of cerebral blood flow in a manner similar to that of nitrous oxide and other gases.

Courtin[5] has presented electroencephalographic confirmation of these findings. Within twenty-five seconds after the intravenous administration of 250 mg. of thiopental to an unpremedicated volunteer subject, the preanesthetic electroencephalographic pattern was altered to the configurations characteristic of levels I and II of the Kiersey-Bickford-Faulconer classification.[6] Frumin and Schweiss[7] have confirmed this observation in our own laboratories. The prompt onset of drug-induced changes in the electroencephalogram correlates well with the biochemical data described above, reinforcing the conclusion that there is no barrier to the free passage of thiopental into the brain.

In clinical practice the effects of thiopental are usually modified by the presence of other drugs. Nitrous oxide, the nonvolatile analgesics, and the muscle relaxants are most commonly used for this purpose. It is possible to achieve prolonged analgesia and relaxation of muscle with thiopental alone but only in doses which must be considered excessive. In general, it is recommended that thiopental be administered in dosage sufficient only to provide basal hypnosis or sedation. Other agents should be given to produce analgesia and muscular relaxation. Indeed, the unsupplemented use of thiopental is rarely justifiable except perhaps for minor operative procedures of very short duration, such as momentary manipulation of a fracture or brief incision of an abscess, in an otherwise healthy patient.

Apart from the adjuvant agents and other considerations, such as adequacy of ventilation and fluid replacement, the course of clinical anesthesia with thiopental is governed by three factors inherent in its physiologic disposition: (1) no blood-brain barrier, (2) rapid fat localization, and (3) slow rate of metabolism. The prompt onset of sleep following a small dose of thiopental is due to speedy penetration of drug into the central nervous system. The short duration of action after a small dose is due to rapid fat localization with consequent reduction in plasma and brain concentrations; as diffusion equilibrium is established between tissues and fat, the plasma level soon falls below that necessary for anesthesia, and the patient awakens. However, after a large dose or after repeated small doses the resultant equilibrium plasma level is above the anesthetic level and is in fact maintained there by the considerable reservoir of the drug in fat. Because of the slow rate of metabolism of thiopental, anesthesia and depression then continue for a prolonged period of time, resulting in the problems of maintenance of circulatory efficiency, airway patency, and ventilatory adequacy.

The absence of a blood-brain barrier to thiopental may be useful or dangerous. Additional injections of thiopental into the bloodstream cross into the brain without delay and produce a rapid effect on the patient; this makes for heightened controllability of the depth of anesthesia. It is also a safety factor that there is less likelihood of gross overdosage with a drug whose onset of action is prompt than with one whose action is delayed, all other things being equal. However, no protective barrier exists to prevent the sudden flooding of incautiously administered thiopental into the central nervous system in elderly, toxic, cachectic, or otherwise poor risk patients. Respiratory depression, airway obstruction, anoxia, circulatory collapse, and even death may be the result.

Summary

1. There is no barrier to the passage of thiopental into the brain.

2. Rapid recovery from a small dose of the drug is not due to rapid biotransformation but to

localization in fat depots.

3. The prolonged depressant effects of repeated or sustained administration of thiopental are due to its slow rate of metabolism in the body.

4. Thiopental is recommended chiefly for basal hypnosis or sedation supplementary to the use of other anesthetic agents and technics.

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Discussion

Merel H. Harmel, M.D., *New York City.*—Seven years ago at the meeting of this Society in Buffalo, I also had the opportunity to discuss a paper by Dr. Mark and his associates. Up until that time quantitative studies on thiopental were less than meager, and the work then presented represented a milestone in the application of quantitative studies for this widely used agent. It is a source of real gratification to learn that questions raised then have now been definitively answered. The rapidity with which thiopental enters the brain has been clearly established together with the fact that this agent is relatively evenly distributed throughout various areas of the brain, as was found by Koppanyi[a] in the case of pentobarbital.

It would now appear that the explanation of Himwich *et al.*[b] for the phylogenetic depression of the brain by thiopental cannot be explained through the supposed variations in cerebral circulation to the cortex and subcortex but, rather, that this depression represents the differences in reaction of the various brain areas to a potent anesthetic agent in no wise different from the reaction of the brain to other general anesthetics. This would also appear to support the concept that the phylogenetic manifestations of cerebral depression are related to the differences in the chemical composition, enzyme content, and rate of utilization of essential metabolites in the different anatomic regions of the brain. This was pointed out by Hubbard and Goldbaum[c] in their interesting paper which predates the present work. They also showed, as found in Dr. Mark's experiments, that in the range of plasma concentrations of thiopental the distribution of this agent was equal throughout the brain. However, it is also interesting to note that these authors claim increasing differences in various areas in brain and spinal cord, particularly the thalamus, associated with higher plasma levels of thiopental. The possible implications of this finding in terms of barbiturate poisoning, especially with pentobarbital which behaves similarly to thiopental in its tissue distribution, is worthy of comment.

The further delineation of the distribution of thiopental in various body tissues, particularly the manner in which this takes place in the fat phase of the body, fits in very well with what, on reflection, we might presume about the distribution of this lipophilic agent. The well-known paucity of circulation to body fat compared with the circulation to other body tissues might well account for the character of the distribution curves which Dr. Mark and his associates have detailed so beautifully. One wonders whether the prolongation of the effects of thiopental and the slow excretion of this agent are dependent on its storage unchanged in the large fat reservoir of the body and slow release via the circulation. These studies lead one to many areas of speculation and help in unraveling to some extent the mysteries of the anesthetic processes.

Furthermore, as Dr. Mark has correctly observed, the clinical implications become strikingly apparent. Quantitative pharmacologic documentation can now become the basis for what was empiric practice in the clinical use of this agent. The rationale pointed out by Dr. Mark for limiting the dosage of thiopental and employing it chiefly for basal hypnosis or sedation supplementary to the use of other anesthetic agents and technics has been made clear.

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Sesquicentennial Meeting — February 18 to 21, 1957

RECENT ADVANCES IN MEDICINE AND SURGERY

A series of review articles dealing with medical progress

ROBERT TURELL, M.D., *Editor*

Recent Advances in Adrenal Physiology and the Management of Addison's Disease

ABBIE INGALLS KNOWLTON, M.D., JOSEPH W. JAILER, M.D., AND CALVIN H. PLIMPTON, M.D.,
NEW YORK CITY

(*From the Department of Medicine, Columbia University College of Physicians and Surgeons, and the Presbyterian Hospital*)

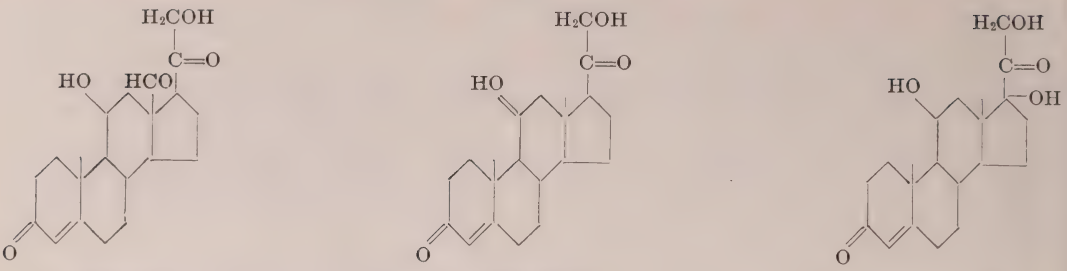
The expansion of our knowledge of adrenal physiology, which has progressed and is still progressing at an extraordinary pace, has been set forth in a number of recent reviews.[1-4] Of particular interest have been the identification of the steroids comprising the adrenocortical hormones, clarification of the mechanisms regulating adrenal secretion, and the more exact definition of body functions subject to adrenal influence. Recent studies have also increased our understanding of the relative activity of certain recently available synthetic steroids and those occurring naturally in the gland. It is the purpose of the present communication to summarize these recent developments briefly and to consider what revisions these have brought about in the replacement therapy of Addison's disease.

Nature of the Adrenal Cortical Hormone

Over the past two decades a bewildering number of steroids have been isolated from adrenal tissue. Work of the last few years has defined which of these are found in adrenal vein blood, i.e., which actually constitute the adrenal secretion. From the large number three emerge as being of major physiologic importance: hydrocortisone, corticosterone, and aldosterone. Hydrocortisone is present in the largest quantity in man. As determined by the Porter-Silber reaction, the average normal values in peripheral blood of man have ranged from 6 to 16 gamma per 100 ml.[5] Silber[6] has estimated that some 22 mg. of this steroid are secreted by the adrenals daily under "normal" circumstances, while Thorn[7] has measured the urinary excretion of corticoids during eight hours of maximal stimulation with ACTH and found it to be equivalent to that produced by an infusion of 12 mg. per hour of hydrocortisone. Projected over a twenty-four-hour period, this would mean an excretion of about 300 mg.

Corticosterone is present in smaller amounts than hydrocortisone. Using a fluorescence technic, Sweat[8] has reported an average of 4.3 gamma per 100 ml. of corticosterone, while the similarly obtained value for hydrocorticosterone was 10.8. The relative amounts of these two steroids were found to vary from patient to patient.

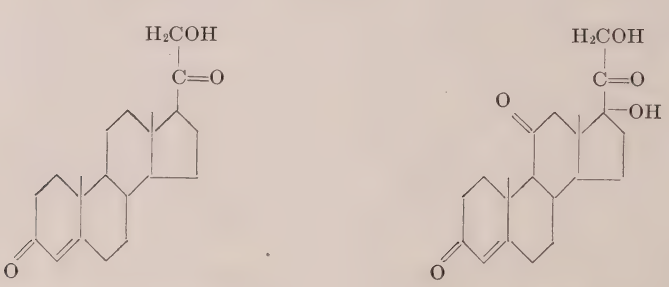
Compared to these two steroids, the amount of aldosterone in circulating blood is indeed small. Simpson and Tait, who with Wettstein, Neher,



Aldosterone
Electrocortin

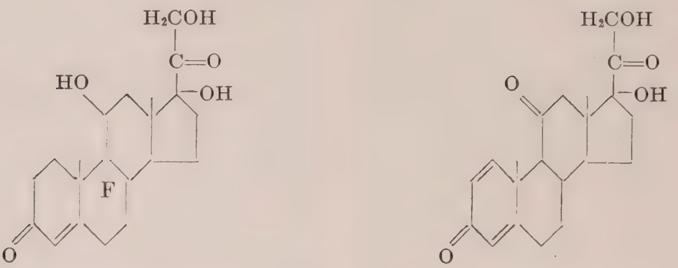
Corticosterone
Compound B of Kendall

Hydrocortisone
Compound F of Kendall



Desoxycorticosterone
DOC

Cortisone
Compound E of Kendall



9 Fluorohydrocortisone
9 a Fl F

Prednisone
Δ_1 cortisone
Meticorten

FIG. 1. Chemical structures of adrenal steroid hormones.

Von Euw and Reichstein[9] succeeded in isolating this most recently identified steroid in 1953, have calculated that peripheral blood normally contains 0.08 gamma per 100 ml.[10] Despite its presence in minute amounts the compound must be considered of major importance because of its extraordinary physiologic potency.

The chemical structure of these three steroids which occur in significant amounts in the adrenal effluvate are shown in Fig. 1. Four additional steroids have been included. In the second row are cortisone and desoxycorticosterone (DOC); both compounds have been widely used therapeutically. Both substances have been isolated from adrenal tissue. However, DOC has not been identified in human blood, and although cortisone has been found, most workers agree that it does not contribute significantly to the adrenal secretion. The last two steroids shown have been prepared within the past two years[11,12] and are not known to occur naturally in the body. The compound 9-alpha-fluorohydrocortisone (Fl F or 9a Fl F) is the most active member of a family of related compounds in which a halogen radical has been incorporated into the steroid nucleus. Bromo-, chloro-, and fluoro-substituted hydrocortisone, cortisone, and corticosterone have been studied. The last steroid shown is prednisone (delta-1-E) or meticorten, which differs from the parent compound, cortisone, structurally only in the possession of a second double bond in the first ring of the steroid nucleus. This and Fl F have been included because both have specific usefulness therapeutically, as will be evident in the following discussion of their physiologic activities.

Control of Adrenal Secretion

The dependence of the adrenal on the anterior pituitary gland has been known since 1916 when Smith first showed that the adrenals became atrophic when the pituitary was ablated. Within the last few years Sayers has clarified the interrelationship of these two glands, demonstrating that reduction in circulating adrenal hormone, such as follows adrenalectomy, leads to increased output of adrenocorticotropic hormone (ACTH) production, while excessive amounts of adrenal hormone, such as occur when pharmacologic doses of cortisone are administered, result in decreased ACTH production.

In response to ACTH the adrenal output of hormone increases within a matter of minutes, and the speed of the response has raised the question as to whether, in addition to the "humoral" control, one or more other mechanisms might exist. It has been suggested that epinephrine could act as a trigger for the release of ACTH, but recent studies[13,14] have been unable to document any rise in circulating blood corticoids in man after the administration of this medullary hormone. Another possibility, suggested by Harris, is that a neural or neurohumoral mechanism may facilitate the release of ACTH. Both Ganong and Hume[15] and McCann[16] have reported that after certain hypothalamic lesions have been produced, the normal response to stress is lost, and McCann and Sydnor[17] have found that such animals do not show the normal increase in pituitary ACTH following adrenalectomy. Most interesting in this regard are the recently published tissue culture studies of Guillemin and Rosenberg[18] in which ACTH could be demonstrated after sixteen or more days only in the anterior pituitary cultures which were grown with hypothalamic tissue. From such studies it is clear that the hypothalamus has an important influence in the elaboration and/or release of ACTH, although the fact that significant amounts of ACTH can be discharged from anterior pituitary tissue transplanted to the eye[19]—hence free of any neural connections—makes it unlikely that the hypothalamus is necessary for the release of ACTH under all circumstances.

In response to ACTH the adrenal output of steroids is increased. This output includes primarily hydrocortisone and corticosterone. Determining the plasma 17-hydroxycorticosteroids, to which hydrocortisone is the principal contributor, Eik-Nes[20] has reported a two to sevenfold increase in these substances following an infusion of 25 mg. of ACTH, and Sweat[8] found that the increase in corticosterone-like steroids paralleled that in hydrocortisone-like compounds.

Unlike these two steroids the amount of aldosterone is not measurably increased by ACTH in man,[10] which suggests that another mechanism is involved in the stimulation of this sodium-retaining steroid. Laragh and Stoerk[21] have found that a high potassium intake or one in which the amount of this cation is high in relation to sodium provokes aldosterone secretion, while Liddle, Bartter, Duncan, Barber, and Delea[22] have considered that a decrease in extracellular fluid volume is the important stimulus.

Physiologic Activity of Adrenal Steroids

Under normal circumstances the adrenal hormone plays a highly important but unobtrusive role in a variety of body functions. A number of physiologic activities which are strikingly influenced by changes in adrenal secretion are listed in Table I. The individual steroids which make up the adrenal effluvate vary among themselves in the extent to which each influences the different functions listed. Throughout the table the activity of cortisone has been arbitrarily considered as unity and the activity of the other steroids compared to it as a standard. The table has been compiled from work published by a number of different authors, and insofar as space permits, the source of the data is indicated in the last column of the chart.

SODIUM AND POTASSIUM.—Baumann and Kurland were the first to show that the serum sodium fell after adrenalectomy in animals, and in 1932 Loeb reported a similarly low sodium concentration in a patient with Addison's disease. The fall in serum values was shown by Loeb and later by Harrop to be accompanied by a renal wastage of this cation. Pitts has pointed out that the decrease in the reabsorption of sodium

TABLE I.—ACTIVITY OF STEROIDS WITH RESPECT TO CERTAIN ADRENAL CORTICAL FUNCTIONS

Adrenal Cortical Influence on	Aldosterone	Corticosterone	Hydrocortisone	Desoxycorticosterone	Cortisone	9-alpha-hydrocortisone	Prednisone
Sodium and potassium maintenance, adrenalectomized dog test[27–31]	400 to 800[1]	...[2]	1	20 to 40	1	200	...[2]
Renal function							
Tubular reabsorption of sodium[32–40]	↑	...	↑	↑	↑	↑	...
Glomerular filtration rate							
Physiologic doses	↔	...	↑	↔	↑	↔	...
Pharmacologic doses	↑	...	↑	↑	↑	↑	...
Over-all renal effect on sodium balance	+	+	±	+	±	+	±
Excretion of water[35–39,41–47]	0 to ↑	...	↑	0	↑	↑	...
Carbohydrate metabolism—glycogen deposition test[11,12,50–53]	0.3	0.5	1 to 1.5	Negligible	1	10	4
Protein metabolism							
Thymic involution[53–55]	...	...	1 to 1.5	0	1	10	4
Anti-inflammatory activity in rhematoid arthritis[56–60]	0	...	1.25	0	1	±10	3 to 5
Urinary excretion							
17-Ketosteroids[7,41]	↔	↔	↓	↔	↓	↓	↓
17-Oxyhydrocortisone[43,46,58,59,61–64]	↔	...	↑	...	↑	↓	[↓][3]
Circulatory system "work tests"[65–68]	[1][4]	<1	2	Very slight	1	...	...
Blood pressure[56,69–71]							
Without sodium	...	↔	↑	↔	↑	↑	↑
With sodium	↔	...	↑	↑	↑	↑	↑

[1] Each number listed relates activity of the steroid under consideration to activity of cortisone, which is arbitrarily considered as 1.

[2] Steroid not evaluated by this particular assay.

[3] Serum 17-oxyhydrocorticosterone values somewhat reduced by prednisone and characteristic rise after ACTH prevented.[59]

[4] Not evaluated by Ingle work test but by ability to enable animal to withstand cold.[68]

from the renal tubule which becomes evident in the absence of adrenal hormones is of the order of less than 2 per cent; however, the amount of filtrate presented to the tubule is great enough so that this 2 per cent decrease can result in impressively large losses of sodium within a short space of time. In addition to their influence on the kidneys, the adrenal hormones also influence the amount of sodium in sweat,[23] stool,[24] and saliva.[25] Apart from this influence on body secretions, the adrenal hormones also affect the distribution of this cation within the body compartments.[26] Secondary to the abnormal handling of sodium in adrenal insufficiency, a well-known train of events ensues: retention of potassium, loss of water, diminution in extracellular fluid volume, which, as the situation progresses, is reflected in a reduced blood volume, reduced renal blood flow and filtration rate, retention of nitrogen, hemoconcentration, fall in blood pressure, and ultimately shock and death. This series of events can often be reversed simply by the administration of liberal amounts of sodium chloride and water.

All the steroids under consideration influence the metabolism of sodium and potassium, although the extent of this influence varies greatly, as will be seen in Table I. The figures given in the table are derived from experiments of Swingle[27,28] in which the separate steroids were compared by establishing the lowest daily dose of each which would maintain an adrenalectomized dog in satisfactory condition "clinically" and chemically. The authors established that as little as 6 to 12 gammas of aldosterone per day provided sufficient hormone, whereas 5,000 gammas of hydrocortisone were needed to obtain a similar effect. Corticosterone has not been studied in this type of experiment; in humans its activity has been reported to be greater with respect to sodium retention than cortisone, although Jailer and Perera found it actually to be less and also less than hydrocortisone in two patients (unpublished observations). Certainly the potency of corticosterone is far less than DOC. In this type of long-term assay aldosterone is approximately 20 times as potent as DOC; in more acute experiments values of one hundred twenty-fold have been obtained.[29] The incorporation of a halogen into the steroid nucleus radically alters the sodium-retaining capacity of hydrocortisone. Only 14 to 28 gammas of Fl F were needed for maintenance, making this synthetic steroid some 200 times as active as the parent compound in the dog and close to that of aldosterone itself. Delta-1-E has not been subjected to this particular assay; in another type of chronic assay modest degrees of sodium retention have been recorded, while in acute experiments none has been noted.[30,31]

Renal Function.—The adrenal cortical effect on renal function is intimately linked with the effect on sodium and potassium metabolism. As a generalization it may be said that all the steroids listed in Table I increase the renal tubular reabsorption of sodium. This is particularly true of the steroids most active in the abovementioned assay, but it is also exhibited, although much less impressively, by hydrocortisone and cortisone. It is not surprising then that all these steroids in physiologic doses will secondarily increase toward normal the glomerular filtration rate of adrenalectomized animals from the very low levels seen in insufficiency, the improvement reflecting the restoration of a normal blood volume. Moreover, in pharmacologic doses all these steroids may elevate the filtration rate above normal. However, there exists a considerable range of dosage with aldosterone, DOC, or Fl F in which marked tubular reabsorption of sodium can be demonstrated without accompanying alteration in filtration rate. In contrast to these steroids, with most doses of cortisone or hydrocortisone which have any tubular effect, there do occur increases in filtration rate. Hence, the over-all effect of these two groups of steroids is somewhat different: the group characterized by aldosterone consistently producing sodium retention, while the other group may lead to retention if the tubular action predominates or to augmented excretion if the increased amounts of sodium presented to the tubules as a result of the rise in filtration rate exceed the weak tubular reabsorbing action.[32-40]

A characteristic feature of the adrenalectomized state is an inability to excrete a large volume of orally ingested water as rapidly as normal. Robinson, Power, and Keppler have described a test of adrenal insufficiency based on this abnormality. No repair of this abnormality occurs in patients treated with DOC or even with aldosterone[41,46] although the latter compound is effective in protecting rats against water intoxication.[39] In contrast, cortisone, hydrocortisone, and Fl F each tend to improve water excretion.[42-44] This improvement is not wholly dependent on an increase in filtration rate.[42,35]

Carbohydrate Metabolism.—The occasional occurrence of marked hypoglycemia in the patient with Addison's disease and the high incidence of a diminished glucose tolerance in the patient with Cushing's syndrome point up the fact that the cortical hormones exert an influence on the handling of carbohydrates. These hormones facilitate the formation of carbohydrate from noncarbohydrate sources, i.e., protein, although the amount of glucose produced appears greater than can be attributed to this source alone. However, there is no convincing evidence that there is a diminished utilization of glucose.[48,49] In the adrenalectomized animal abnormalities in sugar metabolism become evident only under conditions of starvation when a capacity for gluconeogenesis is needed. At such times liver glycogen becomes severely depleted, and blood glucose falls. One way in which the activity of individual steroids in carbohydrate metabolism may be measured is by determining the amount of liver glycogen present in adrenalectomized animals injected with the compound in question, the so-called liver deposition test. Table I shows the comparative activities of the several steroids under consideration.[11,12,50-52]

Protein Metabolism.—For purposes of discussion this has been listed separately from carbohydrate metabolism. Actually, the influence of the cortical hormones on these two phases of metabolism are intimately related, as may be surmised from the fact that the activity of the individual steroids under these two headings is identical. In the absence of the cortical hormones there is a diminished ability to mobilize body protein, while with excessive quantities of circulating hormone there is both a greater than normal breakdown of formed protein and also a decrease in the laying down of new protein. One tissue which is particularly responsive to this adrenal activity is the lymphoid system, and the degree of lymphoid involution may be used as an assay. The activity of the individual steroids as measured by this criterion parallels not only the activity with regard to glycogen deposition but also the observed clinical therapeutic effectiveness of these compounds in rheumatoid arthritis.[55-59]

This latter observation suggests that it is by virtue of their influence on carbohydrate and protein metabolism that steroids are of use in situations where an anti-inflammatory effect is desired. On the basis of its protein effects Fl F should be, milligram for milligram, the most effective anti-inflammatory agent of the steroids shown; however, its usefulness is severely limited because of the intense sodium retention which the compound induces. Prednisone, on the other hand, although not very much more active an inflammatory steroid than cortisone, promises to be of greater therapeutic use because of its minimal capacity to effect sodium retention. Corticosterone differs somewhat from the abovementioned steroids in that it has little anti-inflammatory effect, although it has considerable activity with respect to carbohydrate and protein metabolism.

Those compounds which exhibit marked changes in carbohydrate and protein metabolism cause striking adrenal atrophy in experimental animals[60] secondary to suppression of endogenous ACTH. This observation has clinical import since patients receiving large doses of steroids may become subject to acute adrenal insufficiency if the administered hormones are abruptly withdrawn. Some indication of the degree of adrenal suppression induced by the different steroids can be arrived at by examining the urinary output of patients receiving these compounds for 17-ketosteroids and 17-hydroxycorticoids, since these reflect the level of endogenous adrenal function. As might be expected, no change in the excretion of these substances occurs in patients given aldosterone or DOC. In patients receiving sufficiently large doses of cortisone, hydrocortisone, or Fl F, a reduction in the 17-ketosteroids has been observed. A similar decrease in the urinary 17-hydroxycorticoids occurs in patients given Fl F,[43] and in patients receiving prednisone. Christy, Wallace, and Jailer[59] observed failure of the plasma corticoids to rise following ACTH stimulation, another indication of adrenal suppression. In patients treated with cortisone and hydrocortisone a decrease in 17-hydroxycorticoids is masked by the end products of the administered compounds (11-oxygenated 17-ketosteroids and tetrahydrocortisone and hydrocortisone), which contribute sufficiently to the determination of both the 17-ketosteroids and 17-hydroxycorticoids so that the measured excretion appears increased.

Again, it is by virtue of their effects on protein metabolism and by modifying normal tissue responses that the steroids are of use in allergic states and in many of the other disease conditions in which therapy with these agents has proved useful. At the same time it is notable that it is by virtue of this same metabolic activity that the problems of prolonged steroid administration arise: the increased susceptibility to and decreased ability to localize infections, the masking of infectious osteoporosis, peptic ulceration, etc.

Circulatory System.—The adrenal cortical hormones exert an ill-defined but important influence on the circulatory system over and above the changes secondary to hemoconcentration. With the development of adrenal insufficiency the blood vessels of an adrenalectomized animal lose their ability to respond normally to norepinephrine,[65] i.e., a constrictor response cannot be developed repeatedly. The normal performance of the "work test" of Ingle depends to a considerable degree on intact vascular responses. In this test muscle from an adrenalectomized rat is isolated, attached to a weight, and then subjected to repeated stimulation. The untreated adrenal preparation is unable to respond with muscular contractions as long as could a normal animal, the loss of the ability to contract being preceded by circulatory failure.[66] As measured by this type of assay, the activity of the several steroids studied is quite similar to that observed in tests of carbohydrate and protein activity.[67] Aldosterone has not been studied by this technic, but in another assay also involving subjection to stress, i.e., the ability to survive in the cold, it has proved as effective as cortisone.[68]

Blood Pressure.—Each of the adrenal cortical steroids, insofar as it restores a normal circulating blood volume, will raise the reduced blood pressure of the untreated adrenalectomized animal toward normal; given in excessive amounts certain of these steroids may produce hypertension. With DOC a liberal sodium intake is necessary in order for the hypertensive effect of the compound to become evident; with cortisone and hydrocortisone this effect is independent of the amount of sodium available in the diet.[69,70] No hypertension has been reported as yet in animals[71] or patients[46] receiving aldosterone. With additional data this statement may need revision since the scarcity of this steroid has perforce limited the amount and duration of dosage and since it is known that patients with adrenal tumors which secrete large amounts of aldosterone do exhibit hypertension.[72–74] Little information is as yet available on Fl F or prednisone. Friedman *et al.*[75] have reported that 9-alpha-chlorohydrocortisone resembles DOC in its hypertensive action. In addition, at appropriate dosage levels both Fl F and prednisone can produce rises in blood pressure even under conditions of sodium restriction, similarly to cortisone.[76] In humans hypertension with Fl F has been reported,[56] and this may also be seen in patients receiving prednisone.

Many other metabolic activities, of which space does not permit discussion, are influenced by the adrenal steroids—pigmentation, calcium metabolism, blood formation, cholesterol metabolism, to mention only a few.

Management of Addison's Disease

Within the past ten years the new therapeutic agents available to the patient with adrenal insufficiency have made the treatment of this condition considerably more satisfactory. Before this time the only defect amenable to therapy was the disturbance in sodium metabolism. With added sodium chloride and/or DOC the excessive urinary loss of this cation can be compensated for or prevented, normal extracellular fluid volumes restored, adequate renal function re-established, and serum electrolyte abnormalities corrected. With such therapy many patients gain weight, return to gainful employment, and lead essentially normal lives. However, despite correction of the electrolyte disturbances a certain percentage remain chronically ill, poorly nourished, and without appetite. In this group and also in the better maintained group, a severe infection, emergency operation, or other major stressful situation was formerly too frequently catastrophic since DOC has no significant metabolic activity apart from its effect on the handling of sodium.

The introduction of cortisone and of hydrocortisone has provided agents which are of singular effectiveness under just such situations. Until more information is available on the normal adrenal output under stress, the dosages recommended must remain empirically selected. A total of 50 to 100 mg. of hydrocortisone given by infusion over a four to six-hour period has been clinically effective on numerous occasions. Intramuscular cortisone in doses of 100 to 200 mg. per day have been given at the same time with the realization that a twelve to twenty-four-hour delay ensues before the effects become apparent. When the patient can take oral medication, cortisone by mouth may be substituted. By this route the drug effect is evident after a considerably shorter interval than by intramuscular injection. Since hydrocortisone and cortisone have relatively little influence on sodium metabolism, DOC intramuscularly should be given in addition in doses of 5 mg. per day if the serum sodium is reduced or if dehydration is marked, as measured by hematocrit or urea nitrogen. DOC is without protective effect against stress; hence, there is no indication for large doses during crises. Indeed, such doses may cause undesirable fluid retention. In addition to these steroidal agents, therapy for crisis should of course include fluids as necessary to combat dehydration and to provide sodium and glucose. The amount of sodium needed will vary from somewhere in the neighborhood of 5 to 20 Gm. per day, depending on the degree of preceding depletion. Should shock be a prominent feature, norepinephrine by infusion and at times whole blood may be indicated.

For day-to-day maintenance it would be desirable to provide: (1) a compound like aldosterone to correct the sodium wastage and (2) one like cortisone to correct abnormalities in carbohydrate and protein metabolism and to return circulatory adjustments to normal. With this combination an approximation of normal gland function can be achieved.

Until recently DOC was the only "aldosterone-like" steroid therapeutically available. DOC is not effective orally. It may be given as the acetate, subcutaneously or intramuscularly in oil every one to seven days or implanted in pellet form subcutaneously at intervals of several months. It may also be administered as the trimethyl acetate by deep intramuscular injection at four to six-week intervals or taken sublingually as the acetate. Because the administration is somewhat of a problem, maintenance has been attempted sometimes without using a steroid active in increasing sodium retention. In a certain percentage this is possible, providing 6 to 15 Gm. of sodium chloride are added to the daily dietary intake.

The introduction of Fl F has been particularly welcome for this furnishes the Addisonian patient with a compound with marked sodium-retaining properties which at the same time is orally active. Several reports on the efficacy of this agent in

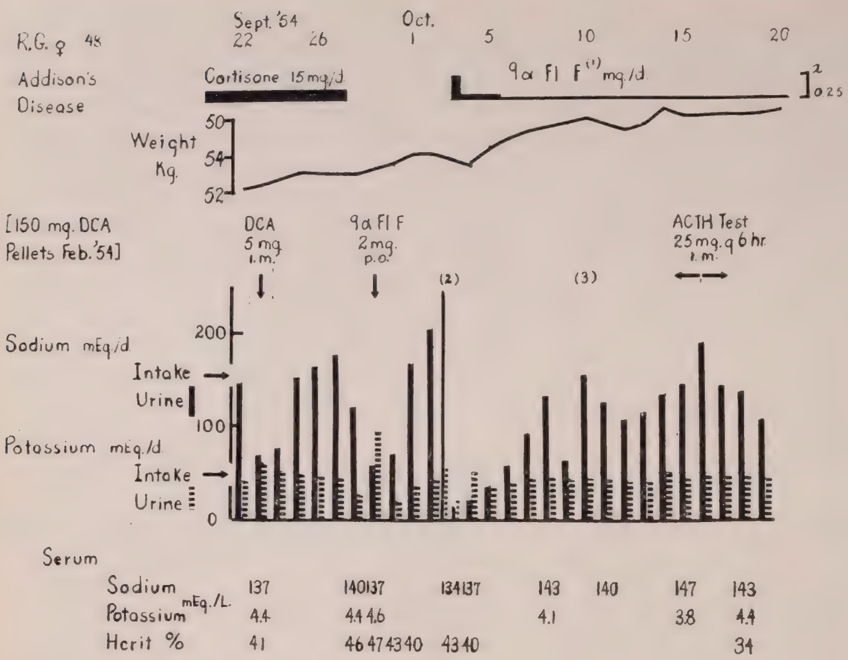


FIG 2. *Patient R. G.*—(1) 9-alpha - fluorohydrocortisone acetate. (2) Urine output on this day charted in two twelve-hour periods, before and after administration of 2 mg. Fl F. (3) Sodium intake on this day 30 mEq. less than usual.

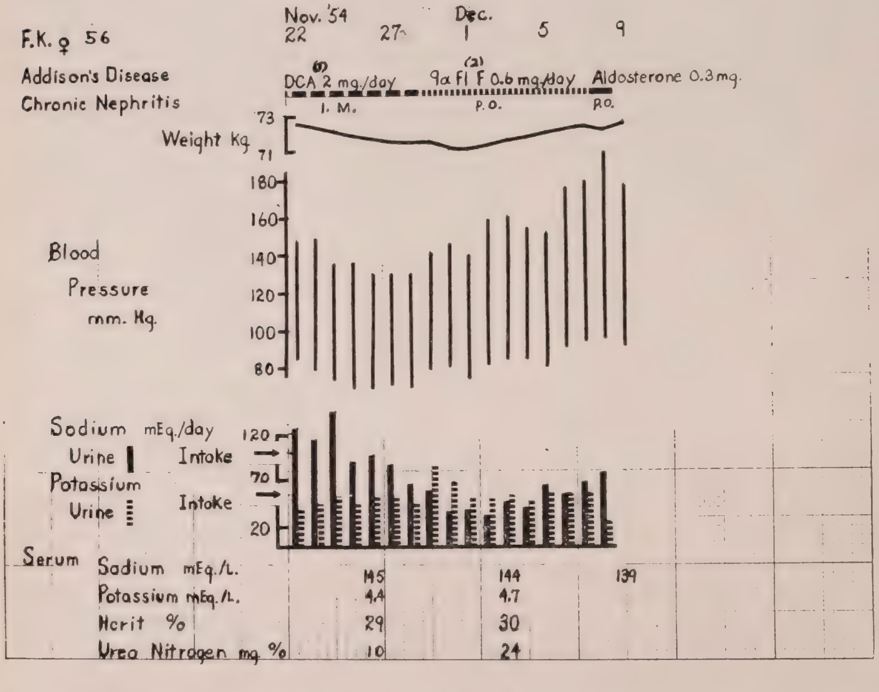


FIG. 3. *Patient F. K.*—(1) Desoxycorticosterone acetate. (2) 9-alpha - fluorohydrocortisone acetate.

Addison's disease are already available.[38,41,43,44,63,64,77] The capacity of this compound to effect sodium retention is corroborated by data obtained on two Addisonian patients during balance studies (Figs. 2 and 3).

In Fig. 2 data on weight and sodium and potassium balance are presented. The continuous black line records the daily fluctuations in weight. The intake of both cations was constant from day to day, and their level is indicated at the left of the graph by arrows; the daily output of sodium is charted from the baseline upward as black bars; potassium, as striped bars. In Fig. 2, patient R. G., it will be seen that a

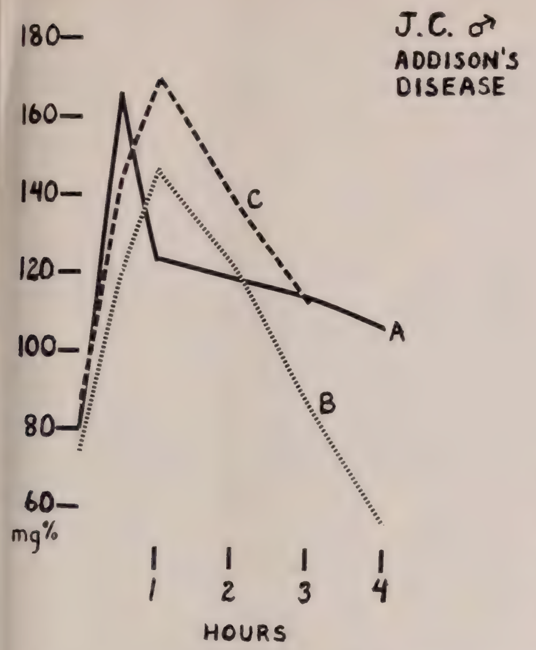


Fig. 4. *Patient J. C.*—Effects of Fl F on oral glucose tolerance test. Curve A, October 25: therapy was sodium chloride alone. Curve B, November 3: therapy was Fl F, 1 mg. daily from October 26 through November 3. Curve C, November 12: therapy was Fl F, 2 mg. daily from November 4 to 6, 4 mg. daily from November 7 to 9, and 6 mg. daily from November 9 to 12.

single dose of 2 mg. of Fl F resulted in as marked and also as prolonged a reduction in the excretion of sodium as did 5 mg. of DOCA (desoxycorticosterone acetate) given in conjunction with a daily dose of 15 mg. of cortisone. Following this single dose all steroids were withheld, and after forty-eight hours a sodium diuresis began and gradually increased so that in the first twelve hours of the day designated (2) in Fig. 2, 245 mEq. were excreted in 1,540 cc. of urine, i.e., approximately 100 mEq. more than the daily intake. At this juncture a second dose of 2 mg. of Fl F was given by mouth and was followed by prompt and remarkably effective sodium retention, such that only 13 mEq. of sodium was eliminated in the second twelve hours of this day in 560 cc. of urine. Subsequently on continued dosage with 0.25 mg. daily, weight gain and striking sodium retention persisted for a week.

TABLE II.—Water Excretion Tests

Patient	Date	Therapy	Per Cent Water Load Excreted in 4 Hours*
R. G.	Sept. 22, 1954	150 mg. DOCA pellets 8 months previously Cortisone acetate 15 mg. orally daily	16
	Oct. 11, 1954	Fl F 0.25 mg. daily orally	55
J. C.	Oct. 21, 1954	NaCl 6 Gm., 325 mg. DOCA pellets 10 months previously	33
	Nov. 1, 1954	Fl F 1 mg. daily	25
	Nov. 11, 1954	Fl F 6 mg. daily	50

* 20 cc. per Kg.

In Fig. 3, patient F. K., it will be seen that the substitution of 0.6 mg. of Fl F for 2 mg. of DOCA resulted in a significant decrease in the daily sodium excretion. For the first few days this may be attributed to the combined action of the fluorinated compound plus continued DOCA absorption from previous injection sites. However, the persistence of sodium retention must be ascribed to the action of the former. On the tenth day 0.3 mg. of aldosterone were given in place of the 0.6 mg. of Fl F, without significant change in sodium balance, suggesting a similar degree of activity. This chart also presents data on the daily resting blood pressure in this patient, who exhibited an impressive rise during the brief period of drug administration. The development of hypertension is one problem which has been encountered in Fl F therapy and was first mentioned by Boland[56] in patients with rheumatoid arthritis given relatively large doses. Fortunately, at daily dosage levels sufficient to maintain sodium balance in Addison's disease, i.e., 0.1 to 0.25 mg., this complication has not been prominent.

Although Fl F has been found to be ten times as active in causing glycogen deposition as cortisone, when compared milligram for milligram, it is doubtful whether this compound exerts measurable "cortisone-like" action at the dosage levels which are needed for correction of electrolyte abnormalities. The lack of influence on carbohydrate metabolism at levels of clinical use has been reported by Thorn *et al.*[63] and is shown in Fig. 4, which presents successive glucose tolerance curves obtained in a third Addisonian patient, J. C. Two years previously this man had shown a transient glycosuria and hyperglycemia, which had disappeared in connection with a 20-pound weight reduction. He received relatively large doses of Fl F for seventeen days while on a liberal carbohydrate diet of 320 Gm.: 1 mg. for nine days, 2 mg. for the next three days, 4 mg. for the next three days, then 6 mg. for a final three days. Curve A was obtained

Patient:	R.G. (female)			F.K. (female)			J.C. (male)		
Day	Steroid therapy	17-Ks.	Corti-coids	Steroid therapy	17-Ks.	Corti-coids	Steroid therapy	17-Ks.	Corti-coids
		mg.	mg.		mg.	mg.		mg.	mg.
	*						**		
1	Cortisone 15 mg.	4.3		DCA 2 mg. i.m.					
2									4.8
3									
4								2.6	3.3
5					2.1	1.3			
6	↓								4.3
7	9a Fl F 2 mg.p.o.	4.1	1.6	↓			9a Fl F 1 mg. p.o.	4.5	4.0
8		3.5		9a Fl F 0.6 mg. p.o.					
9						.9			
10								3.4	
11									
12	9a Fl F 2 mg. p.o.								
13	.5 mg.				2.5	.8		4.8	5.1
14	.5 mg.	2.4							
15	.25 mg.						↓		
16				↓			2 mg. p.o.	6.3	4.4
17				Aldosterone 0.3 mg. p.o.		1.0			
18							↓		5.5
19							4 mg. p.o.		
20									
21							↓	6.6	
22							6 mg. p.o.		5.5
23		2.3							
24	ACTH	2.3	1.4				↓		
25	100 mg. o.d.		1.5				1 mg. p.o.		
26	↓	1.4	2.1						
27		1.1							
28	↓	1.1					↓	2.2	5.4

* 150 mg. implant of desoxycorticosterone acetate pellets 8 mo. previously.
** 325 mg. " " " " " 10 mo. "

Fig. 5. Effect of Fl F on urinary excretion of 17 - ketosteroids and corticoids in three patients with Addison's disease.

six days after starting the balance study and prior to starting the steroid. The only medication at this time was added sodium chloride. Curve B was obtained after eight days on 1 mg. and, finally, curve C on the third day of 6 mg. The decrease in carbohydrate tolerance is not impressive, nor has this patient exhibited any glycosuria or abnormal elevation of blood sugar in fourteen months of maintenance therapy with 0.5 to 0.2 mg. daily.

This compound, however, does appear to correct to some extent the abnormal water excretion of the Addisonian patient. Data on the water excretion tests carried out on patients shown in Figs. 2 and 4 are set forth in Table II. Both showed improvement in their ability to excrete a water load while receiving the fluorinated compound, although in J. C. this did not occur until large doses were given.

It has been reported that this steroid, by virtue of its suppressing action on the pituitary, decreases endogenous adrenal activity, and indeed, reduction in the excretion of urinary 17-hydroxycorticoids and 17-ketosteroids has been reported. During the administration of 9-alpha Fl F to the three patients mentioned above, determinations of these urinary excretion products were made. All three patients had demonstrated an inability to respond to normal doses of ACTH, either previous to or during the course of the current studies. The results of the observations on urinary excretion of steroidal degradation products are shown in Fig. 5. No significant effect on the excretion of 17-hydroxycorticoids is evident in R. G. or F. K., in whom the control excretion of these substances was much below normal. A similar lack of effect on the 17-ketosteroids was noted in the patient, F. K. In R. G. the suggestive fall in the 17-ketosteroid excretion while on Fl F could be due

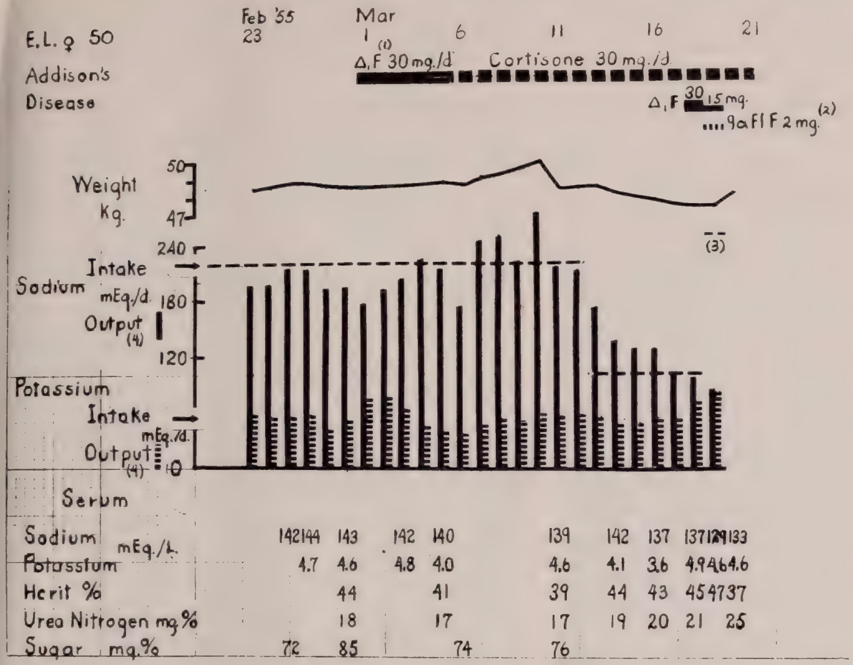


FIG. 6. *Patient E. L.*—(1) Meticortandrolone. (2) 9-alpha - fluorhydrocortisone acetate. (3) Sodium intake on this day comprised 100 mEq. in diet, 150 mEq. by infusion. (4) Output equalled combined excretion in urine and stool.

conceivably to suppression of an adrenal remnant, although her lack of response to three days of full doses of ACTH makes this seem unlikely. It is possible that the degradation products of cortisone augmented the 17-ketosteroid excretion slightly during the period of its administration. In J. C., whose excretion of both 17-ketosteroids and corticoids was greater during the control observations, the Fl F was likewise without suppressive effect, even in the large doses which he received. The fact that "adrenal suppression" could not be demonstrated in these three Addisonian patients suggests that due to their disease virtually complete absence of adrenal function existed prior to the administration of Fl F.

At the Columbia-Presbyterian Medical Center 16 patients are currently receiving maintenance doses of Fl F in doses varying from 0.1 mg. every other day to 0.25 mg. daily. The duration of therapy has varied from two to sixteen months. In six patients it constitutes the only steroid replacement, while in one of these patients it is the only therapeutic agent needed, i.e., there is no added sodium chloride.

In addition to a salt supplement and/or steroid to augment sodium retention, the majority of patients with adrenal insufficiency are maintained in better health when given a "cortisone-like" steroid as well. A daily dose of 10 to 25 mg. of cortisone or hydrocortisone acetate orally in divided doses is usually accompanied by a marked improvement in appetite and gain in weight and energy, even though at this level no improvement may be measurable in the ability to excrete a water load or in carbohydrate metabolism.

Prednisone does not promise to be of any particular advantage to the patient with adrenal insufficiency. It is reportedly three to five times as active as cortisone on carbohydrate metabolism but has negligible sodium-retaining capacities. While this latter property is of advantage in the treatment of the patient with rheumatoid arthritis, it is of no value to the patient with Addison's disease. In this condition prednisone and even cortisone may have little sodium-retaining activity.

Figure 6 presents data obtained in a balance study undertaken in an Addisonian patient given both prednisone and cortisone, first while on a high sodium and later while on a normal sodium intake. It will be seen that in the initial control period the liberal sodium intake was sufficient to maintain the patient in sodium balance. However, this patient did complain of a marked decrease in appetite as compared to the period prior to the study when she had been receiving cortisone, 12.5 mg. daily. The addition of 30 mg. of prednisone was essentially without effect on sodium metabolism, although a potassium diuresis was observed during the first two days. On this high sodium intake the shift to an equal dose of cortisone, milligram for milligram, actually increased sodium excretion. After seven days on the high-salt diet the sodium chloride intake was reduced to a total of approximately 6 Gm. daily, while the daily dose of 30 mg. of cortisone was continued. This regimen proved inadequate to permit normal sodium conservation. On the sixth day 30 mg. of prednisone were given in addition to the 30 mg. of cortisone. Despite this combined dosage by the following morning the patient was clinically weak with a small thready pulse, chemical evidence of hemoconcentration, and a serum sodium of 129 mEq. per L., necessitating termination of the study.

In other words, definite evidence of sodium depletion developed in this Addisonian patient while on a "normal" sodium intake in spite of liberal daily doses of cortisone and prednisone. This serves to emphasize the fact that the overwhelming majority of patients with Addison's disease require either added sodium chloride and/or a steroid with definite sodium-retaining properties in addition to cortisone for adequate maintenance therapy. In this instance the sodium depletion was initially corrected by an infusion of 150 mEq. of sodium chloride and 2 mg. of Fl F, and subsequently by supplementing her diet with 6 to 7 Gm. of sodium chloride.

Summary

Recent studies in adrenal physiology have served to establish that hydrocortisone, corticosterone, and aldosterone are the three physiologically most important steroids comprising the adrenal cortical hormone secretion. The output of the first two is stimulated by the anterior pituitary hormone, ACTH, while that of the third is probably not so regulated in man. The secretion of ACTH is dependent on the level of circulating adrenal hormone. In addition, intact hypothalamic function appears to be of importance for normal ACTH elaboration.

The effects of the three physiologically important steroids and also those of cortisone, desoxycorticosterone, 9-alpha-fluorohydrocortisone, and prednisone on sodium and carbohydrate metabolism, on the circulatory system, and on blood pressure have been considered. With respect to sodium metabolism the steroids may be listed in the order of decreasing activity from aldosterone, 9-alpha-fluorohydrocortisone, desoxycorticosterone, corticosterone, hydrocortisone, cortisone, and, finally, prednisone. With respect to carbohydrate and protein metabolism the order of decreasing activity is 9-alpha-fluorohydrocortisone, prednisone, hydrocortisone, cortisone, corticosterone, aldosterone, and desoxycorticosterone. The effectiveness of these steroids in maintaining normal circulatory function during stress is most apparent in the case of hydrocortisone, less so with cortisone, aldosterone, corticosterone, and least with desoxycorticosterone.

In the treatment of chronic adrenal insufficiency the introduction of cortisone and hydrocortisone has been of immeasurable benefit in the treatment of crisis. In addition, these compounds have afforded improvement in day-to-day maintenance in one third to one half of patients treated over and above what can be achieved with the correction of abnormalities in sodium metabolism alone. Finally, the recent availability of 9-alpha-fluorohydrocortisone, which is effective orally, has simplified the correction of the defect in sodium metabolism. Its effect on sodium, carbohydrate metabolism, and dosage requirements in Addison's disease are discussed.

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Glucose Tolerance in Coronary Heart Disease

MORRIS LATTMAN, M.D., AND HARRY RUDIN, M.D., NEW YORK CITY

(*From the Veterans Administration, Regional Office*)

THE incidence of coronary heart disease in patients with diabetes mellitus is considerably higher than it is in the general population. A comprehensive review of the literature on this subject has been reported by Stearns *et al.*[1] However, the reverse of the above situation, i.e., the incidence of impaired carbohydrate metabolism or diabetes mellitus in patients with pre-existing coronary heart disease, has not been explored as extensively. Raab and Rabinowitz[2] performed a standard one-dose, three-hour, oral glucose tolerance test on 21 patients with coronary occlusions. In 12 of these patients the test was performed within two weeks of the acute episode. All 12 revealed diminished glucose tolerance curves. In the nine remaining patients the test was performed from two months to five years after the acute coronary occlusion. In this latter group three revealed diminished glucose tolerance curves.

Goldberger and his coworkers[3] did an Exton-Rose oral glucose tolerance test on 14 patients with myocardial infarction from two days to thirteen months after the acute episode. On the basis of their criteria, of the total series of 14 patients, six presented definite evidence of diabetes mellitus, four had diminished glucose tolerance, and four had normal tests. Eleven of these were tested within the first two weeks after the infarction. Of these, four revealed abnormal curves; five others with initial normal curves showed progressive diminution of glucose tolerance, finally exhibiting a typical diabetic curve after a period of several months.

Our study was undertaken to determine glucose tolerance in a larger number of patients with coronary heart disease.

Methods

One hundred consecutive patients who had had coronary occlusions from three months to thirteen years prior to this study were subjected to glucose tolerance tests. The study was limited to male patients ranging in age from twenty-four to sixty-nine years.

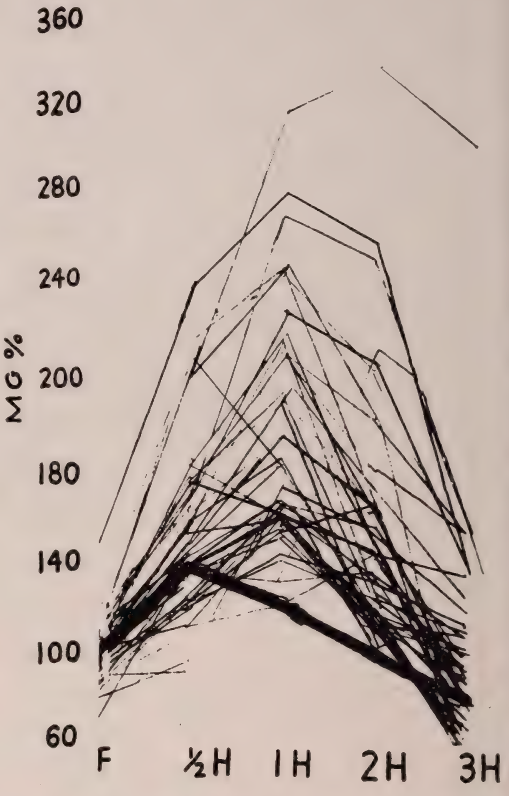

FIG. 1. Glucose tolerance curves of 100 patients with coronary occlusion (41 delayed curves, 59 mean average curves).

The diagnosis of coronary occlusion was based on definite electrocardiographic evidence and typical clinical history.

The standard one-dose, three-hour, oral glucose tolerance test was used, in which 100 Gm. of glucose dissolved in water are administered orally on a fasting stomach. Blood and urine glucose levels are determined prior to the administration of the glucose and at one-half-hour, one-hour, two-hour, and three-hour intervals thereafter. Blood glucose was determined by the Somogyi zinc precipitation method. Venous blood is hemolyzed and then deproteinized with zinc hydroxide, giving a filtrate that

TABLE I.—Glucose Tolerance Tests in Coronary Occlusion*

	Glucose (Mg. Per Cent)				
Case	Fasting	1/2-hour	1-hour	2-hour	3-hour
1	94	153	161	123	51
2	103	113	164	137	81
3	81	123	141	126	113
7	108	202	316 (1.6%)	336 (6.7%)	306 (7.1%)
8	110	130	166	145	137
18	94	136	154	126	106
20	112	144	168	134	117
22	79	137	153	119	116
23	99	177	162	146	85
27	96	162	186	131	67
29	92	134	132	134	193
31	99	176	196	127	99
32	102	171	234	208 (1.15%)	142 (0.75%)
33	89	130	163	124	70
42	79	97	175	161 (3.5%)	119 (0.75%)
43	94	161	171	146	81
47	97	139	166	119	51
48	100	158	211	162 (8%)	78 (4%)
51	89	141	163	113 (0.5%)	94 (0.3%)
52	100	185	221	143	87
55	95	130	145	142	72
56	145	242	280	260 (2.05%)	140 (1.05%)
57	70	139	162	132	52
67	113	133	192	116	56
72	95	149	183	171	87
73	100	171	245 (0.9%)	207 (0.65%)	145
74	80	164	211	183	171
80	64	106	125	147	97
81	94	135	211	174	80
83	94	178	194	135 (0.7%)	94 (0.68%)
84	82	208	180	113	70
85	93	95	153	114	104
86	95	120	162	157	100
87	90	158	214	172	82
89	93	120	162	157	100
91	85	135	163	128	98
92	104	171	189	146	70
93	96	181	176	127	70
95	104	214	243	162	60
96	100	162	221	127	104
100	118	172	252	236 (3.5%)	124 (1.3%)

* Figures for glucose in urine appear in parentheses.

contains practically no reducing substances other than glucose. A blood glucose level of 100 to 120 mg. per cent at two hours is considered abnormal; a blood glucose level above 120 mg. per cent at two hours denotes diabetes mellitus.

Results

Of the 100 patients thus studied, 41 showed diminished glucose tolerance curves (Table I and Fig. 1). Of this group 35 had two-hour blood glucose levels considerably above 120 mg. per cent (Somogyi method). In the six remaining patients of the abnormal group of 41, the two-hour blood glucose level ranged from 113 to 119 mg. per cent. Nine patients in the abnormal group of 41 showed glycosuria at some time during the test. Thus, according to the criteria outlined, we consider that all 41 patients have diminished glucose tolerance and that 35 in this group have true diabetes mellitus.

TABLE II.—Age Distribution According to Results of Glucose Tolerance Tests

Age (Years)	Normal Test	Delayed Test
20 to 29	2	..
30 to 39	6	3
40 to 49	35	10
50 to 59	13	17
60 to 69	2	12
TOTAL	58	42

TABLE III.—Incidence of Family History of Diabetes According to Results of Glucose Tolerance Tests

	Normal Test	Delayed Test
Number of histories obtained	44	22
Number positive	13	8
Per cent	29.5	36.3

Comment

This study, having been conducted in a Veterans Administration Regional Office, was confined to male patients. The age range of these patients was from twenty-four to sixty-nine years. Fourteen were above the age of sixty. Twelve of these 14 revealed diminished glucose tolerance (Table II). This very high percentage in the decade from sixty to sixty-nine is probably accounted for by the combined effect of coronary heart disease and old age; it is a well-known fact that glucose tolerance is diminished in old age.

It was our intent to investigate glucose tolerance in patients with coronary heart disease. However, since it is sometimes difficult to establish an unequivocal diagnosis of coronary heart disease in an individual case by universally accepted criteria, we confined our study to patients who had coronary occlusions. In our opinion this eliminates any error or dispute concerning the diagnosis of coronary heart disease in our patients. Under these conditions our results do not include figures on the incidence of diminished glucose tolerance in coronary heart disease *without* occlusion.

Excluded from this study were patients with concomitant disease known to be associated with diminished glucose tolerance, such as hyperthyroidism and other endocrine disturbances, hypertension, hepatic diseases, and obesity.

It has also been pointed out that a family history of diabetes is a predisposing factor to diminished glucose tolerance or to diabetes mellitus.[4] In this study a family history of diabetes mellitus was obtained in eight out of 22 patients (36.3 per cent) with diminished glucose tolerance and in 13 out of 44 patients (29.5 per cent) with normal glucose tolerance (Table III). This would suggest that a family history of diabetes is a predisposing factor not only to diabetes mellitus but also to coronary heart disease.

One could speculate about the possible causes of this high incidence of diminished glucose tolerance in patients with coronary occlusions. However, in our present state of knowledge we are unable to give a definite explanation of this phenomenon.

Summary

1. Glucose tolerance was studied in 100 male patients who had sustained coronary occlusions from three months to thirteen years prior to this investigation. Patients with previously diagnosed diabetes mellitus or other diseases associated with diminished glucose tolerance were excluded from the study.

2. Forty-one of the 100 patients observed showed a diminished glucose tolerance curve. This represents a higher percentage than is found in a normal population.

3. The reason for this high incidence cannot be stated with certainty in our present state of knowledge.

The authors wish to acknowledge with gratitude the help of Miss Gertrude Salzberg, biochemist, of the New York Regional Office, Veterans Administration.

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Automatic Injector Reduces Pain, Apprehension

Persons who have to give themselves daily injections of drugs can now do so without having to look at the needle and without having to muster up courage to pull the trigger.

They can use a new device called the Presto injector which fits around and hides the needle and syringe and which automatically releases the needle when the injector is pressed against the skin.

The new injector not only relieves apprehension, but also reduces the pain, because the needle passes quickly through the pain-sensitive layer of skin, according to Frank H. J. Figge, Ph.D., and Vernon M. Gelhaus, M.D., Baltimore, who tested the instrument, developed by investigators of the Becton, Dickinson Company, Rutherford, N. J.

They described the injector in the April 14 *Journal of the American Medical Association.*

The instrument is a series of metal cylinders in which the syringe and needle are placed. When the instrument is ready for use, the needle is entirely concealed in the bottom cylinder. The top part of the cylinder holds the syringe and also conceals the spring mechanism which activates the automatic trigger.

After cocking the trigger by extending the two parts of the cylinder, the rubber foot is pressed against the skin until the automatic trigger releases the spring which pushes the needle and syringe straight forward at high speed. After the needle has entered the skin, the vaccine is injected in the usual way by pushing the syringe plunger.

The fact that the needle is entirely hidden from view has a "very remarkable" affect, especially among children, they said. The very sight of a needle apparently leads many patients to receive "an exaggerated impression" of the pain actually produced, they said.

Forty of 50 men given injections with the new injector felt nothing at all, while eight had a "slight sensation" and only two a "slight sting." In comparison, only two of 50 felt no pain when given injections with an exposed needle, while five felt "pain." Twenty-two noticed a "slight sting," 13 a "sting" and eight a "slight sensation."

The automatic trigger has some influence on the degree of pain, because it eliminates the nervous tension that develops before the trigger on other injectors is pulled, they said. The instrument, which is for subcutaneous and intramuscular injections, contains a feature to help prevent injecting the drug into a vein.

The injector's greatest use will be among persons who require self-injection of drugs, for whom it is "ideal," they said.

Hearing Impairment in Noisy Environment

J. COLEMAN SCAL, M.D., F.A.C.S., NEW YORK CITY

INDUSTRIAL noise hazard capable of causing deafness has recently been brought to the attention of labor, industry, and insurance carriers. While not new, this field of investigation is now interesting otologists so that better standards for the evaluation of traumatic hearing loss and the degree of permanency can be established.

The rapidly growing interest in occupational deafness, or acoustic trauma, has started the formation of compensation boards all over the country to determine adequate compensation awards and also has started a conservation program for prevention and elimination of this noise hazard.

Noise deafness develops very slowly and insidiously, and the worker in a noisy environment of 90 decibels or over is usually unaware of the danger and is apt to disregard his early symptoms. The early stage of noise deafness is usually characterized by the onset of tinnitus, which may or may not disappear after work stoppage or over the week-end. At this stage the worker experiences no difficulty in hearing, but if an audiogram is made at this time, it may show a loss in hearing at the 4,000 frequency. Thus, at the beginning of the exposure the low or speech-range sounds have not been affected, and the worker has no difficulty in ordinary conversation. Continued exposure will further affect the frequencies around the 4,000 cycle, and the high or musical tones will become affected so that the worker will complain that he cannot hear the doorbell and telephone ring. This is a diagnostic sign in early perceptive deafness. It is by no means pathognomonic in noise deafness since it also occurs in a number of other diseases, such as intoxications from quinine, alcohol, and cocaine and in retinitis pigmentosum. With further exposure the low tones will eventually become involved so that he now has difficulty in hearing the speech tones and will complain that he cannot hear when spoken to and has to raise the volume of his radio and television.

Noise

Noise is unwanted sound and consists of a combination of longitudinal waves produced by vibrating bodies. These waves may be of lengths ranging from about 1 inch to 60 feet. They are usually transient in nature but can be steady. Noise can also be described as waves of compression and rarification transmitted through the air.

The levels of noise tolerance dangerous to the worker have been disputed by many otologists. However, the consensus is that a noise level below 90 decibels is safe to the human ear except for a few sensitive and susceptible individuals where 90 decibels of great intensity over a long period of time might produce traumatic deafness.

Most workers at one time or another are exposed to considerable noise during everyday activity with no ill effects. We know that an average office shows a 30-decibel noise level, a busy street a 68-decibel noise level, heavy street traffic an 84-decibel noise level, and the subway from 85 to 90-decibel noise level. It is only when one works in an environment well above the everyday noise level that nerve deafness sets in.

When a worker claims deafness as a result of noisy environment, the area in which he is working should be tested by a noise level meter. This is an instrument which measures the sound pressure changes in the air and records in decibels the intensity and loudness of the noise in relation to the ears. It reveals whether or not the working area has a noise intensity great enough to cause acoustic trauma.

Nerve Fatigue

The first symptoms a worker suffers after he starts to work in a noisy environment are tinnitus and a temporary loss in hearing which will disappear completely within a few hours after he leaves the noisy area. This is known as nerve fatigue and is considered by some otologists to be a metabolic process which stimulates and causes a disturbance of the hair cells of the cochlea. Early recognition of this condition and institution of suitable preventive measures may prevent permanent hearing loss. Should the worker continue in this noisy environment over a long period of time, the nerve fatigue does not subside, and eventually acoustic trauma develops which may be more or less permanent.

Diagnosis

A diagnosis of acoustic trauma resulting from noise requires the proof of several years exposure to a noise level environment of great intensity and high frequency. The hearing loss is proportional to the length of employment, and the greater the intensity and the higher the frequency, the greater will be the hearing loss.

Some workers are better able to withstand acoustic trauma than others so that noise may injure some ears more than others. When a worker is exposed to extensive noise for many years and suffers no loss in hearing or auditory involvement, he is considered nonsusceptible.

When deafness develops after a short period of exposure to intense noise, it will be found that the workers have been subjected to explosive sounds of high intensity, such as encountered in jet-propelled aircraft.

Hearing Tests

The hearing tests performed in acoustic trauma are the usual ones done by otologists, including the whisper and speech tests using Spondee words for threshold recognition, as well as the phonetic balance monosyllabic words to test discriminatory ability. Tuning fork tests and the Rinne, Weber, Schwabach, and recruitment tests are utilized. To get actual percentage loss we depend on the accuracy of the audiometer. The old hearing tests using the watch, acoumeter, whisper, and conversational voice are too subjective to be of any value in occupational deafness.

AUDIOMETRY.—The audiometer is an instrument of precision but must be kept in proper condition and calibrated frequently. It is the best available instrument for testing the acuity of hearing. The audiometer should be used in a soundproof room where the noise level is usually about 30 decibels. It should never be used where noise levels exceed 60 decibels. With this test we can now arrive at a quantitative evaluation of the hearing loss. This procedure is based on threshold measurement air of conduction sound. The calculated percentage of deafness was established by the agreement of the American Medical Association Committee of Consultants on Audiometers and Hearing Aids, based on both the clinical experience and practical judgment of the members of that committee. Their action was approved by the American Medical Association in 1942, and this percentage has served as a standard for tests and methods in estimating hearing loss.

The audiogram is a graphic representation of the quantitative measurement in decibels of hearing through the musical scale between 32 and 8,000 double vibrations and forms the curve of hearing.

In taking an audiogram we must allow for the physical, mental, and emotional status of both the worker to be examined and the examiner. This depends on the willingness of the patient to cooperate and the extent of his truthfulness. When malingering or simulated deafness is suspected after several audiometer readings have been taken, with wide discrepancies in their results, malingering tests are used, and the test showing the best curve is accepted for estimating the loss in hearing.

RECRUITMENT TEST.—Fowler's recruitment test is a phenomenon of tonal loudness and is used for differentiation of perceptive deafness from conductive deafness. In this test we find that loudness rapidly increases in a deafened ear in comparison to a small increase in intensity with the good ear.

In normal hearing the psychologic response to increased intensity of pure tone, noise, or speed is an ordinary increase in loudness to both ears, i.e., the loudness will be the same on both sides as the intensity of the tone is increased. In unilateral deafness the increased tone will be heard in the deafened ear at an intensity far above that which is heard in the normal ear.

If the lesion is due to air conduction (middle ear deafness), when the tone is increased, a point will be reached where the loudness is disagreeable to the normal ear, whereas on the side of the deafened ear, the tone can be further increased without discomfort. If the lesion is due to nerve deafness, the loudness of the tone in the deaf ear equals or exceeds the tone in the normal ear so that the sounds are balanced binaurally.

Presbyacusis

Allowances must be made for the normal variation in hearing which accompanies old age. Advancing age causes a simple atrophy and degeneration in the cochlea. At first the high tones only are affected, but gradually the low sounds become involved. This is caused by senile atrophy of the eighth nerve fibers which gradually develops into nerve deafness. In New York State the allowable calculated loss for presbyacusis is 0.5 of 1 per cent a year between the age of fifty and sixty and 1 per cent a year after the age of sixty. The factor of age below fifty is of little consideration. Older persons, however, are known to be more sensitive to acoustic trauma than younger ones.

Pathology

In acoustic trauma due to noise, the pathology in humans is still unreported for no known case has as yet come to autopsy. All known findings are from experimental work on animals. These studies show that the trauma is mostly in the cochlea. Mild injury results in edema and disruption of the hair cells in the organ of Corti which cause nerve fatigue. Severe injury causes extensive damage to the cochlea with loss and destruction of the hair cells and results in deafness. The hearing loss caused by this process is permanent. Once destroyed, the hair cells are never replaced or regenerated, and no other part of the labyrinth can take over the function of the injured or destroyed parts.

Psychogenic Tests—Noise and Behavior

The average worker who adapts himself to noise of a meter level below 90 decibels shows very little evidence of acoustic trauma or any damage to his physiologic or psychogenic health. When the noise level is above 90 decibels, as in shipyards and machine shops, the worker is exposed to intensive noise, and acoustic trauma follows. With such workers we find that some become inattentive and lose the faculty of listening. It is known that in some hysterical cases subconscious negation of all or some stimuli to hearing may be present and results in unstable mentality with suggestibility of functional discord in hearing. In this situation the patient believes his deafness is real. With the malingerer, however, we know that he is not too deafened, and he can be caught by the malingering tests.

In testing malingering workers a small number of cases will be found in which repeated tests show discrepancies and inconsistencies, and the hearing loss will be out of proportion to the pathologic findings. When this is encountered, the psychogalvanic skin resistance audiometer can be used. With this test the skin resistance induced by sound stimuli will reflect the response of the person to sound at the threshold level. However, this test is not acceptable in many cases of litigation.

Vascular Disturbances

Vascular disturbance is a factor in acoustic trauma. It is due to the internal auditory artery which, being largely without branches, divides into end arteries and does not supply an adequate amount of blood to the cochlea. As a result venous stasis and compression of the arteries are possible. This shuts off the blood supply to the organ of Corti and explains why vascular disturbances can cause Ménière's disease and its train of auditory symptoms. It also explains how it can be responsible for some of the hearing loss in acoustic trauma. Fowler[1] calls this condition a sludging of the blood in the end arteries, causing a venous stasis and resulting in some deafness.

X-rays

The mastoids are not involved in nerve deafness. X-rays taken in occupational nerve deafness are of no significance. Where there is a mixed deafness with pathology in the middle ears, x-rays will show various stages of sclerosis. When there has been a suppurative middle ear condition with healed perforations, the x-rays will show the absence of all or almost all of the mastoid cells. This will corroborate a diagnosis of coexisting deafness due to middle ear involvement. When a minimal sclerosis or cloudiness of the cells exists, it may be due to an ear infection in early childhood and can be considered to be of no consequence.

Prognosis

Deafness resulting from excessive occupational noise is cumulative over the entire period of work years. It is permanent, and the process ceases only with stoppage of work. Total deafness has not yet been reported, but after long exposure to a high noise level intensity, a hearing loss of 80 decibels or more may be reached. For all practical purposes this is considered total deafness. The deafened workers have lost no time from their occupation and are not disabled for

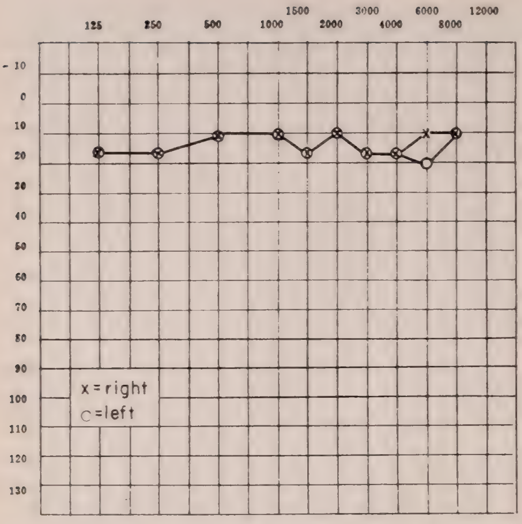

FIG. 1. *Case 1*—Normal hearing; only 2 per cent binaural loss.

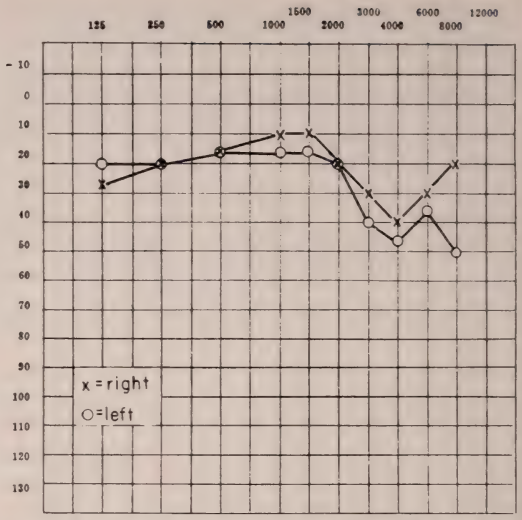

FIG. 2. *Case 2*—Nerve deafness; hearing loss 9 per cent in right and 11 per cent in left ear with characteristic dip around the 4.000 frequency.

doing any of the work to which they have been accustomed. Disability only occurs when the worker changes his position to one requiring acute hearing.

To consider the permanent hearing loss, a recheck of hearing should be done six months after the worker has retired or has stopped working in a noisy environment.

Treatment

There is no treatment for occupational deafness. The only recommendation is to move the worker to a less noisy environment.

Routine preoccupational audiometer hearing tests are recommended to establish the presence of normal hearing or initial hearing loss. These can be used as further checks of hearing changes. A check should be made after thirty days exposure to excessive noise, and if sufficient changes are found, the worker should be placed in a less noisy environment. If no changes are noticed after thirty days, a recheck should be done in six months.

Case Reports

CASE 1. NO HEARING LOSS.—J. C., age forty-three, shipfitter, worked three and one-half years with chippers, caulkers, and welders in a noisy environment. He claimed that in September, 1954, he first noticed noises in his ears at times, and at about the same time he noticed that he did not hear so well. He denied any previous illness, accident, or operation to his ears, nose, or throat, except for an occasional sore throat. He could not recall any childhood diseases.

Otoscopic examination on February 11, 1955, showed both drums of good color with all normal landmarks present. The Rinne test was negative in the right ear and neutral in the left. Weber test showed no lateralization, and Schwabach test showed no shortening in bone perception.

A diagnosis of normal hearing was made, the audiometer showing a binaural loss of only 2 per cent which can be considered normal hearing (Fig. 1).

Comment.—This worker showed normal hearing. Despite his working in a noisy environment for three and one-half years his auditory nerves were not affected.

CASE 2. NERVE DEAFNESS.—E. K., age forty-eight, pipe fitter and snapper for the past seventeen years, had worked in shipyards with chippers, caulkers, and riveters. He denied any previous illness or accident to his ears, nose, or throat and claimed that in April, 1953, he first noticed a buzzing noise in his ears and found that he could not hear well.

Otoscopic examination showed both drums dull and thickened. The short processes were prominent, and the light reflexes were absent. Both ears had sclerotic plaques at the lower periphery. Rinne test was negative in the right ear and neutral in the left. Schwabach test showed a shortening of ten seconds in bone perception, and Weber test showed lateralization to the right.

A diagnosis of nerve deafness was made, the audiogram showing a loss of 9 per cent in the right ear and 11 per cent in the left ear, with the characteristic dip around the 4,000 frequency (Fig. 2).

Comment.—This worker showed a binaural hearing

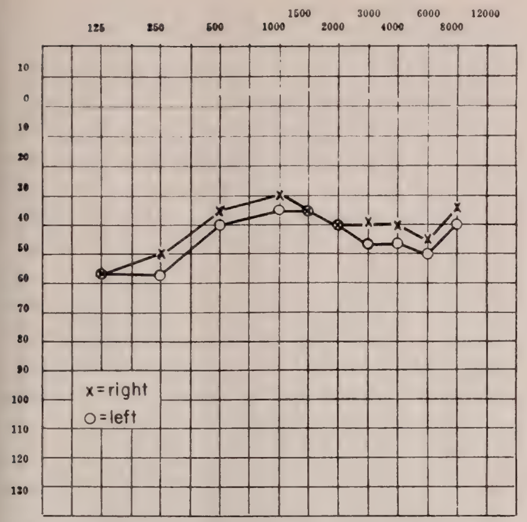

FIG. 3. *Case 3*—Mixed deafness; hearing loss 27 per cent in right ear and 32 per cent in left ear. Characteristic dip at 4,000 frequency absent.

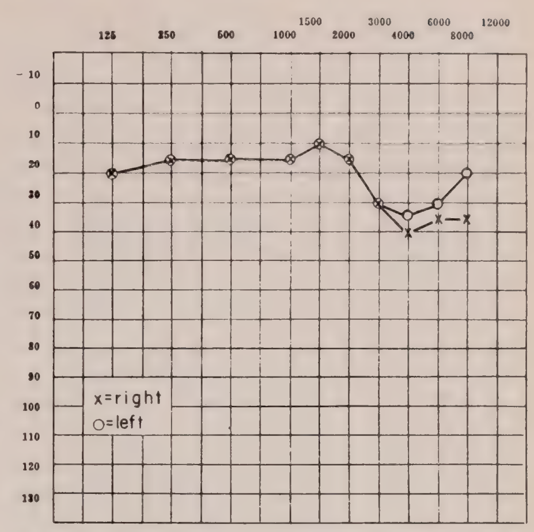

FIG. 4. *Case 4*—Nerve deafness; hearing loss 8 per cent in right ear and 7 per cent in left ear with characteristic dip at 4,000 frequency.

loss of 9 per cent after working seventeen years in a noisy shipyard environment.

CASE 3. MIXED DEAFNESS.—E. G., age forty-seven, machinist for the past ten years in a noisy shipyard environment, denied any previous illness, accident, or operation to his ears, nose, or throat. He had had measles in childhood. He claimed that about three years ago he first noticed a buzzing sound in his ears, and in April, 1953, he first noticed that his hearing was affected.

Otoscopic examination on November 6, 1953, showed the drums dull, thickened, and retracted. Old scarred areas were present at the posterior superior parts of the drums with calcified plaques at the center. All other normal landmarks were absent. The Rinne test was negative. Weber test showed no lateralization, and Schwabach test showed a shortening in bone perception.

A diagnosis of mixed deafness was made, the audiometer showing a loss of 27 per cent in the right ear and 32 per cent in the left ear (Fig. 3). The characteristic dip at the 4,000 frequency was absent, showing that part of the nerve deafness was due to natural causes and in no way related to his occupation.

X-rays showed moderate sclerosis of the right mastoid and advanced sclerosis of the left mastoid.

Comment.—This worker showed a binaural hearing loss of 28 per cent after working ten years in a noisy environment. Examination disclosed a mixed deafness with the greater loss in the low frequencies; the characteristic nerve deafness dip was absent. It was my opinion, therefore, that it would be fair to attribute 75 per cent of the hearing loss to the middle ear deafness and 25 per cent to the nerve deafness.

CASE 4. NERVE DEAFNESS.—D. N., age fifty-three, machinist rigger, working in a noisy environment for twenty-eight years, denied any previous illness, accident, or operation to his ears, nose, or throat and denied ever having any head injuries. He had had measles and chickenpox in childhood. He claimed that in April or May, 1954, he first noticed noises in his ears and found that he could not hear well.

Otoscopic examination revealed the right drum dull and thickened. The light reflex was absent and the ossicular chain prominent. A similar condition existed in the left ear. The Rinne test showed a positive reaction. Weber test lateralized to the right, and Schwabach test showed a shortening in bone perception.

A diagnosis of nerve deafness was made, the audiogram showing a hearing loss in the right ear of 8 per cent and in the left ear 7 per cent (Fig. 4). The characteristic nerve deafness dip around the 4,000 frequency was present.

Comment.—This worker showed a classic curve of acoustic trauma with the characteristic dip around the 4,000 frequency. While he had been exposed to noisy work for twenty-eight years, his hearing loss was only 7 per cent.

CASE 5. MIXED DEAFNESS.—R. S., age thirty-four, a shipfitter, had worked three years for a drydock in a noisy environment. Prior to this he had been in the army (chemical warfare) for thirty-nine months, and before his army service he had been a truck driver and chauffeur. He claimed that about eight months previously he first noticed noises in his ears which lasted for about six months. At about the same time he also noticed that he could not

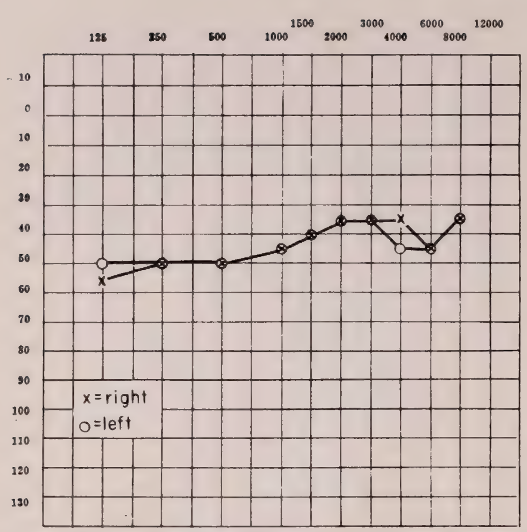

FIG. 5. *Case 5*—Mixed deafness; hearing loss 35 per cent in right ear and 38 per cent in left ear. Chronic bilateral middle ear disease predominated.

hear well. He denied any previous illness, accident, or operation to his ears, nose, or throat.

Otoscopic examination revealed the right drum dull, thickened, and sclerotic. All landmarks, including the light reflex, were absent. There was a healed perforation in the anterior segment. The left ear drum was dull, thickened, and sclerotic and showed a scarred area at Schrapnell's membrane. All landmarks, including the light reflex, were absent. Rinne test was neutral. Weber test was lateralized to the right, and Schwabach test showed a slight diminution in bone perception. In addition, he had an allergic vasomotor rhinitis, the skin tests showing sensitivity to dust, onion, and lettuce. He also had a slight left facial paresis, the cause of which he claimed ignorance.

A diagnosis of mixed deafness was made with chronic bilateral middle ear disease predominating. The audiogram showed a hearing loss of 35 per cent in the right ear and 38 per cent in the left ear (Fig. 5).

Comment.—In this case, since the hearing loss was much greater in the lower frequencies and with the absence of the characteristic nerve deafness dip at the 4,000 frequency, it would be fair to attribute three-fourths of the hearing loss to the middle ear condition and one-fourth to the nerve involvement. Consideration should be given to the fact that this man worked only three years in a noisy environment, and since noise deafness is the result of exposure over a great number of years, only a limited amount of the hearing loss found here can be attributed to his occupation with the present employer.

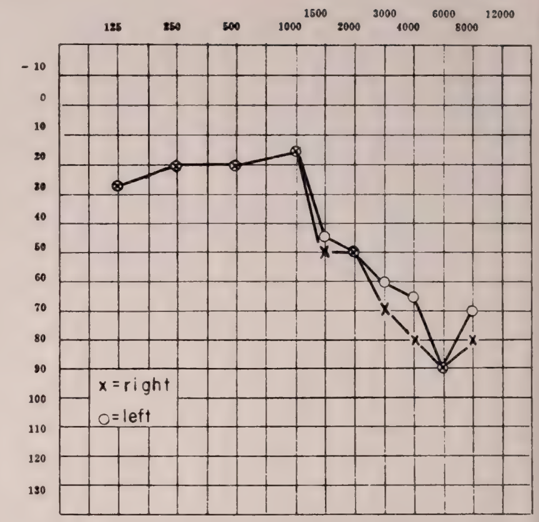

FIG. 6. *Case 6*—Nerve deafness with presbyacusis; hearing loss 39 per cent in right ear and 37 per cent in left ear.

CASE 6. NERVE DEAFNESS WITH PRESBYACUSIS. —J. P., age sixty-three, a compressor operator in shipyards for thirty-three years, said that he first noticed noises in his ears two and one-half years ago, but it was not until October, 1954, that he first noticed he could not hear well. He denied any previous illness or accident to his ears and never had any head injury. He could recall no childhood diseases but remembered having his tonsils removed in childhood and a nasal operation in 1923.

Otoscopic examination on April 16, 1955, showed the right ear canal filled with cerumen which was removed. The drum was dull, thickened, and sclerotic. There was a calcified plaque at the center. All the normal landmarks were absent. The left ear showed a similar condition. Rinne test was negative in the right ear and diminished positive in the left ear. Weber test lateralized to the right, and Schwabach test showed a shortening of eighteen seconds in bone perception.

A diagnosis of nerve deafness with presbyacusis was made, the audiogram showing a hearing loss of 39 per cent in the right ear and 37 per cent in the left ear (Fig. 6). The binaural loss was 37 per cent.

Comment.—The characteristic dip at the 4,000 frequency was absent in this case, showing that part of the nerve deafness was due to natural causes and not related to his acoustic trauma. An estimated 8 per cent of this man's deafness was due to his advancing age.

Conclusion

Excessive noise is definitely a hazard to hearing, and while it may or may not affect the personality and temperament of the exposed worker, deafness can occur in a susceptible individual who is exposed to noise levels of great intensity over varying periods of time. The hearing loss, which at first is temporary and known as nerve fatigue, may be followed by permanent deafness involving the inner ear. Not all workers exposed to excessive noise become deafened. Many workers are not susceptible and may not be affected even after ten or more years of exposure.

While it is usual for both ears to be equally affected, one ear may be more involved than the other if that ear is at a greater distance from the source of the noise. Other reasons for an unequal amount of deafness may be previous involvement of local ear disease or trauma with pre-existing conductive deafness. Asymmetric curves may also be due to one ear being more susceptible to noise than the other.

Pre-employment audiometer testing with frequent checks will spot noise-susceptible individuals as well as those who recover slowly or rapidly from noise fatigue. When conductive deafness is found, it should not exclude the worker since such conditions act as barriers and natural plugs to the noisy vibrations. A person with middle ear disease or conductive hearing loss does not hear outside noises distinctly because these vibrations are not readily perceived by the middle ear. When perceptive deafness is found, workers should be excluded since such conditions are usually aggravated by excessive noise.

Audiograms obtained by different doctors using different audiometers on different days will be found to differ considerably, especially if the worker is examined soon after leaving his work. The worker who has been examined several times soon becomes familiar with the proceedings and is in a position to exaggerate and be uncooperative so that malingering tests become necessary.

With Fowler's recruitment test we can now differentiate between conductive and perceptive deafness.

In conclusion, it can reasonably be expected that if the worker continues in the noisy environment, additional hearing loss will develop. If he is removed from the noise, hearing loss will cease, and some improvement may take place. The hearing loss can be considered permanent if there is no improvement after six months complete removal from the noisy environment.

10 East 96th Street

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Films Added to AMA Library

Three films recently were added to the AMA Motion Picture Library for use by state and county medical societies.

(1) "Alcohol and the Human Body"—portrays the course that ethyl alcohol takes when it enters the human body in the form of beverages. Animated drawings show the absorption of the alcohol from the stomach and small intestine, the partial change to acetic acid in the liver, the circulation of the unchanged fraction in the blood, and the gradual depression of successive parts of the brain. Black and white; ten minutes. (2) "Heart Disease—Its Major Causes"—consists of pictures of patients to illustrate the various situations that arise out of heart disease. Animated diagrams illustrate the underlying changes in the heart. This film presents an over-all view of heart disease and concentrates on high blood pressure, hardening of the arteries, and rheumatic fever. Black and white; ten minutes. (3) "Tobacco and the Human Body"—analyzes the contents of tobacco smoke, demonstrates some of the physiologic effects of smoking and sums up the factors to be considered in deciding whether or not to smoke. Black and white; fifteen minutes.

Further information on any of these films may be obtained from the AMA Motion Picture Library.—*AMA News Notes, June, 1956*

Therapy of Premenstrual Tension

The Influence of Theophyllinate-Antihistamine and Ammonium Chloride-Vitamin-Vagotropic Preparations

THOMAS H. McGAVACK, M.D., HERBERT J. SPOOR, M.D., AND MARTIN L. STONE, M.D., WELFARE ISLAND, NEW YORK

(*From the New York Medical College, Metropolitan Medical Center Research Unit, Bird S. Coler Hospital*)

Many theories of the origin and nature of premenstrual tension exist, and for each some evidence exists. The most popular causes have included water and salt retention; allergy; hyperestrinism, absolute and/or relative; nutritional deficiency; autonomic nervous system imbalance, and altered uterine musculature. In any event the syndrome is a mixed one and not infrequently accompanied by dysmenorrhea. Treatment has been as varied as the causative agents postulated. The concept of Thorn and his associates,[1] Bickers,[2,3] and Greenhill and Freed[4,5] that sodium and water retention due to increased estrogen is responsible for the syndrome is a further amplification of the earlier work of Frank.[6] Based on these premises, the background of treatment has in the past consisted of a low-sodium diet, water restriction, ammonium or potassium chloride administration, and, early in the cycle, the use of an estrogen with a view to preventing ovulation.

Hepatic disturbances of a nutritional or "hypovitamin" nature have been said to further the manifestations of premenstrual tension by decreasing the destruction or inactivation of estrogen by the liver.[7] For this reason many physicians have added vitamins to the therapeutic regimen of premenstrual tension in an effort to improve the status of the liver.

The dysmenorrhea attendant on premenstrual tension has been blamed on physiologic alterations in the autonomic nervous system or the uterine musculature.[2,3,8,9] For these reasons pharmaceutical agents and surgical procedures influencing the autonomic nervous system have also been advocated as important therapeutic aids in dealing with the syndrome of premenstrual tension.

We previously studied the influence of a theophyllinate-antihistamine preparation on the manifestations of premenstrual tension and have observed relief in approximately two thirds of the patients. In such studies no effort was made to restrict food, salt, or water. It seemed desirable to test by the same technics some of the other agents advised for the management of this very distressing and, in milder forms, relatively common complaint. Rather than attempt to try each of the above theories individually at first, it seemed best to employ some agent already available which might combine features of more than one concept of the nature of the premenstrual tension syndrome. If the agent proved effective, it would then be logical to proceed further and test the individual ingredients to determine the specific action, if any, of each one. We are here reporting the results with an agent which contains ammonium chloride as the diuretic, homatropine methyl bromide as the vagal depressant, and several B factors for "the hepatic handling of estrogens."

Methods and Procedure

Subjects and Routine of Living.—Nineteen women with premenstrual tension between the ages of sixteen and forty-three with an average age of 24.4 years were selected from outpatient clinic and private practice and divided into three groups with regard to their apparent retention of water in relation to the menstrual flow (Table I): (1) six with frank edema, (2) six with clear-cut evidences of water retention but no obvious edema, and (3) seven without clinically demonstrable water retention. Each subject was followed during cycles when no medication was used, when placebo was employed, and when each of the two therapeutic preparations was given. The order of these respective cycles was varied from person to person so that no set arrangement was followed.

The general habits of the patients were not changed, save that all were advised to avoid

TABLE I.—COMPARISON OF NEOBROMTH AND PRE-MENS IN THE MANAGEMENT OF 19 WOMEN WITH PREMENSTRUAL TENSION

	With Edema	With Water Retention but No Obvious Edema	Without Recognizable Water Retention
Number of cases	6	6	7
Menstrual cycles observed			
Control			
Average per case	6.0	3.2	2.2
Range	1 to 24	1 to 12	1 to 8
Placebo			
Average per case	1.5	1.4	1.1
Range	1 to 3	1 to 3	1 to 2
neoBromth			
Average per case	4.7	1.8	2.3
Range	1 to 14	1 to 5	1 to 5
Pre-mens			
Average per case	2.3	1.4	1.9
Range	2 to 3	1 to 3	1 to 3
Results (degree of improvement)			
None			
Placebo	5	4	6
neoBromth	1	2	2
Pre-mens	1	2	2
Slight			
Placebo	1	1	1
neoBromth	1	..	2
Pre-mens	3	3	2
Moderate			
Placebo	..	..	1
neoBromth	..	2	2
Pre-mens	..	1	2
Marked			
Placebo	..	..	..
neoBromth	2	4	1
Pre-mens	1	..	..
Complete			
Placebo	..	..	..
neoBromth	2	..	..
Pre-mens	1	..	1

alcohol and late and irregular hours for several days prior to the onset of the period. In no instance was an effort made to restrict salt or water intake or to emphasize particular types or amounts of food.

MEDICATION.—Each tablet of the antihistamine-theophyllinate preparation contained 50 mg. of 2-amino-2-methyl-1-propanol-8-bromotheophyllinate and 30 mg. of pyrilamine maleate.* Each tablet of the ammonium chloride-vitamin-vagotropic preparation contained ammonium chloride 325 mg., homatropine methyl bromide 0.5 mg., caffeine alkaloid 30 mg., thiamine hydrochloride 2 mg., riboflavin 1 mg. pyridoxine hydrochloride 0.5 mg., calcium pantothenate 1 mg., and niacinamide 5 mg.†

As a rule the medications were started from three to ten days prior to the expected menstrual flow, but when used in the three patients with continuous edema, it was possible in the case of neoBromth to employ the material throughout the cycle. In this way continuous control of edema was achieved in two of the three individuals. In general, however, it was customary to give two tablets of neoBromth twice daily. Two tablets three times daily was the usual dose for Pre-mens. In individual patients dosage for neoBromth ranged from one tablet twice daily to two tablets three times daily and for Pre-mens from one tablet three times daily to three tablets three times daily.

The degree of improvement, as noted in Table I, was recorded "none" if the clinical picture was in no way altered by the use of the drug administered, "slight" if some one presenting symptom was definitely ameliorated or if the patient thought herself better despite no change in any specific symptom, "moderate" if some one manifestation completely disappeared or if several were favorably influenced without a major change in any, "marked" if two or more presenting symptoms were completely controlled or striking improvement of all manifestations occurred, and "complete" if all of the manifestations of the premenstrual tension state were effectively controlled.

Of the 19 subjects no relief of premenstrual tension was obtained by the use of neoBromth in three and of Pre-mens in five (Table I). Relief was slight, moderate, marked, and complete during treatment with neoBromth in three, four, seven, and two patients, respectively, and during Pre-mens therapy in eight, three, one, and two individuals, respectively (Table I). If we group those with "no" and those with "slight" improvement together and consider them "unimproved" and group the remainder of the patients as having obtained relief, then it is clear that while taking neoBromth, six or 31.6 per cent of the patients obtained no relief, while 13 or 68.4 per cent were materially helped. Under treatment with Pre-mens 13 or 68.4 per cent obtained little or no relief, while six or 31.6 per cent were improved or completely symptom-free. NeoBromth afforded marked or complete relief in nine patients, while Pre-mens accorded three subjects similar degrees of relief. These differences are significant within the 1 per cent level of confidence.

Although the individual groups are small, it would appear that neoBromth was superior to

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*Manufactured by the Brayten Pharmaceutical Co., Chattanooga, Tennessee, under the trade name, neoBromth.

† Manufactured by the Purdue Frederick Co., New York City, under the trade name, Pre-mens.

TABLE II.—Symptomatic Analysis of Relative Influence of neoBromth and Pre-mens in 19 Women with Premenstrual Tension

Manifestations	Number of Cases	Degree of Improvement or Normalization									
		None		Slight		Moderate		Marked		Complete	
		neo-Bromth	Pre-mens	neo-Bromth	Pre-mens	neo-Bromth	Pre-mens	neo-Bromth	Pre-mens	neo-Bromth	Pre-mens
Amount of menstrual flow											
Moderate or normal	9	9	9	..	..	..	..	..	..	..	..
Scanty	7	4	5	..	..	1	..	1	1	1	1
Profuse	3	2	3	..	..	1	..	..	..	..	..
Water retention	12	1	3	..	2	2	3	3	4	4	..
Nervousness and mental symptoms	16	3	6	..	5	1	2	8	3	4	..
Faintness, dizziness, etc.	7	1	..	3	1	1	1	1	3	1	2
Acne	7	2	6	1	..	1	1	2	..	1	..
Headache	11	2	5	..	1	1	..	1	1	8	5
Breast fullness	6	1	..	1	2	2	2	1	1	1	..
Gastrointestinal symptoms											
Nausea*	5	..	5	..	..	..	..	1	..	4	1
Vomiting	3	..	3	..	..	..	..	..	..	3	..
Constipation	2	..	1	..	..	1	..	1	1	..	..
Right upper quadrant distress	..	..	..	..	..	..	..	..	..	..	..
Pelvic											
Fullness and/or "dragging down"	7	1	4	..	1	2	1	1	..	3	1
Abdominal pain	10	2	3	..	2	4	3	2	2	1	..
Back and/or leg pain	5	..	1	1	1	2	1	..	1	1	..

* Nausea with Pre-mens was observed in 4 patients; with neoBromth in 1.

Pre-mens in the 12 individuals with recognizable water retention, while the preparations were about equally effective in the seven subjects who had no clinically observable changes in this regard (Table I). In the first two groups ten of the 12 patients obtained definite relief from neoBromth, while only three of the 12 were helped by Pre-mens. When subjected to the chi-square type of analysis and despite the small numbers involved, these figures become significant well within the 5 per cent level of confidence.

The major manifestations observed in the 19 women are recorded in Table II. Neither preparation produced any significant changes in the intermenstrual interval, which was normal in all but three patients, or in the amount of flow. Water retention was completely relieved in four subjects under the influence of neoBromth and in none who received Pre-mens, but definite degrees of relief from this very distressing manifestation were observed in seven of the subjects taking Pre-mens and in nine under treatment with neoBromth.

We were rather surprised to find that neoBromth, which contains no sedative, afforded marked to complete relief of the nervous and mental symptoms in 12 of the 19 subjects, while this occurred in only three during treatment with Pre-mens despite the presence of a drug which might be expected to act on the higher brain centers (Table II).

Gastrointestinal symptoms were often relieved by neoBromth, whereas nausea and vomiting were rarely relieved by Pre-mens. As a matter of fact, while Pre-mens was being given, nausea appeared in four subjects who had not previously had it, and vomiting occurred in one of these. Nausea but no vomiting occurred once with neoBromth where it had not been present when no drug was administered.

Headaches and acne appeared to be more amenable to neoBromth than to Pre-mens, while breast engorgement seemed to respond better to the latter. Pelvic symptoms—fullness, "dragging down," abdominal, back, and leg pain—were not fully controlled by either preparation, but a modicum of relief was afforded by each of the two compounds (Table II).

Comment

Premenstrual tension remains a very easy condition to diagnose, but a contrastingly difficult one to treat successfully. The wide range of therapeutic agents employed in its management are mute testimony to the latter statement. In the present study an effort has been made to assess the relative merits in therapy of an agent designed to relieve the water and salt retention as contrasted with the use of a multiple-purpose drug based on the nutritional, endocrinologic, and neuromuscular factors presumed to be active in the production of the syndrome. The theophyllinate-antihistamine mixture was definitely superior to the other preparation in these trials and exerted its sodium and water-excreting effects in the absence of any regulation of intake.

In all fairness to Pre-mens its manufacturers recommend restriction of salt and water and the ingestion of a high-protein diet in connection with its use. One wonders if these adjuvant measures may not play the leading role in the reported successes[10] attendant on its usage. In any event the theophyllinate type of preparation appears to exert its action without the necessity for restricting the patient's eating or drinking habits. In fact, we have some evidence which leads us to believe that the material acts better if no such restrictions are employed.[11,12]

The therapy of premenstrual tension still leaves much to be desired. We are leaning more and more toward the view that the premenstrual retention of water and salt plays a significant role in its genesis. It is still difficult to say that this has anything to do with hormonal changes, although changes in estrogen have been suspected for a long time.[6] If hyperestrinism is responsible, it is quite surprising that various types of hormonal treatment have been such dismal failures to date. As yet we have found no therapy which offers greater, more consistent, and more continuing relief than the diuretics of the long-chain theophyllinate group.

Summary

1. Nineteen patients with severe premenstrual tension have been treated alternately with placebo, an antihistamine-theophylline preparation (neoBromth), and a chloride-vitamin-antivagal compound (Pre-mens). Definite overall degrees of relief were afforded 13 or 68.4 per cent of the subjects taking neoBromth and six or 31.6 per cent of the group receiving Pre-mens.

2. Pelvic distress, breast engorgement, and headaches were about equally controlled by the two preparations. Pre-mens seemed to aggravate digestive disturbances and sometimes to cause them.

3. Water and salt retention, nervous and mental symptoms, and acne responded more favorably and with greater frequency and degree to neoBromth than to Pre-mens.

4. The over-all response of premenstrual tension to these therapeutic agents still leaves much to be desired, but neoBromth in our hands has been more useful than other compounds tried for the indications outlined above. Neurohormonal factors not yet fully appreciated probably play a part in the production of this distressing and, in its milder forms, relatively common syndrome.

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Echinococcus Disease in an American Veteran

Characteristic of Echinococcus infestation (a rare disease in the United States) is hypersensitivity to fluid of the cysts which most frequently involve the liver, but may occur in any organ. Unless the nature of the disease is understood, attempts to aspirate the cysts may result in anaphylactic shock due to escape of the fluid. In reporting a nonfatal case in which this occurred, Dr. Samuel Zelman says that needle aspiration is not necessary to preoperative diagnosis if the entity is considered as a possibility and complement fixation and skin tests are employed. At surgery this patient was protected against severe reaction both by mechanical measures and preoperative as well as postoperative steroid therapy.—*U.S. Armed Forces Medical Journal, December, 1955*

CLINICOPATHOLOGIC CONFERENCE

ST. JOSEPH'S HOSPITAL
ELMIRA, NEW YORK

Conducted by F. S. HASSETT, M.D.

APRIL 13, 1955

Discussed by JOSEPH E. MACMANUS, M.D.*

Case History

The patient was a seventy-five-year-old, former restaurant worker who was admitted to the hospital complaining of "asthma." The patient said that he had had "asthma" for the preceding two years; by this he evidently meant that he had wheezing respirations and some difficulty in breathing. Two months before admission the patient noticed that his ankles began to swell and that the complaint of asthma became much worse. The patient had marked dyspnea on any exertion and had to sleep in a chair most of the time. He denied hemoptysis, productive cough, or chest pain. His appetite had been poor, and in the preceding few months he thought he had lost some weight. In the two days before admission the wheezing became intolerable, and when he saw his physician, he was referred to the hospital.

The patient had been unemployed for several years, but he attributed this to his inability to find work. Thirty years before admission he had been hospitalized elsewhere because of "swollen ankles." This episode was not well enough remembered to make anything else out of it. He had never had any manifestations of allergy up to the beginning of the present illness. There were no known allergic manifestations in his family.

He was a pale, old man, not cyanotic, and he was visibly tired by the examination. Inspiratory and expiratory wheezes could be heard throughout both lung fields at all times. No rales were heard. The expiratory phase of respiration was prolonged over the inspiratory phase. There was 4 plus dependent edema of the legs. The prostate was diffusely enlarged. The temperature was 100.6 F., respirations 28, and pulse 90. The blood pressure was 154/78.

The urine showed a specific gravity of 1.013 with a slight trace of albumin. The red blood count was 4,700,000 with 14.8 Gm. of hemoglobin. The white blood count was 14,800 with a normal differential. The sedimentation rate was 43. Nonprotein nitrogen, total serum proteins, and albumin-globulin ratio were all normal. Wassermann was negative. The electrocardiogram showed a right bundle branch block.

An x-ray of the chest showed the left lung field to be clear. There was "a slight shift of the mediastinum to the right with complete opacity of the right upper lobe which appeared slightly contracted upward and laterally. There was a small amount of free fluid laterally at the right base." Right lateral chest x-ray and Bucky films revealed "the density of the right upper lobe to be general and to indicate some atelectasis." The fluid seemed to be anterior at the base. No hilus mass was made out, although "the right hilus shadow is a little more prominent than usual." The sputum examinations for acid-fast bacilli were negative. Sputum smears by the Papanicolaou technic were negative.

The patient was treated with aminophylline suppositories and sedatives. Dyspnea and wheezing continued. He frequently slept sitting in a chair at night, refusing to go to bed.

The patient was bronchoscoped. The

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* From the Department of Surgery, University of Buffalo School of Medicine, Buffalo, New York.

bronchoscope "could not be passed below the level of the upper lobe opening because of a narrowing. The upper lobe was not visualized because of an overhanging ledge." A biopsy taken from the narrowed area was reported as showing chronic ulcerative bronchitis. The left bronchial tree, as far as it was visualized, was normal. Acid-fast smears of the bronchial aspiration were negative, and no tumor cells were seen.

A week after admission the patient suddenly brought up a large amount of thick yellow sputum which evidently was not examined. An OT skin test (dilution not recorded) was negative. The patient had paroxysms of dyspnea. Repeat x-rays of the chest showed a moderate increase in the amount of fluid at the right base. On the eleventh hospital day 90 cc. of turbid, straw-colored fluid were removed from the right chest; lymphocytes were seen but no tumor cells. Bronchoscopy was repeated on the seventeenth day; again the right upper lobe opening could not be visualized, and the scope could not be passed beyond that level. Tumor cells were reported in the washings obtained through the bronchoscope, and acid-fast smears were negative. A biopsy showed cartilage with hyperplastic mucosal glands.

The patient occasionally showed slight elevation of his temperature. On the twenty-seventh hospital day his temperature rose to 103 F. rectally and immediately returned to normal. The patient had been digitalized and given various supportive measures, but his condition continued to go downhill, and he quietly expired on the thirty-seventh day after admission.

Discussion

Dr. Joseph E. MacManus: The essential problem for resolution in this case is the nature of the cause of death in this elderly man of seventy-five. When dealing with elderly people, we must constantly be alert to the capricious nature of the symptom complexes which may appear in response to the disease. The aged often react very little to their pathology and demonstrate a disarming lack of the definitive marks of their diseases. Again, when patients are approaching death, whether they be old or young, the various clinical pictures present during the more reactive stages of their diseases tend to merge and make an accurate diagnosis more difficult in the latter stages. Both of these principles should be kept in mind while reviewing this case.

The organ systems responsible for this illness seem clearly to reside in the chest. When we are presented with pulmonary problems, the effects of the disease on both air flow and blood flow must be kept in mind. The history begins with major complaint of "asthma" or difficulty in breathing accompanied by wheezing, which apparently had been present for two years. This was followed more or less recently by the onset of edema of both legs. The simplest pathologic explanation of the relation of these two symptoms would be the presence of long-standing emphysema with subsequent right heart failure. Wheezing apparently was an important part of this man's complaint. This symptom usually signifies an obstruction to the inflow or outflow of pulmonary air. The negative history of hemoptysis, productive cough, or chest pain is somewhat unusual in an obstructive lesion of the pulmonary system.

In the physical examination we are told that he was "a pale, old man without cyanosis." There is an important relation between pallor and cyanosis. The more pallid the countenance, the less likely will anoxemia be manifested by cyanosis. A basic amount of hemoglobin (more than 5 Gm. per cent) must be present in the peripheral blood to produce cyanosis during oxygen lack. Therefore, the lack of cyanosis here does not indicate the absence of anoxemia.

"Inspiratory and expiratory wheezes could be heard throughout both lung fields." This would suggest that his problem was a generalized one and not localized to one small area of the lungs. But a decision must be made as to whether the wheezes, which were heard in both sides of the chest, were truly originating from both sides or whether the wheezing was so prominent in one part of the chest that it was heard throughout. In the presence of so much wheezing the absence of rales on examination is not helpful to me. However, if the chest is generally quiet and I can hear showers of localized, subcrepitant rales in the lungs, I have found that this is more likely to be due to pneumonitis from infection than to the obstructive pneumonitis which develops with bronchial tumors.

"The expiratory phase of respiration was prolonged over the inspiratory phase." This

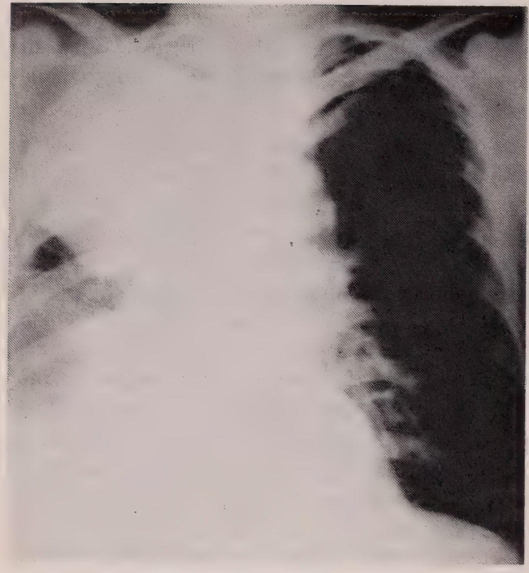

FIG. 1. Complete opacity of the right upper lobe which appeared to be contracted upward and laterally. A small amount of fluid is seen laterally at the right base.

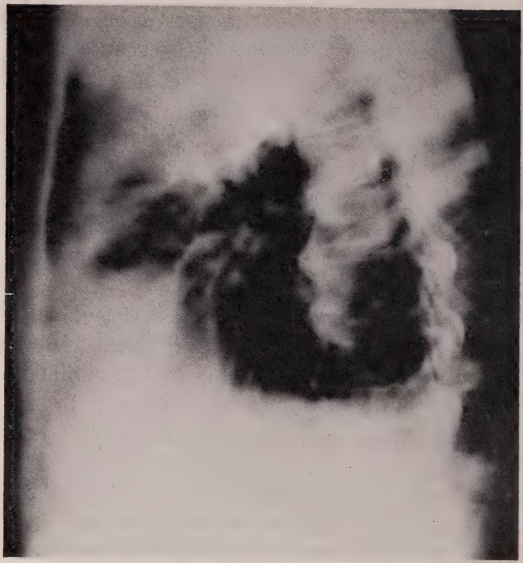

FIG. 2. The density of the right upper lobe appears to be general and to indicate some atelectasis.

suggests that the patient had some bronchial obstruction. I assume that the 4 plus dependent edema was largely cardiac in origin. No mention is made here of the presence of nodes, and I assume none was found. The presence of nodal pathology, of course, may be of prime importance in chest problems.

The chest x-rays showed that he had marked consolidation and induration with a possible abscess in his right upper lobe. In addition, the pictures are suggestive of middle lobe atelectasis with some fluid in the costophrenic angle (Figs. 1 and 2).

The first sputum smears by the Papanicolaou technic were negative for tumor cells. The evaluation of the acid-fast smear requires some thought. We have found that if you look hard enough, you can find some tubercle bacilli in from 5 to 10 per cent of patients with proved cancer of the lung. If we cannot prove the presence of a tumor by biopsy, smears, or x-ray but we do find large numbers of tubercle bacilli in the smears, we naturally consider the patient to have tuberculosis. If, however, only one or two bacilli are found after a long search in a case in which a diagnosis of tumor is the alternative, we do not consider tuberculosis to be the primary diagnosis. We consider such a patient to have had his tuberculous foci reactivated by the neoplastic disease. I cannot find here any direct evidence of tuberculosis. We must remember, of course, that tuberculin skin tests can be negative in the terminal stages of tuberculosis. It would be rash of me to entertain further the diagnosis of tuberculosis when neither the laboratory nor clinical features support that diagnosis.

The bronchoscopy report describes an obstruction of the main bronchus at the level of the upper and middle lobes. A section of tissue taken for biopsy showed nothing significant. The left bronchial tree was normal as far as it could be visualized under the difficult conditions of the bronchoscopy.

A week after admission the patient brought up "a large amount of thick yellow sputum which evidently was not examined." I assume that "a large amount" would be enough to fill the bottom of an emesis basin. In that case I believe this man had an abscess in his lung because it is really difficult to raise that much sputum at one time unless one has discharged either an abscess or an empyema into a bronchus, and we have no evidence of empyema. I am surprised that no mention of cough is made throughout his history. I would have thought, if cough had been present, that he was emptying an abscess into the bronchi intermittently with progressive infection of more and more pulmonary segments.

"On the eleventh hospital day 90 cc. of turbid, straw-colored fluid were aspirated from the chest." In cancer of the lung we find generally three types of fluid in the chest. We may see a bloody fluid, from which one can usually recover tumor cells, or we may aspirate a cloudy, turbid fluid which often clots almost as soon as it is collected. In such a case, at operation, we find the tumor obstructing the lymphatic and venous flow from the involved lobe. The third type of fluid is a clear transudate, which contributes nothing at all to the diagnosis unless, of course, we find frank tumor cells on examination.

Let us consider then the repeat bronchoscopy and the first report of tumor cells. As I have indicated, I believe that the significance of such a report depends on the pathologist. If he is generally very conservative, we would consider this diagnostic. If on the other hand, the percentage of false positive reports are high from his laboratory, the evidence would not be so clear-cut.

We note that several systems seem involved in this case. However, it does not appear that his death was caused by disease of the prostate, heart, or kidney. We have substantial evidence of serious pulmonary disease which, added to the disadvantage of advanced age, leaves the patient with poorer tissue responses and allows him to react in a passive way to serious insults to his body economy. This man's essential pulmonary problem was the loss of aerating surface. There was little oxygen entering the right upper and middle lobes, resulting, physiologically, in a bilobe lobectomy—a serious condition in a man of seventy-five. He also had some fluid in the right chest which, of course, reduced further his respiratory capacity. Physiologically then, in summary, he had a significant bronchial obstruction, a loss of pulmonary reserve, and an inability to clear secretions that further lowered his reserve, which finally, along with the failure of his circulation, caused his death. Our problem is to decide whether this resulted from neoplasm or infection.

Let us mention the pulmonary diseases which could be considered here. One must think of an old infected infarct secondary to his cardiac pathology. Second, this man may have had a fungous infection which could have produced this entire pathology. Although it must be considered, we have no evidence for thinking it was tuberculosis. The fourth possibility is that he had a simple lung abscess in the upper lobe, discharging its contents into the lung with progressive infection. A foreign body usually causes obstruction in the lower rather than the upper lobe, and I believe that possibility is unlikely. Finally, although this is also unlikely, a large mass of nodes may occasionally rupture into bronchi, causing obstructive secondary infection and this subsequent clinical picture.

Of the available diagnoses, however, neoplasm seems to me to be the diagnosis of choice. It is true that in entertaining the diagnosis of neoplasm, certain aspects of this case appear odd. I think it is very unusual to have a two-year history of dyspnea and asthma, without cough, hemoptysis, or chest pain, as the result of a tumor. It is also unusual not to be able to obtain a positive biopsy from a tumor in this situation. Some element in the bronchoscopy should have made it obvious that this was a tumor. However, the report of tumor cells in this study makes it difficult to avoid a diagnosis of neoplasm. I will say, then, that this man had a carcinoma of the lung with obstruction and the formation of an abscess distal to the tumor.

QUESTION: Would you care to discuss the possibility of bronchiectasis?

DR. MACMANUS: No, I would still say neoplasm since there is no positive evidence suggesting any other disease.

QUESTION: Would you even consider tuberculosis in your percentages?

DR. MACMANUS: You always have to think of it, of course, but I would have expected some more definite findings than we have here. Admittedly, one can see this same picture with tuberculosis, fungus, or tumor, but I have selected the tumor because it is the condition more frequently encountered with these findings in this age group, and we must remember that the smear by Papanicolaou technic was positive.

Diagnoses

Clinical.—*Bronchogenic carcinoma.*

Dr. MacManus.—*Bronchogenic carcinoma.*

Pathologic.—*Pulmonary tuberculosis.*

Pathologic Report

DR. JAMES A. MITCHELL: This was the body of a fairly well-developed, well-nourished, elderly white male. Both pleural cavities contained a large amount of thin, straw-colored fluid. The right upper lobe was diffusely consolidated and firm. Section of this lobe showed almost complete replacement of the parenchyma by a light gray tumor mass which appeared to be homogeneously solid throughout. The right middle and lower lobes appeared to be atelectatic. The pleura was firm, considerably thickened, and studded with innumerable, small, discrete, grayish nodules.

The right upper lobe bronchus was narrowed and stenotic. The remainder of the bronchial tree was essentially normal.

I didn't do this autopsy, but you can see from the description that the pathologist thought this was a definite neoplasm and that the nodules in the pleura were metastatic. However, microscopic examination showed typical Langhans giant cells. There was no evidence of neoplasm anywhere.

Dr. MacManus: This is, of course, a complete surprise to me!

ANNOUNCEMENT

SCIENTIFIC EXHIBITS

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MEDICAL SOCIETY OF THE STATE OF NEW YORK

Applications for space for the scientific exhibits should be made directly to the Chairman of the Subcommittee on Scientific Exhibits of the Convention Committee:

William L. Watson, M.D.
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The Sesquicentennial Convention will be held February 18 to 21, 1957, at the Hotel Statler, New York City.

No applications can be considered after November 1, 1956.

There will be two groups of awards:

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W. P. Anderton, M.D., *Secretary*
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CASE REPORTS

Sudden Perforation of an Asymptomatic Duodenal Ulcer in a Patient on Prednisone Therapy

LOUIS W. GRANIRER, M.D., F.A.C.P., JAMAICA, NEW YORK

(*From the Arthritis Clinic, Queens General Hospital*)

A NEW synthetic steroid, prednisone, previously known as metacortandracin, has recently been administered for the treatment of rheumatoid arthritis. Early studies revealed that prednisone had only minor side-effects and a greater margin of safety and was four times more potent than cortisone in ameliorating the joint symptoms.

This paper reports the case of a patient with rheumatoid arthritis who was receiving a small daily dose of prednisone and, with no previous gastrointestinal signs or symptoms, suddenly developed a perforated duodenal ulcer and peritonitis.

Case Report

A forty-five-year-old male was admitted to the hospital with an eighteen-year history of arthritis that began with pain and swelling of the wrist, metacarpophalangeal, and elbow joints. The disease progressed so that the ankles and knees were involved. Acetylsalicylic acid 3 Gm. daily gave some relief. His appetite was good, and he experienced no gastrointestinal symptoms. Examination revealed a thin, chronically ill male with pain, tenderness, and swelling of the knees, right elbow, ankles, and wrists. The sedimentation rate was 64 mm. per hour (Westergren), serum albumin 2.8 Gm. per 100 cc., and globulin 4.2 Gm. per 100 cc. X-rays of the joints showed cortical and subcortical bone destruction. Radiologic examination of the gastrointestinal tract showed no abnormality. Hemoglobin was 72 per cent, red blood cells 3,500,000 per cu. mm., and white blood cells 4,800 per cu. mm. The serum uric acid was 2.3 mg. per cent. Blood pressure was 120/80. The urine was within normal limits.

Therapy with acetylsalicylic acid was completely discontinued. With 10 mg. of prednisone per day there was a definite reduction of pain and stiffness, but after three days he complained of "fullness in the head." Blood pressure studies revealed a mild hypertension of 180/110. The dose of prednisone was reduced to 5 mg. daily, and the blood pressure returned to a normal level. The patient felt moderately comfortable on this dose and had no symptoms. He was discharged from the hospital after eight days on an ambulatory basis with a daily dose of 5 mg. of prednisone.

On the thirty-second day of therapy, after receiving a total of 180 mg. of prednisone, he developed severe abdominal pain and tenderness and vomited several times. These symptoms came on rather suddenly.

Readmission to the hospital revealed a temperature of 101.2 F., pulse rate 105, blood pressure 110/74. The patient was alert and cooperative. The lungs were clear and resonant throughout. The heart was normal. Severe pain was localized in the epigastric area where there was also exquisite tenderness and rigidity.

The laboratory data revealed 32,300 white blood cells with 88 per cent neutrophils, 7 per cent band cells, 8 per cent lymphocytes, 2 per cent monocytes, and 2 per cent eosinophils. Hemoglobin was 10 Gm. and sedimentation rate 58 mm. in an hour. Urinalysis revealed a trace of albumin. Microscopic examination of the urinary sediment showed 15 to 20 white blood cells per high-power field. Total protein was 7.4 Gm., with 3.6 Gm. albumin and 3.8 Gm. globulin. Serologic test for syphilis was negative.

Operation revealed a perforated ulcer near the apex of the duodenal bulb and free fluid in the peritoneal cavity. The perforation was repaired. The patient's course in the hospital was uneventful, and he remained afebrile after the third day. The signs and symptoms of the arthritis were readily relieved with acetylsalicylic acid, 0.6 Gm. four times a day.

Comment

To my knowledge this is the first reported case of rheumatoid arthritis treated with prednisone to develop an asymptomatic duodenal ulcer with sudden perforation. It is quite probable that there are many more similar cases unreported and that this catastrophe is not too rare.

Although Bollet *et al.*[1] did not report any similar serious complication in their series of 18 patients treated with this steroid, radiologic evidence of peptic ulcer appeared in three patients. The authors aptly stated that the first appearance of a peptic ulcer may be the sudden development of massive gastrointestinal bleeding or perforation of the ulcer and peritonitis. Other investigators[2,3] describe an increase in the incidence of ulcer when steroids are administered for long periods.

In the present case it is important to note that the relatively small daily dose of prednisone in this patient did not prevent the formation of an asymptomatic duodenal ulcer and its sudden perforation. The small dose of this new steroid present in the "superaspirins" must command our attention.

Summary

A patient with rheumatoid arthritis was treated with 5 mg. of prednisone daily. On the thirty-second day he suddenly developed perforation of a duodenal ulcer and peritonitis. The ulcer had been asymptomatic. This case is reported to emphasize the need for caution in the use of prednisone and careful supervision of patients.

90-36 149TH STREET

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Radiographic Demonstration of Hemosiderosis of the Spleen

MAJOR RALPH M. LILIENFELD, USAF (MC), CAPT. DAVID GOLD, USAF (MC), AND CAPT. JAMES RUSSELL, USAF (MC), OKLAHOMA CITY, OKLAHOMA

(*From the Departments of Radiology and Internal Medicine, 2792nd USAF Hospital, Tinker Air Force Base*)

HEMOSIDERIN is deposited in many organs as a result of various disease processes. It is found in the liver, spleen, and kidney in the numerous forms of hemolytic anemia and is concentrated in the liver, spleen, and pancreas in hemochromatosis. It is found in the lung in passive hyperemia, especially when associated with mitral stenosis. Radiographically, hemosiderin has been demonstrated in the lung on numerous occasions. The authors are not aware, however, that it has ever been reported as radiographically demonstrated in an organ other than the lung.

We wish to present a case report of sickle cell anemia with the unusual radiographic finding of miliary densities in the spleen. Histologic examination showed these densities to be deposits of hemosiderin.

Case Report

A twenty-year-old Negro was admitted to the 2792nd USAF Hospital with a complaint of vague pain in the right side of the abdomen of one day duration. He had been constipated for two days. Three months previously he had had similar bouts of abdominal pain which remitted after the administration of castor oil. The patient denied other gastrointestinal symptomatology.

Past medical history was negative except for the questionable history of malaria during the patient's childhood and the history of being thrown from a horse at the age of ten with resultant trauma to the left upper quadrant of the abdomen. A physician allegedly detected splenomegaly at that time. The patient's father died in an accident. His mother and four siblings are living and well.

Physical examination revealed a well-developed and well-nourished twenty-year-old Negro. Temperature was 100 F. There was moderate scleral icterus. The liver edge was blunt, nontender, and firm and extended two fingerbreadths below the right costal margin. The spleen was firm, lobulated, and nontender, with the edge extending three fingerbreadths below the costal margin. There were several areas of scarring on both pretibial surfaces. No other physical abnormalities were detected.

Laboratory studies revealed a white blood count of 27,250 with a normal differential. Red blood cell count was 2,700,000 per cc., hemoglobin 9 Gm., hematocrit 25 per cent, and sedimentation rate 30 mm. per hour. The blood smear revealed moderate numbers of sickled erythrocytes, slight polychromasia, some anisocytosis and poikilocytosis, and several nucleated erythrocytes. There was a paucity of platelets on repeated blood smears. There was a 2 plus proteinuria on one occasion and

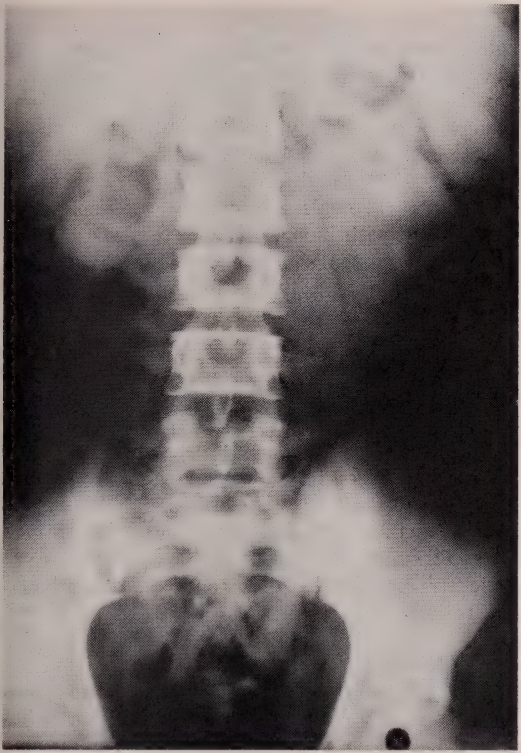

FIG. 1. Lobulated and moderately enlarged spleen studded with soft, nodular densities.

slight bilirubinuria on another. The van den Bergh reaction revealed 0.55 mg. per cent direct reacting bilirubin and 4 mg. per cent indirect reacting bilirubin. The bromsulfalein excretion, cephalin flocculation, alkaline phosphatase, and serology were normal.

X-ray studies revealed the spleen to be lobulated and moderately enlarged (Fig. 1). Small miliary nodules of a soft woolly density were spread throughout the entire spleen. A small rounded area of a similar density was noted overlying the left twelfth rib outside the spleen and in the region of the left kidney (Fig. 2). The vertebral bodies, ribs, and pelvic bone showed a coarse trabecular pattern. The chest x-ray showed slight enlargement of the transverse cardiac diameter. X-rays of the skull and phalanges were essentially negative. Cholecystogram showed no evidence of cholelithiasis. An electrocardiogram revealed borderline prolongation of the intrinsicoid deflection in the left precordial leads (0.04 to 0.05 second). PPD and histoplasmin skin tests were negative.

The patient received 4 units of whole blood, and hemoglobin stabilized at 10.5 Gm. per cent. The patient was returned to military duty.

Six weeks after initial hospitalization the patient was readmitted for follow-up study. Physical findings were similar to those recorded at the time of the initial examination except for the detection of a Grade 2 apical systolic and a loud third heart sound.

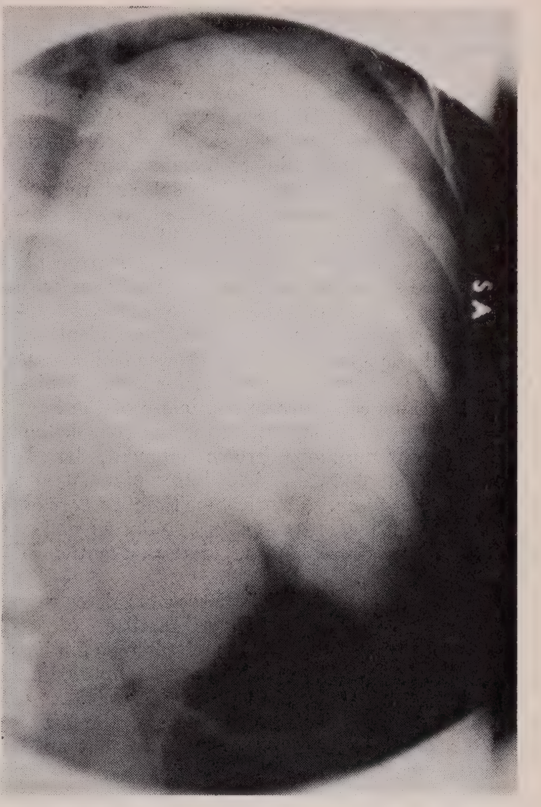

FIG. 2. Small area of soft woolly density overlying twelfth rib outside the spleen. It may possibly represent a localized deposit of hemosiderin in the left kidney which was subsequently excreted or absorbed.

Laboratory studies were as follows: white blood count 14,750 with a normal differential, red blood count 2,560,000 per cc., hemoglobin 8 Gm., hematocrit 26 per cent. Blood smear exhibited moderate numbers of nucleated red blood cells, polychromasia, and a large number of sickled erythrocytes. Platelets were present in normal numbers. The van den Bergh reaction revealed 0.55 mg. per cent direct reading and 4 mg. per cent indirect. Coombs reactions were normal. Paper electrophoretic study of a blood specimen showed only S hemoglobin.*

The electrocardiogram revealed the intrinsicoid deflection in V_6 to be 0.06 second. T waves in V_5 and V_6 were low.

X-ray studies showed no evidence of the previously noted density in the region of the left kidney. The other radiographic findings were as previously noted.

The patient received 2 units of whole blood, and a splenectomy was performed. The postoperative course was uneventful. Platelets rose from 180,000 to 653,000 per cu. mm. on the thirteenth postoperative day. The patient was returned to full military duty and has been asymptomatic.

Five weeks after surgery laboratory studies revealed the direct reacting bilirubin to be 0.1 mg. per cent and the indirect reaction 2.35 mg. per cent, hemoglobin 10 Gm., white blood cells 13,900 with a normal differential, red blood cells 3,200,000 per cu. mm., platelets 172,000 per cu. mm. Occasional sickled erythrocytes and occasional polychromatic erythrocytes were noted in the blood smear.

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* Study performed at Walter Reed Hospital.

PATHOLOGIC FINDINGS.—The spleen weighed 1,160 Gm. It was engorged with blood and rubbery in consistency. Small areas of capsular and parenchymal fibrosis were noted. Microscopic study of the spleen revealed severe congestion with erythrocytes, many of which were sickled. Innumerable rhomboid-shaped crystals were identified throughout the spleen, and the Prussian blue stain showed a strong positive reaction for iron. Multinucleated giant cells surrounded many of the large crystals. In addition, there were conspicuous amounts of amorphous brown pigment, largely within the macrophages. The latter pigment also took the iron stain. The iron-containing crystals were noted throughout the splenic pulp, as well as in the fibrous trabeculae and in the adventitia of the blood vessels.

Sections of the spleen and microscopic slides were forwarded to the Armed Forces Institute of Pathology for further study. The microscopic findings were confirmed. The Von Kossa stain for calcium was reported negative. Except for the absence of calcium the microscopic appearance of the hemosiderin deposits was reported similar to that noted in the Gamna-Gandy nodule.

Comment

The pathologic findings in sickle cell anemia have been well described by Sydenstricker[1] and Diggs.[2] The latter noted in detail the progressive histologic evolution of the spleen in this disease. The initial findings in the spleen are those of hyperemia, splenomegaly, and hemosiderin deposition. The stage of splenomegaly is followed by fibrosis, contracture, and calcium deposition. The calcium is laid down in the areas of hemosiderin; fibrosis and giant cell invasion follow. The siderotic nodule or so-called Gamna-Gandy nodule is thus formed, characterized by a small focus, 3 to 4 mm. in diameter, of calcium and iron crystals, macrophages, and fibrosis. The spleen in our case was enlarged and engorged with blood. The early phase in the development of the siderotic nodule was demonstrated with the deposition of hemosiderin and the presence of giant cells.

A review of the literature suggests that radiographic demonstration of hemosiderosis of the spleen may not be rare. The radiographic findings of miliary densities in an enlarged spleen has previously been noted in sickle cell anemia.[3,4] A histologic study of the spleen in those cases has not been reported to our knowledge. It is possible that those cases, as well as our own, demonstrated hemosiderosis of the spleen, although they were previously presumed to demonstrate amorphous calcification.

Summary

A case of sickle cell anemia with radiographic demonstration of hemosiderosis of the spleen is presented. Radiographic demonstration of hemosiderosis of the spleen has not previously been reported. A review of the literature suggests that it may not be a rare radiographic finding.

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Methylene Blue as an Aid in the Diagnosis and Location of Perforated Peptic Ulcer

While the sites of most perforated peptic ulcers are usually found with little difficulty at operation, those occurring on the posterior wall and high on the fundus of the stomach may prove somewhat hard to locate. To keep trauma, handling, and shock to a minimum in such cases Dr. I. Arnold Jaffe suggests a modification of the Baker methylene blue method. Baker suggested giving methylene blue orally before operation, since if the gastric contents are stained with methylene blue, leakage from the perforation site readily identify its position. The author uses the Levine tube for administration.—*Journal of the International College of Surgeons, December, 1955*

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Allergy to Penicillin

SHEPPARD SIEGAL, M.D., NEW YORK CITY

(*From the Adult Allergy Clinic, Mount Sinai Hospital*)

Drug allergy is an ever-present problem in everyday practice. Fortunately most of the antibiotics induce only infrequent and minor allergic reactions. In contrast, penicillin is a frequent sensitizer, and allergy to it appears to be assuming more intense and even fatal forms.

Classification of Penicillin Allergy

Type I.—The delayed reaction is the most common form. This is the response of initial sensitization with an incubation period usually of seven to fourteen days. The minimum interval may be five days, the maximum possibly up to eight weeks. It may simulate serum sickness with a typical triad of eruption, fever, and joint pains. Any of these manifestations may dominate the picture, but urticaria is the single most common manifestation.

Type II.—Accelerated and immediate reactions are uncommon. These occur only if the patient has had penicillin previously and has thus been sensitized, although there may have been no previous overt clinical allergic reaction. The incubation period is brief, being hours or one to two days in the accelerated type, minutes or seconds in the immediate type. Manifestations may be mild or severe, more often the latter. Hyperacute serum sickness, angioedema, asthma, and anaphylaxis may occur.

Type III.—Hyperergic reactions are rare. These comprise more intense cutaneous, vascular, and visceral phenomena which may follow Type I or accelerated Type II reactions. Bullous, purpuric, and exfoliative eruptions are seen. Loeffler's syndrome and reversible renal and myocardial involvement may be noted. Progressive, diffuse angiitis with fatal termination has been reported. It is possible that acute disseminated lupus erythematosus may be induced by penicillin, and a positive "L.E." phenomenon has been observed in patients with allergic reactions to penicillin. Rare local reactions of the Arthus type belong in this category.

Type IV.—Erythematovesicular or "id-like" reactions are common. These are second only to Type I in incidence. They appear some hours or one to three days, or occasionally longer, after penicillin administration. Pruritic erythema, often with papulovesiculation, affects particularly the hands, feet, and groin. It may become generalized and subside with fine, branny desquamation. It appears to represent an activation of a silent presensitization induced by previous fungous disease of the skin. Thus, 5 per cent of adults never before exposed to penicillin show a delayed positive skin test to the antibiotic.

Type V.—Contact dermatitis is also common. This may be due to topical application or occupational exposure, as in nurses. Penicillin ointments are now largely discarded, especially by ophthalmologists, because of the frequency of this type of sensitivity. The eruption may be acute, as a typical dermatitis venenata, or may simulate a less acute eczema. Some reactions to troches may fall in this group.

Special Clinical Characteristics of Penicillin Allergy

1. Allergic reactions to penicillin appear to be both less frequent and less severe in children than in adults. Erythematovesicular reactions are more common in men.
2. Penicillin treatment may be continued in some instances despite the appearance of a *mild* Type I or IV reaction. Such persistence in treatment is justified when the indication for penicillin is urgent and the reaction readily controlled by antiallergic therapy.
3. The occurrence of a single Type I reaction of the urticarial or serum sickness-like variety does not absolutely preclude all subsequent penicillin treatment. Whenever possible, patients with a history of such a reaction should be treated with nonpenicillin substitutes. However, it is of practical value for physicians to be aware that *if suitable precautions* are taken, the majority of such patients can be shown to accept penicillin without difficulty. This resumption of tolerance for the antibiotic may be a crucial clinical point in the management of certain critical situations.
4. Penicillin reactions of the Type I category, and especially the urticaria, may be unexpectedly persistent, lasting up to a year and more.

Penicillin Skin Tests

These have a definite although limited value. The immediate skin test, read at ten to fifteen minutes and most safely elicited by the scratch method, is a warning signal of anaphylaxis when it is markedly positive. Either penicillin G solution or aqueous procaine penicillin suspension may be used for this test or for intracutaneous tests. The latter is particularly useful for the delayed skin test, read at twenty-four to forty-eight hours, as an indicator of persistent penicillin allergy. It may appear as a plaque of erythema and edema, like a positive tuberculin reaction, in the course of the prolonged urticarias or following a Type I reaction. When it is more eczematous in character, it is associated with Type IV erythematovesicular reactions or its pre-existing silent sensitivity. Positive patch tests are helpful in the diagnosis of penicillin contact dermatitis. Negative skin tests, however, do not exclude penicillin allergy or even anaphylaxis.

Penicillin Desensitization

This is likely to be a rather tedious method which must be handled cautiously, as with hay fever desensitization. Although not invariably successful, it is clearly useful in selected cases. It should not be offered to patients because of a history of a single Type I reaction because, as already noted, they usually desensitize themselves spontaneously. It may be useful for the patient scheduled for an operation on an infected site or for the rheumatic cardiac or the luetic in whom there is definite evidence of *persistent* penicillin allergy after either Type I or Type IV reactions. Desensitization is too hazardous a venture for the patient with a history of either an immediate or anaphylactic reaction. A newer application of this method is in the treatment of prolonged penicillin urticaria when all other therapy including ACTH and steroids has failed.

Substitute Penicillins and Penicillin-Antihistamine Mixtures

These should not be regarded as the solution to the penicillin allergy problem. Penicillin O, for example, is a frequent sensitizer, and only infrequently can it be substituted for penicillin G when there is true persistent allergy. Antihistamines added to penicillin have been shown in a controlled study not to reduce the incidence of the common delayed Type I reactions. They may inhibit some of the minor immediate or accelerated urticarias, but such masking may have the disadvantage of removing a valuable warning signal of impending anaphylaxis. Antihistamines should not be depended on to prevent or control severe immediate or anaphylactic reactions. The more violent the degree of penicillin sensitivity, the more imperative is the need for *nonpenicillin* substitutes.

Penicillin Anaphylaxis

This is currently the most feared hazard of penicillin treatment. While it is more frequent than formerly, it is still fortunately uncommon in view of the enormous amount of penicillin being distributed, estimated at 350 tons annually in the United States alone.

It may be noted that the fear of penicillin reactions from poliomyelitis vaccine (Salk) is unfounded. Recent observations indicate that the penicillin content of this vaccine is negligible.

The clinical features of penicillin shock are those of anaphylactic reactions to other antigens, such as serum. However, awareness of the earliest premonitory symptoms and alertness to the danger may prevent the physician from being immobilized by so unexpected and terrifying a reaction. It cannot be pointed out too often that it is the first penicillin administration given after a long interval, often of weeks or months, since previous exposure to the antibiotic which constitutes the greatest anaphylactic danger. This is precisely comparable to animal anaphylaxis where a prolonged interval after the sensitizing dose permits the establishment of the anaphylactic state. In procaine penicillin it is the penicillin itself and not the procaine which is almost invariably the anaphylactogen.

Prevention of Penicillin Anaphylaxis

The following precautions are offered toward reducing the incidence of penicillin shock:

1. Greater discrimination in the use of penicillin is long overdue. It should not be used for the treatment of the common cold and other viral infections, and preoperative and postoperative penicillin in the treatment of noninfected surgical cases should not be routine.

2. A careful history should be taken before prescribing or injecting penicillin with particular reference (*a*) to the frequency of previous penicillin treatment because it is the patient who has been frequently treated with penicillin who is more likely to develop shock, (*b*) to the uncovering of evidence of previous allergic reaction to the antibiotic, and (*c*) to the detection of a personal history of allergy and especially of bronchial asthma, for it is among these patients that fatalities most often occur. The timing of past reactions to penicillin is highly significant in that accelerated and, above all, immediate reactions, no matter how mild, are ominous portents of impending anaphylaxis. Repeated reactions to penicillin suggest a special danger also. Systemic reactions on simple contact, such as occur particularly among doctors, nurses, and other handlers of penicillin, are to be differentiated from contact dermatitis because these are warnings of the existence of the anaphylactic state. Paradoxically, it must be remembered that penicillin shock often occurs in the absence of any observation of prior penicillin allergy.

3. Some modification in the usual technic of penicillin injection may be suggested for the potentially most dangerous first injection of a course, as noted previously. This injection is preferably given into the outer upper arm rather than into the deltoid or buttock so that, if need be, a tourniquet may be applied proximally. Accidental intravenous injection should be scrupulously avoided. A forty-five-second pause might well follow administration of the first few drops before completing the injection since overwhelming, potentially fatal reactions may make themselves evident even within this short interval. Some may prefer to administer a preliminary oral tablet or inject a few drops of penicillin ten minutes before giving the full dose. Epinephrine should be at hand at the time of the injection. The practice of administering penicillin postoperatively before the patient has reacted from anesthesia should be avoided since it is probable that some unexplained postoperative deaths have been due to unrecognized penicillin anaphylaxis.

4. Preliminary skin tests may reveal the danger of anaphylaxis. The immediate reaction which develops in ten to fifteen minutes may be elicited by a scratch test. If it is strongly positive, the use of penicillin is contraindicated. As a routine screening test aqueous procaine penicillin in its usual treatment strength, 300,000 units per ml., may be used for the scratch test, *not* the intracutaneous test; a drop of water may be added to prevent too rapid drying.

Treatment of Penicillin Anaphylaxis

As in anaphylactic shock from other causes, epinephrine subcutaneously, 0.5 to 1 ml. repeatedly, is the most effective remedy. If possible, a tourniquet should be applied proximally to delay further absorption of penicillin. It may be noted that shock may occur from an oral tablet, from a troche, or after instillation of penicillin into an antrum. Oral or parenteral antihistamine may be helpful. Protracted shock not responding to simpler measures may require whole blood or plasma or an intravenous drip of norepinephrine. ACTH intravenously is effective against angioedema but should not be depended on as the major antianaphylactic agent. It should be remembered that penicillin shock can be a critical emergency demanding the most prompt and vigorous treatment.

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(Number twenty-two of a series on Fundamentals of Modern Allergy)

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Barbiturate Poisoning

The problem of acute barbiturate poisoning has assumed increasing importance in all areas where these drugs are being used. While treatment with analeptics has been a standard procedure in many clinics, the stimulating report by Nilsson[1] on the effectiveness of supportive therapy alone has brought into question the use of analeptic drugs. The anesthesiologist has been given an increasingly important role in the management of these patients since his special knowledge and technics can be most helpful in their care.

The following case details the successful management of a patient with severe barbiturate poisoning.

Case Report

A sixty-four-year-old, white female was admitted to the emergency room in coma, having been found an hour and a half before in a state of unconsciousness. A provisional diagnosis of cerebral accident was entertained until her husband reported that the patient had become most dependent on barbiturates for severe headaches. In addition, two years previously the patient had been treated in another hospital for acute barbiturate poisoning. Gastric lavage was carried out immediately, and the urinary bladder was catheterized. Laboratory studies revealed the presence of a barbiturate in the urine, which confirmed the diagnosis.

Examination revealed a deeply comatose patient, breathing 16 times per minute, with a pulse 80 to

120 and blood pressure 95/50. Except for the light reflex all other efforts to elicit reflex response, including pain, were unavailing. Until the anesthesiologist was able to reach the patient, oxygen was administered by mask, although the patient was not cyanotic. It was estimated that the depth of the coma was equivalent to the second plane of the third stage of surgical anesthesia. When the anesthesiologist arrived, intubation of the trachea was carried out, and a solution of 0.1 per cent Neo-Synephrine in 0.5 per cent glucose in water was given by infusion. Secretions were aspirated from the tracheal bronchial tree. It was possible to maintain the blood pressure at systolic levels between 120 and 150 mm. Hg with the vasopressor. The endotracheal tube was left in place so that suction of secretions could be carried out every half hour. The endotracheal tube was changed every twelve hours.

However, by the fourth day edema and pseudomembrane formation within the larynx necessitated the performance of a tracheotomy. On the second day chest x-ray revealed normal lung markings. Lumbar puncture performed on the fourth day demonstrated essentially normal dynamics of the cerebrospinal fluid. The patient was maintained on amino acids and electrolytes intravenously. Once a day 5 cc. of Metrazole were injected intravenously as a test of the depth of unconsciousness. The patient's temperature gradually rose from 100.4 F. on admission to 106 F. on the fourth day. This fever was apparently associated with a cellulitis of the arm at the site of the intravenous "cut-down." The administration of Terramycin and sodium salicylates promptly brought the body temperature to within normal limits.

In the course of the first five days the patient had remained comatose, motionless, and unresponsive to any stimuli. By the sixth day it appeared that the prognosis for recovery was extremely poor. However, on the afternoon of the sixth day, following 3 cc. of Metrazole intravenously, the patient unexpectedly responded by opening her eyes and moving her arm. Toward evening of this same day she swallowed spontaneously, moved her legs, and fluttered her eyelids.

By the seventh day the patient was conscious and responsive. Recovery from this point on was rapid, and on the eleventh hospital day the tracheotomy was closed. Five days later the patient once again began to complain of severe headache. The psychiatrist was called to see the patient, into whose care she was given on discharge from the hospital. During the whole course of this patient's stay the anesthesiologist had been in constant attendance, supervising the care of the patient.

Comment

It is obvious that the patient with severe barbiturate poisoning can be saved and that the reported 7 to 10 per cent mortality can be lowered considerably. This can only be achieved, however, by meticulous attention to the preservation of the integrity of the tracheal bronchial tree. On the whole the anesthesiologist is the person best equipped to carry out treatment in this area. Prophylactic tracheotomy and/or intubation should always be available and, whenever there is any question, should be instituted as quickly as possible.

The use of an analeptic in the management of this case is worthy of comment. It is to be noted that no analeptics were regularly employed to rouse the patient. The analeptic was used solely as a test of the depth of unconsciousness. The statistics which are presently available do not appear to support the thesis that the analeptic drugs add a great deal to the care and treatment of these patients or that they decrease the mortality in severe poisoning. On the other hand, the intelligent use of analeptic drugs may shorten the comatose state and thus lessen the need for nursing care. Of the analeptic drugs which are now available, the only two meriting consideration are Metrazole and Pitrotoxin. The dangers of Pitrotoxin have been quite amply cited, and its use has markedly diminished. The interesting and provocative reports of Shaw and Shulman[2] on beta-ethyl beta-methyl glutaramide (Megimide) once again raise the question of the value of analeptics. However, analeptic drugs cannot substitute for intelligent supportive therapy. Whether they add to supportive therapy in the treatment of patients remains to be seen.[3] Care of the tracheobronchial tree, assistance to ventilation, judicious use of vasopressor drugs, and, above all, good nursing care remain the best measures of treatment for these unfortunate patients.

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(*Number twenty-seven of a series of Clinical Anesthesia Conferences*)

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Problems in Schizophrenia

JAMES H. WALL, M.D., NEW YORK CITY

The symptoms of what we now call schizophrenia have existed for centuries—in fact, since the history of mankind was first recorded. The symptoms were classified under various terms for mental disease, but it was during the last century that the disease as a clinical entity or a group of reaction patterns was described and separated from other types of psychiatric disorders.

Dr. Morel in 1850 coined the term dementia precox to describe a certain number of the reactions beginning in early youth and ending in deterioration, a term which from the beginning has had false and unfortunate associations in the minds of the profession, the public, and the many families who have had to care for their relatives who suffered from this form of psychiatric disorder. Not all of these reactions begin in youth, and most of them do not progress to deterioration.

Kraepelin in 1896 included all forms of the reaction under dementia precox, including simple, hebephrenic, catatonic, and paranoid, and although he thought the causes "were wrapped in impenetrable darkness," he advanced the idea that there was a probable autointoxication due to a disturbance in metabolism. For years it was thought that little could be done about the disease, and there followed an unnecessarily fatalistic attitude among many workers.

Dr. Eugen Bleuler of Zurich, Switzerland, introduced the term schizophrenia in 1911 to describe the fundamental defect and psychopathology in persons suffering from this mental illness. The fundamental disturbance was one of a loosening up of thinking and feeling, a lack of adhesion in thinking and the appropriate accompanying feeling. This defect in association together with unproductive and unrealistic thinking, or autism, was the basis of the difficulty. The withdrawal, ideas of reference, delusions, and hallucinations were secondary signs and symptoms and often represented pathologic attempts at adjustment.

In this country Dr. Adolf Meyer in the early part of this century expressed the idea that the disease was the result of progressive maladjustment, poor adaptations, and disharmony of habits with uneven development in the individual. He directed psychiatric workers to a study of the life histories and personality developments of patients. Such workers as Hoch and Amsden devised methods of studying personalities, and it was soon discovered that most patients had shown shut-in personalities and were sensitive, tender-minded, and fearful. In many instances the patients were so unfortunate as not to have parents or teachers who early recognized these traits and put forth effort to bring about a balancing of interests and activities and to induce the more harmonious development associated with the toughness of mind which is required for a healthy, realistic adjustment to life.

Freud, Jung, and other psychoanalysts have contributed to our understanding of the role of narcissism, fixations, sexual development, and the mechanisms of projection and other formations of symptoms and complexes. Many modern students stress the sensitiveness, the desire to be independent, and the inability to relate to the world, the environment, and particularly to other human beings. When the symptoms of the disease become obvious, invariably we find in the background these inadequacies of personality development in varying degrees of severity. The stresses and strains, the precipitating factors, or life situations are met and overcome by most individuals, but oftentimes the timing and life circumstances are unfortunate for the sensitive person. Frequently a serious physical illness with prolonged convalescence is seen in children who later develop this condition and, in others, periods of deprivation or interpreted neglect when it was not intended by parents or other close relatives.

The disease has many forms and symptoms. The simple form frequently occurs early, and there is a marked falling off in drive and ambition and a withdrawal from life. Many colorless, apathetic, dependent individuals who do not reach hospitals are suffering from this form of schizophrenia.

The hebephrenic type occurs shortly after puberty and is characterized by extreme childishness, silliness, bizarre delusions, and hallucinations.

The catatonic reaction occurs in young people and is characterized by excitement, explosiveness, stupor, and stubborn suspiciousness. These individuals appear to be in a turmoil with inner and outer forces associated with a fighting spirit which, along with a more adequate personality development, accounts for the good prognosis in this particular group.

The paranoid form usually develops later in life than the other forms. This reaction grows out of a sensitive personality with increasing suspicions and misinterpretations. Early in the illness these patients have ideas of reference gradually developing into delusions of persecution and oftentimes associated with auditory hallucinations of a threatening and self-derogatory nature. It is among these reactions that there seems to be a concern over sexual inadequacies and homosexual drives which are projected.

About 25 per cent of admissions to our mental hospitals are patients suffering from schizophrenia, and they amount to about one-half the patients in residence in these hospitals. Immediately we are struck by the stupendous nature of this problem, not only as a tragedy in so many families but as a public health problem of great expense to our society. The need for research and the importance of early recognition and the institution of intensive treatment are the really burning problems of schizophrenia.

Much research is needed to clear up some of the problems of heredity. Oftentimes it is difficult to distinguish between what is actually inherited and the effect in the environment of other sick or nearly sick individuals in a family. More thorough studies may throw light on the whole problem of eugenics and help us to be more definite and specific in advice about marriage and children.

In more recent years the effect of certain measures, such as insulin, electric stimulation, and the administration of chlorpromazine, indicates a physiologic aspect of the disorder. More research in this field should help in the early recognition and the application of measures both psychologic and physical.

The early intensive treatment of schizophrenia requires many skilled psychiatrists who can work hard and patiently with these patients. Every effort should be made to share as many healthy experiences with these patients as is possible. Every attempt is made to understand the patient's way of feeling, thinking, speaking, and acting and gradually to bring the patient back to a more normal and productive life.

In addition to the physical measures of treatment, the role of the varied program activities is of the greatest value. Social activities should include dances, card parties, and other games. Physiotherapy and physical education activities are strongly indicated. Many recovered patients attribute their first feelings of belonging and recovery to games, such as baseball, volleyball, and tennis, and group activities where emphasis is placed on playing together. Occupational therapy with the emphasis on constructive achievement does much to raise immediate self-esteem and to encourage a willingness to commit oneself again to life.

Certainly, in the rearing of children, society and alert families attempt to do all possible to inculcate healthy habits of thought, feeling, and action and to foster a harmonious, balanced development. A sensitive, withdrawn, piously and unproductively good child may be a great relief coming after one or more dynamic, overactive, and outgoing children. Resting on one's oars with such a child may be a great mistake, and failure to encourage sympathetic but firmly balanced interests and activities in such a child may well encourage the further development of one-sidedness, disharmony, and a tendency to avoid coming to grips with the real problems in all spheres of life, a tendency so often found in children who later develop schizophrenia.

In New York State the Mental Health Services Act should make available more sources for the education of the public, teachers, and families in these simple rules in mental hygiene. Psychiatrists are frequently able to influence many young people toward more balanced lives when they are developing in a disharmonious fashion. It is important to establish healthy patterns of thinking, feeling, working, and playing, particularly in spheres where the individual has control and can have initiative and carry out plans, in individuals who are becoming overly sensitive, withdrawn, asocial, and troubled about themselves. It has been said that individuals of schizoid or sensitive personalities who can be taught to adjust and work can become some of our most creative and worth-while citizens.

This is a real challenge to all interested in the promotion and maintaining of sound mental health. With the impetus of the Mental Health Services Act in our State and communities, it is the sincere wish of all that we shall see a decrease in those who make up the quarter of the yearly admissions and who account for half of the patients in residence in our mental hospitals. The lessening of the tragedy in individual lives and their distressed families will be the greatest boon resulting in an abatement of the great loss and expense to society and the world.

121 WESTCHESTER AVENUE

(*Number seven of a series of Postgraduate Radio Programs*)

Arterial Surgery Relieves Adolescent Hypertension

Hypertension in a fifteen-year-old boy has been relieved by an unusual type of arterial surgery, four Cleveland physicians reported.

The abandonment of "pot liquor" and "milk from the family cow" as traditional baby foods—and neglect of daily orange juice—were blamed today for an increase in scurvy among infants in Tennessee.

Dr. Calvin Woodruff said in the June 2 *Journal of the American Medical Association* that the number of cases seen at Vanderbilt University Hospital, Nashville, had jumped from eight in 1926–34 to 45 in 1950–54. From 1926 to 1954 there was a total of 103 cases.

Scurvy, caused by a deficiency of ascorbic acid, occurs most frequently between the ages of seven and eleven months. It can produce bone deformities, and its symptoms sometimes are like those of poliomyelitis.

Ascorbic acid can be obtained from several sources, including orange juice (probably the best source), fresh unpasteurized milk, tomato juice, and even "pot liquor," the water in which green vegetables and fat meat have been boiled.

The abandonment of these old feeding customs and the sterilization of milk—without substituting anything for these sources of ascorbic acid have resulted in the increase of scurvy.

SPECIAL ARTICLES

Hospitals and the Practice of Medicine

Part I—Relationship to the Medical Profession*

DAVID J. KALISKI, M.D., NEW YORK CITY

(*Director, Bureau of Workman's Compensation, Medical Society of the State of New York*)

Rendering of Bills by Hospitals for Services Performed by Interns, Residents, or Salaried Staff Physicians.

Attention is called to the growing evil of various hospitals, especially voluntary nonprofit hospitals, obtaining fees for services rendered by residents or paid employes through rendering of bills in the name of the physician and then having the physician assign or transfer the fee collected in whole or part to the hospital. Attention is also drawn to the relationship between the medical profession and Blue Shield, the Doctors' Plan, and the importance of cooperation between Blue Shield and the medical profession in preventing unethical and illegal practices as outlined above. The Blue Cross plan in this area insists on providing certain services which the medical profession rightly regards as medical services: pathology, physical therapy, radiology, and anesthesiology, although in the latter instance the anesthesiologists have refused to permit their services to be included. This is but one instance of the attempts of certain hospitals to obtain more income which is now supplemented by the attempts to collect fees for residents and paid staff members' services. The relationship between Blue Shield and Blue Cross, particularly in this area, was analyzed under the provisions of Article IX-C of the Insurance Law which provides the separation of medical, hospital, and dental services, although certain functions, such as acquisition and claims, may be carried out jointly. Medical services and hospital services, however, should be separate and distinct entities. U.M.S. and the organized medical profession must work closely together since U.M.S. is the doctors' plan to maintain autonomy and high medical professional and ethical standards. U.M.S. and the medical societies should engage in an educational program to enlighten all physicians, including interns, residents, and salaried physicians with respect to what constitutes ethical practice and should also acquaint the profession with provisions of the Education Law relative to the division, rebating, assigning, or transferring of fees. The penalty against a physician who violates Section 6514 of the Education Law is very severe:

> *Section 6514. Revocation of certificates; annulment of registrations (Education Law)*
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> 2. The license or registration of a practitioner of medicine, osteopathy or physiotherapy may be revoked, suspended or annulled or such practitioner reprimanded or disciplined in accordance with the provisions and procedure of this article upon decision after due hearing in any of the following cases:
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> (*f*) That a physician, osteopath or physiotherapist has directly or indirectly requested, received or participated in the division, transference, assignment, rebate, splitting or refunding of a fee for, or has directly or indirectly requested, received or profited by means of a credit or other valuable consideration as a commission, discount or gratuity in connection with the furnishing of medical, surgical or dental care, diagnosis or treatment of service, including x-ray examination and treatment, or for or in connection with the sale, rental, supplying or furnishing of clinical laboratory services or supplies, x-ray laboratory services or supplies, inhalation therapy service or equipment, ambulance service, hospital or medical supplies, physiotherapy or other therapeutic service or equipment, artificial limbs, teeth or eyes, orthopedic or surgical appliances or supplies, optical appliances, supplies or equipment, devices for aid of hearing, drugs, medication or medical supplies or any other goods, services or supplies prescribed for medical diagnosis, care or treatment under this chapter, except payment, not to exceed thirty-three and one-third per centum of any fee received for x-ray examination, diagnosis or treatment, to any hospital furnishing facilities for such examination, diagnosis or treatment. Nothing contained in this chapter shall prohibit physicians from practicing medicine as partners nor in groups nor from pooling fees and monies received, either by the partnerships or groups or by the individual members thereof, for professional services furnished by any individual physician, member, or employee of such partnership or group, nor shall the physicians constituting the partnerships or groups be prohibited from sharing, dividing, or apportioning the fees and monies received by them or by the partnership or group in accordance with a partnership or other agreement; provided that a certificate of doing business under an assumed name shall have been filed pursuant to section four hundred

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* Synopsis of remarks presented at a meeting of the Coordinating Council of the Five County Medical Societies, New York City, May 15, 1956.

> forty or four hundred forty-b of the penal law, and provided further that no such practice as partners or in groups or pooling of fees or monies received or sharing, division or apportionment of fees shall be permitted with respect to medical care and treatment under the workmen's compensation law except as expressly authorized by the workmen's compensation law.

It is doubtful if physicians, even those on a salary basis, will persist in this practice if they are made fully aware of the penalties which are imposed on a physician and of the fact that steps will be taken by the societies to enforce the law. Since, it is said, an ounce of prevention is worth a pound of cure, it would seem to be proper for the medical societies to take steps at once to acquaint physicians, especially those employed as residents and paid staff members, with the pertinent provisions of the Education Law and the full import of violations of these provisions.

Practice of Medicine by Hospitals

The medical profession believes that hospitals as corporations may not and should not practice medicine. Most nonprofit voluntary hospitals believe they should be permitted to do so. Our opposition to the practice of medicine by hospitals is not based entirely on selfish motives. The intrusion of the hospital into the practice of medicine, either directly or through the agency of licensed and paid physicians, has a deteriorating effect on the medical profession and on medical services in the hospital. It also has a tendency to separate the paid physician from his practicing colleague and to drive a wedge into the professional ranks which bodes ill for the continuation of the free and independent status of the medical profession. Where hospitals pay physicians for their services and then expect refunds from them, there is the tendency to control the physician and his activities, even in relation to his patient. This may be detrimental to the patient and inimical to the public welfare. All that has been said about and is being done to prevent the practice of medicine by hospitals, either directly or by subterfuge, is primarily in the public interest. Certainly, if the public were made aware of the fact that if they possess Blue Shield protection, they are entitled to the services of a physician of their own choice, they would not tolerate practices in hospitals whereby patients are operated on by residents in training or other members of the staff unknown to them and without their consent. This is certainly not in the interest of the public.

Attention is drawn to the "Standards for Approval by the Medical Society of the State of New York of Medical Care Plans," line 3, "Payment for medical services rendered by subscribers under any plan shall not be made to any hospitals, medical schools, corporations, companies, agencies, intern or resident." This section is approved and should be rigidly enforced by all Blue Shield plans. Furthermore, U.M.S. should provide evidence and information for the county medical societies or the State Society, and the societies should utilize such evidence if and when this rule is being violated. Action should be insisted on by the proper prosecuting authorities to abate violations of the law.

An intern or resident is a graduate physician in training in a hospital for from one to three or more years. He thus obtains additional knowledge, experience, and technical training. At the end of his residency he is usually well equipped technically, although still lacking in such experience and judgment which can only be acquired as a result of years of experience in the practice (private) of medicine where the relationship between the doctor and the patient is a close one. Interns and residents are part of the administrative staff of the hospital and not members of the attending staff. Their status as physicians in training would not be altered by the fact that after graduation they might obtain a license to practice medicine in the State. During their residency they obtain a temporary license so as to function in the hospital for the period of the residency only. It would not be in the public interest to permit interns or residents to assume the functions of the attending physician. They obtain experience and are afforded opportunity to gain technical dexterity but only under the supervision of members of the attending staff, and this supervision should always be active and personal. The trend to permit residents to assume full responsibility, both in determining the indication for operation and to conduct operative procedures independently and without supervision, is contrary to the public interest and should be stopped.

We point out certain practices which we believe are unethical and perhaps even criminal which should be carefully considered, e.g., under Blue Shield plans a physician who contracts to treat or operate on a patient and then permits operation on the patient by an intern or resident without the full knowledge and consent of the patient is guilty of an unethical and illegal act. It also lays the physician open to tort action or for assault which ordinary malpractice insurance may or may not cover. The attempts of medical schools and university hospitals to induce attending physicians to permit operations on private patients by residents in training for the purpose of educating such residents and making them eligible for special ratings are reprehensible and, unless the consent of the patient is obtained, lay the physicians open to civil and criminal action in addition to the penalty for violation of the Medical Practice Act under fraud and deceit. Reported attempts of hospitals to bring such pressure on physicians indicates the extent to which some institutions go to control the practice of medicine. Evidence of such practice is accumulating and should form the basis of suitable action by either the county or State Medical Society in upholding the Medical Practice Act and safeguarding the rights of the public. It goes without saying that owing to the close relationship between Blue Shield and the medical profession, attempts should be made to prevent unethical and illegal practices on the part of hospitals through the subterfuge of the licensing of interns and residents and collecting fees for their services.

Attempts are made on the part of hospitals to encourage the *formation* of partnerships or groups under Section 440 and 440-b of the Penal Law whereby groups of physicians can join together in order to avoid the penalty of rebating, assigning, transferring, or dividing of fees. The formation of these groups is permissible in ordinary practice but prohibited in workmen's compensation practice. The law permits the sharing, dividing, or apportionment of fees received by the partnership or group in accordance with a partnership or other agreement. Certainly, the wording of this section does not necessarily preclude an agreement with hospitals to share or divide or assign to the hospital certain fees collected according to a contractual relationship between the group and the hospital. While this section of the Education Law was promulgated to enable certain insurance plans to operate, it may not have escaped the notice of hospitals in an attempt to bolster their income and avoid the penalty which would otherwise apply to physicians who violate the quoted sections of the Education Law.

Educational Program by Medical Societies

It would certainly be proper for both U.M.S. and the medical societies, particularly, to conduct an intensified campaign to acquaint both interns and residents, as well as full-time paid staff members of the hospitals, with the pertinent provisions of the Education Law and with the position of the medical societies with respect to the corporate practice of medicine. Such a campaign would unquestionably bring home to these physicians the basic ethical, moral, and legal principles involved and might deter many from entering into contracts for or committing acts which are deemed to be illegal and not in the public interest. The medical societies should not hesitate to make it clear that they will use every means at their disposal to proceed against the hospitals and the physicians cooperating with the hospitals in what are deemed to be improper acts. Through the Blue Shield and by other means, the medical societies should obtain evidence of what are deemed to be violations of the law and acts inimical to the welfare of the public and at the proper time should proceed against the offenders. The medical societies should take a firm position of a positive nature and indicate they believe hospitals as corporations cannot and should not practice medicine directly or through the agency of physicians. Confirming this position are the opinions of courts and attorneys general in many states throughout the country. The question of whether legal action should be taken would naturally depend on the opinion of counsel as to the proper time to begin an action based on the weight of evidence at our disposal. Counsel should be one who shares the belief and is sympathetic to the views of the medical profession. If U.M.S. persists in refusal to pay licensed residents for medical service, ultimately U.M.S. will have to defend its position in the courts. The full support of the medical societies should be given Blue Shield. The hospitals are united; it behooves the medical societies to close ranks as a unit in this matter.

Full-time Physicians in Hospitals, University Hospitals, and Medical Schools

Attention is drawn to the widening gap between these full-time physicians and private practitioners in medicine. There is a difference in viewpoint between those largely interested in the scientific aspect of medicine and those concerned mainly with the diagnosis and treatment of the individual patient as a personal problem. These full-time men depend on corporations for their support and opportunities to serve. They are subject to the rules and regulations of these institutions, and while they may be able to dictate terms favorable to themselves when there is a dearth of well-trained academicians, teachers, and specialists, ultimately the law of supply and demand will operate, and the institutions will control, as some do now. Furthermore, there should be no divergence of opinion between these full-time men and private practicing physicians as to the ultimate goal of the doctor, namely, the welfare of the patient and of the public.

In an article, entitled "Filling the Gap Between Academic Medicine and Medical Practice," by Dr. Harvey B. Stone, Associate Professor Emeritus of Surgery, Johns Hopkins Medical School, read before the Annual Congress on Medical Education and Licensure in Chicago, February 13, 1956, and published in the *Journal of the American Medical Association*, April 14, 1956, the subject is thoroughly discussed and a proposal for better liaison outlined:

> The attitudes of the teacher and of the practitioner of medicine diverge inevitably despite their dedication to a common cause. There tends to be a dichotomy between those whose chief devotion and occupation is the teaching of medicine and those whose chief devotion and occupation is the cure and treatment of individual patients. Although the dichotomy is frequently not complete and absolute,

> there is an essential difference in the type of occupation and a resultant difference in interests.
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> The differences have been exaggerated by certain aspects of the whole-time system. This represents a form of intellectual inbreeding that is wholly undesirable. It entails financial relations between doctors and institutions that are a source of divisive emotions. Those few medical schools and university hospitals that employ no part-time teachers or staff should abandon this system. University hospitals should abandon the intern year and should advise recent graduates to have the experience of a year in nonuniversity hospitals. Medical schools and university hospitals should give a warmer welcome and a more nearly equal status to their part-time teachers. Measures of this sort can but bring the academic group and the practicing profession into much closer and happier relations.

Nothing is to be gained by increasing the rift between these groups. The medical societies should make every attempt to bring them closely together in order to understand each other's problems in an effort to solve them. Certainly the ingenuity of the organized medical profession is such that a modus vivendi can be established within the framework of the Medical Practice Act and the basic principle that hospitals as corporations cannot practice medicine. Unless a modus vivendi is established, there will grow up two groups of physicians, one devoted to the personal care of the patients, the other largely interested in so-called scientific medicine and under the control of the institutions which employ them. Then more and more young physicians will come under the influence of these highly impersonal academicians and further deplete the reservoir of physicians who will cater to the individual sick person. This certainly is not in the public interest and further indicates a need for the medical societies to discuss with this group the problem as we see it and teach them our views and opinions in an effort to win their support in a united effort.

Confirming our position is the action taken at the recent meeting of the House of Delegates of the A.M.A.:* "A major action by the House of Delegates of the A.M.A. in June of 1956 involved the problem of private practice by medical school faculty members, which has been under study by the Committee on Medical and Related Facilities of the Council on Medical Service. The House adopted a Council report which states 'that it shall be the policy of the A.M.A. that funds received from the private practice of medicine by salaried members of the clinical faculty of the medical school or hospital should not accrue to the general budget of the institution and that the initial disposition of fees for medical service from paying patients should be under the direct control of the doctor or doctors rendering the service.' "

It was further recommended that adequate liaison be developed and maintained between each county medical society and any medical school or schools in its area; that the Council on Medical Education and Hospitals and the Association of American Medical Colleges urge all medical schools to assist and work with medical societies in developing such liaison, and that publicity emanating from a medical school should be in good taste and of a type which has the approval of the general medical community in that area. The adopted report also said, "It is not in the public or professional interest for a third party to derive profit from payment received for medical services, nor is it in the public or professional interest for a third party to intervene in the physician-patient relationship."

Increased Cost of Hospitalization

The enormous increase in hospital rates, presumably based on the increased cost of all items of expense, both material and human, has had a profound effect on medical practice in and out of the hospitals. Despite the fact that improved medical procedures and medicaments have greatly reduced the duration of certain illnesses and of hospital stays, the mounting costs of hospitalization in the average case are staggering. Blue Cross organization coverage lessens the burden to a certain extent, especially through the utilization of semiprivate beds. Blue Cross rates are frequently being increased, carrying with them increases in Blue Shield premiums, until it is feared the cost of the latter may be approaching the point of "diminishing returns." Blue Cross is not enough, so the hospitals look about for further means of revenue, even to the extent of charging for medical services.

The exact cost of hospitalization has never been accurately determined, and the 300 to 400 per cent increase in the last two decades confirmed by the A.M.A. is based more on estimates than actual cost accounting. The appetite of the hospital for greater and greater income is almost insatiable. The number of days of free hospital service is diminishing yearly and is almost at the vanishing point. Usually, especially where the Blue Cross and Blue Shield have certain administrative functions in common, when Blue Cross increases premiums, Blue Shield soon follows. Most hospitals, which are corporations, are or should be subject to the limitations prescribed by law and which have grown up by precedent and usage that corporations cannot practice certain professions such as law and medicine. Court decisions in different jurisdictions have varied on the rights of the hospitals to employ physicians to practice and charge fees rather than to provide the facilities for licensed physicians to render medical care and charge and retain fees for their services. The university hospitals have need for full-time academicians and clinicians, but the costs here also have risen and, in addition, there is the problem of the decreasing number of free patients (due especially to Blue Shield and Blue Cross) for the education and training of medical students, interns, and residents. As Dean Willard Rappleye of Columbia University put it, "It seems wise and proper that the medical school be permitted to operate under any reasonable and ethical plan that is satisfactory to the staff members and that will strengthen the quality of medical education." It all depends on the interpretation of the words "reasonable" and "ethical." Is it ethical for a university hospital to employ full-time teachers and then through them practice medicine in competition with other non-full-time staff members and other practitioners? Such practice it seems should be carried out in a manner satisfactory to the medical profession as a whole and in the public interest.*

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* A report on private practice by medical school faculty members, presented to the House of Delegates of the American Medical Association by the Council on Medical Service, June, 1956.

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* Please reread the entire quotation from Dr. Stone's article, which is applicable here.

Part II—Legal Aspects

DAVID J. KALISKI, M.D., AND EUGENE A. SHERPICK, ESQ., NEW YORK CITY

(*From the Bureau of Workmen's Compensation, Medical Society of the State of New York, and from the law firm of Sherpick, Regan & Davis*)

The definition of the practice of medicine is included in Section 6501 of Article 131 of the Education Law:

> 4. The practice of medicine is defined as follows: A person practices medicine within the meaning of this article, except as hereinafter stated, who holds himself out as being able to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity or physical condition, and who shall either offer or undertake, by any means or method, to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity or physical condition.

In order to obtain a license to practice medicine a person must have the necessary educational qualifications, as well as professional schooling, and then pass an examination conducted by the Board of Medical Examiners of the Department of Education. A hospital as a corporation is not a person, cannot take the examinations, and cannot be licensed to practice medicine. Interns and residents in hospitals are permitted to practice in hospitals only during their period of training, although the latter must now obtain a temporary certificate to practice in the hospital, based on their eligibility to take State Board examinations.

The courts will have to decide ultimately the degree to which a hospital as a corporate body may itself practice or employ others to practice medicine by rendering services which are deemed to be the practice of medicine.

The legal aspects of the practice of medicine by hospitals and by physicians in hospitals were outlined in the New York State Journal of Medicine of September 1, 1944, on behalf of the Joint Council of Pathologists, Radiologists, Anesthesiologists, and Physical Therapy Physicians, by Mr. E. A. Sherpick, attorney for the Joint Council and by his associates, Mr. William Gilbert and Mr. Richard T. Davis of counsel. Dr. David J. Kaliski on behalf of the Medical Society of the State of New York participated in the discussions leading up to the preparation of this report and concurred in the conclusions.

This brief was dated June 19, 1944, and was primarily submitted for the purpose of establishing the relationship between hospitals and pathologists, radiologists, anesthesiologists, and physical therapy physicians. This was made necessary by amendments to the Workmen's Compensation Law in 1944 which barred certain practices, such as the division, rebating, assigning, or transferring of fees by physicians, some of whom were employed by hospitals on full or part-time basis, particularly physicians in the four above-mentioned specialties. These identical provisions were also enacted into law and are now incorporated in Section 6514 of the Education Law of New York State.

Brief reference to some of the leading cases would be helpful in understanding the present status of the New York law with reference to the relationship of hospitals to the practice of medicine. If a hospital directly or through an agent, such as a physician or resident, renders a bill for medical services, it holds itself out as being able to diagnose, treat, operate, etc., for any human disease and, therefore, comes within the above-quoted statutory definition of the practice of medicine. Only licensed physicians, with the exception as to interns and residents noted above, are authorized by the Education Law to practice medicine.

It is well settled as a general rule that a corporation, not being a natural person who can meet educational requirements and pass prescribed examinations, may not practice any of the learned professions, such as medicine or law (*Matter of*

Cooperative Law Co., 198 N.Y. 479, 484).

It is settled law that a corporation organized for profit may not practice medicine. (*People* v. *Woodbury Dermatological Institute*, 192 N.Y. 454; *Godfrey* v. *Medical Society of New York County*, 177 App. Div. 684; *Daly's Astoria Sanitarium* v. *Blair*, 161 Misc. 716; *Goldwater* v. *Citizens Casualty Company of New York*, 7 N.Y.S. 2d, 242; *Matter of Agnew*, 132 Misc. 466, 471). In the *Woodbury* case it was held that a chemical manufacturer could not hold itself out as being able to diagnose or treat foot ailments. In the *Godfrey* case it was held that a private hospital operated for profit could not practice medicine. In the *Daly* case a private sanitarium sued for the services of one of the doctors on its staff, and the court held that the sanitarium could not recover payment but that the doctor could, the court stating "that a hospital, rather than practising medicine per se, is a place where medicine is practiced by physicians." In the *Agnew* case, in permitting a physician on the hospital staff to collect for medical services rendered to a patient who had concealed his ability to pay, the court stated that the physicians were "the ones who conferred the benefit" and, therefore, that they and not the hospital had the better right to reimbursement.

It is also well-settled law that a physician on a hospital staff, in performing medical services, is acting on his own responsibility and not as an agent of the hospital. On this basis hospitals have been held to be immune from malpractice suits based on medical services by physicians or residents on their staff (*Scholendorff* v. *The Society of the New York Hospital*, 211 N.Y. 125; *Bernstein* v. *Beth Israel Hospital*, 236 N.Y. 268). In the latter case the court said: "Such a hospital undertakes not to heal or attempt to heal through the agency of others but to supply others who will attempt to heal on their own responsibility."

Present-day legislative intention that hospitals should not be permitted to practice medicine is found in provision of the Education Law dealing with the practice of medicine and in the Workmen's Compensation Law. Section 6514 of the Education Law provides that it shall be a ground for revocation or suspension of a physician's license "That a physician. . .has directly or indirectly. . .participated in the division, transference, assignment, rebate, splitting or refunding. . .of a fee for. . .medical, surgical or dental care, diagnosis or treatment or service." That this section applies to an arrangement between a physician and a hospital, whereby the hospital is to receive all or part of the fee for medical services performed by the physician, is clear from the fact that this section goes on to make an exception (but a very limited exception) in the case of hospitals. This limited exception reads as follows: ". . .except payment, not to exceed thirty-three and one-third per centum, of any fee received for x-ray examination, diagnosis or treatment, to any hospital furnishing facilities for such examinations, diagnosis or treatment." An identical provision is found in Section 13-d 2 (g) of the Workmen's Compensation Law as a ground for disqualification of a physician from Workmen's Compensation practice.

Further evidence of a present-day legislative intention that hospitals not be permitted to practice medicine is found in Section 13-f of the Workmen's Compensation Law. This section of the statute provides that "fees for medical service shall be payable *only* to a physician or other lawfully qualified person permitted by section thirteen-b of this chapter to render medical care under this chapter, or to the agent, executor or administrator of the estate of such physician." Hospitals were not included under the term "other lawfully qualified persons." Indeed, the same section goes on to be most explicit in barring hospitals from charging fees for medical services: "Hospitals shall not be entitled to receive the remuneration paid to physicians on their staff for medical and surgical services."

From all of the foregoing it should necessarily follow that private hospital corporations of any type are prohibited under the law from engaging in the practice of medicine and from charging fees for medical services performed by physicians on their staff. However, some confusion and doubt have crept into the law with respect to the status of private nonprofit hospitals organized under the New York law as a result of dictum in *People* v. *Woodbury Dermatological Institute*, 192 N.Y. 454. In the *Woodbury* case the New York Court of Appeals upheld the conviction of a chemical manufacturer of the crime of holding itself out as being able to practice medicine. The court held that a corporation cannot practice medicine. However, the court went on to state *by way of dictum* that this prohibition would not apply to nonprofit hospitals and infirmaries incorporated under the Membership Corporations Law of this State because of the special provisions of that statute. The provisions of the Membership Corporations Law dealing with the incorporation of nonprofit hospitals then provided that "the systems of medical practice or treatment to be used or applied in such hospitals, infirmary, dispensary or home may be specified in the Articles of Incorporation." The court reasoned that institutions of this character therefore possessed legislative authority to practice medicine.

The language of the Membership Corporations Law which the Court of Appeals quoted and relied upon in the *Woodbury* case was deleted from the statute in an amendment made shortly after the decision in that case. The *Woodbury* case, therefore, ought not to be regarded as persuasive today because of the repeal of the statutory language upon which the court relied and because the language of the opinion dealing with the practice of medicine by hospitals was dictum in any event.

However, the *Woodbury* case has been cited in dicta contained in more recent decisions as standing for the proposition that nonprofit hospitals may practice medicine. An example of this is *Messer* v. *Rothstein*, 129 App. Div. 215, 222-3; aff'd. 198. N.Y. 532, a case involving the practice of plumbing, wherein the court states that the *Woodbury* case stands for the proposition that nonprofit hospitals may practice medicine. This confusion in the law can only be resolved by further court litigation or by legislative clarification of the law.

The situation has become further confused in a secondary respect by the wording of a rule (Rule 19) adopted by the Workmen's Compensation Board. This rule purports to authorize hospitals to render bills for physiotherapeutic, pathologic, and anesthesia services rendered by staff physicians. As already noted, the Workmen's Compensation Law authorizes the payment of medical fees "only" to physicians and specifically prohibits a hospital from collecting medical or surgical fees paid for the services of staff physicians. The only exception in the statute is an amendment made in 1947 permitting voluntary hospitals to be licensed to maintain x-ray laboratories and to charge fees for the services of qualified roentgenologists employed in such laboratories. Thus, Rule 19 would appear to be in direct conflict with the statute.

The recent decision handed down by the District Court of Iowa with regard to the legality of corporate practice of medicine is illuminating in bearing out the position taken by the organized medical profession of New York State. This decision, if upheld in the higher courts, should be an important precedent in future court action. An exact quotation from the decision indicates clearly why corporations should be barred from the practice of medicine even though they be voluntary and nonprofit organizations.

> There are reasons of public policy why mere corporations might be barred from entering this field. There are certain fields of occupations which are recognized as "learned professions." Proficiency in these occupations requires long years of special study and of special research and training and of learning in the broad field of general education. Without such preparation, proficiency in these professions is impossible. The law recognizes them as part of the public weal, and protects them against debasement, and encourages the maintenance therein of high standards of education, of ethics and of ideals. It is for this purpose that rigid examinations are required and conducted as preliminary to the granting of a license. The statutes could be completely avoided and rendered nugatory if one or more persons who failed to have the requisite learning to pass the examination might, nevertheless, incorporate themselves formally into a corporation, in whose name they could practice lawfully the profession which was forbidden to them as individuals. A corporation, as such, has neither education nor skill nor ethics. These are sine qua non to a learned profession.

In this decision the court further held that the work done by pathologists, radiologists, and their technicians constitute the practice of medicine and that under the Iowa law the privilege of practicing medicine is a personal one requiring qualifications which cannot be met by a corporation. Unless, the court held, these services are under the actual control and supervision of a physician, the quality of the service may suffer. An important statement of the court, to the effect that the failure of enforcement agencies to enforce the law does not invalidate it, applies equally well in this State where the law is flouted without the interference of enforcement agencies and up to the present time without too much interest on the part of the medical profession.

In this connection the medical profession in general, and particularly physicians employed by hospitals, should be made aware of the possible consequences of entering into an arrangement with a hospital whereby the hospital is to receive the fees paid for the physician's medical services. As noted, both the Education Law, with reference to practice of medicine generally, and Workmen's Compensation Law declare that the splitting, assigning, or transferring of fees for medical services constitute grounds for the revocation of the license of the physician participating in such an arrangement. In workmen's compensation practice, an additional criminal sanction (Workmen's Compensation Law, Section 13-d 3) is imposed not only against the physician but also against anyone else (in this case the hospital) who aids or participates with the physician or attempts to induce him to agree to split or assign medical fees.

At present the Education Law does not contain a corresponding criminal penalty and imposes only the above-noted sanctions with respect to the physician's license to practice. Whether a similar criminal penalty could be enacted as part of the Education Law is a question in view of the strong position which hospitals have in public relations. In any event, the possible consequences to a physician participating in such an arrangement with a hospital—the loss or suspension of his license to practice—are serious, and hospital staff physicians should be made aware of the risks involved.

Holiatry—The Fourth Phase of Medicine

RAYMOND HARRIS, M.D., ALBANY, NEW YORK

(*From the Ann Lee Home, St. Peter's Hospital, and Albany Hospital*)

PREVENTION, therapeutics, and rehabilitation have long been considered the first three phases of medicine. The increasing numbers and varieties of nonmedical organizations and services concerned with the maintenance and improvement of the health of the individual, the community, and the nation necessitate a new, more comprehensive concept of the function of traditional medicine. This is the fourth phase of medicine or that multidimensional field of health which integrates the purely medical phases of prevention, therapeutics, and rehabilitation with the equally important social, religious, economic, educational, political, and recreational services of governmental, civic, voluntary, and philanthropic agencies to improve the physical, mental, economic, and social well-being of humans through holistic and interdisciplinary methods.

Holiatry is suggested as a new term which embodies the unifying concept of the fourth phase of medicine.* It is derived from the Greek words *holos* (whole, entire, complete) and *iatreia* (healing, medical treatment). The scope of holiatry includes many foundations concerned with medical and health problems in all fields. Through financial grants for research, education, and new experimental approaches to medicine they shape the destiny and course of medicine as practiced by physicians and hospitals. These organizations include such philanthropic groups as the Rockefeller Foundation, the Milbank Memorial Fund, the John and Mary R. Markle Foundation, the W. K. Kellogg Foundation, the Josiah Macy, Jr. Foundation, and others. Here also flourish the voluntary health associations, such as the National Foundation for Infantile Paralysis, the American Heart Association, and others, which are supported by the public and whose policies are usually determined by nonmedical leaders as well as physicians.

Also within holiatry are the private and public welfare agencies which assume many health problems produced by the economic and social ravages of chronic and catastrophic disease. Included also are the life insurance, disability, and hospitalization companies. These occupy a unique position in the fourth phase of medicine by aiding people to meet the costs of medical care, thereby promoting better health and medical protection. Operating in this field are the nonmedical governmental agencies which protect the health of the nation by enforcing food regulations, correcting sanitary conditions, improving housing, and bettering economic circumstances.

The field of holiatry provides an increasingly important common meeting ground for the doctor and those nonmedical agencies which affect him, his patients, and the practice of medicine. If the physician's voice is to be heard effectively tomorrow, he must participate more actively in the fourth phase of medicine today.

Nursing homes, convalescent homes, old age institutions, State organizations such as yours, and community services for older people constitute a significant segment of holiatry. This evening I wish to discuss some problems related to the operation and management of such institutions, particularly from the viewpoint of a physician interested in a broad community approach to chronic disease and aging.

Although an estimated 14,000 nursing, convalescent, and allied homes existed several years ago in this country, the number is constantly multiplying. To meet the pressing problems of increasing chronic disease and longevity, further increases in the number of chronic hospitals, homes for the aged, nursing and convalescent homes, and rehabilitation centers and greater use of home-care programs have been recommended. Patients should be maintained in costly general hospitals only as long as they can be profitably treated there. When further treatment becomes too slow or too impractical, they must be cared for in less expensive facilities. Your nursing institutions have become the logical sites for long-term care of patients with chronic disease or old age. The increase in the number of your institutions reflects the general acceptance of the value of your homes in solving some of these problems.

But the mushrooming growth of nursing and allied homes, not only in the United States but throughout the world, has occasioned additional problems. As an organization of nursing home operators, you are undoubtedly aware of many of them.

The outstanding problem is the development of adequate standards. Through the efforts of the Committee on Aging of the National Social Welfare

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Presented at a meeting of the Capitol District New York State Home Nursing Association, Glens Falls, April 22, 1954.

* Suggested independently by Edward Artin of G. & C. Merriam Company, Springfield, Massachusetts, and Dr. Gilbert Highet, Professor of Greek and Latin, Columbia University.

Assembly, regional conferences have been held on "Methods of Establishing and Maintaining Standards in Institutions for Older People" throughout this country. It is true that we already have many standards in the field of institutional care, but unless we make a real effort to live up to the spirit as well as the letter of these standards, improvement of the conditions in our institutions will be slow.

The growth of nursing home organizations indicates the recognition of the value of improving conditions through organized, cooperative activity. It is through the voluntary efforts of organizations such as yours that effective standards can be set up and followed for the benefit of all. Although the State can set up a basic minimum set of standards and enforce them through licensing and inspection, it cannot make your home the wonderful institution it should and can be through your own creative originality, imagination, and personal interest.

How many of your homes are modern functionally as well as structurally? Certainly your residents deserve a clean, well-lit home with proper sanitation and adequate fire protection as the barest essentials. But how many of you have kept abreast of the modern dynamic concepts concerning essential services for the improvement of your residents' mental and physical health?

There are about 500,000 residents in homes and institutions for the aged. A large number of our institutions meet the physical needs of the aged but neglect their psychologic and social needs for belonging, usefulness, affection, and recognition of personal worth. Failure to meet these requirements accelerates the psychologic and functional processes of aging and leads to progressive deterioration of personality and an abandonment of interest in living.

Consequently the traditional "old folks home" has gradually changed from a purely custodial shelter to a modern institution where medicine, nutritional science, physical and occupational therapy, psychiatry, and social service are employed in an integrated program geared to the needs of the individual patient. They offer a more normal life setting for constructive and purposeful living through planned occupation, active social life within the home and normal contacts with the community at large. Since neither recreation nor hobby activities can replace the natural drive for gainful occupation, some homes even permit their older residents to work for their maintenance to the extent of their physical and mental capacity, thereby fostering their spirit of dignity through self-maintenance and independence.

There are ways and means of improving the health of your residents without necessarily increasing operating costs to the degree where you cannot earn a just and reasonable return from your work. One of the best ways of doing this is by encouraging physical and mental activity. Patients should get out of bed whenever possible. The rehabilitation programs of the military services and the Veterans Administration have adequately demonstrated that a planned, integrated program of convalescence, stressing activity as an adjunct to definite treatment, reduces the period of hospitalization, offsets the deconditioning phenomena of bed rest, and prevents the harmful psychologic sequelae which often result from extended hospitalization.

Although the majority of your patients may be beyond the hope of major rehabilitation, they should be activated, since getting out of bed will improve their health as well as reduce the necessity of extensive nursing care at the bedside. Many will learn to help themselves if they are expected to do so. Research has also demonstrated that ambulatory and chair patients are less likely to soil their beds and sheets. There are few conditions in which persistent, complete bed rest is warranted.

In trying to rehabilitate your elderly patients it is always wise to remember that frequently the main medical condition affecting the patient is less disabling than some apparently trivial one. For example, a patient may suffer from extreme osteoarthritis, yet his main handicap may be defective vision. With glasses he may readily adjust to his more serious arthritis and compensate by engaging in more mental activity and less physical activity.

Emphasis on mental activity will likewise lead to healthier and less complaining residents when they are encouraged to express themselves in creative pursuits. Without great cost one can set up a program for painting, drawing, writing, sewing, and other hobbies. The facilities of your local community should also be integrated into your program of home activities. You may request such services from organizations already established, such as your libraries, your Council of Community Agencies, your board of education, and your churches. In New York State the Joint Legislative Committee on Aging can be very helpful in planning such programs. Where Golden Age Clubs or Senior Citizens' Centers exist, attempts might be made to integrate your activities with these groups to facilitate and improve social rapport among your patients.

At the Ann Lee Home in Albany we are currently conducting an experimental program, during which we send a number of residents to the Albany Senior Citizens' Center weekly. The Center offers a variety of social, educational, and recreational programs which provide our residents with a chance for new experiences, a better and happier outlook, and, consequently, a chance for greater mental and social growth. It has given our residents the idea that they can still be active citizens of the community rather than inactive elderly patients in an old age home removed from the community. We have found that this activity makes them happier and more cooperative at the Home.

Such a program as I have outlined briefly must necessarily be carried out with regard to the patient's actual medical condition. Proper medical attention constitutes an important part of any activity program in a nursing home. Although conditions for which a patient is confined in a nursing home may remain static, periodic evaluation is important since his condition may change for better or worse. It would be unwise to encourage the patient to participate in activities to the point where he exceeds his physical stamina. Consequently, I believe every home should have some type of medical service which is sufficient for its daily needs. Ideally, it should be affiliated with a hospital where the patient can be treated more intensively or receive a complete diagnostic examination if necessary.

Nursing homes have reached the stage where hospitals were forty to fifty years ago. Under the stabilizing influence of social, scientific, and economic forces which will shape their future, they will continue to grow to meet the expanding health needs of our communities. Cooperative nursing home organizations such as yours are necessary to cope with the problems that such growth entails and to help solve them more intelligently and profitably.

706 Madison Avenue

Promazine Overcomes Alcohol Withdrawal Symptoms

Two reports recently gave further evidence of the value of a new "peace of mind" drug which induces sleep and a quiet detached mood in patients with acute alcoholism or mental illness. The reports appeared in the May 5 *J.A.M.A.*

Promazine (Sparine) is similar to chlorpromazine (Thorazine), which has been used to treat these disorders for some time. However, promazine produced better results in alcoholic patients suffering ill effects from the withdrawal of alcohol—the first stage in treatment of alcoholism—than chlorpromazine did in a similar group of patients, Dr. Earl H. Mitchell, Washington, D.C., said.

He gave the drug to 141 chronic alcoholics undergoing treatment. Seventy per cent had one or more complications, including delirium tremens, cirrhosis of the liver, and acute alcoholic gastritis.

There was less lowering of blood pressure and fewer cases of accelerated heart beat than in treatment with chlorpromazine. Unlike chlorpromazine, there was little pain or local tissue reaction after the intramuscular injection of promazine. Dizziness or fainting on sitting up were the only side effects encountered by Dr. Mitchell.

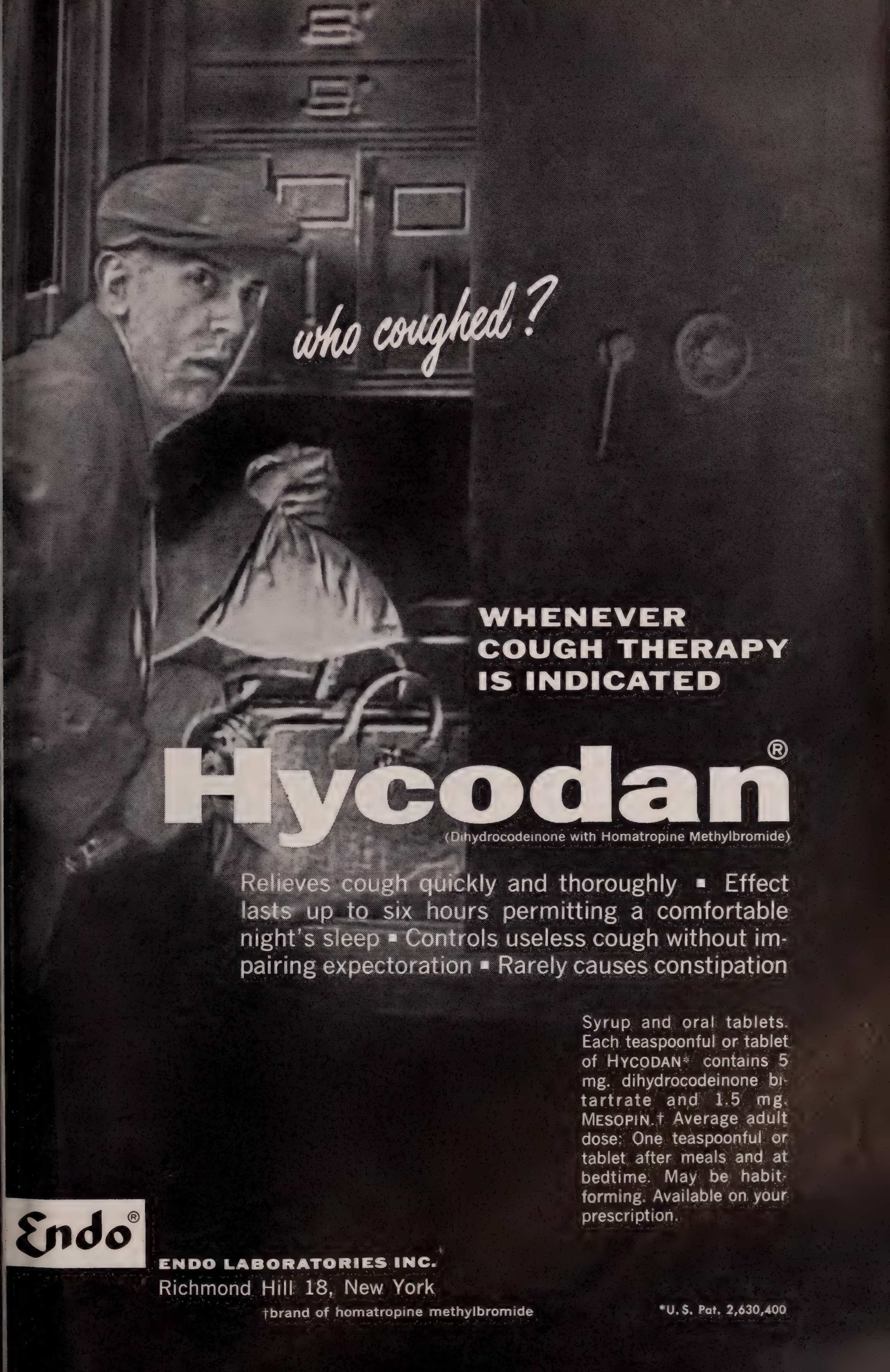
Nausea and vomiting were promptly checked in 89 per cent of the patients, and, with few exceptions, it was possible to give food and fluids orally immediately after beginning treatment. Agitation and tremors were usually well controlled, he said.

Four other Washington physicians,, Drs. Joseph F. Fazekas, John D. Schultz, Paul D. Sullivan, and James G. Shea, gave the drug for periods of five to forty-eight days to 262 alcoholics, 103 agitated or confused psychotic patients, and 42 narcotics addicts.

The drug was effective in inducing sleep and maintaining a quiet detached state in the patients. They were easily aroused from sleep to care for their personal needs thus reducing considerably the work load of the medical, nursing, and attending staffs, the doctors said.

The underlying neurotic or psychotic states were not corrected by promazine. Dr. Mitchell said that severe anxiety and depression were partially relieved, with the patients appearing to be detached from their emotional symptoms and less perturbed by their discomfort. The other physicians said that psychotic patients' hallucinations were not abolished, but the patients "appeared unconcerned by them."

None of the serious complications which sometimes accompany chlorpromazine treatment developed, but the doctors warned that side effects, such as jaundice, agranulocytosis, dermatitis, or sensitization, might develop with longer administration of promazine.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DIABETES AS A HEALTH PROBLEM IN NEW YORK STATE

A joint statement of principles governing diabetes activities

SUBCOMMITTEE ON DIABETES
COUNCIL COMMITTEE ON PUBLIC HEALTH AND EDUCATION
MEDICAL SOCIETY OF THE STATE OF NEW YORK

AND

BUREAU OF CHRONIC DISEASES AND GERIATRICS
NEW YORK STATE DEPARTMENT OF HEALTH

Diabetes mellitus constitutes one of the major health problems in New York State today. As a cause of death diabetes now ranks eighth. It is a common cause of morbidity and hospitalization because of such complications as coma, retinitis, or gangrene, and it results in complications during pregnancy and at the time of delivery.

It is a significant fact that in many persons diabetes exists without producing symptoms sufficiently severe to cause the patient to seek medical attention. From every standpoint—that of the individual who may have the disease, that of the physician concerned with the optimal health maintenance of his patients, and that of the community as a whole—it is important that unrecognized diabetes be discovered, that proper medical supervision be instituted, and that the patient be educated to a full understanding of the disease and what it means to him.

In the belief that programs to detect the presence of unsuspected diabetes, to improve the quality of medical and nursing care given to patients with diabetes, and to inform the public in general and the diabetic patient in particular regarding the facts of diabetes are eminently worth while, the Subcommittee on Diabetes of the Council Committee on Public Health and Education of the Medical Society of the State of New York and the Bureau of Chronic Diseases and Geriatrics of the New York State Department of Health seek jointly to stimulate, promote, and assist in the development of more and better diabetes programs throughout the State.

To this end, and in the knowledge that diabetes programs must be developed and conducted at the local level, there are listed below agencies to which local groups can turn for assistance in developing their own programs. It is sincerely hoped that this information will help clarify the respective roles of these agencies and lead to cooperation in helping many more local communities throughout the State meet the problem of diabetes mellitus.

National Level

A. The American Diabetes Association.*—The American Diabetes Association, which was founded in 1940, is the national medical organization concerned with diabetes. It is unique in that its membership is made up primarily of physicians and its policies are guided by physicians. It is also unique in that it conducts no public fund drives but derives its financial resources from membership dues, from self-supporting projects such as a professional journal and a magazine for diabetic patients, from voluntary contributions by individuals, primarily diabetic patients, and from grants by corporations and foundations.

The A.D.A. has a four-point program:

1. *Public Education and Case-Finding:* A program of public education and case-finding, known as the diabetes detection drive, was established eight years ago. Activities are conducted throughout the year, but the greatest effort is made in observance of "Diabetes Week," which is the third week in November. The American Diabetes Association uses mass communication media to focus the attention of the public on the diabetes drive and provides reagents without cost and makes available Dreypaks to carry out urine testing.

Public or health groups which desire to cooperate with the A.D.A. in diabetes detection activities may do so through a local affiliate of the association. In areas where there is no A.D.A. affiliate, proposed

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* 1 East 45th Street, New York 17, New York.

[Continued on page 2880]

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[Continued from page 2878]

plans may be channeled through the committee on diabetes of the county or State Medical Society.

2. *Professional Education:* The program of professional education includes the annual scientific meetings, an annual postgraduate course in diabetes and basic metabolic problems, publication of the monthly professional journal *Diabetes*, publication of the *Diabetes Guide Book for the Physician*, preparation and showing of exhibits, and community meetings of the physician membership of the local affiliates.

3. *Patient Education:* One of the most far-reaching activities of the A.D.A. is the publication of a bimonthly magazine, the *ADA Forecast*, an educational and inspirational publication for diabetic patients. Answering inquiries from diabetic patients and their families is another activity of importance. The Association has cooperated with the Public Health Service in producing an audio-visual kit and with the Public Health Service and the American Dietetic Association in the publication of food exchange pamphlets and food lists for use by patients.

The A.D.A. Committee on Employment has set up suggested standards of employment for persons with diabetes. These standards are useful to employers and patients alike.

4. *Research:* Through special gifts and grants, research funds have been established for the purpose of widening the knowledge of diabetes and its control. Thus far, the research program has been limited to the granting of fellowships.

To assist the American Diabetes Association in fulfilling its objectives, *local affiliates* have been established. There are four local organizations in New York State* at the present time (1955). Each of these affiliates has a clinical society, and some also have lay societies composed of diabetic patients, their relatives, and friends.

B. The Public Health Service.—The Public Health Service offers opportunities for training in diabetes at the Diabetes Study and Training Center† to physicians, nurses, public health administrators, health educators, dietitians, nutritionists, medical technicians, and medical social workers. No registration or tuition fee is required. Enrollment is limited to ten persons per course, each of which lasts about one week.

The following courses are available:

1. A Diabetes Program in Public Health.
2. Group Teaching of Patients.
3. Nursing Aspects of a Public Health Diabetes Program.
4. Nutritional Aspects of a Public Health Diabetes Program.
5. Laboratory Aspects of a Public Health Diabetes Program.
6. Organization and Management of a Diabetes Clinic.

Through the Regional Office in New York,** the Public Health Service can make available to local community groups the services of consultants in the nursing, nutritional, and medical-social aspects of diabetes. A consultant to train technicians in the operation of a clinitron is also available. Requests for these services should be channeled through the Bureau of Chronic Diseases and Geriatrics of the New York State Department of Health.

State Level

A. Medical Society of the State of New York.—The New York State Medical Society Council Committee on Public Health and Education has a Subcommittee on Diabetes, the chief function of which is to promote diabetes detection and education programs throughout the State. This is accomplished by encouraging county medical societies to establish committees on diabetes. The county committees receive materials for their work from the American Diabetes Association.

The Subcommittee maintains liaison with the American Diabetes Association and seeks to promote diabetes activities that are consistent with A.D.A. policies. It also makes policy recommendations concerning diabetes to the Council of the Medical Society of the State of New York.

B. New York State Department of Health.—The State Department of Health provides the following agencies:

1. *The Bureau of Chronic Diseases and Geriatrics:* This is the unit in the State Health Department responsible for planning, promoting, and assisting health department activities in the field of diabetes. Available through this Bureau are consultants in the public health nursing aspects of locally administered diabetes programs.

The Bureau of Chronic Diseases and Geriatrics has a clinitron that can be made available to local groups on a short-term loan basis. Assistance in coordinating a clinitron detection project with other health activities such as chest x-ray surveys also can be given.

2. *The Bureau of Nutrition:* Through their local health officers interested groups can obtain assistance

[Continued on page 2882]

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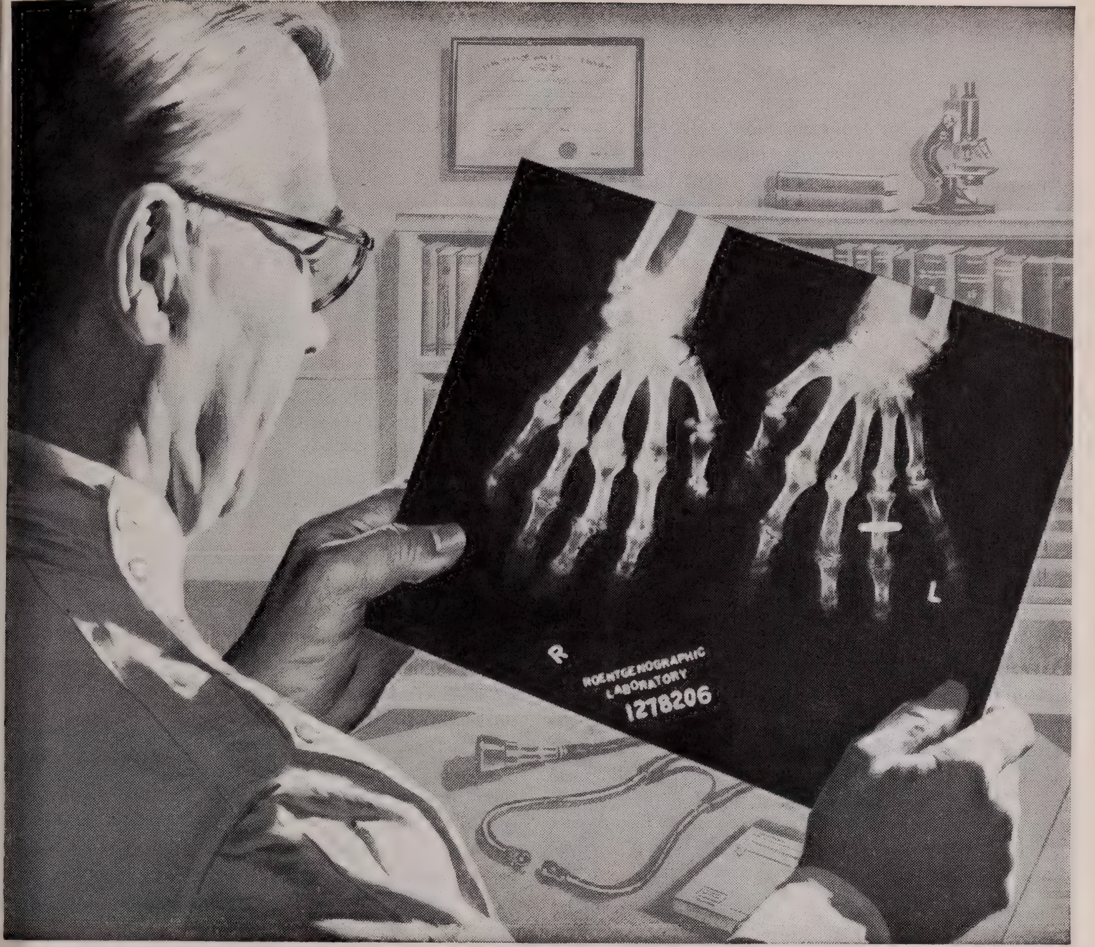
* Local affiliates: (1) New York Diabetes Association, 270 Park Avenue, New York 17, New York; (2) Northeastern New York Diabetes Association, 46 Cornelia Street, Plattsburgh, New York; (3) Rochester Regional Diabetes Association, 176 South Goodman Street, Rochester 7, New York; (4) Niagara Falls Diabetes Association, 622 Pine Avenue, Niagara Falls, New York.

† Public Health Service, Diabetes Study and Training Center, 639 Huntington Avenue, Boston 15, Massachusetts.

** Public Health Service Regional Office, 42 Broadway, New York 4, New York.



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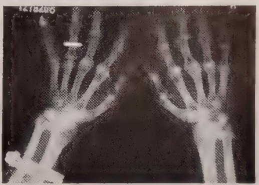

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[Continued from page 2880]

from the Nutrition Bureau in furthering certain phases of a diabetes program, such as obesity control and group instruction of patients in the dietary aspects of diabetes management. Nutritionists are available to public health nurses for consultation on dietary problems, especially in interpretation of diabetic diets in terms of "Meal Planning with Exchange Lists."

3. *The Bureau of Public Health Nursing:* Field public health nurses may be utilized to follow up persons with suspicious screening tests and diabetic patients discharged from hospitals, to explain and instruct patients and their families on certain aspects of diabetes (diet, insulin administration, care of the feet), and to give home nursing care to patients with certain complications of diabetes. Through the Bureau of Public Health Nursing special training courses and institutes for nurses can be organized.

4. *Office of Public Health Education:* This office can provide consultative services in all phases of the education program. Assistance can be provided too in the preparation, distribution, and use of educational materials. There are available a 16-mm. color film on diabetes, entitled "The Story of Wendy Hill," which can be used effectively for lay public groups, and film strips for nurses and diabetic patients.

Local Level

A. Local Medical Societies.—It is essential that all phases of a diabetes program have the endorsement and hearty cooperation of the local medical society. In some localities the local medical societies have formed committees on diabetes and sponsored diabetes detection activities with the assistance and cooperation of the American Diabetes Association or its affiliates.

Local groups interested in promoting a diabetes program should consult with the local medical society, seek their advice and support, and have the society sponsor the program. Through the medical society the assistance of the American Diabetes Association can be obtained.

B. Local Health Departments.—Local health officers may wish to consider all the components of a diabetes program with a veiw to determining which activities are feasible within their jurisdiction and which should be promoted.

Where local medical societies sponsor detection drives, the local health department should offer its assistance in helping to organize and publicize the drive, in conducting the screening tests, in following up patients with suspicious tests by notification and public health nurses home visits, and in such other ways as may be feasible. In areas where no detection drives have been made, the local health unit can stimulate, cosponsor, and participate in such drives.

Health departments should assist with the short-term drives and help to develop sustained year-round activities.

C. Local Voluntary Health Groups.—Under supervision, voluntary health agencies and alert civic groups can assist greatly in diabetes detection activities. Especially useful where they exist are the lay societies of the A.D.A. affiliates.

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Is marriage a failure?
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It must be or why would this sour grape group
Pretend to be sorry for us in the soup?

Take the case of a man whom a widow has wed,
And scoops in the garments the first husband shed,
And seven small children, that marriage I guess
Is for the sweet widow a blooming success.

Or the man who is always presented with twins
The heiress a barber-Count foreigner wins,
The Mormon with seventeen mothers-in-law,
Must find in it somewhere a terrible flaw.

Take the ten-dollar dude of a runaway match,
Forgiven and under the pa-in-law thatch,
And living in clover as far as he knows,
It isn't the failure some people suppose.

Like flies at the window is marriage no doubt,
The ones on the inside all want to get out,
The outside ones all want to get into the snare,
None seeing the pane though the *pain* is all there.

Is marriage a failure? Those in it to stay
Won't tell you for fear you will give them away.
You will have to find out for yourself all alone,
Then if it's a failure, the fault is your own.

—Morley B. Lewis, M.D., Bulletin of the Suffolk County Medical Society, October, 1955

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MEDICAL NEWS

Pan American Medical Association—The inaugural ceremony of the new president of the Pan American Medical Association, Dr. Julio F. Schutte of Havana, Cuba, took place on September 13 at the Metropolitan Club in New York City. A presidential gavel made of a piece of wood from each of the 22 nations of the western hemisphere, and symbolizing the welding together of the American nations through medicine, was presented to Dr. Schutte.

American Medical Education Foundation—New York State contributors to the American Medical Education Foundation for the month of July were: *Brooklyn*—Dr. Julius M. Dan; *Corona*—Dr. Arnold Gottesman; *East Williston*—Dr. Edward E. Hollander; *New Rochelle*—Dr. Charles Haines; *New York City*—Drs. Joseph C. Andriola, Sidney T. Friedman, George A. Hyman, James R. Lisa, and the New York County Medical Society; *Rome*—Dr. F. K. Reid; *Schenectady*—Dr. Ralph D. Reid, and *White Plains*—Dr. Rowland L. Mindlin.

Mary Putnam Jacobi Fellowship—The Women's Medical Association of the City of New York is offering the Mary Putnam Jacobi Fellowship to a graduate woman physician, either American or foreign. This fellowship will start October 1, 1957 and will amount to $2,000, $1,000 being available October 1, 1957. The recipient of the fellowship will be expected to make a report to the committee at the end of the fourth month following which the second $1,000 will be awarded subject to the approval of the committee. The fellowship is given for medical research, clinical investigation, or postgraduate study in a special field of medicine.

Application blanks for this fellowship may be obtained from the secretary, Dr. Ada Chree Reid, Jacobi Fellowship Committee, 118 Riverside Drive, New York 24, New York, and must be returned to her no later than November 1. The successful candidate for the fellowship will be notified by January 1, 1957.

Psychiatry Fellowships—A seven-point fellowship program for psychiatrists, covering staff psychiatrist training fellowships, awards to hospitals for teaching, extension training fellowships, student fellowships, medical fellowships, foreign scholar lectureships, and residency training fellowships, has been announced by the American Psychiatric Association.

The fellowship program, drawing on a three-year grant of $90,000 from the Smith, Kline & French Foundation of Philadelphia, has been broadened to cover medical students, teaching centers, general physicians, psychiatric authorities from this country and abroad, and state hospital psychiatrists.

Dr. Truman G. Esau, Marcy, has been awarded a fellowship. He will study at the Brooklyn Juvenile Guidance Clinic after the completion of his residency at the New York State Psychiatric Institute, and following this special training, plans to take up duties at the Marcy State Hospital, Rome.

Personalities

Appointed

Dr. I. Jay Brightman, assistant health commissioner of New York State, as executive director of the State's new Interdepartmental Health Resources Board . . . Dr. Richmond Douglass, principal thoracic surgeon at Biggs-Memorial Hospital, Ithaca, as chief of surgical services at the Veterans Administration Hospital at Castle Point . . . Dr. Howard F. Drayer, Theresa, as medical director for the Watertown public school system . . . Dr. George B. Ewing, LeFargeville, as assistant to the superintendent of Brigham Hall Hospital, Canandaigua . . . Dr. George James, former Ulster county commissioner of health, as deputy commissioner of health for New York City . . . Dr. Leo D. Moss, Olean, as full time pathologist at the Bradford Hospital, effective October 1 . . . Dr. Isaac N. Wolfson, director of Newark State School, as senior director of Letchworth Village at Thiells.

Awarded

A grant of $9,200 to Dr. Attilio D. Renzetti, Jr., assistant professor of medicine at State University College of Medicine in Syracuse, by the United States Public Health Service for continued studies into the characteristics of the pulmonary disease, emphysema, its possible causes and chronic aspects.

Speakers

Dr. William Bierman, New York City, director of the Department of Physical Medicine at Mt. Sinai Hospital, before representatives of surgical houses east of the Mississippi, on new uses of ultrasonics and high frequency sound waves in medicine . . . Dr. A. Wilbur Duryee, professor of clinical medicine at New York University Post-Graduate Medical School, before the Greene County Medical Society and the Greene County Chapter of the Academy of

[Continued on page 2886]

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[Continued from page 2884]

General Practice on November 15 at the Greene County Memorial Hospital in Catskill, on "The Management of Peripheral Vascular Disease" . . . Dr. Paul Pedowitz, clinical assistant professor of obstetrics and gynecology at the State University of New York College of Medicine at New York, before the Greene County Medical Society and the Greene County Chapter of the Academy of General Practice on September 13 at 8:00 P.M. at the Greene County Memorial Hospital in Catskill, on "Medical Complications of Pregnancy" . . . Dr. Paul W. Wilcox before the hospital staff of the Veterans Administration Hospital at Northport, on August 9 on "Psychopenetration."

New Offices

Dr. Robert D. Brennan, practice of pediatrics in Utica . . . Drs. Pasquale Ciaglia and Bart D. Iaia, practice of cardiovascular and thoracic surgery and bronchoesophagology in Utica . . . Dr. Frederick K. Gifford, Rome, practice of general medicine and surgery in Whitesboro . . . Dr. Charles Graf, general practice in Afton . . . Dr. Kenneth C. Steele, practice of general and thoracic surgery in association with the Slocum-Dickson Clinic in Utica.

Honored

Dr. Donald F. Currie, Shelter Island, with a special day on August 11 for his twenty-five years of service to that community.

Resigned

Dr. Charles S. Cameron, New York City, as medical and scientific director and vice-president of the American Cancer Society, to become dean of Hahnemann Medical College, Philadelphia.

MEDICAL MEETINGS

Course in Histopathology

A refresher course in histopathology of the eye will be given at the New York Eye and Ear Infirmary, October 1 through 6, from 2 to 6 P.M. by Drs. Bernard A. Roberts and Lawrence Samuels of the Department of Ophthalmic Pathology. For further information write to the Registrar, New York Eye and Ear Infirmary, 218 Second Avenue, New York 3, New York.

Clinical Society of the New York Diabetes Association.

An all-day symposium on "Insulin, Glucagon, and the Oral Hypoglycemic Sulfonylureas," sponsored by the Clinical Society of the New York Diabetes Association, will be held on October 12 beginning at 9:30 A.M. at Hunter College Auditorium, Park Avenue and 68th Street, New York City. Outstanding authorities from throughout the United States will present their studies. Chairman of the morning session will be Dr. Harold Brandaleone, New York City. Dr. Irving Graef, also of New York City, will be chairman of the evening session. Both are members of the board of directors of the New York Diabetes Association.

Talk on Carcinoma

An informal talk on "Carcinoma of the Cervix, Effect on Lymph Nodes," by Professor H. L. Kottmeier, chief of gynecology, Radium Hemmet and Royal Caroline Institute, Stockholm, Sweden, will be presented on October 2 at 8:30 P.M. in the auditorium of the Jewish Chronic Disease Hospital, East 49th Street and Rutland Road, in Brooklyn.

Gastroenterological Convention

The annual convention of the American College of Gastroenterology will be held at the Roosevelt Hotel in New York City on October 15 through 17. There will be six panel discussions on the diseases of the gastrointestinal tract, individual papers, a special motion picture program, and scientific and commercial exhibits.

The annual course in postgraduate gastroenterology will take place on October 18, 19, and 20 at the Roosevelt and the new Metropolitan Hospital Center.

Further information may be obtained by writing to the American College of Gastroenterology, 33 West 60th Street, New York 23, New York.

Pan American Medical Association

The next and tenth Inter-American Congress of the Pan American Medical Association will be held in Mexico City from November 18 through 22, 1957. The Congress will be held in sections covering all branches of medicine and surgery. There will be medical moving pictures, panel discussions, and scientific and technical exhibits.

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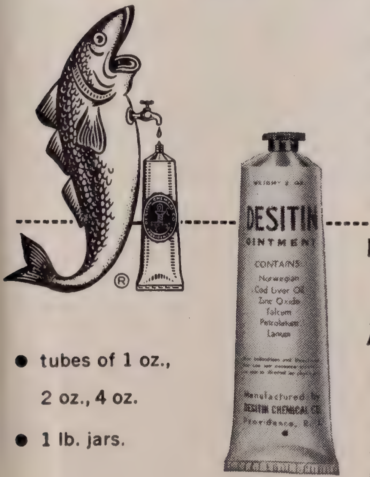
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1. Grayzel, H. G., Heimer, C. B., and Grayzel, R. W.: New York St. J. Med. 53:2233, 1953. **2.** Heimer, C. B., Grayzel, H. G., and Kramer, B.: Archives of Pediatrics 68:382, 1951. **3.** Behrman, H. T., Combes, F. C., Bobroff, A., and Leviticus, R.: Ind. Med. & Surgery 18:512, 1949. **4.** Turell, R.: New York St. J. Med. 50:2282, 1950. **5.** Marks, M. M.: Missouri Med. 52:187, 1955.

NECROLOGY

Max Barshak, M.D., of the Bronx, died on August 6 at the age of sixty-seven. Dr. Barshak graduated from New York University and Bellevue Hospital Medical College in 1915. From 1916 to 1926 he was an instructor in medicine at Bellevue Medical College. Dr. Barshak was a member of the New York Cardiological Society, the Bronx County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

William Addison Clay, M.D., of Washington, D.C., formerly of Rochester, died recently at the age of thirty-six. Dr. Clay graduated from the University of Rochester School of Medicine and Dentistry in 1946. He was a former assistant physician at Strong Memorial Hospital and a member of the Monroe County Medical Society and the Medical Society of the State of New York.

Morris Dreyfuss, M.D., of Elmira, died on July 24 at the age of sixty-two. Dr. Dreyfuss received his medical degree from the University of Frankfurt in 1920. He had been an active member of the Chemung County Chapter, American Cancer Society, of which he had been a vice-president and a member of the board of directors. He was also a director of the local chapter of the American Society of General Practitioners as well as a member, and a member of the Chemung County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Nathan Folkman, M.D., of Brooklyn, died on August 8 at the age of forty-eight. Dr. Folkman graduated in 1930 from Hahnemann Medical College of Philadelphia and interned at the Coney Island Hospital. He was an associate attending surgeon at the Prospect Heights and Cumberland Hospitals. During World War II he served four years in the U.S. Army Medical Corps and at one time taught anatomy at the Long Island Medical College. Dr. Folkman was president-elect of the Kings County Surgical Society and a member also of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Herbert Graebner, M.D., of New York City, died on July 17 at the age of sixty-seven. Dr. Graebner graduated from Marquette University School of Medicine in 1912. He was a Diplomate of the American Board of Otolaryngology and a member of the American Academy of Ophthalmology and Otolaryngology, the American Laryngological, Rhinological and Otological Society, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Max Harrison, M.D., of Long Beach, died recently at the age of sixty-three. Dr. Harrison graduated in 1915 from the New York University and Bellevue Hospital Medical College and interned at Mount Sinai Hospital. He was a member of the American Academy of General Practice, the Nassau County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Leo Jacobi, M.D., of New York City, died on December 4, 1955, at the age of eighty-one. Dr. Jacobi received his medical degree from the University of Berlin in 1899. He was a consultant in dermatology at the Lenox Hill Hospital and a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

LeGrand Kerr, M.D., of Sayville, died on August 11 at the age of eighty-five. Dr. Kerr graduated in 1892 from Bellevue Hospital Medical College. Retired, he had been a consultant in pediatrics at Methodist and Swedish Hospitals, Brooklyn. Until 1907 he had served as ship's surgeon for the Anchor Line. Dr. Kerr was a founder of the Brooklyn Academy of Pediatrics and a former president of the Medical Association of Greater New York and a councillor of the American College of Physicians. He was a Licentiate of the American Board of Pediatrics and a member of the American Academy of Pediatrics, the Brooklyn Academy of Pediatrics, the Suffolk County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Louis Winfield Kohn, M.D., of New York City, died on August 16 at the age of sixty-eight. Dr. Kohn graduated from the University of Maryland School of Medicine in 1910. He had been chief of the clinic of gastroenterology at the Medico-Chirurgical College, Philadelphia, chief of the Gastrointestinal Department, Temple University Hospital, Philadelphia, and chief, Gastrointestinal Clinic, Lebanon Hospital, Bronx. Dr. Kohn was a Life Fellow of the American College of Gastroenterology, a Diplomate of the American Board of

[Continued on page 2890]

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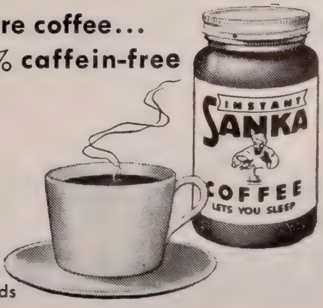
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[Continued from page 2888]

Internal Medicine, a Fellow of the American College of Physicians, and a member of the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Gideon D. Smith, M.D., of Kenmore, died on July 18 at the age of eighty-three. Dr. Smith graduated from Niagara University Medical Department, Buffalo, in 1896. Dr. Smith had practiced medicine for more than sixty years and was a member of the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Maurycy Saidman, M.D., of New York City, died on June 27 at the age of seventy-two. Dr. Saidman received his degree from the Military Academy of Medicine, St. Petersburg, and the University of Basle Faculty of Medicine, Switzerland, in 1909. He was a Diplomate and Fellow of the International College of Surgeons and a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Mabel C. Sisson, M.D., of Bayside, formerly of Brooklyn, died in July. Dr. Sisson graduated in 1899 from Boston University School of Medicine. Retired, she was an honorary physician and obstetrician at Prospect Heights Hospital.

Sophie Spitz, M.D., of New York City, died on August 10 at the age of forty-six. Dr. Spitz graduated from Vanderbilt University School of Medicine in 1932. Since 1936 she had been director of laboratories at the New York Infirmary for Women and Children. In 1939 she became an assistant pathologist at Memorial Center for Cancer and Allied Diseases and an assistant professor of pathology at the Sloan-Kettering Division of Cornell University Medical College. During World War II she served as a volunteer assistant medical examiner and an assistant medical examiner of New York City as well as with the Army Institute of Pathology (now the Armed Forces Institute of Pathology). She was a Diplomate of the American Board of Pathology and a member of the American Association of Pathologists and Bacteriologists, the New York Pathological Society, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Michael Henry Teitelbaum, M.D., of New York City, died on August 10 at the age of fifty-eight. Dr. Teitelbaum graduated from McGill University Faculty of Medicine in 1925. Dr. Teitelbaum was an associate in neurology at the Presbyterian Hospital. From 1942 to 1945 he served as chief of the 121st Base Hospital in England and was chief consulting psychiatrist in the European Theatre of Operations. Before joining the staff of the Neurological Institute, Dr. Teitelbaum served at the Manhattan State, Bellevue, and Kings County Hospitals. He was a Fellow of the American Psychiatric Association and a member of the Association for Research in Nervous and Mental Diseases, the New York Academy of Medicine, the New York Society for Clinical Psychiatry, the New York Neurological Society, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Distribution of Women Physicians in New York State

The following statistics on the distribution of women physicians in New York State were compiled by the New York State Women's Medical Society. They are published herewith for the interest of our readers.

	Population	Number of Physicians	Population per Physician	Number of Female Physicians	Population per Female Physicians	Per Cent Female Physicians
New York State total	14,830,000	29,930	500	1,890	7,800	6.3
Manhattan	1,960,000	8,730	230	825	2,400	9.5
Bronx	1,450,000	1,980	730	63	22,000	3.2
Brooklyn	2,740,000	4,290	640	153	18,000	3.6
Queens	1,550,000	2,610	590	169	9,900	6.5
Richmond	190,000	260	730	17	11,000	6.5
Albany	140,000	410	340	30	4,500	7.3
Buffalo	580,000	1,250	460	58	10,000	4.6
Rochester	330,000	950	350	37	8,900	3.9
Syracuse	220,000	550	400	18	12,000	3.3
Balance of New York State	5,600,000	8,720	640	511	11,000	5.9

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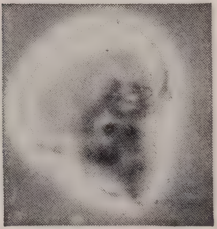
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References: 1. Davis, C. H.: J.A.M.A. 157:126 (Jan. 8) 1955. 2. Davis, C. H.: West. J. Surg. 63:53 (Feb.) 1955.

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DISTRICT BRANCH MEETINGS

Medical Society of the State of New York

SEVENTH DISTRICT BRANCH

Wednesday, September 26, 1956
Sheraton Hotel, Rochester

Afternoon

1:30 P.M.—Registration

2:00 P.M.—Scientific Session

5:00 P.M.—Business Meeting

Evening

6:00 P.M.—Cocktails

7:00 P.M.—Dinner

Introduction of Officers

Address: THURMAN B. GIVAN, M.D., President-Elect, Medical Society of the State of New York

Remarks: MRS. ALBERT VANDER VEER, II, Albany, President, Woman's Auxiliary to the Medical Society of the State of New York

Guest Speaker

Officers—Seventh District Branch

President	Eldred J. Stevens, M.D., Hammondsport
First Vice-President	Joseph A. Lane, M.D., Rochester
Second Vice-President	James H. Arseneau, M.D., Lyons
Secretary	Robert F. D. Gibbs, M.D., Seneca Falls
Treasurer	Edward S. Platt, M.D., Auburn

Presidents—Component County Medical Societies

Cayuga	Stephen J. Karpinski, M.D., Auburn
Livingston	Laverne G. Wagner, M.D., Dansville
Monroe	Lynn Rumbold, M.D., Rochester
Ontario	Carl B. Smith, M.D., Canandaigua
Seneca	Scott W. Skinner, M.D., Seneca Falls
Steuben	Henry E. Elwood, Jr., M.D., Corning
Wayne	Charles M. Single, M.D., Wolcott
Yates	John L. Shultz, M.D., Penn Yan

EIGHTH DISTRICT BRANCH

Thursday, September 27, 1956
Bartlett Country Club, Olean

Afternoon

12:00 NOON—Luncheon meeting of Advisory Council

1:30 P.M.—Registration

2:00 P.M.—"Cytologic Diagnosis of Malignancy"
THOMAS R. SIMON, M.D., New York City, Director of Cytology, Memorial Center for Cancer and Allied Diseases

3:00 P.M.—"The Tranquilizing Drugs"
GEORGE B. KOELLE, PH.D., M.D., Philadelphia, Pennsylvania, Professor of Pharmacology, University of Pennsylvania Graduate School of Medicine

4:00 P.M.—"The Surgical Risk in Patients with Cirrhosis of the Liver"
W. W. LINDENMUTH, M.D., West Haven, Connecticut, Chief of Surgical Service, Veterans Administration Hospital

5:00 P.M.—Business Meeting

[Continued on page 2894]

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[Continued from page 2892]

Evening

6:30 P.M.—Cocktails

7:00 P.M.—Dinner and Dancing

Introduction of Officers

Remarks: MRS. ALBERT VANDER VEER, II, Albany, President, Woman's Auxiliary to the Medical Society of the State of New York

Address: THURMAN B. GIVAN, M.D., President-Elect, Medical Society of the State of New York

Woman's Auxiliary Program

12:00 NOON—Registration, Bartlett Country Club, Olean

1:00 P.M.—Sherry Party and Luncheon, Hilltop, Bolivar

Welcome: MRS. MURRAY RESWICK, Olean, President, Woman's Auxiliary to the Medical Society of the County of Cattaraugus

Address: MRS. ALBERT VANDER VEER, II, Albany, President, Woman's Auxiliary to the Medical Society of the State of New York

Discussion: MRS. MAURICE G. SHELDON, Olean, Eighth District Councillor, Woman's Auxiliary to the Medical Society of the State of New York

6:30 P.M.—Cocktails and Dinner Dance, Bartlett Country Club

Officers—Eighth District Branch

President	Elmer T. McGroder, M.D., Buffalo
President-Elect	Wilfrid M. Anna, M.D., Lockport
Secretary	Clyde L. Wilson, M.D., Jamestown
Treasurer	Richard A. Loomis, M.D., Springville

Presidents—Component County Medical Societies

Allegany	Edward W. Briggs, Jr., M.D., Wellsville
Cattaraugus	Joseph A. Wintermantel, M.D., Olean
Chautauqua	Robert R. Northrup, M.D., Westfield
Erie	Matthew J. Callanan, M.D., Buffalo
Genesee	Paul C. Jenks, M.D., LeRoy
Niagara	Charles M. Dake, Jr., M.D., Niagara Falls
Orleans	Kenneth J. Clark, M.D., Medina
Wyoming	Richard T. Williams, M.D., Warsaw

SECOND DISTRICT BRANCH

Wednesday, October 3, 1956

Garden City Hotel, Garden City

Evening

6:00 P.M.—Registration

7:00 P.M.—Dinner

Introduction of Officers

Business Meeting—Election of Officers

Address: THURMAN B. GIVAN, M.D., President-Elect, Medical Society of the State of New York

Remarks: MRS. JOSEPH H. KINNAMAN, Hempstead, District Councillor, Woman's Auxiliary to the Medical Society of the State of New York

"Africa"

STUART T. ROSS, M.D., Hempstead

Officers—Second District Branch

President	Leo T. Flood, M.D., Hempstead
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[Continued on page 2896]

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Lockwood, James H., Cmdr., MC, USN U.S. Naval Hospital, San Diego, Cal. Bulletin of the Association of Military Dermatologists, June 1955, p. 2

INDICATIONS

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[Continued from page 2894]

FOURTH DISTRICT BRANCH

Thursday, October 4, 1956
Mohawk Golf Club, Troy Road, Schenectady

Afternoon

12:00 NOON—Executive Committee Luncheon

1:30 P.M.—Registration

2:30 P.M.—Panel Discussions, open to all members

1. "Public Relations"—JOHN C. MCCLINTOCK, M.D., Albany, Councillor and member of Public Relations Committee, Medical Society of the State of New York, *Moderator*
2. "Workmen's Compensation"—DAVID J. KALISKI, M.D., New York, Director, Workmen's Compensation Bureau, Medical Society of the State of New York, *Moderator*
3. "Blue Cross—Blue Shield"—MR. RALPH HAMMERSLEY, Executive Director, Northeastern New York Medical Service, Inc., and MR. GEORGE P. FARRELL, Director, Bureau of Medical Care Insurance, Medical Society of the State of New York, *Co-Moderators*
4. "Public Welfare"—I. JAY BRIGHTMAN, M.D., Assistant Commissioner (Health) for Welfare Medical Services, State of New York Department of Social Welfare, *Moderator*

4:15 P.M.—Business Meeting—Election of Officers

Evening

5:30 P.M.—Social Hour

6:30 P.M.—Dinner

Welcome: FRANK C. FURLONG, M.D., President, Medical Society of the County of Schenectady

Introduction of Officers: ALFRED A. HARTMANN, M.D., President, Fourth District Branch

Address: THURMAN B. GIVAN, M.D., President-Elect, Medical Society of the State of New York

Remarks: MRS. EDWARD P. RYAN, Glens Falls, District Councillor, Woman's Auxiliary to the Medical Society of the State of New York

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Officers—Fourth District Branch

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Second Vice-President	Roman R. Violyn, M.D., Amsterdam
Secretary	Milton Greenberg, M.D., Hudson Falls
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Essex	William Vilardo, M.D., Ticonderoga
Franklin	Philip W. Gorman, M.D., Fort Covington
Fulton	Albert Goodwin, M.D., Gloversville
Montgomery	Andrew A. Casana, M.D., Amsterdam
Saratoga	Robert Rockwell, M.D., Saratoga Springs
Schenectady	Frank C. Furlong, M.D., Schenectady
Warren	John W. Canaday, M.D., Glens Falls
Washington	Sigmund Weiss, M.D., Hudson Falls

It has always been in my observation of human nature, that a man who has any good reason to believe in himself never flourishes himself before the faces of other people in order that they may believe in him.—David Copperfield, CHARLES DICKENS

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THE MONTH IN WASHINGTON

In terms of actual health bills passed and sums of money appropriated, the 84th Congress which ended just a few weeks in advance of party presidential conventions undoubtedly set some records. Measures ranged from the far-reaching program of disability cash payments to a bill for the commissioning of male nurses in the armed services.

In between are a wide variety of measures which, in the opinion of Secretary Folsom, Secretary of Health, Education, and Welfare, gives "promise of immediate and substantial progress on a wide front in the improvement of the nation's health."

Both Mr. Folsom and the President deplored the fact that Congress had not acted on their plan for Federal aid to medical schools, but Congress decided this was one of the subjects that needed more study before taking any further action. In addition, Mr. Folsom expressed disappointment that nothing had been done on authority for pooling arrangements among small health insurance companies and the long-dormant plan for a health reinsurance fund.

On medical research funds the administration this session asked for the largest amount of money ever requested in one year. The appropriation finally voted was even larger, some $170 million. On top of this, Congress in its final hours appropriated nearly $80 million to carry out new legislation just passed.

Here are the highlights of major health bills approved by the 84th Congress:

Social Security Amendments.—Changes in the twenty-one-year-old social security law now include (1) Old Age and Survivors Insurance payments to disabled workers at age fifty, paid from a "separate" fund, (2) extension of social security to some 250,000 dentists, lawyers, osteopaths, and other self-employed persons, (3) lowering of retirement age for social security purposes for women from sixty-five to sixty-two, (4) earmarked payments for medical care of public assistance recipients, and (5) increase of payroll deductions by one-half of 1 per cent and three-eighths of 1 per cent for the self-employed.

Laboratory Research Facilities.—The Hill-Bridges bill for $90 million in construction grants over three years to public and nonprofit institutions to erect research facilities started out in the Senate as a bill to aid research in crippling and killing diseases but wound up for research in all "sciences related to health."

Health Amendments Act.—The so-called little omnibus health bill provides for Federal grants for training of public health specialists, professional nurses qualified for teaching and administrative jobs, and for practical nurses, plus a two-year extension beyond next July 1 of the ten-year-old Hill-Burton hospital program and special projects grants for mental health studies and demonstrations.

Medical Care for Military Dependents.—A long-sought goal of the Defense Department was enactment of a permanent program of medical care for dependents of armed services personnel, either in military hospitals and clinics or through private sources. It is scheduled to begin early in December.

National Library of Medicine.—Another proposal long in the making was the re-establishment of the Armed Forces Medical Library as the National Library of Medicine. For administrative purposes Congress put it under the Department of HEW but left up to the 17-man board of regents the selection of site—in all likelihood in the Washington area.

Sickness Survey.—Special and continuing surveys on the extent of illness and disability in the U.S., along with medical care being offered have been authorized, the first detailed study of its kind in over twenty years. The work will be done by the Public Health Service.

Water Pollution Control.—The P.H.S. is authorized to make grants to states and communities to help in construction of sewage disposal plants at the rate of $50 million a year for ten years.

Some other measures signed into law by the President were establishment of a mental health program for Alaska, budget increases for additional staff for the Food and Drug Administration along with a new headquarters building for modern laboratories, provision of medical care for employes and dependents of the State Department abroad in U.S. military facilities, a $400,000 fund to finance the holding of the World Health Assembly in this country in 1958 (which is the tenth anniversary of the founding of the World Health Organization), and the commissioning in the armed services of osteopaths.

Notes

The new surgeon general of the P.H.S. is Dr. Leroy E. Burney, a career officer in the commissioned corps and for ten years commissioner of health for the State of Indiana. Until his nomination by the President he was deputy chief of the P.H.S. Bureau of State Services. Dr. Burney received his medical degree from Indiana University.

The Federal government withdrew from the allocation of the Salk poliomyelitis vaccine just fifteen months after the first release of the vaccine, but Federal grants to states to help finance inoculation programs continues.

In preparation for a national blood bank directory, the Joint Blood Council with headquarters in Washington launched a nation-wide survey September 1 of all blood banks.

Prepared by the Washington Office of the American Medical Association, Washington, D.C.

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CORRESPONDENCE

Letter of Appreciation from Governor Harriman

Editor's Note.—*We are pleased to be able to publish the following letter from Governor Averell Harriman expressing appreciation for assistance rendered by the Medical Society in establishing criteria for drivers licenses for epileptics. The reply of Dr. Theodore J. Curphey, Chairman of the Council Committee on Public Health and Education, is also included.*

Dr. Theodore J. Curphey
Medical Society of the State of New York
386 Fourth Avenue
New York 16, New York

Dear Dr. Curphey:

Dr. Hilleboe of the State Department of Health and Commissioner Kelly of the Bureau of Motor Vehicles have kept me informed of the great help which the Medical Society of the State of New York has rendered to the State through its Committee on Public Health and Education in connection with the difficult problems involved in evaluating the physical capacity of certain individuals to operate motor vehicles safely.

I should like particularly to express our appreciation to you and to the three specialists in epilepsy, Dr. S. Bernard Wortis, Dr. H. Houston Merritt, and Dr. Abraham M. Rabiner, who have given unselfishly of their time in order to help us establish criteria to be followed in reviewing license applications from persons with a history of epilepsy or other disabling conditions.

I am glad to note that the Medical Society has been considering the advisability of setting up a comprehensive advisory committee for the purpose of studying accident prevention in general. I am sure such a committee could be of great assistance in our drive to cut down the number of traffic accidents.

Sincerely,
Averell Harriman
Governor

Executive Chamber
Albany, New York

Governor Averell Harriman
Executive Chamber
Albany, New York

Dear Governor Harriman:

May I on behalf of the Council Committee on Public Health and Education of the Medical Society of the State of New York express our appreciation of your most thoughtful letter generously commending the efforts of those members of the Subcommittee on Epilepsy that have been working closely with Commissioner Kelly and Dr. Hilleboe and their associates on this problem.

I have forwarded your letter to Dr. James Greenough of Oneonta, the President of our Society, prompted by the feeling that he would want to express to you personally his thoughts relative to the desire of the medical profession to assist you and the various agencies in government concerned not only with the matter of accident prevention, but also with the broader problems of the health of the citizens of the State.

I am sure you will be interested to hear that the broad-based accident prevention committee has already held two meetings and is currently engaged in preparing a plan aimed at utilizing to the fullest the available medical and technical knowledge in the State bearing on the problem.

Sincerely yours,
Theodore J. Curphey, M.D., *Chairman*
Council Committee on Public Health and Education

Medical Society of the State of New York
386 Fourth Avenue
New York 16, New York

[Continued on page 2902]

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[Continued from page 2900]

Commending Journal

To the Editor:

A brief but sincere bouquet for the results of your labors in general—volume 56, number 14, July 15 in particular. Contents, choice of articles, variety, arrangement, editorials—all are excellent. I particularly like the words of wisdom, quotes by sages, in italics at foot of pages. Good work!

Bernerd H. Burbank, M.D.
26 Broadway
New York City

Anatomic Hors d'Oeuvres

To the Editor:

Readily observed anatomic details, recorded, serve to interest the physician and increase curiosity since these details will serve to point a moral and adorn a tale in the general type of person. More than that, the details will serve to identify and to contraidentify. The latter, in showing that a certain body cannot be the one, is often extremely useful.

Phrenology led to more than mere indication of character. Blumenbach was brought to a closer study of the cranium, and we have the spheno-occipital transverse suture called after him. This suture is thought to synostose at the age of twelve years. American Indians usually develop dentition earlier, and the sutures often are premature. Italian crania often show a very early closure of the median sagittal suture, which means a narrow skull type. So one fact leads to another.

The hand has many interesting points to be seen easily. The nails present the "lunule." This is the exposed portion or area of nail-matrix. The thumb nearly always shows this fully. Other digits may or may not show the lunule. And it will be seen that the extension of the "skin mantle" is greater on the fingers of the ulnar side. The index finger may have a slight lunule. The lunule is never seen to be on the fifth and the fourth digits and is only a slight production on the middle and index fingers. Why? This is part of the general development of the preaxial and the postaxial areas of the extremity. Without studying deeply the morphology, we can, however, gain a lot of material by the casual view of this "lunule" formation. If the skin mantle covers the matrix more or less fully, there is less danger of damage to the future of the injured nail. So the thumb and the great toe usually show more damage to nail production on injury.

The nails may have transverse grooves or marks. This results from metabolic derangement and often follows a severe illness. A serial set of transverse markings will show a close-set interference with nutrition. A longitudinal set of grooves or markings, on the other hand, indicates a circulatory weakness. It may appear in cases of valvular cardiac pathology.

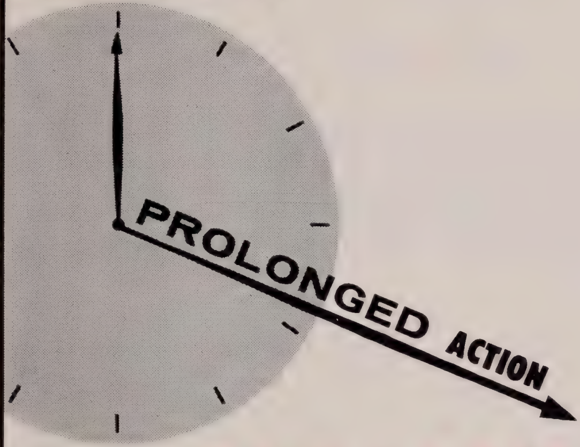
The shapes of the nails are characteristic. In some national origins we find a long, narrow nail. In others we find a broad and relatively short nail. I had a nail form traced for me, in a lady of at least two thousand years Hebrew descent, in Brooklyn at the time, when a student made the observation, the family being well known. Aleš Hrdlička, whom I knew, said he would like to have a "good paper on the nails." The details for this I spent some time collecting. But genealogies are not readily certified. The various encyclopedias give lists of some families. Their descendants are with us and knowable.

This writer has a nearly square nail on the middle finger. The little finger is elongated, narrow, and small. The thumb has a nail of elongation but is not slender. My family lived in Stratford-on-Avon at the time of Shakespeare. And this dramatist placed a Dr. Evans in Scene 1 of "The Merry Wives of Windsor."

The digits show various proportions. The little finger may or may not extend as far as the mediodistal phalangeal articulation. If it extends beyond this articulation, it styles the hand as snatching, as in the carnivores. But short fingers on the ulnar side and long ones on the radial side indicate a plucking type. Here the mechanic may avail himself of type. The pianist needs a long fifth digit, for octaves. It is said that Liszt could trill on the piano using his fourth and fifth fingers. I knew an organist (G. W. Thompson) who could trill in this manner.

We derive our words "handy," "handsome," "hand" (workman), as mill hand, deck hand, farm hand. We say, "Give me a 'hand,' " but it is "Foot the bill." The foot in French means not skillfully, as it is said: "He plays like a foot." There are many types of human foot. We have the long, slender foot. There is the broad, thick-set foot. The great toe shows a type which is not that of the classic foot, for now we find the great toe extending beyond the other toes. In this it will be seen there is a tendency to work-bearing upon the tibial side of the foot. In

[Continued on page 2904]



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[Continued from page 2902]

the horse, ox, and other heavy animals there is only slight production of fibula, while in the amphibian frog the fibula is thick-set and there is slight production of tibia. In man the flexor of the great toe arises from the fibula, naturally, since it is on the great toe that a good jump is produced. Irving K. Baxter, an athlete of the University of Pennsylvania (later a Judge in Utica, New York), twisted his great toe on which he leaped in a peculiar manner and was a foremost jumper. That was in the 1890's (see Pott's fracture sequelae).

It was found that even so long ago as in Egypt before the time of Moses, the little toe was often shortened and lacked the middle phalanx. The same condition occurs now and in no greater amount of retrogression. Three or four thousand years seem not to register in human progressions. Some fifth toes fail to produce a nail, except for a slight rim. And the flexor tendon slips may be wanting from the brevis, or there may be only a slip of fascia.

The horse has changed to possess only one middle digit in the foot. The cow possesses two digits and is called digitigrade and even-toed. The horse is digitigrade and odd-toed, as we have the horse today. The cow became diplarthrous (a joint from two-headed talus articulating with both navicular and cuboid). While in some instances in the human foot we find a talus joining with facets of both navicular and cuboid, we do not find a two-headed talus (as yet). But this signifies a great deal in the necessities of walking. Cunningham is cited in Morris as saying that the musculature of the little toe differs in morphology from that of the fifth finger, especially as to flexor brevis muscle and opponens.

It is enough to find any one significant detail of hand or foot wanting in a discovered debris of body to determine, without the aid of a dentist and his record, that this body *cannot* have been the person in question.

I discussed with Hugh Frayne (AFL) whether a workman might have an advantage in choice of work and type of body, but Frayne said that a workman is only too glad to get any job and would not wait for the type suitability. Nevertheless, since so much work is now given over to the mechanical robot, perhaps the workman too will secure his desirable type.

On the head there are significant details. On the vertex, seen readily, especially on little boys, is the "whorl" where the hair may follow a circular pattern, either to the "right" or to the "left." Some literature exists in an attempt to show that human groups tend to one or other of this "sidedness." If ever it existed, there is now no exact clue. (Hair roots implant opposite to the curve.)

The parting of hair is usually along the left, and this is probably started by the mother (?). It does not follow 100 per cent the type of right or left-handedness in the individual; yet there seems to occur a slight increase of "right"-sided parting with left-handed persons.

The lobule of ear shows two distinct varieties of skin relation: Either the lobule is affixed along its forward edge, or it hangs quite freely and may be lifted from the related area of neck.

Lemurine turning out of the angle of mandible has been noted in some persons (Harrison Allen, in Piersol).

Scars along the forward edge of sternocleidomastooccilital muscle may be the vestige of branchial orifices. Do not probe such if partly open; it may open to digestive tract. Of the scars along posterior edge of this muscle there may have been lymphatic disease, especially of the deep cervical nodes. Observe any scars or pits on nuchal areas.

Darwinian tubercle may appear high up on the rim of helix of Pinna.

Broken bridge of nose may be noted.

Thomas Horace Evans, M.D.

350 South Main Street
Freeport, New York

Salicylate Therapy of Recurrent Calcium Urolithiasis

A preliminary report on a small series of patients indicates that continuous administration of salicylates is a promising therapy for prevention of calcium-containing urinary stone. This study involves 19 patients under treatment for twelve months or more. Only one of these is listed as a complete failure. In another patient there was a slight increase in the size of small renal calculi after eighteen months. It was not possible to maintain a satisfactory glucuronide level in this patient, although good cooperation was obtained. Briefly, the rationale of this therapeutic trial rests on the fact that various glucuronosides excreted in the urine, which form soluble complexes with the calcium ion, are inactivated by infection. Salicylate is one of the best known of the glucuronosides.—*Edwin L. Prien, M.D., and Burnham S. Walker, M.D., New England Journal of Medicine, September 15, 1955*

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BOOKS REVIEWED

Denial of Illness. Symbolic and Physiological Aspects. By Edwin A. Weinstein, M.D., and Robert L. Kahn, Ph.D. Octavo of 166 pages. Springfield, Charles C Thomas, 1955. Cloth, $4.75. (American Lecture Series no. 249)

This book is a crystallization of the authors' extensive work on anosognosia and its ramifications. They lift the subject from a rarity of interest to the neurologist, to that of a general problem important to all physicians. That people avoid facing their difficulties by denying them is well known, and in this essay we see that this is especially true in illness. Diffuse disease of the brain is the usual basis for this disorder. The writers cover the literature and give the results of their own researches using anatomic, electroencephalographic, psychologic, and other methods. They also studied similar states produced experimentally through the use of barbiturates intravenously and electric shock therapy.

This interesting and informative book is pleasant to read and can be recommended to all doctors, especially neurologists and psychiatrists.—Arthur J. Lapovsky

1955 Medical Progress. A Review of Medical Advances During 1954. Morris Fishbein, M.D., Editor. Octavo of 346 pages. New York, Blakiston Division, McGraw-Hill Book Company, 1955. Cloth, $5.00.

Considering the eminence of the editor and the contributors, this volume of *Medical Progress* is disappointing. Some chapters, such as obstetrics by DeCosta, are comprehensive and well written. On the whole, however, this volume presents a fragmented and kaleidoscopic survey of advances in medicine. Several chapters do not contain references, and there is considerable repetition, indicative of hasty and poor editorial organization.

As a whole the book is unbalanced. Only five pages are devoted to infectious diseases compared to 40 pages on endocrinology. A chapter on new drugs is compressed to four pages and is concerned with only two new therapeutic agents. The chapter on medicine written by Dr. Fishbein is on such an elementary level that one must conclude that the content was prepared originally for the lay public rather than for the medical profession. It is gratuitous at best to define coronary thrombosis as "the blocking of a coronary artery," caries as "premature decay of the teeth," ventricular fibrillation as "the heart flutter which almost inevitably is fatal," and the ureter as "the duct that carries the urine from the kidney to the bladder."

In sum this volume does not represent one of Dr. Fishbein's notable contributions to medical writing or editing.—Richard Gubner

Textbook of Occupational Therapy. With Chief Reference To Psychological Medicine. By Eamon N. M. O'Sullivan, M.B. Octavo of 319 pages, illustrated. New York, Philosophical Library, 1955. Cloth, $10.

This is an excellent account of the important role occupational therapy plays in the treatment of mental illness. Every aspect is handled with such detail that the reviewer was unable to discover omissions of any kind. This book should be read by all workers in the field of mental illness and should serve especially as a valuable reference work for the psychiatrist, psychiatric nurse, and occupational therapist. The author considers not only the technical aspects of particular methods with their advantages and disadvantages but also the underlying principles of each form of therapy. Administrative problems of a well-run department of occupational therapy are discussed. For nonmedical personnel there is a very adequate account of the clinical states of the usual mental illnesses encountered.—Theodore Meltzer

Fractures in Children. By Walter Putnam Blount, M.D. Quarto of 279 pages, illustrated. Baltimore, Williams & Wilkins Co., 1955. Cloth, $9.50.

All who have occasion to treat fractures in children will welcome this new volume most warmly. The subject is covered completely. Special problems of diagnosis and treatment are presented and discussed and the illustrations are profuse and clear. Particularly effective are the cartoons used to emphasize what not to do.

Two quotations from the text are worth noting:

"Too many men treat roentgenograms instead of children."

"It should be emphasized that until growth is complete, open reduction has no place in the treatment of the fractured tibia."—Mayer E. Ross

The Medical Clinics of North America. Chicago Number. January, 1956. Octavo, illustrated. Philadelphia, W. B. Saunders Company, 1956. Published bimonthly (six numbers a year). Cloth, $18 net; paper, $15 net.

The current issue of the *Medical Clinics of North America* is devoted to a symposium of 22 articles on the medical problems of the aged. Most of the papers are good, one or two, such as Borden's group on emphysema, excellent. Only a few, the first few, really are devoted to the special problems of aging as such; most are devoted to phases of internal medicine which only by nosologic squeezing and pulling can be considered part of the specialty of geriatrics.—Milton Plotz

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The isolation of rescinnamine,[1] another potent alkaloid in Rauwolfia serpentina, has substantiated two important points:

A—It discredits the erroneous opinion that reserpine is *the* sole active principle of Rauwolfia;[2]

B—It helps to define the advantages of Rauwiloid, the alseroxylon fraction of Rauwolfia serpentina, which presents desirable alkaloids[3] of the Rauwolfia plant (among them reserpine and rescinnamine) but is freed from undesirable alkaloids and the dross of the crude root.

Pharmacologic and clinical evaluation has shown rescinnamine to be similar to reserpine in antihypertensive activity, but to be considerably less sedative and much less apt to lead to lethargy and mental depression.[4,5]

The interaction of reserpine, rescinnamine, and other contained alkaloids may well account for the balanced and desirable clinical behavior of Rauwiloid.

The dosage of Rauwiloid is simple and definite: Merely two 2 mg. tablets at bedtime. For maintenance, one tablet usually suffices.

Riker

LOS ANGELES

1. Klohs, M.W.; Draper, M.D., and Keller, F.: Alkaloids of Rauwolfia Serpentina Benth. III. Rescinnamine, a New Hypotensive and Sedative Principle, J. Am. Chem. Soc. *76*:2843 (1954).
2. Cronheim, G.; Brown, W.; Cawthorne, J.; Toekes, M.I., and Ungari, J.: Pharmacological Studies with Rescinnamine, a New Alkaloid Isolated from Rauwolfia Serpentina, Proc. Soc. Exper. Biol. & Med. *86*:120 (May) 1954.
3. Gourzis, J.T.; Sonnenschein, P.R., and Barden, R.: Alterations in Cardiovascular Responses of the Dog Following Rauwiloid, an Alkaloidal Extract of Rauwolfia Serpentina, Proc. Soc. Exper. Biol. & Med. *85*:463 (Mar.) 1954.
4. Hershberger, R.; Hughes, W., and Dennis, E.: Clinical Results in the Treatment of Hypertension with Rescinnamine, Clin. Res. Proc. *3*:71 (Feb.) 1955.
5. Smirk, F.H., and McQueen, E.G.: Comparison of Rescinnamine and Reserpine as Hypotensive Agents, Lancet *2*:115 (July 16) 1955.

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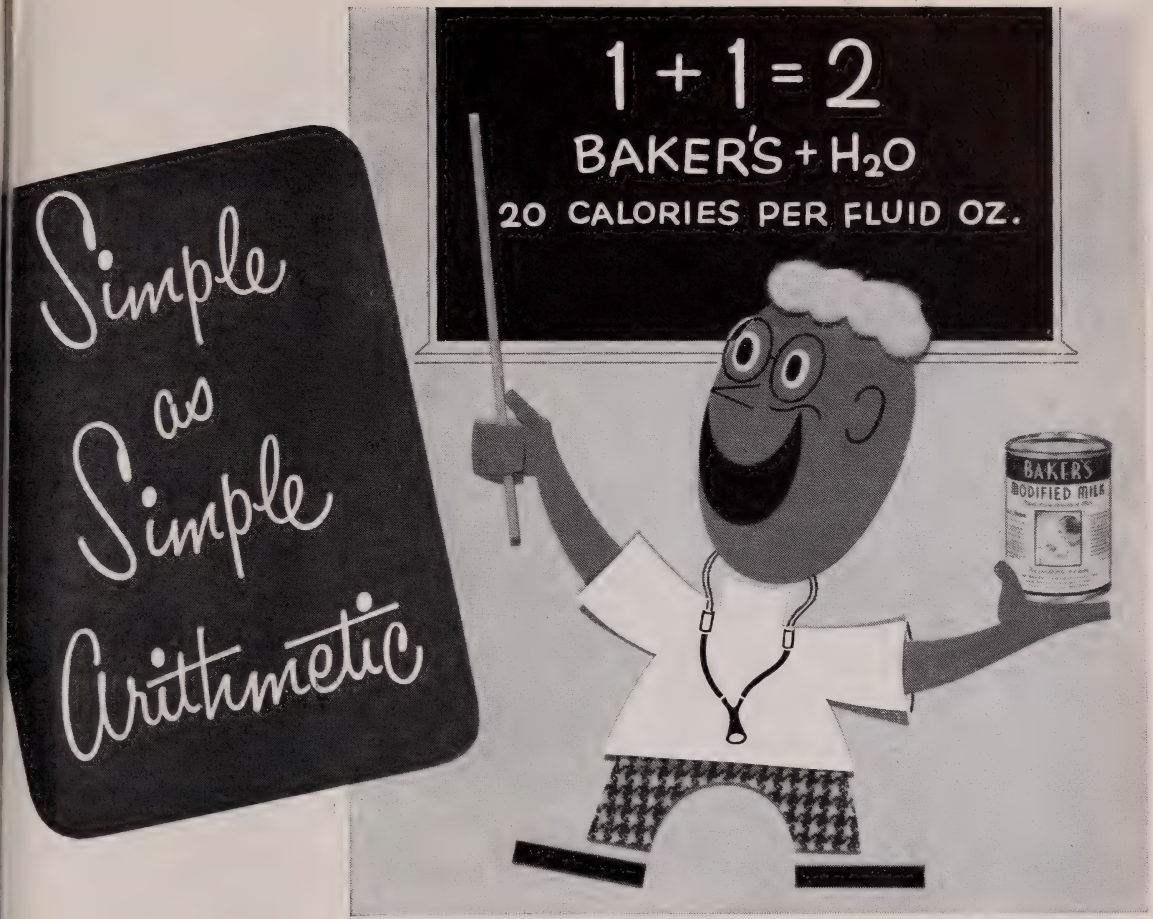

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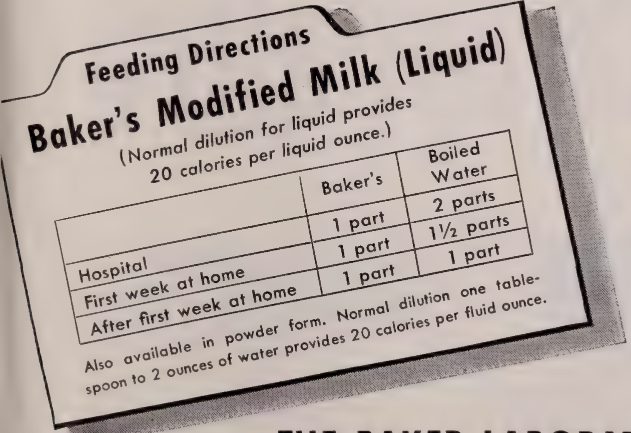

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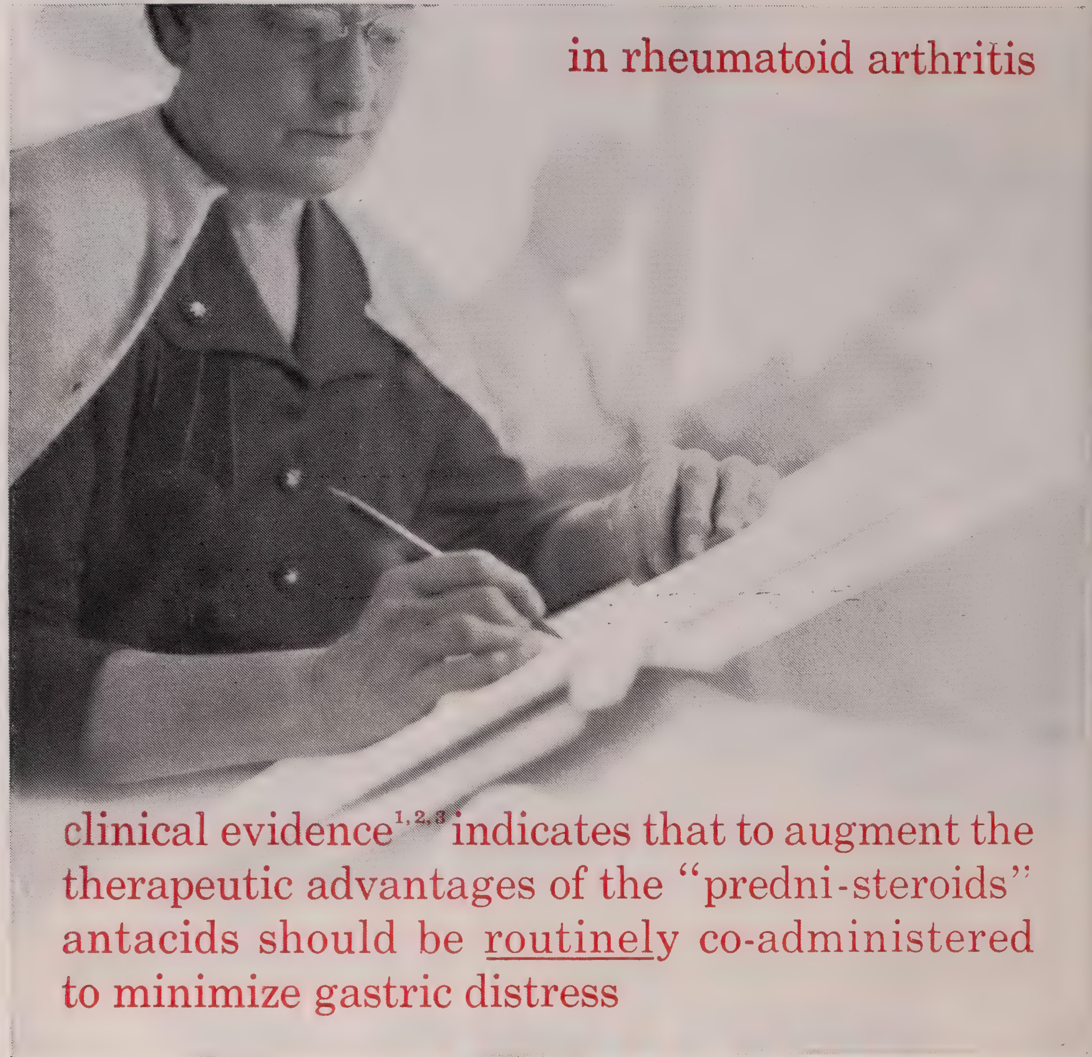

in rheumatoid arthritis

clinical evidence[1,2,3] indicates that to augment the therapeutic advantages of the "predni-steroids" antacids should be routinely co-administered to minimize gastric distress

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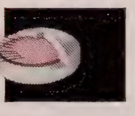

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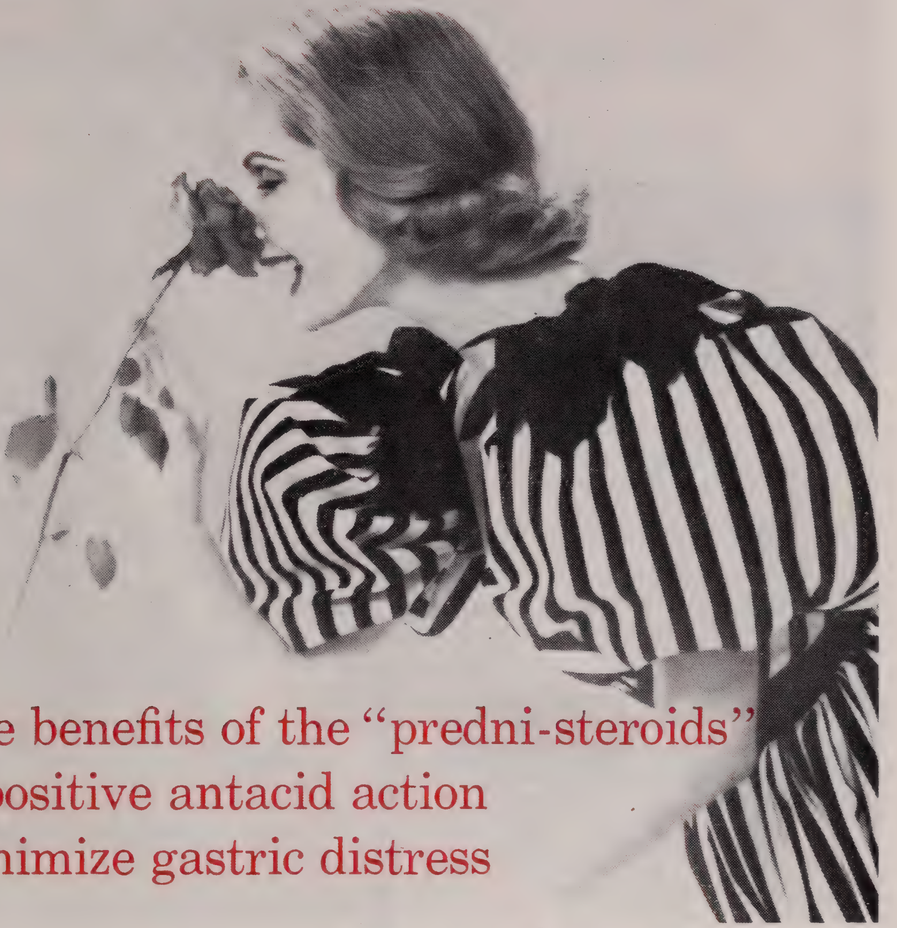

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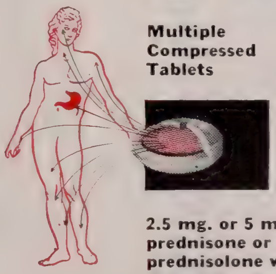

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Clinical evidence[1,2,3] indicates that to augment the therapeutic advantages of prednisone and prednisolone, antacids should be *routinely* co-administered to minimize gastric distress.

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2. Lemere, F.: Northwest Med. 54:1098 (Oct.) 1955.

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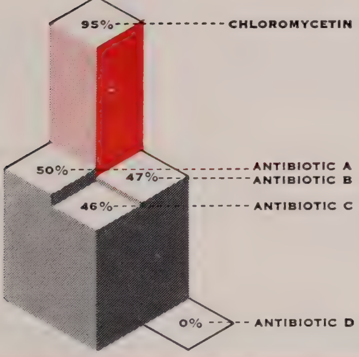

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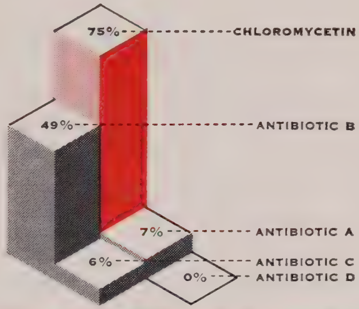

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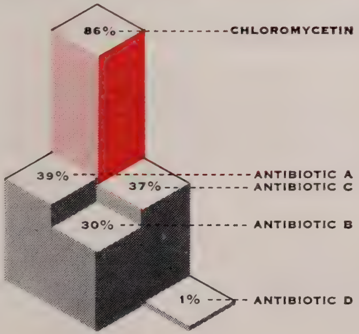

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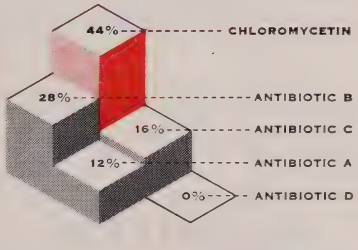

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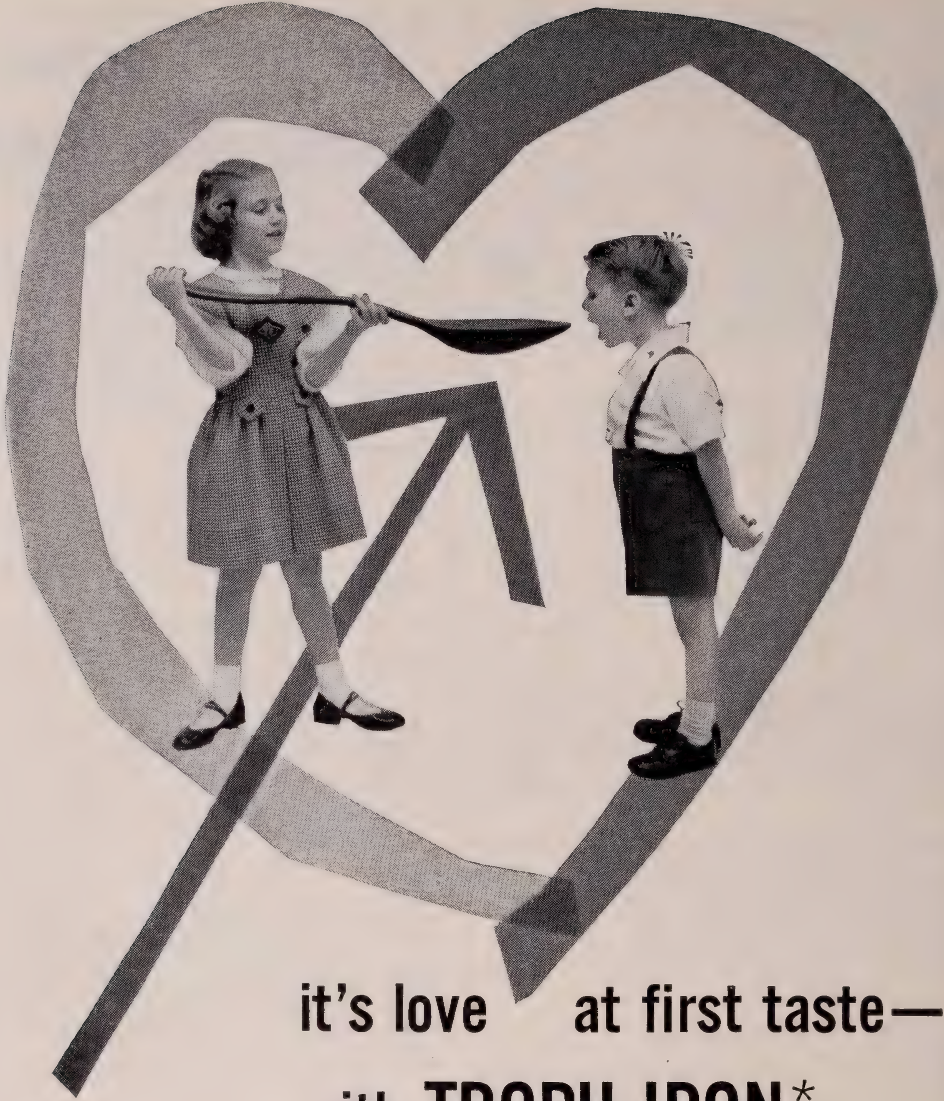

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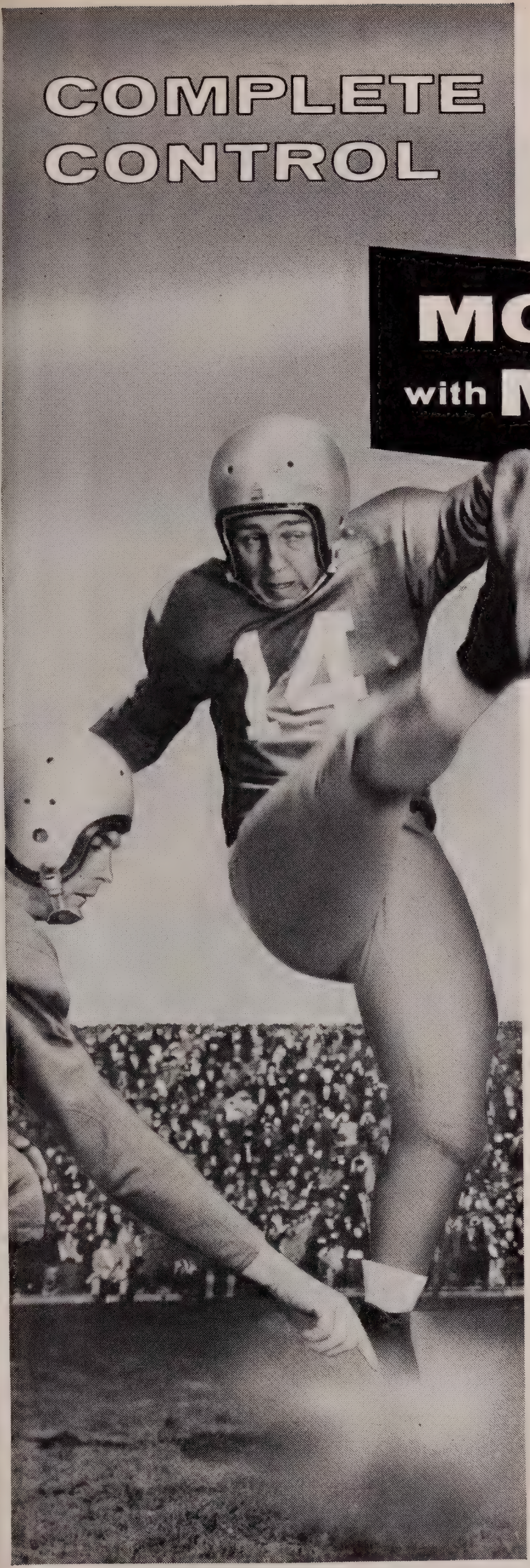

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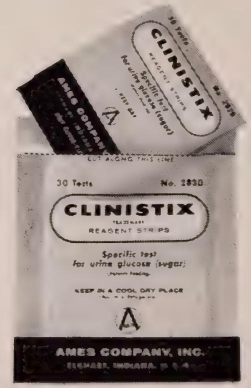
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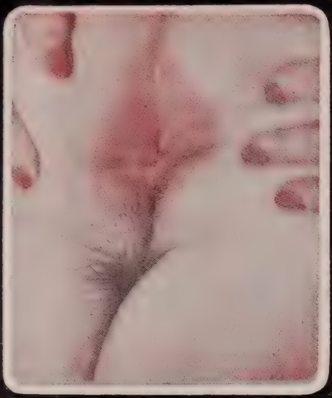

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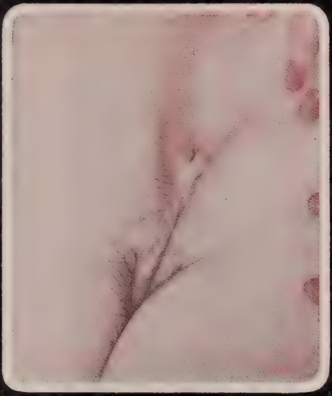

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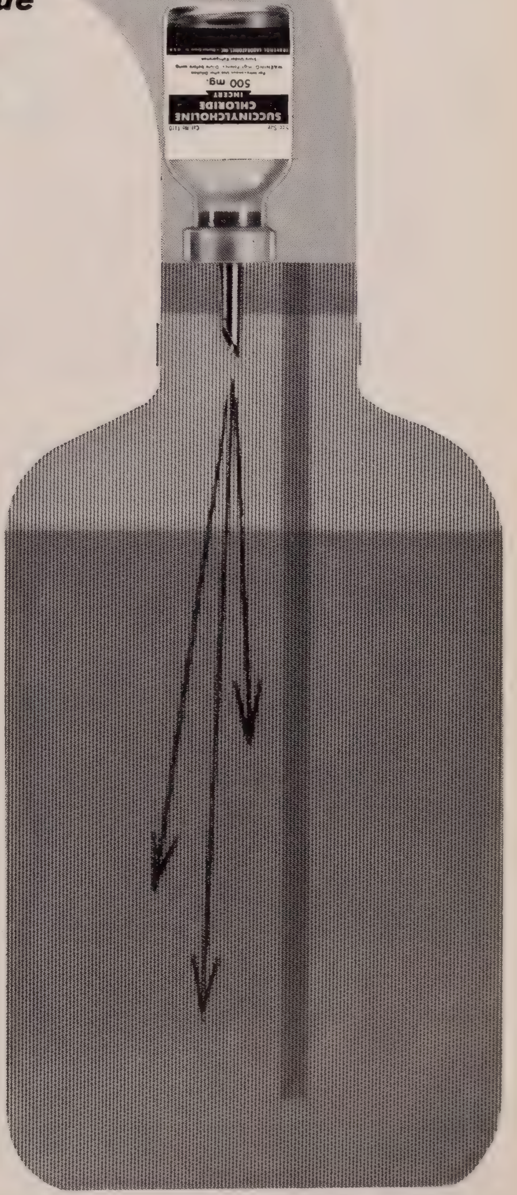

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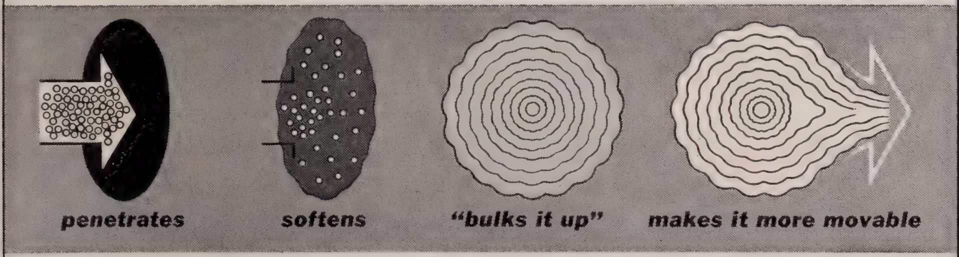

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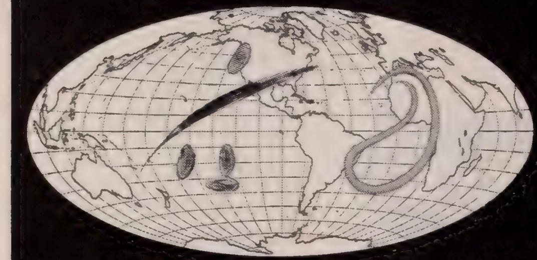

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White, R. H. R., and Standen, O. D.:
Brit. M. J. 2:755, 1953.

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Brown, H. W.:
J. Pediat. 45:419, 1954.

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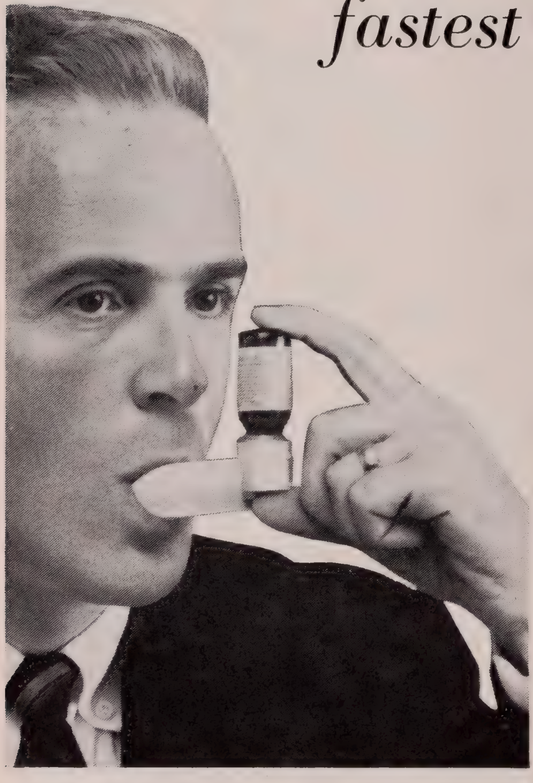

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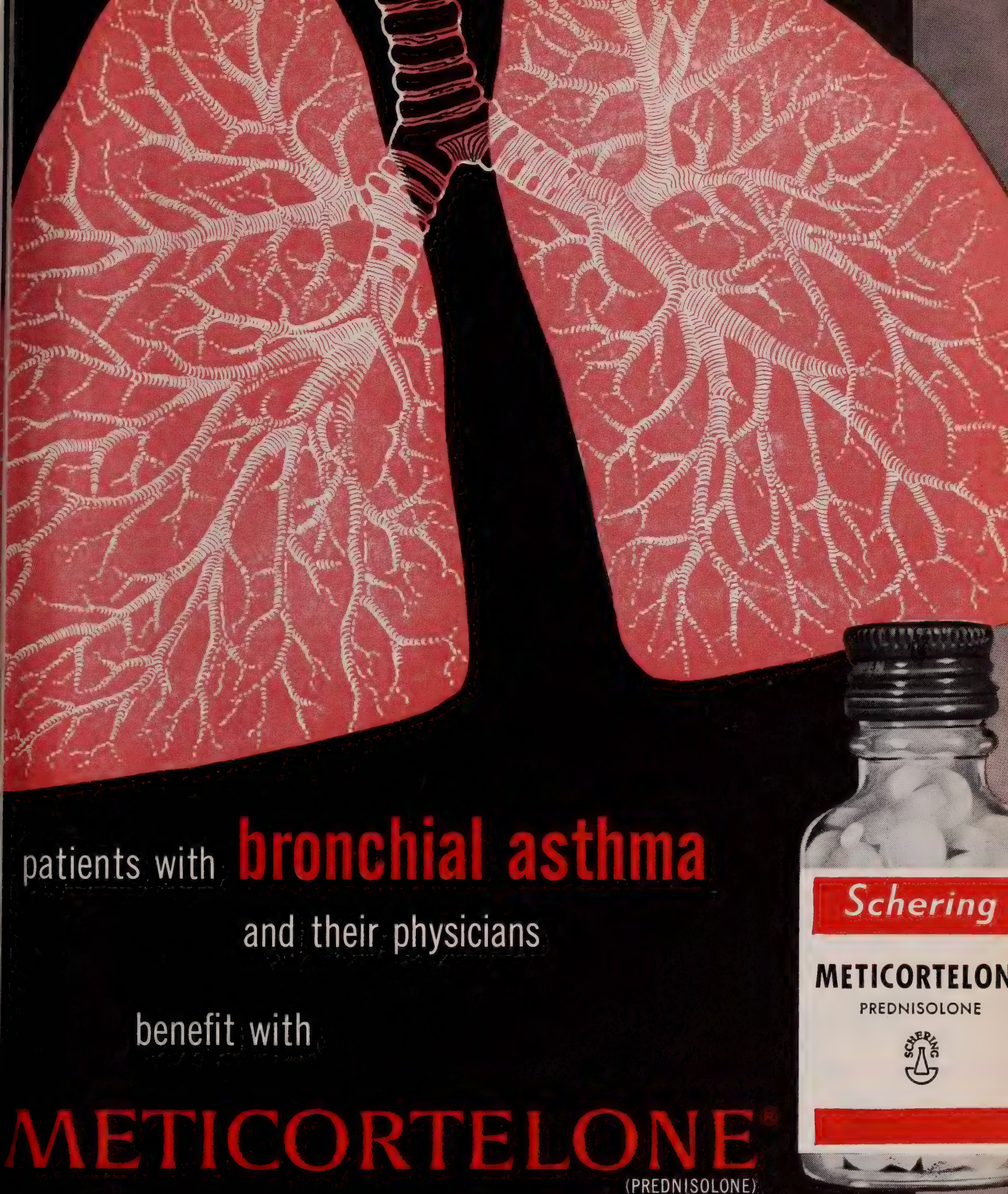

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References. 1. Farah, Luis: Int. Rec. of Med. & Gen. Prac. Clin. **169**:379 (June) 1956. 2. Shalowitz, M.: Geriatrics, July, 1956. 3. Robinson, H. M. et al: J.A.M.A. **161**:604 (June 16) 1956.

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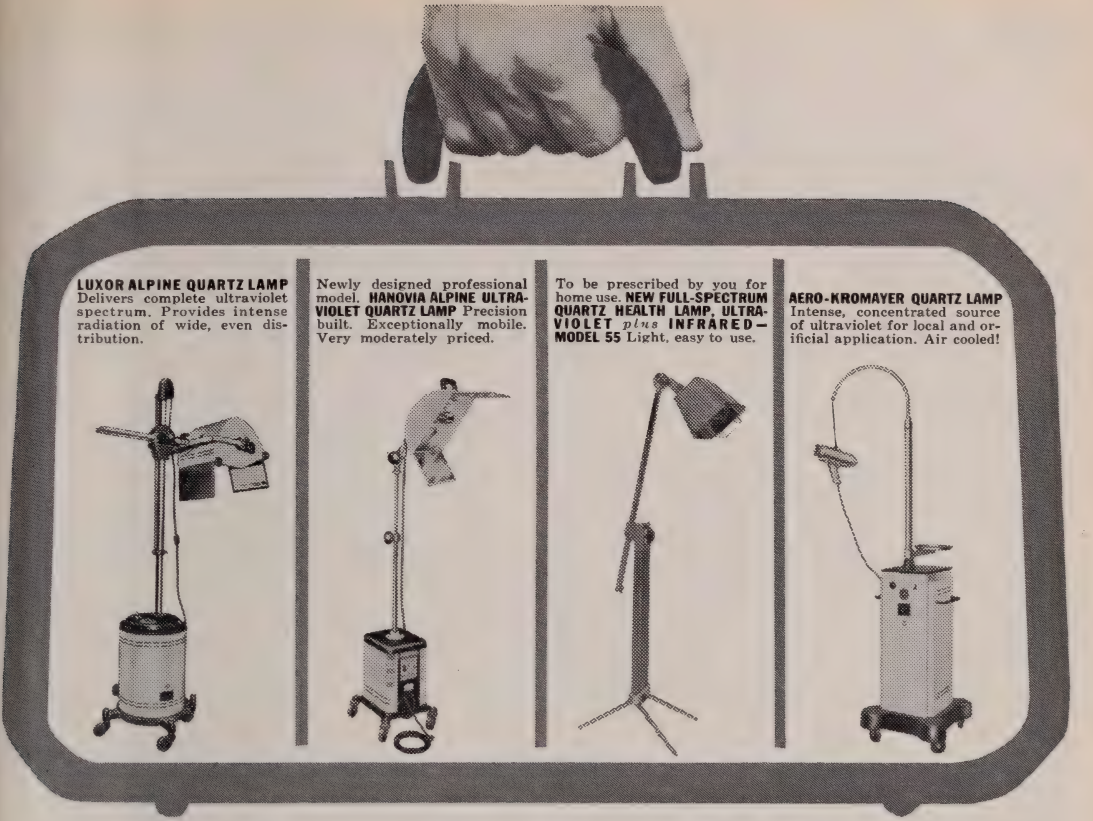

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References: 1. Boland, E. W., *J.A.M.A.* 160:613, (February 25,) 1956. 2. Margolis, H. M. *et al*, *J.A.M.A.* 158:454, (June 11,) 1955. 3. Bollet, A. J. *et al*, *J.A.M.A.* 158:459, (June 11,) 1955.

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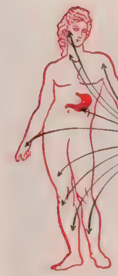

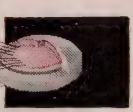

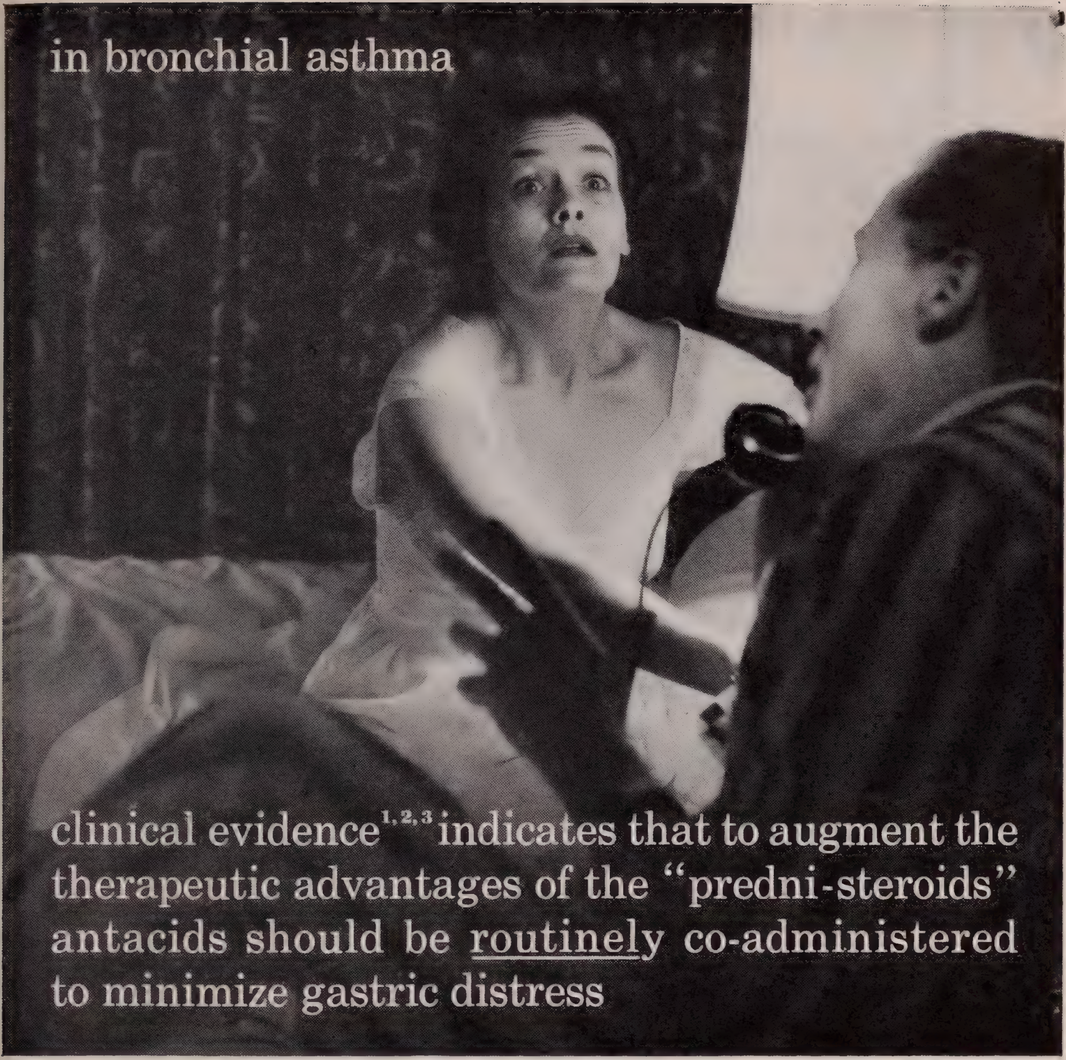
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References: 1. Boland, E. W., *J.A.M.A.* 160:613, (February 25,) 1956. 2. Margolis, H. M. *et al*, *J.A.M.A.* 158:454, (June 11,) 1955. 3. Bollet, A. J. *et al*, *J.A.M.A.* 158:459, (June 11,) 1955.

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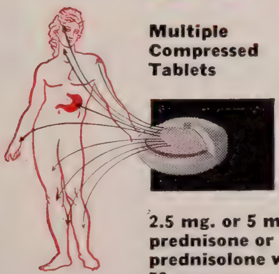

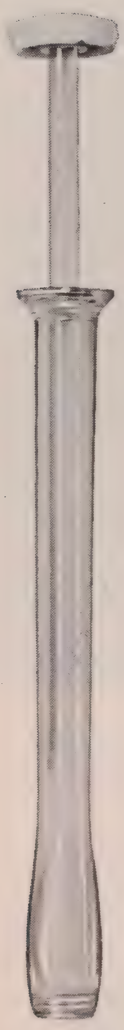

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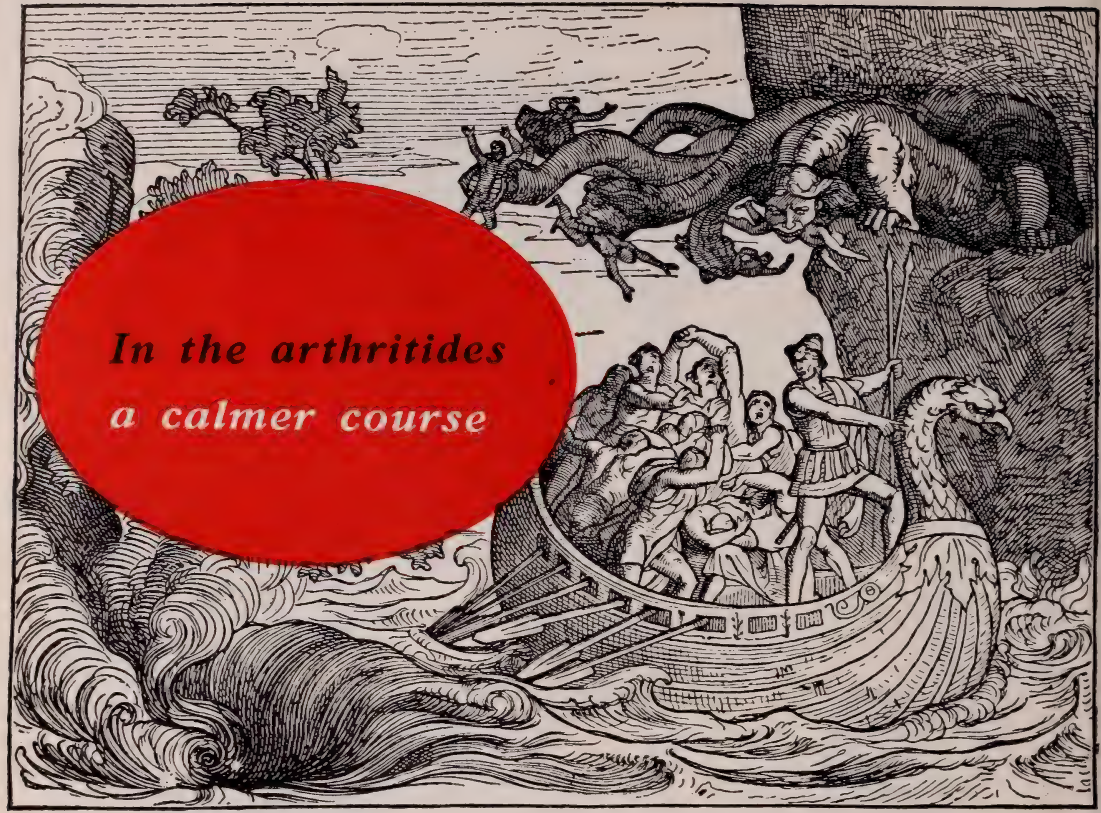

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[1] *Busse, E.A.: Treatment of Rheumatoid Arthritis by a Combination of Cortisone and Salicylates. Clinical Med.* 11:*1105*

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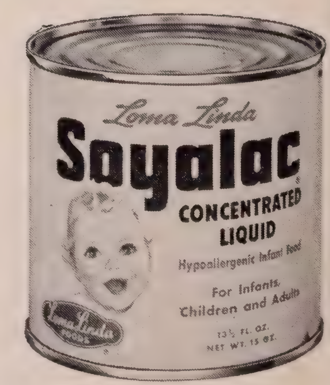
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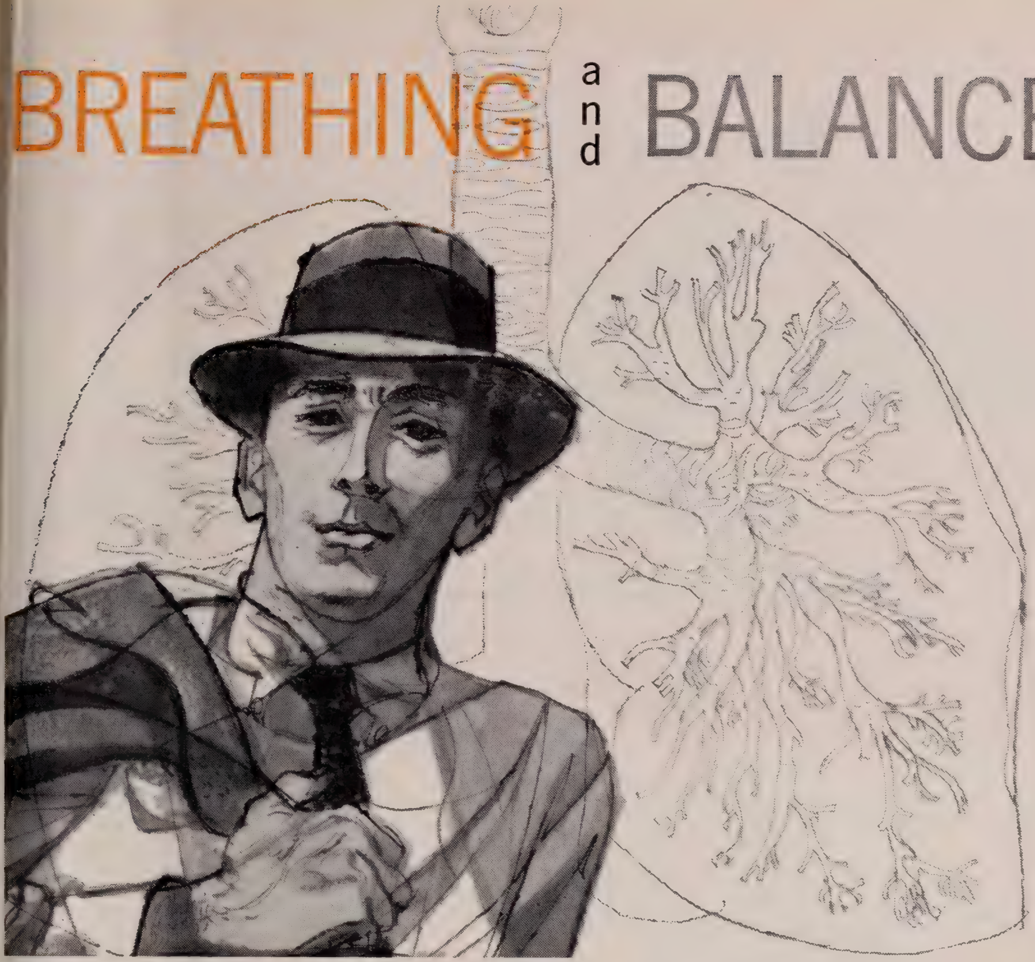

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*Schwartz, E.: New York J. Med. 56:570, 1956.

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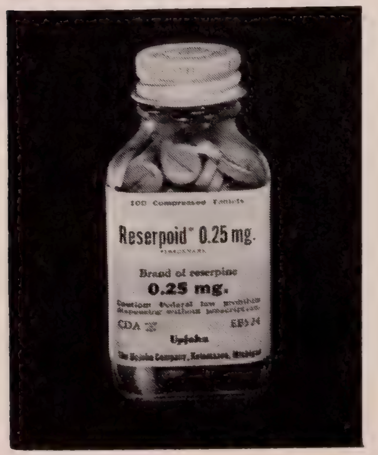
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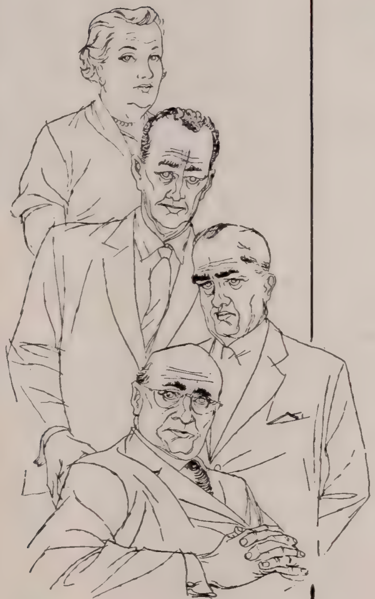

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In anxiety . . .

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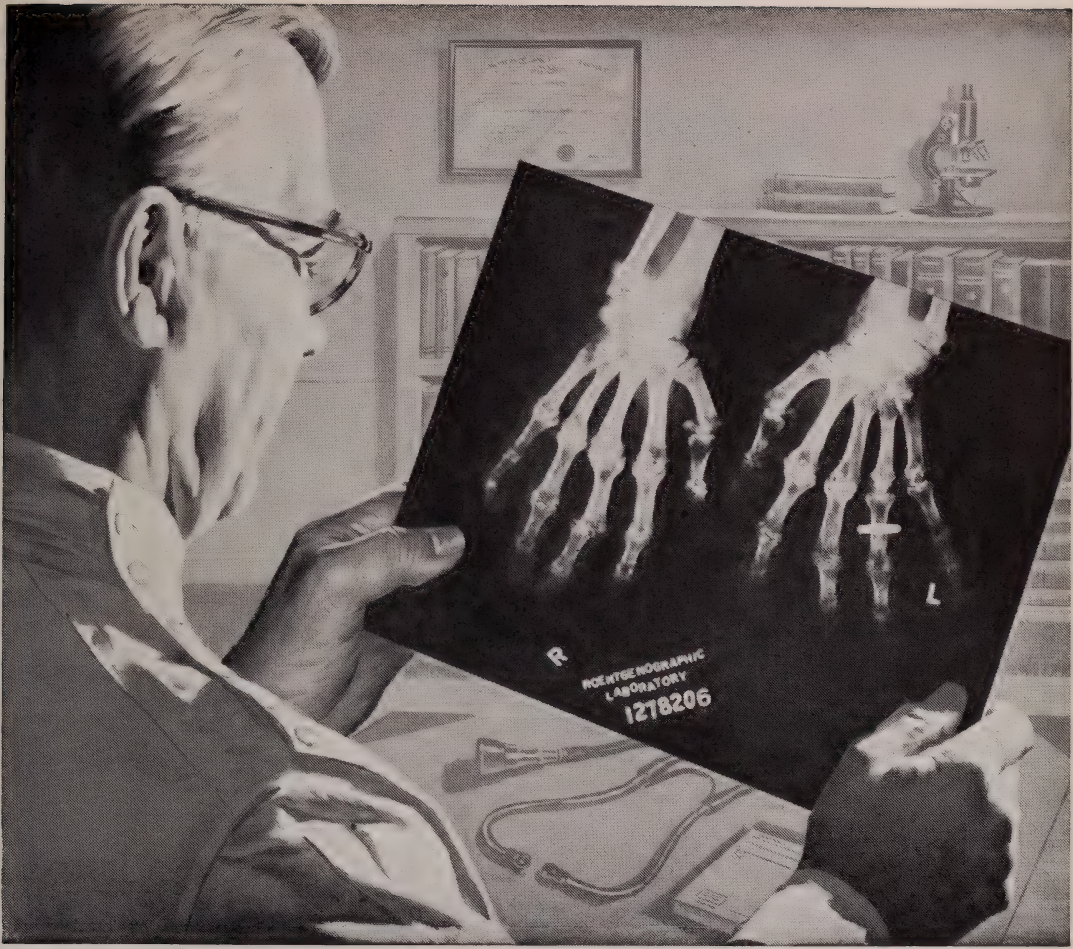

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Treatment of rheumatoid arthritis demands a "highly individualized program," Spies[1] writes. The additive action of salicylates permits use of smaller amounts of hormones, thus lessening or eliminating their well-known side effects. "A proper mixture of salicylates and corticosteroids produces an effective antirheumatic agent in many cases."[1]

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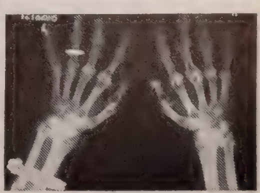
BUFFERIN contains no sodium, a marked advantage when cardiorenal complications make a salt-restricted diet necessary.

Each BUFFERIN tablet contains 5 grains of acetylsalicylic acid and the antacids magnesium carbonate and aluminum glycinate.



REFERENCES:
1. J.A.M.A. 159:645 (Oct. 15) 1955.
2. J.A.M.A. 158:386 (June 4) 1955.

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ou try
scrub the
athtub
ith your
ack aching
orning
ll night!"

"I don't know
about bathtubs,
but two days
ago I couldn't
reach a
shelf higher
than that."

"I thought maybe
I slept in a
draft. Never had
a stiff neck
like this before."

"That's nothing.
I went around
with my arm in
a sling for
nearly two weeks—
had to sleep
with a pillow
at my back
so I wouldn't
roll over on it."

"I thought
I was getting
too old
for high heels—
low heels
didn't help.
My leg hurt
down to
the ankle."

"That's funny
I'm on my
feet all day
but it was
my arms tha
bothered m

. . . safeguarded relief all the way across the

Prednisone + Acetylsalicylic Acid + Aluminum Hydroxide + Ascorbic Acid
Potent corticosteroid anti-inflammatory action complemented by rapid
analgesia; doubly protected with antacid and supplemental vitamin C.

"My back
was so tight
I couldn't
even get on
and off
the bus;
now I can
climb stairs."

"I hope
he helps
my knee
that quick."

"Take it
from me,
you should
be glad
you saw him
early in the
game so he
could do
some good."

"Good?—
why, he's
got me doing
exercises
I haven't done
in years."

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collagen-like illness
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Reserpine . . 0.1 mg.

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Unitensen tannate tablets (contain cryptenamine 2 mg.)

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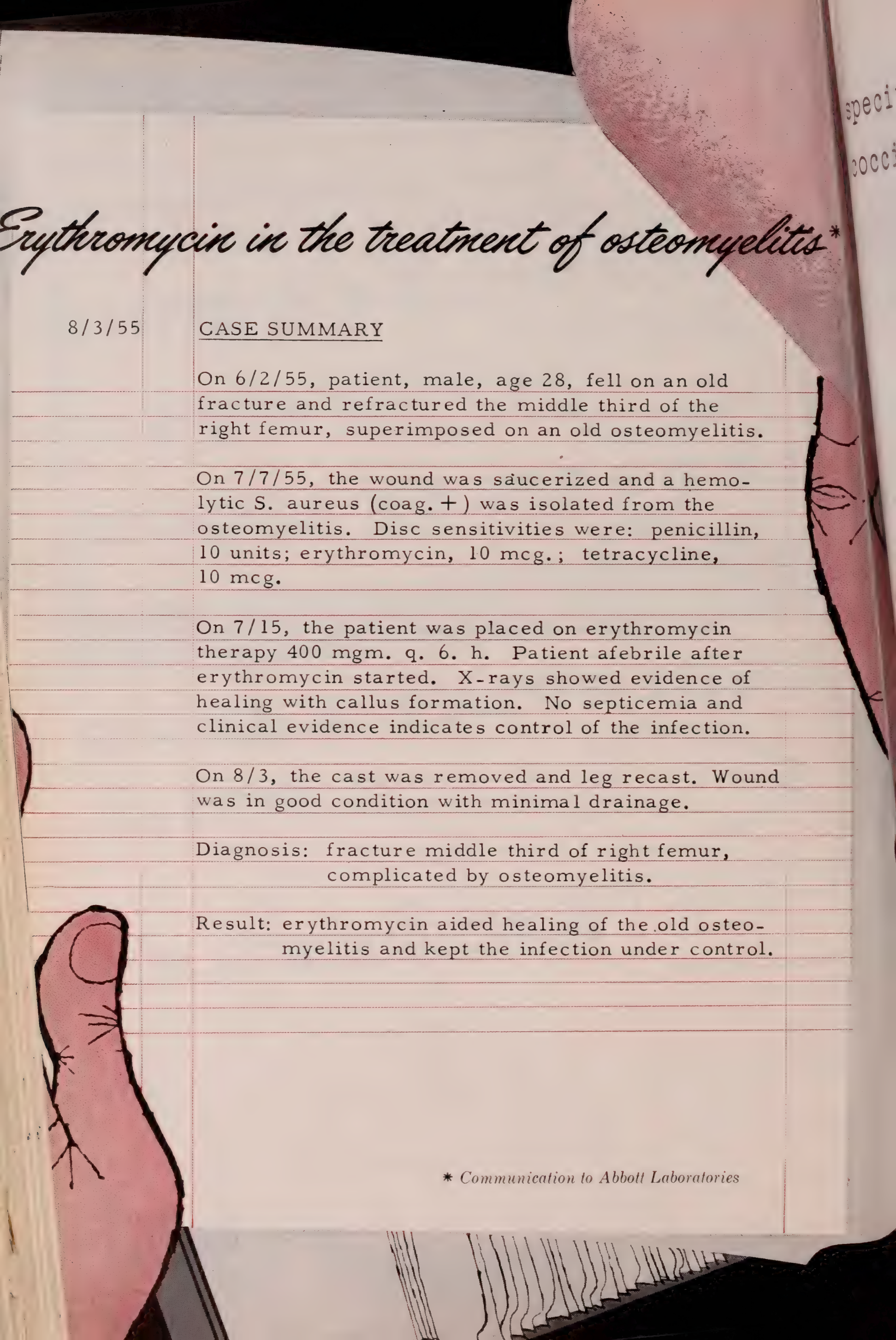
speci
cocci

Erythromycin in the treatment of osteomyelitis*

8/3/55 CASE SUMMARY

On 6/2/55, patient, male, age 28, fell on an old fracture and refractured the middle third of the right femur, superimposed on an old osteomyelitis.

On 7/7/55, the wound was saucerized and a hemolytic S. aureus (coag. +) was isolated from the osteomyelitis. Disc sensitivities were: penicillin, 10 units; erythromycin, 10 mcg.; tetracycline, 10 mcg.

On 7/15, the patient was placed on erythromycin therapy 400 mgm. q. 6. h. Patient afebrile after erythromycin started. X-rays showed evidence of healing with callus formation. No septicemia and clinical evidence indicates control of the infection.

On 8/3, the cast was removed and leg recast. Wound was in good condition with minimal drainage.

Diagnosis: fracture middle third of right femur, complicated by osteomyelitis.

Result: erythromycin aided healing of the old osteomyelitis and kept the infection under control.

---

* *Communication to Abbott Laboratories*

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coccic infections

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Low toxicity—because ERYTHROCIN rarely alters intestinal flora. Thus, your patients seldom get gastroenteral side effects. Or loss of vitamin synthesis in the intestine. No allergic reactions, either. *Filmtab* ERYTHROCIN Stearate (100 and 250 mg.), bottles of 25 and 100.

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DOSAGE: Prescribe 1 or 2 tablets (usually 1 suffices) to be taken about twenty minutes before bedtime.

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EDITORIALS

You and Your State Medical Society

What do you know about your State Society? You are a member of the organization, now representing some 24,200 physicians, which has been in active existence in this State for one hundred and fifty years and will celebrate its Sesquicentennial in February, 1957. Recently, you have received the latest edition of the physicians' guide to membership services entitled *You and the Medical Society of the State of New York*, published by the Public and Professional Relations Bureau of the Society. This booklet should answer in brief form any questions you might have as to the composition, operation, and services of the Society. Therefore, keep it handy, and study it frequently.

Do you know that the library of the Society is the fifth largest medical library in the United States, that it houses 190,000 volumes, and receives between 2,300 and 2,400 current periodicals? Do you know where it is located? Does it maintain a lending service? You will find the answers on page 13 of the booklet.

Do you know what the privileges and benefits of membership are? Do you know what you receive from the Society for the dues you pay each year?

Do you know how many committees of the Council work for your interests? How many physicians from all over the State serve on those committees? What they do?

These and many other questions are answered in this small but informative pamphlet. Also you will find in it helpful facts concerning the office of the Secretary and General Manager and how it may serve your needs, the New York State Journal of Medicine, the *Medical Directory*, the various bureaus of the Society, the Blood Banks Commission, the Physicians' Home, the War Memorial, and the Veterans Medical Service Plan of New York, Inc., together with the Group Plan of Malpractice Insurance and Defense.

Particularly for newer members of the Society this booklet will be useful and serve to acquaint them with the manifold activities of the organized profession in this State and how it serves them and the public.

A Civic Duty

Nowhere on earth do citizens of any country enjoy the freedoms to be found in this country. The long uphill struggle from Magna Carta to our own Constitution and Bill of Rights has repeatedly proved that these hard-won freedoms must be safeguarded by eternal vigilance.

Now is the time to register and vote. Unless every citizen exercises this privilege, how can we make our freedom of choice effective? How determine the will of the majority? Physicians are busy men but not more so than many others. Because of the urgent necessities of their profession, they are excused from many duties which are the obligation of nonprofessional citizens —jury duty and service with volunteer fire companies, for example. This fact alone seems to impose on them a greater than average obligation to register and vote.

Physicians have not in the past been exemplary in the matter of registering and voting, it is alleged. However, in recent years many more doctors seem to have become interested in civic affairs in their communities, in the State, and in the nation. We hope that all members of the profession will this year and in the years to come

Register and Vote!

Medicine and Public Information—Part VI

It is highly desirable for all doctors to understand that press, radio, and television newsmen and science and magazine writers recognize that "the first obligation of the doctor and the hospital is to safeguard the life, health and legal rights of the patients."[1] The doctor should also be aware of the "canons of journalism" and of television and radio codes, under which all responsible members of such media function.

It is of course to be anticipated that the representatives of the media of public information, being nonmedical persons, may not be as familiar with the code of medical ethics as the doctors are required to be. They are certainly aware of the existence of such a code governing the doctor's conduct, but only in broad terms. They want a story. They cannot be expected to evaluate their request for such information on the "life, health and legal rights of the patient," assuming the information requested to be medical in nature. Such evaluation is a function of the doctor and is recognized as such by the "Guide for Cooperation" with the media of public information. Within the framework of the guide and the medical profession's code of ethics, physicians are urged to be less reluctant to discuss problems with representatives from any branch of the media of public information.

It is desirable for representatives of the media to understand why there are limitations placed on the doctor of medicine and on the hospital also with regard to the release of information. As we have said above, these representatives are nonmedical people but can be counted on to be cooperative if they understand why these limitations exist, that they are for the benefit of the patient, and that the doctor of medicine must act within them. Cooperation with representatives of the media of public information by the doctor thus means not only that the doctor should accord such representatives the courtesy of a hearing to find out what is wanted, but also that if he considers release of such information not to be in the patients' interest, he should explain why he must withhold it. Naturally, this takes time, but it is time well spent in building good will.

When official medical society spokesmen are available, it is suggested by the "Guide" that on medical news a check for local "tie-in" will be considered before proceeding to local broadcast, telecast, or publication.

Also it is held desirable that the media of public information know that the medical profession and hospital associations prefer no publication, broadcast, or telecast of information designed solely to exploit the patient, the hospital, or the doctor.

The reasons for the suggestions in the last two paragraphs seem so obvious as to need no comment.

This is the last of a series of short editorials designed to bring to the attention of the physicians of the State the really enormous strides forward accomplished by conferences and understanding between representatives of the Medical Society of the State of New York and the media of public information. It stands to reason that only broad principles acceptable to both parties can be laid down. Within this broad framework the acts and attitudes of medical and nonmedical persons will develop according to specific problems encountered. Our purpose in republishing the principles set forth in the "Guide" is to assist the Public and Professional Relations Bureau of the Medical Society of the State of New York to bring these broad considerations to the attention of those of our membership who may not have seen the "Guide" or who, having perhaps seen it, have mislaid it or in the hurly-burly of their busy lives may not have given it the attention it deserves. All are urged to become familiar with it.

---

[1] Guide for Cooperation, Public Relations Committee, Medical Society of the State of New York, Editor's Note.

Editorial Comment

Malpractice. Says the Westchester Medical Bulletin.[1]

> Do you know what to do when a patient claims malpractice?
>
> Some doctors don't. They either talk too much, or they talk too little.
>
> While "There's no foolproof system for avoiding a malpractice action," concedes J. Joseph Herbert, chief legal counsel for the Michigan State Medical Society, ". . . there are several steps the physician can take to protect himself from the moment any patient indicates dissatisfaction."
>
> 1. "If your patient so much as hints he thinks something's wrong, immediately raise your guard and treat him with polite but noncommittal formality," advises Herbert.
>
> "Remember that malpractice is defined as a breach of duty on the physician's part. A bad result is not proof in itself of a breach of duty. Above all, don't gratuitously assume the blame for a bad result," the lawyer warns. "Speak in carefully chosen phrases."
>
> 2. "At the first hint of a malpractice claim, notify your insurance company," counsels the lawyer. "Don't wait until the word 'lawsuit' is mentioned. Phone your carrier as soon as you think the patient might ultimately take action. The company's representatives will be glad to advise you what to do."
>
> 3. "If suit seems possible, immediately review your office records. Then go to the hospital and examine all relevant records there."
>
> Full preparation has saved cases for many a doctor, Herbert points out. But, he quickly adds, "if any lawyer other than your own asks to see your records, refuse."
>
> 4. "Always be completely frank with your own lawyer and with your insurance company's lawyers. It's their job to help you," Herbert tells *Medical Economics* readers.[2] "They can help you best only if they know all the facts—even the ones you may think unimportant."
>
> 5. "Finally, if you're sued—or suspect a suit is brewing—seek out some of your own colleagues. Get their advice and help," Herbert counsels.
>
> "Don't be embarrassed at telling them the whole story. . .They may be able to help you decide whether to settle or to fight," he points out. "And they may be able to testify for you, if that should prove necessary."

This excellent advice should be committed to memory by all physicians. The time to avoid a suit for malpractice seemingly is before it occurs, but if that cannot be done, and sometimes it cannot, then these five simple rules should immediately apply. They have been formulated from a vast experience, are based on common sense, and should be learned by heart by every physician *before* the event occurs.

---

[1] Westchester County M. Bull. **24**: 23 (June) 1956.

[2] M. Economics **33**: 147 (May) 1956.

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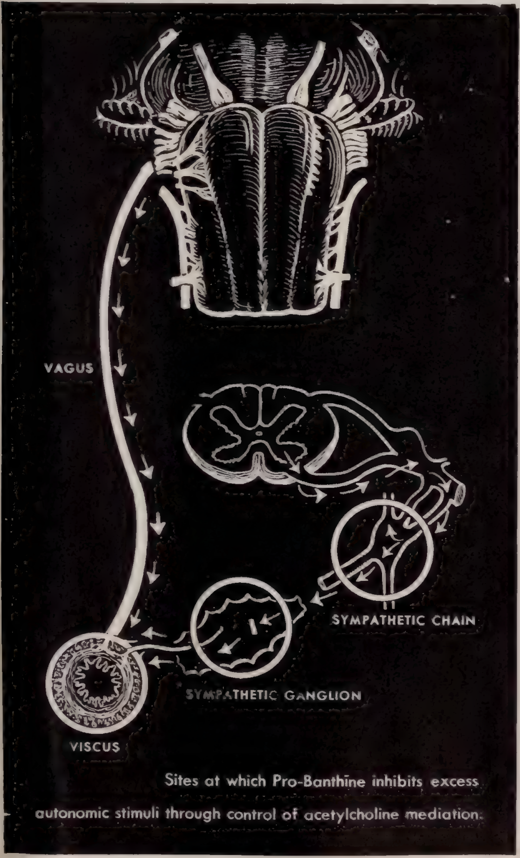

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For the average patient one tablet of Pro-Banthine (15 mg.) with each meal and two tablets (30 mg.) at bedtime will be adequate. G. D. Searle & Co., Research in the Service of Medicine.

---

[1] Schwartz I. R.; Lehman, E.; Ostrove, R., and Seibel, J. M.: Gastroenterology *25:*416 (Nov.) 1953.

[2] Roback, R. A., and Beal, J. M.: Gastroenterology *25:*24 (Sept.) 1953.

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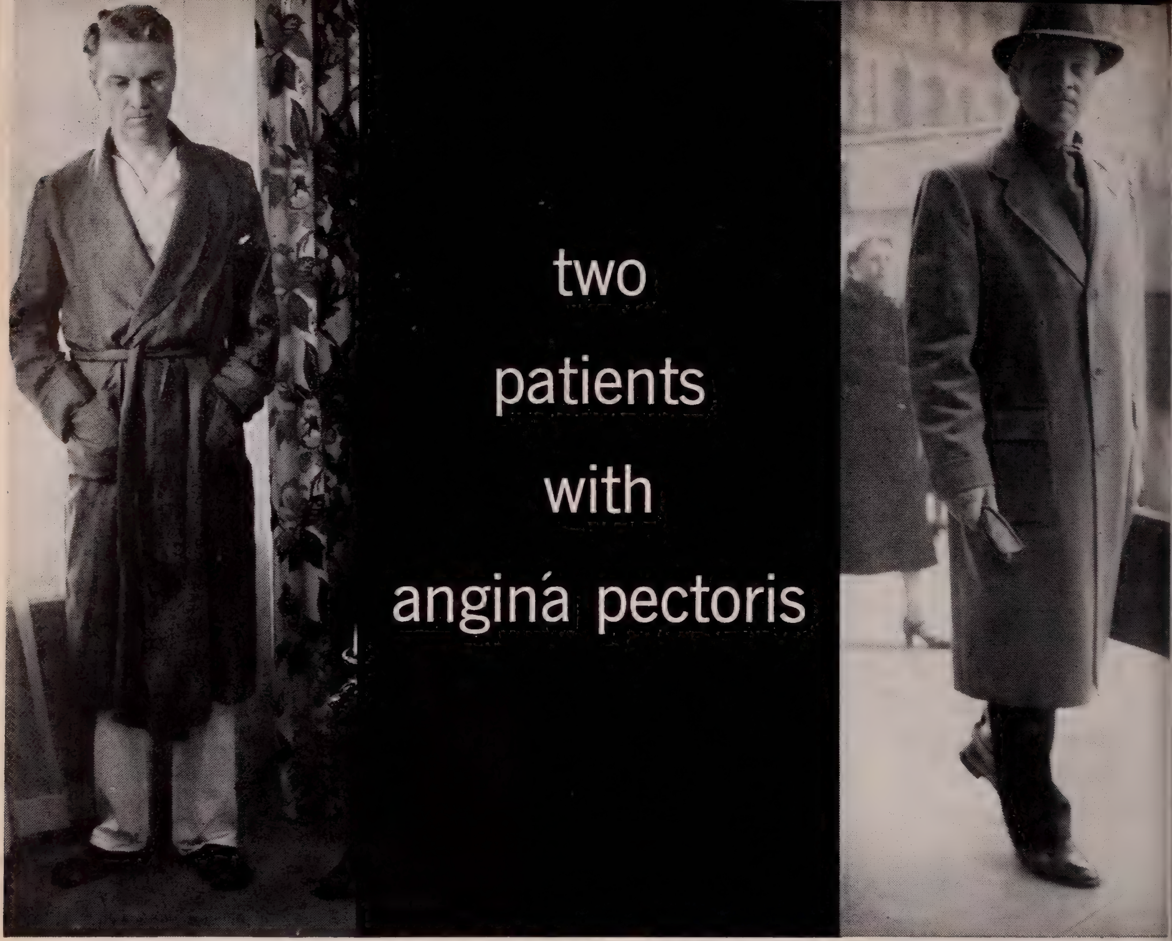

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Usual Dosage: 10 to 20 mg. *before meals* and at bedtime.

References: **1.** Rosenberg, H. N., and Michelson, A. L.: Am. J. M. Sc. *230*:254 (Sept.) 1955. **2.** Kory, R. C., *et al.*: Am. Heart J. *50*:308 (Aug.) 1955. **3.** Winsor, T., and Humphreys, P.: Angiology *3*:1 (Feb.) 1953. **4.** Plotz, M.: New York State J. Med. *52*:2012 (Aug. 15) 1952. **5.** Dailheu-Geoffroy, P.: L'Ouest-Médical, vol. 3 (July) 1950.

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SCIENTIFIC ARTICLES

Chairman's Address

Dermatology and Geriatric Medicine

ORLANDO CANIZARES, M.D., NEW YORK CITY

(From the Department of Dermatology and Syphilology of the New York University Post-Graduate Medical School and the Service of Dermatology and Syphilology of the Bellevue Hospital)

THE first Decennial Census in this country, taken in 1790, showed that the average person was about sixteen years of age. When the seventeenth Census was taken in 1950 the average individual was over thirty years of age. The life span of the population of the United States has grown so much that it is estimated that the number of persons sixty-five and over will increase to 17 or 20 million by 1975.[1] This numeric increase in the elderly presents a challenge to the medical profession. More emphasis must be placed on diseases of the aged, especially degenerative disease, malignancy, rehabilitation, and personal adjustment. To handle these problems a new specialty, geriatrics, has evolved, its purpose being to promote the study and research of diseases of the aged. National geriatric societies have been founded, and many medical journals and texts dedicated to various phases of geriatrics are now available. All serve to demonstrate the awareness by the medical profession of this pressing problem.

As dermatologists we should re-evaluate our role in geriatric medicine. How can we cooperate in a constructive way with other members of the medical profession to improve the care and health of the aged? What are our duties and responsibilities in the management of the diseases of this important segment of our population?

Before answering these questions, I think it appropriate to review briefly the anatomic, physiologic, and pathologic changes of the skin peculiar to the aged because I believe familiarity with them will help us to understand the importance of experience and specialized knowledge in this phase of medical practice.

Aging of the Skin

As it has been ably said by Cooper,[2] "the skin so definitely mirrors the changes wrought by time and exposure to the rigors of this world that its appearance has become a yardstick by which laymen and physicians alike estimate the age of an individual."

Aging of the skin may be apparent early in life, as early as the third decade, or may still be absent at fifty and over. Dermatologists are well acquainted with pathologic processes, such as xeroderma pigmentosum, in which the changes observed are those to be expected in a person of sixty or more in spite of the young age of the patients.

A number of factors are known to play a role in the aging of the skin. Among them are heredity; environmental conditions, especially excessive exposure to sunlight and wind; endocrine and possible metabolic disturbances. Excessive exposure to sunlight and wind seems to hasten the aging process of the skin and may cause a premature aging in certain individuals. This is known as farmer's or sailor's skin but may be seen in persons who, because of their occupation or pleasure, are constantly exposed to sun and wind. In these cases the incidence of senile keratosis and carcinoma is high. The areas of the body involved are usually those not covered by clothing.

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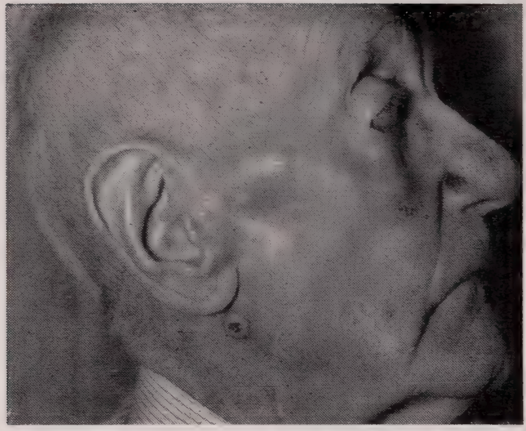

FIG. 1. Patient, eighty-three years old, showing changes of senile skin, benign, malignant, and premalignant, and the result of treatment of previous lesions by radiation and plastic surgery.

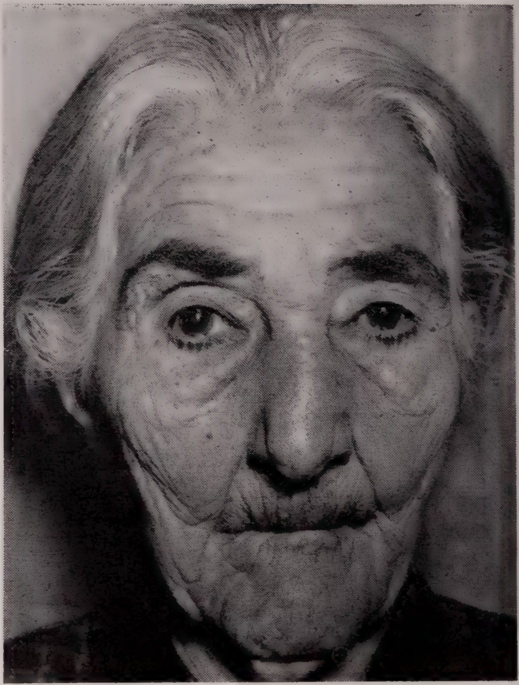

FIG. 2. Patient, eighty-two years old, showing the cosmetologic aspect of aging: accentuation of lines of face, wrinkles, changes of facial contour, graying of hair, disappearance of vermilion border of the lips, etc.

The effect of aging on the skin can be divided into two parts: morphologic changes and physiologic and chemical changes.

MORPHOLOGIC CHANGES.—The skin of the elderly, when closely examined, is often found to be scaly, wrinkled, and somewhat shiny and gives a sensation of dryness to the touch. Its color is yellowish with a sallow, grayish hue. The skin loses its tone, owing to the loss of elasticity, and is furrowed and wrinkled. When pinched, it remains flaccid and in folds and resumes its previous appearance slowly. There are also areas of hyperpigmentation scattered throughout. Changes of the skin appendages are also apparent. The hairs are affected, gradually losing their pigment. Rattner and Sutton[3] have stated that as the male bemoans the loss of scalp hair, the female notes the appearance of coarser hairs on the upper lips and chin; the tiny hairs within the ears and nose become thicker and more apparent.

The cosmetologic aspect of aging is important, especially to the female sex. Chieffi[4] has studied the production and accentuation of lines of face and neck, the formation of wrinkles, and the changes in the facial contour. She states that certain groups of muscles with their contractions cause repeated creasing of the skin and eventually produce permanent lines. The muscles which produce the lines in the neck are the skeletal muscles responsible for the movements of flexion, extension, and rotation of the head and neck. For these reasons it is understandable that the increase in the wrinkles of the aging individual will be more noticeable in those areas. On the face the first lines to appear are the horizontal lines of the forehead which are occasionally noticeable as early as the fifteenth year. Other lines appear later: verticle lines at the root of the nose, nasolabial lines, etc. In the fourth decade still other lines appear around the mouth; one of them usually extends from the angle of the mouth outwards and downwards but may be directly continuous with the nasolabial line. The lines around the eyes do not usually appear until the fourth decade, and their appearance, according to Chieffi, should be considered as a sure sign of aging of the skin. The radiating lines at the external angle of the eye are produced by the orbital portion of the orbicularis oculi muscle which is inserted directly in the skin at the outer angle of the orbit. These lead to the formation of "crow's feet." Later, more radiating lines appear around the mouth. On the back of the neck the lines cross each other, dividing the skin into diamond-shaped areas. This may be noticed as early as the fourth decade in individuals constantly exposed to the weather. In a condition called senile elastosis, the skin is thickened and makes these lines even more pronounced. This is often referred to as cutis rhomboidalis nuchae.

Changes in the facial contour are usually present in older individuals. These changes may appear independently or may be associated with the appearance of lines and wrinkles. They are usually more dependable than the lines and wrinkles in determining the age of the individual.

Basically, the changes in the contour of the face of the older individual are due to a progressive atrophy of the subcutaneous tissue associated with the fact that the skin has lost its elasticity. As a result there is an excessive amount of skin, which leads to redundancy. The lower third of the face is most noticeably changed. There is also an atrophy of the bones of the face. This is more pronounced in the mandible and is partly due to loss of teeth with the resulting absorption of alveolar processes. The lower border of the mandible becomes more prominent, and the whole mouth seems to be turned in. This leads to an almost complete disappearance of the vermilion border of the lips. The labial commissures often present fissuring known as perlèche. In the region of the lower border of the mandible, the skin hangs loosely to form what is usually known as "double chin." The redundancy of the skin on the neck becomes pronounced as the subcutaneous fat is decreased in amount, leading to the formation of accordion-like folds. The ear is also elongated by age.

MICROSCOPIC CHANGES.—The main characteristic of the changes observed in the skin of the aged is atrophy. The true cause of this atrophy is unknown.

Cooper[2] has stated that as the skin grows older, the epidermis becomes more and more atrophic, although the studies of the age changes of the various layers have not given consistent results. Evans, Cowdry, and Nielson[5] have shown that the stratum corneum and the granular layer seem to become thinner in old skin. The latter seems to lose one layer of cells. As Cooper[2] has suggested, possibly these variations in the thickness of the different layers, which act as filters to sunlight, may play a role in the site of the maximum erythema response to sun rays.

The pigment of the basal layer often shows a localized or spotty increase in the old epidermis. There is enough evidence to indicate that this increase in pigmentation is related to exposure to light and possibly other environmental factors.

An interesting finding of the histologic studies of the aging skin is the observation of Thuringer and Cooper[6] that mitotic figures are increased in the epidermis. They state that this increase is difficult to correlate with the accepted idea of lowered metabolism in the older individual, but it is significant in view of the fact that carcinomas and benign hyperplastic lesions such as keratoses occur more frequently in senile skin.

In the elderly the netlike structure of the proximal surface of the epidermis is decreased or even lost. As a result the epidermis becomes a thin, flat sheet in which the so-called retepegs are erased or at least flattened.

Already in 1896 Unna[7] showed that in exposed skin of the elderly the fibers of the subpapillary layer take on a basophilic tint when stained with hematoxylin and eosin, and the fibers have a tendency to clump. This is called basophilic degeneration. The elastic fibers also show changes, usually fragmentation and swelling. Unna referred to this alteration of the elastic tissue as elacin.

Apparently the changes of the elastic tissue vary in the different levels of the corion. The fibers decrease in the papillae and in the deeper corium, while in the mid-corium they are swollen, thicker, and fragmented.

Rattner and Sutton[3] suggest that the decrease in the elasticity of the skin may be due to the alterations of the mucopolysaccharides which are associated with the passage of electrolytes and the binding of water, possibly impairing the cellular nutrition.

A new approach to the study of the structure of the collagen and elastic fibers was initiated with the introduction of the electron microscope. Gross[8] has been a pioneer in this investigation which promises to shed light on many obscure phases of the study of the degenerative changes of the aging skin.

The walls of the blood vessels become thickened. The glomus units, nerve-supplied anastomoses for temperature regulation and conservation of body heat, decrease in number. This decrease possibly plays a role in the increased intolerance of the aged to abnormally high or low temperatures.

The cutaneous adnexa also shows alterations. The hair changes at different ages. The blond hair of an infant may turn to light or even dark brown in a few years. Graying hair is due to an absence of pigment in and around the cells of the cortex. Approximately one third of the gray hairs are coarser than pigmented hairs. However, the causative mechanism of the graying of the hair, just as that of baldness, another attribute of aging, remains a deep mystery. All that is known at present is that heredity seems to play an important role.

Women often develop hypertrichosis of the face. This change is probably on the basis of an endocrine disturbance.

The nails are also affected by age. They become coarse and thickened, especially the toe nails, often growing abnormally long and curved, a malformation known as onychogryphosis.

Although the sebaceous and sweat glands are usually considered to be decreased in number in the senile skin, experimental studies fail to indicate it. Way[9] has shown that there is hyperplasia of sebaceous glands in the middle of the forehead and facial skin in many individuals. Dilated and patulous pores are often found in middle-aged individuals. Large comedones are often found. Way has also found that apocrine sweat glands are not reduced in old age.

Physiologic and Chemical Changes.—There is relatively little information about physiologic changes in senile skin. There is a dire need for further research on this subject. Some chemical changes are worth noting. Sodium and potassium increase with age, while sulfur decreases.

The metabolic processes of the cells of the aging skin are reduced. Walter and Amersbach[10] have shown that the respiratory rate of the skin of older women is lower than that of the young. Burch, Cohn, and Neumann[11] have shown that in the elderly the rate of sweating is definitely less rapid than in the young, although whether due to atrophy or to slower activity could not be determined.

It is well known, however, that there is a decrease of the reaction of the aged skin to insult. Healing is slower, and subacute dermatoses usually last longer than in younger individuals. The consumption of oxygen and diffusion of carbon dioxide are decreased.

The study of the effect of hormones on the skin has produced some contradictory results. Goldzieher[12] demonstrated that estrogens applied to the aged skin produce histologic evidence of regeneration of atrophic epidermis and improvement of collagen and elastic fiber. Behrman[13] was unable to detect definite clinical differences when a hormone cream (7,500 to 15,000 international units of estrogen per ounce) was used on one side of the face and a cream similar to the hormone cream base was used on the other side.

Skin Diseases of the Aged

Advancing age influences the course and appearance of several common skin diseases. Herpes zoster often becomes hemorrhagic and ulcerates. Herpetic and postherpetic pain is more severe and prolonged in the aged. Dermatitis herpetiformis becomes more bullous. Subacute dermatitis often becomes chronic and responds slowly to therapy. Exfoliative dermatitis and stasis dermatitis are particularly resistant to treatment in the aged.

There is a group of dermatoses commonly associated with aging which have been classified and studied recently by Lewis and Rein[14] and Rattner and Sutton.[3] I shall discuss only a few of them.

Senile Pruritus.—The diagnosis of senile pruritus is made by exclusion after allergic manifestations of drugs and food, lymphoblastoma, pruritus hiemalis, also common in the aged, etc., are ruled out. The pruritus is severe and is usually localized to the trunk or extensor aspect of the extremities; the cutaneous changes are minimal.

In the treatment of senile pruritus, lubrication and less frequent bathing are helpful. The tranquilizing drugs are sometimes valuable adjuncts to the treatment, which as a whole is usually discouraging.

Seborrheic Keratosis.—The frequency of seborrheic keratoses increases in the latter decades of life. They are found usually on the trunk but may also be seen on the exposed parts of the body, especially on the face and neck. The lesions are light yellow, brown, or even brownish-black in color, soft to the touch, and covered with a greasy scale which can be easily removed. When located on the face, they may have a warty appearance. Although usually rather typical, in some cases they have to be distinguished from senile keratoses, cutaneous horns, pigmented nevi, and even melanomas. Seborrheic keratosis is generally a benign lesion, and no treatment is required unless for cosmetic reasons or if the lesion is subject to irritation. These lesions may be removed easily by desiccation or curettage.

Senile Keratoses.—Senile keratoses are usually located on the exposed parts of the body, and for this reason they have been called actinic keratoses. The lesions are yellowish, gray, or brown and are covered with a firm, adherent scale. Epithelioma, usually of the squamous cell type, are said to develop in about 25 to 30 per cent of the lesions. Senile keratosis on the mucous surface of the lips is particularly dangerous. Elevation of older lesions and surrounding inflammation are usually danger signals. MacKee and Cipollaro[15] state that because of their potentialities it seems advisable as a general rule to eradicate all such lesions as soon as diagnosed. They can be easily treated by simple office methods, and thus many malignant degenerations can be avoided.

Lentigo Senilis.—Usually located on the exposed parts of the body, lentigo senilis are smooth, small, brown to black areas of pigmentation. Treatment for cosmetic reasons only can be easily achieved by the application of carbon dioxide or trichloracetic acid.

Cutaneous Horns.—A cutaneous horn is a prominence of corneous structure, usually appearing singly, which may arise from senile keratosis, carcinoma, verruca, papilloma, sebaceous cysts, or scars. Cutaneous horns should be removed and the base destroyed or excised.

Acrochordon (Cutaneous Tags).—These benign lesions are small, soft, pedunculated growths usually found on the neck and upper chest of elderly individuals. They are possibly related to endocrine changes since they often are observed during pregnancy and menopause. Treatment only for cosmetic reasons consists of simple removal at the base of the lesion.

Senile Ectasia.—Also called senile angioma, these are slightly raised, bright red lesions a few millimeters in diameter, usually found on the trunk of elderly individuals. No treatment is required, but destruction can be easily achieved.

Senile Sebaceous Adenoma.—These are small, flat-topped, yellowish papules on the face, usually on the forehead. They are due to hypertrophy of the sebaceous glands. Although sometimes simulating small basal cell carcinomas, the lesions are benign and should be treated only for cosmetic reasons.

Leukoplakia.—Leukoplakia is a whitish thickening of the epithelium of the mucous membranes to form superficial patches. The surface is usually glistening and slightly rough to the touch. Leukoplakia affects the lips, gums, cheeks, and tongue, but it may be present on the genitalia, especially in women. The lesions are precancerous, and the appearance of nodules, fissuring, or ulceration are strong indications of the development of malignancy. Vulvar lesions should be differentiated from kraurosis vulvae, a senile atrophy which is not precancerous, and lichen sclerosus et atrophicans, which as a rule extends to the perineum and may affect the shoulders and trunk.

Elastosis Senilis.—Described by Dubreuil as diffuse elastoma, senile elastosis is characterized by increase of the thickness of the skin with a hyperplasia of the elastic tissue. Usually it affects the face which takes on a yellowish hue. Occasionally, the patches present multiple comedones and cystic lesions.

Epithelioma.—A complete description of the different clinical varieties of epithelioma is not within the scope of this paper. Only two varieties will be briefly discussed:

1. *Basal cell epithelioma* usually begins as a small indurated plaque with a pearly border formed by translucent small nodules and showing telangiectasia. The center may be depressed or ulcerated. The lesion is locally malignant but does not metastasize generally.

2. *Squamous cell epithelioma* clinically may be a small, warty lesion, an infiltrated ulceration, a well-demarcated plaque, or an infiltrated nodule. Lesions on the mucous membranes are usually of this variety. They may metastasize. There are also transitional types (basal-squamous) which, although clinically similar to basal cell epithelioma, have the more malignant characteristics of the squamous cell variety. The treatment of epithelioma is complete removal or destruction of the lesion. This can be accomplished by different means. The method of choice depends on many factors for each lesion should be treated individually.

Keratoacanthoma.—This is a button-like, rapidly growing lesion, usually located on the face or the upper extremities. The center is verrucous. The lesion is benign, but clinically it cannot be distinguished from squamous cell carcinoma. For this reason it should be excised and examined microscopically.

Melanomas.—Usually blue-black, melanomas also may be brown or even skin colored. When they arise from a nevus, there is increase in pigment and some inflammation around the lesion. The differential diagnosis is not always easy, and conditions such as pigmented nevus, blue nevus, seborrheic keratosis, and granuloma pyogenicum should be considered. The treatment is wide surgical excision.

The Role of the Dermatologist in Geriatric Medicine

It should first be stated that the interest of the dermatologist in the aging skin is by no means novel; in fact, it is as old as dermatology itself. The importance and significance of senile changes were described and evaluated by the pioneers of our specialty during the second half of the last century. It is obviously impossible on this occasion even to summarize the valuable contributions of dermatologists to the clinical, therapeutic, and histologic aspects of the dermatoses of the aged. They are an important part of the very basis on which our specialty is founded.

The dermatologist's problem in geriatric medicine may be arbitrarily divided between the recognition of cases of systemic disease and the care of "essentially cutaneous" skin disease. The role of the dermatologist in respect to other phases of geriatric medicine involves his duties as a practitioner of medicine.

In individuals over forty the value of regular periodic physical examination, including a minute inspection of the skin and visible mucous membranes, should be stressed. Close cooperation with the attending internist would undoubtedly be mutually beneficial.

The dermatologist may be the first to suspect and detect serious systemic disease in his patients. A glucose tolerance test in a patient with chronic furunculosis or vulvar moniliasis may detect an incipient diabetes. Utilizing what Behrman[13] calls the "clues to internal disease," the dermatologist may render a great service to his patients by suspecting a serious pathologic systemic process hidden behind the cutaneous disease. Thus, severe herpes zoster may lead to the diagnosis of lymphoblastoma; dermatomyositis may lead to the diagnosis of internal malignancy; xanthelasma may indicate cardiovascular or metabolic disease; persistent and stubborn mycosis due to Trichophyton rubrum may indicate the presence of systemic lymphoblastoma.

The dermatologist thus plays an important part in visceral cancer detection besides his role in the detection of cutaneous cancer and precancer. Most dermatologists in their practice and in clinics contact a large number of individuals who mistakenly fear that their skin conditions may be malignant. A few minutes spent with these patients will reassure them, but the duties of the dermatologist should not stop here. Once the subject is under discussion, it is simple to ascertain whether the patient is availing himself of the modern methods of cancer detection. It might be advisable for the patient to be referred to his own general practitioner, an internist, or a cancer detection clinic for a more thorough investigation. The dermatologist can and should accept this responsibility and do his share in the fight against this devastating disease.

A basic knowledge of the anatomic and physiologic changes of the aging skin is essential for proper management of the dermatoses encountered in the aged. The general atrophy which characterizes the senile skin makes it prone to irritation by excessive bathing, soaps, detergents, and friction from clothing, especially those made of wool, and possibly less tolerant to many topical medicinal agents. No phase of dermatologic topical therapy requires more knowledge and experience than management of the aging skin. Here one may really practice the "art" of dermatology. In my opinion the sensitivity and irritability is even greater than the skin of babies. It may seem facetious but is nevertheless true that the old adage "sensitive as the skin of a baby" should be changed to "sensitive as the skin of the aged."

Dermatologists interested in cosmetology are capable of rendering a valuable service to women concerned with the changes wrought by time on their skin. The physiologic aspects of this subject should be realized, and sound dermatologic advice as to the care of the skin should be given. Otherwise the patients will resort to "beauty specialists," often with detrimental effects on their skin and pocketbook. This is particularly important as the borderline between cosmetics and medication becomes more and more ill-defined with the increasing use of hormones, vitamins, and silicones in cosmetology. Fortunately, in recent years more women have been seeking counsel from the dermatologist for their cosmetic problems. This trend should be encouraged.

The most important role of the dermatologist in the management of the pathologic cutaneous processes is with respect to malignant and "premalignant" disease. He is trained to see and interpret the significance of apparently minimal changes which may escape the attention of the untrained observer. A shiny translucent nodule of minute size, which under magnification shows telangiectasia, may be an early basal cell epithelioma that could easily be removed with minimum scarring and permanent cure. On clinical grounds alone he should be able to differentiate a pigmented basal cell epithelioma from a melanoma and diagnose unusual types of carcinoma, such as morphea-like epithelioma, Bowen's disease, etc. Thus, the dermatologist is best qualified to make early clinical diagnoses of malignant changes, and it is known that early diagnosis is the key to successful therapy of cancer. His experience should be utilized more in cancer detection clinics, on tumor boards, etc.

Often the clinical diagnosis of possible cutaneous malignancy cannot be made by simple inspection; a microscopic examination may be necessary. Here also familiarity with the clinical possibilities is essential and should determine the nature and extent of operation or other treatment procedure.

A rapidly growing, button-like nodule with a verrucous and crusted center may be a very malignant squamous cell carcinoma, but on the other hand, there is a possibility that it may be a harmless keratoacanthoma. Simple removal of the lesion may be sufficient. Subsequent extensive surgical excision should be reserved only for the treatment of those lesions proved to be of a malignant nature. Many unnecessarily extensive surgical procedures requiring elaborate plastic repair would thus be avoided.

Another important factor in the management of cutaneous malignancies by the dermatologist is the flexibility and adaptability of dermatologic technics to individual circumstances. The decision as to what method of treatment should be used in each instance depends on many factors: the type of lesion, location, number, the age and sex of the patient, his physical condition, etc. The profession of the patient and his economic status also necessarily play important roles. In the central and south western states dermatologists often have occasion to treat farmers and ranchers who, because of their responsibilities, cannot be subject to the extended hospitalization required for surgical intervention and/or to protracted radiation therapy if other, more rapid means of equal therapeutic value are available. They cannot afford repeated visits to the physician who is often located several hundred miles away. Often the patient may be unable to make more than a single visit. This special situation has stimulated the ingenuity of dermatologists who have devised a successful method of therapy with radium which has been described by Lamb,[16] Lehman and Pipkin,[17] Seale,[18] and others. This is another example of the adaptability of the dermatologist to special conditions.

The dermatologist is not bound to any particular method of therapy and is thus free to select the one that in his estimation would be most suitable for each individual case. Once this selection is made, if he possesses the facilities and capabilities, he should proceed with treatment. If he feels that he lacks the experience or the proper equipment to perform the modality of his choice, he should then seek the help of other specialists. This is the routine in patients requiring extensive surgery with plastic repair or chemosurgery. It may be safely stated that this type of case constitutes a small minority of cutaneous malignancies.

The fact that is often overlooked in a discussion of the management of the cutaneous changes of the aged is that the patient ordinarily presents simultaneously a large variety of lesions of different types—some benign, others potentially malignant, and possibly some truly malignant—each requiring a different therapeutic approach. In senility the patient usually presents many seborrheic keratoses on the trunk, pigmentation and senile keratoses on the face and backs of the hands, and simple adenomas on the forehead. Possibly he may present a rapidly growing keratoacanthoma of the nose and a slowly developing basal cell epithelioma of the forehead. The handling of such conditions is an everyday problem in the average dermatologist's office.

The dermatologist is best equipped to cope properly with this situation. Because of his special training he is capable of making clinical diagnoses of the benign lesions which may not require treatment, the potentially malignant which should be examined histologically, and the malignant lesions which should be eradicated. His knowledge of the histopathology of the benign and malignant growths helps him in his selection of the appropriate modality for the treatment of each individual lesion. At his disposal he has a large armamentarium, such as the skillful application of trichloracetic acid, the use of cryotherapy, and the dermal curet, which in experienced hands is almost indispensable. He is skillful in the use of electrosurgery and thermocautery. He is trained and equipped to use roentgen rays, radium, and radioisotopes. He can use the scalpel, depending on the needs of the case. This flexibility and adaptability of the therapeutic approach is characteristic of the dermatologist.

As Sulzberger[19] has said, "Certainly this concentrated, combined, sharply focused knowledge and experience is of incalculable benefit to the patient, by saving him the time, trouble, energy and expense of visits to several physicians and guaranteeing him a carefully selected, individually fitted objective approach in the place of the necessarily limited, perforce somewhat narrowed approach of the specialties confined to certain modalities, like surgery or radiology."

Geriatric Skin Clinics

With the increasing emphasis on geriatrics many hospitals have dedicated clinics to the different branches of this new medical specialty.

Skin clinics under the supervision of dermatologists devoted to the study and management of the cutaneous changes of the aged would contribute much to the solution of many problems in geriatrics. Such a skin clinic could easily be incorporated as a subspecialty into the already existing dermatologic departments and would afford an excellent opportunity for research on many aspects of geriatric dermatology that still need further elucidation. Cooperating with the existing facilities of the hospitals such as the tumor boards and with other departments, it would insure more effective management of malignancy by emphasizing its preventive aspects.

The patients could be carefully and periodically examined by dermatologists for an indefinite period of time, even after individual lesions had been treated and healed. Well-kept records would allow the evaluation of each lesion, especially those regarded as potentially malignant. This would make the geriatric skin clinic an effective weapon in the campaign against cancer.

A geriatric skin clinic is at present under organization at St. Vincent's Hospital in New York City, and undoubtedly many others will follow.

Conclusions

The dermatologist plays an important role in geriatric medicine.

The management of the cutaneous diseases of the elderly, including malignancy, requires specialized training and experience.

The organization of geriatric skin clinics would contribute greatly to the care of and study and research on the cutaneous diseases of the aged and the early detection and eradication of cancer.

3 East 69th Street

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You never miss the water till the well runs dry.—Rowland Howard

Practical Office Audiometry

WESLEY H. BRADLEY, M.D., SYRACUSE, NEW YORK

(*From the Department of Otolaryngology, Memorial Hospital*)

INVESTIGATION at otologic and audiologic clinics in recent years has produced a vast fund of knowledge regarding newer technics for testing hearing. The literature abounds in new terms which were unknown twenty years ago—for example, recruitment, difference limen, Spondee and PB words, delayed feedback testing, and psychogalvanic skin resistance audiometry, to mention only a few. Without question these advances have established the field of hearing testing on a more sound scientific basis. However, this same rapid proliferation of knowledge has left many an otologist with a feeling of uncertainty. The average otologist who is conscientiously attempting to render the most complete service to his hard of hearing patients may often question in his own mind whether he is achieving this result. To keep his routines within the realm of practicality he must necessarily limit the services he offers. And yet, in such limitation is he not perhaps often depriving himself of potential information which would be available (1) for diagnosis and (2) for advising and counseling his patient? This is one of the problems that confronts us all today. How may we provide a full service of hearing testing to our patients, utilizing the information now available, and how may we achieve this in a practical manner at the clinical office level?

In attempting to answer this question, I would like to suggest some ideas based on our own experience with a routine for testing hearing at the office level. In the time allotted this discussion, it would be unwise to attempt to cover numerous specific technics. I would prefer rather to divide the remainder of this discussion into three sections: (1) pure-tone testing, (2) speech testing, and (3) discussion with the patient.

Pure Tone Audiometry

In office practice the pure tone audiogram, both air conduction and bone conduction, is usually the first technic of the testing routine, once the physical examination is completed. It is obvious that with normal air conduction, bone conduction is not necessarily done. In many instances with a minimal loss, this type of testing may be all that is required. However, because our pure tone audiograms are routinely done by a nurse or an assistant, tuning fork tests are done as a confirmatory measure. A close correlation between the results of the audiogram and the tuning fork tests helps to strengthen their validity. It is essential that at least some portion of this phase of the testing should be carried out personally by the otologist. So much information may be gained by the keen observer administering the testing that this function should not be completely delegated to an assistant.

In discussing pure tone audiometry, the importance of adequate masking must not be neglected. Few of us need to be reminded of the importance of masking when testing bone conduction or in testing air conduction when a differential of 25 decibels or more exists between the two ears. However, it is not unusual to have practicing otologists appear surprised when it is suggested that masking is often necessary in performing valid tuning fork tests. With the tuning forks we are still testing pure tones, and when a difference in hearing acuity exists between the two ears, adequate masking is necessary to be certain of the ear being tested. At the present time there is no ideal medium for masking. The ideal medium, when such becomes available, should be one not dependent on noise itself as the masking medium. Of the masking devices available at present, we have found white noise to be the most successful clinically. Some of the newer audiometers have white noise-masking built in. However, small independent white noise generators are commercially available, and these have proved practical in our situation.

Speech Audiometry

Although speech audiometry is a relatively recent development, the use of speech in testing

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hearing is not a new procedure. The human voice as the medium for the spoken and whispered voice tests is familiar to us all. With the development of the audiometer in the 1930's and advances in pure tone testing, speech testing was temporarily relegated to the background. Pure tone audiometry seemed to offer many advantages over the previous methods of testing. It was often easier; it seemed more quantitative; there was greater facility in comparing succeeding tests on a patient regardless of whether the tests were done by the same or by different testers. Then too the audiometer proved to be a medium that could easily be mastered by a technician or a nurse, and thus much of the actual testing could be delegated to an assistant.

In spite of these apparent advantages there was one real disadvantage in such universal adoption of pure tone testing. With the discard of all testing using speech, the patient no longer had the opportunity of hearing the one sound with which he was most familiar and which he most desired to hear, that is, human speech. He might obtain a creditable result on pure tone testing but still complain he could not hear his associates well when they spoke to him. It was soon apparent that although the audiogram obtained on pure tone testing gave a graphic record of the patient's ability to perceive selected pure tones, this same graphic record did not necessarily indicate the true picture of the patient's ability to hear and understand the complex combinations of sound that go to make up human speech. Some factor was not being tested on pure tone audiometry alone, and this factor we now know was the patient's discrimination ability.

Let me emphasize that my purpose is not to criticize pure tone audiometry. The tremendous advantage which the audiometer gave to testing is too obvious to even suggest that it was not a step forward. However, the points I would make are these: (1) We must remember what the pure tone audiometer is and what it actually tests, and (2) the result of testing, i.e., the audiogram, is not absolute. The human factor is still present, manifested by the individual giving the test and the individual taking the test. Pure tone audiometry then is only a part of the entire testing pattern required.

With these general principles apparent, many otologists in recent years began to return to the use of some type of speech testing. During World War II the Psychoacoustic Laboratory at Harvard did much work on the development of articulation testing methods for the evaluation of various types of military communications equipment. It was some of these materials that were first used for clinical testing.[1] The bisyllabic Spondee words were found to be an excellent measure of the threshold of the hearing loss for speech, while the monosyllabic PB words delivered at levels considerably above threshold were found to measure well the discrimination ability.

The first clinical application of these tests was in the form of recordings of the test material. However, as the tests were used, there was soon general agreement among investigators that these recordings were not a satisfactory test of discrimination ability. They were too difficult, and even individuals with normal hearing often could not obtain a high discrimination score of 95 to 100 per cent. In an attempt to correct this fault, new recordings were made, but clinical testing soon began to reveal that the above fault had been overcorrected and that now the tests were too easy. Too many individuals were able to obtain 100 per cent discrimination scores, some of these individuals with varying degrees of perceptive loss. This is the situation at the present time. There is no really good, reliable, recorded test material commercially available for speech audiometry.

Why then this long discussion to say that the materials needed for testing are not now available? Work is under way on the development of new testing material under the auspices of a National Institute of Health grant. However, time will be required before such material is commercially available, and conservative estimates would suggest that between one and two years is the minimum time still required. In the interim speech testing can be done today if each man is willing to perfect his own technic and then set and honestly adhere to his own standards. The test material may be personally recorded or taped, or live voice may be used, but the individual must develop a high degree of consistency in maintaining his standards. Such a system is not ideal, of course, and does not facilitate the comparison of results obtained by different investigators using different technics. However, from a purely practical standpoint this method works, and it often adds valuable information to an otherwise puzzling hearing problem.

In attempting to set standards for such testing, the following general rules are helpful:

1. When testing patients with a conduction type loss, one should consistently obtain a speech reception threshold (50 per cent of testing material) within 5 decibels of the average of the pure tone losses at 500, 1,000, and 2,000 cycles.

2. Patients with pure conduction type losses at 25 decibels above speech reception threshold should achieve a discrimination score of 90 to 100 per cent.

3. With perceptive losses one cannot be as definite because the ability to understand speech is not always the same as the ability to hear pure tones. Generally, in the mixed losses at 25 decibels above speech reception threshold the discrimination score will be relatively high (70 to 90 per cent), while with perceptive loss alone the discrimination score drops rapidly from 60 to 70 per cent all the way down to 0.

With these standards we have attempted to do speech testing, using live voice in a one-room setup as a routine office procedure. This setup is practical because it does not require any increase in actual office space and entails very little additional equipment. One obvious disadvantage is that slight losses cannot be tested since even tight receivers will not keep out airborne sound in the single room.

One of the criticisms of speech testing by many men is that it is too time-consuming to be practical. There is no denying that speech testing requires time, as does the taking of a good history. However, just as an invaluable clue is sometimes gained from the history only after time-consuming searching, so sometimes is the information from speech testing the missing link that makes the parts of the puzzle fit together. We do not do speech testing on every patient who comes to the office with a hearing complaint. This is not necessary and would often be impractical. Sometimes the speech testing requires ten minutes, sometimes less. In problem cases it may even require longer. However, the information which it often gives in a problem case produces a so much greater feeling of confidence in the opinion rendered, either to the patient or to the referring physician, that the time required in testing seems well spent. Gradually, the testing procedure may be shortened. The use of shorter word lists is a possibility, but further work must be done to be certain that the reliability does not suffer. Of course, when valid recorded material is available, some of the testing may be done by an assistant. If live voice is used, however, the examiner himself should administer the testing.

What are some of the situations where such testing will be helpful?

1. Prefenestration testing is certainly one of the most obvious situations. Actually, it was in prefenestration testing that speech audiometry gained much of its initial favor. The prediction curves and social adequacy index proposed by Walsh and Silverman[2,3] were based on speech testing. The operator preparing for fenestration or mobilization feels more secure if he knows the patient has a discrimination score of 90 per cent or above.

2. In establishing the diagnosis of Ménière's disease and in further testing prior to doing a destructive labyrinthotomy, speech testing may be very helpful. In some of these patients the loss for pure tones may not be great, but the discrimination score is always very poor. When these findings are brought out by speech testing, the operator feels more certain of his ground and more assured of a good result.

3. From a very practical standpoint, after speech testing the physician is in a much better position to advise a hard of hearing patient regarding the advisability of trying or buying a hearing aid. Many a hearing aid now lies unused in the dresser drawer because such information was not given.

4. Finally, pure tone testing *plus* speech is often needed to give the physician the information necessary to advise and counsel a patient who has an irreversible hearing loss.

The report of the joint committee of the American Medical Association and the Conservation of Hearing Committee of the American Academy of Ophthalmology and Otolaryngology appeared in the *Journal of the American Medical Association* last year. The report, entitled "Principles for Evaluating Hearing Loss"[4] recommends the use of speech audiometry as the most valid method of evaluating hearing losses in terms of the disability that they produce. With the increased interest in hearing testing evident today, stimulated in part perhaps by the problem of noise-induced hearing loss, this recommendation would suggest that our present use of speech in testing hearing is just the beginning.

Discussion with the Patient

After the information obtained from testing is available, the patient should be advised of the findings in terms which he himself is capable of understanding. Once again this will entail further time since most patients, when given the opportunity, will have questions they desire to ask. However, this discussion period with the patient is as important as any other part of the examination and testing routine. How very often we have all seen patients who were undoubtedly thoroughly examined and on whom a diagnosis was established previously but to whom no explanation of their difficulty was given. Without the information and counseling which they need, these individuals remain uncertain and continue to seek further aid. A discussion period, including an explanation of the difficulty plus advice and counseling, is not only a duty but a privilege for those of us who deal with the hard of hearing. With his own personal background Day[5] has expressed this need infinitely better than any of us could possibly hope to do.

Summary

An attempt has been made to show the increasing importance of supplementing pure tone audiometry with speech audiometry. Some of the difficulties in achieving this at a practical office level today have been discussed and suggestions made for the use of speech testing as an office procedure. The importance of an explanation and counseling period with the patient after testing has also been emphasized.

1100 East Genesee Street

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Discussion

Abraham Goldner, M.D., *Flushing, New York.*—If the ear, nose, and throat specialist refuses to assume his proper responsibility for the accurate evaluation of hearing disorders and related conditions, then we can look forward to the day when this highly important phase of our work will be practiced in the main by technicians without medical training. Podiatry and optometry undoubtedly had their beginnings in a similar failure of the profession. The trained technician has a useful place in this field, but we cannot delegate our ultimate responsibility for correct diagnosis. The growth of audiologic centers for evaluation and treatment of hearing disorders represents another development which arises because of the failure of the practicing otologist to render this type of service. It requires only a modest investment of money and time and a genuine desire to learn to acquire the facilities and the ability to cope with hearing problems. A correct diagnosis is a minimal requirement for proper therapy, and it would preclude the many unsatisfactory results that occur after various local and other procedures commonly used in the treatment of hearing disorders.

Speech audiometry is undeniably a valuable tool in diagnosis and evaluation. The intelligibility test properly administered and interpreted may be the only clue to the presence of a cochlear lesion when other tests appear to indicate that a conductive lesion is present. Its value in determination of percentage loss of hearing is less satisfactory. As in the various formulas devised to convert pure tone loss to speech loss, the calculated results are often at variance with true disability. As is true in every branch of medicine, we should not depend exclusively on a mechanical tool or formula, and if the results do not jibe with our clinical impression, they should be discarded unless a satisfactory explanation is forthcoming.

The evaluation of recruitment is a worth-while procedure. Every otologist must not only be familiar with the significance of this test but should have the facilities to measure it. If your present audiometer does not have such facilities, there are simple devices which can be utilized.

It is hoped that other members of our specialty will perceive the challenge in Dr. Bradley's presentation and take the necessary measures to acquire the skills which are so important to the proper practice of this phase of the specialty.

The form of religion does not so greatly matter if we try to do good.—Letter, Charles Dickens

Differential Diagnosis and Management of Renal Cysts Associated with Tumor

J. SIDNEY RITTER, M.D., AND ALFRED A. JOHNSON, M.D., NEW YORK CITY

(From the Department of Urology of the New York Polyclinic Medical School and Hospital)

In the past few years there have been several articles in the literature which have presented methods of differential diagnosis between a renal cyst and a renal tumor. Unfortunately, these articles have given the reader the impression that the association of renal cysts and malignant or benign tumor is extremely rare and that the diagnosis is relatively simple. Both of these impressions are misleading. The presence of a tumor within the confines of a large solitary renal cyst is not uncommon, and the present or proposed methods of diagnosis may not only be misleading but hazardous as well. It is the purpose of this paper to present and discuss these methods of differential diagnosis.

Through our constantly increasing armamentarium and more accurate diagnostic methods, the diagnosis of cysts of the kidney is made more frequently. One major controversial point is the fact that many urologists distinguish between a simple solitary cyst containing clear fluid and one containing hemorrhagic fluid. This distinction serves only to minimize the statistical incidence of tumor in cysts containing clear fluid which is reported to be about 2 per cent, while in cysts containing bloody fluid the incidence rises to about 30 per cent. Although these figures are important, they becloud the fact that tumor is present on the average of 7 per cent in all cases of solitary cyst of the kidney. This percentage is certainly high enough to be of clinical significance, especially if considered along with the fact that solitary renal cysts are found in 3 to 5 per cent of all autopsies.

In order to understand the difficulties encountered in the definitive diagnosis, a brief review of the basic pathology of renal cysts associated with tumor will be helpful. In cysts containing a tumor, the malignancy is always found in the portion of the cyst which is in contact with the renal tissue. The tumor may vary from a small nodule to an extensive mass or may be present only as an irregularity on the surface and may require a careful microscopic examination for diagnosis. The majority of tumors have been reported to be papillary clear cell adenocarcinomas, but sarcoma, Wilms's tumor, papillary cystadenoma, leiomyoma, and adenomas have also been found. Approximately one third of the cysts containing hemorrhagic fluid have been reported as presenting a malignancy. Most authors claim that tumor is rare in a cyst containing clear fluid, but the important fact to be remembered is that malignancy not only can occur in a clear fluid cyst but that it has occurred. The mere point that it is considered to be uncommon should not lead to complacency.

The various modalities used in the diagnosis of renal cysts are familiar to all urologists: history, symptomatology, laboratory findings, roentgenography, needle aspiration, and surgical exploration. Although the history, symptomatology, and laboratory findings are important adjuncts, there is nothing pathognomonic in cases of renal cysts associated with tumors. Hematuria is a frequent symptom of tumor but has also occurred in cases of simple benign cysts. A mass may be palpable, but again this is no aid in the definitive diagnosis. The methods over which controversy exists are radiographic findings, needle aspiration, and surgical exploration. We wish to discuss these in more detail.

Roentgenology

Most urologists agree that the diagnostic feature of greatest importance is the distinctly different appearance of radiographic findings in cysts and tumors. Renal cysts are most likely to produce smoothly circular shadows which blend with but do not radically change the normal architecture or outline of the kidney. Cysts are usually found at either the upper or lower pole of the kidney. They tend to grow away from the kidney substance and thus present a

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minimal distortion of the main renal outline. However, cysts which are located in the center of the kidney produce changes not only in the renal outline but also in the calyces and pelvis, and these changes are usually indistinguishable from those produced by tumors. As a rule cysts produce a shadow which is less dense than that produced by a tumor. Other prominent x-ray differences are the presence or absence of the psoas shadow and changes in rotation or position.

All of these findings may be accentuated by the use of laminography, perirenal or presacral oxygen insufflation, and aortography. Although laminography and perineal oxygen insufflation are relatively simple and safe procedures, urologists who have performed aortography will agree that this procedure is not only relatively difficult and dangerous to perform but that the results are not so satisfactory as one would like them to be. Theoretically, in cases of tumor aortography will show an increased density in the center of the mass due to increased vascularity. However, aside from the technical problems it is difficult to see how aortography will be of value in a case of a large cyst, containing a small tumor, lying on the convex and depressed border of the renal parenchyma.

We conclude, therefore, that although radiographic findings are certainly helpful in the majority of cases, one cannot rely on these findings alone for an absolute, definitive differentiation between a tumor, a simple cyst, and a cyst associated with tumor.

Needle Aspiration

One method which has recently been advocated as a diagnostic aid is the needle aspiration. This has been described by Ainsworth and Vest[1] as an extremely simple procedure which uniformly gives definite and pertinent information. After insertion of a spinal needle into the cyst, about 30 to 50 cc. of fluid are aspirated, and after an equal amount of contrast medium is injected into the cyst, x-rays are taken. These authors claim that the aspiration of clear fluid and a smooth outline of the cyst on x-rays are proof that the cyst is benign and does not contain a tumor. We are definitely opposed to this method for the following reasons:

1. The needle may puncture the kidney, intestine, liver, and other organs and may cause hemorrhage.
2. If hemorrhagic fluid is aspirated, one cannot be sure that this was not due to injury by the needle. At any rate since most authors agree that one third of all cysts with hemorrhagic fluid have a tumor within their confines, the decision that the cyst is benign must be extremely difficult, if not impossible. Microscopic examination and a Papanicolaou stain of this fluid may be of positive value. However, because of technical difficulties and interpretations, a negative report will certainly not rule out a malignancy.
3. The needle may penetrate the tumor and cause localized spread.
4. Infection may be introduced into the cyst fluid, which is an excellent culture medium.
5. There is a possibility of confusion with a cystic hypernephroma.
6. The impression has been given that tumor does not occur in renal cysts containing clear fluid. This is not only erroneous but misleading.

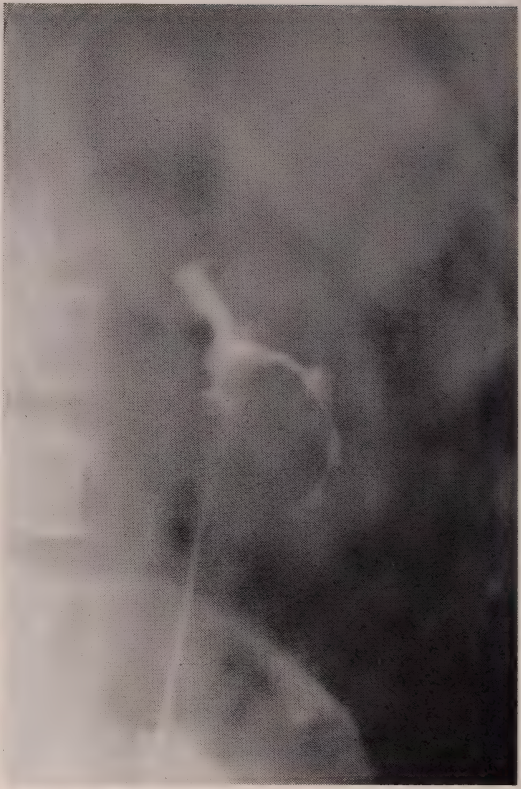

FIG. 1. *Case 1*—Simple cyst of right kidney in intramedullary position.

Emanuel[2,3] reported two cases of renal cysts which were found to contain clear fluid at operation. Biopsies were taken from the bases of these cysts because of minute irregularities, and frozen sections were reported as negative for

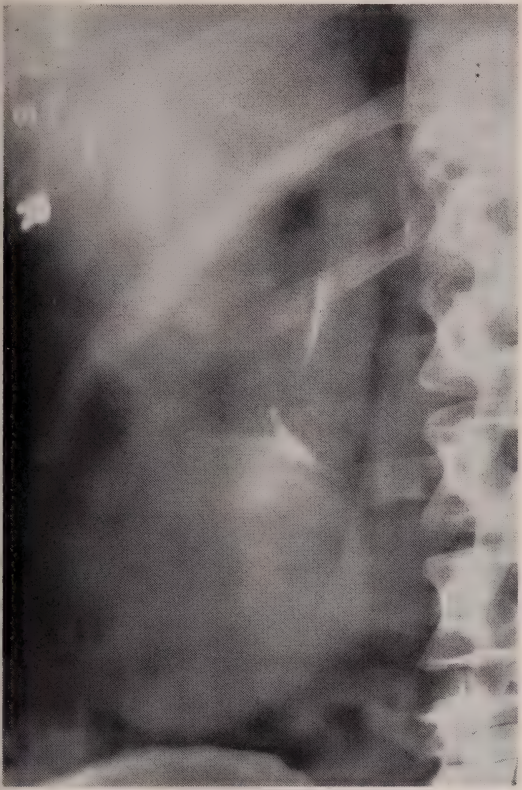

FIG. 2. *Case 2*—Large circular mass at lower pole and second smaller mass at upper pole of right kidney.

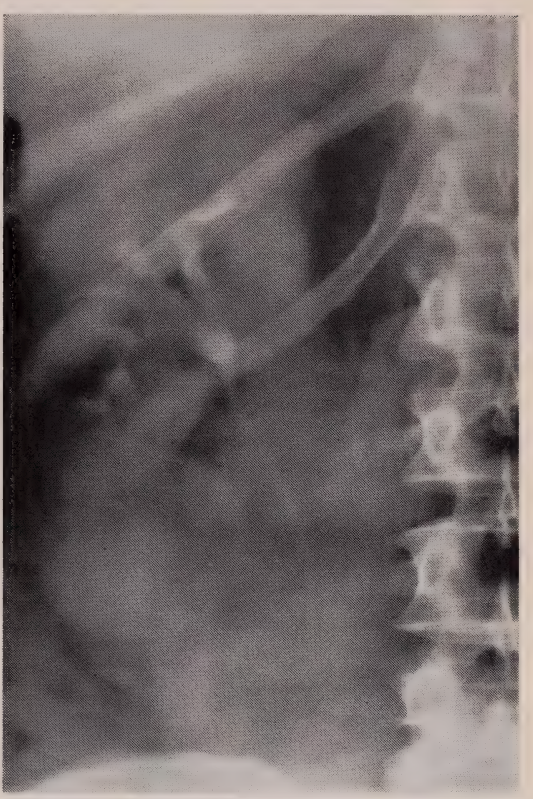

FIG. 3. *Case 3*—X-ray impression was of completely circumscribed mass causing no defect of renal pelvis. Operation revealed solid tumor on lower pole of right kidney.

tumor. However, when the biopsies were processed and stained, microscopic examination revealed clear cell carcinoma in both cases. Other authors who have reported tumor within cysts containing clear fluid are Lowsley[4] and Schwiebinger and Hodges.[5]

Surgical Exploration

The third method of diagnosis which we wish to discuss is surgical exploration. This method has the advantages of being the most accurate, while at the same time giving the surgeon the opportunity for definitive treatment. It is our belief that all cases of renal cysts revealed by a complete medical and urologic examination should be surgically explored.

If clear fluid is obtained on exposure of the renal cyst and if the cyst surface is smooth and in no way indicative of tumor, the commonest procedure is to remove the free cyst wall and suture the margins. Phenol and alcohol for neutralization are then applied to the part of the cyst wall which is adherent to the renal parenchyma. Some surgeons advocate complete separation and removal of the cyst wall from the renal tissue, but we believe that this is unnecessary and dangerous because of immediate or delayed massive hemorrhage which may result.

If the cyst is of such size that it has completely destroyed the kidney and if the contralateral kidney is normal in every respect, then nephrectomy is warranted. We believe that nephrectomy is definitely indicated in all cases of cysts which contain tumor or bloody or turbid fluid or which present an irregular or roughened interior surface.

Case Reports

CASE 1.—The patient was a forty-eight-year-old, white male who complained of pain in his right flank. Operation revealed a simple cyst of the right kidney which was intramedullary in position (Fig. 1). Aspiration would have been undesirable in this case because of the position of the cyst.

CASE 2.—The patient was a fifty-year-old, white male whose chief complaint was gross hematuria. X-rays demonstrated a large circular mass at the

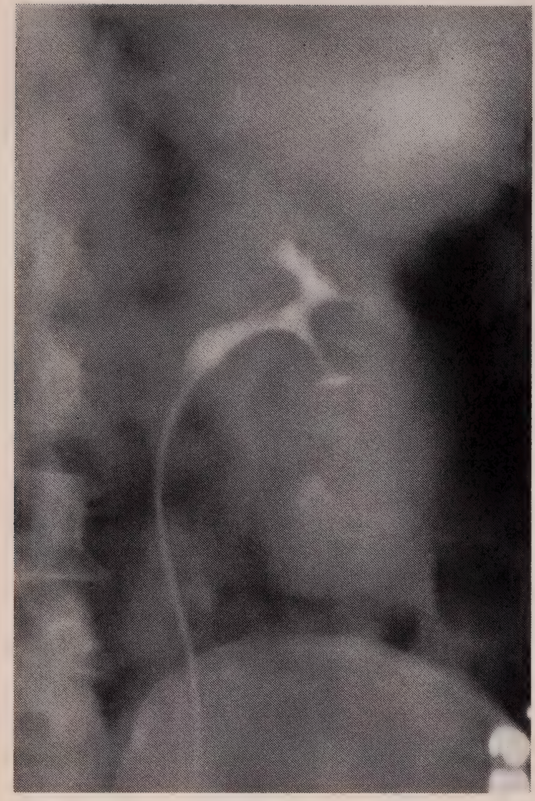

FIG. 4. *Case 4*—Smooth circular enlargement of lower pole of left kidney.

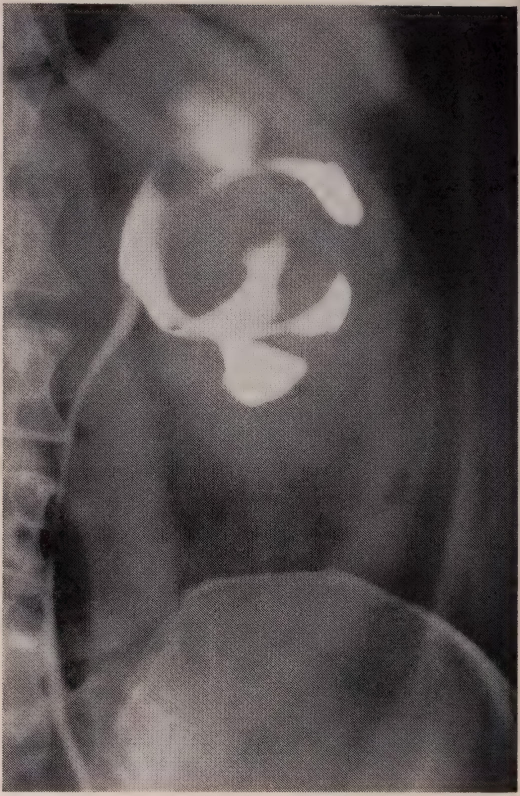

FIG. 5. *Case 5*—Simple, solitary cyst lying in middle of kidney although from x-ray one might suspect neoplastic growth.

lower pole of the right kidney and a second smaller mass at the upper pole (Fig. 2). Operation revealed a simple cyst of the lower pole and a renal carcinoma of the upper pole. Aspiration of the cyst would certainly have led to an erroneous conclusion.

CASE 3.—The patient was a fifty-eight-year-old, white male who had one episode of painless hematuria after imbibing several cocktails. Cystoscopy revealed bloody efflux from the right ureter. The impression obtained from the x-ray studies was that the mass was completely circumscribed and caused no defect in the renal pelvis (Fig. 3). In fact, one would be tempted to consider this an extrarenal mass. Operation revealed a solid tumor on the lower pole of the right kidney, and nephrectomy was performed.

CASE 4.—The patient was a sixty-year-old, white female who complained of pain in her back, especially on the left side. X-rays revealed a smooth, circular enlargement of the lower pole of the left kidney (Fig. 4). Operation revealed a simple cyst which measured 2.5 cm. in its greatest diameter and contained a clear yellow fluid. In addition, there was also present a cystic, encapsulated hypernephroma which measured 11 cm. at its greatest diameter and projected from the renal surface. In this case an improper diagnosis would have been made if aspiration were used and only clear fluid obtained.

CASE 5.—The patient was a fifty-two-year-old, white female who complained of pain in her left flank. Operation revealed a large, simple, solitary cyst containing clear fluid which was lying in the middle of the kidney. It projected from the hilum and compressed the pelvis. From the x-rays one would suspect neoplastic growth (Fig. 5).

CASE 6.—The patient was a forty-three-year-old, white male who complained of pain in his left flank. X-rays revealed a large circular enlargement of the lower pole of the left kidney (Fig. 6). A diagnosis of solitary simple cyst was made. Aspiration of the cyst was performed, and 50 cc. of contrast medium were injected into the cyst cavity. We believe that it is impossible to rule out a tumor with this procedure. Due to the irregular filling defect an exploratory operation was thought advisable. This proved to be a simple cyst.

CASE 7.—The patient was a fifty-two-year-old,

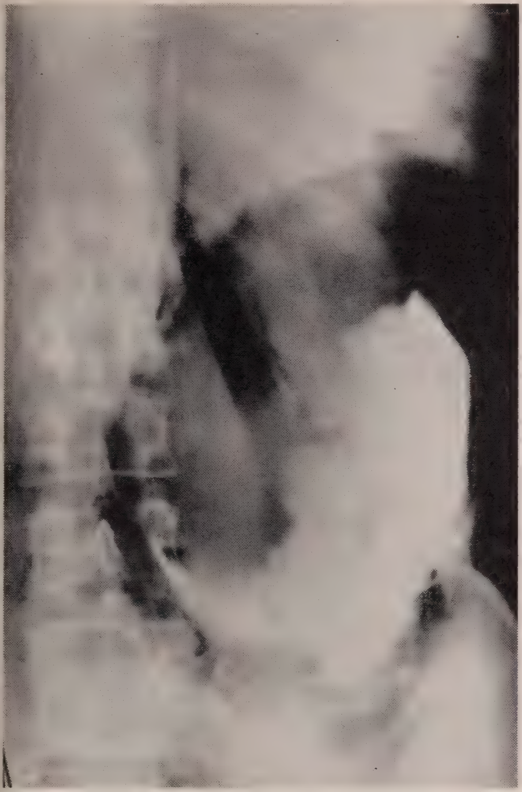

FIG. 6. *Case 6*—Large circular enlargement of lower pole of left kidney.

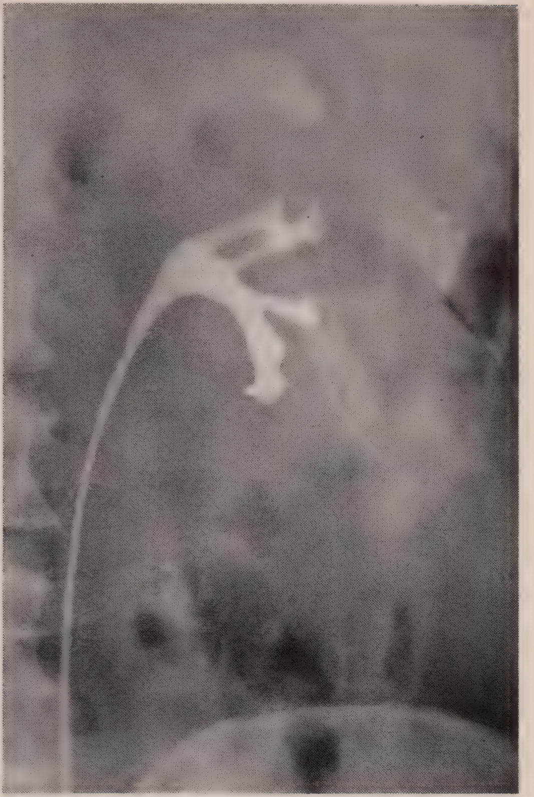

FIG. 7. *Case 7*—Defect in upper pole of left kidney.

white male who complained of a painless growth in the skin on his left flank. This growth was excised, and the pathologic diagnosis was metastatic adenocarcinoma. A complete workup was then done in order to find the primary site. Retrograde pyelograms demonstrated a defect in the upper pole of the left kidney (Fig. 7). This was considered to be the primary location of the tumor. Exploration was carried out, and a simple solitary cyst containing clear fluid was found in the upper pole of the left kidney. Fortunately, the adrenal gland was found to be enlarged and indurated and was removed. This proved to be a carcinoma of the adrenal gland.

Conclusion

The differential diagnosis between a tumor and a benign cyst of the kidney is subject to such a high percentage of error that only surgical exploration can lead to a proper diagnosis. Today with a definite increase in the incidence of malignancies of the human body, renal cancers are more frequently brought to light. Delay or irregular practices of a palliative nature may lead to unhappy endings. Therefore, we advocate surgical exploration of all masses associated with and about the kidney.

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Discussion

Frank C. Hamm, M.D., *Brooklyn, New York.*—The incidence of renal cyst is certainly greater than we suspected twenty years ago. It was formerly thought to be less common than renal tumor.

The association of cyst with malignancy is well known. However, the finding of an inconspicuous malignancy at the base of a large solitary cyst must be rare. I have never seen it. To attempt the differentiation of cyst from tumor with the diagnostic methods presently at our disposal is hazardous. We have always held to the principle that these patients should be explored surgically.

The use of a long needle for the percutaneous drainage of an alleged cyst or for biopsy should be discouraged. It should never be attempted in infancy where Wilms's tumor may resemble the soft smooth surface of a cyst or in the adult where the malignancy may be a completely undifferentiated type.

The outlook for renal neoplasms allows plenty of opportunity for improvement. But sound methods, such as early diagnosis with surgical exploration and removal of all suspicious lesions, will contribute to a better survival rate.

Cineradiography of the Normal Cervical Spine

J. W. FIELDING, M.D., NEW YORK CITY

(*From St. Luke's Hospital and the New York Polyclinic Medical School and Hospital*)

The recording of dynamic roentgen images has long been desired. Even rapid serial static roentgenograms do not impart information to the same degree as cineradiography.

Many attempts have been made to produce cineradiographic films with mediocre success. There are several possible approaches. Two deserve mention:

1. The direct method, whereby the camera directly records the fluoroscopic screen.
2. The indirect method, whereby the roentgen rays are electronically demagnified and accelerated and then impinge on a fluoroscopic screen.

The direct method appears to be impractical. Even with the fastest photographic emulsions and optics available, the quantity of roentgen rays is too injurious to the patient and the operator.

The indirect method, however, requires minimal roentgen dosage, is easily monitored, and the need for working in the dark is eliminated.

Indirect Method Equipment and Data

The equipment utilized by the indirect method consists of (1) an x-ray source, (2) an image intensifier, (3) a motion picture camera, and (4) a side optical system for monitoring.

In order to obtain films with good resolution, a fractional focal point roentgenographic tube is essential. The roentgen tube is fitted with a lead diaphragm which limits radiation to a 5-inch circular area the size of the end of the image intensifier tube. By means of both electron acceleration and demagnification, an image of tremendously increased brilliance is produced. The apparatus is convenient to use, and its size is much less than for the direct method.

It has been calculated that the roentgen exposure factors for this procedure are well within safe limits as compared to standard radiographic procedures. When a Lynsholm grid (2x) is used, the average skin dose was 6 r per minute of recording.[1]

Some workers in this field have advocated the

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use of 35-mm. film for recording. There are many reasons which favor the use of 16-mm. film. Greater economy, simplicity of handling, reduced roentgen dosage, decrease of storage space, availability of apparatus for recording, and projection all demand the smaller film.

Only a circular area 5 inches in diameter is encompassed by the image intensifier tube. For our purposes this is adequate.

The fractional focal point tube permits enlargement technic. By moving the patient away from the image intensifier toward the roentgen source, a four times magnification of the image can be satisfactorily obtained. In this study the enlargement technic was found to be of particular value in the examination of the atlantoaxial joint.

Motion of Cervical Spine as a Whole

This paper records the various components of motion in the normal cervical spine. The cervical spine as a whole has all basic motions. The film demonstrates flexion, extension, lateral flexion, rotation, and gliding movements. The findings may be reduced somewhat to paper but must be seen to be appreciated.

The normal resting cervical spine is in a position of lordosis, the head resting in a level plane. A kyphos exists at the suboccipital interval. The whole cervical spine appears to lengthen during flexion and to shorten during extension due to the change in lordosis. No actual lengthening or shortening occurs.

The wide excursions of motion allowed by the flat, obliquely placed facets are checked just in time to prevent complete dislocation by ligamentous structures. To allow this extensive mobility, the local ligamentous and capsular structures are sufficiently relaxed to permit the motion and yet appear able to snap taut and stop it before dislocation occurs. The ligamentum nuchae acts as a final "check rein" but does not limit the motion of the individual segments. Similarly, the musculotendinous apparatus has an important role in maintaining general contour and alignment but has little, if any, influence on subluxation between the individual segments.

The intervertebral disks are seen to be very resilient and important in permitting the motions of flexion, extension, lateral flexion, and especially the gliding motion so prominently noted. As full flexion or extension occurs, this motion is shared by all the intervals. In the regions below cervical 2, this is carried out by both facets and intervertebral disks. The facets glide, and the disks deform. As the action is carried to its limit, the facets run their full distance, so that the posterior border of the inferior facet is opposite the anterior border of the superior facet below. This can be best demonstrated in the oblique projection.

The intervertebral foramina enlarge as the inferior facets glide forward on the superior facets below. Even in extension the intervertebral foramina remain quite adequate, although this can be appreciated only in the oblique projections.

The intervertebral disk structures also participate actively in the motions of flexion and extension. In forward flexion two observations are made. First, in flexion the disk widens posteriorly and narrows anteriorly. Second, since the higher vertebra slides anteriorly over the one below, the disk on lateral view changes from a rectangular outline to that of a trapezoid. In extension the higher vertebra shifts posteriorly, the disk space widens anteriorly and narrows posteriorly, and the outline on lateral view reverses the situation seen in flexion. This can be explained by the oblique placement of the facets, for as they glide and tilt, they also allow the vertebrae to shift foward and backward. Thus the disk is deformed both by alternate narrowing and widening anteriorly and posteriorly and by shifting of the upper enchondral plate on the lower one. One further point regarding the appearance of intact disks in the normal cervical spine is that no appreciable over-all narrowing occurs with motion. Equally important is the fact that, normally, disk deformation due to gliding is always associated with flexion and extension. The disks never permit the vertebrae merely to "rock" on each other if they are intact.

THE OCCIPITOATLANTAL ARTICULATION.—The only gross motion demonstrable at the occipitocervical region is flexion and extension.

THE ATLANTOAXIAL ARTICULATION.—To study this particular area properly there are several essentials: The patient must be cooperative and trained in the motions desired and the photographer adept at monitoring. An open-mouthed view must be used, often in the oblique plane, and in addition, the patient must evert the tongue to produce a shadow-free picture.

While it is generally accepted that the junction between cervical 1 and cervical 2 is a pivotal joint, nevertheless, in the cineroentgenogram the spines of these two vertebrae are definitely seen to separate slightly during flexion and to approximate considerably during extension.

Rotation occurs mainly at the atlantoaxial joint, the skull and cervical 1 moving as a unit. The central pivot is the odontoid process of the axis. The lateral articulations, the oval flat facets between these vertebrae, slope laterally downwards. No other single interval of the whole cervical spine can be demonstrated to have the extreme range of motion seen here. During the first 50 per cent of rotation of the head, no movement can be seen in the spine of the axis. With continued rotation beyond this, the spine of the axis deviates, indicating that elements below cervical 2 participate actively and in the same direction, although to a lesser extent. The amount of rotation decreases progressively in the distal intervals.

The odontoid process, prominent as the upward projecting "mooring mast" which stabilizes the atlas "floating free" on the axis, remains immobile throughout rotation until the full range of rotation in the atlantoaxial joint is reached. Then as the spine below begins to rotate, the odontoid process is seen to tilt forward, indicating that in rotation of the spine below the axis flexion and straightening occur as well.

A great amount of rotatory motion of the axis was seen when the head was flexed laterally with the chin held anteriorly in the sagittal plane. This occurs because of compression on the concave side of a column already in lordosis. The odontoid process, the spine of the atlas, and the symphysis menti were seen to be in one plane only when the head was completely vertical.

Conclusions

1. A cineradiographic method of investigation of normal motion of the cervical spine has been presented.
2. Use of this method for clinical investigation of pathologic conditions is suggested.
3. Investigation of motion of the cervical spine on the cadaver is inadequate.

The author is indebted to Robert Carlin, B.S., New York City, for the technic and photography.

Reference

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Epilepsy as an Initial Symptom of Disseminated Lupus Erythematosus

The relatively frequent occurrence of epileptiform seizures in patients with disseminated lupus erythematosus has been noted by a number of investigators. Usually these phenomena occur in the terminal stages of the disease, but they may occur long before any other symptom is apparent. Epilepsy, however, is not uncommon in the general population, and the association possibly may be due to chance. Other possibilities are that it may be (1) due to involvement of cerebral tissues in vascular changes characteristic of the disease, (2) secondary to uremia, (3) secondary to severe toxemia other than uremia, (4) related to cortisone therapy. In discussing these questions Dr. Laurence Selling presents three cases in which there were epileptic manifestations, in two of whom lupus erythematosus was definitely established, with strong evidence of it in the third.—*The Portland Clinic Bulletin, March, 1956*

The Establishment and Functioning of a Geriatric Program in a Health Department

WILLIAM A. HOLLA, M.D., WHITE PLAINS, NEW YORK

STRICTLY speaking, geriatrics is that branch of medicine that is concerned with the clinical problems of old age. Since public health has always been concerned primarily with the prevention of disease, a health department program for the aging could more properly be entitled "Adult Health" or "Adult Hygiene." This has an added advantage in that there is no clearly defined lower limit for old age, and many of the chronic illnesses prevalent during that period of life have their inception in what might be called "middle age."

Moreover, such a program would vary according to whether the health department was on a Federal, State, or local level. The activities of the Public Health Service are concerned primarily with laboratory investigations, field studies, and the publication of educational material. State programs for the most part do not seem to have taken a very definite or active form as yet. Local programs are still in the pioneer or formative stage and would of course vary widely in magnitude and intensity, depending on the size, wealth, and needs of the particular municipality. The range of diversification to be expected on the local level can be appreciated when we compare the problems and resources of a large city like New York with those of a small rural county or health district. Obviously, it would be extremely difficult to organize and conduct an effective adult health program embracing all the local agencies and resources concerned therewith without the services and leadership of a full-time health department.

Many sets of statistics have been presented which show the increasing proportions of older individuals in the population. This is true to a greater or lesser degree in all parts of the country. Old people have of course always been with us, and health departments have been incidentally concerned with their welfare as part of the general community health program. However, their greatly increasing numbers together with the concomitant increase in the chronic illnesses to which they are so prone have created a problem that calls for special consideration similar to that shown in the child hygiene field.

In 1951 the Westchester County Health Department began to study ways in which an organized program for the health and welfare of the aging could be developed. It was realized that a problem of such magnitude and involving so great a variety of factors, such as health, pecuniary status, employment, housing, recreation, etc., could be tackled successfully only on a broad community basis through the united efforts of all available agencies and resources concerned. Two lines of activity were thus suggested for the Health Department: (1) to promote the formation of a county commission or committee on the welfare of the aging that would study and advise and coordinate and (2) to develop a departmental program as its contribution to the general undertaking.

On further consideration it was felt that a relatively new program such as this could best be planned by a department committee consisting of staff members whose activities were most directly concerned with the problem. Such a committee was designated by the Commissioner in 1952 and included the Assistant Director of Public Health Nursing, the Director of Tuberculosis, the Instructor of Public Health Education, a public health nurse, and the director concerned with the new service. Periodic meetings of this committee were held, at which various aspects of the proposed program were discussed. It was generally agreed that any plans should make provision for both countywide, cooperative activities of all interested agencies and those activities that were the direct concern of the Health Department. The latter were considered to include nursing services, health education, nutrition, and adult hygiene clinics or conferences.

As the discussion progressed, certain modifications were made in the original proposals.

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For example, it had first been thought that a special commission or committee should be set up by the County Executive or the Health Commissioner which would focus public attention on the problem, correlate the activities of the various interested agencies, and serve as a clearing house for general information on the subject. On further consideration, however, it was decided that the formation of a new group was not called for at that point but that use should be made of the Westchester County Council of Social Agencies already at hand. When approached with the suggestion that they form a permanent committee to initiate countywide activities in the field of old age and geriatrics, it was learned that they are concerned primarily with making studies to show the need for services and facilities, leaving it to the service organizations to organize programs to meet those needs. The result was the formation in 1953 by the County Council of a Program Committee representative of interested organizations and individuals in the county to study the needs and problems of the aging in Westchester County, including those who were chronically ill. This study was conducted through six subcommittees on income maintenance, health, housing, counseling, and leisure time and adult education activities and services under religious auspices. The report was issued in November, 1953, with findings and recommendations listed under the foregoing six headings.

Following this study the County Executive appointed a Citizens' Committee to promote action for putting some of the recommendations into effect. One of them, a program in home care of the chronically ill based on the personnel and services of the county hospital, has passed the planning stage and is about to be put into execution. Another, that all suitable, available space at the county home should be equipped and staffed to provide additional nursing home accommodations for patients with chronic illnesses, has been carried out.

A third recommendation by the subcommittee on health was to the effect that the county and city health departments should consider expanding their health education services to the aged. During the discussion on this subject by the Health Department Committee on Adult Hygiene and Geriatrics, consideration was given to the possible development of a joint countywide educational program for the welfare of the aging in which any interested agencies, both official and nonofficial, could participate. Such a program would not supplant but rather would supplement any educational activities being carried on by the individual organizations themselves. It was felt that the combined efforts of a group would carry a greater impact and do more to focus public attention on the problem than if each carried on independently. When the suggestion was made to them, the County Council of Social Agencies agreed to promote the formation of a joint committee for that purpose. At a preliminary meeting of representatives of various interested organizations and agencies, it was agreed that the project should be undertaken and the committee given formal status for that purpose. As an initial step it is now engaged in assembling information relative to the various kinds of service offered by the different organizations for the health and welfare of the aging with the intention of making this material generally available in the form of a brochure. It is anticipated that further measures will be undertaken by this committee with the possible presentation of suitable information through the newspapers and over the radio.

The activities that could most appropriately be carried on by a health department appear to fall under the following three headings: (1) nursing services including nutrition, (2) health education, and (3) adult health conferences.

1. *Nursing Services:* The activities of the department nurses, as they have encountered problems involving the health of the aging during their home visiting, have constituted practically all that has heretofore been done in this field. This is and will continue to be the most important contribution the department can make. In this connection there remains only the need to intensify and render more productive this part of the program. It is largely a question of emphasis. Adult health and geriatrics should have the same status that is ordinarily accorded child hygiene, tuberculosis, and orthopedics in most health departments. To this end an inservice educational program was begun, and efforts are being made to improve the content of the nurses' home visits with respect to the aging. They should become more "geriatrics conscious." Every aging individual, no matter what his apparent physical status, should receive their attention, be it only a discussion of health habits and personal hygiene. Conditions

that they will encounter include mental impairment, malnutrition, and physical disability, for each of which the department offers special consultant services. In general, the nurses should endeavor to keep healthy people well and secure medical attention for those who are ill and are not under the care of a physician.

The Health Department has recently been adding licensed practical nurses to the nursing staff to furnish bedside care in localities in which it is not otherwise available or to supplement such services by a visiting nurse association. This type of work is largely concerned with chronic illness in aging individuals, and the use of practical nurses conserves the time of public health nurses for other departmental activities. Furthermore, the practical nurse is fully equipped to do this type of nursing satisfactorily and at less expense to the taxpayer. Gradually, this type of nurse will replace all the public health nurses in the geriatric field, and the only use of the public health nurse will be to supervise the activities of the practical nurse.

A special feature of the nursing program is the recently inaugurated inspection and supervision of nursing and convalescent homes. A nurse has been detailed to devote her full time to the development of this project. There are at present 40 nursing or convalescent homes in the Westchester County Health District.

2. *Health Education:* Health education means many things to many people. It can be carried on through the personal approach, such as occurs during a nurse's home visit, and it can also be promoted on a mass basis through newspapers, radio, and television. In launching a relatively new program, the latter method, although somewhat wasteful of time and effort, has certain advantages. Public attention is attracted to a greater degree and in a shorter time than is possible through personal contact alone. Useful information can be disseminated to more individuals in a given time than would otherwise be possible. In some cases this might even prevent it being "too little and too late." The mass approach might even be compared to the softening-up process of the preliminary barrage in military parlance.

With this object in view it has been proposed that the Health Department, through the Instructor of Public Health Education, organize and conduct its own health education program in adult hygiene and geriatrics through the local newspapers and radio stations. One of the cardinal principles of pedagogics is repetition. This holds true not only for the same individual, but even more for the public, among whom new generations are constantly taking the places of older ones. Topics to be covered in such a program would include personal hygiene, the periodic health examination, nutrition and obesity, accident prevention, rehabilitation, and certain illnesses like heart disease, tuberculosis, cancer, arthritis, and diabetes.

3. *Adult Health Conferences:* Adult health conferences patterned somewhat after those that have been held for years for children would appear to offer one approach to the problem. Elderly individuals not under the care of a physician would be given a limited physical examination and hygienic advice relative to proper health habits. Those considered to be in need of medical care would be referred to their own physician for a more complete examination and whatever treatment was considered necessary. However, aside from the multiphasic clinics that have been conducted in a few places on a temporary basis, this is a relatively untried activity with a number of questions still to be answered before it could be undertaken with reasonable expectation of success. It will probably continue to remain in the problematic stage until more such pilot conferences or clinics are tried out. From a practical point of view it has not seemed wise to include such a venture in the initial stage of the program. Therefore, it has been left for further study and future consideration.

By way of recapitulation, the services now being offered by the Health Department for the health of the aging are as follows:

1. Home visiting by Health Department nurses to assist elderly people with their health problems. Such assistance might take the form of (*a*) giving hygienic advice, (*b*) lending aid in carrying out a doctor's orders, (*c*) giving instructions in home nursing care to a member of the household, and (*d*) arranging referrals to other health and welfare agencies as circumstances may indicate. These activities could result either from a direct request or through discovery of such needs during a home visit made for some other purpose.

2. Supervision of the 40 nursing and convalescent homes in the county, the patients in which being practically all elderly individuals.

Periodic inspections are made to insure compliance with regulations and to improve care.

3. Chest x-ray examinations in department tuberculosis clinics to which physicians may refer elderly patients.

4. Assistance in the rehabilitation of the physically disabled through (*a*) orthopedic clinics to which patients can be referred for examination and recommendations for treatment and (*b*) a consultant orthopedic nurse and three physical therapists to instruct the family in and supervise home care.

5. Promotion of better nutrition through a consultant nutritionist by (*a*) aiding nurses with dietary problems of the aging, (*b*) assisting physicians with special diets for patients at home, and (*c*) advising institutions, including nursing homes, regarding menus and special diets.

6. Mental hygiene clinics to which patients can be referred by a physician for study and recommendations as to treatment. Clinic care may be given in selected cases.

7. Distribution of printed material on adult health (*a*) through home visits by nurses and (*b*) on direct personal request.

90 BRYANT AVENUE

Discussion

I. Jay Brightman, M.D., *Albany, New York.*—Dr. Holla makes it quite clear that a community program for the aging and aged must feature an adequate approach not only to health problems but also to such problems as income maintenance, housing, counseling, and recreation and educational activities among others. The country-wide survey carried out in Westchester County is one which many other areas may well emulate. Most heartening is the fact that some of the recommendations have already been implemented, specifically the home-care program and the conversion of public home beds to infirmary beds.

Dr. Holla summarizes health department activities for the aging as (1) public health nursing, including bedside nursing, educational activities, nutritional service, and nursing home inspections; (2) public health education; and (3) adult health conferences following the general pattern of child health conferences and designed to provide limited physical examinations and hygienic advice relative to proper health habits, with referral to the patient's own physician as necessary.

With the increasing age of the population and the growing importance of chronic illnesses, bedside nursing may well become the dominant function of the nursing service. This calls for serious evaluation and study. To the extent that such nursing is primarily intended to educate the patient and his family regarding the nature and type of care required for the illness; to help in the adjustment of the patient to his illness and a new mode of life, particularly after discharge from a hospital or other facility to his own home, and to assist with the nutritional and rehabilitation aspects of care, it is definitely within the realm of public health. When it becomes primarily a continued bedside nursing service for a patient who will require that service for an indefinite period of time and when there is no other person available who might be taught to take over these functions, the nursing becomes a direct service rather than an educational or demonstration technic. Certainly it is a needed service, and it is a public health function to ascertain that necessary medical and related services are available to all members of the community. The extent to which the health department should assume responsibility for administering a straight service program for the entire population, or even for a restricted element of it, is the aspect which requires study. Regardless of the final decision I would agree that direct bedside care for the chronically ill may well be met by licensed practical nurses. Certainly it is a truism that we should use less skilled persons whenever they are adequately prepared to render the necessary service under adequate supervision.

The role of nursing home inspection is an important one for health departments, I believe. The State Department of Social Welfare, which has responsibility for the supervision of nursing homes at the State level, has brought about considerable improvement in the physical standards of nursing homes during recent years. However, it does not have the staff to carry out the frequent spot-checking, which is necessary if the homes are to be maintained at a high level of operation, or to establish the intimate contact with proprietors so necessary in guiding them to extend and improve their services. Our own recent studies of nursing homes in upstate New York indicated that with few exceptions medical and nursing service was fairly adequate. The most striking thing was that about one fourth of the patients had been in the homes for three years or more and that another third had been there between one and three years. Thus, these homes were not simply temporary abodes or places for disposition of patients with terminal illness. Aside from the fact that many patients were there for long periods of time, the majority were not mentally confused, were not incontinent, and were ambulatory. Yet social and recreational activities in the homes were very meager, rehabilitation services were almost nonexistent, and there was little evidence of planning for the patients other than for their remaining in the homes indefinitely. Nursing and convalescent homes have assumed an important role in the care of the elderly and chronically ill. Health departments are in an excellent position to lead a community program toward providing more dynamic social and recreational activities for the long-term patients in these homes. There is a definite need for more intensive social and rehabilitation planning on the part of attending physicians, health officers, and social workers concerned with the welfare of these patients.

Dr. Holla has indicated that rehabilitation appears in many aspects of the health department program, including public health education, the operation of orthopedic clinics, and the services of consulting orthopedic nurses and physical therapists to instruct families in supervised home care. This is one field in which there is a very definite need for health departments to cooperate with all other agencies concerned with the rehabilitation of disabled persons.

Public health nurses especially may play a very important role in the identification of patients who might profit by a rehabilitation service but whose needs have not been recognized by persons responsible for their care. They also play an important role in the posthospital service, particularly in preparing the family and the community in meeting the patient's needs when he returns from the hospital and in maintaining the gains which have been achieved. In the demonstration project being conducted at the New York State Rehabilitation Hospital for public assistance recipients, these potentialities of health-welfare cooperation have been clearly demonstrated.

In closing, I would like to emphasize two statements from Dr. Holla's paper which must be borne in mind in the development of any geriatric program. First, preventive geriatrics begins long before the sixty-fifth year of life and indeed encompasses the whole adult health program if it does not extend further back than that. Second, it is essential that all members of the health department staff become and remain "geriatrics conscious" so that their work with the aging and the aged may be well directed and effective. This state of being "geriatrics conscious" may be achieved through inservice educational programs, through demonstrations, and, very important, by the example of the health officer himself. I do not like the frequently made statement that rehabilitation or geriatrics is an attitude or a belief. Rather, these are programs in which all participants must believe; at all times they must be conscious of the goals and objectives.

May I state at this time that it has been a sincere privilege to be able to discuss this important contribution to modern public health by a man who has served so long and so well as commissioner of one of the most highly organized county health departments in our State. Although he is now officially retired from that position and is serving as consultant and advisor to the Westchester County Health Department for a limited period of four months, we do not at all expect that he shall become in any way inactive. We expect to hear from Doctor Holla in matters of public health in the years ahead and wish him well in any new endeavors he may undertake.

Usually Fatal Skin Disease Controlled by ACTH

Further evidence of the value of corticotropin (ACTH) in treating a skin disease which usually results in death was reported in the March 24 *Journal of the American Medical Association.*

Dr. Richard B. Stoughton, Chicago, used the synthetic hormone for pemphigus vulgaris, a chronic and usually fatal disease of unknown origin. It causes blisters on the skin and involves the general health of the patient.

He gave corticotropin to nine patients for periods ranging from one and a half to four and a half years. All but one of the patients probably would have died of the disease if they had not received corticotropin.

Corticotropin never failed to suppress the blister formation, although it had no effect on the underlying cause of the disease. Side effects from the hormone were "surprisingly" few, Dr. Stoughton said.

All the patients had periods during which the disease process was quiet and required no corticotropin, but they also had flareups during which greatly increased doses were needed to control the disease.

Generally, however, dosage needs were "remarkably constant," which means treatment except for occasional hospitalization can be continued on an outpatient basis indefinitely, he said.

Adequate control of pemphigus vulgaris with corticotropin for indefinite periods of time seems entirely possible, Dr. Stoughton concluded.

RECENT ADVANCES IN MEDICINE AND SURGERY

A series of review articles dealing with medical progress

ROBERT TURELL, M.D., *Editor*

A Review of Modern Concepts of Pancreatic Disease

*Part I—The Etiology and Pathogenesis of Pancreatic Inflammation**

DAVID A. DREILING, M.D., AND HENRY D. JANOWITZ, M.D., NEW YORK CITY

(*From the Surgical and Medical Services of Mount Sinai Hospital*)

It is the purpose of this presentation to review the modern concepts of the etiologies and pathogenesis of pancreatic inflammatory disease.

Etiology

Since the classic papers of Archibald[1] and of Rich and Duff,[2] the etiology of pancreatic inflammatory disease has been the subject of a number of excellent reviews published by Dragstedt *et al.*,[3] Lewison,[4] Ravdin and Johnson,[5] and Ivy and Gibbs.[6] Whereas the earlier reports deal for the most part with the merits and inconsistencies of the common channel theory, the later communications present a broader view of multiple etiologies in the pathogenesis of pancreatitis. Indeed, Sterling recently enumerated 66 possible etiologic factors. This change in concept has resulted from a better understanding of the physiologic mechanisms in pathogenesis and reflects an attempt to coordinate and simplify the multiple factors apparently operative in the diverse clinical forms of pancreatitis. Although there might be some objection to the comparison of etiologic mechanisms in such divergent clinical syndromes as acute hemorrhagic pancreatitis and the chronic inflammatory fibroses seen in nutrition and mechanical disorders, there is experimental, pathologic,[7] and clinical evidence[8] that chronic pancreatitis represents the summation of pathologic residua of repeated attacks of acute pancreatic inflammation, either of clinical or subclinical severity. In Table I an attempt has been made to classify the etiologic factors recognized in the pathogenesis of pancreatic inflammation and to correlate these with the clinical or experimental varieties of pancreatitis in which each factor is operative.

Infectious Factors

No single infectious agent has ever been isolated from all cases of acute pancreatitis, nor has the transfer of serum, nasal secretions, or duodenal juice from patients with pancreatitis to healthy individuals resulted in pancreatitis.[9] Nevertheless, bloodborne infection as a cause of pancreatitis has been proved experimentally by transmission of Coxsackie virus in animals,[10] and clinically, witness its presence in typhoid fever,[11] scarlet fever,[12] and mumps.[13]

Although direct drainage of infection from the lymphatics of a diseased gallbladder has been

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* "Part II—The Physiologic Basis of Therapy in Pancreatitis" will appear in the October 15, 1956, issue of the Journal.

TABLE I.—Etiologic Factors in Pancreatitis and the Corresponding Clinical and Experimental Varieties

Etiologic Factor	Clinical Variety	Experimental Variety
Infectious	Mumps ? Cholecystic disease	Coxsackie virus
Mechanical Common channel Obstruction-hypersecretion	Acute hemorrhagic, edematous, and necrotic pancreatitis Chronic pancreatitis Cholecystic disease Choledocholithiasis, Odditis ? Alcoholism Chronic cystic fibrosis Hydatid, Clonorchis, and Ascaris infestation	Ductal ligation-stimulation Ductal injection
Metabolic-nutritional	Essential hyperlipemia Hemachromatosis Siderosis (Cooley, sicklemia) Kwashiorkor Alcoholism, cirrhosis Sprue, ulcerative colitis, diffuse jejunoileitis ? Pregnancy	Ethionine Protein-deficient feeding
Vascular	Diabetic ketosis Terminal pancreatitis (arteriosclerosis, coronary) Periarteritis, lupus	Arterial ligation Bile pancreatitis
Toxic	Methyl alcohol poisoning	Zinc poisoning Alloxan Cobaltous chloride poisoning
Allergic	Periarteritis nodosa	Arthus sensitization Shwartzman sensitization
Traumatic	External trauma Operative trauma	Incisional Ductal transection
Unclassified	Pregnancy Hodgkin's disease Electric shock	

discarded as a pathway,[14] the common association of chronic gallbladder disease and acute pancreatitis and, what is more salient, the beneficial effect which eradication of biliary tract disease has on some instances of coexisting pancreatitis[15] argue strongly for an infectious origin of pancreatic inflammation. The incidence of biliary tract disease in acute pancreatitis has been reported as high as 70 per cent, and about 50 per cent of these patients have biliary tract stones.[16] Indeed, cholelithiasis is six times more prevalent in patients with pancreatitis than in unselected autopsy material.[16]

The manner in which biliary tract disease predisposes to or incites pancreatitis has been the subject of some debate. The proponents of the common channel theory have argued that infection is spread to the pancreas via the bile, so that biliary reflux is the responsible agent.[17] Others have suggested that chronic biliary tract disease affects the pancreas by reflexly inducing pancreatic duct and sphincter spasm.[18] Some light is shed on the problem by the results of experimental studies which show that (1) while the injection of bacterial suspensions into the pancreatic duct will cause pancreatitis,[17] the injection of sterile solutions will have the same effect,[2] and (2) while the mere presence of bacteria in the pancreatic duct does not always result in pancreatitis,[3] it occasionally does. Moreover, bacteria, when combined with other factors which initiate pancreatitis, always markedly increase the severity of the pathology.[6]

Thus, while infection as a primary factor is probably of minimal importance in the etiology of pancreatitis,[3] its secondary role may be considerable in contributing to the clinical severity of associated pancreatitis. This concept has been recently stressed by Persky[19] as a conclusion drawn from the beneficial effects of antibiotics on the course of clinical and experimental pancreatitis.

Mechanical Factors

The importance of a mechanical factor in the pathogenesis of pancreatitis has been generally accepted. It was first stressed by Opie[20] who propounded his "*common channel theory*" of pancreatitis from the observation of acute pancreatitis in a patient in whom a small calculus had become impacted in the papilla of Vater. Opie postulated and the subsequent adherents of his thesis[1,5,21] supported the concept that in such anatomic situations it was the retrograde passage or reflux of bile into the pancreatic duct which initiated the pathologic process, either through the introduction of infection or by chemical activation of the pancreatic ferments. However, the significance of "the bile factor in pancreatitis"[22] has been challenged from the very beginning because of observations which showed that:

1. Whereas clinically pancreatic juice can be demonstrated in the cholecystal and choledochal bile,[23,24] pathologic and chemical evidence of the presence of bile in the pancreatic duct system of patients with pancreatitis is lacking.[25]
2. The secretory pressure relations in the biliary and pancreatic tracts argue against the probability of biliary reflux.[26]
3. The experimental diversion in dogs[27] and goats[28] of the entire biliary flow through an unobstructed pancreatic duct system fails to produce pancreatitis.
4. Pancreatitis occurs in patients in whom the common duct and pancreatic duct enter the duodenum separately so that biliary reflux is not possible.[2,29-31]

On the other hand, the bile factor cannot be completely discarded. Thal[32] has recently demonstrated that the presence of bile in the pancreatic ducts and interstitial tissues may initiate pancreatitis through a vascular effect, i.e., by inducing vascular stasis by capillary wall injury and arteriolar spasm. Significant also is the beneficial influence on the symptoms in chronic pancreatitis which Bowers[33] has noted in patients in whom bile is completely diverted from the sphincteric area by a choledochojejunostomy.

The anatomic evidence cited in favor of the common channel theory has been the high incidence of this configuration in autopsy material and the repeated visualization of the pancreatic ducts in patients with pancreatitis by cholangiography performed through the common duct or through a T tube. Ivy's and Gibbs's[6] analytic summary of the literature on these points revealed that the anatomic common channel probably existed in about 70 per cent of the population and that biliary reflux was possible in about half of these. More recent studies by Kleitsch,[34] which take into consideration the important relations of the accessory pancreatic duct, have confirmed this estimate. Ivy and Gibbs[6] reported that the pancreatic ducts were visualized with operative or postoperative cholangiography in about 35 per cent of patients. Yet it is a curious fact that despite an extensive literature dealing with the visualization of the biliary tract in the intact individual, which has been made possible through the use of intravenous Cholografin, there are no reports of pancreatic duct delineation. The strongest anatomic evidence in favor of the common channel theory is presented in the clinical experience of Doubilet[21] who was able to prove the existence of a common channel from the evidence of cholangiography, operative observation, and the demonstration of pancreatic reflux into the common duct in 316 of 319 patients with pancreatitis. This prevalence of common channels in patients with pancreatitis, when contrasted with an estimated incidence of about 30 to 35 per cent in unselected series, requires elucidation by the critics of this etiologic hypothesis.

Because choledocholithiasis could account for only about 5 per cent of the cases of acute pancreatitis,[35,36] the common channel theory was modified by Archibald,[1] who showed that spasm of the sphincter of Oddi could also produce the necessary anatomic configuration. Since this observation the sphincter mechanism has assumed increasing importance in the pathogenesis, and the various factors which influence its tonicity have been implicated in the production of pancreatitis: (1) edema due to duodenal inflammation, (2) chronic inflammatory stenosis, Odditis,[18] and hypertrophy,[38] (3) psychic stimuli,[39] (4) reflex stimulation from lesions in the biliary tract,[40,41] (5) duodenal hyperacidity,[40] and (6) narcotics such as morphine[41] and various parasympathetic agents.[42]

A second modification of the common channel theory was made in 1936 by Rich and Duff[2] whose studies, like those of Mann and Giordano,[22] demonstrated that it was not bile per se which initiated experimental pancreatitis but rather the pressure under which bile or other substances were injected into the pancreatic duct. When these pressures were great enough, over 500 mm. of water, the pancreatic ducts were ruptured, and pancreatitis ensued. Rich and Duff[2] stressed that the effective pathogenetic factor in patients with anatomic common channels who developed pancreatitis was the *pancreatic* *duct obstruction* rather than the biliary regurgitation. They reported pancreatic duct narrowing due to metaplasia of the ductal epithelium in 13 of 24 patients with acute hemorrhagic pancreatitis and in 18.6 per cent of 150 consecutive autopsies. The concept of ductal metaplasia has not gained wide acceptance because of the frequency with which it has been observed in normal postmortem glands and because of its rarity in patients dying of acute pancreatitis.[43] On the other hand, the concept of pancreatic duct obstruction as the mechanical etiology of pancreatitis has been generally acknowledged.

The importance of pancreatic duct obstruction in the genesis of pancreatitis is illustrated by experimental procedures in which, following ligation of the ducts of Santorini and Wirsung, a stimulus to pancreatic secretion is given. Popper and Necheles[44] produced pancreatitis by feeding or administering secretin; Lium and Maddock[45] and Wener *et al.*[46] used Mecholyl as the stimulus. With rising intraductal pressures due to *secretion against obstruction*, there occurs a rupture of the pancreatic duct radicals and an escape of enzymes into the tissues and into the bloodstream.[47] Pancreatic duct obstruction per se is insufficient to produce pancreatitis. Ligation of the ducts merely leads to pancreatic fibrosis and atrophy. However, when either active secretion or interference of blood flow are added to ductal obstruction, acute pancreatitis regularly follows.[48] The ultimate effect of pancreatic duct obstruction is the development of abnormally high pancreatic duct pressures. These *high pressures* are the basic means of producing pancreatic duct rupture and are illustrated by the pancreatitis seen after cholangiography.[49]

The clinical evidence in favor of pancreatic duct obstruction as an etiology in pancreatitis arises from:

1. The demonstration of pancreatic duct dilation and obstruction due to calculi and fibrosis in postmortem cases of pancreatitis.[50,51]
2. The occurrence of chronic inflammatory fibrosis in parasitic infestations, such as Ascaris, Clonorchis, and Echinococcus disease, in which the pancreatic ducts are blocked by parasites.[52]
3. The beneficial effect of surgical procedures which relieve this obstruction on the course of clinical[53–55] and experimental[56] pancreatitis.

Chronic cystic fibrosis of the pancreas is a congenital disorder in which obstruction of the duct system is of etiologic significance. This obstruction is due both to developmental anomaly[57] and to the inspissation of a viscid pancreatic secretion.[58] It has been suggested that fibrocystic disease is due to a complete lack of secretin in the duodenal mucosa.[59] However, subsequent study of postmortem material has failed to corroborate this contention.[60]

The older view of cystic fibrosis as a disease characterized by steatorrhea due to pancreatic fibrosis, bronchitis and repeated pulmonic infections due to pulmonary fibrosis, malnutrition, and death within the first years of life,[61] has been modified by the reports of patients with normal or partial pancreatic function,[62] by the observation of survival to adult life,[63,64] and by demonstration of functional disturbances in the liver and sweat glands.[65] Di Sant'Agnese[65] believes cystic fibrosis to be a generalized disease of the exocrine glands. It is of interest to note, moreover, that inadequate protein diets in animals[66] and in man[67–69] have been associated with cystic and fibrotic changes in the pancreas.

Another clinical variety of pancreatitis in which ductal obstruction appears to be an etiologic factor is the pancreatitis associated with *alcoholism*. This relationship has been stressed since Friedreich's[70] description of the "drunkard's pancreas" in 1878. Much has been written concerning the high incidence of acute alcoholism in acute pancreatitis and of chronic alcoholism in chronic pancreatitis, the latter ranging from 25 to 75 per cent in reported series.[71] Others[6,7,72,73] have commented on the startling frequency with which acute alcoholism preceded or appeared to precipitate attacks of acute pancreatitis. That mild attacks of pancreatic edema and even subclinical episodes of pancreatitis occur in acute alcoholism is suggested by reports of frequent blood amylase elevations in alcoholics with alcoholic gastritis and delirium tremens.[74,75] The cumulative effect of such episodes is the chronic pancreatic fibrosis of the chronic alcoholic.[76]

The mechanism whereby alcoholism incites pancreatitis has been much debated. Egdahl[35] suggested that gastroduodenitis might be responsible for the pancreatitis. Probstein[77] believes that alcohol is toxic to the pancreas and that *alcoholic pancreatitis* is a distinct clinical entity differing in etiology from the nonalcoholic. While methanol can be shown to produce toxic lesions in the pancreas, there is no experimental evidence to show that ethanol is capable of so doing.[77] Myers and Keefer[78] advanced the following possibilities:

1. That alcohol in the blood might stimulate or damage the pancreas directly.

2. That duodenal inflammation might obstruct or infect the pancreatic ducts.

3. That persistent vomiting might cause regurgitation of duodenal contents into the pancreatic ducts or might cause rupture of the pancreatic ductules directly.

4. That alcohol may cause vascular congestion and capillary hemorrhage in the pancreas.

Orally ingested alcohol was shown to stimulate pancreatic secretion by Gizelt[79] who believed this action to be the summation of direct stimulation of the gland by the absorbed drug, of direct stimulation of secretin in the duodenum, and of an indirect stimulation of secretin secondary to alcohol-induced acid production in the stomach. However, Dreiling *et al.*[80] demonstrated that intravenous ethyl alcohol in man neither stimulated the pancreatic flow nor had a deleterious effect on patients with or without pancreatitis. Brooks and Thomas[81] confirmed experimentally the inability of alcohol to stimulate pancreatic flow directly, denied that it stimulated the formation of secretin in the duodenum, and attributed its entire pancreatic secretagogue action to its acid-forming properties. The local effect of alcohol in the duodenum and of the alcohol-induced gastric acidity appears to be duodenitis, edema of the papilla, and intense spasm of the spincter of Oddi,[74,82] actions which synergistically produce an obstruction to pancreatic flow.

An attempt to correlate these physiologic effects of alcohol has lead to the hypothesis[80,83] that following a large alcoholic intake the pancreas would be stimulated via the acid-secretin mechanism to secrete a large volume of juice into a duct obstructed by alcohol-induced papillary edema and sphincter spasm. This mechanical sequence of events is similar to that postulated for the clinical pancreatitis observed to follow gluttony and to the experimental type of pancreatitis produced by Popper[44] and Lium[45] by stimulation of the pancreas after pancreatic duct ligation. Cogent as the mechanical hypothesis may appear, the fact that the severe dietary deficiencies which are associated with chronic alcoholism may contribute significantly to the chronic pancreatic inflammatory changes found in these individuals must not be overlooked.[84-86]

Metabolic and Nutritional Factors

There is abundant evidence that metabolic and nutritional factors are of etiologic significance in the pathogenesis of pancreatitis. Clinically, pancreatitis has been described in such *metabolic* disorders as hemochromatosis,[87] generalized siderosis as seen in sicklemia or in Cooley's anemia,[88] and essential hyperlipemia.[89] The pancreatic inflammatory changes in hemochromatosis and generalized siderosis are due to the irritating effect of organic iron deposited in the interstitial and glandular tissue of the pancreas. In about half the cases of hemochromatosis impaired external secretion may be demonstrated.[87]

The relationship of abnormal fat metabolism to pancreatitis is more obscure. To be sure, transient hyperlipemia is observed in acute pancreatitis, and hyperlipemia, fatty infiltration of the liver, and depletion of the fat reservoirs have been reported in chronic external pancreatic deficiencies[90] and in chronic pancreatitis.[91,92] These phenomena have been ascribed to "lipocaic" deficiencies and to hyperlipasemia. In Klatskin's cases,[89] however, the hyperlipemia clearly preceded the pancreatitis and did not result from it. It has been suggested that plugging of the pancreatic arterioles by fat emboli is responsible for the pancreatitis.[89]

Experimentally, the interference with protein metabolism by ethionine[93-95] induces a metabolic pancreatitis. This should be considered metabolic rather than toxic inasmuch as its pathogenesis may be prevented by the simultaneous or prior administration of methionine.[96]

The *nutritional* etiology of pancreatitis appears to implicate a protein deficiency as the inciting factor.[97] Clinically, pancreatic fibrosis has been seen in the protein deficiency states of kwashiorkor,[68] ulcerative colitis,[63,98] diffuse jejunoileitis,[68] sprue,[68] cirrhosis,[86] and other malnutrition syndromes.[11,69] Fibrosis and cystic changes in the pancreas have been produced experimentally in animals fed a high-fat, low-protein diet.[66,92] Finally, a nutritional factor has been considered to contribute to the pancreatitis of alcoholism[6,80] and may play a role in the pancreatitis which has been noted to follow pregnancy.[99]

Vascular Factors

A vascular factor in pancreatitis has been indicated both by such vascular and hemorrhagic phenomena as phlebitis, venous thrombosis, hemorrhage, purpura, and blood coagulation aberrations which are associated with pancreatitis[36] and by the experimental demonstration that interference with pancreatic blood flow not only may initiate pancreatitis but also may increase the extent of pathology induced by other etiologic agents.[100] Thus, Popper *et al.*[48] were able to convert pancreatic edema into pancreatic necrosis when, in addition to stimulating an obstructed gland, ischemia was induced by arterial ligation.

The mechanisms whereby interference with pancreatic blood flow has been assumed to occur in clinical pancreatitis include:

1. Venous stasis due to mechanical compression from edematous interstitial tissues. This mechanism must be rare since in mumps where the etiology is infectious in type, the pancreatitis is edematous in form, fat necrosis and hemorrhagic pancreatitis almost never supervening.[101]
2. Venous thrombosis secondary to enzymatic[102] or bile-induced venous inflammatory reaction.[32]
3. Vascular spasm due to neurovascular reflex (viscerovisceral),[103,104] to localized arteriolar inflammation as in periarteritis nodosa and lupus erythematosus,[105] and to an antigen-antibody reaction.[106,107]
4. Arteriolar obstruction due to sclerosis.[89,108]
5. Arteriolar rupture due to arteriolosclerosis (pancreatic apoplexy) or to erosion by activated ferments.[109]
6. Peripheral vascular shock.[110,111]

The vascular factor is thought to be the operative agent in "minimal focal pancreatitis,"[108] in the pancreatitis associated with diabetic coma,[6,110] in the "terminal acute pancreatitis" found incidentally at postmortem in elderly patients dying of other causes, notably coronary occlusion,[111,112] and in the acute pancreatitis reported following aortography.[113]

While it is obvious that the vascular factor as the sole initiating etiology of pancreatitis must be rare indeed, its role as a contributing agent and the one which may critically determine the extent of pathology is significant.

Toxic, Allergic, and Unclassified Factors

Pancreatic *toxins* include such substances as methyl alcohol,[77,80] alloxan,[114] zinc oxide,[115] cobaltous chloride,[116] and bacterial toxins.[67,117] Although it is true that these substances can be used in the production of experimental pancreatitis, there is little evidence of their significance in the pathogenesis of human pancreatitis.

With the exception of a report by Shaffer,[118] there has been no study implicating or evaluating *allergy* as an etiology in clinical human pancreatitis. Shaffer described three interesting cases in which the diagnosis of acute pancreatitis was made surgically, in which the attacks of abdominal pain were associated with elevations of the blood amylase, eosinophilia, and generalized urticaria, and in which relief of pain and other symptoms was obtained with ephedrine and pyribenzamine. In the experimental field Thal has produced pancreatitis by the Shwartzman and Arthus reaction.[106,107] He is of the opinion that this mechanism, through its effect on pancreatic blood flow, may have some significance in clinical pancreatitis.

Among the miscellaneous clinical types of pancreatitis in which the mechanism is poorly understood are (1) the pancreatitis of pregnancy,[99] (2) the pancreatic lesions in Hodgkin's disease,[119] and (3) the pancreatitis associated with electric shock therapy.[120]

Traumatic Pancreatitis

Pancreatitis may follow external abdominal trauma[121,122] and may manifest itself by the development of a palpable mass due to pseudocyst,[123] by pleural effusion,[123] by chylothorax,[124] and/or by elevation of the blood amylase.[125] Pancreatitis has also been observed to follow operative procedures such as splenectomy,[126] sphincterotomy,[127,128] and subtotal gastrectomy[129] in which pancreatic ferments are released locally into the tissues within and about the pancreas due to injury or obstruction in the pancreatic duct system[130,131] or due to interference with its blood supply.[132] On the other hand, pancreatitis has been observed following the surgery of organs at some distance from the pancreas.[133] Such cases may have a vascular etiology.

Pathogenesis and Mechanisms of Symptomatology

Pathogenesis

Pancreatitis is a chemical autolytic process whose pathogenesis is well documented from postmortem, operative, and experimental studies.

The underlying mechanism in the production of pancreatic inflammation is the escape of activated enzymes into the interstitial tissues, and the earliest responses to this are edema and vascular engorgement of the pancreas.[134] Apparently, the interstitial fluid within the pancreas contains potent enzyme inhibitors because many cases of pancreatic edema are seen surgically without evidences of necrosis.[135] Furthermore, the protease inhibitors appear to be more effective than the antilipase factors; witness the frequent discovery of fat necrosis in and about the pancreas in the absence of evidences of hemorrhage and tissue digestion.[135,136]

Edema may occur anywhere in the gland but is apt to be more severe in the head. The region affected becomes pale and indurated and its blood vessels progressively more congested.[36] The edema fluid, which exudes into the interlobular connective tissue and into the acini, is an inflammatory exudate containing polymorphonuclear leukocytes and round cells. In most instances this inflammatory edema subsides spontaneously, but in a small percentage of cases the inflammatory process proceeds to hemorrhage, necrosis, and suppuration or regresses to chronicity.[5]

Progression of pancreatic edema to hemorrhagic necrosis is in part the result of swelling of the pancreas within its capsule, a process which further increases or initiates pancreatic duct obstruction if this is not already present and which may enhance the vascular engorgement until vascular ischemia supervenes. Ischemia may also be the result of reflex vasospasm due to inflammatory irritation of the celiac plexus. As elsewhere, ischemia superimposed on an inflammatory process results in infarction, i.e., pancreatic hemorrhage and necrosis. Arterial and venous thrombosis and erosion of major blood vessels by activated pancreatic ferments may result in hemorrhage into the pancreas, the retroperitoneal tissues, and even into the bowel.[36] The most severe hemorrhage, pancreatic apoplexy, converts the gland into a boggy hematoma. Collections of blood may burrow beneath the capsule of the gland, along the tissue planes into the gastrohepatic ligament, and retroperitoneally into the lesser sac and flank. In this manner necrosis and hemorrhage may extend into the left subphrenic space, along the aorta into the pelvis, and to the renal capsule. Further dissection along these spaces leads to visible hemorrhagic areas in the costovertebral angle, Turner's sign,[137] and, within the umbilical region, Cullen's sign.[138]

In pancreatic necrosis the pancreas presents numerous yellow, gray or black, and red areas according to the extent and severity of the processes of fat necrosis, infarction, and hemorrhage which occur concomitantly but in different degrees in different zones. Microscopically, varying stages of cell disintegration can be seen. The cells are pale, and their nuclei stain poorly. In most extensively damaged regions all structure is lost. Surrounding the areas of necrosis and demarcating them from normal tissues is a zone of debris and a layer of inflammatory cells. Liquefaction of the dead tissue, hemorrhagic collections, and retention of the blocked pancreatic secretion gives rise to cystic structures within the zones of demarcation. The formation of cysts lined with inflammatory cells is a curious feature of the pathology of acute pancreatitis. These cysts may coalesce to form large sacs displacing the stomach, duodenum, or colon. They are termed psuedocysts to differentiate them from true pancreatic cysts which are formed within the pancreatic duct system and are lined by epithelial cells.[139]

Collections of blood, digested tissue, and pancreatic secretions accumulate in the peritoneal cavity as the classic ascitic exudate of acute pancreatitis described as "beef broth." The peritoneal effusion and peritoneal irritation during the early stages of acute pancreatitis are most marked in the lesser sac and at the base of the transverse mesocolon. This localized chemical peritonitis often results in a segmental paralytic ileus of the first jejunal loop which has been described as a diagnostic sign, the "sentinel loop" in acute pancreatitis.[140] Pleural effusions in the left chest are the reaction to inflammations under the left diaphragmatic leaf.[123]

The local pathology of pancreatitis, thus, at the inception is the result of edema, hemorrhage, and the onslaught of the biochemical agents, the pancreatic ferments. As the disease progresses without resolution, superimposed infection, especially by the intestinal bacteria, the colon-aerogenes group, produces suppuration and results in pancreatic abscesses as well as purulent collections in the various abdominal fossae, such as the lesser sac, the cul-de-sac, and the left subphrenic space. The diffuse peritonitis, previously chemical in nature, now becomes infectious and results in the formation of adhesions over the gallbladder, the liver, the stomach, and colon. Typically, the foramen of Winslow is obliterated.

Resolution may occur with fibrosis and calcification. The edema and other inflammatory changes subside during the first week of illness. Areas of necrosis are autolyzed and replaced by fibrous tissue. Cellular proliferations attempt to restore normal glandular architecture.[141] Occasionally, with obstruction of a duct by fibrosis or by the deposition of a calcium stone within its lumen, a retention cyst may form.[142] By the end of the second week there may be such histologic repair that the pancreas appears normal. On the other hand, in the more severe forms resolution is delayed, and residual fibrosis and acinar disruption persist.[5]

The pathology of chronic pancreatitis is the cumulative result of repeated acute, subacute, and even subclinical attacks.[8] The glandular parenchyma, subjected to repeated cycles of necrosis, fibrosis, and calcification, is gradually replaced by fibrous tissue.[7] Although islets are destroyed in this process, insular deficiency occurs relatively infrequently and late in the clinical course since the pathology is always most severe in the head and least marked in the pancreatic tail where the islet tissue is concentrated.[143] Calcific areas are found throughout the parenchyma and within the ducts. Calcium is deposited in areas of fat necrosis as the insoluble salts of the liberated fatty acids. Within the ducts the precipitation of calcium salts occurs, as Edmondson[144] has shown, whenever its ionic concentration exceeds the solubility constant.

Mechanisms of Symptom Manifestation

Pain and shock are the outstanding symptoms of acute pancreatitis; pain and metabolic disturbances dominate the clinical picture of chronic pancreatitis.

The *pain* in acute pancreatitis results from distention of the pancreatic capsule, retroperitoneal extravasations, chemical peritonitis, and obstruction or spasm in the pancreatic ducts, the extrahepatic biliary tract, and the duodenum. The localization of pancreatic pain from different areas of the gland extends across the epigastrium from right to left in accordance with position of pathology. Pain from any region in the pancreas may be transmitted to the mid-back. These pain patterns were derived from the experimental studies of Bliss *et al.*[145] who stimulated various portions of the gland with electrodes, and from the observations of Chapman *et al.*,[146] who reproduced pancreatic pain patterns by balloon distention of the biliary ducts, the duodenum, and the upper small intestines.

The systemic effects in acute pancreatitis are presumed to result from the absorption of activated pancreatic ferments and the products of pancreatic digestion into the bloodstream.[147] *Shock* is the outstanding systemic phenomenon. It may be so profound that death supervenes within a few hours. The shock in acute pancreatitis results from the combined effects of the following physiologic alterations:

1. Hypertrypsinemia,[147,148] the presence of which is indicated by increases in the serum proteolytic activity and decreases in fibrinogen.[148,149]

2. Alterations in blood coagulability with hemorrhagic and thromboembolic phenomena.[150]

3. Marked contraction of the blood volume, with deficits approaching 30 per cent, presumed to be the result of fluid exudation and hemorrhage.[151]

4. Marked disturbances in the electrolyte balance, including lowering of the blood calcium, potassium, and sodium levels.[144,152] The depression of calcium is due to its fixation by fatty acids in areas of fat necrosis. When the blood level falls below 7 mg. per cent, tetany may be manifested.[144] Tetany has even been reported in a patient with normal serum calcium level; in this case it was ascribed to the binding of ionic calcium by the increased concentration of fatty acids in the blood.[153] The hypocalcemic tetany of pancreatitis responds to the intravenous administration of calcium; normocalcemic tetany does not but is relieved by the administration of parathyroid hormone.[153] The changes in blood potassium and sodium are not as well understood. They appear to be responsible in part for the abnormal electrocardiographic changes seen in acute pancreatitis.[154]

5. Acute coronary insufficiency due to thrombosis and electrolytic disturbances.[112]

6. Acute adrenal insufficiency due to stress or to actual bilateral adrenal hemorrhage. The steroid deficit plays a role in the development of electrolyte imbalance.[147]

Recognition of these processes in the production of shock in pancreatitis along with adequate measures to prevent and/or correct them has been one of the recent major advances in the treatment of acute pancreatitis.

In nonfatal cases evidence of other metabolic derangements can be uncovered. Disturbance of insular function causes hyperglycemia, glycosuria, and impaired glucose tolerance in about 50 per cent of the cases.[143] These changes, although transient in the acute case, with repeated attacks may progress to a true "pancreatic diabetes."

Inflammatory and degenerative changes can be demonstrated pathologically in the liver.[155,156] Abnormal cephalin flocculation, hypoprothrombinemia, and depression of the blood fibrinogen are other evidences of liver damage.[157] *Jaundice* is seen in about 25 per cent of patients with acute pancreatitis. In addition to hepatic inflammation, jaundice may result from obstruction of the terminal common duct as it traverses an edematous pancreas as well as from concomitant exacerbation of pre-existing biliary tract disease.[158] Silvani has reported reversible impairment of function in normal gallbladders during acute pancreatitis.[159]

Alterations in *lipid metabolism* during acute pancreatitis are poorly understood. Hyperlipemia and grossly opalescent serum have been regularly observed. Lynch[160] has cited patients in whom there was evidence of widespread fat embolization and lipoid nephrosis.[160] The changes in fat metabolism probably result from hyperlipasemia. The evidence for existence of this state depends not only on the demonstration of increases in serum esterase activity but also on the occurrence of disseminated subcutaneous fat necrosis.[161]

Pulmonary atelectasis and pneumonia occur frequently due to abdominal distention and pleural effusion. Severe pleurisy has been seen in those patients in whom the pleural exudate contains high concentrations of pancreatic enzymes.[162] These ferments are thought to reach the pleural fluid from the ascitic exudate by passage through transdiaphragmatic lymphatic channels.[161,162]

The *vascular* phenomena in acute pancreatitis include peripheral hemorrhage, thrombosis, thrombophlebitis, and altered blood coagulation.[163] Although hypertrypsinemia and alteration of liver function have been credited with the pathogenesis of these phenomena, many physiologic facets of the hematologic and vascular effects remain to be explained.[149,163,164]

The clinical picture of chronic pancreatitis is dominated by pain, the mechanical effects of pancreatic fibrosis, and by the deficiency of both internal and external pancreatic secretion. The pain in chronic pancreatitis arises from distention in the pancreatic duct system when, following stimulation by food or medications, the intact portions of the acinar parenchyma secrete into a duct system obstructed by calculi or inflammatory stenosis. Pain may also result from repeated minimal acute exacerbations of the inflammation.

Pancreatic fibrosis may obstruct the common duct and the duodenum or pylorus, producing chronic icterus and persistent vomiting. Pain and interference with intestinal activity may also result from large pseudocysts which encroach on the adjacent viscera.

Glycosuria, diarrhea, *steatorrhea*, and azotorrhea are the terminal manifestations of digestive disturbances occasioned by the diminished secretory capacity of the chronically diseased pancreas. *Malnutrition* and wasting are their clinical effects.

Summary

This review has described in detail the various etiologies of pancreatic inflammations. The pathogenesis of acute and chronic pancreatic disease has been discussed. The physiologic basis of the mechanisms of symptom manifestation has been presented.

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There is disinterestedness in the world. . . . We are not all arrayed in two opposite ranks, the offensive and defensive. Some few there are who can walk between; who help the needy as they go; and take no part with either side.—Martin Chuzzlewit, CHARLES DICKENS

Chlorpromazine (Thorazine) Hepatitis

Report of Three Cases

GEORGE E. MACDONALD, M.D., BOSTON, MASSACHUSETTS

(*From the New England Deaconess Hospital*)

Since its introduction into this country chlorpromazine (Thorazine) has been used extensively in the treatment of various disorders. Its effectiveness in neuropsychiatric problems, nausea and vomiting, hiccoughs, and as a potentiator of narcotics has been well established.[1-3] However, the increasing number of reports indicating undesirable and serious complications from the use of this drug must serve as a warning against indiscriminate use. In addition to the frequent minor side-effects associated with its sedative action, the more serious problems of jaundice and agranulocytosis have been reported.[4-11]

The following three cases are typical of the deranged liver function that can result from the use of Thorazine.

Case Reports

Case 1.—Mr. W. C., a forty-one-year-old, white male, was admitted to the New England Deaconess Hospital on January 28, 1955, for electroconvulsive therapy. Severe depression had been present for several months and had not responded to medication and psychotherapy. He had been taking 25-mg. tablets of Thorazine three times daily from January 11 to January 21, 1955. It was discontinued at that time. On admission to the hospital he was given 25-mg. tablets of Thorazine before meals and 50 mg. at bedtime, and this was repeated during the following day. He received one electroconvulsive treatment on January 29.

On the following morning he complained of headache, pain behind the eyes, and chills and was found to have a fever of 103 F. Complete examination was unrevealing except for slight injection of the pharynx. Chest and sinus x-ray examinations were normal. Two blood cultures were negative. Despite Achromycin, 250 mg. every six hours, he continued to complain of severe frontal and retro-orbital pain on the following day. Although the optic disks seemed slightly blurred, a neurologic consultant considered this to be associated with a high degree of myopia. Spinal fluid examination was normal. He continued to have fever up to 104 F., and on February 2, 1955, the urine was noted to be dark with a 4 plus test for bile. The serum bilirubin was 1.9 mg. per cent, white blood cell count 10,500 with 25 per cent eosinophils, cephalin cholesterol flocculation test 2 plus in forty-eight hours, alkaline phosphatase 8 Bodansky units, and serum cholesterol 194 mg. per cent. On the following day his liver had become palpable just below the costal margin and was tender. Nausea and headache were the most prominent symptoms.

On February 7 the serum bilirubin was 3.9 mg. per cent, alkaline phosphatase 7 Bodansky units, cephalin cholesterol flocculation negative, cholesterol 444 mg. per cent, and the eosinophilia had decreased to 7 per cent. His stools were clay colored. At his request he was discharged to continue his convalescence at home under the care of his local physician on February 12, 1955. Some degree of jaundice associated with anorexia persisted for another month. Electroconvulsive therapy was continued at that time with a favorable response.

This case presents the usual features seen with Thorazine jaundice, i.e., grippelike symptoms and fever associated with the development of jaundice, eosinophilia, elevated alkaline phosphatase, serum bilirubin, and bilirubinuria with acholic stools. In contrast to most cases reported, this patient did have a 2 plus cephalin cholesterol flocculation test which reverted back to negative after five days. The severity of his headaches raised the question of possible intracranial disease, but clinical evaluation and his subsequent course served to rule this out.

Case 2.—Mrs. R. E., a seventy-two-year-old, white female, had been taking 10-mg. Thorazine tablets three times daily beginning June 14, 1955, for chronic depression and recurrent vomiting. When seen on June 27, she had noted no improvement, and the Thorazine was discontinued at that time. When next examined on July 5, 1955, she was found to have slight scleral icterus associated with slight right upper quadrant tenderness just beneath the costal margin. A cholecystectomy had been performed for cholelithiasis in 1936.

She was admitted to the New England Deaconess Hospital on July 8, by which time the jaundice had increased. She had continued to have occasional vomiting. X-ray examination of the abdomen failed to reveal any opaque calculi in the right upper quadrant, and examination with barium by mouth showed no apparent abnormality of the upper gastrointestinal tract. The urine contained 3 plus bile; serum bilirubin was 5 mg. per cent, and cephalin cholesterol flocculations were 2 plus after twenty-four hours and 3 plus after forty-eight hours. The admission white blood cell count was 7,700. Unfortunately a differential count was not performed at that time. On July 12 the differential count was normal with only 1 per cent eosinophils. The jaundice gradually cleared over the following three weeks. On July 18 the cephalin cholesterol flocculation was 1 plus in forty-eight hours, serum cholesterol 268 mg. per cent, and alkaline phosphatase 17.5 Bodansky units.

Because of the severity of her anxiety state, electroconvulsive therapy was begun on July 13. After seven treatments this was discontinued because of the development of marked confusion. The latter gradually cleared, and at the present time her mental status is much improved, and there is no apparent residual liver damage.

Case 3.—Mrs. V. T., an eighteen-year-old, white female, was referred for evaluation because of jaundice of three days duration. She had had recurrent episodes of vomiting since childhood. Repeated x-ray examinations of the gastrointestinal tract were reportedly negative except for some evidence of irritability. These episodes usually were associated with periods of tension, and the most recent had begun two weeks prior to my examination. After a week of repeated vomiting she had been admitted to a local hospital for evaluation and remained for three days without any definite diagnosis being established. On the day following discharge she became jaundiced. Associated with it she had some anorexia and pruritus.

On admission to the New England Deaconess Hospital on July 18, 1955, she was undernourished and tense, had many psychoneurotic traits, and was moderately jaundiced. The liver edge was palpable just beneath the costal margin and was slightly tender. When the history had been obtained, the patient was asked specifically about any possible toxins to which she might have been exposed, injections, venipunctures, and also whether she had been taking any Thorazine. These she denied. However, the following laboratory data suggested otherwise: alkaline phosphatase 13.5 Bodansky units, serum bilirubin 7.8 mg. per cent, 4 plus bile in the urine, white blood cell count 12,800 with 8 per cent eosinophils, 1 plus cephalin cholesterol flocculation after forty-eight hours, serum cholesterol 279 mg. per cent. The findings seemed compatible with Thorazine hepatitis. The patient was shown a 10-mg. Thorazine tablet, and she then recalled having been taking these four times daily for two weeks on prescription by a local physician "for her nerves." This was corroborated by him. She had not taken any for five days prior to the appearance of jaundice.

Because of suggestive clinical and pathologic evidence that the hepatic changes due to Thorazine are on an allergic basis, she was given ACTH gel, 60 units intramuscularly daily for two days, then 30 units daily for two days, with rapid clearing of jaundice. She was discharged from the hospital on July 28, 1955, by which time the jaundice had entirely cleared, and she was feeling well. X-ray examination failed to reveal any evidence of opaque calculi in the right upper abdomen, and a gastrointestinal series was negative except for slight irritability of the duodenal cap without any associated deformity. She has continued to be free of symptoms.

The interesting features in this case were (1) the latent period between the time the Thorazine was discontinued and the appearance of jaundice, and (2) the jaundice of this patient who was given ACTH seemed to clear much more quickly than that of the previous two patients. This warrants further study.

Comment

Although Thorazine hepatitis is usually of short duration, there have been reports of jaundice persisting up to several months. Cases of agranulocytosis also have been reported, with fatality in one instance. Accordingly, the indiscriminate use of this drug is to be avoided. Specifically, it would seem advisable to avoid its use in the treatment of minor psychoneurotic problems.

Summary

Three cases of jaundice due to Thorazine are reported. One of these patients was acutely ill and had a prolonged convalescence with jaundice persisting for approximately one month. The latent period that can be present between the time of discontinuing the drug and the appearance of symptoms is stressed. In one case ACTH gel seemed to accelerate the return to normal liver function. In regard to the latter, further study is indicated.

51 Bay State Road

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General Hospital Admission X-rays

JAMES M. BLAKE, M.D., AND KENCIL L. MITTON, M.D., SCHENECTADY, NEW YORK

(*From the Departments of Medicine and Radiology, Ellis Hospital and Glenridge Sanatorium*)

The discovery and isolation of the unknown case of tuberculosis has been and continues to be the primary objective in the control of this disease. This objective will become increasingly important as the death rate and morbidity rate decline.

The population may be divided into four groups for the purpose of detecting significant cases of tuberculosis:

1. Those patients with symptoms of disease in the lungs who visit their physicians because of these symptoms. This is by far the most important group of individuals, not only because of the higher incidence of tuberculosis among them, but also because if tuberculosis is present and is the cause of their symptoms, they already are spreaders of the disease.

2. Those patients admitted to general hospitals. The symptoms of pulmonary disease and the actual presence of disease in the lungs may or may not have been the reason for admission to the hospital. The presence of pulmonary disease may merely have been coincidental to the actual reason for the hospital admission. This group of individuals is frequently symptomatic and under the observation of a physician. They are second in importance to the first group only from the point of view of classification.

3. Those individuals who have had close contact with a known case of active tuberculosis.

4. The apparently healthy individuals.

This discussion is concerned with the second group, that is, the routine admissions to general hospitals. Group studies on the prevalence of tuberculosis in general hospital admissions up to within the last two years have shown x-ray evidence of tuberculosis in from 2.8 to 8.1 per cent of the patients admitted. Of this group the presence of active tuberculosis has varied from 0.6 to 1.8 per cent. These studies have shown further that active tuberculosis in individuals x-rayed on admission to general hospitals has been from two to six times as productive in the yield of significant tuberculosis as have other types of mass x-ray examinations.

The detection of infectious, active tuberculosis and the isolation of the patient in the general hospital is of significance from many points of view. The protection of the hospital personnel by the proper isolation of the patient is obvious. The contributions to the care of the patient in the demonstration and discovery not only of tuberculosis but of nontuberculous diseases of the chest and cardiovascular system are also of importance.

The admission x-ray in this respect is of far greater value than are most other so-called routine laboratory procedures. It has been demonstrated in various studies that clinically significant abnormalities of the chest are found in from 10 to 15 per cent of all patients examined.

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TABLE I.—Ellis Hospital Admission X-rays

	Year	
	1948	1954
Number of adult admissions	11,487	11,281
Number of admissions x-rayed	8,734	8,641
Per cent of admissions x-rayed	76	76
Total x-rays	11,039	11,621
Diagnosis of admission x-rays by x-ray department		
Total abnormal diagnoses		
Number	1,599	1,452
Per cent	14.4	12.4
Total nontuberculous diagnoses		
Number	1,259	1,248
Per cent	11.4	10.7
Total active tuberculosis diagnoses		
Number	158	82
Per cent	1.4	0.70
Total inactive tuberculosis diagnoses		
Number	182	122
Per cent	1.6	1.04

TABLE II.—Follow-Up Study of Admissions Diagnosed Active and Inactive Tuberculosis in Relation to Total Number X-rayed

Diagnosis	Year	
	1948	1954
	ACTIVE TUBERCULOSIS	
Active tuberculosis		
Number	40	4
Per cent of total x-rayed	0.35	0.03
Inactive tuberculosis		
Number	35	8
Per cent of total x-rayed	0.32	0.06
	INACTIVE TUBERCULOSIS	
Active tuberculosis		
Number	2	1
Per cent of total x-rayed	0.01	0.008
Inactive tuberculosis		
Number	126	61
Per cent of total x-rayed	1.14	0.52

The normal practice of most physicians today is based on so-called routine examinations. Blood count, urinalysis, Wassermann, history, and physical examinations are basic procedures classified as routine in evaluating the patient's problem. The admission chest x-ray has become a part of the program of more and more progressive general hospitals throughout the State; therefore, one might say another so-called added routine examination is provided the patient and the physician as part of the first day's admission fee.

The significance and the value of the admission x-ray to the physician is in direct relationship to his utilization and interest. It is actually not infrequent to observe patients having multiple examinations to determine the diagnosis when the answer is photographically inscribed on the photoroentgenogram on the back of the chart.

There perhaps has been some reluctance in reference to the photoroentgenogram x-ray, based on opinions that the so-called small film is not entirely satisfactory for diagnosis. Certainly, one would not wish to make a final evaluation based on the small x-ray, but the error is almost always on the side of safety. It must be remembered that the value of any x-ray examination, small or large, is limited entirely to the interpretation which is placed on the shadows in that x-ray and the aid they give in guidance to other examinations and treatments.

The admission x-ray program at the Ellis Hospital was one of the earliest established in New York State, having been instituted in 1947. This program is under the direction of Dr. Kencil L. Mitton, director of the Department of Radiology, and is augmented by the diagnostic service from Glenridge Sanatorium. The initial interpretation of the x-rays is made by Dr. Mitton and his associates in the Department of Radiology. Any abnormal admission x-rays which they observe are submitted for review by the Chest Service, and follow-up studies are recommended accordingly. The recommendations of both the Department of Radiology and of the Chest Service are provided to the attending physician, and in the case of active tuberculosis, a report is also submitted to the Department of Health.

Tables I to III show a comparative study between the first full year of operation of this program and the last completed year of service, 1948 to 1954.

These comparative statistics would seem to augment the observation of the declining incidence of tuberculosis at present. It is hoped that this is correct and that the tendency will continue until this disease can no longer be considered of major concern. However, until the problem of immunity in tuberculosis is solved, the search for persons with unknown tuberculosis and the supervision of persons with known tuberculosis, who are spreaders of the disease, will continue to be the safeguard for keeping the death rate and the morbidity rate at a minimum.

The discovery of tuberculosis in mass surveys of the general population, in contrast to selected groups such as general hospital admissions, is calling for the examination of more and more individuals to find a single case of significant

TABLE III.—FOLLOW-UP STUDY OF ADMISSIONS DIAGNOSED ACTIVE AND INACTIVE TUBERCULOSIS

	Year	
	1948	1954
	ACTIVE TUBERCULOSIS	
Total cases	158	82
Active tuberculosis		
Number	40	4
Per cent	24.6	4.8
Inactive tuberculosis		
Number	35	8
Per cent	22.1	9.7
Nontuberculous		
Number	32	51
Per cent	20.2	62.1
Normal		
Number	32	6
Per cent	20.2	7.3
No record of follow-up		
Number	19	13
Per cent	12.0	15.8
Previously diagnosed		
Number	12	12
Per cent	7.5	14.6
	INACTIVE TUBERCULOSIS	
Total cases	182	122
Active tuberculosis		
Number	2	1
Per cent	1.09	0.82
Inactive tuberculosis		
Number	126	61
Per cent	69.2	50.0
Nontuberculous		
Number	9	7
Per cent	4.9	5.7
Normal		
Number	20	2
Per cent	10.9	1.6
No record of follow-up		
Number	25	51
Per cent	13.7	41.9
Previously diagnosed		
Number	30	38
Per cent	16.4	30.3

tuberculosis. This has reached the point today of almost insignificant yield. The search for tuberculosis in the future must be even more selective than it has been in the past.

If the declining incidence of tuberculosis continues and ambulant treatment of tuberculosis increases, the responsibility of the family physician toward the control of tuberculosis will become greater. Likewise, the responsibility of the general hospital will also be of more significance. The hospital will have to assume greater responsibility toward this problem in its community.

The follow-up study of tuberculosis or other disease of the lungs detected by such examinations is perhaps the most important phase of the program. The patients involved are under the care of their family physicians. The value of the examination, therefore, is of significance to him, and he is responsible for the follow-up study.

Chest x-ray programs are becoming more and more accepted as established procedure and are of significance to the physician and patient in relation to the diagnosis. Another serious consideration in the establishment of such programs is the physician's responsibility for follow-up evaluation, particularly when the findings in the growing rate of malpractice suits are considered. According to Louis J. Regan, M.D., LL.B., writing in the January, 1952, issue of the *Wisconsin Medical Journal*, "There are a large number of malpractice actions in the law reports which may be classified as 'insufficient treatment cases'. . . . Failure to use the x-ray at all, or failure to make sufficient use of the x-ray, has been the chief allegation in many malpractice actions." It seems reasonable, therefore, to point out that failure to give routine x-ray on hospital admissions may in the not too distant future be considered medical negligence."

Summary

1. The admission chest x-ray should be considered a routine examination and should be expected by the physician of each patient admitted to a general hospital.

2. Admission chest-x-ray examinations will aid in discovering more unknown disease than will any other so-called rountine examination.

3. The declining incidence of tuberculosis makes for greater difficulty in case detection.

4. Complacency about tuberculosis at this time is dangerous.

5. The family physician and the general hospital in any community must, it seems, assume an even greater responsibility in the future for the discovery and control of tuberculosis in their community.

6. The potential of malpractice as it pertains to admission x-rays may well become more significant in the future.

The best of healers is good cheer.—PINDAR

Disseminated Lupus Erythematosus

MILTON ELLER, M.D., F.C.C.P., FOREST HILLS, NEW YORK

(*From the Department of Medicine, Queens General Hospital, Jamaica, New York*)

THE group of diseases known as the "collagen diseases" has been progressively enlarged to include many apparently dissimilar clinical entities. Into that group have been placed many maladies which show similar lesions in the connective tissue, particularly rheumatic fever, rheumatoid arthritis, serum disease, and periarteritis nodosa, but from that perhaps an erroneous conclusion has been drawn that similar fundamental lesions imply a common etiology.[1]

In discussing the nature of the collagen diseases in general and of disseminated lupus in particular, we start with the problem of what constitutes the fundamental lesion.

The normal connective tissue is composed of cellular and extracellular elements. The cellular elements are fibroblasts, and the extracellular are fibrils of various kinds, including collagen fibers, reticulin, and elastin encased in a ground substance. The ground substance is a gel-like, polymerized, carbohydrate-protein complex which contains various polysaccharides, including chondroitin-sulfuric acid and hyaluronic acid, the only human mucopolysaccharide which does not contain sulfuric acid. The collagen fibers are made up of an insoluble protein consisting chiefly of three amino acids: glycine, proline, and hydroxyproline.

The collagenous tissue, however, is not merely a supporting structure but, with its bound water, also acts as a medium for diffusion and exchange of metabolites between the circulation and the cells. Alterations in the gel, therefore, cause a mucoid or fibrinoid degeneration of the ground substance with change in its staining qualities and swelling and disintegration of the collagen fibers. This is followed by infiltration with leukocytes, plasma cells, and lymphocytes and, finally, by fibroblastic proliferation leading to sclerosis. Thus the normal cell activity may be compromised.[1]

The lesions in lupus are located in the walls of the smaller arteries and arterioles of the skin, serous membranes, myocardium, endocardium, and kidneys, but it is the "wire-loop" glomeruli and typical verrucous endocarditis that appear to be specific manifestations of lupus.[1] The "wire-loop" lesion is essentially a thickened basement membrane of the glomerular loop which stains intensely with eosin and, according to Baggenstoss,[2] is the most significant lesion in the anatomic diagnosis of lupus, although he states that it has also been found occasionally in eclampsia, scleroderma, malignant nephrosclerosis, focal glomerulonephritis associated with subacute bacterial endocarditis, and diffuse glomerulonephritis.

In addition, lupus is further differentiated from the other collagen disorders by the hematoxylin-staining bodies in the tissues and the Hargraves' bodies found in the leukocytes of the bone marrow and peripheral blood.[1]

The view that the collagen diseases are allergic in nature was suggested by the great similarity between the fundamental lesion, mucoid swelling and fibrinoid degeneration, in lupus, periarteritis nodosa, and dermatomyositis and the lesions found in rheumatic fever, serum disease, experimental periarteritis, and periarteritis in patients dying from hypersensitive reactions to sulfonamides. In addition, there are marked clinical resemblances in the early stages between lupus and rheumatic fever, lupus and periarteritis nodosa, and rheumatic fever and rheumatoid arthritis. The favorable response of the collagen diseases to corticotropin and cortisone seems to indicate a common allergic etiology for these diseases, but the responses are nonspecific at best and limited and prove nothing regarding the cause of these diseases.[1] Other hypotheses regarding etiology have included a hormonal imbalance, as suggested by Selye and others, based on the preponderance of the disease in females and the fact that it may disappear in pregnancy and the production of abnormal gamma globulins.[3]

In an attempt to form a clearer picture of the nature of lupus, some of the symptoms and basic phenomena in the disease have undergone prolonged investigation. For instance, the anemia in lupus is usually due to retarded erythropoiesis, but occasionally an acquired hemolytic anemia is associated with the disorder and a positive Coombs test can be demonstrated.[4] The serum factor which produces the L.E. phenomenon can be separated from the substance which is absorbed on the red cells which gives the positive Coombs test.[5] This is presumably one of the serum globulins.

A marked thrombocytopenia is frequently found in lupus and may be associated with purpuric spots, petechiae, hemorrhagic vesicles and bullae, mucous membrane bleeding, and bleeding from the nose, gums, and gastrointestinal tract.[6] Splenectomy is usually followed by a sustained rise in the platelet count and amelioration of the symptoms, although there is little to suggest that the platelet deficiency is secondary to disease of the spleen. The thrombocytopenia is actually thought to be due to some serologic abnormality, again perhaps an abnormal serum protein.[4]

A prolonged clotting time is occasionally found in lupus, and there has been demonstrated in such patients a circulating anticoagulant which inhibits the conversion of prothrombin to thrombin, even in the presence of an excess of thromboplastin, and is associated with the gamma globulin fraction of the plasma proteins. This has been described only in lupus.[4,7]

There is a markedly elevated sedimentation rate in lupus due to an increased tendency of the red cells to clump, this probably being attributable to the increased globulin and fibrinogen concentrations.[4,8]

These same protein abnormalities are probably responsible for the frequency of positive cephalin flocculation and thymol turbidity tests in lupus despite the fact that clinical evidence of liver disorder cannot often be found.[4,8]

The occurrence of positive serologic tests for syphilis in lupus led early workers to relate the two diseases etiologically, but it was soon recognized that for the most part these were biologically false positive reactions. The incidence of these false positive reactions has ranged as high as 44 per cent in some reports. One significant point is that the discovery of the false positive reaction may precede any clinical manifestation of lupus by a number of years.[9] The differentiation of the false positives in lupus from syphilis has been facilitated by the treponema immobilization test of Nelson and Mayer.[10] The antibody which immobilizes and kills living Treponema pallidum does not occur in the absence of treponemal infection. Like so many other manifestations of lupus, the substance responsible for the biologic false positive test in lupus has been shown by electrophoretic methods to be in the gamma globulin fraction.[11]

One of the characteristic findings in the tissues of patients with lupus is the presence of the "hematoxylin body." This is thought to be specific for lupus, although one report recently stated that hematoxylin bodies had been found in a case of allergic angiitis without lupus.[12]

The hematoxylin bodies are found in many organs but always those of mesenchymal origin.[4] They arise from the nuclei of mesenchymal cells, such as fibroblasts, histiocytes, endothelial cells, lymphocytes, and polymorphonuclear leukocytes. The reddish-purple bodies may be of cell size, or aggregates may measure hundreds of microns across, especially in heart valve vegetations. The material of the hematoxylin body is the same as that in the L.E. cell, degenerated desoxyribosenucleic acid.[13] Like the L.E. cell, the hematoxylin body apparently is produced by a certain factor, a protein with specific antigenic properties present in the gamma globulin fraction of the plasma and not found in any other condition.[1]

The L.E. cell, found in the bone marrow and in the peripheral blood, usually is a mature polymorphonuclear neutrophil[14] containing a mass of homogeneous material which stains reddish-purple with Wright's stain. The mass is round or oval and is several times the size of a red blood cell.[4] It is always homogeneous in appearance and lacks any chromatin structure, which differentiates it from the "tart" cell with which it is often confused. The tart cell is a monocyte or small histiocyte which appears to have engulfed a lymphocytic nucleus, and its mass has a definite chromatin network. The tart cell is seen in lupus as well as in other diseases and apparently is a manifestation of increased activity of phagocytic cells.[14]

Because of the inclusion body the L.E. cell is larger than a normal neutrophil. The segments of the nucleus are displaced toward the periphery, and only a thin crescent of cytoplasm can be seen around the edge of the mass. The homogeneous material can also be seen as free globules and as the center of a ring of neutrophils forming a "rosette."[4]

Three things are necessary to demonstrate the L.E. phenomenon:[15] (1) active phagocytic cells and (2) nuclear material that has been depolymerized by (3) a plasma substance found in lupus, presumably in the gamma globulin fraction of the plasma.[16] Since only the last is tested for, cells and nuclear material from normal people may be used with lupus plasma.[17]

A positive L.E. test is found in 75 to 80 per cent of cases of lupus. The activity of the disease is not well correlated with the number of L.E. cells found. The cells may be demonstrated repeatedly while the disease is in remission. A positive L.E. test has been reported in association with pernicious anemia in relapse, miliary tuberculosis, dermatitis herpetiformis, multiple myeloma, acquired hemolytic anemia, cortisone withdrawal, leukemia, glomerulonephritis, and a long-term administration of Apresoline, but in one series of 700 patients in whom tests were done, in every instance in which L.E. cells were found, the clinical disorder was compatible with a diagnosis of lupus. Among the negatives were many examples of the disease first mentioned.[4] While its exact place in the diagnosis of lupus is not yet completely clear, the finding of a positive L.E. preparation is presumptive evidence of lupus, while a negative test does not rule out the disease.[18]

The subject of abnormal plasma proteins in disease is now undergoing increasing investigation as a result of the improvement of electrophoretic methods and the ability to tag proteins with radioactive atoms. Lupus is characterized by hyperglobulinemia and low plasma albumin. The average globulin values are about 3 Gm. per 100 cc. of blood, but 4 Gm. per cent is not rare, and values as high as 8 have been reported.[4] Electrophoretic methods have shown that the majority of the increase is in the gamma globulins, but at times the alpha$_2$ globulins are also increased, as is the fibrinogen concentration. After cortisone therapy the albumin increases, the gamma globulin decreases, but there is no significant change in the alpha$_2$ globulins.[19,20]

Many other hyperglobulinemic diseases also show elevated gamma and alpha$_2$ globulins. In rheumatic fever the gamma globulin is increased, and the alpha$_2$ globulin rises during periods of rheumatic activity.[21] In addition, studies of serum proteins by fractional precipitation with ammonium sulfate showed persistent abnormalities in the presence of gross disease, and these abnormalities were more consistent than the sedimentation rate.[22] In rheumatoid arthritis there is a moderate increase in the beta globulin and a marked increase in the alpha and gamma fractions and in fibrinogen. Hypergammaglobulinemia has also been described in scleroderma.[23]

In order to understand more clearly the significance of abnormal globulins, mention may be made of another hyperglobulinemic disease, multiple myeloma, in which the proteins have undergone extensive analysis.[24] In myeloma the increase in globulin is also in the gamma fraction, but different patients elaborate electrophoretically distinguishable globulins. These globulins are immunologically different, and analysis of the free amino acid content of the terminal residues of these proteins has provided evidence that structurally abnormal forms of serum globulins are synthesized by the body in this disease.

Another abnormal globulin found both in myeloma and in lupus is the cryoglobulin, a serum globulin that gels reversibly on cooling. Apparently these are not found at all in the normal human, but in myeloma at least seven different cryoglobulins have been differentiated. This protein also has been found in an obscure syndrome characterized by temperature sensitivity of the extremities, high blood viscosity, purpura, and cardiac failure attributed to intravascular deposition of the viscous protein.

Last, in myeloma it has been shown that the Bence Jones protein of the urine is not an excretion product of the blood globulins but rather that it is another group of abnormal globulins, synthesized rapidly from the free amino acid pool of the body and having their own individual characteristics.

But to return to lupus, if a rabbit is immunized with gamma globulin isolated from L.E. plasma, it forms a specific antibody to the L.E. factor which differs immunologically from the antibody to normal human gamma globulin.[25] The factor is stable if kept sterile, is destroyed at 65 C., and is inhibited by para-aminobenzoic acid but not by hormones in vivo or cortisone in vitro.[26] The L.E. factor has also been found in body fluids other than plasma, including pleural fluid, pericardial fluid, cerebrospinal fluid, and urine, and the factor has been shown to cross the placenta.[27,28] The origin of this factor is presumably the ultimate cause of lupus, although as yet there is no known relation between it and the fibrinoid degeneration of the connective tissue.[1]

Some of the clinical manifestations of lupus require comment. Pulmonary lesions are by no means rare, but necropsy material does not reflect a true picture of the incidence of these lesions in life. The lung involvement waxes and wanes throughout the course of the disease, as emphasized by Klemperer and coworkers,[29] although radiographic evidence of such involvement may be difficult to obtain. The leukopenia usually associated with lupus may at times be replaced by a leukocytosis of considerable magnitude. Infection superimposed on the fundamental disease is the cause of this, and secondary pulmonary infection is the most common reason for the white blood count being elevated. In one case this was as high as 57,000 white cells per cu. mm. of blood.

The most common lung lesion found at autopsy is bronchopneumonia, but hemorrhage into the lung parenchyma, pleural effusion, pulmonary edema, pleuritis, and a variety of other lesions have been described in lupus.[30] One interesting and unusual lesion noted has been a peculiar mucinous edema in the alveolar wall connective tissue, perhaps representing a precursor of interstitial pneumonitis which leads to atelectasis and may cause respiratory failure.[2]

Nervous system involvement in lupus has been reported with increasing frequency. A common occurrence has been toxic delirium with confusion, disorientation, restlessness, and irritability, and in addition, a psychotic picture has been seen with delusions and hallucinations.[31] Signs of central nervous system involvement have been multiple and varied and include focal and generalized convulsions, hyperreflexia, clonus, positive Babinski, neurogenic bladder, plegias, aphasia, choked optic disks, diplopia, abnormal electroencephalograms, and increased spinal fluid protein.[32] The increase in the spinal fluid protein cannot be correlated with the increased plasma protein.[33]

The lesions in the central nervous system have a predilection for the gray matter of the cerebral cortex and especially the presulcal area, which explains the frequency of convulsions.[34] The lesions are predominantly vascular and consist of epithelial proliferation, fibrinoid degeneration of the media, perivascular hemorrhages, demyelinization of peripheral nerves, degeneration of nerve cells, edema, and inflammatory cells.

The neurologic dysfunction usually appears during an exacerbation of the disease and is considered an ominous sign, although it may appear long before other symptoms are present.[35] The neurologic deficit may resemble multiple sclerosis, subacute combined sclerosis, or Sydenham's chorea.

If the patient is receiving steroid hormones when the nervous disorder appears, it is important to decide whether the disorder is due to the steroid or to the disease itself. Central nervous system symptoms due to the hormones are not early phenomena but usually occur late when Cushing's syndrome is seen or as the hormone is being reduced toward a maintenance dose. Otherwise it is probably due to the disease, and the steroid should be increased. In practice this differentiation is rarely as clear as these statements seem to make it.[36]

The renal lesions in lupus are frequent and severe. They include the "wire-loop" alteration mentioned before, endothelial proliferation in the glomerular capillary leading to vessel occlusion and ultimately to renal insufficiency, focal necrosis of the capillary tuft frequently associated with thrombi, and a variety of tubular lesions dependent on the extent of the changes in the glomeruli. There is a consistent lack of correlation between clinical evidences of renal disease and postmortem findings in the kidneys. Many patients are followed for long periods of time in which they appear to have normal renal function, only to develop signs of kidney damage suddenly. Kark and his coworkers[37] followed the natural history of the renal lesion in lupus by serial kidney biopsies. They observed the appearance and progression of two types of glomerular lesions, one a local glomerulitis progressing to subacute glomerulonephritis with crescent formation, and the other a thickened basement membrane, with or without wire-loops, which may pass into membranous glomerulonephritis.

It seems reasonable to assume that such extensive renal lesions are progressive with the disease and irreversible and that clinical signs of renal insufficiency become evident when the kidney's reserve is finally overcome. Albuminuria, microscopic hematuria, and cylindruria are frequently found. Nitrogen retention is a late phenomenon usually, and death in uremia is frequent.

The renal manifestations of lupus do not respond to steroid therapy as well as some of the other signs of the disease. Mild degrees of kidney involvement may improve with such treatment, and although at times an elevated nonprotein nitrogen may decrease or even fall to normal, in general, renal insufficiency is progressive.[4]

The funduscopic findings in lupus are characteristic, although not diagnostic. They consist in the main of cotton-wool spots or cytoid bodies, which are small, round or oval, fluffy, yellowish-white spots located in the superficial layers of the retina. Histologic examination shows them to be collections of cell-like bodies in the retinal nerve fiber layer. They are similar in appearance to the cotton-wool exudates seen in hypertensive retinitis but are never larger than the disk and have been confused with metastatic tubercles. In the absence of hypertension or diabetes the finding of cytoid bodies is suggestive of lupus.[4,38]

Michelson[39] mentions a fact that is very interesting. In an analysis of 600 cases of lupus of all types, he found most of them to be in the lower middle class, people who worked hard for their living, such as truck drivers, farmers and their wives, artisans, etc. In this group were a few of university education level, including one doctor, two doctors' wives, two female university students, two student nurses, and none of the so-called society group, although this last group is prone to excessive exposure to sunlight and continues this exposure in the winter in the sunnier climates. Michelson has no ready explanation for this.[39]

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A One-Stage Operation for the Repair of the Denuded Penis and Testicles

JOHN J. CONLEY, M.D., NEW YORK CITY

(From the Plastic Surgical Department, Pack Medical Group, New York City, and the Surgical Service, Paterson General Hospital, Paterson, New Jersey)

The immediate repair by free split-skin grafting of the entire shaft of the penis and testicles in a single one-stage procedure is a technic that merits further emphasis. In the past the treatment of the denuded penis and testicle has consisted of the use of pedicle flaps transposed from the thighs and abdomen in a series of individual operations over the penis and testicles. Many of these technics were ingenious and have been successful in supplying covering and protection for these organs. Unfortunately, they had the obvious disadvantages that accompany multistage operations: protracted morbidity and the exaggerated anxiety associated with the possibility of loss of one's sexual apparatus.

A one-stage operation was therefore planned with due consideration of the organs involved. Three thick split-skin grafts were to be tailored over the raw surfaces of testicles and penis in such a way as to resemble the original coverings, prevent undesirable scar tissue contraction, and permit normal functioning and appearance. In the light of modern skin-grafting technics and biotherapy, this did not appear unreasonable.

The etiology of this condition in the vast majority of cases is the entrapment of the pants about the groin or pubic area in a rotating machine with subsequent avulsion due to a ripping or wringing force. The skin over the testicles is usually caught first, and the avulsion under these circumstances is from the testicles toward the shift of the penis. If the greatest force is pulling on the hair about the pubis, the avulsion will proceed from the shaft of the penis toward the testicles.

The stripped skin includes the coverings of the testicles, spermatic cords, penis, and their pubic attachments. The inverted lining of skin over the head of the penis is usually not avulsed. The depth of the wound is the layer of loose subdermal areolar tissue. The urethra and anus are only rarely involved.

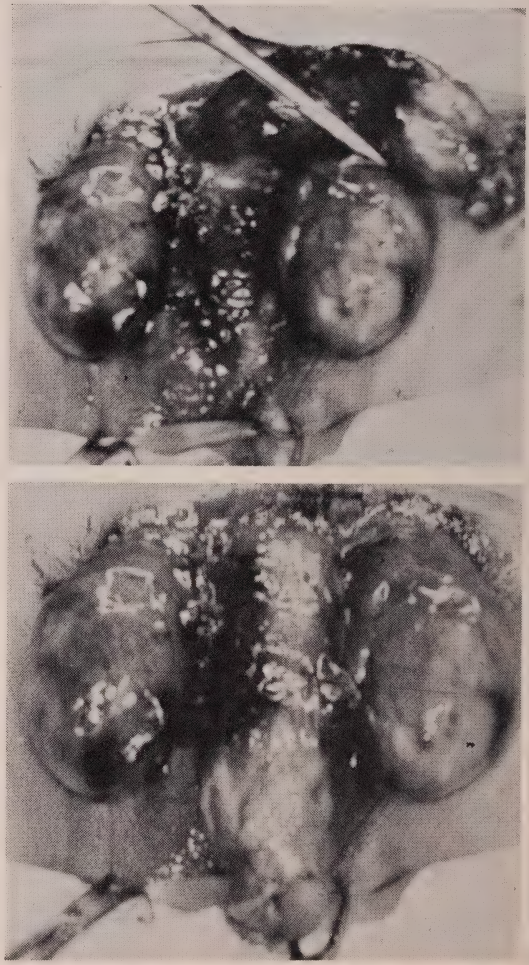

Fig. 1. Complete denudation of penis, testicles, and immediate areas.

Case Report

Mr. J. P., age twenty-one, a white male, suffered an accident on March 31, 1953, while attempting to straighten a cloth-finishing machine that had gotten out of line. When he leaned over the wheels of the machine, his clothing became entrapped in the wringer type movement with resultant complete

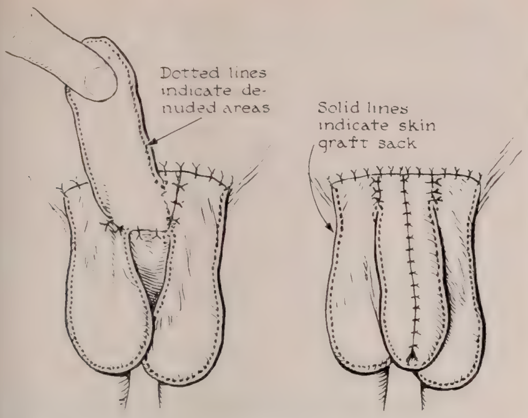
Dotted lines indicate denuded areas
Solid lines indicate skin graft sack

FIG. 2. Schematic outline of denuded area and skin graft pouches on penis and testicles.

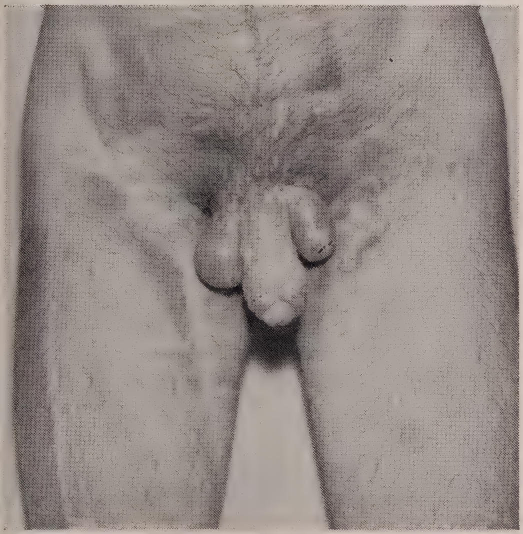

FIG. 3. Healed penis and testicles one month after free skin grafting. Donor areas on abdomen and right thigh are visible.

denudation of the clothing about the hips, along with the skin of the pubis, testicles, and penis (Fig. 1). The avulsed skin was discarded with the ripped clothing and was not available for grafting purposes. Examination revealed total avulsion of the skin about the pubis, testicles, spermatic cord, and shaft of the penis. The wound was superficial, clean, and exquisitely tender. The patient could urinate normally. There was no evidence of shock. The patient manifested great concern about his sexual apparatus and his future ability to function normally.

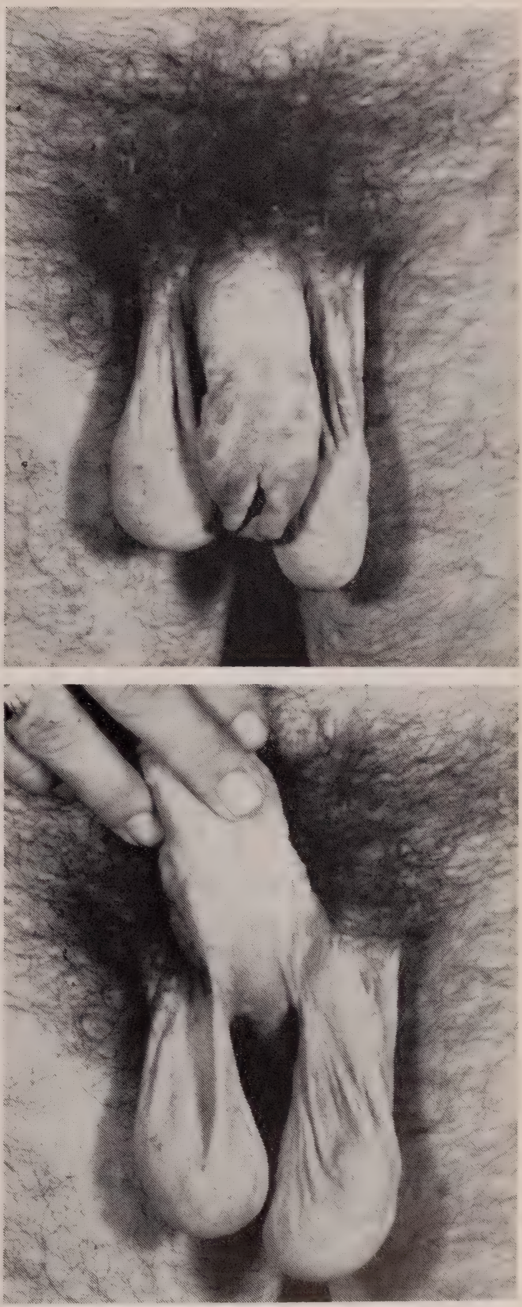

FIG. 4. Penis and testicles one year postoperatively. Note relaxation and softening of the grafts and natural configuration of the organs.

The abdomen and thighs were shaved, and the wound was prepared by thorough washing and the application of pHisoHex solution. A thin fibrinous exudate was carefully removed, and the margins of the wound were minimally debrided to remove only the devitalized tissue. The wound was then dressed by the application of three thick split-skin grafts approximately $^{1}/_{20,000}$ of an inch in thickness. Each testicle was carefully draped into a tailored bag of split skin (Fig. 2). These bags were anchored individually to the wound edges about the pubis just lateral to and behind the root of the penis. This covered and individualized the testicles and spermatic cords and supplied a supportive type of suspension. The shaft of the penis was generously wrapped with a free split-skin graft with the suture line in the dorsal position. This graft was secured to the wound edges of the pubis directly above the root of the penis and the inverted skin covering the head. Large and carefully placed supportive dressings were applied to the testicle, penis, and pubic area. A Foley catheter was inserted into the bladder, and the patient was placed on a constipating low-residue diet and large doses of penicillin.

The patient remained quiet in bed for the first two weeks postoperatively. There was little discomfort. The first dressing was done on the ninth postoperative day; a 100 per cent take of the three grafts had occurred. The postoperative course was essentially uneventful. There was moderate but well-balanced scar tissue contraction of the three grafts in this area (Figs. 3 and 4). Erections of the penis shortly after the operation were limited and uncomfortable. However, as the scar tissues softened, a full erection was obtained, and the patient indulged in sexual intercourse with normal satisfaction. Fertility tests revealed the sexual apparatus to be functioning normally. The esthetic appearance of the pubic area, testicles, and penis is highly acceptable to the patient, and he has declined the recommendation of circumcision.

Summary and Conclusion

The merits of a one-stage free thick split-skin grafting technic for the repair of denuded penis and testicles have been emphasized.

An illustrated case has been presented.

139 East 36th Street

Many "Seniles" Actually Need Mental Hospital Care

Experience in one state has shown that transfer of so-called "senile" patients to other facilities won't solve the problem of mental hospital crowding.

It won't necessarily improve these patients' condition either, a transfer program and survey of three Connecticut mental hospitals showed. It was found that few aged patients are in those hospitals only because of the infirmities of age. More than half of them are there because of actual mental illness which requires the safeguards and facilities of psychiatric care.

Drs. Sidney Shindell and Elizabeth Cornfield, Rocky Hill, Conn., reported in the March 31 *Journal of the American Medical Association* on the work of the Connecticut Commission on the Care and Treatment of the Chronically Ill, Aged, and Infirm.

Since November, 1954, the commission in cooperation with the Connecticut Department of Mental Health has carried on a program of transferring a number of elderly patients from the state's mental hospitals to a chronic illness facility.

The survey showed there was "an extremely small" number of aged patients who might be suitable for transfer to chronic illness facilities, the author said.

In fact, only 6.5 per cent of more than 10,000 patients (of whom about 4,000 were past sixty) could be considered for care elsewhere, and half of this group had already been removed either to their own homes or to private nursing homes, where they were under hospital supervision.

Only 1.5 per cent of all the patients consisted of senile patients who could be cared for elsewhere, they said, concluding that patients of this type have not contributed to crowding of Connecticut hospitals.

Persons over sixty constituted about 40 per cent of the total mental hospital population, but a large number of them grew old while there. Less than half of them were more than sixty years old when admitted, and many of these had been hospitalized once or more before the age of sixty the authors said.

Only about 300 of the more than 4,000 aged patients in the three state mental hospitals were found to be suitable for transfer to the chronic illness facility. And even after transfer some had to be returned to the hospitals because they did not adjust to the new situation.

The rest of the aged patients were not considered suitable for transfer because they were already in nursing homes or their own homes; the families refused permission for transfer; hospital staffs felt the psychiatric outlook was too poor, or they showed behavior that was undesirable or dangerous to themselves and others.

Recurrent Obesity

JULIUS POMERANZE, M.D., NEW YORK CITY

(From the Nutrition Clinic of the New York Medical College, Flower and Fifth Avenue Hospitals)

> *And again, a diet brought to the extreme point of attenuation is dangerous; and repletion, when in the extreme, is also dangerous.*—HIPPOCRATES, *Aphorisms*, Section I, Number 4

OBESITY is an abnormal and harmful state. Cardiovascular, metabolic, and nutritional diseases are of increased severity in the obese individual, but obesity has been blamed for many diseases of unrelated etiology which weight loss does not eliminate. Diseases encountered in obese individuals are also found in the nonobese, and many overweight persons reach advanced years despite its constant presence. Body fat is detrimental to good health. However, no properly controlled studies have demonstrated that the benefits of weight reduction are as real as generally assumed.[1]

Tremendous effort is exerted to alert the medical and lay public to the need for weight reduction. The impact of this campaign inspires or frightens a large percentage of our obese population into ridding themselves of excess fat, but while short-term success is easily achieved, results are poorly maintained. Long-range studies[2,3] indicate that only a small percentage of successful patients maintain weight loss for a significant period. The attempt to reduce and the return to previous obese levels are many times repeated.

Recurrent obesity is the intermittent presence of excess body fat and some marked degree of its reduction. The effect of recurrent obesity on health and longevity has not been evaluated, but alarming clinical disturbances occasionally occur coincidentally with exaggerated gains and losses of weight. A strong causal relationship is indicated between repeated weight changes and the morbid state. We have all seen adverse effects from overzealous attempts to reduce weight, including recurrence of rheumatic fever and asthma, precipitation of attacks of coronary insufficiency and gout, flareups of thyrotoxicosis, and severe mental depression even with addiction to alcohol.[4] Too rapid loss of weight may be attended by weakness, dizziness, and an increased tendency to anginal attacks; it may also reactivate latent pulmonary tuberculosis.[5] Illustrative case histories recall similar experiences to every physician actively concerned with the obesity problem.

Weight loss and gain are significant and strenuous physiologic phenomena. Metabolic processes differ during maintenance of obesity, maintenance of normal weight, and rapid gain or loss of body fat. The terms static and dynamic obesity[6] define these states. Nutritional deficiency, stress response, and hematopoietic and biochemical alterations may be demonstrated in the dynamic phase of obesity, especially when the latter is recurrent.[7-9] An increased glucose tolerance during dynamic obesity and a normal or decreased tolerance during static obesity have been described.[10] Changes in fat tolerance are demonstrable during and after weight loss in extreme obesity.[11] Salcedo and Stetten[12] reported evidence that hereditarily obese mice burn less quantities of depot fat. These experimental data suggest that the relation of certain hazards to recurrent obesity, as indicated by the following case histories, is real rather than coincidental.

Obesity and Hypertension

Caloric restriction and weight loss commonly lead to lowering of blood pressure. In published studies[13] normotensive and hypertensive persons sustained a fall in blood pressure after weight reduction without sodium restriction. Weight loss during periods of hunger in the last war caused a significant fall in blood pressure; with full dietary restitution blood pressures rose to previous or higher levels, and the severity of hypertension, as measured by retinal changes, increased.[14]

A review of 74 obese, hypertensive individuals treated during the past six years indicates that any fall in blood pressure related to weight loss occurred during the first few weeks of dietary restriction. The fall in blood pressure appears to

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Supported by a grant from the Lipotropic Research Fund.

be due to the immediate calorie deficit rather than the weight loss, for a retreat from dietary restriction returns the blood pressure to control or higher levels even before full weight regain is accomplished. No ratio has ever been observed between weight loss and hypotensive effect.

Case 1.—M.R., a twenty-six-year-old, asymptomatic, white male, weighing 194 pounds, appeared for weight reduction. The initial blood pressure was 180/110. He was permitted to rest for one-half hour, and the lowest blood pressure, when taken repeatedly, was 158/104. One week later the patient had lost 6 pounds, and the blood pressure was 140/90. On the third weekly visit the total weight loss was 7 pounds, and the blood pressure was now 132/84. The total weight loss during a ten-week period was 19 pounds, and the blood pressure varied from 140/90 to 130/80. The patient was not seen until twelve weeks later when he weighed 195$^1/_2$ pounds, and the blood pressure was 174/112.

Case 2.—R. S., a fifty-eight-year-old, white female, weighed 169 pounds. Basal blood pressure was 178/106. She lost 4 pounds in one week, and the blood pressure was 146/84. A total weight loss of 32 pounds was accomplished in eighteen weeks, and the blood pressure during weekly visits varied from 132/82 to 148/88. One year after cessation of therapy the patient returned; she had regained 14 pounds. Her blood pressure was 182/108. Despite the moderate regain in weight, hypertension was present.

Degenerative Cardiovascular Disease

Obese patients with organic cardiovascular disease invariably note clinical improvement with weight reduction. The frequency and intensity of anginal pain is often lessened. Nevertheless, the case incriminating obesity per se in cardiovascular disease is far from conclusive.[15] In obesity postural imbalance, abdominal ptosis, and obstructive fat layers mechanically impede cardiac function. But recurrent obesity, alternating semistarvation with luxus realimentation, may cause cardiovascular accidents in predisposed individuals.

Case 3.—S. D., a forty-six-year-old, white female, appeared for weight reduction, having lost and regained 30 pounds on three occasions during the past five years. Initial examination, including x-ray, electrocardiogram, and blood chemistries, indicated no abnormalities other than obesity (weight 184 pounds) and a trace of glycosuria. The fasting blood sugar was 128 mg. per cent, and the patient was considered a potential diabetic. An intensive weight reduction regime was started. Within three weeks the patient had lost 13$^1/_2$ pounds, and the glycosuria disappeared. The blood sugar one and one-half hours after a 50-Gm. carbohydrate meal was 144 mg. per cent. During the following week the patient suffered an attack of precordial pain and was hospitalized with an acute anterior myocardial wall infarction. It is interesting that no glycosuria or hyperglycemia was found during the hospitalization.

Case 4.—F. R., a sixty-two-year-old, white male, requested help in losing weight (188$^1/_2$ pounds) which he had maintained since age thirty. Complete examination including laboratory studies revealed no deviations from normal, and the subject was given a 1,600-calorie diet. Weight loss was unsatisfactory during the first three weeks, and 5 mg. of amphetamine twice daily was added. He then lost 21 pounds during twelve weeks. Six months later he returned, weighing 194 pounds, and again requested assistance. A similar routine with amphetamine was begun, and he lost 18 pounds in twelve weeks. During the thirteenth week he suffered an anterior myocardial wall infarction.

Diabetes Mellitus

The coincidental presence of diabetes mellitus and obesity is common knowledge. Weight reduction improved abnormal glucose tolerance in 77 per cent of cooperative obese diabetic patients.[16] Diabetes occurs not uncommonly in persons of normal or less than normal weight, and many obese individuals of gluttonous habits escape it. Decreased caloric intake, lessening the strain on a genetically impaired metabolic structure, diminishes the intensity of the diabetes and the obesity.

Joslin[17] states, "Rapid loss of weight by a fat individual, strange to say, may be followed by diabetes." The following cases suggest that their onset was related to the stress of recurrent obesity.

Case 5.—H. S., a twenty-one-year-old, white, Jewish female, appeared for reduction of weight. Her initial weight was 204 pounds. Complete examination including laboratory studies revealed no abnormal findings. This patient complained of vaginal pruritus which was due to moniliasis. Because of this and a family history of diabetes mellitus, a glucose tolerance test was done and found to be normal. In the following sixteen months this patient lost and regained up to 30 pounds during three separate efforts. In the last period weight loss proceeded with unusual rapidity, and the patient complained of polyuria, nocturia, weakness, and

TABLE I.—Liver Function in Obesity and the Effect of Nutritional Therapy

	Static Obesity	Dynamic Obesity
Total cases	8	13
Bromsulfalein retention		
Before therapy		
Negative	7	6
Positive	1	7
After therapy		
Negative	7	11
Positive	1	2

general debility. Marked glycosuria and hyperglycemia were found, and insulin therapy was started. This patient subsequently exhibited a severe, labile, and difficult to control diabetes, and weight was always maintained at an obese level.

Case 6.—S. H., a twenty-six-year-old, white female, was treated for leanness with a 4,200-calorie, high-fat diet during an eight-month period. There was a gain of 21 pounds, following which the patient developed symptoms of diabetes and has since required insulin therapy.

Liver Dysfunction

Cirrhosis of the liver is high among the causes of death in obesity,[18] and an increased incidence of liver dysfunction has been reported in overweight patients.[19]

In the present study the obese were divided into two groups, and liver function was evaluated by the bromsulfalein sodium retention method. Static obesity was considered to be present in individuals maintaining constant obesity for a period of five or more years. Dynamic obesity was defined by frequent weight loss and gain during the preceding two years. Abnormal bromsulfalein retention was found in one of eight cases of static obesity and in seven of 13 cases of dynamic obesity. In both groups weight loss was accomplished with a 1,400-calorie carefully balanced diet, high in proteins with multivitamins and a lipotropic combination (methionine, inositol, and choline) added. A marked alteration in the incidence of liver dysfunction was noted following nutritional therapy (Table I). The recognition of liver damage in obesity and its more frequent presence in recurrent obesity emphasize the detrimental nature of recurrent weight loss on the body. The need for additional vitamins and lipotropics to overcome this stress is evident.

Geriatrics and Obesity

Eighteen obese institutionalized individuals, varying in age between seventy and eighty-six years, were questioned concerning their lifetime weight habits. All of them, within their own recollection, had maintained an obese status since early adulthood. It was interesting that all denied recurrent obesity. To them overweight had always been synonymous with good health. Loss of weight was considered evidence of disease.

Comment

Excess weight certainly is mechanically undesirable for comfort and health. Mechanical factors are alleviated by careful weight reduction, but the "wear and tear" of repeated loss and gain of weight may result in failure of a predisposed organ.

It is interesting to speculate that the placid, obese individual unexposed to psychic stress maintains a static obesity and, being spared the dual effect of psychic stress and recurrent obesity, does not suffer failure. This perhaps accounts for our obese geriatric individual. In contradistinction, psychic stress stimulates both hunger and the urge to reduce. This conflict becomes an etiologic factor in recurrent obesity. Psychic stress plus its induced overalimentation exposes the predisposed individual to diabetes mellitus, hypertension, and degenerative vascular disease.

Emphasis must be placed on the prevention of recurrent obesity and its nutritional, hematologic, biochemical, and stress-conditional sequelae. This will require a great personal effort on the part of the physician to teach sound nutritional principles. The doctor should place less dependence on appetite-depressing drugs which achieve only short-term success. Emotional reorientation is an important function of therapy. Balanced caloric restriction within the studied habits and capabilities of the patient is desired so that a slow, measured weight loss is achieved. Weight loss without maintenance is useless, and recurrent obesity is harmful to the organism.

Careful individual nutritional orientation has no substitute. The patient's needs, environment, economics, habits, and psychic structure must all be carefully considered for the full effectiveness of the nutritional program. A fundamental change in eating habits slowly and studiously achieved rather than a trick diet for a short period is necessary for the successful long-range therapy of obesity free of the dangers of its recurrence.

2 Fifth Avenue

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Rapid Therapy of Infectious Hepatitis

MAX JACOBSON, M.D., AND CHARLES RESSLER, M.D., NEW YORK CITY

(*From the Private Medical Service of Mount Sinai Hospital*)

Infectious hepatitis has now risen to fifth place on the New York State Health Department's list of communicable diseases. The prevalence of this disease has been stressed in the daily newspapers, and the national Office of Vital Statistics has said that known cases have tripled in the past three years. A total of 49,722 cases were reported last year, and this probably represents only a fraction of the real total since many physicians do not report their cases. Physicians who have served in the armed forces are particularly alert to the high incidence of this illness and to the difficulties in management with the long morbidity which it entails. The medical press has begun to use the term "the hepatitis problem."

No method for cure of this disease is known. For that matter, Neefe[1] has pointed out in a recent review that there is no proved method of treatment or prevention at the present time. A wide assortment of therapeutic procedures has been advocated, but this in itself indicates the lack of success of any one measure.[2] Heretofore, physicians have been agreed on rest in bed as the most important step in treatment.[1,3,4] This has been reported as the only practical means of placing the liver at rest. Such complete rest in bed usually extends over a period of weeks, and if it is cut too short, a prompt and immediate relapse of the disease may occur. It has also been suggested that rapid ambulation might increase the subsequent incidence of chronic hepatitis and cirrhosis, but this has never been substantiated, and a random sampling of the population as a whole reveals a high level of chronic liver disease unrelated to any preexisting hepatitis.[5]

Treatment by means of a diet is the second important measure now employed. Originally it was felt that a high-carbohydrate, low-fat intake was essential, and then a swing came about with accentuation of a high-protein, high-carbohydrate diet still with low fat. More recently, Leone *et al.*[6] found that patients free to choose as they pleased recovered faster than those held down by restrictions. The caloric content in itself is important, and a patient must eat well in order to recover from liver disease. Parenteral fluids or feeding cannot attempt to equal the nutritional value and especially the value to the liver of a well-balanced, large amount of food taken and digested by way of the gastrointestinal tract.

Unfortunately, nausea and vomiting are so common in the early stages of hepatitis that adequate nutrition and maintenance of a normal fluid balance may become problems in management. This brings us to a consideration of the use of parenteral fluids, and it can be safely stated that when necessary, enough should be given by vein to protect normal body levels of electrolytes, fluid, and glucose. A popular addition as a supportive measure has been vitamin B_1. Often large amounts of vitamin B complex are included, and from time to time special value has been ascribed to other dietary adjuvants and vitamins such as A and C.[7] Since the introduction of vitamin B_{12} vast quantities of this fraction have been given intramuscularly.[8] No one is really convinced of the value of any of the vitamins as long as a deficiency was not originally present.

For many years crude liver was employed almost routinely because of its supposed favorable effect in cases of cirrhosis. This conclusion has been questioned and crude liver practically abandoned, but the lipotropic substances, such as choline methionine, inositol, and B_{12}, are still used in the hope that some prophylactic measure can be applied to prevent the possibility of fatty infiltration.[9]

With the appearance of the newer antibiotics, hope for specific therapy of infectious hepatitis once more rose. However, no drug has proved curative, and to date the beneficial effect of broad-spectrum antibiotics such as Aureomycin or tetracycline, is uncertain.[10,11] As a matter of fact, minor toxic effects like nausea and vomiting which may be induced by these drugs may further complicate the management of the disease. More important are the reports that Aureomycin can cause further damage to the liver.[12] There is little hesitation, however, in employing broad-spectrum antibiotics in the patient who becomes desperately ill with his hepatitis. If a real state of cholemia develops, the antibiotic may help bring the patient out of coma by sterilizing the gastrointestinal tract and reducing the work load of the liver and may help in preventing a terminal type Bacterium coli septicemia.

Treatment by means of ACTH and cortisone can still be listed as investigational in nature and is under considerable discussion.[13,14] In the panel meeting conducted by Hanger[2] it was pointed out that one group used ACTH routinely for a while in all cases of toxic liver disease. Serial liver biopsies showed rapid disappearance of exudate, and they were impressed by the rapid fall in the bilirubin and the general well-being of the patient. On stopping the drug, however, there seemed to be a prompt relapse, and it was felt that ACTH should be used in selected cases in which the patient fails to improve with other measures, does not eat, and appears quite ill. Other investigators have found that results with ACTH and cortisone are rather spotty and point out such dangers as sudden expansion of the blood volume and hemorrhages.[15,16] Where an acute fulminating course is encountered, however, cortisone may prove a life-saving measure by suddenly reversing the downhill trend.[17,18]

This review of current therapy is intended to outline the varying opinions and impressions of investigators in the field of liver disease and, in mentioning the wide variety of measures employed, to point out once more that no specific treatment is available at this time. Again it should be stressed that the long period of disability and morbidity involved in acute viral hepatitis makes the over-all problem more extensive than is indicated by the high incidence of the disease alone. It was our desire to deal with this problem by developing a more effective method of management or a method of treatment which would bring about rapid recovery in patients afflicted with this illness. To this end we are reporting our results in treating infectious hepatitis with a combination of cortisone and broad-spectrum antibiotics in a definite program.

Methods and Materials

In the past our routine method of treatment of infectious hepatitis was as follows: (1) rest in bed, (2) high-caloric but moderate fat diet with extra feedings, (3) intravenous glucose in saline if the patient complained of anorexia, nausea, or vomiting, and (4) B complex vitamins by injection, multivitamin capsules by mouth, and occasionally vitamin B_{12} and/or crude liver parenterally.

All the patients were hospitalized (C.R.), and to this program was added the combination of cortisone and a broad-spectrum antibiotic. When the study was first begun, no intravenous cortisone solution was available; later hydrocortisone made its appearance in an alcoholic solution. Ordinary doses of cortisone had been found a complicating factor in treating liver disease, and we felt that small doses given intravenously in drip form might secure better results. Accordingly, one of us (M.J.) prepared a soluble form of cortisone which we continued to use despite the advent of hydrocortisone solution because of the theoretic objection to the alcohol content of the latter.

At first cortisone acetate was merely added to propylene glycol in the proportion of 8 mg. per cc. of the diluent. Later we used a soluble cortisone solution prepared and supplied through the courtesy of the York-Regency Medical Laboratory in New York.

Our cortisone solution was freely miscible in glucose in water, even with the addition of intravenous Aureomycin or tetracycline. Each day an intravenous drip solution was prepared which consisted of 10 to 30 mg. of soluble cortisone and 500 mg. Aureomycin or Achromycin intravenous in 500 cc. of 5 per cent glucose in distilled water. This was administered fairly rapidly in an average time of from one to two hours.

Once the study was started, every case of infectious hepatitis which we encountered in private practice was treated according to standard routine along with the daily intravenous drip therapy of cortisone and antibiotic as described. Twelve successive cases were treated in this way with only minor variations. No patient in whom the diagnosis was made was excluded. Our case histories are given in Table I, and Fig. 1 is a graphic summary of the treatment-time relationship.

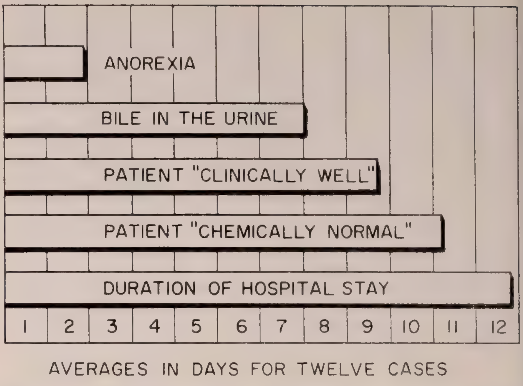

FIG. 1. Treatment-time relationship in 12 successive cases of infectious hepatitis.

Case Reports

CASE 2.—J. P., a twenty-three-year-old, white male museum assistant, had been in good health in the past; this was his first hospital admission. The patient had not been out of New York in the past six months, and there was no history of special medications, injections, or blood transfusions. Two weeks previously he had developed shaking chills and low-grade fever but had continued to eat well and was able to remain at work. Then a week prior to admission he lost his appetite, became nauseated, and began to vomit. The patient admitted to fairly frequent alcoholic excesses and was not too upset by his symptoms until four days earlier when he noted dark urine and was told that he was jaundiced.

Physical examination showed a tall, well-developed young man. The sclerae were icteric, and there was moderate generalized icterus. A slightly tender liver edge was palpable just below the costal margin. There were no other masses, and there was no lymphadenopathy.

Laboratory determinations showed bile in the urine with a urobilinogen of 1:80 and a leukopenia on blood count. Icteric index was 21, bilirubin indirect 2.5 mg., cephalin flocculation 4 plus, and alkaline phosphatase 12.6. The total cholesterol was 185 and esters 112, albumin 4.2, globulin 2.9, and thymol turbidity 8.4. The bromsulfalein retention was 40 per cent and the blood sedimentation rate 21.

Treatment consisted of eight daily intravenous infusions of 10 mg. soluble cortisone and 500 mg. Aureomycin in 500 cc. 5 per cent glucose in water. The patient felt better and began to eat almost at once. Within seven to eight days all clinical and laboratory evidence of jaundice and hepatitis were gone except for the persistence of a rapid sedimentation rate. The patient no longer appeared jaundiced, the urine was free of bile. Icteric index was 6 and cephalin flocculation 2 plus. By the tenth day the patient was ambulatory despite our qualms about a sedimentation rate of 60, cephalin flocculation 3 plus, and thymol turbidity 8.8. He felt well, the liver was not palpable, the urine was free of bile with a urobilinogen of 1:20, and the icteric index was 6, bilirubin 0.2 mg., and bromsulfalein retention only 3 per cent. Incidentally the heterophil agglutination was negative.

The patient was discharged on the twelfth hos-

TABLE I.—Summary of Treatment of 12 Successive Cases of Infectious Hepatitis

Case	Age	Sex	Onset (Days Before Admission)	Chief Symptoms	Physical Examination	Laboratory Data*		Number of Infusions	Days in Hospital	Recurrence
						Admission	Discharge			
1	25	M	7	Fever, anorexia, jaundice	Jaundice, liver edge 3 cm. down	Leukopenia, bile in urine, I.I. 26, bilirubin 1.4, ceph. floc. 2+, alk. phos. 23, ESR 19	I.I. 3, bilirubin 0.2, ESR 36, urine clear	7	13	None
2	23	M	14	Chills, fever, nausea, jaundice	Jaundice, tender liver edge	Leukopenia, bile in urine, urobilinogen, I.I. 21, bilirubin 2.5, ceph. floc. 4+, ESR 21, BSP 40%	I.I. 6, bilirubin 0.2, ESR 60, BSP 3%, urine clear	8	12	None
3	40	F	21	Joint pains, anorexia, jaundice	Jaundice, liver edge 3 cm. down	Normochromic anemia, bile in urine, 1:1,280 urobilinogen, I.I. 25, ceph. floc. 2+	I.I. 3, bilirubin 0.8, ESR 25, urine clear	6	9	None
4	23	F	14	Chills, fever, nausea, jaundice, weight loss	Jaundice, tenderness over liver	Slight leukocytosis, bile in urine, I.I. 18, bilirubin 8, ceph. floc. 1+, ESR 19, BSP 37.5%	I.I. 3, bilirubin 0.4, ceph. floc. 3+, ESR 25, urine clear, 1:320 urobilinogen	11	21	None
5	27	M	7	Malaise, nausea, fever, jaundice	Jaundice, tender liver edge	Slight leukocytosis, bile in urine, I.I. 10, bilirubin 2, ceph. floc. 2+, ESR 20	I.I. 8, bilirubin 0.8, ceph. floc. trace, ESR 14, urine clear	7	8	None
6	39	M	10	Chills, fever, nausea	Jaundice	Bile in urine, 1:80 urobilinogen, I.I. 46, bilirubin 11, ceph. floc. 2+, alk. phos. 21, BSP 48%, ESR 35	I.I. 11, bilirubin 2.7, BSP 12%, ESR 25, urine clear	14	15	None
7	24	M	7	Chills, fever, anorexia	Jaundice, tender liver edge 6 cm. down	Lymphocytosis, bile in urine, I.I. 9, bilirubin 6.4, ceph. floc. 4+, ESR 1, BSP 43.5%	I.I. 8, bilirubin 0.97, ceph. floc. 1+, ESR 19, BSP 2.5%, urine clear	10	12	None
8	32	M	9	Headache, chills, fever, weakness, nausea, jaundice	Jaundice, tender liver 3 cm. down	Bile in urine, I.I. 18, bilirubin 2.4, ceph. floc. 2+, alk. phos. 2.7, BSP 20%, normal blood count	I.I. 6.1, bilirubin 0.6, BSP 10%, urine clear	13	13	None
9	25	M	7	Chest pain, anorexia, chills, sweating, jaundice	Jaundice, tender liver edge 3 cm. down	Bile in urine, I.I. 30, bilirubin 2, ceph. floc. 4+, alk. phos. 4, BSP 20%, normal blood count	I.I. 10, ceph. floc. 1+, urine clear	23	18	None
10	32	M	7	Fever, nausea, chills, pain right upper quadrant	Jaundice, pain right upper quadrant, splenic tip palpable	Leukopenia, bile in urine, 1:160 urobilinogen, I.I. 31, bilirubin 4.8, ceph. floc. 2+ to 3+, ESR 70, BSP 33%	I.I. 20, bilirubin 1.8, ceph. floc. 2 + to 3+, urine clear, heterophils negative	14	13	None
11	50	M	1	Chills, fever, anorexia, (had Thorazine)	Jaundice, liver edge 3 cm. down, tip of spleen felt	Slight leukopenia, bile in urine, 1:320 urobilinogen, I.I. 18, bilirubin 3, ceph. floc. 2+, ESR 50, BSP 38.5%	I.I. 3, bilirubin 0.68, ceph. floc. 0, ESR 49, BSP 6%, urine clear	6	8	None
12	28	M	7	Anorexia, fever, pain in eyes, jaundice	Jaundice, liver dullness 3 cm. down	Bile in urine, 1:160 urobilinogen, I.I. 35, bilirubin 7.4, ceph. floc. 3+, alk. phos. 18.5, BSP 22%, normal blood count	I.I. 8.2, ceph. floc. 2+, ESR 6, BSP 7%, urine clear	12	14	None

* Key to abbreviations: I.I., icteric index; ceph. floc., cephalin flocculation; alk. phos., alkaline phosphatase; ESR, erythrocyte sedimentation rate; BSP, bromsulfalein retention.

pital day, and returned to work and drink without untoward result.

Case 12.—L. S., a twenty-eight-year-old commercial artist, white, single, in good health in the past, was transferred from another hospital with a diagnosis of infectious hepatitis. His illness began a week ago with fairly sudden onset of poor appetite, malaise, pain in the eyeballs, and fever to 101 F. In two more days dark urine and light stools appeared, and then he noted a yellow color of the eyes. His head ached, there was mild, cramplike abdominal discomfort, and he vomited once.

Physical examination revealed a thin, icteric young man. The general examination was completely negative except for liver dullness percussed 2 to 3 cm. below the costal margin.

On admission the icteric index was 35, direct bilirubin 7.4 and indirect 3.8 mg. The cephalin flocculation was 3 plus, alkaline phosphatase 18.5, and cholesterol 296 with esters 223. The bromsulfalein retention was 22.5 per cent and sedimentation rate 6. Urine showed 4 plus bile and urobilinogen of 1:60 which rose to 1:160 in a later specimen. The blood count was unremarkable.

The patient was treated in the usual manner with the addition of a series of daily intravenous infusions consisting of 500 cc. 5 per cent glucose in water with 500 mg. intravenous tetracycline and 25 mg. soluble cortisone. A total of 12 infusions was given in a period of ten days. In three days the patient began to eat well. On the seventh day the bedside urine specimen was free of bile. In twelve days the icteric index was 8.2, the cephalin flocculation 2 plus, the sedimentation rate still 6, and the bromsulfalein retention 7 per cent. The patient was discharged to his home on the fourteenth hospital day and asked to rest there for a week before returning to his job.

Comment

There is no antiviral treatment of specific nature available against infectious hepatitis, but we believe that we now have a means of management which may produce rapid recovery from this disease. In each case clinical recovery was achieved in about a week, regardless of the original intensity of the disease. Twelve successive cases were treated with the intravenous combination of cortisone and antibiotic as described, and it would be too much to assume that such rapid results could be coincidental since other cases of hepatitis on other services at the same time went through the usual prolonged course.

Certain features of the rapid improvement manifested by our patients are of practical as well as theoretic interest. In all cases except one there was sudden amelioration of toxicity. In twenty-four to forty-eight hours patients felt much better, and there was marked, visible improvement in the general condition. In all cases this included a cessation of nausea and vomiting with subsequent ability to maintain adequate nutrition through normal channels. The high-caloric intake or forced feeding which is of so much importance was at once possible.

A rapid decrease in the amount of bile in the urine took place. As a practical means of following our patients, daily bedside specimens were inspected, and sometimes within a few hours of the start of the therapy there would be an appreciable clearing. The disappearance of bile in the urine usually preceded the point of clinical recovery and provided the signal for repeating the battery of "liver chemistries." In seven to ten days the patients were clinically well, and various indices, such as icteric index, bilirubin, cephalin flocculation, and bromsulfalein retention, were often within normal limits. The blood sedimentation rate proved an exception.

A factor in this rapid recovery was the powerful anti-inflammatory action of cortisone. The objection has been made that in the early stages of the disease, cortisone may interfere with the normal production of antibodies. We feel that in small doses no such undesirable action takes place. As a matter of fact, when given early enough, the anti-inflammatory action may prevent or cut short the so-called obstructive phase of jaundice seen so commonly in hepatitis. This was demonstrated in Case 11 and in Case 5, a young man who was under treatment quite early because his wife had had the infection first, so that he was alert to the symptoms.

Patterson, Dingman, Schwachman, and Thorn[19] have described the choleretic action of cortisone. This may explain the decrease in serum bilirubin levels, but we still believe that the primary beneficial effect lies in decreasing the edema and inflammation found in the diseased liver. The halt in the obstructive phase may follow the decrease in edema about the smaller bile canaliculi. We do not know whether the antibiotic has any direct effect here unless one were to postulate the presence of secondary infection. In any event partial sterilization of the gastrointestinal tract by the antibiotic may be helpful in producing chemical rest for the liver. Finally, with respect to synergistic action between the cortisone and the antibiotic in bringing about a rapid recovery, we can only speculate, but such synergism does seem to exist.

It is important to point out that in none of our cases was there any evidence of rebound after treatment, nor was there a relapse at any time. At first we were disturbed by our rapid ambulation in the face of blood sedimentation rates which remained elevated. We have no explanation for this phenomenon and can only note that it was seen repeatedly and could persist for three weeks after the patient left the hospital. Although not included in this report, one of us (M.J.) treated four cases on an ambulatory basis when hospitalization was not feasible. These cases were not so well documented but did well clinically and served to make us less concerned about our decision to ambulate our patients early and return them to work.

We feel that in dealing with a disease of high incidence and long morbidity like infectious hepatitis, the results obtained with this combination of antibiotic and cortisone may indicate some gain in attacking the "hepatitis problem."

Conclusions

1. As the fifth most prevalent reported disease and also as an illness characterized by a long period of morbidity, the importance of infectious hepatitis cannot be minimized.
2. The current status of treatment is reviewed with attention to the uncertain approach to specific therapy at present. Reported results with ACTH, cortisone, or antibiotics are spotty.
3. To the usual method of management we added the routine use of a daily intravenous infusion of rather small doses of a combination of soluble cortisone and a broad-spectrum antibiotic.
4. Twelve successive cases treated in this way recovered rapidly. Within seven to ten days all patients were clinically well. The average hospital stay was less than two weeks. There were no complications and no recurrences.
5. The rationale of this form of therapy is discussed.

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Damaging Effects of Strenuous Exercise

Major George H. Hess and Corporal David A. Fultz believe that the present Army physical training program should be revised to fit the reduced physical capacities of men over thirty. The basis for this belief is the results of a study of 107 healthy men subjected to a standard daily physical fitness testing program for two weeks, the objective of which was to observe the effect on the heart rate, blood pressure, and electrocardiogram. Of the 36 men in the over-thirty group, four developed abnormalities, three so soon that they could not complete the testing program. The authors add that planning of the physical training program should give full recognition that such training does not fundamentally affect cardiocirculatory functional fitness, although it may greatly improve specific motor skills. The authors think that the Harvard step test may be used as a reliable screening guide in selecting men over thirty who are good prospects to withstand strenuous physical activity without endangering their cardiocirculatory systems.—*U.S. Armed Forces Medical Journal, March, 1956*

FUNDAMENTALS OF MODERN ALLERGY

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Gastrointestinal Manifestations of Allergy

JOSEPH H. FRIES, M.D., NEW HYDE PARK, NEW YORK

WITH a broadening concept of allergy, it has become apparent that all the tissues of the body are capable of taking part in the allergic reaction. It is not unexpected, therefore, that allergic reactivity finds a target area in the gastrointestinal tract.

Gastrointestinal allergy implies the affection of all or any part of the gastrointestinal tract by foods, occasionally by drugs, or rarely by inhalants. Although foods are the most frequent provocative agents, the term "food allergy" is not synonymous with "gastrointestinal allergy." "Food allergy" implies hypersensitiveness to foods regardless of the shock organ involved and does not have specific reference to the gastrointestinal tract. Further confusion results from the erroneous use of the term "gastrointestinal allergy" to cover many obscure digestive ailments, some of which may be expressions of other disease processes, e.g., infectious, degenerative, or psychic.

Sensitivity to food is most frequently encountered in infancy and childhood and, usually, decreases gradually and spontaneously with maturity. Consequently, the more classic expressions of gastrointestinal allergy are to be found in early childhood. This decrease follows no exact age pattern. Specific gastrointestinal sensitivity is of short duration with most individuals and lifelong with some.

Because of the confusion with food allergy, the indiscriminate use of the term allergy in diagnosis, and the lack of pattern of sensitivity, it is difficult to compile statistics on the incidence of gastrointestinal allergy.

Mechanism

In the initiation of gastrointestinal symptoms, the allergen is usually brought into direct contact with the sensitive portion of the gastrointestinal tract. Typical examples of such direct contact reactions are the immediate swelling of the lips and lining of the mouth in individuals highly sensitive to fish or egg or the abdominal distress and vomiting promptly following the ingestion of an allergenic food. A further demonstration of reaction resulting from direct mucosal contact was the experimental production of colonic spasm immediately following rectal instillation of an allergen.[1] Barium enemas containing small quantities of allergenic foods were administered to specifically sensitive subjects and immediately provoked intestinal cramps accompanied by severe contractions of the lower bowel visualized roentgenographically.

Second, the ingested allergen may be absorbed into the circulation and transferred to specifically reactive portions of the digestive tract.[2] Such a mechanism would explain the allergic reaction of anal itching within minutes after ingestion of a specific provocative allergen or the severe abdominal pain encountered in anaphylactic reactions following parenteral injection of antigenic substances.

Interesting speculation on the role of inhalants in the etiology of gastrointestinal symptoms is raised by the animal experiments of Lehman with copper dust.[3] He established that the greater part of the inhaled dust is retained primarily in the gastrointestinal tract and not in the lung.

Symptoms

The symptoms of gastrointestinal allergy vary greatly, depending on the portion of the alimentary tract brought into reactivity. The list is large, and detailed descriptions would be cumbersome in this type of communication.

Briefly, the symptoms can be enumerated in relation to the portion of the digestive tract involved. The lining of the mouth, the tongue, or the pharynx may show swelling with itching, a feeling of stiffness, and even difficulty in swallowing. Nausea, vomiting, and epigastric distress are well-known reactions of the stomach. Abdominal pain of varying localization, intensity, and periodicity has been thoroughly documented.[4] Allergic "appendicitis" or "gallbladder disease" imply shock tissue reactions in these organs or in the immediately surrounding areas.[5] Rarely one may encounter intestinal bleeding[6] or, as a result of localized mucous membrane swelling, pyloric obstruction[7] and intussusception.[8]

Symptoms may group themselves into patterns or syndromes not commonly characteristic of disorders on a hypersensitive basis. Among these now recognized as being provoked on occasion by an allergic reaction are recurrent vomiting,[9] pylorospasm,[7] the celiac syndrome,[10] regional enteritis,[11,12] and mucous or ulcerative colitis.[12]

Diagnosis

The varied symptomatology resulting from gastrointestinal allergy makes it necessary that organic disease and psychic causes be ruled out before considering hypersensitiveness. In my opinion allergy accounts for only a small percentage of the digestive disorders encountered in adults or even in children.

A careful history may possibly elicit an association between ingestant and symptoms; it identifies the atopic individual, and it may indicate significant food dislikes or show that commonly allergenic foods are being eaten in large amounts and are therefore suspect.

Unfortunately, cutaneous tests, which are frequently diagnostic in other expressions of allergy, are of limited value here. Occasionally, however, cutaneous reactions of the immediate wheal type are obtained with offending antigens. Subjects experiencing immediate, pronounced gastrointestinal disturbances are the ones most frequently giving marked dermal reactions.[13]

A detailed food diary recording daily intake of all possible ingestants, including vitamins, medications, and between-meal "snacks," the quantity ingested, and time relationship to the occurrence of symptoms can be most helpful.

Allergic reactions in the gut are characterized pathologically by mucosal edema, hyperemia, hyperactivity of the secretory glands, and secondary muscle spasm. These findings have been substantiated in experimental studies on the exposed digestive tracts of passively sensitized Rhesus monkeys and of humans.[14,15]

Trial ingestion of suspected foods incriminated by the history or by the food diary should be undertaken, testing only one food at a time. Production of symptoms simulating the clinical pattern on repeated trials is a most important method of establishing etiology.

It might be pointed out, however, that the production of symptoms with trial ingestion of a food and elimination of symptoms with its avoidance do not necessarily imply an allergic mechanism. Disturbances regularly following ingestion of certain foods or drugs may indicate the causative substance but do not establish their allergenicity. Such disturbances may be due to physical, chemical, or irritant factors naturally inherent in these substances (e.g., diarrhea induced by prune juice or castor oil) and are intolerances rather than allergies.

Diagnosis by means of rectal smears for increased eosinophils needs further evaluation.[16,17] One must bear in mind that destructive processes in the colonic area or parasitic infestations in the intestines are also capable of producing eosinophilia in the mucus obtained from the rectum.[18,19] For this reason I have found this procedure unrewarding.

I have also found the leukopenic index of questionable value in diagnosing gastrointestinal allergy. Although some observers[20] report that there is a depression of the leukocytes following ingestion of allergenic foods, this is not a consistent finding.

Intentional feeding of a suspected allergen disguised in a barium meal may elicit roentgenologic variations in the normal digestive pattern. Among the outstanding features to be observed are delayed gastric emptying, segmentation of the small intestine, hypertonicity of the small or large intestines, and hypermotility of the allergen-containing barium. Although such alterations are not pathognomonic, their presence should suggest the possibility of allergic reactivity.[1,21]

To establish an allergic etiology for gastrointestinal symptoms, it is helpful to have other evidences of allergy, e.g., presence of other obvious, concomitant allergic manifestations; positive cutaneous tests; confirmatory roentgenograms.

Therapy

Where the offender can be identified, ideal therapy obviously implies its avoidance. Where the offender cannot be identified, one must depend on symptomatic therapy with sedative and antispasmodic drugs and on an empirically determined hypoallergenic diet. Such a diet makes liberal use of foods processed by heat or dehydration, which lower their allergenicity (evaporated milk, precooked cereals, dehydrated banana[22]), and of foods of known low allergenicity even when these may be somewhat unusual in the diet (tapioca, beet tops, Swiss chard). Frequently allergenic foods, such as eggs, fish, legumes, and fresh milk products, are avoided or limited. If symptoms are controlled by this type of diet, foods may be added cautiously, with attention directed to any which may initiate untoward effects.

In all instances one must not fail to include suitable substitute foods to meet vitamin and nutritional requirements. An instance of such possible ignorance is the current promiscuous use of soybean "milk" preparations, particularly during early infancy.[8,23]

In contrast, evaporated milk still provides a mammalian milk in which the most common allergenic fraction (lactalbumin) has been rendered innocuous.

Hyposensitization by injection of an extract of the offending food is not only hazardous but has not proved effective, nor has oral desensitization been successful in my experience.

The prophylactic elimination of the common allergenic foods mentioned above during the infancy of potentially atopic children is certainly worthy of consideration. However, severe restrictions of essential foods, such as milk, wheat, and meat, arbitrarily embarked on by enthusiastic physicians cause havoc if followed too long or if compensated for inadequately.

Comment

Nutritional impairment, especially of children with chronic, allergic, gastrointestinal reactions, as with other alimentary disturbances, is to be expected. Incomplete utilization of nutrients and vitamins resulting from disturbed motor function certainly must exist. In addition, local angioedema may affect the permeability of the gut for the ready passage of nutrients. Clinically, in severe instances one sees skin lesions which are highly suggestive of vitamin A deficiencies and evidences of other vitamin deprivations. Growth is sometimes stunted, and there may be impairment of musculature. In support of this, in studies as yet incomplete, I have observed interference with the utilization of vitamin A, as indicated by an abnormally low absorption curve in a few children with severe gastrointestinal allergy.

It has been hypothesized that allergic hyperactivity of the human stomach and intestines may result in a "locus minoris resistentiae" with resultant tissue damage. This offers an additional consideration in the causation of gastric and duodenal ulcers and ulcerative colitis.[12,24] Should future studies confirm this theory, many foods may be incriminated which now are considered innocuous and are routinely used in the ulcer diet.

Henoch's purpura and migraine[25] are now recognized as being allergic reactions on occasion. The gastrointestinal components of these syndromes have a pathologic physiology which may differ from that characteristic of the better known allergies.

Conclusions

1. Gastrointestinal allergy is usually due to foods, although drugs and, rarely, inhalants may play a role.
2. Gastrointestinal allergy is not so frequent as the liberal use of the term today would imply. It occurs most frequently in children as an expression of food hypersensitiveness.
3. The symptoms evoked vary in relation to the portion of the gastrointestinal tract involved.
4. Identification and elimination of provocative substances are important to therapy.
5. During the early years prophylactic elimination of the common, potent antigenic ingestants is desirable, particularly in children of known allergic inheritance. However, such eliminations are to be undertaken with discretion.

2035 Lakeville Road

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(*Number twenty-two of a series on Fundamentals of Modern Allergy*)

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Diagnostic Laryngoscopy and the Anesthesiologist

THE successful management of inhalational anesthesia requires not only constant vigilance on the part of the anesthesiologist during anesthesia, but also an awareness and knowledge of pathologic abnormalities which may affect respiratory activity. Acute observation of the manner in which the patient breathes can yield much information. On the other hand, familiarity with the anatomy of the pharynx and larynx is also essential, particularly in those diseases where abnormalities may be present, such as thyroid disease. The case which is to be presented serves to illustrate how this knowledge can be effectively employed in providing safe conduct of what might be difficult and trying situations.

Case Report

A sixty-five-year-old retired tailor was admitted to the hospital with a preoperative diagnosis of adenoma of the thyroid. There was a palpable mass on the right side of the neck which had been slowly increasing in size during the past five years. While the patient had had occasional episodes of mild hoarseness, there had never been any dyspnea or orthopnea. The patient was a well-preserved individual in no acute distress. His history, except for his present illness, was essentially noncontributory. Physical examination and laboratory findings were all within normal limits for a man of his stated years.

On the night before operation the patient was seen by the anesthesiologist, who suggested that laryngoscopic examination be performed in view of the previous episodes of occasional hoarseness. It was decided that this procedure be carried out just prior to the induction of general anesthesia, which was the technic selected for the management of this patient. Accordingly, before the induction of anesthesia, direct laryngoscopy was performed under topical anesthesia. Because it was noted at this time that there was only partial mobility of the right vocal cord and complete immobility of the left vocal cord (the airway was judged to be restricted to within 40 per cent of normal), the patient was intubated while conscious, after which the induction of anesthesia was carried out and the operation successfully performed. In view of the pre-existing vocal cord paralysis a tracheotomy was done at the conclusion of the operation. The patient's subsequent hospital course was uneventful.

Comment

Preliminary examination of the larynx is essentially a simple procedure which can be performed under topical anesthesia without much discomfort to the patient. Whether this be done by indirect or by direct laryngoscopy is a matter of individual preference and custom. However, this procedure should be performed prior to operation in all those patients in whom there is disease of the structures of the neck which could conceivably involve the innervation of the larynx.

In addition, a history of hoarseness makes such an examination mandatory. Disease of the thyroid gland frequently causes encroachment on the airway, either directly or through its effect on the recurrent laryngeal nerves. When this happens, endotracheal anesthesia provides a method of safe management of a patient.

Prophylactic tracheotomy should always be considered in the face of vocal cord paralysis, especially if it is bilateral. Excessive secretion, glottic edema, and drug depression can all precipitate a respiratory crisis under these circumstances. Preoperative evaluation of the airway in such cases is necessary for the exercise of good judgment. The anesthesiologist can readily estimate airway status by the simple procedure of direct laryngoscopy.

(*Number eighteen of a series of Clinical Anesthesia Conferences*)

ANNOUNCEMENT

PRIZE ESSAYS

The Lucien Howe Prize and the Merit H. Cash Prize will be awarded at the Sesquicentennial Meeting of the House of Delegates of the Medical Society of the State of New York, May 13 to 15, 1957, in New York City.

The *Lucien Howe Prize* of $100 will be presented for the best original contribution on some branch of surgery, preferably ophthalmology. The author need not be a member of the Medical Society of the State of New York.

The *Merit H. Cash Prize* of $100 will be given to the author of the best original essay on some medical or surgical subject. Competition is limited to the members of the Medical Society of the State of New York who at the time of the competition are residents of New York State.

The following conditions must be observed:

Essays shall be typewritten or printed with the name of the prize for which the essay is submitted, and the only means of identification of the author shall be a motto or other device. The essay shall be accompanied by a sealed envelope having on the outside the same motto or device and containing the name and address of the writer.

If the committee considers that no essay or contribution is worthy of a prize, it will not be awarded.

Any essay that may win a prize automatically becomes the property of the Medical Society of the State of New York, "to be published as it may direct."

All essays must be presented not later than *February 1, 1957*, and sent to the Chairman of the Committee on Prize Essays of the Medical Society of the State of New York, 386 Fourth Avenue, New York 16, New York.

R. Townley Paton, M.D., *Chairman*
Committee on Prize Essays

SPECIAL ARTICLE

Indigency Among Doctors

BEVERLY C. SMITH, M.D., NEW YORK CITY

(*President, Physicians' Home*)

ADMINISTRATION of the Physicians' Home for the past twelve years has revealed existing financial conditions among doctors and their widows that neither doctors at large nor the laity realize exists. It seems appropriate that if help is to be obtained, the members of the Medical Society of the State of New York should be acquainted with some of the experiences of the board of directors of the Physicians' Home.

Organized and incorporated under the charity laws of the State of New York in 1919 to care for indigent doctors, their wives, widows, and dependent children, the Physicians' Home has functioned continuously and has grown in size, scope, and usefulness. Its affairs are administered by an executive committee, a board of directors of 27, and five trustees. It employs the Hanover Bank as its financial advisor and Price-Waterhouse as auditors. The board of directors meets monthly eight times during the year. The executive committee meets monthly and, when the board is in recess, has power to act for the board of directors. Income is derived from annual membership dues of $10 from members of the Medical Society of the State of New York, voluntary contributions of $2.00 solicited from State Society members when a bill for dues of the county societies is sent, contributions from the woman's auxiliaries, voluntary contributions from individuals, and bequests. It is our policy to use income from contributions to care for guests and administrative costs, while bequests are placed in an endowment fund, income from which is also used in the care of guests. The expenses of administration include the cost of publicity and appeals, accounting, custody accounts, legal fees, social service, and part-time secretarial help. Heretofore the Home's office has been domiciled, rent (and light) free, in the office of either the secretary or the president, but requests for aid have so increased of late that the board of directors has now obtained space in the office of the State Medical Society and has acquired necessary executive help for its increasing administrative problems.

Requests for financial assistance reached such proportions that the board of directors agreed that a letter be sent out in December, 1954, asking each member of the State Society to become a $10 contributing annual member. A total of 23,200 such letters were sent out, and we received $10,404 from 1,087 doctors, approximately 4.66 per cent of the number solicited. In December, 1955, a similar letter was sent, and our response was $14,358.50 from 1,528 members, or approximately 5.5 per cent of the total State Society membership. A similar appeal will be made in December, 1956, and it is hoped that the response will be far greater than in the past. If 50 per cent of the 23,200 members of the State Society became contributing members, for a tax-deductible contribution of $10, our income from this source of approximately $120,000 would enable us to give more to more guests and perhaps help to care for them when they need nursing home or hospital care.

Since our incorporation in 1919 (thirty-seven years) we have had 93 guests. Of these 30 were widows, three women doctors, and 60 were male doctors. Our guests have come from many of the 61 counties of the State. Applicants are usually in the older age group of sixty to ninety. Naturally most are afflicted with partially incapacitating geriatric pathology. We simply have never had sufficient funds to accept the cost of nursing home and hospital care. When such situations have arisen, we have been able to assume only a part of the cost, an amount equal to that which we sent the particular guest each month before his custodial care began. We are desirous of being more helpful in such cases and can do so only if we have increased revenue.

We have never solicited funds outside of the membership of the Medical Society of the State of New York. The board of directors has opposed the policy of public solicitation. From time to time we have received bequests (from individuals) which we have placed in an endowment fund administered by the trustees with the financial advice of the Hanover Bank. The income from this fund is used to supplement our other income which is used for the care of guests. To handle the many legal problems which would naturally arise in the affairs of such an organization, we regularly employ a legal counsel who has given generously of his time and efforts for a nominal monthly fee. I must say that we could not function without the most generous and helpful advice we have received from our counsel, Mr. J. Miller Walker, a relative of one of the founder group. To my present knowledge, similar organizations function only in Massachusetts and

Pennsylvania, and their budgets are considerably smaller than ours in New York State. We have increased our appropriations for these purposes in each succeeding year. During our fiscal year, October 1, 1954, to September 30, 1955, we gave to 34 guests $39,295.

It was recently brought out in testimony before a Congressional subcommittee of the Senate Committee on Labor that 12,500,000 workers were covered by private pension systems; 28,762,000 workers were covered by group life insurance plans, and there were 68,241,000 workers or dependents under hospitalization plans at the end of 1954. At the same time there were 800,000 retired workers drawing benefits from private firms, and with their wives this total was 1,200,000 persons (*U.S. News & World Reports*, April 27, 1956, page 132).

The practice of medicine has changed along with the changing times. The cost of a medical education has increased. Periods of internships, residencies, and qualifications for specialty boards certification have likewise lengthened. Many medical students have had part or the whole of their educational expenses defrayed by the military services and on graduation or shortly thereafter have entered the services where they received compensation. This amount of compensation at the time—their first earned money—seems large, so much so that many have had a sense of financial security that has led them, earlier than usual after graduation, into matrimonial responsibilities. The natural sequences of a family and eventual separation from the services are followed by a search for residency and specialty training. Remuneration on a small scale is then received for two or more years. During this time financial responsibilities with a growing family have increased. Having attained the training sought, usually at the approximate age of thirty to thirty-five, the young doctors proceed to look for a place to practice. Many enter clinic groups on a salary basis, but those who establish independent practices must finance a home, an office, and transportation facilities and must maintain a social environment in keeping with their dignity and probable advancement. Frequently, savings have been inadequate for these purposes, which necessitates borrowing. If serious illness in his family, i.e., his wife or children, parents, or dependent family collaterals, has occurred, savings will have been depleted, or additional borrowing will have been necessary. This may seem a somewhat dismal story, but it is often a true one, and it is to their eternal credit that young doctors so often face these situations with extraordinary courage and fortitude. However, how soon can one under somewhat similar circumstances begin to save to meet further responsibilities and prepare for the future, be it what it may. The time to save is early. Insurance is cheaper, and in youth more chances can be taken, for the long future holds more opportunities to right bad judgment or unforeseeable misfortunes.

The doctor in many instances lives beyond his means. It seems that this is thought to be a necessary chance to enhance his social status which will return to him subsequent financial gain which seems worth the chance. A professional man's income is exaggerated by the laity. His expenses are overlooked. His financial security in old age is not considered important enough to discuss. He is expected to contribute to all charities and keep socially and physically fit. Once his earning capacity is established, he is besieged by taxes. No matter how necessary they are, they are often financially crippling and will always be with him. As a doctor advances into his most productive years, for a period of ten to fifteen years his expenses, taxes, and family responsibilities increase. Unless he has intelligently approached the problem of systematic, regular saving and has established this principle as a jealously guarded habit, he may well be starting on a path of eventual financial insecurity. A sad road from which there is seldom self-rescue. Inability to live on an accustomed financial level invites isolation with deterioration of interests. It is very surprising how savings disappear when one has not anticipated meeting unusual financial responsibilities. The doctor is notoriously easy of approach by those who have something to sell. A quick and unusual return in the investment field is an enticing object when dangled before a hard-working, self-sacrificing medical person. A policy of gradual saving and sound investment at a lower return with an avowed purpose to allow accumulation is slower and often is a policy of personal deprivation which is not attractive unless one is dedicated to it—and one which the busy doctor has not and will not take time to comprehend.

When the ages of forties and fifties are reached, parental or collateral family responsibilities may suddenly loom large and financially devastating. Preoccupation with professional advancement is a consuming element in a doctor's life; vital as it is, it may well cloud the vision necessary to foresee and establish the future. Then comes the period of release from professional appointments, decreased professional activity, and a less avid interest in advancement—a sort of dulling of the instinct of competition—the invasion by competing younger doctors, the plateau from which the vista of life is less glamorous, and on looking backward things which might have been seem more poignant. The procession, if one survives sufficiently long, leads into further decreased activity and geriatric pathology. The cost of medical care today is stupendous, and there are no obvious signs that it will decrease.

Time and again these and similar situations of varying degrees have crossed the desks of those who have processed applications for beneficiary aid from the Physicians' Home. Tragedy—stark tragedy—

tragedy of despair, no domicile or a meager one in an undesirable neighborhood, an empty larder, and clothes too few and tattered to make a respectable appearance, a withdrawal from environment of former associates, a disposal of personal belongings—even furniture, a proud and genteel poverty, a broken spirit, a stone wall, no known means of help or appeal, a state of prayer and bewildering hope—this is the group with whom, as president of the Physicians' Home, I have corresponded and been in contact. If their qualifications for beneficiary aid fall within our bylaws, we have accepted them as "guests," and instead of shepherding them into a home with segregation and regimentation, we send them a monthly check and allow them to live where and with whom they please. This check is sent monthly and continues unless their financial situation betters and they do not need it. In the event of death and the inability of the family and friends to finance it, we contribute toward a place of burial and decent funeral; otherwise only a public burial place would be available.

Twice we have tried to run an organized home. It was very expensive. Very few wanted to enter it, and those who did were unhappy and disintegrated rapidly. Elderly doctors and their wives and widows seem to prefer to stay in the community in which they have worked all of their professional lives. There they have friends, old patients, and the most interests. It is true that even those in large cities desire to terminate their lives there rather than in an unfamiliar and strange countryside. A doctor prefers his own library, his chair, his bed, books, and other associations of his home to those of a more formal institution.

When our guests become incapacitated from cerebral, visual, auditory, pulmonary, cardiac, renal, and joint pathology, there is seldom adequate help in their homes to make them comfortable. They must be moved into a nursing home. This is expensive, and often the care is mediocre. Here is where the Physicians' Home is handicapped in helping guests. We simply do not have the funds on hand to pay from $400 to $500 a month for this care. The next problem is the difficulty of getting and keeping these doctors or their widows in hospitals. Occasionally, a hospital will place one of our guests in a free or endowed bed, but more often the patient is billed by the hospital with very little or no reduction in its rates. Again, we cannot help to the extent we would like. The next alternative is a city, State, or county institution. It is absolutely heart-rending to a family to face this situation. The usual attempt to circumvent this practical solution often ends in total financial and social disruption of a family.

The young, busy doctor says that this will never happen to him. He just does not know of the number of doctors of distinction to whom these things have happened. It has been our privilege to be able to care for very distinguished colleagues who in their active years were regarded as singularly financially successful by their colleagues. Misfortune has occurred to them, and from experience I should say it may happen to any one of us. I recently asked a member of our board of directors to call upon and ascertain the financial status of a distinguished practitioner who had held high offices and contributed the better part of his life in a tangible fashion to advancement of all phases of medicine. The director's report was to the effect that the interview was most depressing. He had known this doctor through the years of his success, admired his interest and contribution to all phases of administrative and formal medical practices, and had never dreamed he could be reduced to the object of poverty and pity that he had become.

Again, this can happen to any of us. The pangs of poverty are not only depressing but seem to poison one's resistance to misfortune and, in the aged, dull the ambition to attempt rectification. These reactions may be as yet an unexplained endocrine physiologic reaction in which the reaction to stimuli of stress are altered by a psychiatric attitude and the lack of normal response in atrophic geriatric tissues. The antidote of a superior psychosomatic attitude seems lacking. The result is remorse, frustration, and futility.

These are as psychologically crushing as they are harbingers of terminal social failure. Poverty breeds anxiety which, when continued, depresses the responses of the body to stress situations and produces abnormally deficient responses which in earlier years can be met more courageously.

Again, the psychology of a physically isolated, regimented home for aged professional persons is influenced by the impact of enforced idleness and aimless existence. This is an abnormal physical and mental state to those who have been accustomed to a state of high previous professional activity. It depresses the mind and stupifies the normal processes of resistance, eventuating in an abnormal syndrome of mental disintegration and physical dissolution.

The following are the types of letters of appreciation which we have received from guests:

> Dear Doctor:
>
> My sincere thanks for your kind inquiry regarding my physical and financial welfare. With the exception of a recent cold I am in pretty good health for one who is eighty-eight years old. I sustained a comminuted fracture of my left knee some twelve years ago, which has given me considerable pain and difficulty of locomotion during the last two years. Other than this I have naught to complain of.
>
> The amount of $125 a month is quite adequate for my basic needs as I make it so. My room costs me $10 a week, and this with laundry amounts to $45 a month. I eat *one* meal a day

with an occasional "snack." This is no hardship for me as I was not reared a pet. I put myself through medical school—four years—earned the money and to meet my dues lived once on 24 cents a week for five weeks, and another time I lived on one meal a day for nine months. I am not a big eater at any time and have, I think, obtained my growth. So that, while a little hungry at times, I am able to stay well and satisfied with what I have. The amount I receive from the Physicians' Home should be sufficient were it not for the fact that I am trying to pay off my wife's funeral expenses by appropriating $25 each month for that purpose. Again may I thank you for your kindly interest and good wishes.

As a result of this letter this guest's stipend was ncreased $25 monthly, and we received the following letter.

Dear Doctor:

I wish to express my gratitude to the Board of Directors for the quite unexpected increase in my monthly stipend. I am surely grateful to one and all of you, realizing that we may not only entertain "Angels unawares" but may also receive help from them under the same circumstances.

Dear Doctor:

My misfortune began with the severe accident in January, 1955. In spite of all efforts to get any position, everything was in vain. I also lost most of my practice because everybody can see how I limp and sometimes stagger. I cannot climb stairs and can walk only very slowly. Formerly, I could walk five to six hours uninterruptedly.

There suddenly came help from the Executive Committee of the Physicians' Home, after I already despaired of rescue. What shall I tell you more? It took a long time to write this short letter. I tried it several times but had to give it up; I was too touched, and my tears blotted the letter. I cannot tell you more than take my deep feelings and thanks for yourself, for the Board of Directors and the whole Society! I only wish to have the opportunity to show one day my gratitude.

Dear Doctor:

My sincere Christmas greetings to every member of the organization from an old doctor who is unable to help himself and whom you have generously and fraternally accepted in your Society. I have before me a letter of October 9th last. When I read it, it touched my heart deeply, almost to tears. It has been the most emotional moment of my long professional experience of hard work and continued misfortune. You have worded the letter with expression of fraternal colleagueship. I have no jewel box in which I could save it. I am keeping it by my heart and will treasure it in my memory as long as I live.

Please accept my best wishes for health and happiness and my immense feelings of gratefulness for the Society.

Dear Doctor:

Please excuse my writing. It is very difficult, being as I am partially blind. I am in receipt of a wonderful letter, and believe me when I tell you, I can find no words sufficiently adequate in which to express my deep gratitude. Dear Doctor, I can only say thank you to all your Board a thousand times for what you are doing for me.

My heartful of wishes for one and all.

Again gratefully and sincerely,

Dear Doctor:

I was so surprised and overwhelmed with gratitude when I received your letter of the 23rd that I just sat here and wept. All the words in the dictionary would be insufficient to tell you of my appreciation of your plan to sustain me and to commemorate the memory of my beloved husband, now united to all the noble ones of the past through the love of God and the service of man.

The plan to give me $125 monthly was a direct answer of God to my prayer for strength to carry on and to find some way out of the unfortunate morass in which I have been placed. For several days I have been repeating the following well-known stanza:

I will not doubt though all my ships at sea
Come drifting home with broken masts and spars,
I will not doubt the hand that out of seeming evil,
Bringeth good to me, and though
I weep because those sails are altered,
I trust in Thee.

Now wasn't the favorable action of your Executive Committee God's direct reply to my prayers?

I would also like to add to my thanks the following statement made by Dr. C. the last morning of his life, when bending over me, paralyzed as I was by the polio, to kiss me goodbye on his way to his office, he said, "Dotsie, look not mournfully upon the past—go forth to meet the shadowy future with a brave and valiant heart." He passed out that night in his sleep, leaving this as a power to sustain me through many disastrous days.

May God bless you all and give you the divine gift of healing so nobly evidenced in the life of my beloved husband.

Thus, in conclusion, we may say that indigency among doctors, their wives, and widows exists in probably a greater degree than either doctors or the public realize. Because of pride it becomes known in the individual case only when it is ferreted out. Its public display is embarrassing and degrading. In a meager way the Physicians' Home has tried to help to alleviate conditions as we have found them. Doubtless more of this state exists than we know. Medicine is a proud and independent craft. We are proud to care for our own less fortunate colleagues. I hope a part of this problem has been so displayed as to arouse an active interest in preventing it.

Woman's Auxiliary
to the MEDICAL SOCIETY OF THE STATE OF NEW YORK

A.M.E.F. and the Auxiliary

FOR the past twenty years the Woman's Auxiliary to the American Medical Association and to the Medical Society of the State of New York has stood firmly behind organized medicine in its fight to keep the practice of medicine free from government control. In its many fields of endeavor none has assumed greater importance than this. The Auxiliary has assisted the medical societies in many ways: health education, safety, nurse recruitment, legislation, and such special projects as support of the Physicians' Home, the State Fair, and the circulation of *Today's Health.* However, important as are all these fields, and others, the call from the A.M.A. to its Auxiliary for financial support of the American Medical Education Foundation puts this project at the top of the list.

The prime purpose of the A.M.E.F. is to keep our medical schools free from government control. This is the foundation stone for the freedom of the medical profession. One-time Federal grants for medical school construction and renovation and Federal grants for special research in diseases are welcomed by the medical profession, but *continuing* Federal aid is not favored lest the government seek to control that which it finances. So, in the fight against socialized medicine, the medical schools form the first line of defense, and, should the battle for the freedom of the medical schools from control be lost then all is, indeed, undone.

These are empty words unless they are supported by deeds. The National Fund for Medical Education is doing a magnificent job in support of the medical schools, and surely its medical arm, the American Medical Education Foundation, must do its part. Therefore the Auxiliary is placing strong emphasis on its support of A.M.E.F. and asks not only the help of every doctor's wife in the State but of her husband, the doctor.

In the national picture the State Auxiliary is not as yet contributing as much as others, as is illustrated by the fact that whereas Indiana Auxiliary contributed $3.42 per capita last year and Connecticut $1.75 per capita, New York gave approximately 58 cents per capita. The Auxiliary is most anxious this year to do much better.

First, if the county auxiliary has no A.M.E.F. chairman, urge that one be appointed.

Every doctor's family uses the services of another physician at times and later wishes to express its gratitude in some form. What more appropriate way than a contribution in the doctor's honor to the American Medical Education Foundation Auxiliary Fund? He will then be sent an "Appreciation Card" by the A.M.E.F. chairman notifying him that such a gift has been made.

Memorial contributions may also be made to A.M.E.F. A "Sympathy Card" will be sent to the bereaved family, and the donor will be thanked by the Auxiliary A.M.E.F. chairman. Flowers are quickly gone but a contribution to further medical education is much more enduring. Such "appreciation" and "memorial" gifts may be made directly to the county auxiliary president or to the county auxiliary A.M.E.F. chairman, or they may be sent directly to the State Auxiliary chairman of A.M.E.F., who will make the proper acknowledgment and deposit the gift to the credit of the proper county.

Previously it has been announced that contributions might be earmarked for a special school. This can still be done. However, the Ford Foundation has appropriated $10,000,000 to match unrestricted contributions to the National Fund for Medical Education, including gifts to A.M.E.F. All receipts above the previous year's total will be matched dollar for dollar. Therefore, to realize the maximum from contributions this year, gifts should not be earmarked.

This year the Auxiliary has embarked on a Christmas card project in order to raise additional A.M.E.F. funds. Everyone uses Christmas cards and it is hoped that each doctor's family will use one hundred of the Auxiliary's Christmas cards. The cards are appropriate—being printed in color on good quality stock and picturing the horse and buggy doctor of former years. They sell for $10 per hundred. Names may be imprinted at an additional cost of $3.00 per 100. Orders should be made through the county auxiliary or for 200 cards or more sent directly to the State chairman, whose address is given below. Checks should accompany the order for the full amount and be made out to the American Medical Education Foundation.

At the annual luncheon of the Woman's Auxiliary to the A.M.A., held June 13 in Chicago at the Conrad Hilton Hotel, Dr. Elmer Hess, guest speaker and past president of the A.M.A., made this statement: "The Auxiliary can render a great service to the country by saving our medical schools from government control." At this luncheon the presentation of A.M.E.F. awards was made to the ten State Auxiliaries giving the largest amount per capita to A.M.E.F. Next year we should like New York to be on the honor list. Will you help us to this end?

Mrs. James L. McCartney
State Chairman, A.M.E.F.

Garden City, New York.

Department of

WORKMEN'S COMPENSATION

DAVID J. KALISKI, M.D., *Director, Workmen's Compensation Bureau*

GERALD D. DORMAN, M.D., *Chairman, Council Committee on Workmen's Compensation*

Medical Society of the State of New York

THE following series of decisions in various types of cases were rendered under the provisions of the Workmen's Compensation Law. These abstracts appeared in the *Workmen's Compensation Law Reports,* published by the Commerce Clearing House, Inc. These decisions should be of assistance to physicians who may be called in to treat such cases.

(1638) *Bowers* v. *Long Island Lighting Co.* New York Supreme Court, Appellate Division, Third Judicial Department. No. 349-26. December 23, 1955.

INTOXICATION—DEATH BENEFITS—MOTOR VEHICLE ACCIDENT—SUFFICIENT EVIDENCE THAT ACCIDENT RESULTED SOLELY FROM DECEDENT'S INTOXICATION.—The dependent wife of a deceased electrician was properly denied death benefits for the death of her husband who lost his life in a motor vehicle accident where the evidence was sufficient to sustain the finding that the accident resulted solely from the intoxicated condition of the decedent. There was ample evidence that the decedent was drinking on the job, that he was abusive, staggered, fell to the pavement, and generally appeared to be very much intoxicated. The court ruled that the evidence pointed unerringly to the fact of intoxication and to intoxication as the sole cause of the accident. Affirmed.

(1624) *Buccheri* v. *Montgomery Ward & Co.* New Jersey Supreme Court. No. A 21. November 7, 1955.

SPINAL INJURY IN NEW JERSEY—NEW YORK AWARD—RIGHT TO COMPENSATION IN NEW JERSEY.—A New York employe's claim filed with the New Jersey Compensation Division, for spinal injuries received during the course of the employment from an automobile accident in New Jersey, was properly dismissed, since the prior claim, which was filed with the New York Compensation Board and resulted in an award of $25.60 based on a period of four-fifths weeks at the rate of $32 per week, would preclude the subsequent claim. The court held that the employe had the burden to establish that the remedy and award allowed by New York was obnoxious to the policy of the New Jersey act and that he was left without an adequate remedy for his injuries or was deprived of a remedy given by the New Jersey law. Since he has failed to do this, and as the New York act and the New Jersey act are not mutually exclusive, the New York award is final. The question of election of remedies was left open. Affirmed.

(1553) *Simons* v. *Hedges and Utica Mutual Insurance Company.* New York Supreme Court, Appellate Division, Third Judicial Department. No. 237-6. October 6, 1955.

DEATH BENEFITS—ARISING OUT OF EMPLOYMENT—OCCURRENCE DURING RECREATIONAL PERIOD.—The dependent wife of a deceased dishwasher was properly awarded death benefits for the death by drowning of her husband while on his afternoon off, where the evidence was sufficient to support the finding that the resort employes were permitted to use the facilities of the hotel for recreational purposes and there was evidence sufficient to support an inference that the use of the facilities was an inducement and part of the contract of employment. The court ruled that the board was not compelled to accept the testimony of the general manager that he had forbidden the decedent the use of the canoes. Affirmed.

(1554) *Bouckhaart* v. *Interstate Motor Freight System.* New York Supreme Court, Appellate Division, Third Judicial Department. No. 235-3. October 6, 1955.

STATUTE OF LIMITATIONS—JURISDICTION—REOPENED CLAIM.—A truck driver who sustained injuries some ten years prior to an application to reopen a previously denied compensation claim was properly denied recovery because more than seven years had elapsed since the date of the injury and more than three years had elapsed from the date of any compensation payment. The record disclosed that the original claim was dismissed for want of prosecution. The court ruled that the board had no jurisdiction to grant a reopening of a claim ten years after the original accident because of a claimed continuing disability. Affirmed.

(4027) *Kornecki* v. *City of New York.* New York Supreme Court, Appellate Division, Third Judicial Department. No. 71-11. April 1, 1955.

OCCUPATIONAL DISEASE—DUPUYTREN'S CONTRACTURE—SAME EMPLOYMENT AT TIME OF DISABLEMENT.—A railroad motorman was properly awarded compensation for Dupuytren's contracture of the hands where the court ruled that the claimant came within the provision of the statute which allowed recovery even though more than one year had expired from the date of contraction to the date of disability where the claimant was in the same employment. The employer contended that the claimant was not covered by this provision in that he had been transferred from the job of motorman to the position of railroad clerk. The court rejected this contention, ruling that language of the statute was designed to emphasize that only continuity of employment with the same employer from the time of contracting the disease until disablement therefrom was sufficient to lift the twelve months time limit provided by the statute. Affirmed.

(4029) *Jarpe* v. *Ransohoff*. New York Supreme Court, Appellate Division, Third Judicial Department. No. 244-14. October 6, 1955.

OCCUPATIONAL DISEASE—PHYSICAL THERAPIST—AGGRAVATION OF RHEUMATOID ARTHRITIC CONDITION OF THE HANDS.—A physical therapist was properly awarded compensation for osteoarthritis where the evidence was sufficient to sustain the finding that the work she performed could aggravate a condition of rheumatoid arthritis in her hands, producing the osteoarthritis. The court ruled that there was adequate proof to sustain the finding of occupational disease associated with the work and of disablement at that time. Claimant was excused from filing her claim within the statutory time because she was unaware of her condition and the late doctor for whom she worked was aware of this condition. Affirmed.

(4048) *Welscher* v. *F. & M. Schaefer Brewing Company*. New York Supreme Court, Appellate Division, Third Department. No. 238-7. October 6, 1955.

DUPUYTREN'S CONTRACTURE—DATE OF DISABLEMENT AWARD—PROOF OF BOARD'S FINDING.—A brewery worker was not entitled to a permanent partial disability award for Dupuytren's Contracture because there was no substantial evidence to sustain the finding that the disablement occurred on November 3, 1950, the date set by the Board. The court held that the claimant's statement to the physician on April 26, 1951, when the disease was first discovered, that he had noticed it in April, 1950, and, the Board's finding that the disablement commenced on November 3, 1950, when the claimant commenced a month's period of unemployment, but not because of the disease, was insufficient to sustain proof for the date of disablement. The Board may fix the date of disablement, but it may not do so arbitrarily and without some proof to sustain the finding. Reversed and remanded.

(4051) *Detenbeck* v. *General Motors Corp.* New York Court of Appeals. No. 225. February 16, 1956. Reversing opinion reported at (4019).

OCCUPATIONAL DISEASE ALLEGED—AGGRAVATION OF PRE-EXISTING BACK CONDITION—LIFTING OF HEAVY MATERIALS.—In reversing the lower court which had ruled that the claimant had suffered an occupational disease by the aggravation of a preexisting back condition caused by the lifting of heavy materials, the court ruled that an ailment does not become an occupational disease simply because it was contracted on the employer's premises. Although the claimant incurred his disability while working for the motor company, the nature of his employment was not such as to have a tendency to induce a similar malady in the average workman. Insofar as it caused this result, the work in which the claimant was engaged simply amounted to the ordinary wear and tear of life impinging on the infirmity with which this claimant had been born and which he had carried with him during all of his previous life. The court further held that to affirm the lower court would transform workmen's compensation into life and health insurance. Reversed.

(4055) *Travelers Insurance Co.* v. *Cardillo*. United States Court of Appeals, Second Circuit. Nos. 23,558, 23,216, 23,683. July 19, 1955. Appeals from the United States District Court, Eastern District of New York. For prior opinion, see 4118 in 1953–1954 Decisions volume.

LONGSHOREMEN'S AND HARBOR WORKERS' COMPENSATION ACT—PARTIAL DISABILITY—PARTIAL LOSS OF HEARING—OCCUPATIONAL NOISES.—In three actions under the Longshoremen's and Harbor Worker's Compensation Act the claimants were properly awarded compensation for loss of hearing where there was no impairment of wage-earning capacity. The court ruled that there was evidence to sustain the findings of permanent binaural impairment of hearing arising naturally out of the claimants' employment, and consequently, the schedule loss formula provided for in the statute was properly invoked in accordance with the apparent Congressional intent conclusively to fix compensation for permanent partial loss of hearing. Affirmed.

(5200) *Morgan* v. *Robacker*. New York Supreme Court, Appellate Division, Third Judicial Department. No. 143-27. May 10, 1956.

COMMON-LAW ACTION—NONINSURED EMPLOYER—NECESSITY OF PROOF OF NEGLIGENCE.—A common-law action against an uninsured employer which did not allege negligence was properly dismissed. The injured employe brought this action against his employer who had failed to provide workmen's compensation insurance coverage for the injured employe. The injured employe contended that it was not necessary for him to allege and prove negligence because of the employer's violation of the statutory provision requiring the employer to secure compensation insurance. The court ruled that the statute neither contemplated nor authorized the result urged by the employe. The employe's remedy is a common-law action based on negligence. The court ruled that in such an action the statute removes the necessity of the employe of pleading or proving freedom of contributory negligence, eliminates the defenses of negligence of a fellow servant and assumption of risk of the employment. Affirmed.

(5201) *Johnson* v. *General Electric Co.* New York Supreme Court, Appellate Division, Third Judicial Department. No. 125–26. May 10, 1956.

Remedies—Compensation Act Exclusive Remedy.—In an action for personal injuries, an employe was properly denied recovery from his employer who had complied with the provisions of the compensation law which precludes the employe from recovery in a suit for personal injuries. The court ruled that the fact that in some proceedings before the board the employer was designated as "Knolls Atomic Power Laboratory" was of no significance. It clearly appeared that the reference to the laboratory was only to designate the place of the employe's employment, which was necessary because the compensation policy only covered the employer's employes who worked at the laboratory, the employer being a self-insurer as to its other employes. Affirmed.

MEDICAL MEETINGS

Symposium on Diabetes

The fourth annual symposium day on diabetes mellitus will be held on October 12 at Hunter College Auditorium, 695 Park Avenue, New York City. The topic this year will be "Insulin, Glucagon, and the Oral Hypoglycemic Sulfonylureas." The symposium is sponsored by the Clinical Society of the New York Diabetes Association. Cell types in the Islets of Langerhans and the hormones they produce, the lucus of action of insulin and chemistry and physiology of glucagon will be discussed at the morning session. The afternoon session will be devoted to a discussion of the mechanism and clinical studies of oral hypoglycemic sulfonylureas.

Women's Medical Society

The midannual meeting of the Women's Medical Society of New York State will be held on October 20 at the Hotel Statler in Buffalo. "Glaucoma in Elderly Patients" will be discussed by Dr. Elizabeth Olmsted, Buffalo, and "Management of Mental and Emotional Disturbances in the Aging," by Dr. Jennie Klein, Buffalo.

Pediatric Section of Kings County Medical Society

The pediatric section of the Medical Society of the County of Kings and Academy of Medicine of Brooklyn will meet on October 22 at 8:45 p.m. at the Kings County Medical Society Auditorium, 1313 Bedford Avenue, Brooklyn. "Poliomyelitis, Current Status in the U.S.A. and Elsewhere" will be discussed by Dr. Alex J. Steigman, chairman of the Department of Pediatrics, University of Louisville School of Medicine, and physician-in-chief of the Children's Hospital, Louisville, Kentucky.

American Cancer Society

The annual meeting and scientific session of the American Cancer Society will be held on October 29 and 30 in the Grand Ballroom of the Park Sheraton Hotel in New York City. This year the subject of the scientific session will be "Endocrines and Cancer."

For further information, contact the American Cancer Society, Professional Education Section, 521 West 57th Street, New York 19, New York.

American Fracture Association

The annual meeting and postgraduate courses of the American Fracture Association, will be held at the Drake Hotel, Chicago, Illinois from November 28 through December 1. Speakers from New York State will include Dr. Harrison McLaughlin, New York City; Dr. Walter Ludlum, New York City; Dr. Henry Meyerding, Rochester, and Dr. John E. Erich, Rochester.

American Group Psychotherapy Association

The first annual training institute of the American Group Psychotherapy Association will be held on January 9, 1957, at the Henry Hudson Hotel, 353 West 57th Street, New York City.

For further information, write to the Director of Training Institute, American Group Psychotherapy Association, Room 300, 345 East 46th Street, New York 17, New York.

NECROLOGY

Benjamin H. Archer, M.D., of the Bronx, died on August 29 at the age of fifty-nine. Dr. Archer graduated in 1920 from Columbia University College of Physicians and Surgeons. He was an associate attending physician at the Bronx Hospital and formerly had been on the staffs of the Cornell Clinic and the Lincoln Hospital in the Bronx. He was a past president of the Lincoln Hospital Alumni Association and a member of the Bronx County Medical Society and the Medical Society of the State of New York.

William Ross Casey, M.D., of Olean, died on July 28 at the age of forty-three. Dr. Casey graduated from the University of Buffalo School of Medicine in 1940. He was an obstetrician and gynecologist at the St. Francis Hospital, Olean, and an associate in obstetrics and gynecology at Buffalo General Hospital. With Dr. Joseph Anderson and the late Dr. Gary Carl, Dr. Casey was a founder of the Valley Medical Group. He was a Diplomate of the American Board of Obstetrics and Gynecology and a member of the Buffalo Academy of Medicine, the Buffalo Obstetrical and Gynecological Society, the Cattaraugus County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Frank Joseph Cerniglia, M.D., of Rego Park, died on September 2 at the age of fifty-two. Dr. Cerniglia graduated in 1928 from Long Island College Hospital School of Medicine and interned at Jamaica Hospital. He was an attending surgeon at Jamaica, Queens General, and Creedmoor State Hospitals, chief of surgery and thyroid surgery at the Jamaica Hospital Outpatient Department, an assistant in surgery at Long Island College Hospital, and chief of surgery at the Long Island College Hospital Outpatient Department. Dr. Cerniglia was a Fellow of the American College of Surgeons, a Diplomate and Fellow of the International College of Surgeons, and a member of the Queensboro Surgical Society, the Queens County Medical Society of which he was also a past president, the Medical Society of the State of New York, and the American Medical Association.

Thomas Jefferson Collinson, M.D., of Tupper Lake, died on August 14 at the age of seventy-three. Dr. Collinson graduated from the Queens University Faculty of Medicine, Ontario, in 1908. He was a member of the staff of Mercy Hospital, Tupper Lake, and belonged to the Franklin County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Jaynes Mott Crumb, M.D., of South Otselic, died on August 30 at the age of seventy-eight. Dr. Crumb graduated from the University of Vermont College of Medicine in 1902. He was an associate staff member of the Chenango Memorial Hospital, Norwich. At one time he had served as medical counsel for the district attorney at Herkimer and in 1906 took part in the famous Gillette murder case. Dr. Crumb was a member of the Chenango County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Arthur H. Cummings, M.D., of Mesa, Arizona, formerly of Rome, died on August 22 at the age of sixty. Dr. Cummings graduated in 1922 from the University of Buffalo School of Medicine. He was an honorary member of the staffs of Rome Hospital and Murphy Memorial Hospital. He was a member of the Oneida County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Stephen Horace Curtis, M.D., of Troy, died on August 20 at the age of sixty-two. Dr. Curtis graduated from Albany Medical College in 1915. He was an attending physician in the Metabolic Department at the Leonard Hospital, Troy. Dr. Curtis served two terms as Rensselaer County coroner and was a veteran of World War I and World War II. Dr. Curtis was a Diplomate of the American Board of Pathology, a Fellow of the American College of Physicians, and a member of the American Association for the Study of Neoplastic Diseases, the New York State Pathological Society, the Rensselaer County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Mortimer Danzer, M.D., of Brooklyn, died on September 5 at the age of fifty-two. Dr. Danzer graduated in 1931 from New York University and Bellevue Hospital Medical College. He was an assistant in chemistry and biology at New York University. In 1939 he was appointed assistant visiting physician in charge of the blood bank at the Gouverneur Hospital and later became chief of hematology at Stuyvesant-Polyclinic. He was a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Edmund Devol, M.D., of New York City, died on August 27 at the age of eighty-four. Dr. Devol graduated from the New York Homeopathic Medical

College and Flower Hospital in 1896. During World War I he served in France as a major in the U.S. Army Medical Corps. He was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Charles Edward Elkins, M.D., of Massena, died on August 9 at the age of seventy-nine. Dr. Elkins graduated from New York University and Bellevue Hospital Medical College in 1903. He was a consultant on the staff of St. Lawrence State Hospital, Ogdensburg, and a staff member of the Massena Memorial Hospital. From 1919 to 1948 he was medical director of the Massena Works of Alcoa and health officer for the Consolidated Board of Health of the Town and Village of Massena from 1928 until May 5, 1956. He was a past president of the St. Lawrence County Medical Society and a member also of the Medical Society of the State of New York and the American Medical Association.

Judson Cook Fisher, M.D., of New York City, died on August 25 at the age of seventy. Dr. Cook graduated in 1913 from Columbia University College of Physicians and Surgeons and interned at City Hospital. He was former medical director of the Ocean Accident Insurance Company. Dr. Cook was a member of the Industrial Medical Association, the American Therapeutic Society, the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Morris Greenberg, M.D., of Forest Hills, died on August 3 at the age of sixty-seven. Dr. Greenberg graduated in 1924 from the New York Homeopathic Medical College and Flower Hospital. He was an assistant in pathology at Queens General and Triboro Hospitals. Dr. Greenberg was a Junior Member of the College of American Pathologists and a member of the New York Pathological Society, the Queens County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Louis Greenwald, M.D., of New York City, died August 27 at the age of sixty-seven. Dr. Greenwald graduated from New York University and Bellevue Hospital Medical College in 1911. He was an associate attending physician at Flower and Fifth Avenue Hospitals and a consulting physician at Metropolitan Hospital. He was a Diplomate of the American Board of Internal Medicine, a Fellow of the American College of Physicians, and a member of the Society for the Study of Blood, the East Side Clinical Society, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

James Alexander Henderson, M.D., of Forest Hills, died on September 2 at the age of forty-eight. Dr. Henderson graduated from George Washington University School of Medicine in 1934 and interned at Brooklyn Eye and Ear Hospital and Mary Immaculate Hospital, Queens. A Diplomate of the American Board of Otolaryngology, he was a member of the American Academy of Ophthalmology and Otolaryngology.

Joseph Katz, M.D., of Brooklyn, died on March 19 at the age of seventy-one. Dr. Katz graduated from Long Island College Hospital School of Medicine in 1914.

Moses Keschner, M.D., of New York City, died on August 31 at the age of eighty. Dr. Keschner graduated in 1899 from Columbia University College of Physicians and Surgeons. He was a consultant in neurology at Montefiore, Sydenham, Maimonides, and Beth Israel (Newark, New Jersey) Hospitals. A former clinical professor of neurology at Columbia University, he was also on the medical advisory board of the National Jewish Hospital, Denver. Dr. Keschner was a Diplomate of the American Board of Psychiatry and Neurology and a member of the American Psychiatric Association, the American Academy of Neurology, the Association for Research in Nervous and Mental Diseases, the New York Society for Clinical Psychiatry, the New York Academy of Medicine of which he was chairman of the section on neurology and psychiatry, the New York Neurological Society of which he was a former president, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Boris Klasons, M.D., of Nassau, died on June 2 at the age of forty-three. Dr. Klasons received his medical degree from Latvijas Universitate Medicinas Fakultate, Riga, Latvia, in 1940. He was an attending physician at the Memorial Hospital Outpatient Department and a member of the Rensselaer County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

William Grant Lewi, M.D., of Santa Monica, California, formerly of Albany, died on August 18 at the age of eighty-six. Dr. Lewi graduated in 1892 from Albany Medical College. He was a former member of the staff of the Outpatient Department at Albany Hospital and at one time was associated with the staff of Albany Medical College. Dr. Lewi was a member of the Albany County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Cyprus P. Jennings, M.D., of Macedon, died on August 22 at the age of eighty-three. Dr. Jennings graduated from the University of Buffalo School of Medicine in 1894. He was a member of the Wayne County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

William Lee McCanty, M.D., of Helmuth, died on April 26 at the age of sixty-four. Dr. McCanty graduated in 1915 from the University of Buffalo School of Medicine. He was the supervising psychiatrist at the Gowanda State Hospital. Dr. McCanty was a member of the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Michael J. Murphy, M.D., of Brooklyn, died on August 31 at the age of fifty-eight. Dr. Murphy graduated from Tufts College Medical School in 1926. He was a Fellow of the American College of Surgeons.

James E. Poulton, M.D., of St. George, Staten Island, died on August 31 at the age of fifty. Dr. Poulton graduated in 1935 from Northwestern University Medical School and interned at Staten Island Hospital and Marine Hospital. He was an associate in surgery at the Staten Island Hospital and an associate in gynecology and vascular diseases in the Staten Island Hospital Outpatient Department. Dr. Poulton was a member of the Richmond County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

George Rosenthal, M.D., of Cherry Valley, died on August 23 at the age of seventy. Dr. Rosenthal received his medical degree from the Universitat Heidelberg Medizinische Fakultat, Baden, in 1910. He was a member of the Otsego County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Gerhard Rosenthal, M.D., of Blasdell, died on April 6 at the age of fifty-four. Dr. Rosenthal received his medical degree from the University of Freiburg in 1927. He was an attending physician at Our Lady of Victory Hospital, Lackawanna. Dr. Rosenthal was a member of the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

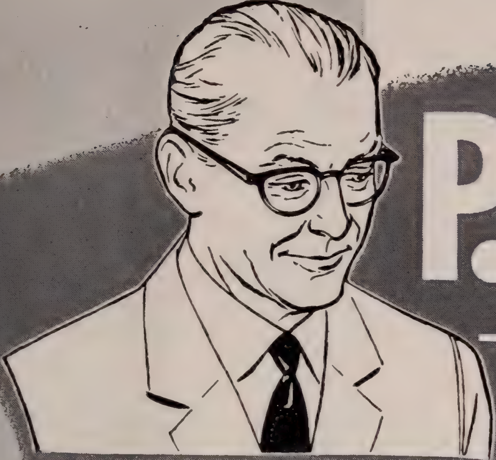
William Siegal, M.D., of Albany, died on August 31 at the age of sixty-one. Dr. Siegal graduated from New York University and Bellevue Hospital Medical College in 1918. A pioneer in the mass use of chest x-rays, Dr. Siegal retired in 1955 as director of the Bureau of Tuberculosis Case Findings, State Health Department, but continued to act as consultant to the Department's Division of Tuberculosis Control. Before joining the New York State Department of Health in 1927 he founded the General Health Clinic at the Bowling Green Neighborhood Association in New York City and had also served as director of the Maryland Tuberculosis Sanitarium. Dr. Siegel was a Diplomate of the American Board of Preventive Medicine and a member of the American Public Health Association, the American Trudeau Society, the Albany County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

George Irving Swetlow, M.D., of Brooklyn, died on August 20 at the age of fifty-seven. Dr. Swetlow graduated from Long Island College Hospital School of Medicine in 1920. He was Professor of Medical Jurisprudence at the Brooklyn Law School and consultant in neurology at Cumberland Hospital. Dr. Swetlow delivered lectures on neuroanatomy and other medical subjects at the Long Island College Hospital and served as head of the Juvenile Delinquency Clinic. He was a Fellow of the American College of Physicians and a member of the Pan American Medical Association, the Brooklyn Neurological Society, the Brooklyn Psychiatric Society, the Brooklyn Society of Internal Medicine, the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

John F. Timmes, M.D., of Richmond Hill, died on January 25 at the age of seventy-nine. Dr. Timmes received his medical degree from the University of Vienna in 1912. He was a consulting physician in medicine at St. Catherine's Hospital and an assistant attending physician at Evangelical Deaconess Hospital, Brooklyn. Dr. Timmes was a member of the Queens County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Harold Maydole Totman, M.D., of Syracuse, died on August 5 at the age of fifty-nine. Dr. Totman graduated in 1924 from Syracuse University College of Medicine. Dr. Totman was medical director of the Unity Life and Accident Insurance Company, an associate surgeon at St. Joseph's Hospital, and a professor of surgery at the State University of New York College of Medicine at Syracuse. He was a member of the Onondaga County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Harry E. Wheelock, M.D., of Fredonia, died in August at the age of sixty-five. Dr. Wheelock graduated in 1914 from Jefferson Medical College of Philadelphia. He was an attending surgeon at the Brooks Memorial Hospital, Dunkirk and for many years had served as a member of the Board of Visitors of the Roswell Park Memorial Institute, Buffalo. During World War II he served on the Board of Appeals of the Selective Service Administration and was awarded the Congressional Medal for this service. Dr. Wheelock was a Fellow of the American College of Surgeons and a member of the Buffalo Academy of Medicine, the Chautauqua County Medical Society, the Medical Society of the State of New York, and the American Medical Association.



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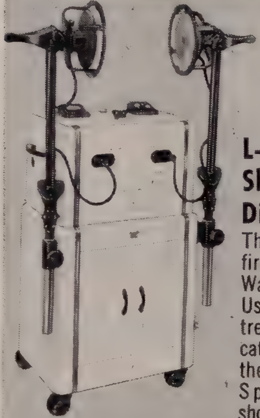

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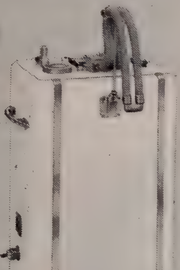

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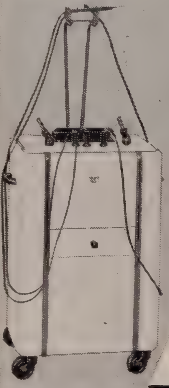

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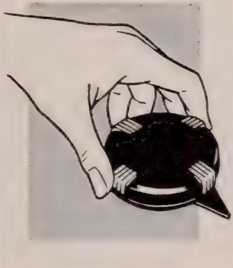

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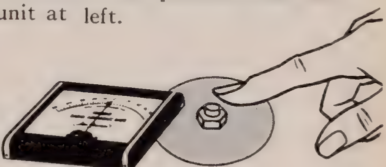

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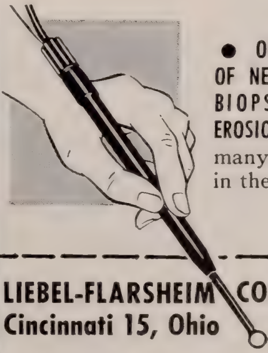

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MEDICAL NEWS

Course in Practical Electrocardiography—The New York County Academy of General Practice is sponsoring a course for members of the American Academy of General Practice in "Practical Electrocardiography" which will be given Thursday evenings from 9 to 11 P.M. for fifteen weeks beginning October 25 at the Mount Sinai Hospital, 100th Street at Fifth Avenue, New York City.

The faculty, under the leadership of Dr. Arthur M. Master, will include Drs. Simon Dack, Arthur Grishman, Harry L. Jaffe, and staff. For further information, contact Dr. Joseph A. Pincus, registrar, 147 West 55th Street, New York 19, New York.

Public Health Service Appointments—The United States Public Health Service has announced the appointment of 98 physicians, nurses, sanitary engineers, and pharmacists to the inactive reserve component of its commissioned officers corps. Physicians from New York State include Dr. Nicholas J. Abbadess, Little Neck, appointed with the rank of senior surgeon; Dr. Theodore S. Drachman, Peekskill, appointed with the rank of senior surgeon; Dr. Paul H. Gerst, New York City, appointed with the rank of senior assistant surgeon, and Dr. Roger W. Williams, New York City, appointed with the rank of scientist.

Post-Graduate Medical Courses—Five short-term courses related to the heart and circulatory system will be offered by the New York University Post-Graduate Medical School during the month of November. The courses include cardiac roentgenology held November 1 and 2 under the direction of Dr. J. Scott Butterworth; electrocardiography, November 12 through 16, also under the direction of Dr. Butterworth; fundamentals of clinical electrocardiographic interpretation, Wednesdays, November 7 through March 6 under the direction of Dr. J. Marion Bryant; peripheral vascular diseases, November 26 through 30, under the direction of Dr. A. Wilbur Duryee; and cardiac arrest and resuscitation, November 12, under the direction of Professor J. William Hinton and Dr. L. Corsan Reid.

Further information may be obtained from the Dean, Post-Graduate Medical School, 550 First Avenue, New York 16, New York.

Course in Cardiovascular Diseases—A course in "Recent Advances in Cardiovascular Diseases" is being held at the Mount Sinai Hospital, New York City, October 8 through 12 under the auspices of the American College of Physicians. The co-directors will be Drs. Arthur M. Master and Charles K. Freidberg. The fees for members of the American College of Physicians will be $30, and $60 for nonmembers. Registration should be filed with the Executive Secretary, American College of Physicians, 4200 Pine Street, Philadelphia 4, Pennsylvania.

American College of Surgeons—The Syracuse chapter of the American College of Surgeons held their first fall meeting on September 20 at the Hotel Syracuse. Guest speakers included Dr. Leon Ginsburg, New York City; Dr. Abraham Aaron, Buffalo, and Drs. Paul Riemenschneider and Alfred Berne, Syracuse.

Postdoctoral Fellowships Available—The National Foundation for Infantile Paralysis announces that postdoctoral fellowships are available for full-time study in preparation for careers in research and/or academic medicine, or in the clinical fields of psychiatry, rehabilitation, orthopedics, the management of poliomyelitis and preventive medicine.

All awards are made upon recommendation of the appropriate National Foundation Fellowship Committee. Applications must be received by December 1, 1956 for consideration in February, 1957, and by March 1, 1957 for consideration in May, 1957.

For further information, write to: Division of Professional Education, The National Foundation for Infantile Paralysis, 120 Broadway, New York 5, New York.

Medical Officers Examinations—A competitive examination for appointment of medical officers to the regular corps of the United States Public Health Service will be held in various places throughout the country on November 27, 28, 29, and 30.

Appointments provide opportunities for careers in clinical medicine, research, and public health. They will be made in the ranks of assistant and senior assistant, equivalent to Navy ranks of Lieutenant (j.g.) and Lieutenant.

Entrance examinations will include an interview, physical examination, and comprehensive objective examinations in the professional field. Application forms may be obtained from the Chief, Division Personnel, Public Health Service, Department of Health, Education, and Welfare, Washington 25, D.C. Completed application forms must be received in the Division of Personnel no later than October 13.

Hill-Burton Grants—The Department of Health,

[Continued on page 3046]

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*Silbert, N. E., Ciba Clinical Symposia; 6: 86; May 1954
Mechaneck, I., Annals of Allergy; 12: 164: March 1954
Rosen, F. L., J. Med. Soc. N. J.; 51: 110: March 1954
Mueller, H. L., & Hill, L. W.: N. E. J. of Med; 249: 726, 1953

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[Continued from page 3044]

Education, and Welfare has reported the status of all Hill-Burton grants for the State of New York as of July 31, 1956. Projects approved during the past month include the Otsego County Public Home Infirmary in Cooperstown at an estimated total cost of $740,900, and an approved Federal share of $152,966 with 60 additional beds, and St. Johnsland Nursing Home at an estimated total cost of $481,891, an approved Federal share of $153,041, and 35 additional beds.

Approved, but not yet under construction (including above) are 79 projects at a total cost of $88,120,620, including $23,172,578 Federal contribution and designed to supply 4,521 additional beds.

Under construction are 18 projects at a total cost of $52,122,352, including Federal contribution of $8,163,307 and designed to supply 1,539 additional beds.

Completed and in operation are 14 projects at a total cost of $12,863,555, including Federal contribution of $3,432,713 and supplying 535 additional beds.

Personalities

Appointed

Dr. McKeen Cattell, head of the Department of Pharmacology at Cornell University Medical College, to the new position of administrator of grants awarded by the American Cancer Society for the training and support of scientific investigators... Dr. A. L. Chapman, New York regional medical director for the Department of Health, Education, and Welfare, as chief of the Public Health Service's Division of Special Health Services in Washington, D.C.... Dr. Bernard Kalfayan, New York City, as attending pathologist and director of laboratories at the Roosevelt Hospital, New York City... Dr. Alfred W. Murphy, New York City, as assistant director of the Department of Health and Hospitals of New York Catholic Charities.

Speakers

Dr. James Greenough of Oneonta, president of the Medical Society of the State of New York, at dedication ceremonies of the Community Hospital of Schoharie County in Cobleskill on August 11... Dr. George T. Pack, New York City, at the first meeting of a new lecture series and interschool student cancer society sponsored by local hospitals and medical schools in Washington, D.C., on "The Philosophy of Cancer Therapy" on October 22.

Honored

The late Dr. Samuel E. Cohen, by a series of memorial lectures in gastroenterology in Binghamton.

New Offices

Dr. Peter B. Lesslie, general practice in Tupper Lake... Dr. John C. Macaulay, of Sherrill, practice of pediatrics in Oneida.

"Alcohol Pain" Is Symptom of Hodgkin's Disease

Pain following a drink of beer or other alcohol now has been added to the thousands of unusual telltale signs which help doctors to diagnose diseases.

Three Minnesota doctors reported that four patients with Hodgkin's disease suffered severe pain in the arms, chest, neck, shoulder, or low back within five minutes after taking any kind of alcoholic drink.

The report by Drs. John O. Godden, O. Theron Clagett, and Howard A. Andersen of the Mayo Clinic and Foundation, Rochester, was made in the April 14 *Journal of the American Medical Association.*

Hodgkin's disease is a normally painless but progressive enlargment of the lymph nodes, spleen, and general lymphoid tissue, which often begins in the neck and spreads over the body.

The doctors said in their four patients the pain appeared almost immediately after a few swallows of alcohol. Neither the type of drink nor the amount consumed influenced the pain. The patients described it as "paralyzing," "dragging," and "an achy numb feeling." The pain lasted from fifteen or twenty minutes to three hours in the various patients.

The doctors noted at least 15 other reports of pain among Hodgkin's disease patients following the drinking of alcohol. The cause of the pain is unknown, but it often appears in regions known to be affected by the disease.

They said they agreed with other physicians who feel that "alcohol pain" is one good test for persons suspected of having Hodgkin's disease, and for detecting recurrences among treated patients. It also could be used to evaluate results of treatment.

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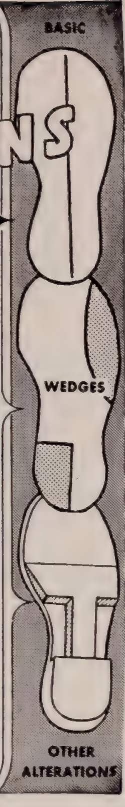

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NEWS FROM THE MEDICAL SCHOOLS

Albany Medical College

Donation—Mrs. Oakley Hogan has presented $1,500 in memory of her son, Marvin L. Hogan, to support further research in the field of leukemia.

Representatives—Four representatives at the Sixth Congress of the International Society of Hematology, Boston, August 27 through September 1, from the College were Dr. Simon Propp, associate professor of medicine and head, Sub-department of Hematology, who also presented a paper on hypoplastic subleukemic leukemia; Dr. Charles A. Hall, assistant professor of medicine; Dr. William B. Scharfman, instructor in medicine, and Dr. Thomas L. Rider, instructor in pediatrics. Dr. Propp and his associates also presented a display of bone marrow studies at the Congress.

Department of Microbiology—The Department of Microbiology has been formed at the College and will be under the direction of Dr. Scott V. Covert who has been named professor and chairman. Resident appointments will be made possible by grants. Assigned to the staff are Dr. John J. A. Lyons, assistant professor; Dr. Dicran A. Berberian, lecturer, and Sing-Mei Chen, fellow. Recent appointees to the College and assigned to microbiology are Dr. Randall Thompson, associate professor; Dr. Charles Hurwitz, lecturer; Dr. Ernest Sabato, instructor, and Dr. Lawrence Levine, lecturer.

Grants—The U.S. Public Health Service, National Institute of Neurological Diseases and Blindness, has awarded for the third consecutive year a grant of $5,735 for the study of brain influences upon glandular function, to be used by Dr. Emanuel M. Bogdanove, assistant professor of anatomy.

The U.S. Public Health Service has awarded a teaching and research grant of $35,250 which will be administered by Dr. Kenneth B. Olson, assistant professor of medicine and director, Sub-department of Oncology. The teaching award, $25,000, will provide salary support for instructors and fellowships and aid in the maintenance of a tissue culture and the research, $10,250, is to continue research for trace (rare) elements in cancer tissue.

New York Medical College

Appointed—Dr. Jonas N. Muller, who has been with American Public Health Association as staff director of the Subcommittee on Medical Care, and staff director of the subcommittee on Chronic Disease and Rehabilitation as well as an associate professor of public health at Yale University School of Medicine, has been appointed director of the Department of Preventive Medicine, Public Health, and Industrial Hygiene, and professor in the Department.

Freshman Class—The 96th year of the College began on September 10 with 128 new medical students enrolled in the freshman class. The total registration is 500 medical students.

New York University College of Medicine

Appointed—Dr. Gordon Watkins Douglas, who has been on the staff since 1949, has been appointed professor and chairman, Department of Obstetrics and Gynecology, at the College, succeeding Dr. William E. Studdiford who retired September 1 and became professor emeritus.

State University of New York Downstate Medical Center

New Academic Year—Opening of a new $14,500,000 Basic Sciences building, a new curriculum for medical students, the inauguration of a graduate educational program were highlights of the opening fall term. The new building, which is 11 stories high in the tower portion and seven stories high at each end, extends for a distance of three blocks along Clarkson Avenue in Brooklyn. It contains 800 rooms with offices and laboratories for the administration and for full-time faculty members, instructional facilities for medical students, and dining and

[Continued on page 3050]

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[Continued from page 3048]

recreational areas for students and faculty.

The new medical curriculum, which went into effect in September, is directed toward maximal unity of knowledge and more individualized treatment of students. To achieve the former the medical course will move chronologically from study of the cell, to organs, organ systems, the integrated human being, and finally man in his environmental relationships. More individualized treatment of each student will be accomplished through a reduction of teaching in the mass and an increase in free time. This allows a two-level teaching program which gives the slower student more time for study and the brighter one more time to pursue elective study or research.

The new graduate educational program in the biologic sciences basic to medicine got under way on September 15 with the admission of 10 candidates for the Ph.D. degree. At the present time programs of study are being offered in anatomy, biochemistry, pharmacology, and physiology. Courses under the graduate educational program are being taught by members of the faculty of the College of Medicine. Students may not be enrolled in the medical and graduate programs at the same time.

Opening Exercises—The College of Medicine opened its 96th academic year on September 17 with a special student dedication ceremony marking the opening of the Basic Sciences building. Speakers on this occasion were Dr. Howard W. Potter, Dean of the College; Dr. Thomas P. Magill, Professor and Chairman, Department of Microbiology; Dr. William Console (Class of 1937), clinical professor of psychiatry; Melvin Hollander (Class of 1958), president of the Student Council, and Dr. Carlyle Jacobsen, Executive Dean for Medical Education of the State University of New York.

Appointments—Dr. Joseph K. Hill, formerly assistant to the Dean at the State University Upstate Medical Center in Syracuse, has been appointed executive secretary of the Downstate Medical Center with administrative responsibility for the operation of all aspects not directly related to the teaching program. Dr. Hill has been assistant to the Dean and assistant professor of public health and preventive medicine at Syracuse since 1953. Prior to that he was associate professor of education and public health at New Haven (Conn.) State College from 1951–1953, and lecturer in education and public health at Yale University during the same period. From 1949–1951 he was instructor in public health at the Yale School of Medicine. Dr. Hill received both his M.S. and Ph.D. degrees from Yale.

Dr. Joseph B. Pincus has been appointed full-time professor of pediatrics at the College of Medicine and Director of Pediatrics at the Jewish Hospital of Brooklyn. Until recently he was clinical professor of pediatrics at the College and part-time chief of pediatrics at the Hospital. The dual appointment is evidence of the recently established close affiliation between the College and the Hospital. Under the direction of Dr. Pincus, third- and fourth-year medical students will receive part of their clinical training in pediatrics on the Hospital's wards and in its outpatient departments. Dr. Pincus received his M.D. degree from the College of Physicians and Surgeons in 1921.

State University of New York College of Medicine at Syracuse

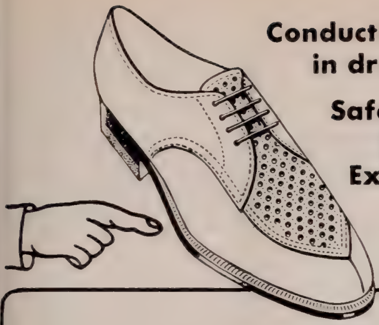
Appointed—Dr. Wilfred W. Westerfeld has been appointed acting dean and assumed his post September 1. Dr. Westerfeld has been a professor and chairman in the Department of Biochemistry since 1945.

American Cancer Society Grant—Dr. W. W. Westerfeld, Department of Biochemistry, received a renewal grant of $5,000. The funds will be used to continue basic studies stemming from the discovery of molybdenum enzymes.

Research Grants—A renewal grant of $11,340 for Dr. Charles Lloyd, associate professor of obstetrics, and Dr. William Faloon, associate professor of medicine, for continuation of one of their research projects, and a grant of $7,000 to Dr. Anthony T. Ladd, assistant professor of medicine, and Dr. Charles N. Remy, instructor in biochemistry, and full-time staff members at the Veterans Administration Hospital, to study the ways in which hemoglobin is made in the body by people suffering from various types of anemia have been received from the U.S. Public Health Service.

Class of 1960—Seventy-nine first year students began their four-year training toward an M.D. degree on September 10.

Promotions—*Department of Radiology*—Dr. Paul Riemenschneider to full professor; Dr. Alfred Berne to associate professor; and Dr. Alfred Schick to assistant professor. *Department of Surgery*—Dr. Lloyd Rogers to associate professor; Drs. William Parry, George Sisson, Bernard Piskor, Donald Buschle, Paul Cramer, Jacob Israel, Clifford Straehley, Fred E. Wetherell to clinical assistant professors. *Department of Medicine*—Drs. Max Kutzer and Paul C. Clark to clinical professors; Drs. Robert Westlake and William Schiess to clinical associate professors; Drs. George Burnett, Benjamin Levy, Murray Grossman, Irving Swartz, Armand Aquiline as clinical assistant professors. *Department of Otolaryngology*—Drs. David W. Brewer, Lee R. Stoner, and Richard Sullivan to clinical associate professors; Drs. David Poushter and Wesley Bradley to clinical assistant professors, and Dr. George Lerner to assistant professor. *Department of Obstetrics*—Dr. Albert Van Ness to clinical professor; Dr. James Capps to clinical assistant professor.



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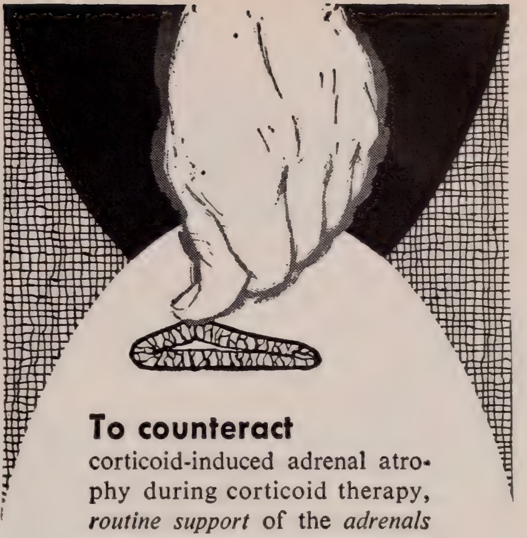

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BOOKS REVIEWED

Androgens. Biochemistry, Physiology, and Clinical Significance. By Ralph I. Dorfman, Ph.D. and Reginald A. Shipley, M.D. Octavo of 590 pages, illustrated. New York, John Wiley & Sons, 1956. Cloth, $13.50.

This textbook of almost 600 pages should become a classic reference source for the vast amount of experimental and clinical work which has been done on androgens. It is primarily divided into four sections. The first section is a detailed review of the biochemistries of the androgenic steroids and is primarily for the investigator and advanced steroid student. The second part covers comparative physiology of androgens in animals and man. The third part is an excellent critical summary of hypogonadal and hypergonadal states and the use of androgens and is probably the best source of reference for the vast confusing literature of clinical androgen therapy. The last section reviews in detail the various tests for androgens and will be most useful for clinical as well as research endocrine laboratories.

This is an outstanding book and is the best text on androgens this reviewer has seen.—Martin Perlmutter

Henry Ford Hospital. International Symposium on Cardiovascular Surgery. Studies in Physiology, Diagnosis and Techniques. Proceedings of the Symposium held at Henry Ford Hospital, Detroit, Michigan, March, 1955. Edited by Conrad R. Lam, M.D. Octavo of 543 pages, illustrated. Philadelphia, W. B. Saunders Company, 1955. Cloth, $12.75.

This volume contains the papers presented by a brilliant group of surgeons, cardiologists, and physiologists. The speakers represent many of the top echelon in the United States and in the world in this field. For that reason what they had to say is interesting and often important. The papers often do not contain new knowledge but represent a summary of the speaker's most recent work, therefore, much of the material has appeared elsewhere. This reviewer felt that the individual presentations were too short and for that reason could not cover the ground thoroughly.

The volume cannot be recommended as a reference work. Instead its chief value lies in the fact that it contains the views and conclusions of very important people in the field of cardiovascular surgery. It is a faithful compilation of an important symposium.—Edwin P. Maynard, Jr.

Time Distortion in Hypnosis. An Experimental and Clinical Investigation. By Linn F. Cooper, M.D., and Milton H. Erickson, M.D. Octavo of 191 pages. Baltimore, Williams & Wilkins Company, 1954. Cloth, $4.00.

The experimental and clinical spade work in this monograph was done between February, 1948 and May, 1954. A foreword by Dr. Harold Rosen gives encouragement to this unique contribution to specific hypnotic technics in time distortion. Since Dr. Linn F. Cooper's first article on this subject appeared in 1948, significant progress has been made. Issue is taken with the latter's research on the subject, although highly commended for representing six years of conscientious investigation in formulating basic concepts. Therapeutic implications were investigated by Dr. Erickson as early as 1950 and these are given detailed account in the present volume. Meaningful and significant illustrative case material enhances its value.

Illustrative material and tables make for clarification. An adequate list of references and index rounds out this highly important monograph, which represents a milestone in hypnotic research.—Frederick L. Patry

Planning Florida's Health Leadership. A Summary. By Russell S. Poor, Ph.D. Octavo of 93 pages, illustrated. Gainesville, University of Florida Press, 1954. Paper, $1.50.

This publication is the result of an intensive study made possible by a grant of $96,000 from the Commonwealth Fund of New York City. The program of study and planning was unique, in that during the development of the concept and conclusion set forth, every possible source of information was gathered from authorities in medical education—the basic sciences and the clinical fields, practicing physicians, foundations interested in health, state and Federal health agencies, medical schools visited, 260 qualified persons interviewed, and an uncounted number of incidental conversational discussions.

The result of the study gained for the State of Florida a Health Center for which the legislature voted $5,000,000 to provide for building and equipping the Basic Medical Sciences unit of the College of Medicine. The initial units of the Health Center are to be the College of Medicine and the School of Nursing. The program also presented the second phase of the building program at approximately $7,000,000 to provide for the construction and equipping of an outpatient department and teaching hospital for the College of Medicine. A

[Continued on page 3054]

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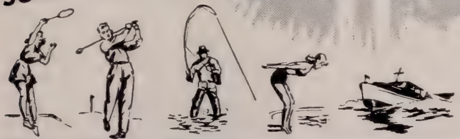

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[Continued from page 3052]

College of Dentistry was not proposed to the Legislature. Space has been provided and dentistry can be added later if the state decides such a unit is needed. The Health Center will also include the Cancer Research Laboratory, which is now on the campus, housed in temporary quarters. An aggregation of units will ultimately compose the Health Center.—A. Jablons

Asclepiades, His Life and Writings. A Translation of Cocchi's *Life of Asclepiades* and Gumpert's *Fragments of Asclepiades*. By Robert Montraville Green, M.D. Octavo of 167 pages, illustrated. New Haven, Elizabeth Licht, 1955. Cloth, $6.00.

Asclepios was the mythical Greek god of medicine and the name Asclepiades has been borne by some scores of physicians in the pre-Christian era. The most famous of all the "sons of Asclepios," and the most famous physician of his age, was Asclepiades of Prusa (born c. 124 B.C.). Asclepiades, who practiced the art of medicine some three hundred years after Hippocrates and two hundred years before Galen, has been historically overshadowed by his more eminent predecessor and successor.

Asclepiades' relative medical-historical anonymity would not appear to have been deserved and the present volume serves the most useful and long over-due purpose of restoring him to a rightful place of eminence among the important figures of ancient medicine, and introducing him to the English speaking and reading world in excellent translations by the late scholar, Dr. Robert Montraville Green.

Only fragments of Asclepiades' writings have withstood the ravages of time and these not in the original but as quotations and citations found in the writings of 27 ancient authors. Included in this illustrious list are physicians, philosophers, scholars, etc., such as Galen, Oribasius, Aetius, Plutarch, Strabo, Celsus, Aurelianus, Cicero, Pliny, and Seneca. Most of the material by and about Asclepiades is supplied by Celsus, Pliny, Aurelianus, and Galen. The first collection of these *Fragments* was compiled by Christian Gottlieb Gumpert and published in Weimar in 1794. The present volume is in two parts—the first translation into English of the *Fragments* collected by Gumpert and a new English translation of Cocchi's *Life of Asclepiades*. Dr. Cocchi's *Life* was published in the 18th century and in 1762 was translated into English by an unknown and inadequate hand. Thus Dr. Green's translations have long been needed and now make it possible to at last have available both the *Fragments* and the *Life* in one interesting and readable volume, albeit somewhat drowning in references and footnotes and occasionally a bit involved in sentence structure.

The major part of the book is devoted to the fragments of Asclepiades' works derived from the writings of the ancients. There are many fascinating passages depicting thoughts and opinions 2,000 years old and some of these seem surprisingly up to date. Although many of the 27 men who quoted Asclepiades did so in order to confute or refute him, and Pliny considered him a charlatan, more recent studies by Neuburger and Wellman indicate the possibility that Asclepiades played an important role in the evolution of the atomistic theory and in the field of physical medicine.

Among other things, Asclepiades taught that treatment should be given "ceto, tute et jucunde" (promptly, safely, and pleasantly). He was an astute observer, differentiating between delusions and hallucination and was greatly advanced in his therapy for emotional disorders. He is said to have been the first to have mentioned tracheotomy and the first to see a causal relationship between hydrophobia and the bite of rabid animals.

Concerning an atomistic theory, it is reported that Asclepiades said that atoms ". . . contain in themselves the origin of all things. They are infinitely minute . . . and can be conceived only by the mind. They are indivisible, for it is not possible for a body to be infinitely divided . . . they are solid, as bodies opposed to empty space. They are infinite in number, hence it is obvious that the universe is infinite in every direction . . ."

Concerning seed, Asclepiades is quoted as believing that seed is secreted humor, which from the whole body passes into places whence it is excreted at intercourse. Seed therefore is found not only in men but in women too. He is reputed also to have said that the pulse is a dilation and contraction of the heart and of the arteries.

Judging from the information contained in this volume, Asclepiades would appear to have been an important link in the chain of medical discovery and treatment and therefore this book, as the only English source of his life and works, should be of great interest to all those concerned with early medicine and the history of medicine.—Norman Shaftel

Group Processes. Transactions of the First Conference, September 26, 27, 28, 29, and 30, 1954, Ithaca, New York. Edited by Bertram Schaffner, M.D. Octavo of 334 pages, illustrated. New York, Josiah Macy, Jr. Foundation, 1955. Cloth, $5.50.

This book is a record of the First Conference on Group Processes held in Ithaca, New York, in 1954. When you first hear the title you will probably think it has something to do with social psychology or possibly sociology. When you glance at the table of contents you may suspect that you have been misled and as you examine its contents in more detail your suspicion is likely to be confirmed. After you have finished reading it the chances are pretty good that you will conclude that it discourses exceedingly little on group phenomena and that it is nearly devoid of material on human groups. In the face of this you may be pressed to find a suitable classification but after pondering the matter you are apt to call it simply a study in animal

[Continued on page 3056]

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[Continued from page 3054]

psychology with particular reference to the instinct versus learning controversy.

Invited guests presented papers which served as nuclei for the following chapters: Ontogeny and Living Systems, Psychology and Ethology as Supplementary Parts of a Science of Behavior, Morphology of Behavior Patterns in Closely Allied Species, Dynamics of the Mother-Newborn Relationship in Goats, The Perception of Animal Behavior, and Group Processes in the Lower Vertebrates. The reader will find it difficult to follow the arguments of the speakers for the reason that the numerous interruptions and distractions of the participants have been incorporated into the text with very little editing. This is known as "group interchange." Its function is to discover and resolve areas of disagreement among experts but the poor reader who does not have the necessary background will be confused by the whole thing. A great help in reading would have been for the editor to separate the presentations from the discussion and to reorganize the discussion into coherent categories.—Walter L. Johnson

Community Programs for Mental Health. Theory, Practice, Evaluation. Edited by Ruth Kotinsky and Helen L. Witmer. Contributors: Barbara Biber, Ph.D., H. E. Chamberlain, M.D., Sol W. Ginsburg, M.D., Robert R. Holt, Ph.D., *et al.* Octavo of 362 pages. Cambridge, Mass., Published for The Commonwealth Fund by Harvard University Press, 1955. Cloth, $5.00.

In this book, contributors attempt to evaluate the different aspects of community health programs. One of the big problems that confronts people interested in this field is the definition of the goals to be achieved. A mental health program may include anything from prenatal care to psychotherapy. There is also the problem of trying to receive adequate support both morally and financially from the community. The best results are always achieved when there is excellent teamwork from the various participants in the program. The book attempts to bring some order to the chaos which now exists in community health programs.—Alexander Levine

How to Reduce Surely and Safely. By Herbert Pollack, M.D., with Arthur D. Morse. Illustrated by Elizabeth D. Logan. Octavo of 157 pages, illustrated. New York, McGraw-Hill Book Company, 1955. Cloth, $2.95.

This is a good book, well conceived and well executed. While effective motivation of the reader is a sine qua non for the achievement of its (and, presumably, his) objective, the title might have been more conservatively selected. The word, "surely," seems somewhat misleading, giving the appearance of a written-in guarantee of success, not unlike the equally obvious truth that a sure way to run the four-minute mile is to travel each quarter in sixty seconds. A small point, perhaps, but a fundamental one, apart from which, it is felt, the faithful reader will be induced to lose weight through the rationally and interestingly presented material. Flexibility of regimen, if not in precept, is a major virtue here, although in some of the iso-aliment exchanges, e.g., bread substitutes, micronutrient components appear to have been sacrificed in the interest of caloric equivalence. Skim milk might also have been utilized to broader advantage in the generally sane, realistic dietary recommendations. One wonders at the inclusion of the chapter on underweight, which, as an apparent nonessential gesture to completeness, detracts from the main theme and provides the difficult to support impression that gaining weight is the simple reciprocal of losing it. The book is especially recommended, however, for this appropriate emphasis on the fact that the great majority of obese persons benefit from adherence to a restricted dietary program, without special attention to either their endocrines or their psyche.—Robert Hillman

The Medical Clinics of North America. Nationwide Number. March, 1956. Octavo. Philadelphia, W. B. Saunders Company, 1956. Published Bimonthly (six numbers a year). Cloth, $18 net; paper, $15 net.

This issue consists of a symposium on diseases of the digestive tract; 20 odd articles written by authorities from overall America. Their uniform excellence reflects the ability and good judgment of the editor, Dr. Sara Jordan.—Milton Plotz

Health, Culture and Community. Case Studies of Public Reactions to Health Programs. Edited by Benjamin D. Paul, Ph.D. Octavo of 493 pages. New York, Russell Sage Foundation, 1955. Cloth, $5.00.

By and large, public health personnel have come to accept the idea that levels of success or failure in public health programming may be influenced by the culture of the group or community at which the program is aimed. Illustrations of these relationships have been sparse and far between, however, and until fairly recently about the only evidence offered in support of this position was the assertions of the social scientists themselves. This book fills a real educational need by providing for the public health worker some concrete examples of community responses to health problems and health programs and by interpreting the responses in cultural terms. Included among the examples are failures as well as successes.

There are 16 cases in all by as many authors representing several different backgrounds. The editor is an anthropologist with the Harvard School of Public Health. The communities studied have been selected from a variety of cultures worldwide in distribution. The material as such is not meant as a handbook for action in particular locales; rather, the aims are to give the student a perspective

[Continued on page 3058]

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[Continued from page 3056]

or point of view which he may find useful in his subsequent experiences with action in public health. —WALTER L. JOHNSON

An Introduction to Psychiatry. By Max Valentine, M.D. Duodecimo. v.p. Illustrated. Edinburgh, E. & S. Livingstone (Baltimore, Williams & Wilkins Company), 1955. Cloth, $3.75.

This book is different—refreshingly so. It is delightfully smooth reading, the handbook of a purveyor of words, frugally used, revealing a broad and masterly grasp of psychiatry.

The main facts of psychiatric knowledge, as of now, are concisely formulated. The feel of the patient in the foreground is nicely kept in mind. Psychotherapeutic technics with an appendix of verbatim interviews recorded by several doctors covering a wide sampling of reaction-types enhance its clinical educational value.

While psychotherapy is the dominant arm throughout all treatment, the author gives due importance to the place of physical methods including E.C.T. and psychosurgery. A section on hospital rehabilitation further illustrates the author's enviable clinical skill in approaching relatives and patients in history taking, examination, and treatment procedures. Most psychiatrists will welcome the section on clinical psychology which clarifies statistical concepts and pays respect to various aspects of diagnostic tests of intelligence and personality as well as the determination of aptitudes and deterioration. Final sections on mental deficiency and forensic psychiatry round out this concise volume.

Dr. Valentine, through this easily readable and usable handbook, has rendered the practice of psychiatry a potentiating service. It can easily fit into the coat pocket of the medical student, general practitioner, and specialist. It richly deserves popular espousal.—FREDERICK L. PATRY

Gynecology. Surgical Techniques. Compiled and Edited by Robert J. Lowrie, M.D. Quarto of 523 pages, illustrated. Springfield, Charles C Thomas, 1955. Cloth, $17.75.

Gynecologic operations are clearly and concisely described and beautifully illustrated in this volume. One can readily and rapidly review or learn the technic of operative procedures in this field. Accompanying the description of the usual surgical procedures in gynecology are descriptions and illustrations of operations on the intestinal and urinary tracts. This latter is of great importance to every gynecologist. Variations in technic are often described by two or more contributors. The list of contributors contains a group of 58 leading surgeons of the world. This book admirably serves its purpose in presenting the surgical technics in gynecology.—WILLIAM C. MEAGHER

Advances in Pediatrics. Editor, S. Z. Levine, M.D. Associate Editors, John A. Anderson, M.D., Margaret Dann, M.D., A. Ashley Weech, M.D., Myron E. Wegman, M.D., and Warren E. Wheeler, M.D. Vol. VII. 1955. Octavo of 351 pages, illustrated. Chicago, Year Book Publishers, 1955. Cloth, $8.00.

Volume VII of *Advances in Pediatrics* contains a number of sections that have a familiar sound.

In his article on "Congenital Megacolon," Swenson again presents his now familiar views on the pathogenesis of congenital megacolon and summarizes his results to date, presenting in detail the problems of diagnosis, pre- and postoperative treatment and possible complications incident to the operative procedure.

In an article on "Mucoviscidosis," Shwachman and his coworkers present a comprehensive review of the subject and again stress the systemic nature of the disease as a disturbance of the mucous secreting glands rather than an isolated disease of the pancreas.

Meredith F. Campbell contributes a one man article (there are no references) summarizing his many brilliant contributions of the "Urinary Tract in Childhood." Tuberculosis of the kidneys is briefly discussed but apparently the value of the newer drugs and antibiotics could not be detailed and the Isoniazids are not even mentioned.

In addition to the articles already mentioned there is one by Caffey on "Fibrous Defects in Cortical Walls of Growing Tubular Bones." The benign nature of this lesion compared with many others in bone, makes its recognition imperative.

Perlstein contributes a systematic review of the difficult subject of "Infantile Cerebral Palsy." Mannheimer's article of "Phonocardiography in Children" and Gomez' studies on "Malnutrition in Infancy and Childhood, with Special Reference to Kwashiorkor," deserve careful analysis which limitations of space unfortunately will not permit. The frank statement that this disease can be cured without supplementary vitamins will surely disappoint our pharmaceutical friends.

As usual, this book will come as a welcome aid to the busy pediatrician and as a valuable reference work to the teacher.—BENJAMIN KRAMER

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn 16, New York. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selections for review will be based on merit and interest to our readers.

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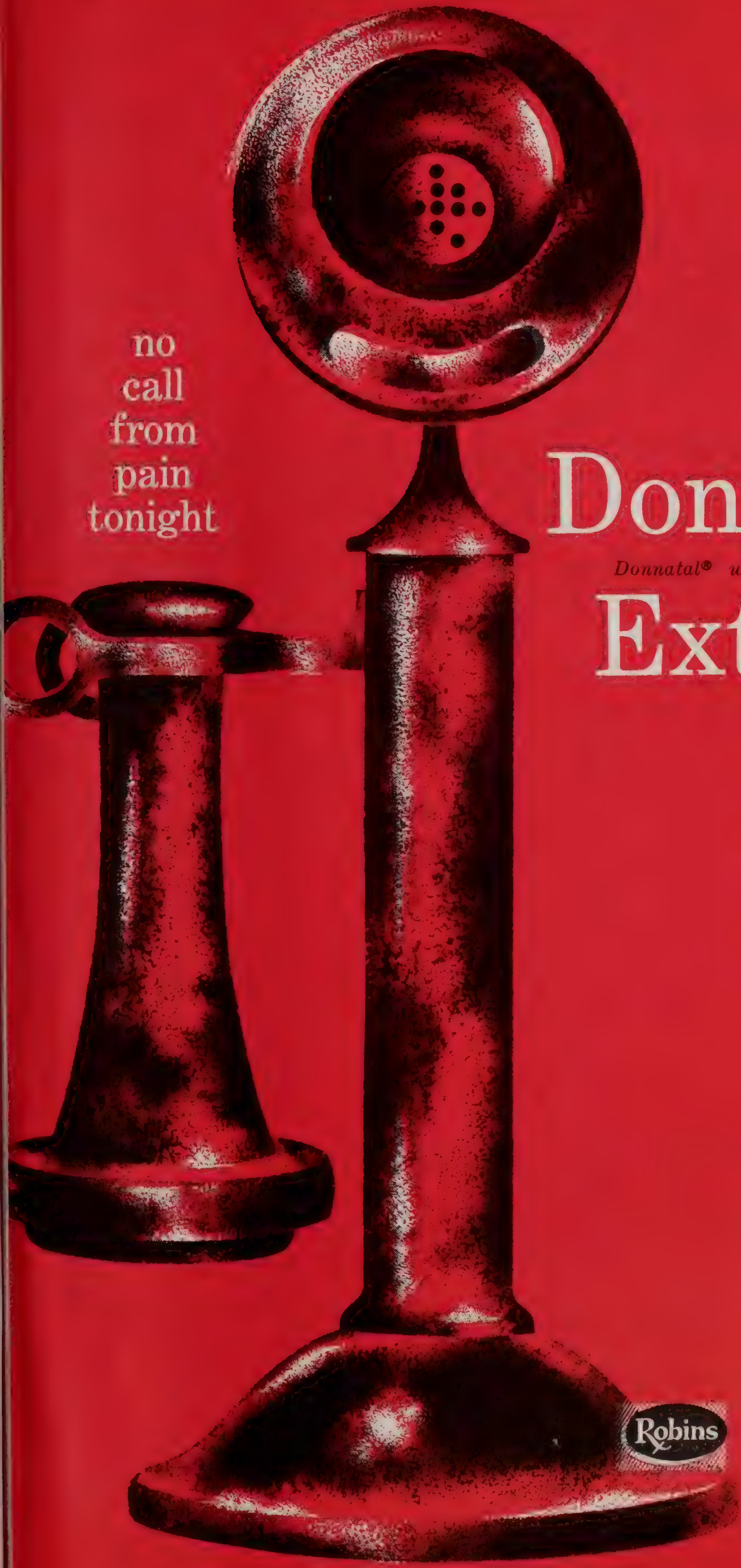

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1. Goodman, L. S., and Gilman, A.: The Pharmacologic Basis of Therapeutics, N. Y., The Macmillan Co., 1955; p. 127.

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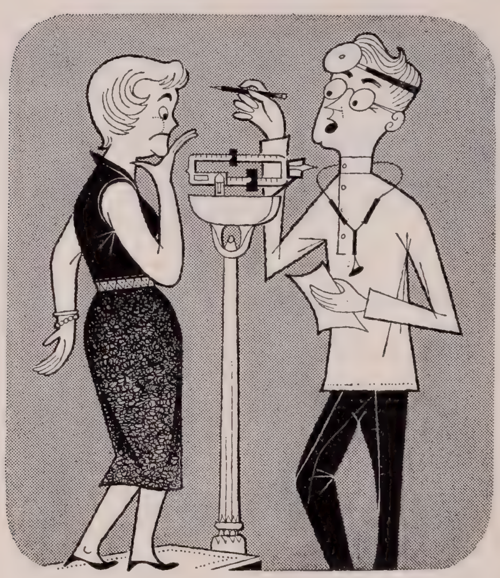

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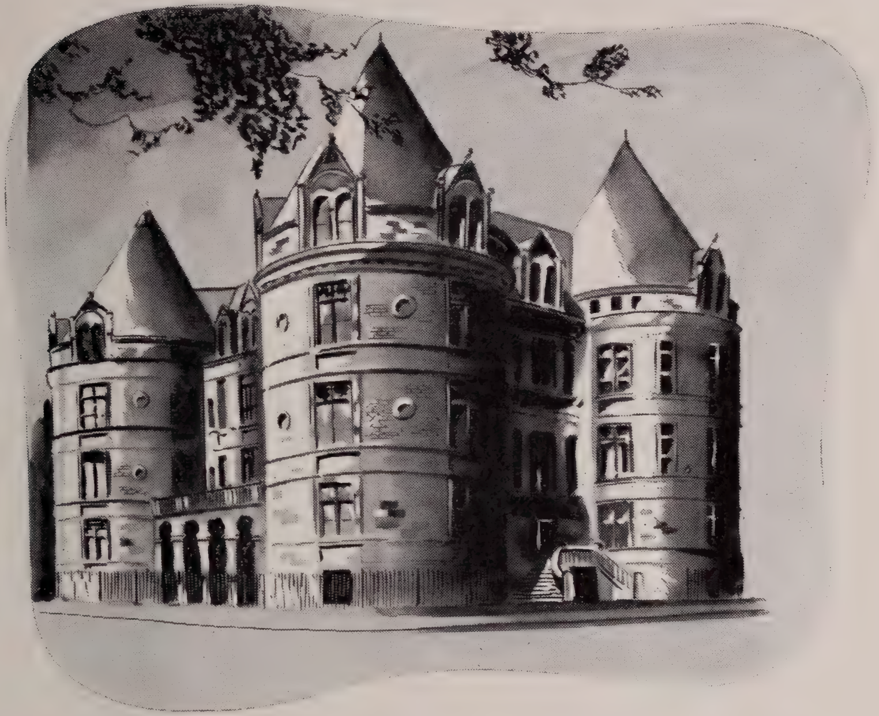

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[1] Posner, A. C., *et al.;* Further Observations on the Use of Tetracycline Hydrochloride in Prophylaxis and Treatment of Obstetric Infections, *Antibiotics Annual* 1954-55, pp. 594-598.

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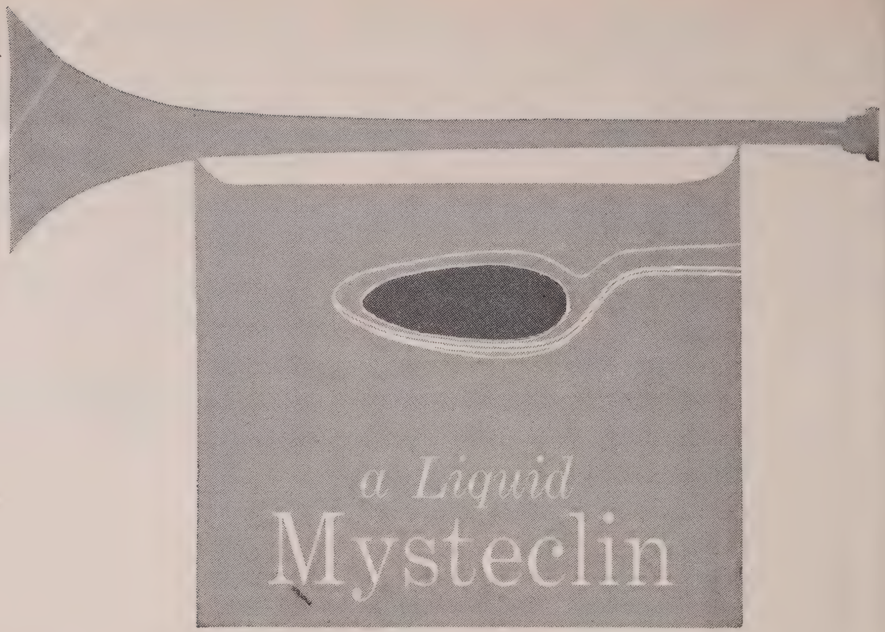

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1. Science News Letter, March 1954
2. Greenblatt, R. B.: Obstet. & Gyn. 2:530, 1953

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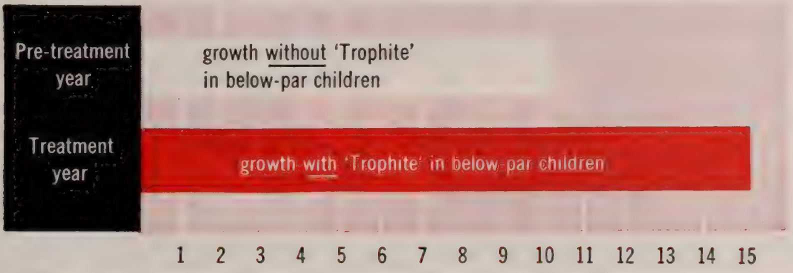

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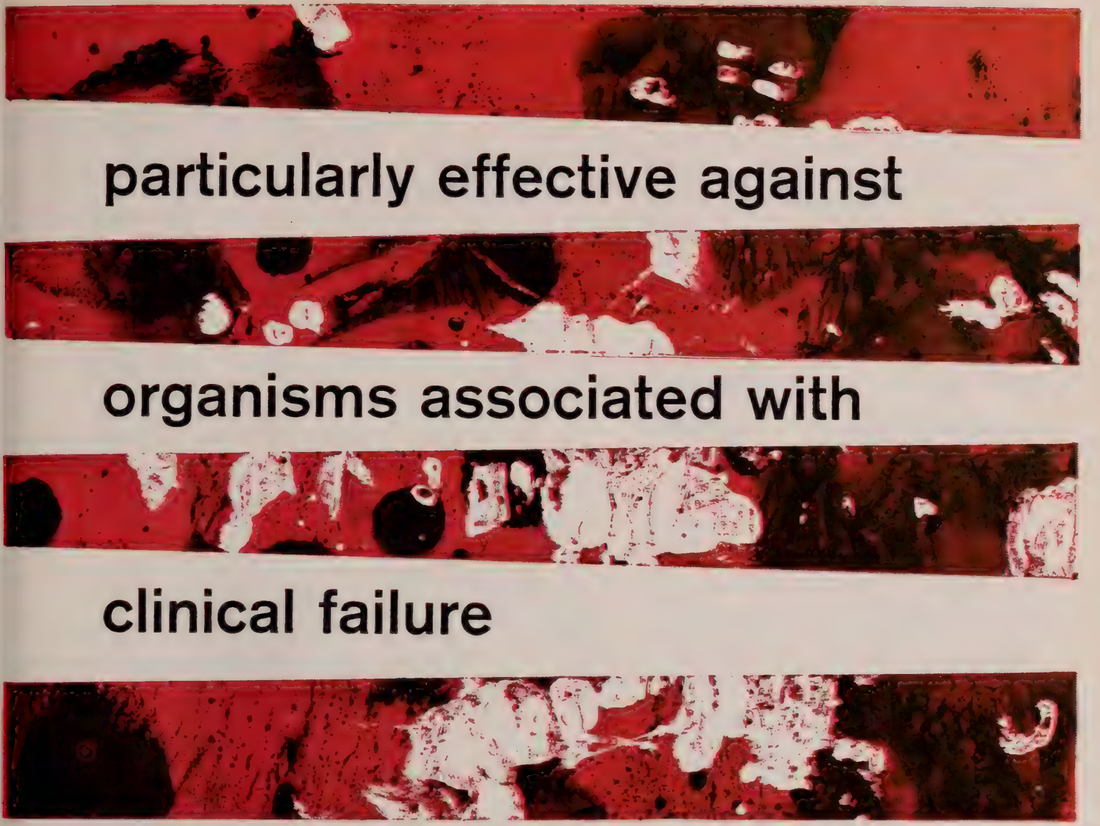

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1. Clapper, W. E. and Plank, L. E.: The Journal of Urology, 75:339-341 (Feb.) 1956.

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"Yes, I taught grammar to your father —

and it seems like only yesterday!"

Time flies happily for the mature person in good health. To help keep these "senior citizens" fit and active, many physicians prescribe GEVRAL — a comprehensive diet supplement specially prepared for persons past 40. Each dry-filled GEVRAL capsule provides 14 vitamins, 11 minerals, and Purified Intrinsic Factor Concentrate.

Gevral*

GERIATRIC VITAMIN-MINERAL SUPPLEMENT LEDERLE

dry-filled sealed capsules

for more rapid and complete absorption, freedom from aftertaste. A Lederle exclusive!

Lederle

LEDERLE LABORATORIES DIVISION *AMERICAN CYANAMID COMPANY* PEARL RIVER, NEW YORK

*REG. U.S. PAT. OFF.

Each GEVRAL Capsule contains:

Vitamin A	5000 U.S.P. Units	Choline Dihydrogen Citrate	100 mg.	Calcium (as $CaHPO_4$)	145 mg.
Vitamin D	500 U.S.P. Units	Inositol	50 mg.	Phosphorus (as $CaHPO_4$)	110 mg.
Vitamin B_{12}	1 mcgm.	Ascorbic Acid (C)	50 mg.	Boron (as $Na_2B_4O_7.10H_2O$)	0.1 mg.
Thiamine Mononitrate (B_1)	5 mg.	Vitamin E (as tocopheryl acetates)	10 I.U.	Copper (as CuO)	1 mg.
Riboflavin (B_2)	5 mg.	Rutin	25 mg.	Fluorine (as CaF_2)	0.1 mg.
Niacinamide	15 mg.	Purified Intrinsic Factor Concentrate	0.5 mg.	Manganese (as MnO_2)	1 mg.
Folic Acid	1 mg.	Iron (as $FeSO_4$)	10 mg.	Magnesium (as MgO)	1 mg.
Pyridoxine HCl (B_6)	0.5 mg.	Iodine (as KI)	0.5 mg.	Potassium (as K_2SO_4)	5 mg.
Ca Pantothenate	5 mg.			Zinc (as ZnO)	0.5 mg.

Other Lederle geriatric products include: *GEVRABON**. Vitamin-Mineral Supplement Liquid with a wine flavor; *GEVRAL** Protein Vitamin-Mineral-Protein Supplement Powder; and *GEVRINE** Vitamin-Mineral-Hormone Capsules.

for big "drips"...

and little "leaks"...

caused by
colds
rhinitis
sinusitis

Novahistine®

CHECKS IRRITANT SECRETIONS
CLEARS AIR PASSAGES **ORALLY**

Novahistine works better than antihistamines alone. The distinct additive action of a vasoconstrictor, phenylephrine HCl, with an antihistaminic, prophenpyridamine maleate, combats allergic reactions...provides marked nasal decongestion and drying of secretion.

Oral dosage avoids misuse of nose drops, sprays and inhalants by patients ...eliminates rebound congestion. Novahistine will not cause jitters or insomnia.

CONVENIENT
NOVAHISTINE
FORMULAS

Novahistine Elixir
Novahistine Tablets
Novahistine Fortis Capsules
Novahistine-DH
Novahistine with APC
Novahistine with Penicillin

PITMAN-MOORE COMPANY

Division of Allied Laboratories, Inc., Indianapolis 6, Indiana

and...
when "head colds"
become "chest colds"

Novahistine®-DH

relieves congestion at both sites

Fortified Novahistine with dihydrocodeinone for the control of coughs and respiratory congestion

Each teaspoonful (5 cc.) contains:	
Phenylephrine hydrochloride	10 mg.
Prophenpyridamine maleate	12.5 mg.
Dihydrocodeinone bitartrate (may be habit forming)	1.66 mg.
Chloroform (approximately)	13.5 mg.
l-Menthol	1.0 mg.

(Alcohol content, 10%; sugar, 33⅓%)

PITMAN-MOORE COMPANY
Division of Allied Laboratories, Inc.
Indianapolis 6, Indiana

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NEW

PEACE

OF

MIND

ATARAX®

(BRAND OF HYDROXYZINE)

WITHOUT DISTURBING MENTAL ACUITY

FIRST ATARAXIC IN LIQUID FORM, TOO PROMPT-ACTING, GOOD-TASTING

ATARAX SYRUP

FAST—begins to induce "peace of mind" within 15 minutes.[1]

EFFECTIVE—approximately 90% clinical response in anxiety and tension states.[1, 2, 3]

WELL-TOLERATED—virtually no side effects are reported. No toxic action on liver, blood or brain.[1, 2, 3]

DOSAGE: Adults, usually one 25 mg. tablet or two tsp. Syrup, t.i.d. Children, usually one 10 mg. tablet or one tsp. Syrup, once or twice daily. Adjust as needed.

SUPPLIED: In tiny 25 mg. (green) tablets, and 10 mg. (orange) tablets, bottles of 100. ATARAX Syrup in pint bottles, containing 2 mg. ATARAX per cc.

ROERIG Rx

Chicago 11, Illinois

References. 1. Farah, Luis: Int. Rec. of Med. & Gen. Prac. Clin. **169**:379 (June) 1956. 2. Shalowitz, M.: Geriatrics, July, 1956. 3. Robinson, H. M. et al: J.A.M.A. **161**:604 (June 16) 1956.

criteria for skeletal muscle relaxant

"To date, there has been no available drug proved sufficiently safe, effective, or long-lasting to justify its general use."[1]

Before Flexin

NOW **flexin***

(Zoxazolamine,† McNeil)

fulfills these requirements

FLEXIN is sufficiently safe

"...no important signs of toxicity were found in blood or urine studies..."[2]

FLEXIN is effective

"Rheumatic diseases with the major disability caused by stiffness and aching appear to respond well..."[3]

FLEXIN has a long duration of action

"Some degree of muscular relaxation [with FLEXIN] was occasionally seen 24 hours or longer after discontinuance of therapy."[1]

supplied: 250 mg. yellow, scored tablets, bottles of 50.

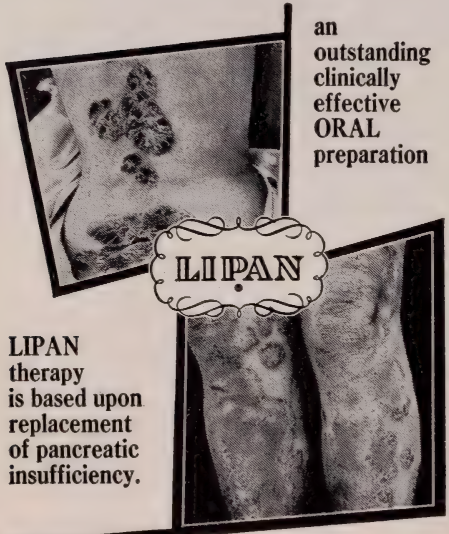
(1) Abrahamsen, E. H., and Baird, H. W., III: J.A.M.A. *160*:749 (Mar. 3) 1956. (2) Rodriguez-Gomez, M.; Valdes-Rodriguez, A., and Drew, A. L.: J.A.M.A. *160*:752 (Mar. 3) 1956. (3) Smith, R. T.; Kron, K. M.; Peak, W. P., and Hermann, I. F.: J.A.M.A. *160*:745 (Mar. 3) 1956.

McNEIL LABORATORIES, INC • PHILADELPHIA 32, PA. McNEIL

*T.M. †U.S. Patent Pending

NOW for
PSORIASIS...

an outstanding clinically effective ORAL preparation



LIPAN therapy is based upon replacement of pancreatic insufficiency.

A recent Seminar at the New York Academy of Sciences emphasized the general acceptance by distinguished authorities of the hypothesis that psoriasis depends for its development upon a disturbance of fat metabolism.*

Clinical evidence indicates psoriasis may be due to a disturbance of the lipid metabolism, evidently caused by a deficiency of pancreatic enzymes.*

LIPAN Capsules have been shown to be *clinically effective* in 66.7% cases. This is well above the established minimum for all types of psoriatic therapy of 36.2%.

LIPAN — and nothing but LIPAN, as maintenance regimen may keep patients free of lesions.*

**References available.*

LIPAN Capsules contain: Specially prepared, highly activated, desiccated and defatted *whole* Pancreatic Substance; Thiamin HCl, 1.5 mg.; Vitamin D, 500 I.U.

Available: Bottles 180's, 500's

COMPLETE LITERATURE AND REPRINTS UPON REQUEST, JUST SEND AN ℞ BLANK.

Spirt & Co., Inc.
WATERBURY, CONN.

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PATIENTS STAY ON
THE JOB . . . . COMFORTABLY

in URINARY DISTRESS

Pyridium®

(Brand of Phenylazo-diamino-pyridine HCl)

provides gratifying relief in a matter of minutes

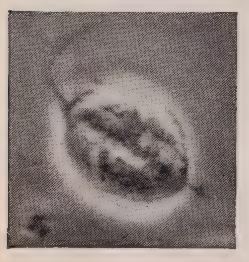
Painful symptoms impel the patient with acute or chronic pyelonephritis, cystitis, urethritis or prostatitis to seek your aid. In the interval before antibiotics, sulfonamides or other antibacterial measures can become effective, the nontoxic, compatible, analgesic action of PYRIDIUM brings prompt relief from urgency, frequency, dysuria, nocturia or spasm. At the same time, PYRIDIUM imparts an orange-red color to the urine which reassures the patient. Used alone or in combination with antibacterial agents, PYRIDIUM may be readily adjusted to each patient by individualized dosage of the total therapy.

SUPPLIED: In 0.1 Gm. (1½ gr.) tablets in vials of 12 and bottles of 50, 500, and 1,000.

PYRIDIUM *is the registered trade-mark of Nepera Chemical Co., Inc., for its brand of phenylazo-diamino-pyridine HCl. Sharp & Dohme, Division of Merck & Co., Inc., sole distributor in the United States.*

MERCK SHARP & DOHME
Philadelphia 1, Pa.
Division of MERCK & CO., INC.

HOW DAVIS TECHNIQUE EXPLODES HIDDEN TRICHOMONADS



Too often treatment fails to cure vaginal trichomoniasis because parasites survive and set up new foci of infection.

Now you can overcome this problem with Vagisec® liquid and jelly, using the Davis technique.† Vagisec liquid dissolves mucinous materials, penetrates thoroughly, and quickly reaches and explodes the hidden trichomonads.

Proved highly effective. Vagisec liquid (originally "Carlendacide") is the formula developed by Dr. Carl Henry Davis, noted gynecologist and author, and C. G. Grand, research physiologist.[1] Clinical data show better than 90 per cent success with Vagisec liquid in the treatment of vaginal trichomoniasis.[2]

Overwhelmingly powerful. Vagisec liquid explodes trichomonads within 15 seconds after douche contact![3] One chelating agent and two surface-acting agents, combined in balanced blend, attack the parasite to weaken the cell membrane, to remove waxes and lipids, and to denature the protein. With its cell wall destroyed, the trichomonad imbibes water, swells and explodes.

The Davis technique. Vagisec liquid, as a vaginal scrub, is used in the office therapy. Vagisec liquid and jelly are prescribed for home use.

Prevent re-infection. Many wives become re-infected because husbands harbor trichomonads.[2] To prevent re-infection, prescribe the protection afforded by Schmid prophylactics. When a rubber is preferred, prescribe the superior RAMSES® prophylactic, transparent and tissue-thin, yet strong. If there is anxiety that rubber might dull sensation, prescribe XXXX (fourex)® skins, of natural animal membrane, pre-moistened. At all drug stores.

References: 1. Davis, C. H., and Grand, C. G.: Am. J. Obst. & Gynec. 68:559 (Aug.) 1954. 2. Davis, C. H.: West. J. Surg. 63:53, (Feb.) 1955. 3. Davis, C. H.: J.A.M.A. 157:126 (Jan. 8) 1955.

†Pat. App. for.

Vagisec, XXXX (fourex) and RAMSES are registered trade-marks of Julius Schmid, Inc.

JULIUS SCHMID, INC.
Gynecological Division
423 West 55 Street, New York 19, N. Y.

Advertisement

When an unbidden guest brings diarrhea

CREMOSUXIDINE®

SULFASUXIDINE® SUSPENSION WITH PECTIN AND KAOLIN

During warmer months the sharp increase in diarrhea brings you many patients. Confidently prescribe CREMOSUXIDINE, a reliable antidiarrheal and antibacterial. It detoxifies intestinal irritants and soothes inflamed mucosa. Pleasant tasting, chocolate-mint flavored.

MSD

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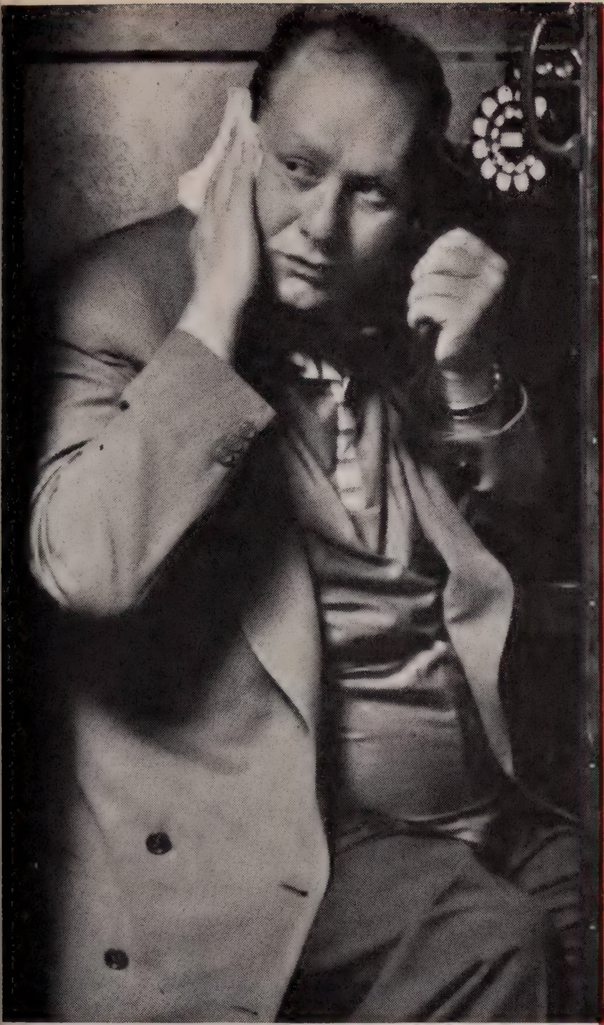


It's not a
distress call…
not yet…
but it could be—
For effective
appetite suppression
in obesity…

AMBAR™ Robins

METHAMPHETAMINE AND PHENOBARBITAL

TABLETS AND EXTENTABS*

The "distress call" in obesity often comes from the emotional "misfit," unable to control mood or appetite. Ambar allays this hunger sensation by *gently* lifting the depressed mood, and *subtly* reducing the emotional distresses so often responsible for the urge to overeat. Ambar brings the obese patient's appetite "down to normal"…

…without peaks of stimulation
…without troughs of depression
…without significant cardiovascular effects
…without postmedication "jitters"

AMBAR™ TABLETS

Methamphetamine Hydrochloride	3.33 mg.
Phenobarbital (1/3 gr.)	21.6 mg.

Average duration of therapeutic effects 4 hours

AMBAR™ EXTENTABS®

Methamphetamine Hydrochloride	10.0 mg.
Phenobarbital (1 gr.)	64.8 mg.

Average duration of therapeutic effects 10-12 hours

●

Literature available on request.

*Robins' registered trade-mark for Extended Action tablets.

A. H. ROBINS COMPANY, INC., RICHMOND, VIRGINIA
Ethical Pharmaceuticals of Merit Since 1878

The Well-Proportioned Nutrients in Enriched Bread

Equally Important in LOW-RESIDUE DIETS

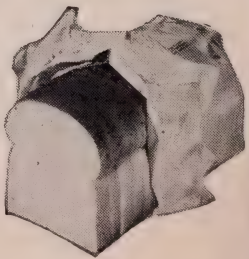
Enriched bread, plain or toasted, constitutes a nutritionally valuable component of the low-residue diet often prescribed in various gastrointestinal affections and following surgery on the gastrointestinal tract. In such conditions it is particularly necessary to provide adequate nutrition within the framework of a diet low in irritating substances.

The added nutrients in enriched bread are selected qualitatively and quantitatively because of their importance in everyday nutrition. They have proved equally advantageous when dietary adjustment is indicated for therapeutic purposes.

Enriched bread is nonirritating chemically as well as mechanically. It is free from bran and contains only negligible amounts (0.2 per cent) of soft cellulosic material. Its taste appeal is no less important than its open texture, its blandness, its easy digestibility.

The ready absorption of the balanced nutrients of enriched bread implements the utilization of its important amounts of protein, B vitamins, and minerals.

On the average, six slices of enriched bread (containing 4 per cent added nonfat milk solids), provide 12 grams of good quality protein (flour protein supplemented with milk protein), 0.36 mg. of thiamine, 0.26 mg. of riboflavin, 3.35 mg. of niacin, 3.5 mg. of iron, and 126 mg. of calcium.



AMERICAN BAKERS ASSOCIATION
20 NORTH WACKER DRIVE • CHICAGO 6, ILLINOIS

The nutritional statements made in this advertisement have been reviewed by the Council on Foods and Nutrition of the American Medical Association and found consistent with current authoritative medical opinion.

Now Available!

SPEEDIER RELIEF *in* Asthma

Medihaler®

THE UNIQUE MEASURED-DOSE INHALATION METHOD

MEDIHALER-EPI™

Brand of epinephrine U.S.P. 0.5% solution. Each ejection delivers 0.125 mg.

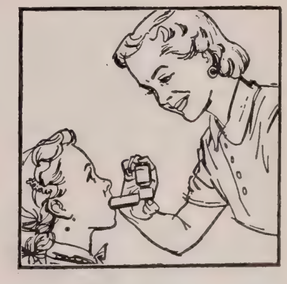
MEDIHALER-ISO™

Brand of isoproterenol HCl U.S.P. 0.25% solution. Each ejection delivers 0.06 mg.

MEDIHALER ORAL ADAPTER

Unbreakable plastic...no movable parts... carrying case for Adapter and medication small enough to be carried inconspicuously in pocket or purse.

TRUE NEBULIZATION . . . The Medihaler principle, an entirely new concept in nebulization therapy of asthma, avoids the unmeasured, haphazard spray and frantic, repetitive effort usually associated with glass-and-bulb nebulizers. Only one or two inhalations with Medihaler provide welcome relief. Each measured dose provides 5 to 8 times as many particles in the ideal size range—0.5 to 4 microns radius—as conventional nebulizers. The result is better and speedier relief.



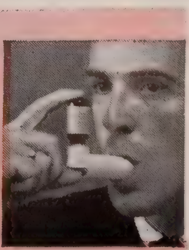
Riker
LOS ANGELES

For Emergency Relief of Acute Attacks of Angina Pectoris

Medihaler-Nitro™

Octyl nitrite (1%) in aerosol solution

Metered-dosage nebulization using the lungs as portal of entry to provide speedy relief from acute attacks of angina pectoris. Medication and unbreakable Adapter fit into pocket-size case.



in acute and chronic pyelonephritis, cystitis and prostatitis

freedom

from pain, infection and resistant mutants

"Frequently, patients reported symptomatic improvement within 24 hours."[1] Furadantin "may be unique as a wide-spectrum antimicrobial that . . . does not invoke resistant mutants."[2]

Comparative Sensitivity to Furadantin of Infectious Microorganisms Isolated over a Two-Year Period[3]

Microorganism	Total no. strains	Sensitive*		Moderately sensitive*		Resistant*	
		No.	Per cent of total	No.	Per cent of total	No.	Per cent of total
Proteus vulgaris	237	209	88.2	28	11.8	0	0
Escherichia coli (including paracolon bacillus)	281	255	92.7	23	8.2	3	1.1
Aerobacter aerogenes	223	183	82.1	40	17.9	0	0
Streptococcus faecalis	160	155	96.7	5	3.1	0	0
Pseudomonas aeruginosa	101	5	5.0	40	39.9	56	55.4
Micrococcus pyogenes var. aureus	6	6	100	0	0	0	0
Klebsiella pneumoniae	3	3	100	0	0	0	0
Alcaligenes faecalis	2	2	100	0	0	0	0

*Organisms inhibited by 100 μg./ml. or less are classified as sensitive, by 200 to 400 μg./ml. as moderately sensitive, and those not inhibited by 400 μg./ml. as resistant.

"The status of P. vulgaris and of M. pyogenes var. aureus is especially noteworthy in the light of the high degree of resistance exhibited by those organisms to antibiotics currently employed."[3]

REFERENCES: 1. Trafton, H. M., et al.: N. England J. M. **252**:383, 1955. 2. Waisbren, B. A., and Crowley, W.: A. M. A. Arch. Int. M. **95**:653, 1955. 3. Schneierson, S. S.: Antibiotics **3**:212, 1956.

Furadantin®

BRAND OF NITROFURANTOIN

FURADANTIN DOSAGE:
Average adult dose is 100 mg., q.i.d. (at mealtime, and on retiring, with food or milk). Average daily dosage for children is 5 to 7 mg./Kg. in four divided doses.

EATON LABORATORIES
Norwich New York

SUPPLIED:
Tablets, 50 and 100 mg., bottles of 25 and 100.
Oral Suspension, 5 mg., per cc., bottle of 118 cc.

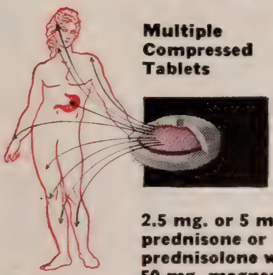
NITROFURANS—a new class of antimicrobials—neither antibiotics nor sulfonamides

in inflammatory skin diseases

all the benefits of the "predni-steroids"
plus positive antacid action
to minimize gastric distress

ROUTINELY ACHIEVED WITH **'Co-Deltra'**

(Buffered Prednisone)



Multiple Compressed Tablets

'Co-Hydeltra'

(Buffered Prednisolone)

2.5 mg. or 5 mg. prednisone or prednisolone with 50 mg. magnesium trisilicate and 300 mg. aluminum hydroxide gel.

MSD

MERCK SHARP & DOHME
DIVISION OF MERCK & CO., INC.
PHILADELPHIA 1, PA.

Clinical evidence[1,2,3] indicates that to augment the therapeutic advantages of prednisone and prednisolone, antacids should be *routinely* co-administered to minimize gastric distress.

References: 1. Boland, E. W., *J.A.M.A.* 160:613, (February 25,) 1956. 2. Margolis, H. M. *et al*, *J.A.M.A.* 158:454, (June 11,) 1955. 3. Bollet, A. J. *et al*, *J.A.M.A.* 158:459, (June 11,) 1955.

'CO-DELTRA' *and* 'CO-HYDELTRA' *are the trademarks of* MERCK & CO., INC.

1957

FEBRUARY 18 to 21

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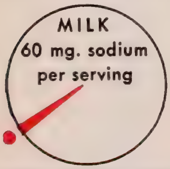

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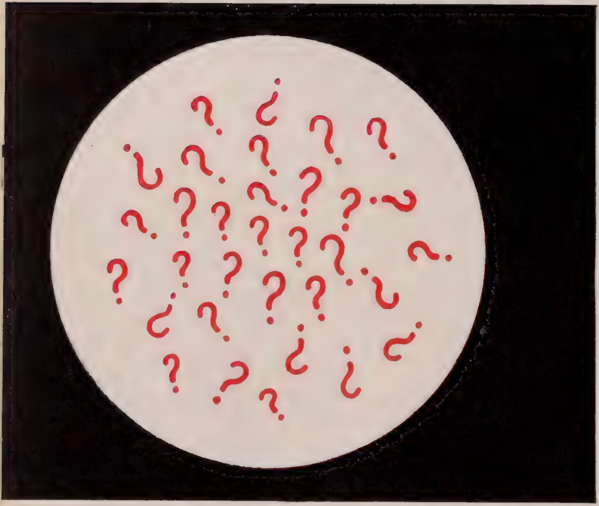

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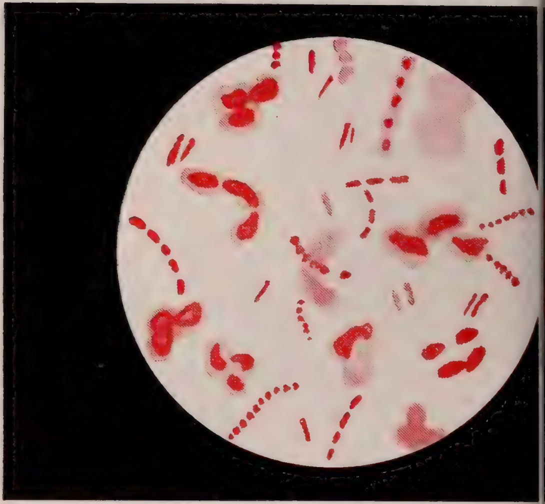

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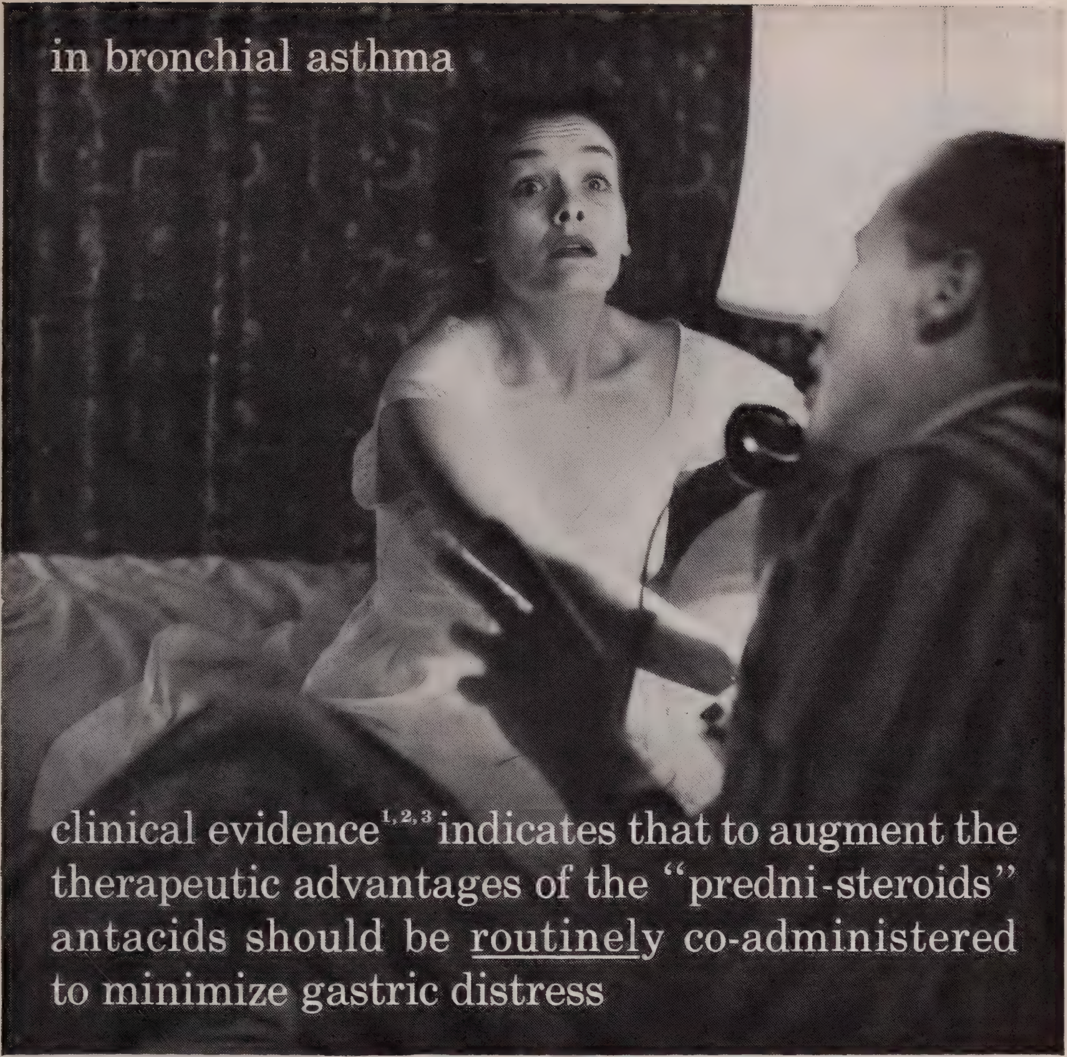
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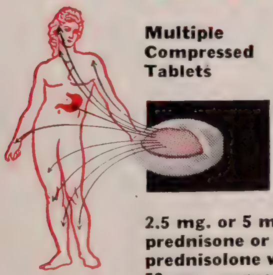

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References: 1. Boland, E. W., *J.A.M.A.* 160:613, (February 25,) 1956. 2. Margolis, H. M. *et al, J.A.M.A.* 158:454, (June 11,) 1955. 3. Bollet, A. J. *et al, J.A.M.A.* 158:459, (June 11,) 1955.

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EDITORIALS

Living Costs

Rising costs of living reached a new peak in July of this year and may go higher still, we are informed. This trend upward is of concern to everyone, but particularly to those living on fixed incomes, pensions, and the like. What is the cause of this rising cost? What caused the June index of consumer prices to reach a record high of 116.2 per cent?

The answer is probably not a simple one, but it does concern a great many people who are hard put to it to make ends meet. This is one of the penalties of inflation, rising costs of goods and services, and devaluation of the currency. Surprisingly, food prices have increased only moderately, only 0.1 per cent since January, 1953. However, the cost of "services" have been rising ever since 1939. Strong buying demands have resulted from the high level of employment of recent years.

We do not claim to be qualified in matters of economics, but we do know that it costs more to live and to do business than it formerly did and that this increased cost is largely a matter of what we have to pay in dollars for manufactured goods and services—haircuts, cleaning, pressing, doctor's and hospital bills, automobile repairs, travel, and the like. Demand and supply are also involved. In times of full employment demand goes up, and there is lively competition for what goods and services are available.

In such a market people living on fixed incomes, pensions, social security, and the savings of a lifetime, if any, are apt to be pinched. Pensions or rates of payment fixed by law or custom are slow to change, especially if public funds are involved. But as people grow older, they are likely to require more services, especially those of boarding homes, hospitals, doctors, and nurses.

A characteristic of aging persons is to remember the past rather than to think in terms of the present. And it is precisely these senior citizens who must rely on pensions at a time of life when they come more intimately in contact with hospitals, doctors, nurses, and boarding homes. The costs of this kind of services in relation to their fixed incomes, as viewed in the light of their recollection of the costs of services in the "good old days" of their hopeful conquest of the world, are apt to be exaggerated. May this be at least a partial explanation of the resentment some have toward the medical profession and its allied services?

We do not know and certainly cannot explain why living costs have risen—that is the province of the economists—but whatever the causes may be, we know that it costs more to live, and we don't like it.

Looking Ahead

Now that the recent political conventions are concluded, one may look at the statements of policy by both parties with respect to the future prospects for medicine in this country. Nothing of a specific nature emerges except that Mr. Nixon did reportedly say, in part:[1]

> We believe in human welfare, but not the welfare state. We seek social gains, but we reject completely the well-intentioned but mistaken theories of those who would socialize, federalize, or nationalize basic American institutions.
>
> In a nutshell, individual Americans should be free, subject only to the laws necessary for the welfare of all.

---

[1] New York Herald Tribune, Aug. 24, 1956, p. 2.

These terms are broad and susceptible of various interpretations, they seem to reject the philosophy of the "welfare state," but, on the other hand, what are the present and what might be the future "laws necessary for the welfare of all?" Obviously, one must know the meaning of the term "welfare" to begin with. Its interpretation by the knowledgeable Mr. Noah Webster appears to be "state of faring or doing well; esp., condition of health, happiness, prosperity, etc.; negatively, exemption from evil or calamity."

If medicine is a "basic American institution," it would not be socialized, federalized, or nationalized under Republican auspices except possibly under a liberal interpretation of some future "laws necessary for the welfare of all."

The most that can be said of the platforms of political parties is that they are declarations of intent. They are so shaped as to reflect what their framers think the voters want. Behind these declarations of intent stand the records of achievement available for study by adherents of the several political parties.

What lies ahead for medicine insofar as the future will be affected by the philosophy and actions of the political party victorious in the November contest will in part at least be determined by those who *register and vote.*

We hope that all physicians in the State will fulfill their civic obligation in this respect and see to it that their families do so also.

Editorial Comment

Wordage Reduced to Cover Ethics. The Principles of Medical Ethics of the A.M.A. are "undergoing radical surgery" according to a recent communication.[1]

The House of Delegates, meeting in Chicago last June, voted in favor of a Reference Committee report which approved a revision of the Principles as prepared by the Council on Constitution and By-Laws and endorsed by the Judicial Council. The reference committee and both Councils recommended that final action be deferred until the Seattle Clinical Session "to allow ample opportunity for thorough study on the part of members of the A.M.A."

House action in Chicago followed submission of a report by Dr. Louis A. Buie, chairman of the Council on Constitution and By-Laws, which said, among other things, that "there exists a broad twilight zone in which the concepts of ethics and etiquette are entangled and in which there is much overlapping and consequent confusion."

"The present Principles," this report said, "are encumbered by verbosity and qualifying constructions of dubious value which in themselves engender confusion. Hence, it was felt that the Principles should be broad and should provide a framework within which interpretations could be made. They should deal with basic principles which can serve as a ready reference for the busy practitioner."

A salient point in the report said: "It is important to understand that medical ethics are not distinct or separate from ethics generally, but simply emphasize those general principles which are of particular concern to the medical profession. The ethical physician will observe all ethical principles because he realizes that they cannot be enforced by penal reprisals, but must be binding in conscience."

The Principles as proposed consist of a brief preamble and ten sections which succinctly express the fundamental ethical concepts embodied in the present Principles:

1. The prime objective of the medical profession is to render service to humanity with full respect for both the dignity of man and the rights of patients. Physicians must

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[1] Secretary's Letter, No. 368, July 9, 1956.

merit the confidence of those entrusted to their care, rendering to each a full measure of service and devotion.

2. Physicians should strive to improve medical knowledge and skill and should make available the benefits of their professional attainments.

3. A physician should not base his practice on an exclusive dogma or a sectarian system, nor should he associate voluntarily with those who indulge in such practices.

4. The medical profession must be safe guarded against members deficient in moral character and professional competence. Physicians should observe all laws, uphold the dignity and honor of the profession and accept its self-imposed disciplines. They should expose, without hesitation, illegal or unethical conduct of fellow members of the profession.

5. Except in emergencies, a physician may choose whom he will serve. Having undertaken the care of a patient, the physician may not neglect him. Unless he has been discharged, he may discontinue his services only after having given adequate notice. He should not solicit patients.

6. A physician should not dispose of his services under terms of conditions which will interfere with or impair the free and complete exercise of his independent medical judgment and skill or cause deterioration of the quality of medical care.

7. In the practice of medicine a physician should limit the source of his professional income to medical services actually rendered by him to his patient.

8. A physician should seek consultation in doubtful or difficult cases, on request, or when it appears that the quality of medical service may be enhanced thereby.

9. Confidences entrusted to physicians or deficiencies observed in the disposition or character of patients during the course of medical attendance should not be revealed except as required by law or unless it becomes necessary in order to protect the health and welfare of the individual or the community.

10. The responsibilities of the physician extend not only to the individual but also to society and demand his cooperation and participation in activities which have as their objective the improvement of the health and welfare of the individual and the community.

We hope that this revised and simplified statement will be adopted, not only for the sake of the profession of medicine but also to promote better public understanding. Ethics deal with considerations above and beyond the statutes, and ethical principles do not always lend themselves to brief statement. For this reason the above sections represent a really significant contribution to the art of brevity.

"If it *can* be misunderstood, it *will* be misunderstood" applies to every communication in civilian as well as military life. The proposed ten statements seem to minimize this possibility.

Influx of Foreign Physicians. Dr. Willard C. Rappleye, dean of the Faculty of Medicine at Columbia University, in his annual report of September 1, 1956, to President Grayson Kirk of Columbia, said that the admission of foreign physicians "presents a special problem."

"At a time when the American medical schools are struggling to maintain high standards, the country is welcoming doctors from every part of the world," Dr. Rappleye declared. "Many are excellent individuals with good personal and intellectual qualifications, but most of them have had no opportunity in their native lands to acquire a professional education that could be regarded as satisfactory. Also included are several thousand Americans who have gone abroad to study medicine because they could not get into an American school."

The Columbia educator's annual report pointed out that at the present time over 25 per cent of the house staffs in the hospitals of the United States are aliens. The percentage in a few states, it added, is over 50 per cent. The report continued: "It has been predicted recently that over 5,000 foreign-trained physicians will enter the country this year, compared with a total of 6,977 graduates of all the American medical schools. Most of the foreigners will be graduates of unapproved medical schools. In many sections of the country there are now two classes of citizens as far as medical services are concerned: those who are to be cared for by physicians who have had a satisfactory preparation for medical practice and those whose medical care will be provided for by physicians who are graduates of substandard schools. The situation today is reminiscent of the diploma-mill era of fifty years ago."

The great influx of foreign physicians has been made possible not by relaxation of the standards of the profession or of the American medical schools but by a national policy, Dr. Rappleye said. This policy, he explained, has permitted the immigration to this country of large numbers of displaced persons from various parts of the world without requiring, in the case of physicians, sufficient evidence of their professional qualifications.

"An effort is being made now to cope with this problem at its source before the individual is admitted to the country. The 'Evaluation Service for Foreign Graduates' has been proposed, a joint undertaking between the medical profession, the hospitals, the educational bodies, and the licensing authorities of the individual states. It is to be hoped that in fairness to the American public as well as to the individuals involved that some equitable plan can be worked out to offer opportunities to foreign-trained physicians who would be welcomed as additions to the medical profession in this country, provided they meet reasonably satisfactory standards of educational preparation."

Dean Rappleye's report also discussed a related medical problem—the supply of the nation's physicians, declaring: "The gross ratio of the number of physicians in the nation's population—one doctor to about every 750 persons—is approximately sufficient if all were adequately trained, better distributed, up-to-date in their knowledge and skills, and more effectively used in relation to actual needs."

Dr. Rappleye said that during the last forty-five years the number of medical graduates has risen 117 per cent while the population has grown 76 per cent. "The output of the medical schools in recent years has increased more rapidly than the population," he said. "Last year the additions to the profession in this country totaled 7,917, almost twice the number of physician deaths reported—about 4,000. The net gain was about 3,900."

"The figures, however, are the least significant part of the picture," the medical dean asserted, "because the quality and competence of doctors are far more important than their numbers."

In a country with a rapidly growing population, an increasing average life span, a rising standard of living, a newly awakened public recognition of the benefits of modern medicine, there inevitably arises a demand for more health services and for more physicians, Dr. Rappleye stated. "Of equal or even greater importance," he added, "is the need to maintain and improve the present levels of medical education and of selection of medical students, and the need for developing graduate and postgraduate training programs. It is essential today to assist the practicing physician to keep abreast of the increasingly rapid advances in medical science and the ensuing swift and often radical changes in medical and surgical practice, in measures of prevention, and in medical administration."

Dr. Rappleye's report pointed out that during recent months widespread publicity has been given to the fact that leadership in science and technology in this country is threatened by the enormous expansion of similar training in the Soviet Union. Its output of scientists is apparently substantially surpassing the numbers being produced in the United States, he said. "The challenge lies not only in the numbers involved (the Soviet bloc has a larger population reserve) but, most vitally, in our development of the highest quality of scientific manpower, originality in research, and ingenuity in the application of new knowledge and in the organization of human skills.

"It seems essential to concentrate on the quality of those who are educated and trained and on the level of the educational opportunities offered by the universities and other faculties," the Columbia dean said. "The real hope of the situation in the long run is the production of sufficient numbers of scientists whose qualifications and support insure the maintenance of American superiority and leadership in the advancement of knowledge and the safety of the nation. These objectives can only be accomplished, however, through the effective maintenance of educational institutions and professions which is coming to be recognized as one of the major challenges to the American people."

It is interesting to note that the output of our medical schools has increased more rapidly in recent years than the population of the nation. With a net gain, as reported in physician population for 1955 of 3,900, there is hope that the number of practicing doctors may suffice, with proper distribution, to care adequately for the needs of the American people.

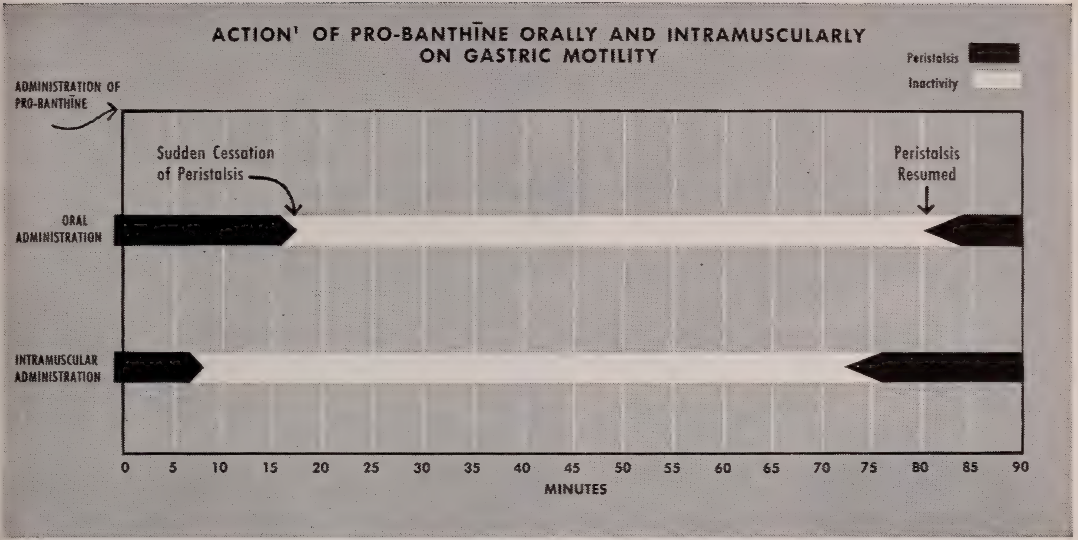
Home Health Emergencies. Occasionally there appears for public education and guidance a book or pamphlet of importance. Such a one is *Home Health Emergencies* based on an original manuscript by Granville W. Larimore, M.D., M.P.H., revised and edited by the Bureau of Public Health of the Medical Department of the Equitable Life Assurance Society. It is of pocket size, and any physician may obtain a complimentary copy by merely sending a postal card to the Bureau of Public Health, of the Equitable Life Assurance Society at 393 Seventh Avenue, New York 1, New York. Four hundred thousand of the books are being distributed as a public service by Equitable in October of this year.

This booklet uses simple language, avoiding medical terms where possible, and stresses the preventive aspects of public health; many topics have a "How to Prevent" section which is somewhat of a novelty in a publication of this sort. Instead of a list of symptoms under the heading of the various diseases, there is substituted "What to Look For." In the matter of first aid the subject is left at that, and no treatment is suggested or referred to; immediate medical attention is advised.

Because of the increasing importance of chronic illness and the growing need for providing care at home, material and practical advice on home nursing has been included. An edge index makes the finding of any subject a rapid process in an emergency.

This pocket-sized booklet of 256 pages seems to be a significant and well-designed addition to the available literature of home health emergencies.

True happiness is of a retired nature, and an enemy to pomp and noise; it arises, in the first place, from the enjoyment of one's self; and, in the next, from the friendship and conversation of a few select companions.—Joseph Addison



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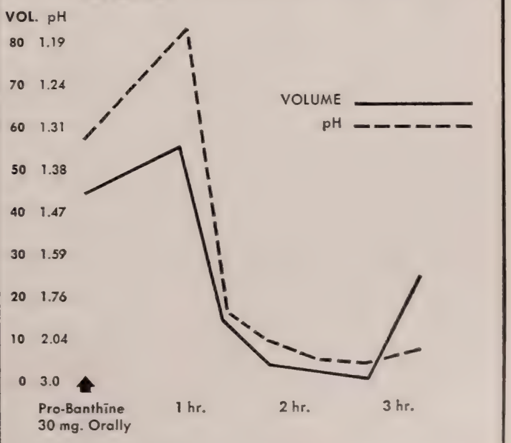

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[1] Barowsky, H.: Am. J. Gastroenterol. *23*:557 (June) 1955.
[2] Roback, R. A., and Beal, J. M.: Gastroenterology *25*:24 (Sept.) 1953.

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Therapeutic Tools in Cardiovascular Disease

SOL BILOON, M.D., BRONX, NEW YORK

(*From the Department of Medicine of Morrisania Hospital and Montefiore Hospital*)

THERAPEUTIC tools have played an important part in the control of some of the most common cardiovascular diseases. Because of penicillin there is less syphilis. A combination of antibiotics has made it possible to cure bacterial endocarditis. Treatment of the antecedent sore throat has reduced the incidence of rheumatic fever, and prophylactic penicillin has prevented many recurrences.

These events have brought hypertensive and atherosclerotic vascular diseases into greater prominence. One of the most urgent medical problems of this day is the control of these diseases. It is especially urgent in this country where the incidence of atherosclerotic heart disease is the highest in the world.

The most intensive research program seeking the cause of atherosclerosis has produced good evidence that diet plays a major role in the pathogenesis of atherosclerosis in man.[1-3] Other factors, such as hypertension, heredity, sex, and local injury to the arterial wall, play a role also,[4] but food fat is almost always a necessary determinant for experimental production of this disease. The other factors are less subject to control. Therefore, most of the investigators are agreed that the primary attack on atherosclerosis should be through diet control. The evidence which suggests that diet plays such a central role is derived from many sources.

The initial lesion of atherosclerosis is characterized by a high content of lipid substances including cholesterol. These lipid substances are carried in the serum in combination with protein as lipoprotein. As a rule a high level of cholesterol and cholesterol-bearing lipoproteins in the blood tends to promote atherosclerosis in many experimental animals.

In man atherosclerosis is found more frequently in those populations in which the fat content of the diet is high. Thus, in Japan and South Africa dietary fat accounts for about 10 per cent of the total calories. In Italy, Spain, and Portugal fat accounts for about 20 per cent of the total calories of the diet. At the other end of this scale are Australia, Canada, and the United States where fat accounts for about 40 per cent of the total calories. The morbidity and mortality figures for coronary heart disease run parallel to the above progression: lowest in Japan and South Africa, intermediate in southern Europe, and highest in Australia and the United States. In World War II there was a drop in morbidity and mortality from atherosclerosis in Norway and Finland, where low-fat diets were obligatory, but not in Denmark, where fats were obtainable. After the war there was a return to prewar levels.[5-7]

These data, in addition to experimental observations, suggest that the atherosclerotic lesion, at least in its early stages, is reversible. The newer experimental evidence in man finds lipoproteins with high cholesterol and low phospholipid content much less common in the blood of children than of adults, less frequent in women under forty than in men, but present in equal parts in both sexes after age sixty years. These same lipoproteins are found in higher concentration than normal in diabetics and in patients who have sustained myocardial infarctions.[8] These data show a striking correlation between the incidence of atherosclerotic heart disease in man and the presence of increased amounts of these lipoproteins in the blood.[9-11]

Presented at the 150th Annual Meeting of the Medical Society of the State of New York, New York City, General Sessions, May 9, 1956.

TABLE I.—BASIC DAILY FOOD PATTERN

Food	Amount	Fat (Gm.)
Milk	8 ounces	10
Butter or margarine	1 tablespoon	11
Cereal	1 serving	1
Protein food (choice of two)		
1. Lean meat	4 ounces	22
2. Fish	8 ounces	14
3. White meat poultry	8 ounces	18
4. Cottage cheese	8 ounces	2
Vegetables		
Yellow	1 average serving	1
Green	1 average serving	1
Other	1 average serving	1
Potato	1 average serving	1
Fruits—2 citrus, 1 other	3 servings	2
Bread	4 slices	4

In this country there is an excellent opportunity to test the truth of these hypotheses. We have the necessary variety of foods to make available an acceptable diet which has the same percentage of fat in it as found in the diet of nations with much less coronary disease. This has already been done on selected groups of patients by a few investigators.[12,13] An experiment on a much wider segment of the population could be conducted, using the figures for incidence and mortality of coronary disease in the past twenty years as controls. I am fully aware of the difficulties which we must overcome if a low-fat diet is to be used as a therapeutic tool for a long period of time, but the end in sight is good—a great reduction in the number of heart attacks.

Low-Fat Diet

Between 1935 and 1955 there has been a change in the American diet. We have reduced our carbohydrate intake, and we have raised our protein and fat, so that at this time our average diet contains less than 400 Gm. of carbohydrate, about 100 Gm. of protein, and nearly 150 Gm. of fat.[14] Thus, fat accounts for 40 per cent of our total calories. Suppose we reduce the fat allowance to between 20 and 25 per cent of the total calories. This will permit about 70 Gm. of fat in the diet. Such a diet need lack no essential nutriment and can be made palatable. Diets containing less fat are not acceptable to most patients.

An example of a general guide given to patients is shown in Table I. From this basic food pattern three acceptable meals can be planned with the patient's consent and cooperation. I have found that menus prepared without knowledge of the patient's work schedule, food habits, and social activities are generally useless. A short office conference with the patient, during which the basic three meals are planned, is usually all that is necessary. At this conference the doctor can make certain that the diet is sufficiently flexible to permit a variety of foods within the plan and such changes as are made necessary by the social obligations of the patient.

LOW-FAT DIET

This diet contains at least 100 Gm. of protein and about 70 Gm. of fat. Optimal caloric requirement is attained by raising or lowering the amount of carbohydrate. A daily vitamin supplement should be prescribed. No organ meats are permitted; also no goose, duck, or dark meat of poultry. Fish, low in fat content, is permitted and should be broiled. One tablespoon of butter may be used for broiling.

Such a diet should be recommended to all men and women over thirty years of age who have a family history of coronary disease, to patients who have had one heart attack, and to those who are much overweight. It would be wise to recommend to all men in good health at the age of thirty that the weight optimal for this age be maintained and that the dietary fat be reduced to 70 Gm. per day.

Prevention of Absorption of Cholesterol

Another approach to the prevention of atherosclerosis in man has been a recent attempt to control the level of cholesterol and beta lipoprotein in the blood by preventing the absorption of cholesterol. This has been shown to be possible in animals[15] and in man by the feeding of plant sterols (sitosterol) before meals.

The absorption of cholesterol is thought to be prevented by two mechanisms: (1) a combination of cholesterol with sitosterol in the intestine, with the formation of a less absorbable complex, or (2) by competition of sitosterol for the fatty acids and bile salts necessary to effect cholesterol absorption. Studies in man show that after the ingestion of sitosterol, there was a reduction in serum cholesterol[16] and total serum lipids.[17] A significant reduction in beta lipoproteins and a slight rise in alpha lipoproteins followed the ingestion of 5 Gm. of sitosterol immediately before each meal in patients with atherosclerotic heart disease.[18]

This reduction in serum cholesterol was not obtained by one investigator, who fed sitosterol

TABLE II.—Hazards of Sodium Restriction

Type	Cause	Signs	Serum Pattern	Treatment
Low sodium syndrome	(1) Low sodium diet, diuresis (2) Water retention	Renal failure, shock, central nervous system signs	Low sodium, low chloride	(1) Parenteral sodium chloride (2) Restrict fluid
Hypochloremic alkalosis	Diuresis	Failure of diuresis, increased heart failure, EKG signs of low potassium	Low chloride, high carbon dioxide, low potassium (?)	Potassium chloride
Hyperchloremic acidosis	Ammonium chloride	Increased heart failure, oliguria, apathy, EKG changes of low potassium	High chloride, low carbon dioxide, low potassium (?)	Stop ammonium chloride. Give sodium lactate, potassium supplement, mercurial diuretic
Digitalis toxicity	Too much digitalis, inadequate food, diuresis	Increased heart failure, signs of digitalis toxicity	......	Stop digitalis. Give potassium supplement hypertonic glucose

before meals to patients on normal diets and on diets containing 50 Gm. of vegetable fat per day for a period of thirty-five weeks. He found no alteration in the serum cholesterol in such patients.[19] In a more recent study reduction in serum cholesterol was obtained by sitosterol feeding in normal subjects but not in patients with disorders of lipoid metabolism.[20]

A clinical trial of the use of sitosterol in a large number of patients is in progress, and if the results are promising, the practical problems of cost, palatability, and long-term cooperation of patients will have to be solved.

It has been possible to reduce the blood cholesterol of normal men and to change the plasma lipid pattern toward normal in patients with hypercholesterolemia by the ingestion of 3 to 5 Gm. of nicotinic acid daily in divided doses after meals. There was no change in diet. Every patient experienced mild side-effects. The side-reactions, consisting of flushing and pruritus, diminished after a short period of treatment.[21]

If a simple and safe method is found which will change toward normal the blood liqid patterns associated with atherogenesis, it may be possible to allow patients a more liberal diet.

Restriction of Sodium Intake

The use of a restricted sodium diet is a most important addition to our available tools for the treatment of congestive heart failure. This diet is used as a means of control of the basic metabolic fault in heart failure. As a result of an inadequate cardiac output, body tissues are deprived of their usual quantity of blood and oxygen. The body reacts to this stress by adrenal cortical and antidiuretic hormone discharge. At the same time blood flow through the kidney is reduced. As a consequence salt and water are retained, and edema soon appears.[22] The heart muscle itself is subject to these same metabolic disturbances, reducing still further its efficiency as a pump.

The reduction of sodium intake is essential to the control of edema, but in addition, it is often necessary to increase sodium excretion by diuretics and to assist the heart muscle by digitalis. This combined treatment is generally effective, but it has inherent hazards. With the forced excretion of water, sodium, chloride, and potassium in the urine, the balance of these electrolytes in the tissues is disturbed, especially since food intake is often reduced. With the loss of potassium in the urine there may be a depletion of potassium in the heart muscle, and electrocardiographic changes may appear. The more common hazards resulting from the modern treatment of heart failure are shown in Table II. You will note that the cause of these major complications is a disturbance in the balance of electrolytes in the body, started by the heart failure itself and maintained by dietary and drug treatment.

It can be seen that the low sodium syndrome may be caused by loss of sodium due to diet and diuresis or may be the consequence of progressive heart failure with retention of water and dilution of sodium in the tissues. Treatment will depend on the cause. If sodium is lost, it may be replaced; if sodium is diluted, no more need be given, but fluids should be restricted.

In hypochloremic alkalosis the forced excretion of sodium chloride and potassium by diuresis causes a depletion of chloride and potassium from the body. This fault may be corrected by giving potassium chloride.

In hyperchloremic acidosis the signs are caused by the ingestion of ammonium chloride and the inability of the kidney to make enough ammonia to combine with chloride for excretion. Therefore, potassium is mobilized to aid in excretion of chloride. This retention of chloride and loss of potassium produce the signs described, including the acidosis. This may be corrected by withholding ammonium chloride, replacing potassium, and giving sodium lactate. If necessary, a mercurial diuretic will cause increased chloride excretion.

The digitalis toxicity syndrome is the result of either too much digitalis or inadequate food intake plus vigorous diuresis. The loss of body potassium from congestive failure and forced diuresis causes a low intracellular potassium in heart muscle. This change is sometimes reflected in the electrocardiogram. Treatment consists of omission of digitalis and the parenteral administration of potassium in hypertonic glucose.

The syndromes described above are the more common hazards of the modern treatment of heart failure. Other disturbances in electrolyte balance are also seen, and it is wise to examine the serum and the electrocardiogram when patients with heart failure are unresponsive to diuretics and when, without any evident cause, the heart failure becomes worse under treatment.

A restricted salt diet in the treatment of hypertension has had a long period of trial in clinical medicine. Early in this century a low-sodium chloride diet was tried,[23] and in the last decade a low-sodium diet. This restricted sodium diet, in conjunction with low protein and low fat, is the Kempner diet.[24] In well-controlled studies it has been shown that a reduction in blood pressure and an amelioration of its effects on the heart and blood vessels may be obtained by this diet.[25,26] However, the dietary treatment of hypertension has much less application at this time. It requires rigorous control of the intake of sodium and protein, to an extent not possible in most patients for any length of time. It is considered dangerous to keep patients on low-protein and salt intake and expect them to live normal lives. Finally, the same general effect can now be obtained by the use of hypotensive drugs without drastic diet restriction.

The effective use of the restricted sodium diet depends on the character of instruction to the patient. An order to avoid salt or reduce salt in the diet is useless unless the patient is taught to recognize the hidden sources of sodium in the food and drink to which he is accustomed and in the usual household remedies. A very useful guide is the booklet called *Food for Your Heart,* published by the American Heart Association.

Hypotensive Drugs

These drugs are the agents most generally used in the treatment of hypertension today. Their use is based on the theory that the high blood pressure is caused by an increase in the total peripheral resistance of the arterial system. This augmented resistance is caused by vasoconstriction, mediated by sympathetic fibers or by circulating pressor substances which act directly on the blood vessel wall. The sympathetic stimulation may be due to nervous causes or to adrenergic substances like epinephrine. The circulating pressor substances are thought to be elaborated by ischemic organs, notably the kidneys.[27]

The antihypertensive drugs in current use act to prevent vasoconstriction, some by sympathetic blockage at various sites (Rauwolfia, hexamethonium, Ansolysen, Mecamylamine, and Ecolid) and some by adrenergic blockade (Dibenzyline and Regitine). Other drugs act to prevent vasoconstriction by reflex action through the carotid sinus and vagus nerves, causing splanchnic vasodilatation (Veratrum alkaloids). The vasoconstriction caused by circulating pressor substances is prevented by some drugs through direct chemical action on the musculature of the vessel wall (Apresoline).

The ideal agent for the relief of hypertension would be one which stopped the vasoconstrictor activity and reduced the blood pressure without cutting down the blood supply of any vital organ like the brain, heart, or kidney. The drug should also have no serious side-effects and should be able to maintain normotension for many years. No single drug fulfills these requirements, but a combination of some of these drugs has been found to approximate the desired effect.

The need for hypotensive drugs must be considered in terms of the natural history of hypertensive disease. This disease usually begins early in adult life and lasts about two decades, often reducing life expectancy by ten to twenty years. Fixed diastolic hypertension (above 90 mm. Hg in recumbent position) is the indication for treatment. Sustained normotension is the goal. After an experience of over five years in the use of various combinations of these drugs, almost all investigators are of the opinion that they are desirable in all cases of fixed diastolic hypertension and mandatory in the acute hypertensive crises which arise during glomerulonephritis and toxemia of pregnancy.

Of the drugs which act by sympathetic blockade, Rauwolfia is the safest; it has a moderate hypotensive effect and few side-effects. Rauwolfia acts on the hypothalamus as a central inhibitor of sympathetic activity. It causes a slow drop in blood pressure, bradycardia, sedation, and increased intestinal motility.[28] The principal undesirable side-actions are nasal stuffiness, lethargy, and sometimes true depression. Most of the side-actions are tolerable and can be controlled by omission of the drug for a short period of time. It is necessary, however, to stop the drug if depression occurs.[29] Rauwolfia may be given parenterally as reserpine (1 to 2 mg. intravenously). The fall in blood pressure is moderate and lasts about six hours. If a more sudden drop in blood pressure is required, other agents should be used.[30] This drug is usually given by mouth, either as the crude drug or in a purified form. The dose of the whole root is 100 to 300 mg. per day, and the purified extract is usually given in doses of 0.5 to 1.5 mg. per day. When too much sedation is produced in the daytime, the drug is best given at night.

When used alone, Rauwolfia is effective mainly in mild cases of hypertension. Its principal clinical use is found in combination with the more potent ganglionic blocking agents, Apresoline and the Veratrum alkaloids. It helps to neutralize the side-effects of these drugs, and its hypotensive action, in combination, is additive and permits the use of smaller doses of the more powerful drugs.

The ganglionic blocking agents, of which hexamethonium is the best known, diminish all nervous transmission at the autonomic ganglia. The desirable effects are due to interference with sympathetic stimulation; the undesirable effects are the result of interference with parasympathetic stimulation. The desired effect is postural hypotension. The side-effects include blurred vision, severe constipation, and urinary retention.[31] These drugs reduce the blood supply to the kidney, heart, and brain. They are not effective in the presence of uremia and are not safe in patients with recent coronary infarction or in those with cerebral vascular disease.[32]

The parasympathetic blockade caused by these agents may produce severe symptoms. The lessened intestinal motility must be treated by daily catharsis or prostigmin, 15 to 20 mg. each morning. If a daily bowel movement is not obtained, the next dose of the drug must be withheld. Urinary retention is serious in male patients and should be treated with Urecholine 5 to 20 mg.

Ansolysen (pentolinium) is effective in much smaller doses than hexamethonium. Its duration of action is longer, but its parasympathetic effects are fewer and milder. Treatment is begun with doses of 10 to 20 mg. one-half hour before meals, with the addition of 10 mg. to each dose until signs of postural hypotension appear or until the blood pressure in recumbency is equal to or higher than the pressure when sitting. In this way the dosage is titrated. The average daily requirements of severe cases is 150 to 300 mg. but may be higher.[33,34]

Inversine (mecamylamine), a new autonomic blocking agent, has the advantage of better absorption from the gastrointestinal tract than hexamethonium or Ansolysen and is effective in much smaller dosage. Treatment begins with 2 mg. three times a day, with the addition of 2 mg. to each dose every second day until the hypotensive effect is obtained. The average daily dose is 30 mg. Blood pressure fluctuation is less than with the other blocking agents. Parasympathetic side-effects are just as prominent with small doses of Inversine as with the larger doses of the other agents.[35]

Ecolid is a new and promising autonomic blocking agent. It is effective orally. The duration of its action is longer than hexamethonium or Ansolysen, and there is less fluctuation of blood pressure. The parasympathetic side-effects occur less frequently and are of moderate degree, but blurring of the vision is quite marked and is used as a measure of therapeutic effect. The average dose is 50 to 100 mg.[36]

The adrenergic blocking agents are used as diagnostic aids and to overcome vasoconstriction in peripheral vascular disease. They are not used at this time in the treatment of hypertensive disease.

The Veratrum alkaloids have their principal use in acute hypertensive crises. The duration of their activity is short. Tolerance to dosage appears rapidly, and continuous normotension is difficult to achieve. There is only a small margin of safety between toxic and therapeutic doses, but if the dosage is carefully titrated, the purified extract may be given by vein or muscle in acute hypertensive crises without side-effects and without increase in cardiac output.[37]

Apresoline (hydralazine) is a synthetic agent which acts against a number of circulating vasoconstrictor substances. It is effective in lowering blood pressure but produces tachycardia and increased cardiac output. The side-effects include headache, nasal stuffiness, and febrile reactions. In addition, a collagen-like disease appears in 10 to 20 per cent of the patients who take the drug for a year or more.[38,39] Because of the side-effects this drug is seldom used alone, but in combination with hexamethonium it has proved to be a very effective agent in severe hypertensive disease.[40] In this combination the hypotensive effects of the drugs are additive, the increase in renal plasma flow produced by Apresoline is maintained,[41] and there is little increase in cardiac output and cardiac work.[42]

The hypotensive drugs have been used in the treatment of hypertension for less than a decade. It is not possible at present to estimate their value in patients with uncomplicated diastolic hypertension since such patients have to be followed for twenty years in order to observe any change in morbidity or life expectancy. However, in the patients who develop cardiac or renal complications, these complications are controlled, and life expectancy is prolonged by these drugs. In patients with malignant hypertension the results are most impressive. There is a more than 50 per cent salvage rate with restoration of vision, control of congestive heart failure, and prolongation of life.[43–45] It has been possible to effect a reversal of the hypertensive process by the use of combined drug therapy, as evidenced by the control of the principal complications of the disease and by the fact that many patients require smaller doses of these agents after a few years of treatment. In some instances the progress of the disease has been stopped and hypotension maintained after the drugs have been discontinued entirely.[46–48]

For the immediate future the best prospect for a patient who requires treatment for hypertension is to begin treatment with one of the Rauwolfia products and, if this alone is effective and no serious side-effects disturb the patient, to continue with this drug. If the desired drop in blood pressure is not achieved by Rauwolfia alone, then one of the newer ganglionic blocking agents should be added to the treatment, starting with small doses and adding small increments until postural hypotension is achieved with a minimum of side-effects.[49–51] Results will be good in patients who cooperate fully and who are willing to be patient until the desired effects are obtained.[52–54]

A recent report is critical of the results obtained by the drug treatment of hypertension. The necessity for stricter standards of preliminary control and the use of the double blind technic are stressed. The importance of environmental factors and stress situations in the lives of patients is indicated.[55] However, this criticism loses most of its force when considered in the light of the results obtained by so many clinics in the treatment of severe and malignant hypertension.

Surgery

The most dramatic results in the treatment of cardiovascular disease in recent years have been achieved by surgery.[56–58] The frontiers of cardiac surgery have been widened by newer diagnostic methods, including angiocardiography and cardiac catheterization. The better control of anoxia during anesthesia and the use of the cardioscope in the detection of arrhythmias have also made operations on the heart much safer.

The surgical repair of some of the malformations of congenital heart disease is now possible with a good prospect of survival and recovery of function. The successful surgical ligation of patent ductus by Gross in 1938 was the stimulus for the development of modern cardiac surgery.[59] The surgical cure of patent ductus has been achieved by many surgeons with an over-all mortality of about 5 per cent, although the mortality is less than 1 per cent when there are no complications present at the time of operation. The indication for operation is the presence of a patent ductus in childhood or youth. The principal contraindication to operation is the presence of a reverse shunt from right to left. In adults who have no symptoms and no cardiac enlargement, operation is not indicated.

The prospect for the cure of coarctation of the aorta is also good, although the operative mortality varies between 5 and 10 per cent in the good risk cases. The first successful operation for the cure of coarctation of the aorta was done in 1945 by Crafoord and Nylin[60] and later by Gross.[61,62] Patients with coarctation who have no high blood pressure, cardiac enlargement, or heart failure may be watched without operation. The operation is performed by excision of the narrowed portion of the aorta or by the insertion of an aortic graft. The operation should be done in youth, when possible, for this is the optimal time, but it has been done in third and fourth decades with success.[63]

It has been possible to close atrial septal defects and ventricular septal defects by various methods. These defects have been closed by direct suture of the defect under tactile control,[64] by the use of an atrial well,[65] or by direct vision in the open heart. This direct vision surgery is accomplished either by hypothermia[66] or by the cross-circulation technic, in which the patient's and the donor's circulatory systems are linked so that the patient's heart and lungs are bypassed. Of 25 patients, including 16 infants, operated on for closure of intraventricular septal defects, 18 survived.[67] The general prognosis is much better for atrial septal defects with the newer methods.[68]

The surgical treatment of congenital pulmonic stenosis alone or as part of the tetralogy of Fallot was conceived by Blalock[69] and modified by Potts.[70] The operation is designed to increase the blood flow to the lungs by anastomosis between the aorta or one of its branches and the pulmonary artery.

Direct surgery on the valve itself is done by Brock,[71] who cuts the stenotic valve with a scalpel attached to the index finger and removes the obstruction.

The direct vision open heart procedures, using hypothermia or cross-circulation technics, seem to offer the most promise for the future in operations for congenital defects.

The operation for the relief of mitral stenosis is accepted as standard procedure for patients who have disabling symptoms caused by blockade but not for those whose symptoms are caused by insufficiency at the valve or by cardiac failure. The prospect for the relief of symptoms is excellent, and many patients are restored to useful activity. In general, the risk of this operation varies with the type of patient accepted for surgery.[72] The mortality for Groups II and III (American Heart Association) is less than 5 per cent at present.

The operation for the relief of aortic stenosis was done by Bailey originally by approaching the valve through the ventricle; recently the operation has been performed through the aorta, using digital guidance. The nature of the valvular lesion and the hazards of arrhythmia and sudden heart failure make this an operation to be reserved for patients with aortic stenosis who are refractory to treatment for cardiac failure or coronary insufficiency.[73]

The control of severe and progressive hypertensive disease by sympathectomy has been tried for at least a decade, and at some clinics the results of this operation have been better than could be obtained by the best medical care.[74] Since the advent of hypotensive drugs this operation may be reserved for those patients who do not respond to these drugs.

The great prevalence of coronary heart disease in the United States has stimulated research to find a way to increase the blood supply to the heart. Methods have been devised to suture contiguous tissues or blood vessels to the heart or to irritate the pericardium by physical and chemical means to encourage the formation of new blood vessels. Some surgeons report success by these methods.[75,76] The increase in blood supply to the heart, even in the latest Beck operation, is very slight. There is some relief of angina, but it is not quite clear whether this may not have occurred with time alone in most patients who are accepted for operation. Most cardiologists think that the evidence so far presented does not warrant general acceptance of these operations.

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Mature affection, homage, devotion, does not easily express itself. Its voice is low. It is modest and retiring, it lies in ambush, waits and waits.—David Copperfield, CHARLES DICKENS

Clinical Factors in Multiple Pregnancy

MARTIN L. STONE, M.D., F.A.C.S., AND ALVIN M. DONNENFELD, M.D., NEW YORK CITY

(*From the Department of Obstetrics and Gynecology, Metropolitan Medical Center, New York Medical College, Flower and Fifth Avenue Hospitals*)

PHYSICIANS and patients alike find multiple pregnancies interesting and exciting. The clinical problems that may arise are associated with an increased hazard to the mother and child. Despite the interest in and the problems presented by multiple pregnancy, the literature has not been extensive.

Discussing an article by Ross and Philpott,[1] Eastman[2] said that clinical studies on this subject have been few and far between. This comment prompted the present review and perhaps was the stimulus for two excellent reviews recently presented by Aaron and Halperin[3] and Kurtz, Keating, and Loftus.[4]

Material

This study is based on a review of all the multiple pregnancies which occurred on the obstetric service at the Flower and Fifth Avenue Hospitals from January 1, 1949, through December 31, 1955. During that period there were 15,196 deliveries. Of them 192 were twin pregnancies, and three were triplets. For purposes of comparison with other series and statistical analyses of important clinical factors, the triplets will be excluded. The incidence of multiple pregnancy was one in 79 deliveries or 1.2 per cent. This is essentially a median figure for recent studies. Aaron and Halperin reported an incidence of one in 111.4 deliveries. Potter and Crunden[5] gave an over-all incidence of one in 93.4 patients. Kurtz, Keating, and Loftus,[4] in an analysis of 500 twin pregnancies, reported an incidence of one in 98 cases. In an analysis of 57 million births, Guttmacher[6] found an incidence of one in 92.4 white patients and one in 73.8 for Negroes.

Previous History

Eight patients gave a significant history relating to multiple pregnancy. Two of them previously had delivered twins. Six gave a family history of twin pregnancy, and three patients of these six were themselves twins.

TABLE I.—INCIDENCE ACCORDING TO PARITY

Parity	Number	Per Cent	
0	78	40.6	69.2
1	55	28.6	
2	34	17.6	17.6
3	11		13.2
4	7		
5	2		
6	4		
7	1		
TOTAL	192		100

TABLE II.—INCIDENCE ACCORDING TO AGE

Age	Number	Per Cent
17 to 30	131	68.3
31 and over	61	31.7
TOTAL	192	100

Parity

The occurrence of twins is reportedly more frequent in multiparas. In our series there were 114 multiparas (59.4 per cent) and 78 primigravidas (40.6 per cent). Further analysis, however, reveals that the second highest incidence of twins occurred in para 1 patients and that the total for first and second pregnancies was 133 or 69.2 per cent. Perhaps more significant than the higher incidence in multiparas is the high incidence in the low parity patients. This point is evident from Table I.

Age

The patients ranged in age from seventeen to forty-two (Table II). Three were seventeen and four more than forty. A total of 131 patients were thirty years of age or younger. The figures for age and parity complement each other; the higher incidence of twin pregnancies occurred in the younger patient of lower parity.

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TABLE III.—Maternal Complications

Complication	Number
Toxemia	52
Anemia	51
Placenta previa	0
Postpartum hemorrhage	7
Manual removal	13
Hydramnios	5
Abruptio placenta	3
Deaths	0
Total	131

TABLE IV.—Duration of Pregnancy

Weeks of Pregnancy	Number of Patients	Per Per Cent
22 to 31	27	41
32 to 36	52	
37 to 40	102	59
Over 40	11	
Total	192	100

Maternal Complications

Toxemia of pregnancy, the most frequent complication, occurred in 52 mothers, or 27 per cent (Table III). Except for the very low incidence of 5 per cent reported by Aaron and Halperin,[3] this figure is consistent with the findings of others. Most investigators found toxemia to occur in one out of four patients or approximately three times more often than in single pregnancies. Three of our 52 cases of toxemia went on to eclampsia.

Anemia was the second most frequent complication. These 51 patients all had hemoglobins under 10 Gm. This complication has not received much attention in other reports, but because of its high incidence, we felt it was worth noting. We present it without any implication as to its relationship to twin pregnancy. This perhaps is a phase for future study.

There were no cases of placenta previa. This was an unexpected and surprising finding. Other series report placenta previa as being twice as frequent in twin pregnancies. In view of our findings and the not greatly increased incidence reported by others,[3,4] the relationship of previa to twin pregnancy needs re-evaluation.

Postpartum hemorrhage occurred in seven patients, only four of whom required blood transfusion. While this complication has been reported as occurring more frequently in twin pregnancy, the recent series by Kurtz, Keating, and Loftus[4] also showed a very low incidence. They feel that proper management of the third stage can reduce this complication.

Manual removal of the placenta was done 13 times, two and one-half times more frequently than usual in our hospital.

Hydramnios occurred in five patients. This clinical factor presented no additional problem. No patients needed tapping. There was no direct effect on fetal outcome except for relationship to prematurity.

Abruptio placentae occurred in three patients, in one of whom it was associated with toxemia.

There were no maternal deaths.

Duration of Pregnancy

The shortest pregnancy was twenty-two weeks, the longest forty-two. A total of 41 per cent were under thirty-seven weeks; 113 patients, or 59 per cent, went thirty-seven weeks or more (Table IV). Guttmacher[7] found that twin pregnancies usually terminated more than two and one-half weeks earlier than single pregnancies. This increased incidence of early termination and the fact that the twin fetus is smaller than a single fetus of the same age led to the higher incidence of prematurity and the related fetal loss which is discussed in detail below.

Diagnosis

The diagnosis may be suggested by an increased amount of fluid, excessive size of the abdomen, excessive weight gain, or some combination of these three findings. However, the incidence of correct antepartum diagnosis is not very high. More than 50 per cent of our cases came to the delivery room undiagnosed. The high incidence of prematurity is a factor, and the poorest diagnostic ability was demonstrated in the group in which both babies were small. An analysis of whether one or two fetal hearts were reported showed a direct relationship to x-ray findings, i.e., two fetal hearts were usually heard if the patient was x-rayed and twins were known to be present.

Sex of Infants

In 63 cases both infants were male. In 64 cases both were female. There was one of each sex in 65 cases. In 127 of the 192 total cases, both babies were of the same sex. The same sex

TABLE V.—PRESENTATION

Presentation		Number
Vertex	Vertex	65
Vertex	Breech	63
Breech	Vertex	22
Breech	Breech	15
Vertex	Transverse	14
Breech	Transverse	5
Other		8
TOTAL		192

was reported as occurring two times as often as one baby of each sex.[8]

Presentation

The first twin presented as a vertex in 142 cases or 68.6 per cent. Forty-two or 21.9 per cent were breeches. The second twin presented as vertex in 87 or 45.3 per cent, as breech in 78 or 40.6 per cent, and as transverse in 19 or 9.9 per cent. The increase in abnormal presentation for the second twin is apparent from these figures. Table V presents the relative frequency of combinations of presentations.

In this series locking or collision did not occur. That this often-described and textbook-pictured complication is a rarity seems to be borne out by this and other studies in which no locking occurred in more than 2,000 cases.[4]

Anesthesia and Analgesia

All patients received varying combinations of Demerol, scopolamine, and barbiturates for analgesia. The predominant anesthesia was gas-oxygen-ether. A statistically insignificant number of patients received pudendal block or conduction anesthesia. While no agent demonstrated a superiority in this series, it has been suggested that conduction analgesia and anesthesia are indicated since prematurity is so prevalent and the respiratory apparatus of the newborn infant is most vulnerable.[3]

Duration of Labor

The longest labor in this series was twenty-two hours, the shortest one hour. Twin pregnancy apparently has little effect on the duration of labor.[9] Ross and Philpott,[1] in evaluating their series, concluded that twin pregnancy did not cause prolonged labor. The interval between delivery of the first and second twins was kept at a minimum as a result of the method of delivery employed. Delay in delivery of the second twin is not justified in view of the risk to the baby of possible malpresentation, prolapsed cord, or premature separation of the placenta. Kurtz, Keating, and Loftus[4] reported a high incidence of operative delivery for the second twin, even when they permitted a long second stage.

Method of Delivery

The first baby was delivered as is usual for single pregnancy. Episiotomy is recommended for all premature births, although there is some question about the use of low forceps. There was a high incidence of normal spontaneous delivery which was to be expected in view of the size of the babies and the infrequent use of conduction anesthesia. The second twin was allowed to deliver spontaneously in 44 cases, by version in 38, forceps in 21, and by breech extraction in 73. The time interval between delivery of the first and second twin is apparently a significant factor in the second twin's survival, particularly for smaller babies. The method of delivery of the second twin, if not spontaneous, was forceps if the head engaged promptly, breech extraction, or podalic version.

There were 16 cesarean sections for an incidence of 8.3 per cent. Our over-all hospital incidence is 10 per cent. The indications were as follows: previous section five, toxemia four, transverse lie three, elective two, and ineffective labor two. The indications for cesarean section should be the same as for single pregnancies, and in view of the frequency of small babies, cephalopelvic disproportion should occur less frequently.

Pitocin was used in 20 cases. In 11 cases it was used for induction: three electively, three for toxemia, and five for rupture of the membranes without labor. It was used to supplement labor in three cases of abruptio placenta and six cases of inertia. In recent years it has become our routine to use intravenous Pitocin in the immediate postpartum period to help overcome atony and to decrease the hazard of postpartum hemorrhage. This procedure undoubtedly accounts for the low incidence of this complication.

Fetal Factors

WEIGHT.—The 384 babies who were delivered ranged in weight from 340 to 4,050 Gm. As is customary, we took 2,500 Gm. as the dividing line between premature and mature infants.

TABLE VI.—MATURITY OF INFANTS

	Number of Cases	Per Cent
Mature	136	35.4
Premature	217	56.4
Immature	31	8.2
TOTAL	384	100

TABLE VII.—FETAL DEATHS ACCORDING TO MATURITY

	Stillborn	Neonatal Deaths	Total Deaths
Mature	0	2	2
Premature	2	22	24
Immature	8	20	28
TOTAL	10	44	54

TABLE VIII.—FETAL ANOMALIES

Fetal Anomalies	Number
Congenital heart	5
Umbilical hernia	9
Hypospadias	1
Hydrocele	2
Polycystic kidney	1
Imperforate anus	1
Hemangioma	1
Metatarsus varus	1
Atresia of ileum	1
TOTAL	22

Those under 1,000 Gm. are considered immature. Thus, 136 babies (35.4 per cent) were mature, 217 (56.4 per cent) were premature, and 31 (8.2 per cent) were immature (Table VI). Our incidence of prematurity was 64.5 per cent. Ross and Philpott[1] reported an incidence of 55.6 per cent. Aaron and Halperin[3] reported 61.4 per cent and Kurtz, Keating, and Loftus[4] 55.9 per cent. The usual incidence of prematurity associated with single births is only about 9 per cent. The significance of this extremely high prematurity rate in twin pregnancies will be further emphasized when we evaluate fetal deaths.

FETAL LOSS.—Of the 384 babies delivered, 54 (14.1 per cent) died. Bender's[10] figure of 11 per cent and Ross and Philpott's[1] of 10.4 per cent are some of the best reported in the literature. If we consider only babies over 1,000 Gm., there were but 26 deaths or 6.7 per cent. This low figure includes all babies over 1,000 Gm. and does not correct even for abnormalities incompatible with life. Only two babies over 2,500 Gm. died or 0.5 per cent (Table VII).

Of the total fetal loss, prematurity accounted for death in 52 babies or 96.3 per cent. In view of the extremely high prematurity rate as a cause of death, it is difficult to evaluate other factors which might contribute to fetal loss. We were unable to correlate fetal loss to the first or second twin. Twenty-six first babies died and 30 second babies. Again only one of each was mature. On the other hand, Kurtz, Keating, and Loftus[4] reported fetal loss was twice as common for the second twin. Others[1,3] have reported no increased danger to the second twin if prematurity is not a factor. We also could find no correlation between fetal loss and age of the patient, parity of the patient, or method of delivery. Prolapse of the cord occurred in eight cases with fetal loss in three. Two infants were stillborn, one was macerated, and all three were premature. Six of the fetal deaths were associated with toxemia. All six of these infants were premature. The only mature second baby who died was delivered by cesarean section.

FETAL ANOMALIES.—There were 22 congenital anomalies (Table VIII). This is a much higher incidence than occurs in single pregnancies. Only two infants with congenital anomalies died, one with congenital heart and one with polycystic kidney.

Comment

It becomes apparent from this and other series in the literature that multiple pregnancy is associated with an increase in fetal loss and maternal complications. The greatest single factor responsible for the fetal loss is prematurity. Of the maternal complications that affect fetal outcome, toxemia seems the most important. Toxemia not only has a direct effect on fetal outcome but also is a contributing factor to premature delivery. The problem of prematurity is increased by the fact that 50 per cent of the cases are not diagnosed before delivery.

It would seem that improved prenatal care and early diagnosis are essential to decrease the incidence of maternal complications and prematurity and to increase fetal salvage. Any case with premature onset of labor, premature rupture of the membranes, or both, particularly with an apparently large baby, should be evaluated for the possibility of multiple pregnancy. When the diagnosis of multiple pregnancy is made, increased bed rest is indicated. Bender[10] has reported much success following a regime of hospitalizing women with twin pregnancies at thirty-three weeks.

Further improvement in over-all results can be anticipated with better management of labor and delivery. This is suggested by the comparatively low fetal loss in this series. We recommend a better evaluation of the analgesia and anesthesia problems on an individual basis with the amounts of drugs used kept at a minimum. Prompt delivery of the second twin is advocated since delays are associated with increased fetal loss. Finally, because many infants will be born as prematures in spite of all our efforts, continued improvement in pediatric management of the premature newborn is essential.

Summary

1. A series of 192 multiple pregnancies is reviewed and analyzed. The incidence was one in 79 deliveries.

2. Maternal complications occur more frequently in multiple pregnancy than in single pregnancy. The increase in toxemia is the most significant.

3. The main fetal problem is prematurity. Fetal loss results almost solely from this condition.

4. Increased fetal salvage may be obtainable by early diagnosis, improved prenatal care, minimal analgesia and anesthesia, prompt delivery of the second twin, and improved pediatric management of the premature infant.

5. Postpartum hemorrhage can often be prevented by the proper use of intravenous Pitocin in the third stage.

6. There were no maternal deaths in this series.

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ANNOUNCEMENT

SCIENTIFIC EXHIBITS

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MEDICAL SOCIETY OF THE STATE OF NEW YORK

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William L. Watson, M.D.
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The Sesquicentennial Convention will be held February 18 to 21, 1957, at the Hotel Statler, New York City.

No applications can be considered after November 1, 1956.

There will be two groups of awards:

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W. P. Anderton, M.D., *Secretary*
Medical Society of the State of New York

The Modern Treatment of Ruptured Nonfistulous Intracranial Aneurysm

CARL J. GRAF, M.D., BUFFALO, NEW YORK

(*From the Department of Neurological Surgery, Buffalo General Hospital and the University of Buffalo School of Medicine*)

When the initial attack of spontaneous subarachnoid hemorrhage has a mortality rate of 45 per cent and when this rate increases in the same proportion with recurrent hemorrhage (most probable in the succeeding second or third week), we have a formidable problem. But the mortality of subarachnoid hemorrhage of aneurysmal origin is even more imposing.

In a series of 122 Buffalo General Hospital patients with nonfistulous aneurysms, 97 aneurysms had bled.[1] Of 89 patients admitted to the hospital actively bleeding, 70 (72 per cent) died. Nonaneurysmal subarachnoid hemorrhage apparently carries a better prognosis than does that of aneurysmal origin. Björkesten[2] was able to observe 50 patients over a five-year period who had had spontaneous subarachnoid hemorrhage of undetermined origin. All of these patients had at least bilateral carotid angiography. When 42 of these 50 patients were re-evaluated, it was found that one had died of a recurrent hemorrhage.

Walton[3] reported a mortality of 45 per cent in a series of 312 patients with subarachnoid hemorrhage. This series of patients was studied before angiography was in general use. The aneurysmal origin of bleeding was confirmed by angiography in "at least 65 patients." The actual mortality of aneurysmal hemorrhage in the group was undoubtedly higher.

Löfstedt[4] found angiographically demonstrable aneurysms in 34 of 37 patients under fifty years of age who had had spontaneous hemorrhage. In 53 patients with subarachnoid hemorrhage, Hamby[5] reported that angiography revealed 22 (41 per cent) of aneurysmal origin. In another series of 130 patients with subarachnoid hemorrhage reported by him,[6] aneurysms were found in 94 per cent. These extreme figures may be misleading, for in the series of 53 patients complete angiography was done in only three and bilateral carotid angiograms in only 40 per cent. In the group of 130 patients the source of bleeding was determined, for the most part, from autopsy material. Walton[7] believes that about 80 per cent of spontaneous subarachnoid hemorrhages are of aneurysmal origin.

The correct method of managing a patient with aneurysmal subarachnoid hemorrhage remains a matter of vigorously differing opinion from the extreme conservative approach of many neurologists to the radical one of an increasing number of neurosurgeons. Since there is no way of knowing whether a patient will have a recurrent, perhaps fatal, hemorrhage or when such a hemorrhage may occur, the risk of operation must be weighed against the risk of leaving the patient alone. The mortality of the intracranial attack on an aneurysm within the first two or three weeks after the hemorrhage is as high as when the disease is allowed to run its natural course. Unfortunately, however, within this time interval lies the greatest danger of recurrent hemorrhage. If the mortality is to be lowered, it cannot be done by leaving the patient to nature. With increasing experience in the surgery of aneurysms and with more effective technical aids, the surgical mortality is being substantially reduced. From the surgical standpoint the problem is resolved into: (1) What, if anything, should be done to an aneurysm in the acute state of hemorrhage? (2) What should be done to prevent a recurrence?

Medical (Conservative) Management of Subarachnoid Hemorrhage

Medical or conservative treatment consists of keeping the patient at as basal living conditions as possible while the ruptured aneurysm is sealing itself off. At present there is no known effective medical means to prevent or control bleeding from an aneurysm. Eight weeks is

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considered the optimal time for the natural processes of repair of the torn aneurysmal wall. During this period, when the patient is completely bedfast, every effort is made to prevent emotional and physical strain. His position in bed is maintained in one of comfort and is changed frequently to avoid fatigue. He is not allowed to sit up under his own power, all positional changes being made by the nursing staff. Excessive fatigue is avoided. A diagnostic lumbar puncture is done at once and is repeated as necessary to alleviate headache and restlessness due to the irritating effects of blood in the subarachnoid space. The slow removal of fluid and reduction of initial pressure to one half of the original value is advised and considered safe. Persistent restlessness is controlled by catheterization of a distended bladder and by tidal drainage. Headache unrelieved by lumbar puncture is usually controlled adequately with codeine and aspirin, more potent narcotics like morphine being unnecessary. Morphine, even in small doses, is considered potentially dangerous because of the pupillary and respiratory depressant effects. A mild sedative like phenobarbital, 1 grain taken three or four times daily, is helpful in allaying the patient's apprehension.

The diet is kept high in vitamin and mineral content and of low residue with a value of 1,800 to 2,000 calories to maintain adequate nutritional needs. If the patient remains unconscious for more than two or three days, nasogastric feeding is employed. The strictest attention is paid to bowel care. Gentle saline enemas are given every other day to keep the bowels open. The patient must avoid straining at all costs, and the enema should be siphoned back if necessary to avoid the natural tendency to strain.

Several days after the hemorrhage the patient feels well and is eager to leave the hospital. At this time he must carefully and considerately be told of his plight. This explanation is not an easy task. To tell a patient that he harbors a deadly lesion within his head and at the same time to allay the natural apprehension caused by this knowledge requires real skill. The patient must be impressed with the fact that his total cooperation is necessary but that this does not necessarily imply permanent invalidism. The social service agency of the hospital can be of great help in allaying the patient's concern about his job and family. From the beginning the patient's family must be made to appreciate the seriousness of the situation and to share the responsibility of the patient's care.

To prevent disuse atrophy and embolic phenomena caused by inactivity, passive exercises are begun as soon as the patient's condition permits.

Surgical Treatment

Indirect Attack.—The indirect method consists of extracranial ligation of the common or internal carotid artery. Sweet[8] has shown that occlusion of the common carotid artery can be relatively safely tolerated if the reduction of the intravascular carotid (and its branches) pressure is not greater than 50 per cent. This reduction in pressure and blood flow presumably occurs within the aneurysm and is considered effective in controlling further hemorrhage. It seems, however, that as collaterals are developed, a secondary rise in the intra-aneurysmal pressure should take place. Jefferson[9] made extracranial carotid ligations in 142 patients with ruptured aneurysms and reported a fatality of 14 per cent. Murphey[10] treated 88 patients similarly. He considers ligation of the internal carotid artery too hazardous. He ligated the internal carotid artery in 14 patients; five of these developed hemiplegia following ligation, and one, who was moribund at the time of ligation, died. Of 67 patients who had common carotid artery ligation, three developed hemiplegia, and six died following operation. In three of the 67 patients the artery was ligated on the wrong side. In Murphey's entire series of 88 patients treated by carotid ligation, nine developed hemiplegia, nine died, and nine had recurrent subarachnoid hemorrhage. In those patients who had a recurrent hemorrhage, two had had partial carotid ligation, and in four the artery was ligated on the wrong side. Recurrent hemorrhage occurred in three patients who had had the artery ligated on the correct side. Our figures are less good. In our series of 13 patients with cervical carotid ligations, four (31 per cent) died.

Direct Attack.—It is our conviction that the direct attack on the aneurysm, being more definitive, is the most effective method of treatment. Ideally, such treatment should exclude the aneurysm from the circulation and at the same time preserve the parent artery. Since this is not always possible, the aneurysm must be treated at the time of operation in a manner best suited to the situation. Clipping or ligation of the aneurysmal neck is the procedure of choice. Second, the aneurysm may be "trapped" between clips applied to the parent trunk on either side of the origin of the aneurysm. The third method, first employed by Dott,[11] consists in "wrapping" the lesion with muscle or cottonoid. We consider this a dubiously effective, makeshift procedure employed for want of something better. When we have used this method, we have not been able to control permanently the bleeding from an aneurysm which ruptures on exposure.

Most aneurysms are located on the anterior portion of the circle of Willis. Fortunately, these can be approached by frontal craniotomy. Aneurysms located on the anterior communicating artery are attacked either subfrontally or along the cerebral falx. Unfortunately, because the latter method frequently requires obliteration of veins between the hemisphere and the superior longitudinal sinus, it may produce profound frontal lobe deficits. Each method has its place, depending on the character of the aneurysm. Middle cerebral artery and carotid bifurcation aneurysms require opening of the Sylvian fissure. When the aneurysm is on the middle cerebral artery, local hypotension by temporary occlusion of the parent trunk proximal to the aneurysm helps to control hemorrhage. Campbell[12] has treated large middle cerebral aneurysms by imbrication of the sac.

Personal Experience

About one year ago we reported a series of 55 intracranial aneurysm patients on whom direct operation was done, with a mortality of 45 per cent.[13] Since that report we have attacked directly, without fatality, ten more aneurysms which had bled at least two weeks before operation. The mortality rate in the entire group of 65 patients is 38.4 per cent. This figure, unusually high when compared with other series, was determined from a group of consecutively treated patients whose aneurysms were demonstrated preoperatively in only 62 per cent. In the remaining 38 per cent, aneurysms were found at operation or at autopsy following operation. This latter group of patients was operated on before angiography was as commonly employed as now. Although aneurysms were suspected in these patients preoperatively, they were not specifically localized, and operation could not be definitely "planned." The mortality of the direct attack on angiographically demonstrated aneurysms was 19.5 per cent. During the past three months six additional aneurysms have been directly attacked, with one fatality as the result of the hemorrhagic diathesis seen at times with hypothermia. The total mortality is 19 per cent. If the last fatality is considered an anesthetic death, the mortality is 17 per cent.

Ignorance of the exact nature of the lesion and several years less experience in coping with it considerably affected the mortality rate. The most important single factor in our statistical mortality was the presence of intracerebral hematoma. Seventeen of the 65 patients had intracerebral hematoma associated with one or more aneurysms. Sixteen of these 17 patients died. Only three of the 17 patients had angiographically demonstrated aneurysms. In six patients the hematoma was evacuated, the aneurysms being left untreated. We stress this point of intracerebral hematoma because of the belief in other clinics that the presence of a clot is surgically helpful, allowing for greater working space to cope with the aneurysm. To us, however, intracerebral hematoma indicates a destructive lesion from which recovery is rare. In our series of patients hematomas were associated with anterior cerebral-anterior communicating complex aneurysms in nine instances and with the middle cerebral artery in five, sites which have shown the highest mortality rate.

One cannot compare the results of treatment of aneurysms on various parts of the circle of Willis, for the problem is usually entirely different. In our experience aneurysms of the carotid-posterior communicating artery complex offer the greatest chance of successful treatment, while those on the anterior cerebral-anterior communicating complex offer the least.

The results of surgical treatment of 75 patients with angiographically demonstrated aneurysms are summarized in Table I.

The untreated patients noted in Table I require some comment. Eleven patients died in the hospital, and one died at home from an apparent recurrent hemorrhage six weeks after discharge. Of eight patients who were never in condition considered suitable for operation, seven died. The single survivor had a recurrent hemorrhage. Thirteen days later angiography revealed a middle cerebral artery aneurysm.

TABLE I.—Results of Surgical Treatment of 75 Cases

	Carotid Ligation	Untreated	Trapping Operations	Aneurysm Neck Clipped	Reinforcement	Total
Total cases	17	17 (14 dead, 3 alive)	20	20	1	75
Surgical fatality	4 (23.5%)	..	4 (20%)	4 (20%)	0	12 (20.6%)
Survivors	13	..	16	16	1	46
Status unknown	2	..	..	..	..	2
Well	5	..	7	9	..	21
Working with mild neurologic deficits	5	..	8	3	..	16
Severe neurologic deficits	2	..	2	3	1	8
Invalid	1	..	1	1	..	3
Subsequent death						
Hemorrhage	1					
Unrelated cause	2	.	..	..	..	3

Operation was advised but refused. Since no further contact with this patient has been possible, her condition is unknown. Three patients with demonstrable aneurysms had intracerebral hematomas removed. The aneurysms were not found at operation. These patients have been considered untreated from the aneurysmal standpoint.

One patient was found to have a small asymptomatic intrasellar tumor and a left middle cerebral artery aneurysm. She was not treated and died six weeks later from a subarachnoid hemorrhage.

In another patient with a left middle cerebral aneurysm, common carotid artery occlusion reduced the intracarotid pressure 75 per cent. Treatment was delayed, and she was dead twenty-four hours later; autopsy revealed a propagating thrombus in the middle cerebral artery.

A hypertensive woman with hemorrhage from an anterior communicating aneurysm was treated medically; she expired suddenly two weeks later from a recurrent hemorrhage.

One of the three survivors in the untreated group of patients had four angiographically demonstrated aneurysms after a subarachnoid hemorrhage. She is alive and well four years later.

A left internal carotid aneurysm was found in a man who had had two hemorrhages. Partial occlusion of the extracranial internal carotid artery by a tantalum band was followed in one and one-half hours by a right hemiparesis. The band was removed, and the hemiparesis disappeared. The patient was kept at bed rest for seven weeks and was discharged asymptomatic.

The last patient in this group had a left supraclinoid aneurysm. Five days after a subarachnoid hemorrhage the left internal carotid artery was partially occluded with a tantalum band. Twenty hours later, when hemiplegia and aphasia were noted, the band was removed. Five years later the patient is well, although still mildly aphasic and hemiparetic.

Anatomic Location (Angiographically Demonstrated Aneurysms).—Angiographically demonstrated aneurysms treated by direct attack were located at six sites: 25 were on the supraclinoid carotid artery, one on the subclinoid carotid, six on the anterior cerebral, four on the anterior communicating, and four on the middle cerebral artery. Four aneurysms were at the intracranial carotid bifurcation. One subclinoid and 16 supraclinoid aneurysms were treated by extracranial carotid ligation.

Time of Operation

Experience has shown that in the first three weeks after an aneurysmal subarachnoid hemorrhage, surgical treatment is more dangerous than it is when applied later. Operation during this three-week period carries a mortality as great as that of leaving the patient untreated. Unfortunately, it is also during this period that the danger of a recurrent, perhaps fatal hemorrhage is greatest. The most favorable reports of the direct attack on aneurysms have come from clinics where the patient was not seen until three or more weeks after the hemorrhage has occurred. In our own experience eight patients were operated on within the first week after the hemorrhage; six (75 per cent) died. One of five, or 20 per cent, died when operated on in the second week; two of 11 (18 per cent) in the third week; one of four (25 per cent) in the fourth week; and two of 15 (15 per cent) operated on after the fourth week. The mortality in the first week was 55 per cent; after the second week four of 30 patients (13 per cent) died.

It is apparent that the surgical treatment of intracranial aneurysm is most favorable when accomplished three or more weeks after the hemorrhage. Unfortunately, the danger of a recurrent ictus is greatest during this interval when the patient is left to his own fate. Hypothermic technics, as developed by Bigelow,[14] offer a possible solution to the problem. Lougheed *et al.*[15] have shown that in experimental animals subjected to a temperature of 25 C., the cerebral metabolic rate can be reduced to between 23 and 35 per cent of normal and that the animals survive 100 per cent nitrogen inhalation for fifteen to twenty-two minutes without evident cerebral damage. Such reduction allows occlusion of major cerebral arteries for periods during which the aneurysm can be more easily excluded from the circulation. The technic is most useful in the management of the anterior communicating artery aneurysms. Botterell,[16] occluding both vertebral and both common carotid arteries for eleven minutes, has attacked an aneurysm with no resultant neurologic disturbance. Operating on 23 patients and employing hypothermia, he has achieved a fatality rate of only 18 per cent (four deaths). The method allows for safer direct attack on aneurysms several hours after a hemorrhage has occurred.

Conclusions

Many questions remain to be answered about the problem of intracranial aneurysm. It is our conviction that at present direct surgical attack is best. An increasing experience and advanced technics have made us more confident in the attack on this treacherous foe.

344 Linwood Avenue

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Pyorrhea Requires Both Dental, Medical Care

Diagnosis and treatment of bleeding gums must be a cooperative project of doctor and dentist, an editorial in the March 24 *Journal of the American Medical Association* said.

"Periodontal disease (pyorrhea) is by far the major cause of tooth loss in individuals over thirty-five years of age," it said. Inflammation of the gums is present to some degree in most persons who eat chiefly soft and cooked foods, and gums may bleed from a variety of causes, local or systemic.

Local irritation of the gums is almost always the primary cause, although occasionally some underlying systemic factor may cause bleeding in the absence of local irritation. Most frequent local causes are tartar accumulation, injury, abnormalities in the bite, food impaction, and ill-fitting dentures or fillings.

It would be a mistake, however, to consider all gum bleeding as a sign of uncomplicated gingivitis (inflammation of the gums) or periodontitis (inflammation of tissue surrounding the tooth), as is frequently done, the editorial said.

The bleeding may be a sign of serious general disturbance, such as scurvy, pellagra, diabetes, leukemia, pregnancy, allergy, or lead, bismuth, or mercury poisoning.

The editorial said that local treatment by the dentist can correct the mouth condition if there is no underlying systemic disturbance. But, if there is an underlying cause, treatment of that condition alone will not stop the bleeding. There must also be local treatment by the dentist.

Prescription of vitamin supplements as the sole treatment for bleeding gums is "irrational and ineffectual," he said. Antibiotics may serve to relieve the acute inflammation, but the condition almost invariably returns as soon as the antibiotic levels are no longer effective. Removal of tartar and other local factors is necessary to achieve lasting effects.

Physicians and dentists must frequently refer patients to each other for dental or medical surveys, since the best results in the treatment of pyorrhea can be obtained only when all the causative factors, usually more than one, are discovered and treated, it said.

The Role of the Proctologist in the Diagnosis of Schistosomiasis Mansoni by Sigmoidoscopy and Rectal Biopsy

BENJAMIN W. WARNER, M.D., NEW YORK CITY

(*From the Department of Surgery of Lincoln Hospital*)

THE migration of approximately 700,000 Puerto Ricans[1] to the mainland of the United States with heavy concentration of population in New York City has introduced Schistosoma mansoni infection as a major medical and surgical problem. The incidence of S. mansoni in Puerto Rico varies from 10 to 40 per cent in various localities of the island, and one must anticipate the same relative incidence in those who migrate to the States.[2,3]

Admission to clinics and hospital wards of Puerto Rican children and young and middle-aged adults with cirrhosis of the liver, splenomegaly, esophageal varices with massive hemorrhage, ascites, debility, vague abdominal and systemic complaints, and anorectal pathology has stimulated interest in the diagnosis and treatment of this serious parasitic disease of the portal venous system.

S. mansoni is a fluke worm which spends part of its life cycle in a fresh water tropical snail. On release from the snail the parasite in a larval form, called cercaria, enters the exposed human host via the skin or buccal mucous membrane. After passing through the pulmonary circulation the cercariae enter the superior mesenteric artery and pass to the portal venous system. Growth and sexual maturity take place in the portal vein. The adult worms travel against the bloodstream to the inferior mesenteric vein and its tributaries, especially the hemorrhoidal plexus where copulation and egg-laying occur. The transport of eggs to the liver results in cirrhosis with sequelae of portal hypertension and ascites. The escape of the eggs from the venules and capillaries into the submucosa and mucosa with extrusion of eggs into the lumen of the colon and rectum produces hemorrhage, erosion, cellular reaction, granulomatous or pseudotubercle formation, and fibrous and proliferative changes[4] which can be seen in various phases. Many of these changes can be noted on sigmoidoscopy, and their diagnostic significance has not received adequate recognition. The discharge of eggs in feces and in urine contaminates fresh water harboring the intermediate snail host, and the cycle is continued.

The disease attracted my attention as a proctologist in 1941 when I examined a twenty-six-year-old Puerto Rican woman who complained of anorectal pain and pruritus.[5] In addition to an anal fissure and cryptitis, sigmoidoscopy revealed a sessile pea-sized nodule, believed to be an adenoma, in the rectal mucosa at the 10-cm. level and multiple small papillomas at the rectosigmoid junction. There was a small area of granulation about 5 mm. in diameter on the anterior rectal wall. The mucosa of the rectum and sigmoid was studded with punctate bleeding areas which were interpreted as points of rupture or escape of the eggs into the lumen of the bowel. Histopathologic study of the polypoid tissue and anal crypt removed at operation revealed eggs of S. mansoni.

In the intervening years there have been repeated opportunities to examine patients who were suspected of having S. mansoni, and I have consistently noted the presence of punctate hemorrhages and erosions, discrete or in clusters, varying from pinpoint to pinhead size, without any surrounding inflammatory reaction. Routine stool examination, however, often failed to confirm the clinical impressions. Since the introduction of rectal mucous membrane biopsy and with the opportunity to examine a larger number of patients at Lincoln Hospital, which is a municipal institution in an area in New York City with a large census of former inhabitants of Puerto Rico, it has been possible to confirm the significance of these observations. In addition to

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experience with adults the author is fortunate in having the opportunity to observe and study children with S. mansoni who are referred* to the pediatric service at Lincoln Hospital for therapy. The youngest patient was five years old, and sigmoidoscopy revealed punctate erosions and hemorrhages in the mucosa of the rectum and sigmoid. The consultation note on another child, twelve years old, who had hepatosplenomegaly read as follows: "Mucous membrane of rectum and sigmoid studded and pitted with pinpoint to pinhead size erosions and ulcers. No active bleeding from ulcers, many of which have brownish discoloration. On posterior rectal wall at 8-cm. level there is an elevated bleeding granuloma about 4 mm. in diameter."

By way of age contrast a Puerto Rican man of fifty-seven was admitted to the surgical service for a herniorrhaphy. Large liver and spleen were noted, and eggs of S. mansoni were found in the stool. The mucous membrane of the rectum and terminal sigmoid was hyperemic with pinpoint erosions.

In a composite summary of findings, many phases of egg deposition and extrusion are demonstrable on sigmoidoscopy. The mucous membrane of the rectum and sigmoid may appear normal in color but is usually pale, reflecting secondary anemia. Diffuse hyperemia may occur, and markedly edematous, boggy mucosa with loss of configuration of the rectal valves has been observed. The edema was noted in one patient with ascites, in one who was symptom-free, and in another who had severe portal hypertension with esophageal hemorrhage.

In addition to the erosions and petechial hemorrhages, one may note miliary, raised, granulomas or excrescences of fresh granulation tissue of varying size and in varying stages of polypoid formation, from rough irregular outgrowths of tissue to organized polyps. In massive infection the mucosal erosions may be larger, resulting in superficial ulcerations with bleeding. Where submucosal hemorrhages occur in profusion, the overlying mucosa presents a speckled, red, macular appearance. The decomposition of hemoglobin produces light brownish pigmentation. Fibrous contracture in the submucosa results in loss of the elasticity of the mucous membrane with retraction, puckering, and pitting, as previously noted. Pitting of small ulcers with brownish discoloration may give a mottled appearance to the mucosa.

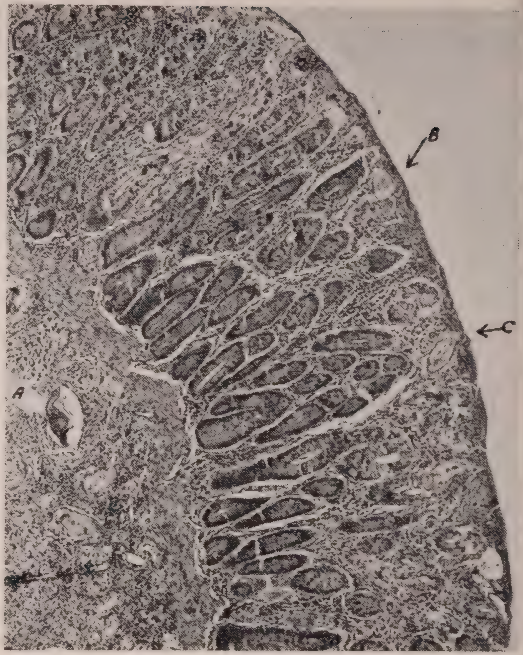

FIG. 1. Rectum of monkey infected with S. mansoni (Balantidium coli also present): (*A*) Egg in venule. (*B*) Encapsulated egg just beneath mucous membrane. (*C*) Egg in process of extruding through mucosal lining. (*Section of monkey through courtesy of Drs. D. A. Berberian and E. W. Dennis, Sterling-Winthrop Research Institute, Rensselaer, New York*)

Eighty cases of clinically suspected S. mansoni are reviewed. Twelve children with positive stool examination referred to the pediatric service* for treatment were not sigmoidoscoped or biopsied. Of the remaining 68 cases who were sigmoidoscoped, 50 patients had positive diagnosis by either stool or biopsy examination. Of these 50 patients sigmoidoscopy showed varying degrees of mucosal changes as previously noted in 44 patients (88 per cent). One had hyperemia only, one had a granular, glazed mucous membrane, and two presented edema only. There were two patients with polyps: one an anal fibromatous polyp with associated hyperemia of the rectal mucosa and one a mid-rectal polyp.

I recently had the opportunity to proctoscope a Macaca rhesus monkey† experimentally infected with S. mansoni. The mucous membrane of the rectum and terminal sigmoid presented findings similar to the human, namely, edema, hyperemia, raised fresh granulomas becoming polypoid, erosions, and punctate hemorrhages. The colon and rectal mucous membrane of a mouse and a hamster (sixty-two days postinfection) infected with S. mansoni in the immediate postmortem state were also examined. Punctate hemorrhages and erosions were present (Fig. 1). The presence of eggs was confirmed by rectal swab in the monkey and mucous membrane biopsy in the mouse and hamster. Photomicrographs of sections of the rectum of the monkey revealed submucosal granulomas and subepithelial mucosal eggs with actual extrusion of egg into the lumen.

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* Children referred by Dr. Howard B. Shookhoff, chief, Division of Tropical Diseases, Bureau of Preventable Diseases, Department of Health, New York City.

* Harry S. Altman, M.D., Director of Pediatrics.

† Courtesy Sterling-Winthrop Research Institute, Albany, New York, March 21, 1956.

There have been conflicting reports on the sigmoidoscopic findings by many observers. In a paper published in 1949 reporting observations on 150 autopsies performed in South Rhodesia, Gelfand and Ross[6] state, "There are few or no characteristic lesions seen in the rectum on sigmoidoscopy in contrast to those seen in vesical schistosomiasis. Petechial hemorrhages may be found but rarely in our experience."

Yarnis[7] and Spingarn,[8,9] in a series of cases from Mount Sinai Hospital in New York City which were positive by rectal biopsy, did not notice any significant mucous membrane changes on sigmoidoscopy.

Bercovitz and his associates[10] in a study of 155 Puerto Rican inductees with S. mansoni described pinpoint ulceration in the mucosa in 60.7 per cent: "The ulceration appeared as a noninflammatory spot, giving the impression that something had extruded through the mucosa into the lumen of the bowel."

The significance of mucous membrane lesions can now be confirmed by mucous membrane biopsy. When the complete story of S. mansoni is written, the contribution by Ottolina and Atencio,[11] "New Methods for Precise Clinical Diagnosis of S. Mansoni," will occupy an important chapter. Whether it is called a "snip" biopsy or, as Ottolina[12] referred to it later in 1947, "The Rectoscopic Biopsy by Transparency," or if one simply states a biopsy of the rectal mucous membrane with immediate microscopic examination of the fresh unstained tissue, the results fulfill the criteria for a precise clinical diagnosis.

My interest in rectal biopsy was stimulated following a report of cases by Spingarn and Yarnis. The technical procedure is simple, but a trained or qualified individual should perform the biopsy. Very little tissue is necessary, and a superficial bite from the edge of the middle rectal valve is all that is needed. Caution should be taken so as not to remove a deep bite of submucosa or possibly muscularis. Bleeding from the site can be very embarrassing and may require electrocoagulation. An edematous mucosa with loss of rectal valve configuration may present slight difficulty for biopsy. The biopsy tissue is placed on a glass slide, teased apart, thinned and flattened out, a drop of saline solution is added, a cover slip or another slide is placed over the tissue, and the material examined under the low power of the microscope. If eggs are present, they are easily identified singly or in clusters (Fig. 2).

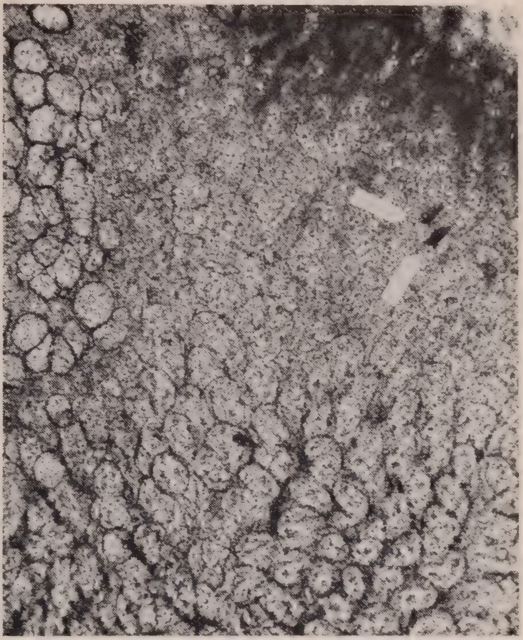

FIG. 2. Puerto Rican male, age thirty-eight, left Puerto Rico at age three and never returned. There was hepatomegaly but no clinical symptoms. Mucous membrane biopsy reveals eggs of S. mansoni (*arrows*) thirty-five years after initial infection. Note lateral spine of eggs.

In 46 clinically suspected patients in whom mucous membrane biopsy was performed, 30 or 65.2 per cent were found positive. The biopsy does not remove the necessity for stool examination. Eggs may be found in the stool where biopsy is negative and vice versa. Stool examination should precede biopsy or supplement it when it is negative.

Summary and Conclusions

1. The purpose of this report is to alert physicians to the presence of S. mansoni in former inhabitants of Puerto Rico as the etiology of hepatosplenomegaly, portal hypertension, vague abdominal complaints, and anorectal pathology.

2. Attention is called to the mucosal changes of the rectum and sigmoid which are part of the pathogenesis of the disease and life cycle of the parasite.

3. The technic of mucous membrane biopsy examined as a transparency as an added means of diagnosis is outlined. Identification of S. mansoni eggs in the stool is the simplest and first step in diagnosis. Mucous membrane biopsy is a supplementary procedure when stool examination is negative in clinically suspected cases. Sigmoidoscopy, however, should be routine procedure in all cases to rule out anorectal and sigmoid pathologic changes.

20 West 86th Street

The author expresses his gratitude to Dr. Frederick H. Amendola, Director of Surgery, Lincoln Hospital, and to the surgical staff for their cooperation in this study.

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Toxicity of the Antithyroid Drug Carbimazole

After comparing the effects of methylthiouracil and carbimazole, Dr. Raymond Green and D. Crooke Morgan, New End Hospital and Royal Northern Hospital, London, England, conclude that carbimazole is the superior antithyroid drug, both a sole treatment in selected cases and also as preparation for thyroidectomy. They base this conclusion both on results in two series of their own and on a statistical analysis of toxic reactions reported in the literature.

They maintain this opinion, they say, despite the disadvantage of the apparently more transient antithyroid effects of carbimazole. In 435 reported cases given carbimazole (including 181 of their own) side-effects of all degrees occurred in 3.4 per cent and serious side-effects in 1.1 per cent. In cases totaling 6,557 (including 261 of their own) treated with methylthiouracil, total unwanted reactions were 5.8 per cent and serious side effects 2.3 per cent. The authors point out that it appears that the only side-effects which should occasion serious concern are those involving bone marrow: agranulocytosis, pancytopenia, and pure red cell anemia. In their own series given carbimazole there were two such cases, but, they say, it was not possible to prove that they were due to the drug administered.

—*J. Clin. Endocrinol. & Metab., March, 1956*

RECENT ADVANCES IN MEDICINE AND SURGERY

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ROBERT TURELL, M.D., *Editor*

A Review of Modern Concepts of Pancreatic Disease

*Part II—The Physiologic Basis of Therapy in Pancreatitis**

DAVID A. DREILING, M.D., AND HENRY D. JANOWITZ, M.D., NEW YORK CITY

(*From the Surgical and Medical Services of the Mount Sinai Hospital*)

The physiologic bases of various measures employed in the medical and surgical therapy of pancreatitis will be discussed in order to illustrate the practical application of modern physiologic concepts.

Acute Pancreatitis

The immediate problem of management of acute pancreatitis is the choice between medical and surgical treatment. When the diagnosis has been established, the overwhelming evidence of comparisons between the mortality of patients treated surgically, which ranges from 35 to 78 per cent,[1,2] and the mortality of patients treated medically, which appears to vary between 10 and 20 per cent,[3,4] would indicate a medical management.[5]

In those patients in whom laparotomy has been done because of inability to make a positive diagnosis, surgical manipulation is reduced to a minimum: drainage of the lesser sac or a diversionary operation on the biliary tract, cholecystostomy, or choledochostomy[6] in order to bypass a presumed common channel.[7] Some, postulating that elimination of inciting etiologic factors cannot but benefit the course of pancreatitis, have advocated eradication of any disclosed biliary tract disease, biliary obstruction, or pancreatic duct obstruction,[8] but statistical evidence of morbidity and mortality appears to refute such an approach.[9,10]

Medical treatment should be energetic whether the clinical picture is mild or severe, for it is not possible to predict which cases will regress rapidly and which will progress to critical complication. Therapy in the acute stage is directed toward:[11] (1) the treatment of pain, (2) the treatment of shock and electrolyte imbalance, (3) the management of carbohydrate metabolism disturbances, (4) the treatment of ileus and control of distention, (5) the prevention of suppuration, (6) the relaxation of the sphincter mechanism, (7) the suppression of pancreatic secretion and neutralization of ferment activity, (8) the management of surgical complications, and (9) the prevention of recurrence.

THE TREATMENT OF PAIN AND RELAXATION OF SPHINCTER MECHANISM.—Morphine and other opiates may effectively relieve pancreatic pain, but their stimulation of sphincter tone may intensify the anatomic basis for pancreatitis at the very moment of temporary symptomatic relief.[12]

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* "Part I—The Etiology and Pathogenesis of Pancreatic Inflammation" appeared in the October 1, 1956, issue of the JOURNAL, page 2992.

Demerol and papaverine, having less effect on smooth muscle, are less dangerous in this regard.

Spasmolytic drugs not only effectively relieve pain but at the same time induce relaxation of the sphincter of Oddi. These agents,[13] including nitrites, atropine, hexamethonium, and Banthine, must be used with due caution in patients suffering from severe shock or with evidences of myocardial insufficiency. Banthine[14] appears to be the drug of choice in relief of pain because of its additional pharmacologic effects which include suppression of gastric acidity and thus, indirectly, diminution of endogenous secretin, relaxation of the sphincter, and minimal inhibition of pancreatic enzyme secretion.[15]

Intravenous procaine hydrochloride has been used to relieve the pain in pancreatitis through its local anesthetic, central analgesic, antihistaminic, and antispasmodic actions, but dangerous circulatory and respiratory side-reactions limit its use.[16] Nerve block[17] and epidural block, either fractional[18] or continuous,[19] have been tried with some success. Gage[20] and others[21] have employed paravertebral sympathetic block and splanchnic block for analgesia.[22] Relief of pain is due to interference with afferent fibers from the pancreas, to some lessening of pancreatic secretion, and possibly to an increase in blood supply to the pancreas which prevents the conversion of edema to necrosis. The employment of such measures has been advocated only in conjunction with other therapies and not as a substitute.[22]

TREATMENT OF SHOCK AND ELECTROLYTE IMBALANCE.—Every effort should be made to overcome the shock of acute pancreatitis, which is always an outstanding complaint and often disproportionately severe in comparison to other signs and symptoms. The extent to which the blood volume is decreased and the beneficial effects which its restoration by whole blood, serum albumin, and other substitute expanders have on the course of clinical and experimental pancreatitis have only been appreciated during the past few years.[23,24] The marked fall in initial mortality in medical cases during the past decade is probably due to strict attention to the correction of shock.

When adrenocortical insufficiency is thought to contribute to the clinical shock, ACTH and cortical steroids have been advocated.[25] Moreover, there have been a number of reports in which benefit has been derived from the use of steroids in patients with pancreatitis in whom shock has not been a problem.[26] Cattell and Warren[27] noted no change in the electrolytes, sodium and potassium, in pancreatic juice but did record a decrease in volume output for forty-eight hours following oral cortisone. Dreiling and Janowitz[28] noted no effect on flow, enzyme, or electrolytes following the intravenous administration of ACTH, metacortelone, and hydrocortisone. At present the administration of steroids in acute pancreatitis, except for obvious adrenal insufficiency, must be considered empiric.[29]

Deficits in the serum sodium, potassium, and calcium derive not only from the inherent physiologic disturbances in acute pancreatitis but also from diminished intake, removal by nasogastric suction, and physiologic loss in exudation and intestinal secretion. These deficits must be corrected in order to maintain normal blood volume, normal blood pressure, and adequate renal filtration by infusion of electrolytic solutions but always with due regard to renal function. Occasionally, parathyroid hormone is necessary to elevate blood calcium when intravenous calcium is unable to do so.[30] The administration of potassium should always be controlled by serial electrocardiography lest hyperkalemic toxicity occur.

MANAGEMENT OF CARBOHYDRATE METABOLISM DISTURBANCES.—Glucose must be administered cautiously for it may aggravate a diabetic state precipitated by acute pancreatitis. When hyperglycemia and glycosuria are marked and diabetic acidosis imminent, small doses of insulin must be given. Large amounts of insulin are rarely required and are quite dangerous since the diabetic state in acute pancreatitis is labile; a reactive hypoglycemia is undesirable for it acts as a potent stimulus to pancreatic enzyme secretion.

TREATMENT OF ILEUS AND CONTROL OF DISTENTION.—The treatment of ileus and control of abdominal distention are accomplished by stopping oral intake and by the use of nasogastric suction. These measures contribute to the suppression of pancreatic secretion by removing hydrochloric acid from the stomach and so diminishing the acid-secretin mechanism and also by preventing the flow of pancreatic juice, which might be stimulated by the presence of foodstuffs in the duodenum. The net result is a "splinting of the pancreas" and an interference with the pathogenetic cycle which produces additional pathology.

PREVENTION OF SUPPURATION.—The prevention of suppuration and the late infectious complications of pancreatitis can be accomplished by the use of the broad-spectrum antibiotics, penicillin and tetracycline.[31] The liberal use of chemotherapy has all but eliminated the late deaths in acute pancreatitis by preventing abscess formation in the lesser sac, in the subphrenic spaces, and in the pancreas. If a patient survives the initial phase of illness, mortality is unlikely, morbidity minimal, and rapid recovery the rule.

SUPPRESSION OF PANCREATIC SECRETION.—Measures to suppress the pancreatic secretion include the withholding of food, nasogastric suction, sympathicolytic procedures and drugs, and irradiation of the pancreas.[32] Recently, inhibition of pancreatic secretion at the cellular level by Diamox has been proposed as a therapeutic measure in acute pancreatitis.[33,34] Popper *et al.*[35] did not find this drug effective in experimental pancreatitis, but there have been reports of its value in inhibiting pancreatic secretion in pancreatic fistulas.[36] Diamox awaits a critical trial in human pancreatitis.

Control of the toxicity and the local pathology of pancreatitis has been attempted with the use of substances which specifically inhibit the activated pancreatic enzymes. Soybean trypsin inhibitor has been used with success by Coffey[37] and others[38] to lessen shock, but its administration is not without danger.[24] Popper,[38] Hoffman,[39] and others,[24] however, noted no effect of this trypsin inhibitor on the morbidity and mortality of experimental pancreatitis. The antitryptic action of serum albumin has also been discounted.[24] Popper believes that the importance of activated lipase in systemic toxicity and local pathology has not been fully appreciated, and he has observed some benefit in experimental pancreatitis from the use of a lipase inhibitor.[38]

MANAGEMENT OF SURGICAL COMPLICATIONS.—The surgical complications which arise in acute pancreatitis include abscess which necessitates drainage, pseudocyst which requires diversion into the gastrointestinal tract, pancreatic fistula, and the complications inherent in coëxisting biliary tract disease.

Pancreatic abscess is a rare complication since the advent of chemotherapy. This may occur, as previously stated, in the parenchyma, lesser sac, and in the left subphrenic space. The surgical problem is not drainage per se because this can ordinarily be done without technical difficulty, but rather it is the possibility of subsequent formation of a pancreatic fistula with the attendant deleterious effects of electrolyte loss, disturbance in metabolism, and maceration of the skin.

Pancreatic fistulas have been treated by sclerosing agents, total excision whenever possible, implantation into the stomach or jejunum,[40] and by fistulojejunostomy in Roux-en-Y fashion.[41,42]

Pancreatic cysts or pseudocysts are treated when, by virtue of size and situation, symptoms are produced by encroachment on other organs. It is remarkable how often large pseudocysts will suddenly disappear without operation. The ideal procedure would be extirpation by excision,[43] but this is not always feasible, especially in head lesions, and, if possible, is not always desirable because of the extent of surgery involved. Simple evacuation and external marsupialization have been discarded because of the high incidence of recurrence and because of the frequent development of external pancreatic fistulas.[44] Internal drainage may be accomplished by anastomosis of the cyst to the stomach,[45,46] the duodenum or jejunum,[47] or by what is accepted by most to be the procedure of choice, a cystojejunostomy employing a Roux-en-Y anastomosis to eliminate the hazard of intestinal regurgitation into the cyst cavity.[48]

PREVENTION OF RECURRENCE.—There are three measures which may be of value in prevention of recurrent attacks of acute pancreatitis following an initial single episode: (1) the avoidance of gluttony, (2) the interdiction of alcoholic intake, and (3) the eradication of biliary tract disease if it is found to be present. Fortunately, when these measures are observed, most patients with acute pancreatitis recover without clinical or functional residua and have no further pancreatic inflammations. There is no evidence at present which would completely justify any surgical procedure on the patient without biliary tract disease whose symptoms completely subside with the expectation that such a surgical measure would prevent subsequent attacks.

Chronic Pancreatitis

The treatment of clinically manifest chronic pancreatitis leaves much to be desired. Medical therapy includes a high-caloric, high-protein, low-fat diet supplemented by vitamins. Carbohydrate restriction and insulin are necessary if diabetes is present. Alcohol is interdicted. The total caloric intake is divided into several small meals to minimize pancreatic stimulation. Substitution therapy in patients with steatorrhea requires large doses of pancreatin. In patients in whom the gallbladder has been removed, measures such as the Best biliary flush regimen[49] should be instituted in order to produce periodic relaxation of the sphincter. Drugs such as Banthine may be useful in suppressing pancreatic secretion. These measures attempt to prevent high pressures in the pancreatic duct system, to prevent stasis in the pancreatic and biliary tract, and to maintain normal pressure relationships between the two systems.

In some cases, despite medical therapy, pain, diarrhea, weight loss, and incapacity for work persist with resultant profound physical and mental deterioration, often expressing itself in alcoholism and morphine addiction. Such patients are subjected to surgical procedures, the variety of which attests the indifferent success which may attend each approach.

The surgical therapy of chronic pancreatitis has been reviewed in great detail by Cattell and Warren.[50,51] Surgical therapy includes (1) procedures on the biliary tract, (2) gastrointestinal diversionary operations, (3) nerve interruption operations, and (4) procedures directed against pancreatic pathology.

The initial surgical attack in chronic pancreatitis is eradication of biliary tract disease when it is present.[1,8] Removal of a diseased gallbladder will produce remission in about one third of the patients.[52] It would appear that the initial operation is the most rational time to explore the common duct and to determine once and for all time whether there is any evidence of obstruction at the papilla.[53] A number of procedures have been advocated for relief of such obstruction. For inflammatory obstruction Cattell[54] has advised prolonged drainage with a long-armed T tube. Gambill *et al.*[52] have found choledochoduodenostomy to be superior to choledochostomy in such cases. Bowers[55] and Poth[56] have advocated decompression of the biliary tract by choledochojejunostomy Roux-en-Y. Such a procedure not only completely bypasses pathology at the periampullary region but also completely diverts the biliary flow from the pancreatic duct system. The Roux-en-Y anastomosis has the advantage of minimizing retrograde regurgitation of intestinal contents into the biliary tree and, therefore, diminishes the incidence of recurring cholangitis, cholangiolitis, and biliary cirrhosis.[57] Rousselot *et al.*[58] have not been impressed by the long-term results of choledochoenterostomy in the treatment of chronic pancreatitis.

Functional and organic obstruction in the periampullary region may also be relieved by operations on the sphincter of Oddi. Good results in chronic pancreatitis have been reported by Doubilet and Mulholland[59] with transduodenal sphincterotomy, by Jones and Smith[60] with transduodenal sphincteroplasty, and by Gillette[61] who advocates an external sphincter section. Yet this procedure cannot be considered innocuous. Reynolds and Lary,[62] in an excellent discussion of the indications, hazards, and contraindications of division of the sphincter, point out the complications of this procedure to be hemorrhage, stenosis of the terminal common duct, and the development of acute pancreatitis. Sphincterotomy during the acute phase of pancreatitis in their opinion is contraindicated. While sphincterotomy has been generally accepted for the relief of functional disorders of the papilla, some skepticism still attends its use in organic obstructions in the pancreatic tract, such as calcinosis, pancreatic duct fibrosis, and pancreatic cyst.[52,55,56,63] It is difficult to see how section of the sphincter can relieve the symptoms of pathology due to obstructions distal to it.

Gastrointestinal diversionary procedures may be required by mechanical obstruction of the stomach or duodenum due to extensive fibrosis or to actual encroachment on the duodenum by a large cyst in the head of the pancreas. Cattell and Warren[50] relieve such obstruction by gastroenterostomy. Richman and Colp,[64] noticing the beneficial effect on chronic pancreatitis which followed subtotal gastrectomy for gastric ulcer, advocated this procedure for the disease itself with the rationale that diversion of foodstuffs from the duodenum would lessen pancreatic secretion and thus "splint" the pancreas. Although the results in a preliminary series of nine patients were encouraging, the observations of others[50] have not been as gratifying. Cattell and Warren[50] reserve gastrectomy for those patients in whom disease of the stomach and duodenum warrant this operation.

Nerve surgery has been directed toward diminution of pancreatic secretion and relief of incapacitating pain. Although some[65–68] believe that autonomic neurosurgery beneficially affects the course of chronic pancreatitis, both from clinical[69,70] and experimental[71] observations, others have concluded that such procedures are merely palliative.

Stripping of the choledochal nerves from the common duct has been suggested by Reich.[72] Fontaine[73] and Mallet-Guy[74] have used splanchnic section for relief of pancreatic pain, and Grimson,[67] Ray,[66] and DeTakats[75] have reported good results with unilateral sympathectomy, bilateral sympathectomy, and splanchnicectomy. Rienhoff[68] combined vagotomy with thoracolumbar sympathectomy, Cattell and Warren[50] have used it in conjunction with gastroenterostomy, and Richman and Colp[64] with their diversionary procedure of gastrectomy. A beneficial action of vagotomy on the course of clinical pancreatitis[76] and experimental pancreatic inflammations[71] has also been reported.

The direct surgical attack on the diseased pancreas includes procedures already discussed which are designed to relieve the complications of the inflammatory process, such as abscess, pseudocyst, and fistula; procedures which attempt to eliminate etiologic factors responsible for the repeated exacerbations; and those operations which aim to remove the diseased tissue itself.

Obstruction within the pancreatic duct system has been relieved by pancreaticolithotomy,[77,78] by transection of the main pancreatic duct and reanastomosis to the duodenum, as suggested by Ferguson[79] and successfully accomplished by Cattell,[80] and by the caudal decompression operation of DuVal[81] in which the left pancreas is resected and the stump or the cut end of the pancreatic duct is anastomosed to the jejunum. The initial successes reported with the latter procedure may be due not only to the relief of pancreatic duct obstruction but also to resection of diseased tissue. Rienhoff[68] and Cannon[82] have tried ligation of the pancreatic ducts in the hope of completely destroying the pancreatic parenchyma by fibrotic atrophy. Cannon's results with ligation have not been encouraging.[82]

Pancreatic resection has been performed as a final effort to eradicate the disease in those individuals in which incapacitating symptoms persist despite all other measures. Resection of the left pancreas, which presents no technical difficulty, is applicable to those unusual cases in which the disease process is most severe in the distal pancreas. The results are gratifying. This procedure, as noted above, is an integral part of the retrograde pancreatic ductal decompression operations. In most instances unfortunately the disease process, if anything, is more severe in the head; distal pancreatectomy in these cases is of doubtful value,[50] and total pancreatectomy is necessary.[83] Calcareous pancreases have been totally resected by Rhoads,[8] Whipple,[83] Claggett,[84] Wilson,[85] and others.[86] Total pancreatectomy, implying, as it does, resection of the duodenum and a choledochoenteric anastomosis, is an operation of considerable morbidity and mortality and may substitute the invalidism of severe malnutrition due to digestive and metabolic disturbances and of diabetes for the invalidism of unremitting pain.[87–90]

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(Number ten of a series on Recent Advances in Medicine and Surgery)

ANNOUNCEMENT

PRIZE ESSAYS

The Lucien Howe Prize and the Merit H. Cash Prize will be awarded at the Sesquicentennial Meeting of the House of Delegates of the Medical Society of the State of New York, May 13 to 15, 1957, in New York City.

The *Lucien Howe Prize* of $100 will be presented for the best original contribution on some branch of surgery, preferably ophthalmology. The author need not be a member of the Medical Society of the State of New York.

The *Merit H. Cash Prize* of $100 will be given to the author of the best original essay on some medical or surgical subject. Competition is limited to the members of the Medical Society of the State of New York who at the time of the competition are residents of New York State.

The following conditions must be observed:

Essays shall be typewritten or printed with the name of the prize for which the essay is submitted, and the only means of identification of the author shall be a motto or other device. The essay shall be accompanied by a sealed envelope having on the outside the same motto or device and containing the name and address of the writer.

If the committee considers that no essay or contribution is worthy of a prize, it will not be awarded.

Any essay that may win a prize automatically becomes the property of the Medical Society of the State of New York, "to be published as it may direct."

All essays must be presented not later than *February 1, 1957,* and sent to the Chairman of the Committee on Prize Essays of the Medical Society of the State of New York, 386 Fourth Avenue, New York 16, New York.

R. Townley Paton, M.D., *Chairman*
Committee on Prize Essays

Ocular and Facial Palsies of Infectious Origin

A Case Study

MARTIN BODIAN, M.D., F.A.C.S., BROOKLYN, NEW YORK

(*From the Brooklyn Eye and Ear Hospital*)

SUDDEN paralysis of cranial nerves, especially those of the face, is apt to cause panic in the most complacent patient. Double vision, a dropped lid, numbness of the cheek, sagging of half the face are but a few of the symptoms which drive the anxious victim for help. Because of the vast number of conditions which can produce such a state, the physician may be at a loss for an immediate plan of treatment.

Diabetes mellitus, hypertension, arteriosclerosis, and aneurysm are some of the more common conditions which may precipitate such paralyses. Infectious diseases such as meningitis, encephalitis, poliomyelitis, and the exanthems also may produce these effects. Usually the clinical picture of the disease can be recognized. Rarely, such infection-produced palsies may appear suddenly but give no overt clue as to the cause.

A case of multiple cranial nerve palsies which resulted from an unrecognized infectious process recently came under my care. Because of its dramatic onset, unusual nature, and the steps which were taken to unravel the mystery, I felt that it would be worth-while to present this case.

Case Report

On October 26, 1951, D. K., a fifty-year-old, white, single, male customs inspector, went to bed in excellent health. The next morning, as he placed his hand on his face preparatory to shaving, he was startled to find that the right cheek was numb. His local physician told him that he had a Bell's palsy and gave him "vitamin B" and "diathermy treatment." Three days later his apprehension heightened when he began to see double, the right lid began to droop and the vision in his right eye began to fail. A urinalysis and blood chemistry at this time indicated mild diabetes mellitus. A urinalysis six months before had been negative. He was seen by an ophthalmologist the next day. At this time the right eye was bulged slightly, there was complete ptosis of the right lid, the muscles of rotation of the right eye were completely paralyzed, the pupil was immobile, and the visual acuity had dropped to light perception. In addition to these eye signs, the entire right side of his face began to sag. The left eye had remained normal.

On November 3, the fifth day of illness, he was hospitalized at the Brooklyn Eye and Ear Hospital. His blood sugar was 297 mg. per cent, indicating a mild diabetes mellitus which was controlled by proper regimen. At the hospital his condition became rapidly worse. The right optic disk became acutely inflamed and swollen to the extent of 2 diopters. A hemorrhage of the retina appeared above the disk. The left eye, which had been normal, now lost its power of adduction. X-rays of the skull, orbits, sella turcica, and sinuses were negative. The sedimentation rate was normal, but the white blood count was 15,000 with 75 per cent polymorphonuclears. Two weeks after admission there was a swelling of the left supraorbital skin area along with numbness of the left ear lobe. Pain in the left side of his neck was followed by puffiness under his left eye. Ear, nose, and throat examination (including nasopharyngoscopy) failed to show pathology which could account for this condition. A neurologic consultant felt that the ailment was due to an undetermined infectious agent. In the meantime, anesthesia advanced over the entire right side of the head, face, neck, and chest to a point 3 inches below the clavicle.

Four weeks after the onset of the disease there was limitation of abduction and adduction of the left eye. A left facial palsy set in with complete inability to close the eye. Anesthesia on the left side involved the first and third cervical segments. Treatment at the hospital had consisted of repository penicillin 300,000 units twice a day, oral Terramycin 500 mg. every six hours, therapeutic vitamin B capsules three times a day, and Aureomycin ointment and cortisone drops in the right eye twice a day. Apparently none of this therapy was of value. At no time had he felt ill or had fever. He was discharged from the Brooklyn Eye and Ear Hospital on December 2, 1951, after a month stay, because it was felt that his condition was essentially neurologic rather than ophthalmologic.

On December 4, 1951, he was admitted to the Neurological Institute of Presbyterian Hospital in New York City for further study. The following

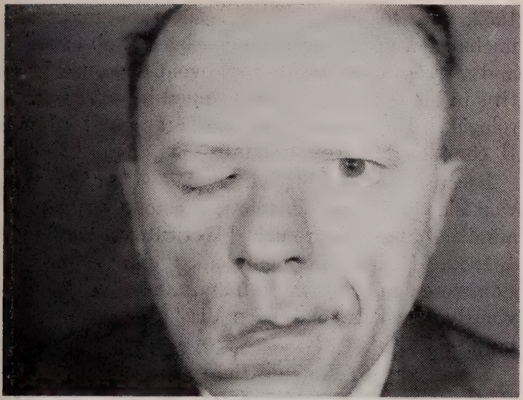

FIG. 1. General appearance of patient.

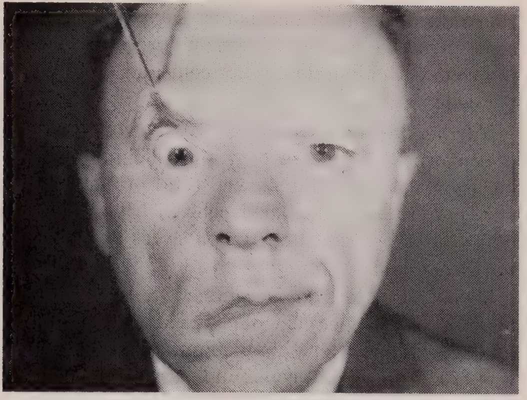

FIG. 2. Upper lid retracted to show position of right eye.

data were found on this admission:

Pulse was 100, blood pressure 125/80, respirations 16, temperature 99 F. With his right eye shut beyond control and his left staring wide and unblinking, the patient's appearance was indeed bizarre (Figs. 1, 2, and 3). He was found to be a well-developed and well-nourished white male in no acute distress, oriented and alert. There was a generalized cervical lymphadenopathy. Other physical findings were normal.

Neurologic examination showed total ophthalmoplegia of the right eye with blindness. The left eye showed a complete external ophthalmoplegia. Vision was 20/20. The right pupil was 5 mm. in diameter, fixed to light and accommodation. The left pupil was 3 mm. in diameter and reacted promptly to light and accommodation. The right fundus was visualized very poorly, and the disk seemed hazy, swollen, and pale. The left fundus showed no pathology. Both corneas were insensitive, and blebs had formed on the left corneal epithelium. Complete facial paralysis was bilateral. Pain, temperature, and touch sensations were lost over the entire right side of the head, face, and neck (fifth cranial and second, third, and fourth cervical nerves) except for a small area on the lower lip. On the left sensation was lost over the upper face and the entire head area (first division of fifth cranial and second cervical). Anterior scalene spasticity, slight tenderness of the left side of the neck, and deep tendon reflexes were greater on the right than the left. In summary, the nerve palsies present in this patient were as follows: On the right—cranial nerves II, III, IV, V, VI, and VII and cervical nerves 2, 3, and 4. On the left—cranial nerves III, IV, and V (ophthalmic division), VI, VII, and cervical nerve 2.

Laboratory data were as follows: On December 5, 1951, hemoglobin was 13.6 Gm., red blood cells 4,980,000, white blood cells 11,400 with polymorphonuclears 83 per cent, lymphocytes 15 per cent, and eosinophils 2 per cent; blood nonprotein nitrogen 31 mg. per cent; sugar 152 mg. per cent; Mazzini negative; erythrocyte sedimentation rate 67 mm. in one hour. There was agglutination with sheep cells in 1:16 dilution, and serum acid was 2.5 Gutman units per cent. Urine showed specific gravity 1.010 and was acid and negative for albumin, glucose, and acetone; a few white blood cells and calcium oxalate crystals were present on microscopic examination. Tuberculin test was positive (1:10,000), serum phosphatase 4.2 Bodansky units per cent, inorganic phosphorus 3.4 mg. per cent, and sugar 169 mg. per cent.

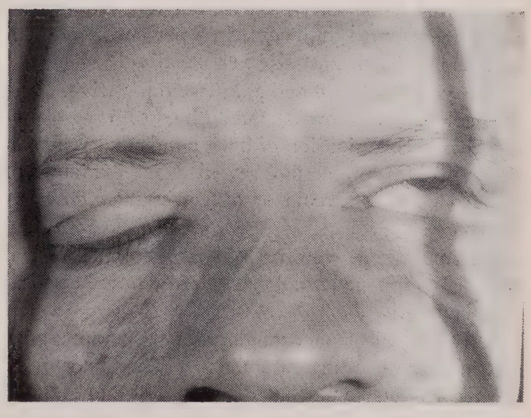

FIG. 3. Attempted closure of left eye. Note upward rotation of globe in typical Bell's phenomenon.

Spinal fluid examination on December 6 showed total protein 51 mg. per cent, sugar 107 mg. per cent, total white blood cells 370, polymorphonuclears 15 per cent and lymphocytes 85 per cent, colloidal gold 1112222000, and Kolmer test negative.

On December 14 hemoglobin was 13.8 Gm., red blood cells 4,700,000, white blood cells 9,400 with polymorphonuclears 65 per cent, lymphocytes 34 per cent, monocytes 1 per cent; erythrocyte sedimentation rate 59 mm. in one hour; sugar 168 mg. per cent. On December 17 serum protein was 7.5 per cent with albumin 4.6 per cent and globulin 2.9 per cent.

Further tests on December 19 showed inorganic phosphorus 3.6 mg. per cent and calcium 11.4 mg. per cent. Spinal fluid showed total protein 92 mg. per cent, total white blood cells 276, polymorphonuclears 10 per cent and lymphocytes 90 per cent; no abnormal cells were present.

Two days later, on December 21, bromsulfalein test showed 100 per cent plus dye after five minutes and 8 per cent after thirty minutes. Blood sugar was 176 mg. per cent, cephalin flocculation negative, and thymol turbidity negative.

Spinal fluid examination on January 8 showed total protein 81 mg. per cent, sugar 112 mg. per cent, total white blood cells 344 with polymorphonuclears 15 per cent and lymphocytes 85 per cent, colloidal gold 1111200000, and Kolmer negative.

X-rays of the skull and chest were negative. The cervical spine showed moderate, diffuse osteoarthritis. Examination of both hands and wrists in single frontal projection revealed no evidence of osseous Boeck's sarcoid or other significant abnormality.

No tumor cells were present in the cerebrospinal fluid. Lymph node biopsy showed chronic cervical lymphadenitis.

A 16-lead electroencephalogram with monopolar and bipolar recordings was made. The first part of the record was somewhat disorganized and showed a fair amount of low-medium voltage four to seven-per-second activity with a slight right preponderance and with suggestive right posterior temporal focal signs. In response to very good hyperventilation further slowing was seen. The impression was of a mildly abnormal record with a suggestive right-sided focus.

On January 9, 1952, hemoglobin was 15.8 Gm., red blood cells 4,700,000, white blood cells 5,300 with polymorphonuclears 69 per cent, lymphocytes 28 per cent, monocytes 2 per cent, and eosinophils 1 per cent; erythrocyte sedimentation rate was 42 mm. in one hour. There was agglutination with sheep red cells in a 1:8 dilution.

While the patient was hospitalized at Neurological Institute, the right optic nerve head became more edematous and atrophic. The retina became swollen and hemorrhagic with the loss of all light perception. The cervical lymphadenitis subsided, and there was some recovery of the IV, V, VI, and VII nerves on the left side with improvement of III, IV, and VI nerves on the right. He left the hospital on January 11, 1952, five weeks after admission, because his condition ceased to show signs of further activity.

The patient was first seen by me on January 29, 1952, with his eye and nerve affections materially unchanged. My treatment consisted of observation and antiseptic ointments to prevent exposure keratitis in his left eye. He continued to see his neurologist. He was given physiotherapy and vitamin B complex in large amounts.

Because he thought that the left side of his face was slowly becoming more affected, he was readmitted to the Neurological Institute on December 1, 1952. General and neurologic findings on admission were similar to those found almost a year previously when he had been discharged from that hospital.

Laboratory findings on the second admission included hemoglobin 15.5 Gm., white blood cells 7,000 with polymorphonuclears 76 per cent, lymphocytes 20 per cent, monocytes 2 per cent, and eosinophils 2 per cent; erythrocyte sedimentation rate 10 mm. in one hour; Mazzini negative. Urine was negative for sugar and albumin. Fasting blood sugar was 146 mg. per cent; nonprotein nitrogen 33 mg. per cent. Spinal fluid was clear with protein 41 mg. per cent, white blood cells 4, red blood cells 30 (100 per cent crenated), colloidal gold negative.

Electroencephalographic record was basically a little more regular than the one taken on January 4, 1952. On several occasions, however, it showed runs of mostly low voltage four to six-per-second activity on either side and with very good hyperventilation following some generalized slowing and increasing amplitude of the slow activity seen. A single, suggestive, short, atypical spike and wave burst was noted. Impression was of an abnormal record.

X-rays of the chest and skull were normal.

Electrical studies showed complete denervation of all muscles supplied by the right facial nerve, complete denervation of the muscles supplied by the left upper branch, and fairly good innervation of the muscles supplied by the lower branch. As compared with a test done on January 9, 1952, condition was the same except for less involvement of the left lower branch of the facial nerve.

Tuberculin test in a dilution of 1:10,000 was negative; pneumoencephalogram was normal, and ear, nose, and throat consultation was negative except for septal defect on the right.

The patient was last seen on March 1, 1955, approximately three years and four months after the onset of his disease. During that time he had suffered repeated hemorrhages in the vitreous of the right eye which has induced formation of retinitis proliferans with subsequent retinal detachment. The lens in this eye had developed a complicated cataract. The lid had remained drooped, and the patient wore a frosted glass in front of this eye to hide the blemish.

His left eye, on the other hand, had retained 20/15 vision and J_1 for close work with a +2.00 add. The eye teared moderately because of the laxity of the lower lid and punctum due to the facial palsy. He still could not close his eye, and any attempt to do so caused the eyeball to turn upward in a typical Bell's phenomenon.

He had resumed his job as customs inspector and managed all its details without difficulty. His diabetes was controlled by diet alone. He returns to my office several times a year for a checkup of the left eye which occasionally becomes inflamed due to exposure of the cornea. Antiseptic drops and ointment control these situations promptly.

Comment

In a masterful classification of the etiology of "Acquired Ophthalmoplegias of Nervous Origin," Duke-Elder[1] lists at least 70 causative agents. Among these he includes infection, metabolic disorders, degenerative conditions, neoplastic states, and many others.

My problem was to fit the above case into this classification and thereby arrive at a diagnosis. After much investigation and thought, I was able to come to these conclusions: (1) The causative agent was infectious; (2) the infectious agent was a virus; (3) the virus most closely resembled that of acute anterior poliomyelitis. Reasons for each of these statements follow:

1. THE CAUSATIVE AGENT WAS INFECTIOUS.—The acute onset, rapid advance, widespread involvement, meteoric changes, and final recovery all bespeak the volatile behavior of an acute infectious disease of the nervous system. Further evidence lies in the elevated white blood cell counts and blood sedimentation rates. The findings in the spinal fluid are likewise characteristic of an acute infection. Finally, the presence of herpes simplex of the face is added indication of such a process. The presence of diabetes mellitus was, I feel, a coincidence. Diabetic palsies do not follow the above behavior pattern. Tumor was excluded on the basis of clinical course, skull x-rays, and absence of tumor cells in the spinal fluid.

2. THE INFECTIOUS AGENT WAS A VIRUS.—Once having decided that the origin was infectious, we must ask next, what type of infection? Parasites and protozoa may be excluded on the basis of history. The patient had been in no contact with any possible contamination, nor did a careful study of his blood and spinal fluid indicate such an agent. Was the infectious agent bacterial? There is much evidence against this possibility. Bacterial infections may cause widespread and profound damage to the central nervous system. However, when this occurs, there are severe systemic evidences, such as fever, malaise, and prostration. Most frequently, bacterial diseases of the nervous system show general disease patterns, as in whooping cough, diphtheria, tetanus, tuberculosis, etc. Our patient showed none of these. The laboratory findings are for the most part against bacterial infection. A blood count taken at the peak of the disease showed 15,000 white blood cells with 75 per cent polymorphonuclears and 25 per cent lymphocytes. Widespread bacterial diseases usually produce a higher polymorphonuclear count. The spinal fluid contained 370 white blood cells with 15 per cent polymorphonuclears and 85 per cent lymphocytes. Bacteria could not be found in the fluid by smear or culture. The colloidal gold curve was 1112222000, total protein 51 mg. per cent, and sugar 107 mg. per cent. All of these spinal fluid findings are opposed to a diagnosis of bacterial infection of the central nervous system. They are characteristic of virus infection. Tests for syphilis of the blood and spinal fluid were negative.

Parasitic, protozoan, and bacterial agents having been eliminated, what direct evidence is there that a virus could have been the cause? For one thing; it is well known that the central nervous system is prey to a wide variety of virus infections. Poliomyelitis, epidemic encephalitis, mumps, measles, infectious mononucleosis, and herpes zoster[2] are but a few of the viral diseases that may affect the nervous system. What is more, many virus infections may cause severe neurologic damage without producing systemic illness.[2,3] The laboratory reports on the blood, urine, and cerebrospinal fluid are consistent with those found in virus disease.[4]

3. THE VIRUS MOST CLOSELY RESEMBLED THAT OF ACUTE ANTERIOR POLIOMYELITIS.—After brief consideration we may exclude a large group of viruses which occasionally affect the cranial nerves. These are the postexanthematous types which include variola, varicella, measles, mumps, and influenza. The patient's lack of contact with any such infection, the absence of the characteristic disease in him, and his age militate against these diagnoses. For similar reasons vaccinia and rabies may be excluded.

Epidemic types of virus encephalitis such as the Von Economo, St. Louis, Japanese B, and epidemic choriomeningitis forms frequently produce neurologic defects of the eye. My patient had no stigmata of these diseases, nor had he been exposed to any such epidemic.

Sarcoidosis has been considered as an infectious process[5] which occasionally attacks the nervous system but was excluded because of the absence of other clinical manifestations, negative x-rays of the chest and hands, and normal findings on cervical lymph node biopsy.

The three viral diseases that remain to be considered are not so easily eliminated. These are infectious mononucleosis, herpes zoster, and acute anterior poliomyelitis. All three conditions are known to paralyze the extraocular and facial nerves. All may attack these nerves without producing the clinical picture of their disease. All may attack suddenly without apparent previous contact.

Infectious mononucleosis (*glandular fever*) has long been known to affect the nervous system. Rivers[6] states that it may appear as a meningitis, encephalitis, or neuronitis. The spinal fluid may show increased protein and pleocytosis. Facial as well as other paralysis may occur. A virus may well be the causative agent. Peters *et al.*[7] also describe neurologic manifestations of this disease. A proved case of infectious mononucleosis with encephalitis was described by Motto.[8] This patient was left with a permanent facial paralysis and monocular nystagmus.

Wintrobe[3] states that the agent of infectious mononucleosis may occasionally strike without being noticed. The same author also indicates that the blood titer for agglutinating sheep red cells reaches and maintains its maximum level (over 1:64) during the second two weeks of the illness. My patient had the following evidences of this disease: neurologic signs, cervical lymphadenopathy, and a questionable increase in heterophil antibody titer. Against this diagnosis are his age, lack of other clinical involvement, the differential blood count, and the weak antibody titer. Regarding the latter item, it will be remembered that a blood titer of 1:16 was found. This finding is of no significance since normal individuals have an average titer of 1:20 with the range going as high as 1:56.[4] For these reasons we may reasonably exclude mononucleosis from the diagnosis.

Herpes zoster, primarily a disease of the sensory system, has long been known to attack motor nerves.[9] Tassman[10] includes, among the complications of ophthalmic herpes zoster, paralysis of the third, fourth, and sixth nerves as well as optic atrophy. Carmody[11] describes a condition of ophthalmoplegia and exophthalmos that accompanied herpes zoster of the eye. Duke-Elder[1] states that the third, sixth, and fourth nerves are attacked in order of frequency. Occasionally there is bilateral involvement. Walsh[12] indicates that cranial nerve involvement is by no means rare. Of 158 cases of ocular herpes zoster, 80 were complicated by facial palsy. He also notes the presence of optic neuritis and hemorrhagic retinitis with resultant blindness. It has been hypothecated[13] that the spread of the disease is from the fifth nerve ganglion down its branches to the points where these cross neighboring nerve twigs. The virus is then supposed to cross over to these nerve fibers, implicating them in the disease. Other means of spread are certainly possible. Boyd[14] has demonstrated that the cerebrospinal fluid in herpes zoster may have increased protein and cells and thus resemble poliomyelitis. These findings indicate that herpes zoster could spread to other cranial nerves by way of the cerebrospinal fluid.

All of the above data indicate that the presented case could have suffered from a herpes zoster infection. The two outstanding arguments against this diagnosis are (1) the absence of the typical skin eruption with corneal involvement and (2) the absence of pain in the stricken area. One would expect these findings in so severe a case of zoster. On the other hand, diseases of the nervous system may be atypical.

Acute polioencephalomyelitis may resemble herpes zoster to a surprising degree. Indeed, Boyd[14] considers them to be similar ailments of the central nervous system, primarily attacking the motor elements in poliomyelitis and the sensory equipment in herpes zoster. Both diseases have similar nerve tissue pathology and spinal fluid findings. In the 1947 London epidemic of polio, Stapleton[15] found 19 of 66 cases to be complicated by cranial nerve palsies. Wyllie[16] studied a family of five over a thirty-six-day period. During this time two of the family developed frank polio with facial palsies, two developed "influenza" with facial palsies, and the remaining individual developed a facial palsy without other illness. From this Wyllie concluded that all of these individuals probably had had a polio infection, either full blown or abortive. He also indicated that it is possible for an uncomplicated seventh nerve palsy to be caused by polio. During the month of August, 1937, in a small French village, Kissel[17] saw three patients with simple facial palsies, four patients with sixth and seventh nerve palsies, one patient with seventh nerve palsy who died from an ascending bulbar polio, and three cases of severe polio without cranial palsies. From these findings he deduced that cranial nerve palsies alone could result from the polio virus. Similar findings are reported by Roger *et al.*,[18] Trufant,[19] Pflugfelder and Hauser,[20] and others.[21–23] Park and Watkins[24] examined the spinal fluid of 24 cases of so-called idiopathic Bell's palsy. In ten of these there was an increased cell count. These too may have been instances of abortive polio. From this discussion we are fairly sure of one fact: polio may produce many cranial palsies without being easily recognized.

My patient most probably had a polio infection to account for his illness. His multiple cranial and spinal nerve palsies, the condition of his spinal fluid, the mild blood leukocytosis, and clinical course are all consistent with that diagnosis. One further point that favors polio more than other diagnoses is the time when it occurred. In New York the incidence of polio is quite high in October. It was in this month that my patient became ill. For all these reasons, polio stands indicted as the most likely cause of my patient's illness.

Summary and Conclusions

Because of its dramatic quality and the difficulty encountered in diagnosis, a case of multiple cranial nerve palsies has been presented. It was shown that these palsies were most probably produced by (1) an infectious agent, (2) the infectious agent was probably viral, and (3) the virus was probably that of acute poliomyelitis. I have attempted to indicate the magnitude of the workup necessary for a case of this type.

The role of acute poliomyelitis, herpes zoster, infectious mononucleosis, and other diseases in producing cranial nerve palsies has been briefly presented. It is quite likely that many unexplained nerve palsies, especially facial palsies, are caused by this infection. Spinal fluid studies should be done whenever such paralysis occurs.

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Medical Society of the State of New York
Sesquicentennial Meeting—February 18 to 21, 1957

Trend in Age of Acquiring Venereal Disease in New York City 1940–1954

THEODORE ROSENTHAL, M.D., AND JULES E. VANDOW, M.D., NEW YORK CITY

(Assistant Commissioner, New York City Department of Health, and Chief, Division of Social Hygiene, Bureau of Preventable Diseases, New York City Department of Health)

IN AN analysis of cases of new venereal disease infections reported to the New York City Health Department for the years 1940 through 1943, Rosenthal and Kerchner[1] showed that during this period there was a lowering of the median age for acquiring primary or secondary syphilis and gonorrhea in both sexes. The present paper is an extension of that study and analyzes similar data through 1954 in order to determine the trends in age of acquiring venereal disease since 1944. Because primary or secondary syphilis and gonorrhea are newly acquired infections, they are also used in the present study as an index of the trend of incidence of these diseases.

Table I presents the number of reported cases of venereal disease by sex in New York City from 1944 to 1954. As can be seen from this table, the increase of primary or secondary syphilis continued into 1946 when 6,063 cases were reported.

Thereafter, the annual incidence decreased, only 617 cases being reported in 1954. Similarly, reports of early latent syphilis declined during this decade, but less sharply, from 7,338 in 1946 to 2,183 in 1954. On the other hand, late and late latent syphilis increased steadily from 10,650 in 1945 to 21,467 cases in 1953, then fell in 1954 to 16,217. Of interest is the fact that primary or secondary syphilis in females decreased from 41 per cent of the reports of primary or secondary syphilis in 1944 to 16 per cent in 1954, whereas reports of early latent syphilis in females increased from 40 per cent of the total reports of early latent syphilis in 1944 to 61 per cent in 1954. Late latent syphilis reports in females, on the other hand, showed practically no change, being 45 per cent of the

TABLE I.—REPORTED CASES OF VENEREAL DISEASE BY SEX IN NEW YORK CITY, 1944–1954

	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
Total syphilis	23,069	22,690	26,765	26,303	25,366	20,489	21,795	22,458	25,078	25,224	19,412
Primary or secondary											
Male	2,829	2,983	3,930	3,371	2,569	1,558	892	572	569	517	518
Female	2,012	2,181	2,133	1,638	1,277	660	412	229	215	141	99
Early latent											
Male	2,294	2,434	3,750	2,904	2,533	1,916	1,682	1,367	1,282	1,064	844
Female	3,318	3,728	3,588	3,706	3,512	2,563	2,399	2,094	1,895	1,573	1,339
Late or late latent											
Male	6,448	5,798	6,944	7,656	7,705	7,060	8,440	9,691	11,026	11,605	8,726
Female	5,355	4,852	5,658	6,372	6,811	5,962	7,192	7,892	9,529	9,862	7,491
Congenital											
Male	210	221	231	206	236	205	192	199	192	172	126
Female	362	362	327	360	409	328	296	346	338	284	264
Stage not given											
Male	123	56	87	33	144	112	94	34	16	1	2
Female	118	75	117	57	170	125	196	34	16	5	3
Gonorrhea											
Male	10,120	12,341	18,662	17,969	18,331	16,529	14,001	12,226	10,522	10,907	10,302
Female	4,369	5,668	5,688	4,777	5,091	3,780	2,783	1,888	1,583	1,598	2,077
Chancroid											
Male	257	307	487	760	525	353	197	164	184	241	149
Female	53	49	35	53	37	24	24	17	10	14	10
Granuloma inguinale											
Male	105	81	106	103	102	71	51	56	37	37	31
Female	40	50	55	46	68	25	27	23	13	8	6
Lymphogranuloma venereum											
Male	136	148	190	192	180	147	135	107	105	67	57
Female	66	64	43	39	44	32	37	58	34	15	11

TABLE II.—Distribution of Reported Cases of Primary or Secondary Syphilis in New York City by Age and Sex, 1940–1954

Age	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
Total															
Male	2,066	2,040	2,338	2,757	2,829	2,983	3,930	3,371	2,569	1,558	892	572	569	517	518
Female	1,041	917	1,076	1,495	2,012	2,181	2,133	1,638	1,277	660	412	229	215	141	99
Under 15															
Male	3	5	4	4	9	11	7	7	5	6	3	1	...	1	...
Female	11	11	11	14	20	22	22	13	13	12	7	2	...	1	...
15 to 19															
Male	120	132	177	306	358	342	292	282	169	106	64	40	40	41	45
Female	141	123	154	305	430	426	335	262	190	90	52	24	21	17	22
20 to 24															
Male	483	448	596	795	830	816	1,168	971	696	394	223	111	99	97	107
Female	348	301	364	543	746	849	860	610	413	205	97	60	46	33	26
25 to 29															
Male	426	449	461	511	518	608	898	748	579	354	185	131	127	132	115
Female	220	212	222	288	364	419	368	324	249	124	79	43	42	33	16
30 to 34															
Male	326	354	364	365	361	393	565	424	367	209	112	94	101	89	97
Female	111	101	129	152	206	160	162	126	110	71	58	37	35	27	12
35 to 39															
Male	255	241	277	253	207	290	332	265	200	135	91	60	67	53	41
Female	83	62	65	76	104	112	89	62	54	42	32	20	15	11	7
40 to 44															
Male	176	151	174	195	208	179	155	192	142	98	43	43	39	30	36
Female	54	54	43	37	41	48	52	44	38	17	16	11	9	5	6
45 to 49															
Male	113	111	106	129	100	142	112	121	116	52	42	22	21	22	16
Female	22	19	26	21	22	21	25	26	20	13	7	4	6	3	2
50 to 54															
Male	59	58	68	71	91	45	54	63	46	27	28	16	21	16	17
Female	11	8	15	15	9	8	9	14	13	3	12	4	6	4	2
55 or over															
Male	52	49	51	59	70	54	60	54	49	30	22	12	18	9	12
Female	5	6	6	6	17	10	12	9	12	2	8	8	8	1	3
Age unknown															
Male	53	42	60	69	77	103	287	244	200	147	79	42	36	27	32
Female	35	20	41	38	53	106	199	148	165	81	44	16	27	6	3
Median age*															
Male	29.7	29.6	28.9	27.3	26.7	27.2	27.0	27.0	27.7	27.8	28.1	29.3	30.0	29.0	29.7
Female	25.1	25.3	24.8	23.8	23.5	23.5	23.5	23.8	24.2	24.6	26.7	27.4	28.2	27.5	25.0

* Median is based on per cent distribution.

TABLE III.—PERCENTAGE DISTRIBUTION OF REPORTED CASES OF PRIMARY OR SECONDARY SYPHILIS IN NEW YORK CITY BY AGE AND SEX, 1940–1954

Age	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
Per cent distribution*	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 15															
Male	0.1	0.3	0.2	0.1	0.3	0.4	0.2	0.2	0.2	0.4	0.4	0.2	...	0.2	...
Female	1.1	1.2	1.1	1.0	1.0	1.1	1.1	0.9	1.2	2.1	1.9	0.9	...	0.7	...
15 to 19															
Male	6.0	6.6	7.8	11.4	13.0	11.9	8.0	9.0	7.1	7.5	7.9	7.5	7.5	8.4	9.3
Female	14.0	13.7	14.9	20.9	21.9	20.5	17.3	17.6	17.1	15.5	14.1	11.3	11.2	12.6	22.9
20 to 24															
Male	24.0	22.4	26.2	29.6	30.3	28.3	32.1	31.2	29.5	28.0	27.4	20.9	18.6	19.8	22.0
Female	34.6	33.6	35.2	37.3	38.1	40.9	44.5	40.9	37.0	35.5	26.5	28.1	24.4	24.5	27.1
25 to 29															
Male	21.2	22.5	20.2	19.0	18.9	21.1	24.6	23.9	24.4	25.1	22.7	24.8	23.9	26.9	23.6
Female	21.9	23.6	21.4	19.8	18.6	20.2	19.0	21.7	22.4	21.4	21.5	20.1	22.3	24.5	16.7
30 to 34															
Male	16.2	17.7	16.0	13.6	13.1	13.6	15.5	13.5	15.5	14.8	13.8	17.7	18.9	18.2	20.0
Female	11.0	11.3	12.5	10.4	10.5	7.7	8.4	8.5	9.9	12.3	15.8	17.4	18.6	20.0	12.5
35 to 39															
Male	12.7	12.1	12.2	9.4	7.5	10.1	9.1	8.5	8.4	9.6	11.2	11.3	12.6	10.8	8.4
Female	8.2	6.9	6.3	5.2	5.3	5.4	4.6	4.2	4.9	7.3	8.7	9.4	8.0	8.1	7.3
40 to 44															
Male	8.7	7.5	7.6	7.3	7.6	6.2	4.3	6.1	6.0	6.9	5.3	8.1	7.3	6.1	7.4
Female	5.4	6.0	4.1	2.5	2.1	.3	2.7	3.0	3.4	2.9	4.3	5.2	4.8	3.7	6.2
45 to 49															
Male	5.6	5.6	4.6	4.8	3.5	4.9	3.1	3.9	4.9	3.7	5.2	4.2	3.9	4.5	3.3
Female	2.2	2.1	2.5	1.4	1.1	1.0	1.3	1.7	1.8	2.2	1.7	1.9	3.2	2.2	2.1
50 to 54															
Male	2.9	2.9	3.0	2.6	3.3	1.6	1.5	2.0	1.9	1.9	3.4	3.0	3.9	3.3	3.5
Female	1.1	0.9	1.4	1.0	0.5	0.4	0.5	0.9	1.2	0.5	3.3	1.9	3.2	3.0	2.1
55 or over															
Male	2.6	2.4	2.2	2.2	2.5	1.9	1.6	1.7	2.1	2.1	2.7	2.3	3.4	1.8	2.5
Female	0.5	0.7	0.6	0.4	0.9	0.5	0.6	0.6	1.1	0.3	2.2	3.8	4.3	0.7	3.1

* Does not include age unknown.

total reports of these cases in 1944 and 46 per cent in 1954.

The sharp increase in gonorrhea reports after 1944 is shown in Table I. A peak level was reached in 1946 when 24,350 cases were reported. The level remained high for several years, probably influenced by the Health Department's policy of distributing penicillin without charge for the treatment of reported cases. The case reports then declined steadily, reaching a level in 1952 which has remained fairly constant through 1954. In 1944, 30 per cent of total gonorrhea reports were in females. This percentage in females fell gradually to only 17 per cent in 1954.

Primary or Secondary Syphilis

Table II shows the number of cases of primary or secondary syphilis reported in each age group by sex for the years 1940 through 1954, while Table III gives the percentage distribution of the same data. It may be seen that there has been a substantial numeric decrease in every age group. The largest number of cases in both sexes was found in the twenty to twenty-four-year age group until 1951, when the twenty-five to twenty-nine-year age group took the lead among the males. Except for this instance the latter age group is the second most frequent age group affected. The thirty to thirty-four-year age group in males has consistently been in third place except for 1952. The fifteen to nineteen-year male group usually has occupied fifth to sixth position in frequency. In 1954 this group advanced to fourth position. In the female the fifteen to nineteen-year age group moved to second place in 1954, after having been in fourth place from 1950 to 1953, in third place from 1946 to 1949, in second place from 1943 to 1945, and in third place from 1940 to 1942. The twenty-five to twenty-nine-year female group moved to third place in 1954 after occupying second place for eight years.

A comparison of the median ages for acquiring primary or secondary syphilis during the past fifteen years indicates that the median age for males decreased from 29.7 in 1940 to 27.0 in 1947, then rose gradually each year until in 1954 the median age was the same as in 1940 (Table II and Fig. 1). As for females the median age declined from 25.1 in 1940 to 23.5 in 1946, then increased each year until it reached 28.2 in 1952. Since then it has declined to 25.0 in 1954, practically the same as in 1940.

Table III shows that the proportions of cases in the fifteen to nineteen-year age group increased for both sexes during this fifteen-year period. The proportion of cases in this group for the male increased 55 per cent from 1940 to 1954. This increase appears to be statistically significant. Although the proportion of cases in this group for the female increased 63 per cent over the same period, this is not considered to be statistically significant because of the small number of cases of primary or secondary syphilis reported in 1954 as compared to 1940. It should be noted, however, that for the first time since 1945, a higher proportion of females in the fifteen to nineteen-year age group acquired primary or secondary syphilis in 1954 than did those in the twenty-five to twenty-nine-year age group. Furthermore, the proportion of females in the fifteen to nineteen-year age group has increased over 100 per cent since 1952.

Gonorrhea

The number of cases of gonorrhea reported annually by sex and age from 1940 to 1954 is tabulated in Table IV. Table V gives the percentage distribution. In the fifteen to nineteen-year age group it may be seen that the proportion of males was slightly lower in 1954 than in 1940. In females, however, the proportion more than doubled in this period, increasing from 8.8 per cent in 1940 to 18.6 per cent in 1954. This increase is found to be very significant statistically when tested by the chi-square method. The proportion for males increased in both the twenty-five to twenty-nine and the thirty to thirty-four-year age groups and declined slightly in all the other age groups. For females the proportion also increased in the twenty to twenty-four-year age group and declined in all the other age groups.

Comparing the median ages for acquiring gonorrhea since 1940, it is seen that for males the median age declined from 27.0 in 1940 to 24.1 in 1944, then rose gradually to 26.9 in 1954 (Table IV and Fig. 2). For female gonorrhea the median age declined from 24.8 in 1940 to 23.0 in 1945, then rose to 23.6 in 1954. Thus the decline in median age which was noted for primary or secondary syphilis and gonorrhea during the war years 1940 to 1943 was reversed in the postwar period except for female gonorrhea. The median age for female gonorrhea has continued to be lower and in 1954 was 1.2 years below that of 1940.

TABLE IV.—DISTRIBUTION OF REPORTED CASES OF GONORRHEA IN NEW YORK CITY BY AGE AND SEX, 1940–1954

Age	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
Total															
Male	10,751	9,196	9,336	9,619	10,120	12,341	18,662	17,969	18,331	16,529	14,001	12,226	10,522	10,907	10,302
Female	3,888	3,101	2,686	3,338	4,369	5,668	5,688	4,776	5,091	3,780	2,783	1,888	1,583	1,598	2,077
Under 15															
Male	84	72	72	59	69	81	66	48	45	35	45	21	27	33	38
Female	355	323	249	171	168	212	184	154	152	146	102	102	64	89	69
15 to 19															
Male	983	901	1,218	1,743	2,015	2,272	2,181	1,974	1,660	1,282	1,201	933	810	878	884
Female	337	287	380	581	911	1,194	956	870	865	598	464	282	283	258	373
20 to 24															
Male	3,210	2,930	3,134	3,490	3,515	4,178	7,403	7,191	6,961	5,966	4,929	3,766	2,901	2,920	2,861
Female	1,288	1,067	956	1,219	1,728	2,283	2,449	1,999	1,992	1,533	1,072	690	544	603	779
25 to 29															
Male	2,528	2,079	1,992	1,801	1,933	2,562	4,238	4,367	4,684	4,628	4,071	3,705	3,282	3,233	2,999
Female	872	593	537	602	767	1,044	1,037	860	1,002	762	587	431	351	308	443
30 to 34															
Male	1,541	1,339	1,135	1,062	1,099	1,373	2,023	1,878	1,995	1,928	1,758	1,760	1,595	1,806	1,719
Female	451	394	271	346	397	459	435	386	410	299	240	156	147	146	181
35 to 39															
Male	972	765	741	612	627	766	1,060	939	1,000	924	825	761	665	704	673
Female	269	187	139	206	174	217	222	185	237	165	113	81	59	60	81
40 to 44															
Male	578	463	404	307	354	476	383	458	481	530	399	377	302	342	360
Female	129	108	53	102	77	91	81	94	110	69	49	42	32	27	43
45 to 49															
Male	335	236	203	144	194	223	219	228	253	235	154	206	142	169	157
Female	83	60	32	44	39	45	46	47	53	54	43	17	16	19	27
50 to 54															
Male	164	119	127	67	76	90	100	104	121	115	93	98	77	101	66
Female	29	32	19	25	19	18	29	17	26	17	21	9	11	6	8
55 or over															
Male	138	119	87	67	53	65	77	60	89	80	51	65	62	64	67
Female	29	19	7	18	22	20	20	13	24	17	5	9	4	12	5
Age unknown															
Male	218	173	223	267	185	255	912	722	1,042	806	475	534	659	657	478
Female	46	31	43	24	67	85	229	151	220	120	87	69	72	70	68
Median age*															
Male	27.0	26.5	25.3	24.1	24.1	24.4	24.5	24.6	25.0	25.6	25.7	26.5	26.1	27.0	26.9
Female	24.8	24.3	23.6	23.7	23.1	23.0	23.2	23.2	23.6	23.5	23.6	23.8	23.7	23.4	23.6

* Median is based on per cent distribution.

TABLE V.—PERCENTAGE DISTRIBUTION OF REPORTED CASES OF GONORRHEA IN NEW YORK CITY BY AGE AND SEX, 1940–1954

Age	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
Per cent distribution*	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 15															
Male	0.8	0.8	0.8	0.6	0.7	0.7	0.4	0.3	0.3	0.2	0.3	0.2	0.3	0.3	0.4
Female	9.2	10.5	9.4	5.2	3.9	3.8	3.4	3.3	3.1	4.0	3.8	5.6	4.2	5.8	3.4
15 to 19															
Male	9.3	10.0	13.4	18.6	20.2	18.7	12.3	11.4	9.6	8.2	8.9	8.0	8.2	8.6	9.0
Female	8.8	9.3	14.4	17.5	21.2	21.4	17.6	18.8	17.7	16.3	17.2	15.5	18.7	16.9	18.6
20 to 24															
Male	30.5	32.5	34.4	37.3	35.3	34.7	41.7	41.7	40.2	38.0	36.5	32.2	29.4	28.5	29.1
Female	33.5	34.8	36.2	36.8	40.3	41.0	45.0	43.3	40.9	41.9	39.7	37.9	36.1	39.4	38.9
25 to 29															
Male	24.0	23.0	21.9	19.3	19.5	21.3	23.9	25.3	27.1	29.5	30.1	31.7	33.3	31.6	30.4
Female	22.7	19.3	20.3	18.2	17.8	18.7	19.0	18.6	20.6	20.8	21.8	23.7	23.2	20.2	22.1
30 to 34															
Male	14.6	14.8	12.5	11.4	11.1	11.4	11.4	10.9	11.5	12.2	13.0	15.0	16.2	17.6	17.5
Female	11.7	12.8	10.3	10.4	9.2	8.2	8.0	8.3	8.4	8.1	8.9	8.6	9.7	9.6	9.0
35 to 39															
Male	9.2	8.5	8.1	6.5	6.3	6.3	6.0	5.4	5.8	5.9	6.1	6.5	6.7	6.9	6.9
Female	7.0	6.1	5.3	6.2	4.0	3.9	4.0	4.0	4.9	4.5	4.2	4.5	3.9	3.9	4.0
40 to 44															
Male	5.5	5.1	4.4	3.3	3.6	3.9	2.1	2.7	2.8	3.3	2.9	3.2	3.1	3.3	3.7
Female	3.4	3.5	2.0	3.1	1.8	1.5	1.5	2.0	2.3	1.9	1.8	2.3	2.1	1.8	2.1
45 to 49															
Male	3.2	2.6	2.2	1.5	2.0	1.8	1.2	1.3	1.5	1.5	1.1	1.8	1.4	1.6	1.6
Female	2.2	2.0	1.2	1.3	0.9	0.8	0.8	1.0	1.1	1.5	1.6	0.9	1.1	1.2	1.3
50 to 54															
Male	1.6	1.3	1.4	0.7	0.8	0.7	0.6	0.6	0.7	0.7	0.7	0.8	0.8	1.0	0.7
Female	0.8	1.0	0.7	0.8	0.4	0.3	0.3	0.4	0.5	0.5	0.8	0.5	0.7	0.4	0.4
55 or over															
Male	1.3	1.3	1.0	0.7	0.5	0.5	0.4	0.4	0.5	0.5	0.4	0.6	0.6	0.6	0.7
Female	0.8	0.6	0.3	0.5	0.5	0.4	0.4	0.3	0.5	0.5	0.2	0.5	0.3	0.8	0.2

* Does not include age unknown.

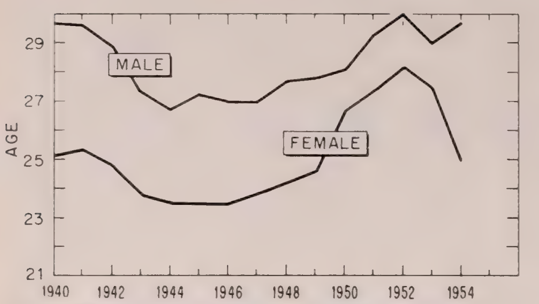

FIG. 1. Median ages for acquiring primary or secondary syphilis, 1940–1954.

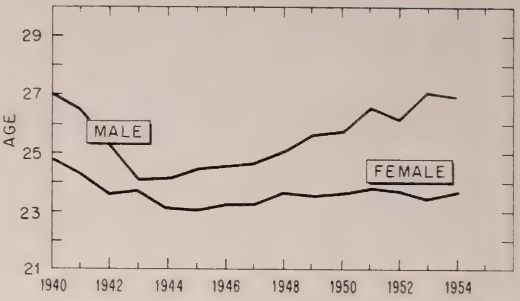

FIG. 2. Median ages for acquiring gonorrhea, 1940–1954.

Comment

For several years after the close of World War II reports of communicable syphilis and gonorrhea reached peak levels. Fortunately, penicillin became available at this time for the treatment of civilians. As a result the rates for these diseases began to fall rapidly. By 1954 case reports of primary or secondary syphilis, early latent syphilis, and gonorrhea dropped 90, 66, and 50 per cent, respectively, as compared to 1946. On the other hand, case reports of late latent syphilis increased steadily over the same period and in 1953 were 42 per cent higher than in 1946.

The reasons for this increase are not altogether clear. One explanation is that there may have been an increase in the number of hidden infections during the period of high prevalence of communicable syphilis. These cases were not discovered until later as a result of intensive Health Department control activity and blood-testing surveys. Hidden syphilis infections are more apt to occur in females, and the increase of such infections is suggested by the 25 per cent drop in the proportions of primary or secondary syphilis reported in females in 1954 as compared with 1944 and the corresponding increase of 21 per cent in the proportion of early latent syphilis

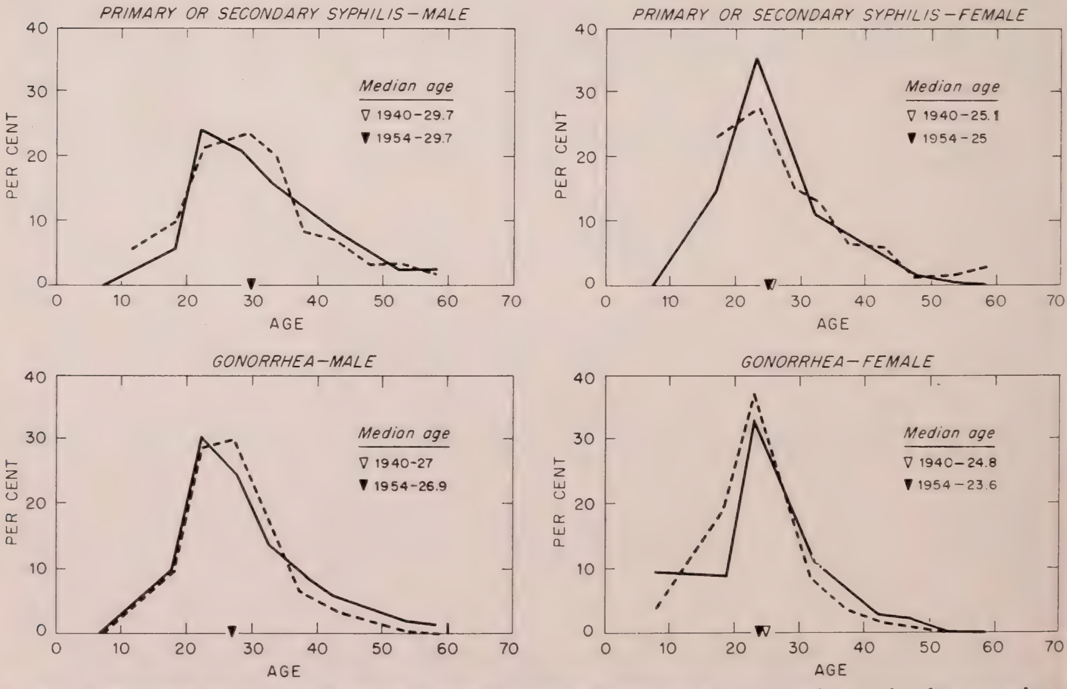

FIG. 3. Percentage distribution of reported cases of primary or secondary syphilis and gonorrhea by age and sex, 1940 (solid line) and 1954 (broken line).

reported in females over the same period. The development and the use of more sensitive tests may also have contributed to the increased number of late latent cases reported.

Figure 3 illustrates graphically the changes between 1940 and 1954. For each disease and sex there is an increase in the proportion of cases in the younger ages with a resulting relative decrease in those in the older ages. While the largest number of cases of primary or secondary syphilis and gonorrhea in the male occurred in the twenty to twenty-four-year age group in 1940, in 1954 this shifted to the twenty-five to twenty-nine-year age group for both diseases. For females the twenty to twenty-four-year age group still reported the largest number of cases of primary or secondary syphilis and gonorrhea in 1954 as in 1940. The median age for primary or secondary syphilis in the male was the same for 1940 and 1954 and was slightly lower for primary or secondary syphilis in the female in 1954. For gonorrhea the median age for males and females was slightly lower in 1954 than in 1940.

Summary

An analysis of new venereal disease infections reported to the New York City Health Department for the years 1944 through 1954 is compared with a similar analysis for the years 1940 through 1943. It was found that the decrease in median age for acquiring primary or secondary syphilis seen from 1940 to 1943 was reversed, so that by 1954 the median ages were practically the same for males and females as in 1940. Although the median ages for both males and females acquiring gonorrhea have gradually risen since 1944, they still remain slightly lower in 1954 than in 1940. These trends are graphically portrayed in Fig. 1.

The analysis also shows a statistically significant increase of 55 per cent in the proportion of males in the fifteen to nineteen-year age group who acquired primary and secondary syphilis in 1954 as compared to 1940. The proportion of females acquiring gonorrhea more than doubled in the fifteen to nineteen-year age group, increasing from 8.8 per cent in 1940 to 18.6 per cent of the reported cases in 1954. This increase was also found to be statistically significant.

Reference

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Role of Histamine in Medical Practice

The value of histamine as a therapeutic agent seems to be established despite the fact that the relationship between its pharmacologic action and physiologic role in the human body remains obscure. Apparently the rationale is based on hyposensitization: gradual increase of dosage to produce gradual diminution of response of the tissues to histamine, but admittedly the mechanism is not fully understood. Proper administration is of value in a variety of clinical conditions. In this paper Dr. Ralph I. Alford limits his discussion to three of them: (1) histamine headache, (2) Meniere's disease, and (3) physical allergy in which urticaria results from exposure to low temperatures. Although there may be transient symptoms such as flushing, dizziness, or headache if dosage is too high, thousands of treatments have been given without adverse reactions. Treatment with histamine is no more hazardous than any other hyposensitizing procedure, the author says.

—*Journal of the Medical Society of New Jersey, January, 1956*

Screening Program Among Key Personnel in Industry

Emphasis on Routine Master Two-Step Exercise Tests

GERALD L. FEINBERG, M.D., HUNTINGTON, NEW YORK, MORTON SCHWARTZ, M.D., FAR ROCKAWAY, NEW YORK, AND RAYMOND J. MANSFIELD, CAPT. (MC) USN, BROOKLYN, NEW YORK

(*From the U.S. Naval Shipyard at Brooklyn, New York*)

PRODUCTIVITY in industry is oftentimes determined by the health of the individual employe. For that reason many large industrial organizations maintain medical facilities in order that employes may receive prompt attention for illnesses or injuries that occur while at work. At the New York Naval Shipyard approximately 17,000 civilians are employed in occupations ranging from clerical jobs to heavy labor, and accordingly, an active medical dispensary operates twenty-four hours a day. It was noted that of the many varied occupations involved, the men holding responsible and supervisory positions sought medical attention the least. Since this group was composed of employes directly concerned with production problems, it represented men who could be replaced only with difficulty if the need arose. Therefore, a medical screening program of key personnel was instituted with emphasis on the cardiovascular system so that early diagnosis of illness and prompt medical attention would assure the continued and uninterrupted function of this national facility.[1,2]

Method

The program included a total of 118 males, and each man had a detailed history taken along with a thorough physical examination. During this evaluation special attention was directed to the cardiovascular system. This was followed by an x-ray of the chest (14 by 17), complete blood count, sedimentation rate, urinalysis, and acid and alkaline phosphatase tests. The King-Armstrong technic was utilized in the latter determinations, and normal values were 1 to 13 King-Armstrong units for the alkaline and 1 to 3 units for the acid phosphatase. Finally, a resting, recumbent 12-lead electrocardiogram was performed, after which a single 2-step exercise test was done according to the method outlined by Master.[3,4] Changes in the postexercise electrocardiograms were looked for in standard leads I, II, and III and precordial lead V_4 immediately after exercise but not longer than thirty seconds later, and at two, six, and ten-minute intervals after the performance of the test. Where a recent coronary occlusion had occurred or where there was a known history of angina, the exercise test was omitted. Whenever an individual demonstrated an abnormal resting electrocardiogram or Master 2-step test, a blood cholesterol determination was made with normal values being 150 to 250 mg. per cent.

Results

The ages of the men examined ranged from twenty-nine to seventy years, the average being 46.3 years. Of the total 118 men included in the program, 84 (71.1 per cent) fell into the age group thirty-one to fifty years, while 23 men (19.4 per cent) fell into the fifty-one to sixty-year age group. The various abnormalities noted included three cases of previously unknown degenerative joint disease with positive x-ray changes, two of duodenal ulcer, and one of diabetes mellitus of a mild degree. Seven men showed dilatation of one or both internal inguinal rings without hernia, while two others were found to have small inguinal hernias. One case of undescended testicle was noted. In four instances the alkaline phosphatase determination was elevated and ranged from 22 to 47 King-Armstrong units. Repeat tests confirmed these elevations, and total protein, albumin, globulin,

TABLE I.—Electrocardiographic Results in Total 118 Cases Examined

	History of Heart Disease				
	None	Hypertensive	Rheumatic	Arterio-sclerotic	Angina Only
Total cases	94	11*	4	4†	5**
Negative electrocardiogram and negative 2-step	74	9	2	...	4
Chronic myocardial damage only					
Number	7	1	...	4	1
Per cent	7.4	9.9	...	100.0	20.0
Positive 2-step only					
Number	7	...	1	...	...
Per cent	7.4	...	25.0	...	...
Positive 2-step and chronic myocardial damage					
Number	6	1	1	...	...
Per cent	6.4	9.9	25.0	...	...

* No exercise test in 1 case.
† No exercise test in 2 cases.
** No exercise test in 3 cases.

TABLE II.—Electrocardiographic Results in Group of 67 Cases Not Examined in 1 or More Years

Abnormalities	Number of Cases	Per Cent
Chronic myocardial damage		
With previous history of heart disease	2	2.9
Without previous history of heart disease	4	5.9
Total	6	8.9
Positive Master 2-step only		
With previous history of heart disease	2	2.9
Without previous history of heart disease	6	8.9
Total	8	11.9
Chronic myocardial damage and positive Master 2-step test		
With previous history of heart disease	1	1.5
Without previous history of heart disease	2	2.9
Total	3	4.4

and cephalin flocculation tests were performed and found to be negative. No abnormal findings were seen in the sedimentation rate, blood count, urinalysis, or x-ray of the lungs.

It was noted that of the four men with arteriosclerotic heart disease, two demonstrated cardiac enlargement on x-ray (Table I). Of the 74 individuals without a previous history of heart disease and with negative electrocardiograms and Master 2-step exercise tests, one showed a Grade IV systolic murmur at the apex and cardiac enlargement on x-ray. Finally, one man in the seven that demonstrated a positive exercise test in the group without previous heart disease had an enlarged heart on x-ray. The blood cholesterol determination was performed on all the men who demonstrated electrocardiographic evidence of chronic myocardial damage or a positive exercise test, with the exception of two individuals who did not return. Abnormal values for this test were noted in all instances and ranged from 262 to 347 mg. per cent.

Comment

In every case where a physical or chemical abnormality was noted, the individual was referred to his own physician for further observation and treatment.

Of the 118 men examined, 67 (56.7 per cent) had not been to a physician for any reason for one year or more prior to this screening program; the electrocardiographic findings in this group of 67 employes are tabulated in Table II. The electrocardiographic criterion for a positive exercise test was one of the following:

1. RS-T wave depression of 0.5 mm. or more below the isoelectric level of the PR or PQ interval.
2. Flattened or inverted T wave in any lead except lead III where T was previously upright.
3. A normally inverted T becoming upright.
4. Transient cardiac arrhythmia occurring immediately after exercise.[3-5]

A comparison of Tables I and II indicates that of the 13 cases that demonstrated chronic myocardial damage, six were among the men not examined by a physician in a year or more. In addition, the eight cases with electrocardiographic changes after exercise were all found in the group of 67 men not examined in over a year. Finally, of the eight cases with electrocardiographic changes of both chronic myocardial damage and positive exercise tests, three were also in the unexamined group. Thus it was noted that most of the electrocardiographic abnormalities were found in the group of men not examined in one year or more.

It may be seen in Table I that 81 men were

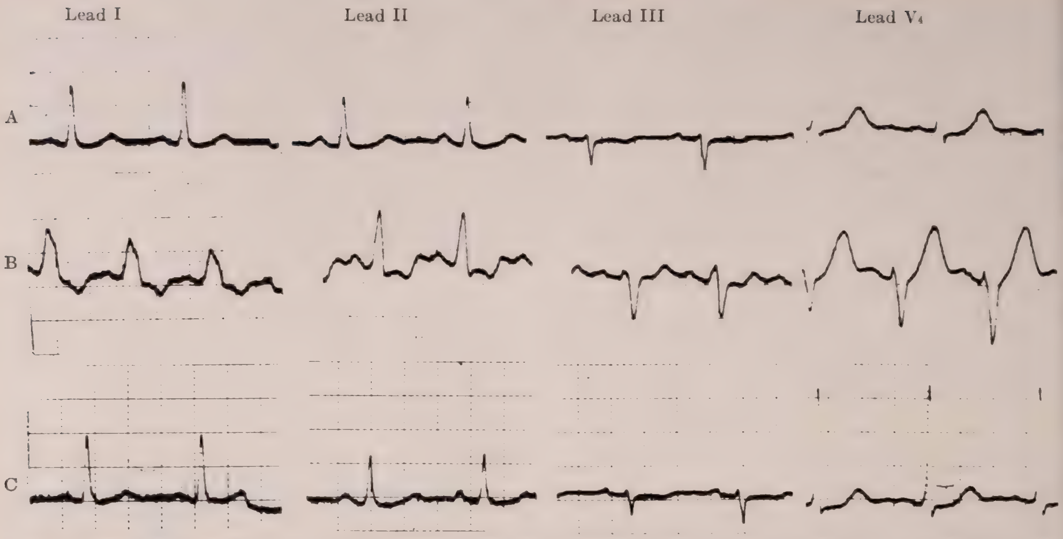

FIG. 1. Typical postexercise electrocardiogram showing definite electrocardiographic changes following the exercise test in a sixty-four-year-old male with no previous history of heart disease: (*A*) taken immediately after exercise; (*B*) two minutes later; (*C*) six minutes later.

examined and found to have no previous history of heart disease and no abnormality observed in the resting electrocardiogram. However, seven persons, or a significant 8.6 per cent, showed definite electrocardiographic changes following the exercise test. Figure 1 demonstrates the typical postexercise electrocardiogram found in one of these seven cases. The RS-T segment and T-wave depressions immediately after exercise are quite marked and returned to normal in six minutes.

It is evident, therefore, that a periodic routine screening program which also includes a resting and exercise electrocardiogram can prove invaluable to management. It is felt that programs of this nature can better ensure the continued health and productivity of key personnel who may need medical attention but who do not seek it. In addition, the marked postexercise electrocardiographic changes in apparently healthy individuals cannot be ignored; however, only a follow-up study can determine the full significance of these findings.

Summary

1. A significantly high number of cases (8.6 per cent) without any previous knowledge of heart disease showed positive electrocardiographic changes after exercise tolerance tests were performed.

2. The value of a periodic screening program of key personnel in industry, which includes Master 2-step electrocardiograms, is demonstrated.

Special acknowledgment is made to LCDR R. E. Farabaugh (MC) USNR, Max O. Lyman HMC (USN), and Harry W. Reed HM3 (USN).

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Sesquicentennial Meeting — February 18 to 21, 1957

CLINICOPATHOLOGIC CONFERENCE

DEPARTMENT OF MEDICINE, NEW YORK UNIVERSITY POST-GRADUATE MEDICAL SCHOOL AND FOURTH MEDICAL (N.Y.U.) DIVISION, BELLEVUE HOSPITAL

Conducted by RAYMOND S. JACKSON, M.D.

JANUARY 20, 1955

Case History

A sixty-three-year-old, married, Russian male was admitted to the Dermatology Service of Bellevue Hospital on December 16, 1953, because of blue "spots" on his legs. The patient had been in good health until five months prior to this admission when he first noticed a few red blotches of the legs and swelling of the ankles. He became anorexic and lost 13 pounds. He developed pallor, weakness, night sweats, and cough productive of bloody sputum on several occasions.

The above picture progressed, and the patient reported to the Fourth Medical Outpatient Department where positive physical findings included several purpuric spots on the hard palate and a purpuric eruption over both lower legs, an emphysematous chest, blood pressure 120/80, swelling and tenderness of both ankles, and clubbing of the fingers and toenails. No heart murmurs were heard, and a Rumpel-Leede test was negative. A complete blood cell count at that time revealed hemoglobin 11.5 Gm., red blood cells 4,070,000, white blood cells 6,750 with polymorphonuclears 48, transitionals 1, lymphocytes 49, monocytes 2, and eosinophils 1. The lymphocytes were "small and mature." Platelets were 138,000, clotting time seven and one-half minutes, and bleeding time one minute. Chest film revealed parahilar fibrosis, accentuated bronchovascular markings, and a calcific density in the right base.

On admission to the Dermatology Department a medical consultation was requested, and the physical findings were unchanged except for a harsh Grade II systolic murmur heard best at the aortic area, radiating up the neck vessels and down the left sternal border. Urinalysis revealed specific gravity 1.015, albumin 1 plus, sugar negative, and 1 to 2 white blood cells and 15 to 20 red blood cells on microscopic examination.

The patient insisted on signing out of the hospital against advice on December 18, 1953, and was therefore referred by the medical consultant to the Hematology Clinic. When he was seen one week later in the clinic, bilateral axillary adenopathy was noted. The complete blood count was essentially unchanged; platelets were adequate on smear, and one "plasmoid cell" was noted. The patient refused bone marrow aspiration and lymph node biopsy. In March, 1954, he was seen in the clinic again; at this time he complained of abdominal pain and was again noted to have a lower purpuric eruption. The patient was treated with pyribenzamine.

On his second admission, on April 11, 1954, the patient complained of chest pain which had its onset three to four days before, did not radiate, and was not related to position, eating, or respiration. He again complained of cough with hemoptysis.

The physical findings were as follows: temperature 100 F., pulse 84, respirations 20, and blood pressure 130/58. The patient appeared acutely and chronically ill with rather severe dyspnea. The fundi showed flame-shaped hemorrhages adjoining each disk. There were two areas of ecchymosis on the left buccal mucosa. The neck veins were distended, and there was a positive heptojugular reflux. There were coarse rales in both bases posteriorly. The heart showed regular sinus rhythm; point of maximal

TABLE I.—Results of Urinalyses

Date	Specific Gravity	Albumin	White Blood Cells	Red Blood Cells	Casts
April 12	1.013	4+	10 to 12	10	Many hyaline and granular
15	1.007	0	2 to 3	20 to 25	Several granular
24	1.009	Slight trace	Rare	Loaded	Few red blood cell
30	1.010	30 mg.	3 to 4	30 to 40	....
May 5	1.008	20 mg.	5 to 7	Many	Few granular

impulse could not be felt, and there was a high-pitched musical systolic murmur heard best at 5 cm. to the left of the ensiform process. The second pulmonic sound was greater than the second aortic sound. The liver was enlarged 2 cm. below the costal margin. There were coalescent purpuric spots on both lower legs, 4 plus pitting pretibial and ankle edema, and 3 plus clubbing of the fingers. There was no glandular enlargement.

The laboratory data on April 12 included the following: hemoglobin 6.5 Gm.; red blood cells 2,400,000; white blood cells 10,750 with transitionals 20, polymorphonuclears 56, lymphocytes 28, and monocytes 6; hematocrit 19 per cent; erythrocyte sedimentation rate 76; reticulocytes 7.6 per cent; platelets 180,000. Carbon dioxide was 16 mEq., albumin-globulin ratio 2.9:4.8, creatinine 3.9, sodium 136, potassium 6.8, and cholesterol-esters 176:84. Results of urinalyses are given in Table I.

Three series of blood cultures were negative on aerobic and anaerobic culture. Sputum test for acid-fast bacilli was negative on five occasions. Sputum smear was gram-positive and negative for cocci; sputum culture showed occasional Streptococcus viridans. Rumpel-Leede test was negative on two occasions.

Skin biopsy showed slight atrophy of striated muscle with hemosiderin pigmentation.

An irregular area of diminished illumination in the right parahilar region was visible on chest x-ray. The widespread increase in pulmonary markings previously noted had subsided, except in the right parahilar area.

Electrocardiogram on April 11 showed sinus tachycardia, QRS transitional zone shifted to left, initial T-wave depression of nonspecific nature in leads I, II, III, aVF, and V_6. (This type of electrocardiogram is often seen in pulmonary embolism.) Another electrocardiogram on April 29 showed no significant change.

Because of the low-grade fever a sixteen-day course of Terramycin was instituted. Blood culture had not been done. He was also given vitamin K, ascorbic acid, and ferrous sulfate. The patient received a blood transfusion and was digitalized with Digoxin.

Further laboratory work on April 20 revealed hemoglobin 10.5, red blood cells 3,800,000, hematocrit 36 per cent, platelets 58,000, and Mazzini negative. Urinalyses from April 15 to May 5 are shown in Table I.

The patient received intermittent mercurials. About one week after cessation of the Terramycin therapy, a series of blood cultures were taken, and he was started on streptomycin and large doses of penicillin. Shortly before initiation of this therapy, a soft, blowing, early diastolic murmur was heard at the base, along with the finding of a Durozier sign. The blood pressure was 140/50.

The penicillin injections were refused most of the time. After nineteen days of this therapy the regime was cut, and Terramycin 500 mg. every six hours was restarted. The patient remained afebrile after the onset of penicillin and streptomycin therapy, as opposed to his earlier chronic low-grade fever. Gradually, however, he became weak and moribund and died on his sixty-fifth hospital day June 4, 1954.

Laboratory data at the end of his course included the following: hemoglobin 8.5, red blood cells 3,100,000, platelets 19,000, and creatinine 2.7.

Discussion

Dr. Martin A. Shearn: This very intriguing case involves a sixty-three-year-old male with an illness of twelve months duration which affected his heart, lungs, blood, and kidneys. When the patient was first admitted to the hospital, purpura was the outstanding symptom. In addition, he had hemoptysis, clubbing of the fingers, weakness, weight loss, and edema. There was a mild anemia and a slight decrease in platelets. The heart appeared normal on examination with no murmurs, although later the medical consultant reported a rough murmur at the cardiac base.

On the patient's second hospital admission four months later, the cardiac picture was most pronounced with the murmur now musical in quality and heard loudest at the apex. There were objective signs of heart failure and a large area of consolidation in the right mid-lung field. The hemorrhagic diathesis had become more marked. There was severe anemia with reticulocytosis but a normal white blood count and adequate platelets. The patient also had uremia with fixed specific gravity and electrolyte imbalance. He was given a blood transfusion and treated for heart failure, and a course of antibiotics was instituted. Despite the fact that he became afebrile after antibiotics, the patient developed aortic insufficiency and further thrombocytopenia and gradually became weaker, moribund, and died.

The first consideration is the blood picture since this is what brought the patient to the hospital. The purpuric eruption was originally associated with a normal or just slightly depressed number of platelets, but terminally, marked thrombocytopenia occurred. The possibility of idiopathic thrombocytopenic purpura can be eliminated on the basis of the patient's age, the normal bleeding time and Rumpel-Leede test, and the fact that there was present an associated generalized febrile disease. Thrombocytopenic purpura may occur in many chronic febrile illnesses. Here in the absence of an enlarged spleen or of an immunologic abnormality, toxic platelet depression may supply an explanation, while the anemia could be entirely explained on the basis of the nephritis with uremia. However, with reticulocytosis of 7.6 per cent and staining of the skin with hemosiderin, the question is raised as to whether or not some rapid destructive process, such as hemolytic anemia, was taking place. The patient did not have jaundice, but there is no report of a blood bilirubin, urobilinogen excretion, or of a Coombs test. The hemosiderin could have occurred as a result of extravasation of blood if the purpuric lesions broke down. However, if purpura is due to dilated capillaries, such an explanation could not obtain. Perhaps the reticulocytosis was partly on the basis of administration of iron. However, the fact that a single blood transfusion increased the blood count significantly without further decrease to prior levels also militates against hemolytic anemia. Hemolytic anemia and thrombocytopenic purpura are important clinical findings in the disease entity thrombotic thrombocytopenic purpura. However, thrombotic thrombocytopenic purpura is a disease of young people, mainly female, is of short duration, and tends to run an acute fulminating course. Thrombotic lesions occur, and central nervous system symptoms are practically a sine qua non of diagnosis.

Although leukemia and lymphomas are often associated with thrombocytopenic purpura and anemia (which may be hemolytic), they fail to explain the cardiac or renal picture in this case. Also in leukemia one would expect that abnormal cells should have appeared in the peripheral blood at some time during the course of the disease.

Tuberculosis must be considered because of the cough, weight loss, chest pain, night sweats, fever, and hemoptysis. The first x-ray showed only old calcified nodules, that is, no evident cause for blood spitting. The later development of a large consolidation has the appearance of pneumonia. If this were tuberculous pneumonia, a mother cavity should be evident as a seeding focus, and acid-fast bacilli should have been found in the sputum. Miliary tuberculosis as a cause for obscure fevers and multisystem disease would fail to explain the cardiac picture and the renal pathology. Amyloid nephritis could account for the uremic picture, but amyloid nephritis occurs years after chronic suppurative disease has been going on. For amyloid to cause this degree of renal insufficiency only months after the onset of general systemic illness could be improbable.

A very good case can be made out for subacute bacterial endocarditis. When we consider the fact that this patient had a chronic febrile disease with heart murmurs, anemia, and clubbing, the diagnosis is strongly suggested. However, there are several disturbing features which require explanation. The anemia and purpura are quite compatible with subacute bacterial endocarditis, although the degree of terminal thrombocytopenia is unusual. The renal picture is certainly compatible. Uremia occurred in one third of cases in one series reported. Sokoloff at this institution reported that 23 per cent of unselected cases of subacute bacterial endocarditis had uremia. Pathologically, 9 per cent had the focal embolic lesions of Löhlein, an equal number had a diffuse glomerulonephritis, and the remainder had a combination of the two. The cough, chest pain, and hemoptysis with the radiologic appearance of the lung lesion might well be explained on the basis of pulmonary infarction. If so, where did the emboli arise from? Whereas in children with congenital heart disease and subacute bacterial endocarditis pulmonary infarctions are common, in adults the vegetations are implanted on the mitral or aortic valves, and systemic emboli occur. In the absence of auricular fibrillation it is difficult to visualize a cardiac site for the emboli unless a cardiac shunt, such as a small septal defect, were present. More likely then the emboli would have to come from the deep veins of the lower extremities. The presence of heart failure would increase the likelihood of pulmonary infarction, but this still does not explain the early hemoptysis when the lungs were clear and without the presence of heart failure.

Splenomegaly may be found in about 80 per cent of subacute bacterial endocarditis but was absent here; this is not too alarming, however. The positive Mazzini cannot be evaluated since there is no information regarding history of syphilis and no further studies were done. If this were a biologically false positive reaction, it could occur in subacute bacterial endocarditis, although this is not too common. The liver enlargement occurred during heart failure, so it must have been due to congestive changes. The major objection to the diagnosis of subacute bacterial endocarditis is the absence of positive cultures. The diagnosis of subacute bacterial endocarditis can only be confirmed by the finding of the infecting organism. It can be argued, however, that blood cultures were taken after antibiotics had already been started. It can be further argued in favor of subacute bacterial endocarditis that there was a reduction in fever after streptomycin and penicillin were administered.

Since the organisms of subacute bacterial endocarditis rarely implant themselves on normal valves, the question arises as to what type of heart disease was present. Early there were no abnormal cardiac findings on x-ray or electrocardiogram and no murmurs. Subacute bacterial endocarditis in this age group may implant on valves deformed by arteriosclerosis or even more rarely on normal valves. The subsequent murmurs are difficult to evaluate in the presence of severe anemia and heart failure. Even the late development of the murmurs and peripheral signs of aortic insufficiency may be explained on the basis of anemia. Ten per cent of patients with pernicious anemia have aortic diastolic murmurs. However, the murmur developed at a time when the hemoglobin had already been increased by transfusion and the cardiac failure was receiving active treatment. More likely there was deforming of the aortic valve due to vegetations. Rupture or perforation of the aortic valve causes loud seagull murmurs and not soft blowing diastolic murmurs. Another point which is difficult to explain on the basis of subacute bacterial endocarditis is the edema which occurred at the onset of illness; there appears to be neither a cardiac nor a renal cause at this stage of the patient's illness. Therefore, although subacute bacterial endocarditis can explain most of the findings, there are several unanswered questions.

If this patient were a young woman with a butterfly rash instead of a sixty-three-year old man, there would be little question regarding diagnosis. However, knowing that lupus erythematosus does occur in men and that it may run its entire course without ever developing cutaneous manifestations, we are still loathe to make this diagnosis in a male without a skin rash. Frequently lupus erythematosus presents as predominantly renal, cardiac, or blood disease. In these cases diagnosis is seldom made unless L.E. cells are searched for and found. They were not looked for in this patient, so we must get along without them. Systemic lupus erythematosus in this case could tie together many features which thus far are but tenuously explained. The blood picture of thrombocytopenic purpura and anemia (hemolytic or otherwise) is quite characteristic of lupus; the cough, hemoptysis, and pulmonary infiltrations are frequent findings. Alteration of the albumin-globulin ratio is quite characteristic; the false positive Mazzini is a frequent accompaniment. Renal insufficiency in lupus is common and often due to diffuse glomerulonephritis. It can also occur on the basis of widespread wire-loop kidneys. The early finding of ankle edema is quite usual. However, one serious objection to lupus erythematosus is the presence of clubbing, which I do not believe has been reported in this connection.

If this patient had lupus erythematosus, then the cardiac findings pose a very interesting question. The development of diastolic murmurs solely on the basis of verrucous vegetations with deforming of the valves, I believe, is quite

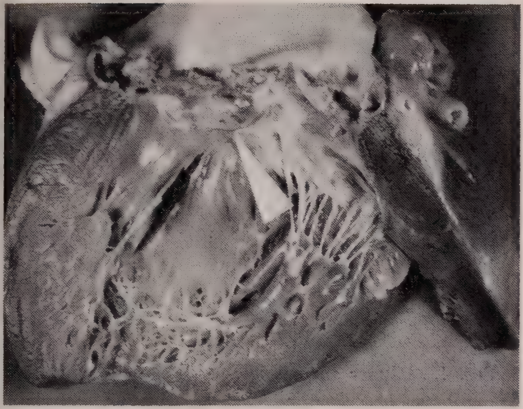

FIG. 1. The left ventricular wall is hypertrophied. The bicuspid aortic valve contains many vegetations. The white pointer indicates two perforations in the larger cusp at about the site where, normally, the raphe dividing this cusp into two would have been.

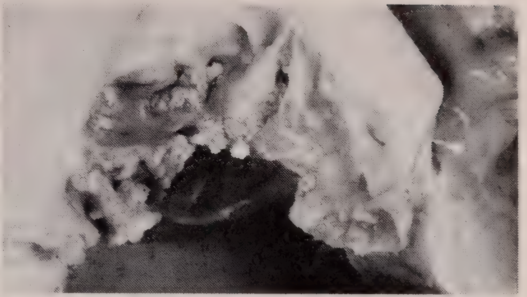

FIG. 2. A closeup of the aortic valve, looking down from the aorta. A mass of bacterial vegetation replaces what normally would have been a raphe, separating two cusps.

possible, although not proved. In a review of 34 cases of disseminated lupus erythematosus, apical diastolic murmurs were heard in two patients who at postmortem had Libman-Sachs verrucous endocarditis of the mitral valve. This extremely interesting finding prompted a review of the literature which disclosed that in several other cases this also occurred. Case 4 of Libman and Sachs had a rough presystolic apical murmur which is explained only in the involvement of the mitral valve with scarring due to atypical verrucous endocarditis. Tumulty and Harvey reported a similar case. Diastolic murmurs may be found in about 10 per cent of patients with lupus erythematosus without any other evident cause. Such a murmur may reflect the severity of the valvular change by the underlying valvulitis, and its presence may represent a means to an antemortem diagnosis of Libman-Sachs endocarditis. It is of considerable interest that on the patient's second admission to the hospital a large pulse pressure had developed where previously a normal pressure of 120/80 had been observed. It is possible then that aortic insufficiency had already occurred as a result of deforming and scarring of the aortic leaflets by Libman-Sachs endocarditis and that this dynamic change contributed to the development of the cardiac decompensation.

In conclusion, then, I believe that either subacute bacterial endocarditis or systemic lupus erythematosus could explain this patient's illness. Lupus erythematosus explains the clinical course and diverse findings somewhat more satisfactorily. I believe the heart will show atypical verrucae of the Libman-Sachs type, deforming the aortic cusps with resultant incompetence. I expect the lungs will show pulmonary infarction and/or chronic interstitial pneumonitis; in addition, they will show chronic passive congestion. The liver will also show chronic passive congestion and the kidneys diffuse glomerulonephritis and possibly wire-loop changes.

DR. ALLAN ARONSON: This is one of the few cases where things look clearer in the protocol than on the ward. Since pyribenzamine was given, the possibility of an allergic purpura was considered. In retrospect, however, all the criteria for subacute bacterial endocarditis were fulfilled here. In regard to hemoptysis we have seen right-sided vegetations in subacute bacterial endocarditis with massive pulmonary infarctions. I should like to ask Dr. Nelson whether this case fits in with the diagnosis of meningococcemia.

DR. JACK NELSON: We used to see meningococcemia occasionally but now very rarely. In 1938 Dr. Appelbaum wrote a paper describing the condition of chronic meningococcemia. This is an extremely interesting disease which is characterized by a chronic course and can be confused with subacute bacterial endocarditis. There is usually a low-grade fever which may be persistent or may have remissions and exacerbations. There may be arthritis, and anemia is not seen outstandingly. Albuminuria may be seen, but it is unusual to have evidence of renal insufficiency. The skin manifestations are the important findings. They are usually small, maculopapular areas which can be sporadic, usually occur in crops with no development into widespread purpuric lesions.

DR. HARVEY BREIT: In reference to Dr.

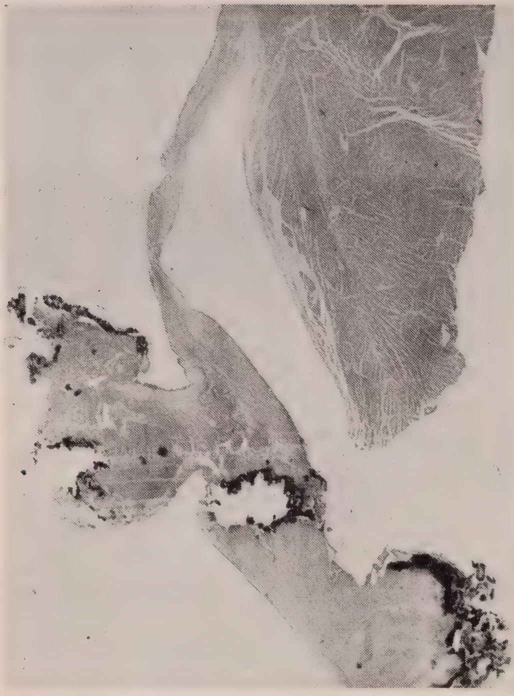

FIG. 3. Low-power photomicrograph of the aortic valve with vegetations. The dark areas on the cusp are bacterial colonies and calcium deposits. The cusp is greatly thickened by connective tissue and vegetation. (*Hematoxylin-eosin*)

Shearn's comment in regard to congestive heart failure with subacute bacterial endocarditis, I would like to say that we have seen several cases with this manifestation. Long periods usually elapse between the onset of symptoms and the manifestations of congestive heart failure.

DR. SHEARN: I was trying to explain the initial edema with no other finding of congestive heart failure.

DR. SAMI SAID: I had this patient on the ward. It was a most confusing case to all of us. On admission we diagnosed it as a typical case of allergic purpura, Henoch-Schoenlein's disease. The first clue to the actual diagnosis was the detection of an early diastolic murmur on the sternum by Dr. Bryant. The patient also had a positive serology. We didn't consider the possibility of luetic heart disease too seriously.

Diagnoses

Clinical.—*Subacute bacterial endocarditis.*
Dr. Shearn.—(*1*) *Lupus erythematosus and* (*2*) *possibility of subacute bacterial endocarditis.*

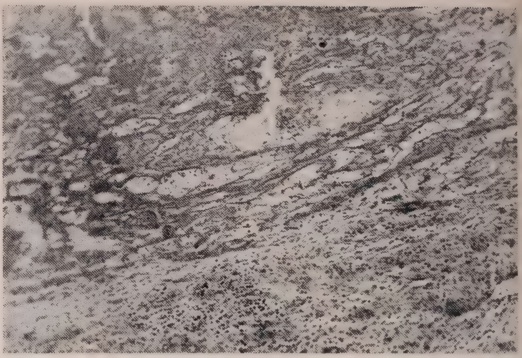

FIG. 4. Higher power view of the aortic valve. At the top of the photograph are the fibrin and inflammatory cells of the fresh vegetation. Beneath this are granulation tissue and connective tissue areas where vegetation has organized. (*Hematoxylin-eosin*)

Anatomic.—*Subacute bacterial endocarditis superimposed on a bicuspid aortic valve.*

Pathologic Report

DR. NORMAN S. COOPER: The heart was slightly hypertrophic; it weighed 400 Gm. (the patient was only 5 feet, $4^1/_2$ inches tall). There was slight dilatation of the left ventricle, but the other chambers were of normal size. All the valves were normal, except the aortic which was bicuspid. Before it was opened, it appeared to be grossly incompetent. A large part of both valve cusps was replaced by large bacterial vegetations. In addition, a mycotic aneurysm had burrowed into the aortic wall in the left sinus of Valsalva. The only evidence of a possible raphe representing the missing third commissure was a small ridge on the aortic wall at the base of the sinus of Valsalva in the center of the larger of the two cusps; this cusp was just twice as large as the other one. There was abundant vegetation in the immediate vicinity of the ridge, and there were two small perforations in the adjacent cusp (Figs. 1 and 2).

Histologically, there was evidence of inflammation in the presumed abortive raphe, as well as elsewhere in the valve. The presence of vegetation at this site makes it impossible to apply the usual criteria for differentiation between congenital and acquired bicuspid valves.[1,2] The *subacute bacterial endocarditis* (Figs. 3 and 4) may have been superimposed on a congenitally *bicuspid aortic valve*, or bacterial endocarditis may have destroyed one of the commissures of a previously three-cusped valve. Postmortem cul-

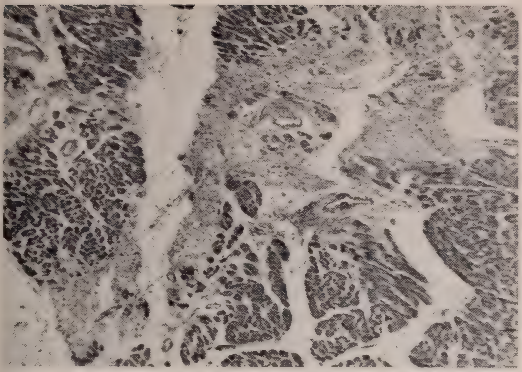

Fig. 5. A section of myocardium, showing Bracht-Wachter bodies, minute healing infarcts resulting from plugging of small coronary artery branches by bits of vegetation from the valve.

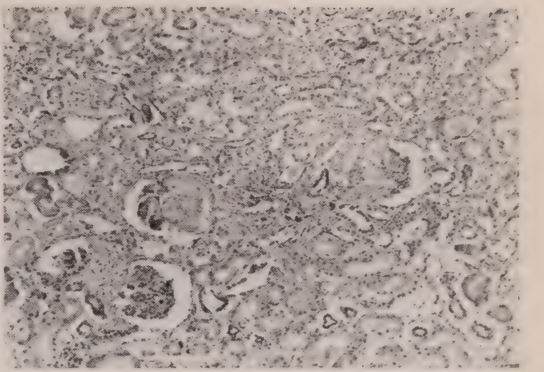

Fig. 6. The four glomeruli in this photomicrograph of a section of kidney all show areas of fibrosis, representing organization of the lesions of focal embolic glomerulonephritis. The undamaged portion of the best preserved glomerulus shows increased cellularity. (*Hematoxylin-eosin*)

ture of the blood was sterile. Enterococci were cultured from a vegetation, and cocci were seen in the sections of vegetation.

There was abundant evidence of embolic phenomena from the bacterial vegetations. There was mild focal myocarditis associated with minute, organizing myocardial infarcts (Fig. 5). A mycotic aneurysm was found in the superior mesenteric artery. The spleen contained two infarcts. The kidneys showed *focal embolic glomerulonephritis,* a not uncommon complication of subacute bacterial endocarditis. An interesting feature of this lesion was the fact that all of the resulting glomerular damage was subacute or chronic (Fig. 6), suggesting that some benefit was derived from the antibiotic therapy administered terminally. In addition, the kidneys showed mild *acute diffuse glomerulonephritis.* This disease has been reported in increased incidence in patients with bacterial endocarditis.[3]

The upper lobe of the right lung contained a large, multiloculated abscess surrounded by an area of organizing pneumonia. This abscess may have been the remnant of an infected infarct due to an infected embolus from the endocarditis; the only route such an embolus could have taken would have been through a bronchial artery. More probably bacteremia secondary to the endocarditis or infected material from one of the metastatic lesions in the heart, spleen, or kidney traveled to the lung via the systemic venous system.

The culture done on the valve at the postmortem examination revealed enterococci. The blood culture, however, was sterile. This may be a contaminant, but if so, one would expect the blood culture to be contaminated as well.

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New Radiation Device

The Army recently announced that a gamma radiation detector that looks like a stubby fountain pen has been perfected by Bendix Aviation.

The "Radiometer 1M-95", as the device is called, can be clipped in the pocket like a fountain pen. It keeps track of the amount of radiation a person would absorb from atomic or hydrogen blasts. This instrument needs no delicate handling or special care. In tests at the signal corps engineering laboratories at Fort Monmouth, New Jersey, it worked perfectly after being thrown 20 feet against a solid wall and dropped on a concrete floor. It also operates after immersion in water and at high altitudes and is unaffected for practical purposes by arctic cold or desert heat.—*Civil Defense Review, April, 1956*

FUNDAMENTALS OF MODERN ALLERGY

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Adenotonsillectomy in the Allergic Child

GERTRUDE RUSSACK SOBEL, M.D., ROCKVILLE CENTRE, NEW YORK

(From the Meadowbrook Hospital, Hempstead, New York)

THE problem of adenotonsillectomy in the allergic patient is a much disputed one. The often asked question, "What will the removal of the tonsils and adenoids do to my child's allergies?," is answered in either of three ways, depending on the particular point of view of the allergist: Operation will improve the allergic condition, operation will aggravate the allergic condition, or operation will not make any difference to the basic allergic picture. These schools of thought can be summarized as follows:

1. One group believes that the tonsils and adenoids can and often do act as foci of infection.[1,2] If these lymphoid tissues are infected in an allergic patient, they should be removed as early as possible. It is believed that prompt removal can favorably influence asthma and, furthermore, can prevent asthma in a potentially asthmatic individual. Attention is paid to allergenic testing, desensitization, and environmental control in evaluating the allergic picture. However, stress is placed on the early removal of the tonsils and adenoids in all patients when infection of the lymphoid tissues complicates the allergy.

2. A second school believes that the tonsils and adenoids play an important role in preventing the spread of infection from the upper respiratory passages to the lower respiratory tract.[3,4] They believe that the tonsils and adenoids play an important role in the first line of defense in infections of the nose and throat. It is believed that removal of tonsils and adenoids may precipitate asthma in an allergic individual. Furthermore, removal of the tonsils and adenoids may convert a mildly asthmatic patient into a severely asthmatic patient. They contend that tonsillectomy is fraught with danger because of the possibility of intensifying the allergic process. While the tonsils and adenoids are frequently infected, they believe that these lymphoid tissues drain the infection from the nose and throat, thereby delaying or preventing the spread to the bronchial tree. The adherents of this school advise a thorough allergic investigation, anti-infective therapy, and avoidance of removal of

tonsils and adenoids in the allergic patient.

3. The third group believes that indications for adenotonsillectomy are the same for nonallergic and allergic patients.[5-8] When the tonsils and adenoids are chronically diseased or abnormally enlarged, they should be removed regardless of the underlying allergic state. When tonsillectomy is performed primarily with the hope of altering the allergic process, the results are doomed to failure. They believe that the tonsils and adenoids have no bearing on the fundamental allergic process. A patient with allergies and infection should be treated with allergenic measures and antibiotics. If indications for tonsillectomy still persist after a course of allergic management, surgery should be performed.

4. A fourth group must be included in a complete summary of the existing opinions. There are those who do not believe in surgery either for the allergic or nonallergic patient. They believe that adenotonsillectomy can be avoided by completely eradicating infection,[9,10] i.e., specific antibiotics given orally or parenterally, aerosols, control of family contact infection, and elimination of disease in other sites of the body combined with antiallergic measures in the allergic patient.

As can be seen from the above, a difference of opinion exists on the indications for adenotonsillectomy in the allergic patient. More workers appear to be adherents of the third group. On analyzing asthmatic patients with intact tonsils and adenoids and adenotonsillectomized patients, no statistical difference is found in the severity of asthma. Both groups show the same percentage of mild, moderate, or severe cases of asthma. If the tonsils and adenoids play such a protective role in preventing the spread of infection from the nose to the lungs, there should be less severe asthma in the group with the intact tonsils and adenoids. Conversely, if the tonsils and adenoids play such an important role as foci of infection, there should be a lower incidence of severe asthma in the adenotonsillectomized group. These studies indicate that the presence or absence of the tonsils and adenoids has no bearing on the basic allergic problem.

The generally accepted indications for adenotonsillectomy in the allergic patient are the same for allergic and nonallergic patients. The adherents of this school give the following indications for surgery in both the allergic and nonallergic patient:

1. Chronic infection of the tonsils and adenoids.
2. Marked enlargement of tonsils and adenoids, interfering with breathing and swallowing.
3. Persistent enlargement of the cervical glands due to upper respiratory infection.
4. Recurrent ear infections.
5. Decreased hearing due to enlargement of the adenoids and other nasopharyngeal lymphoid tissue.
6. Repeated upper respiratory infections associated with cardiac and renal pathology.

There are contraindications, however, to adenotonsillectomy in the allergic patient. Operations should never be performed during periods of pollination, i.e., April through October in the northeastern part of the United States. The results of such ill timing may be initiation of asthma in a patient with allergic rhinitis, or the existing asthma may be aggravated.

When a patient is first treated for allergy and infection, it is advisable to delay decision regarding immediate removal of the tonsils and adenoids. Other measures should be tried first. The infection must be vigorously combated. This may involve culture and sensitivity studies in order to determine the specific antibiotics required for the offending organisms. When the allergic patient is treated by removal of environmental allergens, specific food elimination, and desensitization along with specific antibiotics, the need for adenotonsillectomy often disappears.

It is of interest that about 40 per cent of patients who come to an allergist's office for treatment have already had an adenotonsillectomy. Many times this was performed for the relief of allergic symptoms without success. In contrast, some allergists find that only 4 to 8 per cent of patients require removal of the tonsils and adenoids after adequate antiallergic and anti-infective measures have been instituted. Other allergists report that there is no need to send any patients for adenotonsillectomy after antiallergic and anti-infective treatment.

It is important to remember that allergic patients are prone to infection. They have nasal mucous membranes that are swollen and boggy, and because of the swelling of the nasal mucous membranes, infection may secondarily occur. Stasis and obstructions of the nasal passages from allergic and nonallergic causes lead to infection. What may masquerade as primary chronic infection may be allergy with secondary infection. Unless the allergic picture is recognized and treated, the infection will return or persist to plague the patient as well as the physician. Adenotonsillectomy will not clear the tendency to secondary infection if the basic allergy is not controlled. It is important to attack all infection vigorously in allergic people, but the primary approach should not be removal of the tonsils and adenoids.

When a patient has regrowth of nasopharyngeal lymphoid tissue, it is wise to suspect an underlying allergy. About 7 per cent of patients who come to an allergist's office have had more than one adenotonsillectomy. Repeated surgery was performed to remove the lymphoid hyperplasia without recognizing the underlying allergic basis. It is important to know that, frequently, allergic patients with or without secondary infection have a tendency to lymphoid hyperplasia of the nasopharynx. Surgical removal or irradiation does not alter this recurrence of hyperplasia.

Chronic postnasal drip, persistent rhinorrhea, nasal obstruction, and frequent colds may be signs of chronic infection or allergy. Unfortunately, these are too readily accepted as indications for adenotonsillectomy. Too often the allergic cause is not recognized. Surgery will not result in improvement of these symptoms if the etiology is allergy.

The differential diagnosis between infection of the nose and allergy is often difficult. Detailed history, family background, and physical examination are important. An additional, very helpful tool in arriving at a correct diagnosis is the microscopic examination of the nasal smear for eosinophils. When the cytology reveals more than 4 per cent eosinophils, it is suspicious of allergy. In pure infection the nasal smear shows predominantly polymorphonuclears; in allergy the smear consists mainly of eosinophils; in infection superimposed on allergy the smear is predominantly polymorphonuclear with or without the eosinophils. However, with the subsidence of infection the allergy comes to the foreground with return of the eosinophils. It should be routine to do repeated nasal smears on all cases when the diagnosis of allergy may be a primary or secondary factor. When the nasal smear is positive for eosinophils, antiallergic treatment should be instituted along with adequate antibiotic therapy for the concomitant infection.

Summary

There is often no need for adenotonsillectomy in the allergic patient after successful antiallergic and anti-infective therapy. If indications for adenotonsillectomy still exist after treatment, it should be performed during a nonpollinating period. The nasal smear for eosinophils is helpful in diagnosing allergic conditions. The presence or absence of tonsils or adenoids has no bearing on the basic allergic pattern.

165 North Village Avenue

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However hard the trial and heavy the bereavement, there is a far higher consolation in striving for the life that is left, than in brooding with sullen eyes beside the grave.—To Working Men, Charles Dickens

CLINICAL ANESTHESIA CONFERENCE

A series of conferences on medical emergencies
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Prepared by the Anesthesia Study Committee of the
New York State Society of Anesthesiologists

MEREL H. HARMEL, M.D., *Chairman*

Hypotension in Anesthesia

THE safe conduct of a patient through anesthesia and operation depends on many factors. The anesthesiologist tries to maintain the patient in as nearly normal a physiologic state as is compatible with the alterations produced by anesthetic drugs and operation. Proper attention to the details of technic are of the utmost importance in the maintenance of the patient's status. Aside from the administration of anesthetics, an understanding of the derangements and complications which may proceed from carbon dioxide excess or oxygen lack is essential. The case report which follows illustrates the difficulties which may arise when there is accumulation of carbon dioxide.

Case Report

The patient, a forty-two-year-old, white female, was admitted to the hospital after being struck down by an automobile. She suffered a laceration of her forehead, a fracture of the pelvis, and a comminuted intertrochanteric fracture of the femur with avulsion of the greater tuberosity. On admission her pulse was 80 per minute and regular, the respirations rapid, and the blood pressure 70/50.

Past history revealed the patient had had diphtheria during childhood, following which she developed a so-called "bronchial condition." The rest of the history was noncontributory.

The patient was treated with 500 cc. of whole blood, fluids, and antibiotics. The hemoglobin at this time was 10 Gm. per cent; other laboratory studies were all within normal limits. Urinalysis was normal.

On the fourth hospital day the patient was brought to the operating room for a hip nailing (Jewitt), after having been premedicated with 50 mg. of Demerol and 0.4 mg. of atropine. On her arrival in the operating theater, blood pressure was recorded at 100/60, pulse 90, respirations 16 per minute. Induction was carried out with cyclopropane, and following the injection of 50 mg. of succinylcholine the patient was intubated without difficulty. Following intubation ether was administered and the cyclopropane discontinued. The administration of ether was carried out by the technic of closed-circle absorption. The operation was begun thirty minutes after the induction of anesthesia, and a transfusion of whole blood was begun. Ten minutes after the start of operation the blood pressure was 120/76, pulse 80, respirations 16. Twenty minutes after the beginning of operation, the pulse had risen to 90, blood pressure to 110/76, and respirations to 28. During the next fifty minutes of operation the blood pressure varied between 110 and 100/76; the pulse was approximately 90 per minute. The respirations continued at 28 to 30 per minute. At this time it was noted that the eyes of the patient were fixed and centered, the pupils maximally dilated, and the respiration regular, but jerky in character. On the basis of the dilatation of the pupils and the diaphragmatic character of the respiration, the anesthesiologist presumed that the patient was in third plane of surgical anesthesia. It was also noted that the patient at the time was sweating profusely. The respirations at no time had been assisted.

At this point the anesthetic apparatus was disconnected from the patient in the belief that this would provide a rapid blow-off of ether to room air with a consequent "lightening" of the plane of anesthesia. The soda lime had been inspected and changed thirty minutes previously. Within ten minutes the pupils suddenly became constricted, the eyeballs oscillated, and the patient began to move her head. Meanwhile, the respirations had become smoother, and lower intercostal muscular activity had returned. However, it was observed with some surprise that the blood pressure was only 70/50 and the pulse had risen to 130.

The patient was immediately placed in the Trendelenburg position and reconnected to the anesthetic apparatus. A total of 250 cc. of whole blood was infused rapidly under pressure. During the next ten minutes the blood pressure gradually rose to 110/70, and the pulse fell to a rate of 110 per minute. The operation ended fifteen minutes later, and when the patient was again disconnected from the anesthetic apparatus, the blood pressure fell to 70/50, and the pulse remained at 110. At this time a diagnosis of postanesthetic hypotension was made, and 13 mg. of Vasoxyl were given intravenously in divided doses. After ten minutes the blood pressure became stable at 90/60, the pulse at 100. The patient was then placed in bed and returned to the ward. The subsequent course was uneventful, except for a draining sinus at the site of operation. There were no further recorded episodes of hypotension.

Comment

The sudden hypotension which developed during the middle of the operation and at its conclusion when the patient was permitted to breathe room air is characteristic of so-called "cyclopropane shock," more properly called postanesthetic hypotension. Classically, this occurs when the patient is brought rapidly from an atmosphere high in carbon dioxide to normal or nearly normal levels. It responds well to vasopressor drugs or the administration of fluids.

Hypotension occurring during anesthesia may have a variety of causes: deep anesthesia, reflex, hemorrhage, and carbon dioxide excess, anoxia, or both. While the anesthesiologist thought that this patient was deeply anesthetized, the rapid return to light anesthesia after seventy-five minutes of anesthetic administration and the profuse sweating are more suggestive of carbon dioxide excess. Anoxia was evidently not a factor here. The hypotension which occurs with deep ether anesthesia is generally gradual in nature, although in certain circumstances, as in induction, it may be precipitous. This did not obtain here. Hemorrhage or reflex do not appear to have played a role in the development of hypotension. The development of hypotension in this case would seem best to fit in with the carbon dioxide excess.

The most common cause of carbon dioxide excess during anesthesia is inadequate ventilation. It is presumed that this was the situation in the case presented. Inadequate ventilation may result from depression of the respiratory center through "heavy" preanesthetic medication with the narcotic drugs. (In a forty-two-year-old woman 50 mg. of Demerol would not appear to be excessive.) The thiobarbiturates (thiopental) and cyclopropane are anesthetic agents which particularly affect the respiratory center. Thiobarbiturates were not used in this case, and the brief administration of cyclopropane can hardly be invoked as the causative agent. Deep ether anesthesia does not seem likely. The patient, it may be recalled, had a "bronchial condition." Intrinsic lung disease and respiratory obstruction may also lead to inadequate ventilation. In this particular case the reasons for the presumptive inadequacy of ventilation are not clear-cut. While the soda-lime absorbent appeared to be satisfactory, it is possible that it was not.

It is interesting to note that the signs of carbon dioxide excess did not become evident until the patient was placed on room air. Attention to ventilation, manual assistance of breathing, and careful evaluation of carbon dioxide absorbents, when these are employed, are the sina quae non for successful prevention and management of complications due to excess carbon dioxide.

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Warts

JOSEPH L. MORSE, M.D., NEW YORK CITY

WARTS or verrucae are benign epidermal new growths formed by hypertrophy of the papillae. They are infectious and caused by a specific filtrable virus that can induce the lesion in a susceptible person. Although the existence of two different viruses has recently been proposed—one causing the common wart, the other the plantar wart—it is thought by most investigators that the same virus causes all the various types. Warts are autoinoculable and can also be transferred from one person to another by inoculation. This has been demonstrated experimentally by the inoculation of a filtrate of wart material into the skin with the production of a wart at the site of inoculation. Clinical experience of contagion is common, and warts may be spread by direct or indirect contact in barber shops, bathing pools, hairdressing establishments, and other places of similar character. The development and spread of warts around the fingernails after a manicure, the appearance of warts in a linear scratch mark (the so-called Koebner phenomenon), the sexual transmission of genital warts, epidemics of plantar warts in schools that have common showers and swimming pools, the spread of warts in the bearded region—all these apparent occurrences and many others indicate the infective and contagious nature of warts. The incubation period in the experimental production of warts has been reported as being from one to as long as twenty months.

The cultivation of the human wart virus in the chick embryo has been reported, but this has not been confirmed by other investigators. Although warts or wartlike lesions, apparently caused by viruses, occur in cattle, horses, dogs, and other animals, as well as in humans, each seems to be species-specific. Numerous attempts have been made to infect animals with human wart material, but they have not been successful. As for the immunologic response to warts in man, their predominance in children, their spontaneous disappearance, and the apparent immunity in many individuals suggest an antibody reaction to the infection. Complement-fixing antibodies in the blood and positive skin tests with wart antigen have been reported, but these findings have not been generally confirmed.

Warts are divided into four clinical types: (1) verruca vulgaris, the common wart; (2) verruca plana juvenilis, the flat "juvenile" wart; (3) verruca plantaris, the plantar wart; and (4) verruca acuminata, the moist "venereal" wart or condyloma acuminata.

The so-called seborrheic and senile "warts" are not classified among the verrucae. They are keratoses and have a different histopathology; they are precancerous lesions, especially the senile keratosis, and should not be confused with warts.

Common warts are the most frequently encountered type. There are several varieties of the common wart, such as the digitate and filiform wart, and their names describe them very well. The ordinary wart is usually seen in children and most frequently on the hands and fingers. However, the different varieties may occur at all ages and at any place on the skin or mucous membrane. The filiform variety is seen on the neck and eyelids; the digitate on the scalp and face, especially the bearded region. Around and under the nails they are called periungual and subungual warts. The common wart appears singly or in crops and at times may be very numerous. The diagnosis is usually not difficult.

The *juvenile warts* are small, flat, barely elevated, skin-colored or light yellow papules which are smooth and not warty to the touch. They occur chiefly on the face and backs of the hands and are practically always multiple in number. Although usually seen in children, they do occur in adults, and in some instances the diagnosis can be difficult. They may be confused with lichen planus, but the location, the color, and the lack of itching should help to differentiate flat warts from the papules of lichen planus.

The *plantar wart* occurs on any part of the plantar surface of the foot or toes but usually on the sole and over points of pressure. They are single or multiple and may be on one or both feet. At times they are quite painful, and when pain is present, the person is apt to favor the wart in walking with subsequent ill-effect on the entire foot and leg. They are often surrounded by calloused skin and may even be covered by callus, but they can be differentiated from the ordinary callus by paring off the overlying thickened skin and exhibiting the wart itself with its characteristic black dot appearance and tiny bleeding points. In a similar manner it can also be distinguished from a corn with which it is often confused. There is a variety of plantar warts, the so-called mosaic type, which is seen quite commonly on the sole of the foot. These occur in various-sized patches composed of numbers of small, discrete, and confluent warts. They are usually painless and can be mistaken for callus. The incidence of plantar warts is increasing due to the increased opportunity for infection from showers, swimming pools, and other athletic activities.

The *accuminate, moist, or venereal warts* occur on the mucous or mucocutaneous surfaces of the genitalia, genitocrural, and anal regions. They are usually seen in adults, are multiple in number, and often coalesce to form large, conglomerate, vegetating masses. In diagnosis they must not be confused with the flat, moist papules of secondary syphilis, the so-called condylomata lata. This can usually be excluded clinically by careful inspection and the discovery of ordinary, dry common warts on the skin near the involved area. In lues the person should show other signs and symptoms of secondary syphilis and should give a history of a primary lesion; the dark-field microscopic examination of the moist papules should be positive. The blood serology is always positive in secondary syphilis. Although acuminate warts are often contracted through sexual contact and the incidence of genital warts increased during and after World War II, particularly in the military services, it should be emphasized that they may occur spontaneously and may be contracted in various nonsexual ways. It is undesirable, therefore, to call them venereal warts.

According to data compiled from several sources the total incidence of warts in general is greatest about the time of puberty. It is not known whether this is due to a direct hormonal effect, or whether the thickened epidermis or skin glandular changes that occur at this time provide a better soil for the virus, or whether this greater incidence happens to coincide with greater opportunity for infection from increasing recreational and athletic participation. An increase in the incidence of genital warts occurs in women during pregnancy, and it has been suggested that the urinary hormones bathing the vulva at this time may be a contributory causal factor. It has also been noted that both common and plantar warts are more frequent in girls than in boys, but whether this is hormonally related is rather speculative.

Before beginning any discussion of the actual treatment of warts, it is important to preface any remarks by saying that warts may disappear spontaneously, or may respond easily to treatment, or may be so recalcitrant as almost to defy any method of therapy. It was because of the evident clinical observation that warts do disappear or are cured sometimes by what is considered to be a placebo, such as rubbing them with a potato and other mystical procedures, that psychotherapy or "suggestion" therapy began to be used and is now accepted as an effective method of curing some warts. Many dermatologists have used this method in various ways and have reported cures in 30 to 55 per cent of the patients they were able to follow. Cases of disappearance of intractable warts following suggestion under hypnosis have also been reported. In psychotherapy the patient is made to believe some treatment is really being used. The warts are painted with a colored liquid and may also be given a placebo treatment with some electric machine for its sound effect. The patient is told not to touch the warts as long as the color persists, and the procedure is repeated once or twice as indicated. The advocates of this method stress the importance of impressing the patient with the fact that the warts will disappear. However, in considering the effect of suggestion, the spontaneous disappearance of warts without any treatment must be kept in mind. In any event most observers agree that flat warts respond better than common warts, and plantar warts respond very poorly to psychotherapy. Although suggestion therapy is indicated at times and is a useful method, it does not give the percentage of cures that are obtained with actual destructive methods.

As a final note before considering the treatment of warts, it should be kept in mind that regardless of the form of therapy they often recur, even after thorough removal and apparent cure. The physician should warn the patient or the parents of this possibility beforehand so that there will be no recrimination afterwards. The intelligent person would rather know the facts before treatment is instituted, and surely the doctor is on safer ground.

Treatment

The various methods of treatment for warts in general are electrodesiccation, cautery, surgery, curettage, solid carbon dioxide, caustics, and x-rays. Internal remedies, such as protoiodide of mercury, bismuth salicylate in oil, arsenic, antibiotics, and even vitamin A, have also been used. However, it has been the experience of most dermatologists that no agent administered systemically has a specific effect on the virus, and therefore, no drug with any potential hazard should be used in the treatment of a benign condition such as warts. In this respect it has been reported that injections of distilled water gave just as good results as any active drug.

Vaccine therapy has also been recommended, and a certain percentage of cures have been reported. A phenolized, heat-killed suspension of warts is used, but several investigators who have tried the vaccine have found it to be of no specific value.

VERRUCA VULGARIS.—Electrodesiccation is the method of choice for all varieties of common warts. If there is one or several lesions and if the patient will allow local procaine anesthesia, this is the surest and quickest way to destroy them. There is always the possibility of scarring, but if the electrodesiccation is properly performed, it usually gives a good cosmetic result. With a mild, monopolar desiccating current, the needle is inserted into the wart several times, being careful not to go too deeply and into the skin. The dehydrated wart is then lifted up and cut away with a curved scissors. The base is gently curetted with a sharp skin curet, making sure that the wart is entirely removed but not damaging the deeper tissues. The rough edges of the wound are then trimmed, and the bleeding is stopped with gauze pressure. The wound may be very mildly and superficially desiccated, but to prevent the possibility of scarring, it is safer not to desiccate the base. It is dressed with borated vaseline and usually heals in a week or so without a scar. If there are many warts, several can be done at a time until all are removed. In this respect it is interesting to note that in some cases only one or two warts are removed, and the others may disappear spontaneously. At times slight trauma of any kind will cause a wart to disappear so that one may use electrodesiccation mildly and still get a good result. On the other hand, they may recur after the most thorough removal or even excision.

Warts in the bearded region can be gently desiccated and curetted with good results. With the use of a very mild spark local anesthesia is not necessary. However, one must be careful to remove all the warts so that a few remaining ones do not cause recurrences by autoinoculation from shaving.

Warts in and around the nail folds and under the nails are more difficult to eradicate and often recur after electrodesiccation because that part of the wart which extends under the nail is not removed and regrows. To prevent this, as much of the free nail near the wart should be cut away, so as to expose the entire wart. If that cannot be done because the wart extends under part of the nail that cannot be removed, then desiccation should not be attempted, and other methods should be used. However, the other methods of treatment may also fail in this type of case, and it is here that x-ray therapy is indicated. The technic of x-ray therapy will not be discussed in this paper, except to say that it should only be given by a qualified dermatologist experienced in the use of this modality and aware of its dangers.

As for surgical excision of warts, that method is not recommended. Following excision the wart may recur in the scar, and when scars are produced, especially on the plantar surface, not only are they apt to be painful, but their presence makes further treatment of the recurrent wart particularly difficult.

Caustic chemical agents are frequently used to destroy warts that either cannot be removed by electrodesiccation or recur after electrosurgery. The chemicals used for this purpose are 95 per cent phenol, trichloracetic acid, 25 per cent salicylic acid in collodion, 40 per cent salicylic acid plaster, silver nitrate stick, 20 per cent podophyllin in alcohol or tincture of benzoin, and others. The particular chemical used depends on the type of the wart. Trichloracetic acid, phenol, silver nitrate, and salicylic acid are used for common and plantar warts; podophyllin seems to be effective only in acuminate warts. The method is simple, needs no anesthesia, and is quite successful. However, it requires repeated, regular treatments and painstaking technic.

In using liquid caustics the application of the chemical should be confined to the wart itself so as to prevent irritation of the surrounding skin. This can be done by applying vaseline around the wart, but it is not necessary if the cotton-tipped applicator is just moistened with the chemical and is not dripping wet. If phenol is being used and does get on the skin, it should be immediately neutralized with alcohol; trichloracetic acid is neutralized with water. After application the wart may be covered with ordinary adhesive plaster. The treatment is repeated at weekly intervals, but before reapplying the caustic, the macerated part of the wart should be pared off or curetted. In very thick warts salicylic acid plaster can be used instead of ordinary adhesive. The plaster is cut to the size of the wart and left on for several days.

Solid carbon dioxide or "dry ice" is also used to destroy warts. The ice is fashioned to the size of the wart and applied with pressure for ten to thirty seconds, depending on the depth of the lesion. Although this method is somewhat painful and is not so simple as using chemical caustics, it should be kept in mind when the others fail.

Verruca Plana Juvenilis.—It is particularly in flat, juvenile warts that systemic treatment along with psychotherapy seems to be popular and gives a fairly high percentage of success. In children especially it should always be tried first. Protoiodide of mercury, $^1/_8$ grain three times a day, is prescribed for a few weeks and stopped or reduced in dose if there is any side-reaction. Vitamin A by mouth, 50,000 units daily, may be used for one to two months. Bismuth salicylate in oil, 0.5 to 1 cc. intramuscularly once a week for ten injections, has been used. With any internal remedy precautions should be taken and reactions watched for. Along with these remedies lotia alba in varying strength is applied topically for its drying and peeling action. If the lotion is too drying, a 3 per cent sulfur ointment is used instead. As stated before in discussing psychotherapy, some electric modality may be used as a placebo in conjunction with these remedies. However, x-rays in small fractional doses do seem to have an effect at times in resistant cases.

When these various remedies fail or when the patient wishes results as quickly as possible, electrodesiccation is the method of choice for flat warts. Without anesthesia in most cases, each lesion is very mildly and superficially sparked and then gently scraped off with a skin curet. If the electrodesiccation is done carefully with a minimal current, no scarring should result. Instead of desiccation for destruction the chemical caustics, preferably phenol or trichloracetic acid, may be used, but they are difficult to control and should be applied cautiously.

Verruca Plantaris.—The plantar wart can be the most recalcitrant of all warts. Electrodesiccation is probably the most frequently used method of treatment, but before employing electrosurgery, which may cause painful, slowly healing wounds and gives a high percentage of failures and recurrences, the simpler, more conservative methods should first be tried. For the mosaic type of plantar wart electrosurgery is not recommended. However, if electrodesiccation is used for the ordinary type, one should not be so radical as to cause a deep, necrotic wound. Under local procaine anesthesia the wart is desiccated and removed in toto with a sharp, curved scissors, being careful not to injure the underlying fascia. Any remaining warty tissue can be gently curetted, but the base of the wound need not be desiccated. Bleeding can be stopped with gauze pressure. This procedure should give a good wound that will heal normally without scarring or at least with minimal scarring.

X-ray therapy is the treatment of choice with many dermatologists and gives a high percentage of cures in plantar warts, but it has risks and should only be used in certain selected cases. It should not be employed in the mosaic type.

The conservative methods of therapy are usually successful, but they require regular, continuous treatment. Along with treatment of any kind, orthopedic management is indicated, especially if the wart is painful. The use of pads, metatarsal bars, and even special shoes to avoid pressure is often helpful in the stubborn case.

Although systemic remedies are of no specific value and psychotherapy gives poor results in plantar warts, they should be given a trial. Vitamin A in daily 100,000-unit doses by mouth has been reported to be effective in a high percentage of cases. It can be used alone or along with any of the other methods.

A simple treatment with injection of Novocain into the lesion has been reported to be successful in a number of cases of both the ordinary and mosaic type of plantar wart. It is indicated when there is a great amount of pain and discomfort. The method is not disabling and is especially convenient for multiple warts. With a 26-gauge needle inserted at an angle through healthy skin next to the lesion, 2 to 3 cc. of 1 per cent Novocain solution are injected under pressure into the base of the wart. If the needle is properly placed, the tissue will offer resistance to the injection, so that the skin becomes blanched and the wart is elevated. Pain usually disappears within twenty-four hours, the wart softens and in a week can be lifted out with a forceps.

The caustics are of great value in the treatment of plantar warts and are successful in a very high percentage of cases. Trichloracetic acid, phenol, salicylic acid in collodion, salicylic acid plaster, and silver nitrate are used singly or in various combinations. The technic and precautions are the same as given above for the treatment of common warts, but in plantar warts one must be particularly thorough and persistent.

A simple and effective method is as follows: After paring off as much of the overlying callus as can be removed, trichloracetic acid is applied to the entire wart. If silver nitrate is also used, and some recommend the combination, especially in the mosaic type, the stick is rubbed in while the wart is still wet with the acid. Then the salicylic acid plaster, cut to the size of the lesion, is applied and held in place with adhesive tape. The dressing should be kept dry so that the adhesive will not loosen. The treatment is repeated in five to seven days, but it is important to pare off the macerated tissue before each application. If there is too much irritation and the wart becomes very painful from the treatment, the trichloracetic acid and the silver nitrate may be omitted and only the salicylic acid plaster applied. It is usually possible to destroy most plantar warts in six to ten treatments with this method.

VERRUCA ACUMINATA.—Podophyllin is the treatment of choice for acuminate warts. A 20 per cent solution in alcohol or tincture of benzoin is applied to the lesions; care should be taken to confine the liquid to the warts so as not to get it on the normal skin for podophyllin can cause a severe inflammatory reaction. To prevent this a layer of vaseline should be applied on the surrounding skin. A few hours after the treatment the warts blanch, then become necrotic, and fall off in several days. It may be necessary to repeat the application several times, at intervals of one week or longer, after the reaction has subsided.

In resistant cases electrodesiccation may be necessary. This can usually be done under local anesthesia. A vaginal or rectal examination should be done to rule out the presence of lesions in these locations. Following operation the wound is covered with borated vaseline. If there is a good deal of inflammation and discomfort, a weak potassium permanganate solution can be used as a wet dressing. After healing the area is kept dry with a thymol iodide dusting powder. Chronic vaginal discharge or balanitis should be treated to prevent recurrences. The spouse should also be examined for the possibility of transmission.

Conclusion

The management of warts is a problem, and there is no uniformly successful treatment. The physician must consider each patient individually and use his judgment as to the best method of treatment in each case. Failures and recurrences are not uncommon, but no matter how stubborn and recurrent warts may be, with persistence and therapeutic ingenuity they can always be cured.

521 Park Avenue

(*Number eight of a series of Postgraduate Radio Programs*)

Mechanical Kidney Used to Treat Drug Overdose

Barbiturates in poisonous doses can be successfully washed from the human body by using a mechanical kidney.

A group of Washington, D.C., researchers reported using a modified form of the machine to treat eight patients with severe barbiturate poisoning. As far as they know, theirs is the largest reported series of barbiturate-poisoned patients so treated.

A tube from the machine is attached to an artery. The blood is circulated through the machine where it is washed by a solution which removes the drug before the blood returns to the body.

The authors of the article in the June 30 *Journal of the American Medical Association* estimated that more than 15,000 patients are seen each year in the U.S. for accidental or intentional overdosage of barbiturates.

Treatment of barbiturate poisoning has varied. There is no well-established chemical antidote. Some authorities advocate the use of drugs which act as nervous system stimulators. Management has usually consisted of stomach washing, but patients frequently are seen too late for this to be effective.

The authors used hemodialysis for eight of 26 patients seen in a three-year period at Georgetown University Hospital. Hemodialysis (the technical name for the technic using the artificial kidney) was successful in six of the eight. The two others died of complications which dialysis could not help.

Hemodialysis can be successful even several hours after the drug is swallowed. However, the authors pointed out that it is more efficient the more promptly it is done.

Hemodialysis has two rather unique features for a treatment procedure, they said. The higher the blood level of barbiturates, the faster will be their removal by hemodialysis, and the amount of drug removed increases with the severity of poisoning. Hemodialysis also improves both the patient's condition and its own efficiency as treatment proceeds.

This happens because as the poison is removed, the patient's physical condition improves. As the heart rate increases, the blood flow through the machine is increased. This in turn allows a greater removal of the barbiturate from the body.

The authors said that the results of hemodialysis in their few patients cannot be discussed statistically, but their individual physical improvement offers reasons for its use. Hemodialysis unequivocally saved the life of one patient, markedly shortened the period of coma in one, and definitely helped four. In two patients with severe vascular disease, prompt clinical improvement was noted during treatment and full recovery from the drug's effect occurred within eight hours of the end of the procedure. One patient, who recovered after three periods of dialysis, had one of the highest initial blood levels of barbiturate ever recorded (25 milligrams of barbiturate per 100 milliliters of blood). Thirty-seven per cent of the ingested drug was recovered.

Hemodialysis, when carried out by experienced persons, is worthy of extensive application in two basic situations, they concluded. First, when the amount ingested or the initial blood barbiturate level is clearly in the potentially fatal range for the particular barbiturate, and second, when the underlying physical state is likely to increase the hazards of coma.

The authors are Leonard B. Berman, M.D., Harold J. Jeghers, M.D., George E. Schreiner, M.D., and Arthur J. Pallotta, M.S., of Washington, D.C. The study was supported by a grant from the National Institutes of Health.

SPECIAL ARTICLE

The Interdependence of Medicine and Dentistry

IRA JAY BERLOVE, D.D.S., M.D., NEW YORK CITY

That dentistry is one of the divisions of the healing arts is often claimed, but a survey of practice indicates that this claim is not supported by the professions concerned or is lost sight of in the exigencies of everyday dental and medical practice. It needs only a little reflection to indicate that this may in many instances be unfortunate for the patient.

What are the conditions encountered in practice which point up the interdependence of dentistry and medicine? Also what should be done about this, not only for the present but for the years ahead?

First, it may be worth while to list the more common oral pathologic processes and trace briefly their etiology, pathology, and medical-dental interrelations.

1. Dental caries: The local factors responsible for dental caries have received major attention in the past. Thus, the fact is very commonly overlooked that systemic conditions and factors also play a part in its etiology.
2. Periodontal disease: Here also attention is largely focused on local factors, especially in the field of therapy. However, there is now a lively appreciation, especially among teachers and research workers, that systemic conditions are very important and influential in its etiology.
3. Periapical infections arising from either neglected caries or periodontal disease: These infections have two phases, the acute and the chronic. The acute periapical infections have decided possibilities of causing serious systemic manifestations, especially since they may lead to such conditions as Ludwig's angina, acute cellulitis, and glandular involvement. However, the chronic periapical infections also should engage the serious joint study of the dentist and physician.
4. Maxillary antrum infections, both as a cause of and as a result of dental disease.
5. Pain and other syndromes of the head and neck arising from malrelations of the teeth and jaws and commonly attributed to disturbance of the temporomandibular joint relations.
6. Lesions of the lips and mucous membranes of the mouth, including the tongue. Precancerous and cancer lesions, as well as lues are to be listed in this category.
7. Cysts and tumors of the jaws.
8. Conditions arising from fractures of the jaws and other lesions of traumatic origin.
9. Systemic diseases with oral manifestations.
10. Oral diseases with systemic manifestations.

With the exception of caries, periodontal disease, and periapical infections, the systemic interrelationship of the conditions listed above are well recognized. But are the two professions doing all they should to bring about a closer working relationship in the management of these and other oral and systemic conditions?

The Need for Medical-Dental Cooperation

There should exist between the practitioners of medicine and dentistry an intelligent cooperation, complete correlation of clinical and pathologic knowledge, and a definite desire to study and understand each other's problems. Dentistry has been developed and maintained from a very early period as an independent form of health service. Unfortunately, the accent in dental care has been and still remains very largely on mechanical procedures, such as fillings, bridges, and dentures, as the medium for such service. It has been stated that dentistry can and should become the full equivalent of an oral specialty in medicine, but full acceptance of that status is lacking at present.

Dental educators are bending every effort toward the inclusion in their curricula of recent advances made in the field of dental medicine. If they can do this successfully without economic waste, as they appear to be, it may be possible to avoid the embarrassing and apparently needless inclusion of a full medical course in the preparation for dentistry. But more medical training is needed by the dental student than seems so far to have been provided, and it must also be said that further dental instruction in the medical curriculum is needed.

Let us consider some of the conditions listed and point up some of the problems involved in their management.

Caries and Periodontal Diseases

It would add unduly to the length of this paper to discuss the systemic implications of caries and periodontal diseases, although they richly deserve our consideration in view of the consequences of the neglect. Suffice it to say that there are unsolved problems regarding systemic relationship to etiology in each field.

Focal Infection

The last word has by no means been said regarding the systemic effects of focal infections, in which dental infections are so often a factor. The entire subject of chronically infected teeth as an etiologic factor in systemic disturbance through the mechanism of focal infection has received a great deal of attention over the past forty years. Advances in the knowledge of dental sepsis have been made, many of them due to dental research, the work having been carried on to a great extent by dental investigators.

However, the concept of focal infection itself as a cause of systemic disease has had its ups and downs, and it must be confessed with regret that the pendulum has swung decidedly to the "down" phase in the medical profession in recent years. This attitude has developed as a result of several factors. Perhaps the most potent factor has been the failure of physicians to secure favorable results in treating arthritis in its various forms by removal of foci of infection. This disease was held up before the professions by Hunter in 1910 as a typical focal infection disease. When it was found by physicians that eradication of foci was not always an effective measure in treating these cases, the entire focal infection concept fell into disrepute, and humanity has suffered in consequence. It can be said that there are numerous other conditions in which focal infection is important as an etiologic factor. Certain intraocular eye diseases serve as an example. New researches should be started and the entire focal infection concept re-evaluated.

COMPREHENSIVE STUDY NEEDED IN FOCAL INFECTION CASES.—A thorough study of each case is essential to make a correct diagnosis in this field. It is particularly important that no possible focus of infection be overlooked. Such oversight has been a common fault in the past and has been responsible in no small part for the confusion which has been experienced in this field. It is here that shortcomings of the dental profession come to light, shortcomings based, however, on the failure of medicine to take a positive stand in this field.

As an aid to oral diagnosis a complete 18 to 20-film intraoral roentgenographic series is a requisite. Lateral jaw and posteroanterior roentgenograms may also be necessary. In this connection it may be well to recall the fact that a diagnosis cannot be made from roentgenograms alone. Too often this unsafe procedure is followed. The roentgenograms provide only one link in the detailed chain of a final oral diagnosis. But when a careful case history and clinical examination of the mouth are followed by study of the roentgenograms, they constitute an invaluable aid in reaching the correct diagnosis and conclusion.

Lesions of the Oral Mucosa

It is the dentist's duty to notice any lesions of the oral mucosa. On examination of a patient with an ulceration in the mouth that shows signs of being a luetic, tubercular, or other lesion of systemic origin, he should recommend to the patient immediately that a complete physical examination be made by a physician, stressing particularly the proper laboratory tests and examinations, such as the examination of the sputum and blood, and possibly roentgenograms of the chest to rule out a tubercular lesion.

PRECANCEROUS AND CANCEROUS LESIONS.—Precancerous and cancerous lesions are often found in the mouth. The conditions which might lead to the development of cancer in the oral cavity are not rare. I refer to longstanding local irritation of a mechanical nature which may affect the oral mucous membrane, the lips, or the tongue. These irritations have been held to be of great importance in the causation of oral cancer, and the present-day emphasis on these conditions cannot be too warmly seconded. There has been some minor disagreement as to the exact role that mechanical irritation plays in the etiology of cancer, but nearly all of the authorities regard it as important. Good judgment dictates the removal of sources of irritation, such as poorly adjusted clasps or other projections from a denture, sharp edges of crowns, inlays, or fillings, and heavy calculous formations on the teeth or even on dentures.

Many varieties of benign as well as malignant tumors may be found in the oral cavity. Many tumors which are essentially benign in nature are capable of malignant transformation in the mouth. Any tumor requires the most careful scrutiny and study, even if it is apparently benign. One should never hesitate to do a biopsy of any suspicious lesion of the oral cavity.

Jaw Malrelations

In recent years much attention has been directed to the temporomandibular articulation because of pain and other symptoms believed to be due to disturbed relations in that joint. More recently, condyle pressure in the joint, brought about by malocclusion, has been regarded as a cause of pain in and near the temporomandibular joint. Abnormal condyle position may occur as a result of changes in occlusion and jaw relations.

The most recent and apparently the most logical explanation of the etiology of temporomandibular pain is muscle imbalance and consequent muscle strain coming from those abnormal occlusal relations. Such muscle strain may show itself not only in pain localized in the temporomandibular region, but in pain in other parts of the head and also the neck. This new concept merits the careful consideration of the physician as well as the dentist, for it often happens that the patient suffering from such pain syndromes will go to the physician for relief rather than to the dentist. Until the physician becomes aware of the possible dental origin of such disturbances, his differential diagnosis will necessarily be incomplete and possibly faulty. It now appears that these conditions take us into a dental-medical "no-man's land" which badly needs exploration and further research.

Oral Indications of Systemic Disease

There are numerous indications of systemic disease which may be found in the oral cavity. As we all know, many systemic diseases manifest themselves in the oral cavity, often in the earliest stages of the disease. It may be worth while to recall some of these: pernicious anemia, severe secondary anemia, the leukemias, diabetes, secondary tuberculosis, lues, measles, scarlet fever, diphtheria, scurvy, purpura, and agranulocytosis.

Many of the offensive breaths and odors of the mouth have a distinct diagnostic significance. Most of the patients with any of these breath odors will have been seen by the physician before going to the dentist, but the dentist should recognize their potential importance and see that the patient seeks medical diagnosis and treatment if he has not done so previously. It is unnecessary to list the disorders in which bad breath may be a symptom. The dentist, however, must consider and rule out any purely local source in these cases, such as advanced periodontal disease, improperly fitted bridgework, etc. In addition to noting the conditions suggested, the dentist should be alert to the oral evidence of intoxications due to various drugs and poisons, many of which are manifested in the oral mucosa, as, for example, the gingival stigmata of some of the metallic poisons.

Complex Cases

Many complex cases are encountered in practice in which several ailments are concurrent and in which the preliminary diagnosis may not point to the lesion of chief importance. All examinations must be thorough and complete, and the discovery of one important condition must not blind the dentist or physician to the possible existence of other ailments or pathologic processes. This can be well demonstrated by a condition in which lues and a neoplasm may coexist or a case in which lues and tuberculosis are present in a patient at the same time.

When a physician refers a patient to a dentist, the physician should inform the dentist of the nature of the case and give him all the pertinent information. The dentist should then send the physician a complete report and give his recommendations for the treatment from a dental viewpoint. It is often desirable that a personal conference and consultation should take place between the dentist and the physician. At that time the patient's complete history and the medical and dental findings can be correlated and the proper treatment instituted by the dentist and the physician. In this manner each will know exactly what is being done by the other. Also, as a result of his examination, the dentist may call certain oral conditions to the attention of the physician and possibly suggest further physical examination or additional laboratory tests.

The Hospital in Medical-Dental Relations

The hospital has many uses for the dentist. It provides the ideal place for the performance of oral surgical procedures. Quite as important, it provides the ideal meeting ground for physicians and dentists for the study of cases having possible oral-systemic complications.

Many hospitals have dental facilities and dental staffs as part of their inpatient and outpatient services. This is really a must for all hospitals or their outpatient clinics which propose to give general care to patients. No physical examination can be complete without a careful routine dental examination, and of course, few dental examinations can be considered complete without the complementary medical examination.

Furthermore, the hospital provides the best way to bring about a close relationship and mutual respect between the two great professions. Dental internships in hospitals are largely available today. Provision for them should be universal, the same as for the medical graduates. In the hospital dental interns may serve alongside their medical brethren, each getting the viewpoint of the other and each learning much about disease and oral and general pathology. This relationship will provide the beginning of that hand-in-hand labor, the interchange of findings and opinions for the solution of mutual problems, that one can visualize as the ideal cooperation and correlation of the medical and dental practices.

Summary and Conclusions

The need for the correlation of medical and dental findings in oral diagnosis, oral surgery, and treatment is well known, but action sometimes is lacking.

A plea is made for extension of harmonious teamwork between the medical and dental professions in mutual recognition of their very real interdependence. By this cooperation both professions will arrive at the great end of their efforts, namely, increased benefits to patients achieved through the definite advances in medical and dental science thus made possible.

944 PARK AVENUE

HISTORY OF MEDICINE in New York State

Editor
JOHN F. ROGERS, M.D.

The Medical Society of the County of Albany, 1806–1956

ARTHUR J. BEDELL, M.D., ALBANY, NEW YORK

THE first white settlers in this community were Dutch who arrived in May, 1623. They founded a settlement which was never the scene of an Indian massacre and was never overrun by warring groups. It was established by a people who had as a nation endured many trials and tribulations. Instead of becoming embittered they became tolerant and at the same time resistant to change. The climate was salubrious, the country abounded in game and fish, and the burghers lived well.

The pioneer colony had few attractions for trained physicians, but shortly after the beginning there were doctors; the first was Barent Staats who arrived in 1642. The Dutch company was solicitous of the health of its sailors and colonists, and "Consolers of the Sick," usually government officials, were ready to offer aid in sickness.

It was reported that Dominie Megapolensis, the first clergyman of the county, had a limited reputation, but, like some practitioners of today, he was inclined to run to novelties, recommending to the Dutch vrouws questionable procedures which were in vogue among the Indians. The later Dutch ministers were familiar with some theory and a little practice of medicine.

The wars of the eighteenth century did, as they always do, increase the demand for skilled doctors. At that time Albany became a medical center with military hospitals both in the city and across the river where one was maintained until 1822. After Burgoyne's defeat more than a thousand wounded with 30 attending surgeons were evacuated to the Albany area where they severely taxed the capacity of the churches, schools, and public buildings. Several of the army surgeons later settled in Albany, a city of unpaved, unlighted streets and devoid of a sewage system.

Even at the start of 1800 there were comparatively few who devoted themselves exclusively to the practice of medicine. Obviously with a community of 5,349 hardy individuals, little inclined to sickness of body and with no pseudo or real mental states, the physician was not entirely occupied with medicine. It is recorded that in 1785 there was only one burial from the old Dutch Church, and that death was the result of an accident.

A meeting of physicians of the city of Albany was called for the first Tuesday of July, 1806, agreeable to a new law entitled "an act to incorporate Medical Societies for the purpose of regulating the practice of Physic and Surgery in this state, enacted 18th of March, 1806." A sufficient number to form a quorum not appearing, it was decided to meet again for the purpose on Tuesday, the 29th of July following, and the physicians and surgeons of the county were notified accordingly. They met on that day, and the Medical Society of the County of Albany was duly organized. The first president was Hunloke Woodruff, and Charles Townsend was the first secretary. In 1807 the officers and the members signed their names to the bylaws.

In that early time members were appointed to report on special subjects. We note that Charles D. Townsend's dissertation on "Puerperal Fever" was read and approved.

Each member was ordered to produce a geologic and topographic description of the township allotted to him by the president.

Most men became physicians after training in a doctor's office. The approved apprenticeship helped the student to understand the serious nature of medicine and to observe how his preceptor overcame what we today would consider insurmountable difficulties. After such instruction he was examined by the committee from the county medical society. In 1890 the State took over all licensing of physicians.

It is interesting to note that in 1808 a letter from the secretary of Columbia College and another from the president of the College of Physicians of New York stated their willingness to admit a student free if he brought a statement or certificate from the county society president.

A few notes culled from the records may amuse, entertain, or even enlighten the blasé 1956.

In 1810 a special meeting was called to authorize the purchase of *The Medical and Physical Journal* of 21 octavo volumes for $105—the first attempt to establish a county medical library.

In 1811, when Elias Willard refused to communicate the composition of his nostrum for cancer and scrofula, he was expelled.

The mayor of the city in 1824 reported that smallpox was present. The society unanimously expressed full confidence in vaccination and recommended it to fellow citizens as the only reasonable means to check smallpox.

Uniform registration of births, marriages, and deaths was proposed by resolution to the 1857 legislature of the State. It was not adopted until 1880.

Morton demonstrated the first use of ether in Albany in 1864.

1869 was the year when medical men and laymen were deceived by the Cardiff Giant hoax. The so-called body is now in the Cooperstown Museum.

Dr. Alden March died on June 18, 1869. His death was the occasion for an unusually acrimonious newspaper accusation that he had been incompetently treated.

The 1870 publication of commendatory work of various members appearing in the press was declared unethical. The accused were given a chance to appear; most of them disclaimed any knowledge of the advertisement, a procedure of evasion still in vogue.

The Armsby column, the only monument to a physician in this city, was dedicated in Washington Park in 1879. In the same year there were 140 physicians on the county society mailing list; today there are 418.

A serious presentation of a paper on "Spontaneous Combustion in the Human Body" elicited comment in 1880.

A year later mental aberration was acknowledged in a discussion, and measles were reported. In 1881 John Swineburne, the prince of medical politicians, made himself notorious in the medical world after being expelled from the faculty of the college for unprofessional conduct. The discussion of ethics was common but disciplinary action rare.

F. C. Curtis cared for a smallpox epidemic in 1885, and in 1887 intubation for diphtheria was described.

The question of the disposal of the dead was presented under the title "Burned or Buried," an evidence of the interest in cremation in 1893. The same year the astute Willis G. Macdonald said, "Seems to me that in the past five years medicine has approached in many respects surgery, there has been an increased restlessness among medical practitioners."

The eternal question of venereal infection led in 1894 to the report that "the consensus was that it was impractical to prevent syphilis by isolation, registration, licensing or even restricting immigration."

In 1895 the Coroners Bill was accepted and is still in force. The Bender Laboratory was dedicated with George Blumer as director.

After demonstrating for two years the value of school examinations inaugurated by and carried on gratuitously by the Clinical Club, the city in 1912 finally started the present system of school examination for the detection of defects and recognition of infections.

The 1913 State Society met in Rochester after having met in Albany since its foundation in 1806.

There were frequent comments in 1914 on alcoholism and during the prohibition era widespread dissatisfaction regarding the role of the dispensing physician. Also there was much argument about the stealing of cases admitted to Pavilion F which was erected by the county.

In 1924 there was another typhoid epidemic, and in 1925 a request was made that the State Medical Library be open evenings.

In 1928 there was a milk commission and in 1930 a campaign against diphtheria directed by State Health Commissioner Godfrey.

Prohibition disagreements were rife in 1931. An amazing evidence of the gullible credulity of doctors was the endorsement of the Gary group report which senselessly attacked the A.M.A. It seems as though some are congenitally unable to distinguish between bandwagon propagandists and proponents of genuine improvement.

The one hundred and fifty years of this society's activities cover the time of greatest changes in the basic patterns of American life, accentuating the industrial, submerging the rural, with demagogues urging class revolt and class hatred, which in many cases disrupted the peaceful relationship between employer and employes. The laudable desire for greater physical comfort has led to the overwhelmingly destructive obsession to spend more than is earned, and this has led to much mental unrest with its attendant alarming increase in mental aberrations, thwarted desires, inhibitions as well as exhibitions, the latter evident in the ever-increasing display of certain parts of the female anatomy. The speed of automobiles and airplanes has changed traumatic surgery. The tales of the returned veterans have stimulated the desire to travel. Antibiotics and hormones have been so promiscuously prescribed that even the eighty-year-old female is talked into receiving treatment for her long since passed climacteric period.

Since its founding the Albany County Medical Society has taken an active, enlightened part in the improvement of sanitary conditions. The water supply was early and frequently investigated. It was not until our present excellent, abundant source was developed that we were free from typhoid fever caused by the ineffectual filtering of the Hudson River water. When considering sewage and drainage, the early doctors had to contend with the many streams which ran through the city, dividing it into separate sections. Eventually a modern system was evolved. Recurring, widespread epidemics of diphtheria and scarlet fever exacted their toll of lives and poor hearing.

Surgical skill of manipulation coupled with the diagnostic acumen of the medical practitioner added to the fame of this locality. Special, intensive studies of particular organs and regions led to the subdivisions of medical parts and diseases. The work of Armsby, March, Albert Vander Veer, Willis Macdonald, Elting, and scores of others attracted nation-wide attention, which is still focused on the work of our members.

I wish we had time to eulogize every president and officer who by knowledge, judgment, wisdom, and skill elevated the standard of medical care, saved lives, and trained successors. We acknowledge our unpayable debt.

The Hun family has been in the forefront of medical advancement. Even to this day an original monograph on brain localization published in 1887 by Henry Hun is still quoted. In medicine Quackenbush, Vander Poel, Ward, and the learned, dynamic Rooney rise before us. George Beilby in his goiter exploration; Arthur Holding, Albany's first x-ray specialist; Merrill, of ophthalmologic fame; the Boyds senior and the junior, who died years ago; and Sampson, the illustrious gynecologist, all illuminate the Albany horizon. We might go on and on. It must not be assumed that by lack of special mention we fail to recognize ability. Your reporter knows that each hospital résumé will contain a list of the notable achievements by the members of its staff.

This observer, whose forebears came to the Albany district April 8, 1637, has been either on the sidelines or in the center of Albany County medical life for fifty-eight years. During that time he has witnessed the rise and fall of some forms of personal medical services and the ever-increasing tendency to delegate care to others, countless expensive mass productions, so-called consultations, lessened availability by decreased office hours, and a surprising dependency on someone else.

A potent factor in bringing about these changes is the training of the physician who resides in a hospital for several years and becomes accustomed to having much of the detail of patient care administered by proxy. This statement is not to be interpreted as a condemnation but simply reports a fact. A growing inducement for patients to enter a hospital is the group hospital plan which, unless guarded against, may lead to serious deterioration in the standards of medical service, as evidenced by the recent attempt to reduce the physicians in one institution to full-time paid attendants.

The increased hospital practice of medicine, in contrast to that of surgery, has been partly brought about by modern methods of therapy and by the attending physician, but it is also the result of advertising by the hospitals. This is unethical when the institution claims to be superior to the private physician. Everyone knows it is the sagacity of the doctor that makes an institution. Fortunately, most hospitals are above such disruptive, unethical conduct.

The decline of domiciliary care was hastened by the decrease in neighborly interest and general and economic conditions, as well as by some physicians who put every sick person in a hospital to impress the authorities that they are unusually busy and that as a result should be on the medical staff.

Government services, including public health, lead some to form an arbitrary class who have neither the courage nor the adaptive skill to practice for themselves and yet become dissatisfied when private physicians receive higher remuneration.

Present-day conveniences and comforts of life, especially for the sick, are taken for granted, and yet only a few short years ago there were no trained nurses and few interns.

The physician of today rarely occupies the position of trust, such as was given the horseback-riding, colonial doctor who was the family guide and counselor. The first president of the A.M.A., Dr. Nathaniel Chapman, said in 1847, "The profession to which we belong, once venerated on account of its antiquity, its various and profound sciences, its elegant literature, its polite accomplishments, its virtues, has become corrupt and degenerated, to the forfeiture of its social position and with it the homage it formerly received spontaneously and universally." Fortunately for both the patient and the doctor this careless exaggeration did not apply in 1847, nor does it in 1956. However, there are rumbles of public unrest which we as a profession must tend to quiet by giving more worth-while service.

Hardly a doctor is now alive who remembers the horse-and-buggy days or who can recall from personal experience going to an out-of-town consultation in a railroad engine cab or having trains make unscheduled stops. Your reporter lived through the waning years of that period.

For more than one hundred years the State Medical Society meetings were held in Albany at the time when the State Legislature was in session. This was fortunate, for the lawmakers and the doctors had a chance to become better acquainted, and it was possible for one group to appreciate the problems of the other. The Albany profession lost a source of very valuable information when this custom, which had been established by an act of the State Legislature in 1806, was set aside. The State Society has not met here since 1934. Incidentally, it may interest the members of the Woman's Auxiliary as well as of this Society to know that your reporter, then president of the State Society, engineered the establishment of the Auxiliary through the State House of Delegates.

There have been days of sorrow when the members attended the funeral of a departed confrere and in his memory wore a crepe band on the left arm for thirty days.

On other occasions foreign guests presented their enlightening dissertations as a stimulus to better medical care.

On only two occasions have physicians who have practiced fifty years been honored by a special meeting of the County Society in public recognition of their service to the community: the first in 1882, a dinner to Drs. Thomas Hun, Duval, and Rossman, and the second in May, 1942, sixty years later, for Drs. James F. Rooney, Alvah H. Traver, and Edgar A. Vander Veer.

This one hundred and fifty-year old medical society passed through an exciting childhood in the wilds of a new country to enter into the fullness of maturity. She has borne many children who have risen to high positions of trust and authority.

Among them were 105 presidents of this organization and 61 secretaries who served with conspicuous fidelity, one, Dr. Homer Nelms, for seventeen years, and the present incumbent, Dr. Albert Vander Veer, II, for ten years. The office of treasurer has been filled by many, but the longest tenure has been that of Dr. Frances Vosburgh. There have been two elected historians, Dr. C. K. Winne, Jr., and the present Dr. Emerson C. Kelly. Dr. W. H. Bailey and Dr. F. C. Curtis, former county and State Society presidents, wrote delightful histories.

In the larger field of the State Society the first president, William McClellan, was from Albany, and 19 other Albanians have served in that eminent post. Two members, Alden March and Albert Vander Veer, became presidents of the American Medical Association.

Several Albany County physicians have been delegates to the A.M.A. House of Delegates, one serving the longest continuous term on record, thirty-three years. Many have utilized their skills in management while chairmen of the various sections of the A.M.A.

A number have been honored by membership in foreign societies; some have received medals and given other evidence of esteem.

The meetings have been held in the City Hall, the County Court House, Chancellor's Hall, the Medical College, the College of Pharmacy, the Law School, the State Laboratory, Bender Laboratory, St. Peter's, Albany, and Memorial

Hospitals, and the State Capitol. The largest number of doctors ever gathered together in the city of Albany at one session was at the State Society dinner held in the Ten Eyck Hotel in 1934 when more than 600 were present.

The current high standard of medical service in this area attests to the learning, the wisdom, and the foresight of the statesmen of medicine who have been active in this Society. In recent years there has been a notable absence of efforts to present everyday clinical subjects and a very serious, seemingly intentional restriction on the use of local talent. As a firm believer in training our own members to report cases and write papers, I have been much concerned over these neglects and trust that the conditions will soon change for the better.

Endeavors to improve the outmoded coroner system have been unavailing, but vigorous protests against compulsory health insurance have so far met with success. Action against illegal practitioners has been a lamentable failure, and this is especially distressing after the years of struggle to make the uniform Medical Practice Act the law of the State.

Albany has been blessed with some medical families, including Barent Staats who had until recently a descendant. The Hun progeny have been prominent for years. Thomas, Edward, Henry, and Henry H. Levi Moore gave us Charles H., James, and our present James; the dynamic Vander Veers, men of stature, Albert, Edgar, James, Albert Jr., and Albert II.

There have been special celebrations such as the Half Century Dinner when Dr. Thomas Hun responded to the toast "The County Society": "Rich in associations of the past, cherishing the liberty of genuine medical inquiry, and holding the knowledge of one the property of all, may it ever continue." Other toasts were to our guests, the clergy, and the press, the newspaper of society. With a bouquet to woman: "All that is best and purest in our nature in her bloom into perfection of grace and beauty. May her smile cheer us, her sympathy sustain us, her character inspire us, and her love lead us into willing captivity." Another speaker summarized the differences between the professions of law and physic. The former take their unsuccessful cases up; the latter send them down.

The record of the past twenty-five years is known to many of you. The impressive array of achievements in medicine and surgery have made these decades memorable; sera, vaccines, and psychic peregrinations have all added to the complexity of practice and confusion of the layman, whose smatterings of information increase his mental perturbations.

If pride were not too often the precursor of a fall, we would look back on this history with elation as a permanent record of the dedication of our members to the highest ideals of medicine. Men of renown and legions of conscientious laborers in the field of medicine have passed to the realm of eternal joy after lives of conscientious devotion to the peoples of this county, State, and nation.

May the standard never be lowered as we advance in the war against human suffering caused by disease of body or mind.

344 State Street

Basic Rescue Course IG-14-1

The Federal Civil Defense Administration has published a new training guide titled, "Basic Rescue Course," IG-14-1. It is the first in a series of three training guides in the rescue field. This 48-page training booklet covers such subjects as: first aid, casualty handling, stretcher lashing, and handling, search procedures, care and use of ladders, lifting devices, damage to buildings, and basic fire fighting. This manual has been distributed to State, Territorial, and Regional Offices of the FCDA in quantities sufficient to local needs.

Now in preparation by FCDA are the Instructor's Guides, "Light Duty Rescue Course," IG-14-2 and "Heavy Duty Rescue Course," IG-14-3. The basic rescue course is a prerequisite to instruction in light duty rescue, and these two, in turn, are prerequisite to heavy duty training for rescue workers. —*Civil Defense Review, April, 1956*

PHYSICIANS' HOME

BEVERLY C. SMITH, M.D., *President*

ADA CHREE REID, M.D., *Executive Director*

Message to the Members from Physicians' Home

> *"To create and maintain a home for aged indigent physicians and their wives or widows, and to give assistance, financial or otherwise, to such physicians and their wives and orphans and needy minor children of physicians."*

THIS is the purpose for which Physicians' Home was founded by a group of physicians who in 1918 met to study the problem of indigency among doctors. As a result of their deliberations the Physicians' Home was incorporated on June 4, 1919, with the above objectives. It has functioned continuously since then and has helped wholly or in part 93 elderly physicians who in their declining years have found it impossible to provide for themselves or their dependents.

The first guest was lodged in a home in Amityville, and this home was used until 1923. Then a house with property in Caneadea was given to the Physicians' Home by Dr. Stephen B. Mountain of Olean. However, the upkeep of this establishment proved to be too expensive. Also, it appeared that the elderly physicians and their widows were happier and more contented living in their own familiar surroundings, near family and friends and the scenes of their previously active professional life. So now the Physicians' Home has adopted the policy of providing a monthly income, and the guests may live wherever they please.

No doubt many a physician reading this account will wonder why and how doctors, citizens of high standing in the community, descend into this condition of indigency. With some it has been unwise investment of savings; with others an inability to look ahead to the unproductive years, but with many it has been a series of misfortunes beyond control, especially the burden of long-continued and recurring illness.

It was the thought of the founders that the more fortunate members of the profession would want to provide for their needy colleagues, and this has also been the feeling of the directors throughout the years. Physicians' Home looks to the members of the Medical Society of the State of New York for the funds to carry on this benevolent work. And this is as it should be, because only physicians who have been members of the Medical Society of the State of New York for at least ten consecutive years are eligible for assistance.

Shortly after Thanksgiving a letter will be sent to each member of the State Society asking for further support. Physicians' Home is now helping 20 physicians and the widows of 14 others. The amount of the check for these 54 beneficiaries is $3,850 each month, more than $40,000 for the current year. You can see that our needs are increasing. We are confident that we will have your continued support.

Please address all communications to Physicians' Home, Medical Society of the State of New York, 386 Fourth Avenue, New York 16, New York.

Clinical Data on Carbetapentane

In treating allergic cough it is not always possible to remove the causal antigen, and desensitization does not always produce the desired results. In such cases—particularly in view of the nonproductive nature of the cough—symptomatic relief is necessary.

This symptomatic relief may be afforded by morphine derivatives or codeine, but these drugs entail the risks of habituation and perhaps, under prolonged treatment, undesirable secondary effects such as constipation or anorexia. After trial of a new antitussive agent, carbetapentane (Toclase, Pfizer) in 14 patients, J. Jamar, University of Louvain, Belgium, concludes that in general it is effective in bringing symptomatic relief without the risk of addiction or secondary effects.—*International Record of Medicine and General Practice Clinics, November, 1955*

NECROLOGY

John H. Burke, M.D., of Elmira, died on August 18 at the age of seventy-two. Dr. Burke graduated from the University of Buffalo School of Medicine in 1904. He was a consulting physician and surgeon at St. Joseph's Hospital, Elmira. In 1954 Dr. Burke was honored by the Medical Society of the State of New York for fifty years of practicing medicine. He was a member of the Chemung County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

John Allison Davis, M.D., of Brooklyn, died on June 11 at the age of forty-eight. Dr. Davis graduated from Long Island College of Medicine in 1938. He was an assistant surgeon of cardiopulmonary diseases at St. John's Episcopal Hospital and assistant in thoracic surgery at St. Mary's Hospital, Brooklyn. He was a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Robert P. Dobbie, M.D., of Buffalo, died on August 27 at the age of sixty. Dr. Dobbie graduated in 1917 from the University of Buffalo School of Medicine. He was president of the medical staff of the Buffalo General Hospital, where he was also an attending surgeon and a consultant in surgery at the Edward J. Meyer Memorial Hospital. Dr. Dobbie was clinical professor of surgery at the University of Buffalo School of Medicine and for more than thirty years had served as senior surgeon for the Republic Steel Corporation and the Donner-Hanna Coke Corporation. Dr. Dobbie was a Diplomate of the American Board of Surgery of which he was a founder, a Fellow of the American College of Surgeons, and a member of the American Association for the Surgery of Trauma, the Buffalo Academy of Medicine of which he had served as president 1946 to 1948, the Buffalo Surgical Society of which he had served as president from 1946 to 1947, the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

William T. Doran, M. D., of New York City, died on August 10 at the age of seventy-eight. Dr. Doran graduated from Long Island College Hospital School of Medicine in 1905 and interned at Polyclinic Hospital. He was a consultant in surgery at Misericordia, Bellevue, and St. Clare's Hospitals. At Bellevue he had been head of the Department of Anesthesiology and acting surgical director, as well as having spent six years with the children's surgical service. He was clinical director of surgery for the New York College of Medicine, assistant attending surgeon at the New York Foundling Hospital, an instructor in surgery at St. John's Hospital, Long Island City, where he had also served as head of the Department of Anesthesia and assistant attending surgeon. Dr. Doran was a Fellow of the American College of Surgeons and a member of the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Henry Allen Eastman, M.D., of Jamestown, died on August 26 at the age of eighty-eight. Dr. Eastman graduated in 1892 from the University of Buffalo School of Medicine. Retired, Dr. Eastman was a past member of the Chautauqua County Medical Society and a past president of the Eighth District Branch of the Medical Society of the State of New York.

Alfred George Feitler, M.D., of Elmhurst, died on June 6 at the age of seventy. Dr. Feitler received his medical degree from the University of Vienna in 1905. He was a member of the Queens County Medical Society and the Medical Society of the State of New York.

Joseph Louis Frey, M.D., of New York City, died on July 6 at the age of seventy-two. Dr. Frey graduated in 1907 from Georgetown University School of Medicine. He was a member of the New York Society of Physical Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Morris D. Keller, M.D., of the Bronx, died on June 9 at the age of seventy-three. Dr. Keller graduated from Columbia University College of Physicians and Surgeons in 1907. He was a member of the Bronx County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Irving W. Potter, M.D., of Buffalo, died on September 18 at the age of eighty-seven. Dr. Potter graduated in 1891 from the University of Buffalo School of Medicine. He was a consultant in obstetrics at Deaconess, Millard Fillmore, Edward J. Meyer Memorial, and Lafayette General Hospitals. Dr. Potter was a Diplomate of the American Board of Obstetrics and Gynecology, a Fellow of the American College of Surgeons, and a member of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons, the Buffalo Academy of Medicine, the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Henry Barnard Safford, M.D., of New York City and Garden City, died on September 17 at the age of seventy-two. Dr. Safford graduated from New York Homeopathic Medical College and Flower Hospital in 1908. He was a consultant in gynecology and obstetrics at Metropolitan Hospital and a consultant in obstetrics at Mother Cabrini Memorial Hospital. He was a Diplomate of the American Board of Obstetrics and Gynecology, a Fellow of the American College of Surgeons, and a member of the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Constant Englebert Schradieck, M.D., of Wellesley Hills, Massachusetts, and formerly of Brooklyn, died on May 2, 1954 at the age of seventy-nine. Dr. Schradieck received his medical degree in 1899 from the University of Rostock, Germany. He was a retired member of the Kings County Medical Society and the Medical Society of the State of New York.

Markus Schwarzmann, M.D., of New York City, died on September 6 at the age of seventy-three. Dr. Schwarzmann received his medical degree from the University of Wurzburg in 1922. He was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Stanley Norman Shaffer, M.D., of Forest Hills, died on September 15 at the age of forty-six. Dr. Shaffer received his medical degree from the University of Bern in 1935 and interned at Sea View Hospital, Staten Island. He was an attending physician at St. Anthony's and Manhattan General Hospitals, and an associate attending physician at Triboro Hospital, as well as an attending physician at the New York City Department of Health. Dr. Shaffer was a Fellow of the American College of Chest Physicians and a member of the American Trudeau Society, the New York Academy of Medicine, the Queens County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Henry Scott, M.D., of New York City, died on May 8 at the age of eighty-two. Dr. Scott graduated in 1895 from New York University College of Medicine.

Samuel Tower, M.D., of Brooklyn, died on June 29 at the age of sixty-four. Dr. Tower graduated in 1923 from General Medical College, Chicago, Illinois. He was a member of the American Academy of Allergy and the New York Allergy Society.

Helen Yarnell, M.D., of New York City, died on September 8 at the age of fifty-two. Dr. Yarnell graduated from the College of Medical Evangelists, Los Angeles, in 1932. She was the senior psychologist at the Bronx Center of the New York City Board of Education's Bureau of Child Guidance. Dr. Yarnell was a Diplomate of the American Board of Psychiatry and Neurology and a member of the American Psychiatric Association, the American Orthopsychiatric Association, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

CORRECTION.—It was incorrectly stated in the September 1, 1956 JOURNAL, on page 2720, that Dr. Michael Joseph Thornton, of New York City, died on July 23 at the age of ninety. Dr. Thornton died at the age of eighty.

Medical Society of the State of New York
Sesquicentennial Meeting—February 18 to 21, 1957

MEDICAL NEWS

Mobile Hospital Outfit—The New York State Mobile Hospital Outfit has begun its State-wide tour and will continue through December 13. The exhibit can be seen in Rochester October 17 and 18, in Buffalo October 24 and 25, in Jamestown October 31, and November 1, in Niagara Falls, November 8 and 9, in Binghamton November 28 and 29, in Syracuse December 6 and 7, and in Elmira December 12 and 13. In the spring of 1957 it will be in New York City, Hempstead, Patchogue, White Plains, Kingston, Oneonta, Hornell, Batavia, Geneva, Watertown, Olean, and Albany.

The display will show how a 200-bed improvised emergency hospital can be set up in a school or other building using the Mobile Hospital Outfit. It will show in detail how eight sections of the hospital will be set up using the supplies and equipment available and it will be set up for exhibition in National Guard armories.

Electrocardiology Course—A course in practical electrocardiology will be presented December 3 through 7 in Houston, Texas, by Dr. Demetrio Sodi-Pallares, chief of the Department of Electrocardiology at the National Institute of Cardiology, Mexico City, under the auspices of the University of Texas Postgraduate School of Medicine and Baylor University College of Medicine.

Inquiries should be addressed to the University of Texas Postgraduate School of Medicine, Texas Medical Center, Houston 25, Texas.

Jefferson County Medical Society—The first meeting of the Jefferson County Medical Society's fall-winter session was held on September 18 at the Black River Valley Club in Watertown. Dr. Paul R. Gerhardt, chief of the Bureau of Cancer Control of the New York State Department of Health, spoke on "The Problem of Cancer."

Jewish Hospital of Brooklyn—An annual lecture series entitled "Significant Trends in Medicine" has been announced by Dr. Israel Magelaner, executive director of the Jewish Hospital of Brooklyn, 555 Prospect Place.

The first session will be held on October 30 at 8:30 P.M. in the hospital. A panel discussion on "Supervoltage Therapy" will be held on January 22, 1957, at 8:30 P.M. and the third lecture will be held on April 23, 1957 at 8:30 P.M.

Medical Society of the County of Albany—The following officers have been elected by the Medical Society of the County of Albany: Dr. Thomas I. Tyrrell, president; Dr. Albert Vander Veer, 2nd, president-elect; Dr. Robert D. Whitfield, vice-president; Dr. William B. Garlick, secretary; Dr. Frances E. Vosburgh, treasurer, and Dr. Emerson C. Kelly, historian.

English for Foreign Physicians—As part of the English language program for international students, New York University, Division of General Education, is offering a course in practical English for foreign physicians during the fall semester of 1956. Class sessions will be held on Thursday nights from 6:15 to 8:00 P.M. from September 27, 1956, to January 17, 1957. In addition, doctors who take the course will be expected to spend at least one additional hour in the English Language Laboratory listening to tape recordings of medical records, etc.

For further information contact the Division of General Education, New York University, 1 Washington Square North, New York 3, New York.

Training Course in Mental Retardation—The New York Medical College, Flower and Fifth Avenue Hospitals, New York City, is sponsoring a training program on mental retardation this fall. The basic plan for learning will be actual work with an individual case under supervision.

Dr. Margaret J. Giannini, administrative director, Clinic for Mentally Retarded Children, Flower and Fifth Avenue Hospitals, will head the program. Any inquiries should be addressed to her attention.

Ford Foundation Grants—Grants in the amount of $500,000 to medical schools in the United States have been announced by the Ford Foundation. Institutions in New York State receiving grants are Albany Medical College of Union University, Albany; University of Buffalo School of Medicine, Buffalo; Cornell University Medical College, New York City; New York Medical College, New York City; New York University College of Medicine, New York City; and University of Rochester School of Medicine and Dentistry, Rochester.

Personalities

Appointed

Dr. Samuel D. Blum, radiologist, New York City, and Dr. Ancel Blaustein, pathologist, Hollis, to the staff of the new Booth Memorial Hospital in Queens.

Awarded

Dr. Alexander S. Weiner, Brooklyn, the Karl Landsteiner Award from the American Association of Blood Banks at the Association's annual banquet on September 4, for the most outstanding contribution to the field of blood banking.

MEDICAL MEETINGS

Geneva Academy of Medicine

The Geneva Academy of Medicine will meet on October 22 at the Belhurst at 8:30 P.M. Dr. Arthur Purdy Stout, professor of surgery at the College of Physicians and Surgeons, Columbia University, will speak on "Benign and Malignant Tumors of the Soft Tissues."

Conference on Aging

The fifth annual Capital District Conference on Aging will be held on October 25 from 1:00 to 4:00 P.M. at the Ann Lee Home, Watervliet. The theme of the conference will be "Volunteer Action for Aging" and workshops will include "Volunteers for Aging" and "Institutional and Patient Care."

Rehabilitation Conference

The rehabilitation conference formerly scheduled for September 27 has been postponed to November 15 at the Sheraton Astor Hotel in New York City, according to Miss Angela R. Parisi, chairman of the New York State Workmen's Compensation Board.

Participants in the conference will include Dr. Paul H. Hoch, New York State Commissioner of Mental Hygiene and Dr. Howard A. Rusk, director of the Institute for Physical Medicine and Rehabilitation.

American Geriatrics Society

A graduate symposium on geriatric medicine will be given by the American Geriatrics Society on November 19 and 20 at the Waldorf-Astoria in New York City. Interested physicians are invited to attend.

Bahamas Medical Conference

The next Bahamas Medical Conference will be held in Nassau, Bahama, from December 1 through 15.

Meetings and discussions will be held at times which allow for recreational activities. For further information contact the organizing physician, Dr. B. L. Frank, Suite 1–3, Fourth Floor, 550 Fifth Avenue, New York 36, New York.

Association for Research in Nervous and Mental Disease

The annual meeting of the Association for Research in Nervous and Mental Disease will be held on December 7 and 8 at the Hotel Roosevelt, New York City.

The subject of the meeting will be "The Brain and Human Behavior."

THE MONTH IN WASHINGTON

Regardless of which party organizes the next Congress or who occupies the White House, health and welfare legislation promises to take up considerable time and attention of lawmakers. There is nothing to indicate that the general subject of health has lost its appeal, either to the public in general or to men who run for political office in particular.

The national platforms on which the candidates of both parties have been campaigning are somewhat of a blueprint for the type of legislation to come in the 85th Congress, convening next January 3; generally, both parties advocate more rather than less Federal participation in health and welfare programs. Here are some of the points in the two platforms:

Aid to Medical Schools.—The Republicans recommend "Federal assistance to help build facilities to train more physicians and scientists" as a supplement to action of the 84th Congress authorizing Federal grants to schools and other groups for laboratory research facilities. The Democrats state: "We pledge ourselves to initiate programs of Federal financial aid, without Federal controls, for medical education."

Aid to Hospital Construction.—The Republican plank: "Republican leadership has enlarged Federal assistance for construction of hospitals." The Democratic plank: "We pledge continuing and increased support for hospital construction programs."

Medical Research.—Republicans: "We have asked the largest increase in research funds ever sought in one year to intensify attacks on cancer, mental illness, heart diseases, and other dread diseases." Democrats: "We shall continue to support vigorously all efforts, both public and private, to wage relentless war on diseases... We commend the Democratic party for its leadership in obtaining greater Congressional authorizations in this field."

Vocational Rehabilitation.—Republicans: "We have fully resolved to continue our steady gains in man's unending struggle against disease and disability." Democrats: "We pledge support to a vastly expanded rehabilitation program for these physically handicapped, including increased aid to states."

Medical Care.—Republicans: "We have encouraged a notable expansion and improvement of voluntary health insurance, and urge that reinsurance and pooling arrangements be authorized to speed this progress." Democrats: "We pledge... increased Federal aid to public health services, particularly in rural areas."

Social Security.—Republicans: "We shall continue to seek extension and perfection of a sound social security system." Democrats: "By lowering the retirement age for women and for disabled persons, the Democratic 84th Congress pioneered two great advances in social security... We shall continue our efforts to broaden and strengthen this program by increasing benefits to keep pace with improving standards of living, by raising the wage base upon which benefits depend and by increasing benefits for each year of covered employment."

Notes

Further evidence that Federal aid to medical schools will be high on the agenda of the next Congress is the survey underway by the staff of the House Interstate and Foreign Commerce Committee. More than 50 organizations have been sent letters requesting background facts on financial needs of medical schools and the demand for medical school applicants "rather than arguments intended to support or oppose any particular form of Federal aid." The information is being gathered as a preliminary to hearings in the next Congress.

Public Health Service announced the availability of 250 traineeship grants for graduate or specialized training of professional public health personnel under the newly enacted Health Amendments (Omnibus) Act. Emphasis is on bringing new and younger people into public health, men and women under thirty-five years of age. Congress voted $1 million for the program this year. Another 500 traineeships from a $2 million appropriation are offered for graduate nurses in administrative, supervisory, and teaching positions.

While Defense Department officials were putting the finishing touches on regulations to carry out the military dependents medical care program, the State Department was working on its own version of a program for furnishing care to about 13,500 dependents of Foreign Service personnel stationed overseas. In most instances medical and hospital care (with a $35 deductible clause) will be supplied in U.S. military installations.

To aid Defense in setting up fee schedules for military dependents using private physicians and facilities, state medical societies in cooperation with the American Medical Association have been asked to supply data on prevailing medical care charges.

New chief of the P. H. S. Communicable Disease Center at Atlanta, Georgia, is Dr. Robert J. Anderson, a career P. H. S. officer who has been serving as assistant chief of the division of special health services.

Prepared by the Washington Office of the American Medical Association, Washington, D.C.

CORRESPONDENCE

Pilonidal Cysts

To the Editor:

Perhaps you will be interested in the following comments on the subject of pilonidal cyst which were delivered as a talk at a meeting of the Medical Consultants of the New York Selective Service at Headquarters, November 18, 1955.

Pilonidal cysts may be a minor condition to the surgeon and even a cause for apology for speaking on so minor a lesion, but to the Army it is a major problem because of the large number of men involved and because of the frequent poor results. The name pilonidal cyst comes from the Latin, *pilas*, meaning hair, and *nidas*, meaning nest. This at once shows the high incidence of hair in these cysts. It is present in more than 75 per cent of the cases. The pilonidal cyst has many names; the real name is pilonidal sinus, but it is also called fistula, abscess, sacral dermoid, sequestration dermoid, postanal dermoid, etc. Although the correct name is pilonidal sinus, I prefer the more accustomed one of cyst. It is in this state that it is most often seen by the surgeon. It is almost always listed in the operating schedule as an operation for pilonidal cyst. The Army has been honored by having this disease called "jeep rider's disease."

Beginning in the postembryonic state as a sinus, the cyst forms secondarily as a result of the closure of the external opening. It is agreed by everyone that it is a congenital defect and may develop at any time from childhood on. I have operated on patients as young as twelve and as old as seventy. The vast majority of my cases occur between the ages of eighteen and twenty-eight, although the Army claims the age incidence is between twenty and thirty. This is the draft age group, so that pilonidal becomes the number 1 problem to the draft board before induction and to the Army after induction because according to regulations, only a discharging sinus is exempt; a closed one must be accepted. The condition may even be so slight that it will be overlooked at the time of preinduction examination. Once the man is in the army, however, forced exercise, marching, or, as stated before, jeep riding will so irritate the condition that it will soon become evident and troublesome.

The sinus or cyst is situated in the lower end of the spine in the midline over the sacrococcygeal region. It lies in the intergluteal fold and may be close to the anal canal. It may at times be confused with fistula-in-ano.

There are two theories of origin of the sinus:

1. Failure of closure of the caudal end of the neural canal. This is rare and may account for some cysts which resist healing. They are usually located near the anal opening.

2. Invagination or infolding of the ectoderm or skin in this region. This is the so-called ectodermal origin and the one I believe in. The lesion begins as a congenital defect, usually a sinus, and later develops into a cyst. In my opinion the cyst is an artificial one, caused by this invagination of the skin. That is why we find hair in it and, as far as I am concerned, never the other tissues found in a dermoid, such as bone, cartilage, muscle, etc. Interesting too is the fine texture of the hair found here, like baby hair.

Examination of this region will disclose one or several openings, perhaps one large one or several small ones, some so small that they are barely visible. At times these small openings are referred to as dimples. Of interest is the fact that insertion of a probe will show the dimples lead downward, whereas the usual sinus leads upward. These openings are predisposed to infection with secondary closure resulting in cyst formation. The sinuses are always lined with stratified squamous epithelium. The patient may be totally unaware of the presence of these sinuses unless they discharge and soil the clothes or become infected and form an abscess. If they are not infected, they are absolutely painless, whereas after infection they are excruciatingly painful. Although the primary sinuses are in the midline, secondary sinuses may develop as a result of infection or abscess and may be located at quite a distance away and not in the median line. In one of my recent cases a sinus was situated high up in the thigh near the gluteal fold. Multiple sinuses, of course, mean multiple spontaneous openings with subsequent closures.

Males predominate in the proportion of three or four to one. A most interesting observation is the fact that this condition is relatively rare in the Negro race. It does occur but infrequently. This brings up the interesting question of the endocrine origin of this condition, one of the most interesting phases of this disease. Recently, while visiting the preinduction center at 39 Whitehall Street, I casually remarked that a certain man probably had a pilonidal cyst. This, of course, without examination. I was told that I was wrong. However, on requestioning the man admitted that he had had one years ago, had been treated, and was cured. We usually spot these cases when they come into the office just by looking at them. They fall into two classes: (1) the adrenal type, well-built, dark, hairy, apelike individuals, or (2) the pituitary type, tall, well-built, handsome, blond individuals. On observation the latter show many evidences of increased pituitary influences, such as big hands, big bones, spaces between the teeth, blond hair, etc. They all look as though they belonged to one big family, as though they all were brothers.

The diagnosis of pilonidal cyst is not difficult. There are one or several sinuses in the lower end of the spine in the midline with or without swelling. In many of these cases the cyst may not yet be present. If infection has set in and abscess has developed, the diagnosis is self-evident. A true dermoid in this region, that is, one containing bone, cartilage, etc., is a rarity. Probing will show the extent of the sinus or cyst, but I rarely resort to this, deeming it unnecessary. Also, I never use methylene blue or radiopaque contrast media to diagnose the extent of the cyst. I believe both of these procedures are harmful and unnecessary. Experience will usually tell the extent of the lesion.

As a general rule a cyst over the sacral region heals fairly rapidly, but if it lies near the anal orifice, a much longer time is required because of active motion of the area, chronic infection, and possibly the aforementioned reason of the possible connection of the cyst with the dura and failure of closure of the neural canal.

There is a wide variety of treatment for this condition, and for the record I will enumerate some of them. They all aim to hasten healing. In the acute abscess a small incision is made to evacuate the pus and institute drainage; a radical operation is performed months later, never before two to four months. Advocates of this treatment claim that a smaller radical operation will be necessary after this period of drainage. In the quiescent stage some physicians curet the sinus and even inject sclerosing fluid, claiming a large number of cures.

Of course, the operation of choice is the radical excision. There are many modifications of this radical operation, such as undermining the skin; making flaps of skin, muscle, and fascia and closing the opening entirely; suturing the skin and obliterating the dead space. Care is to be taken not to have any tension on the sutures. Many claim shortening of the time of treatment by this method. Spinal anesthesia is used by all. Most physicians keep these patients in the hospital about twelve to fourteen days. All use antibiotics.

I do a radical operation with wide excision of the lesion. My policy is to remove a trifle in excess rather than run the risk of leaving infected tissue behind. The mass I excise is about the size of a closed fist. Immediately on removal the undersurface of the specimen is examined to see if it is intact. That is most important. It must be certain that no part of the infected tissue is left behind. If there is an artificial opening on the undersurface, that is, one made by incomplete removal of the cyst, make certain that you go after it and remove it. Immediately after removal pressure is applied to the open wound. It is surprising how all major bleeding is controlled; however, minor bleeding should be guarded against. It is this minor bleeding which can cause considerable hemorrhage. It must be absolutely controlled by ligature and suture.

With the exception of occasionally placing a heavy silk suture at the upper and lower angles, the wound is left open with a firm packing of gauze and a firm adhesive plaster covering it. This dressing is left on for five to seven days and is then replaced by a gauze dressing covered with vaginal pads. These are tied in place with adhesive plaster Montgomery strips. The family is allowed to change the dressings as indicated. I keep the patient in the hospital about four days: admitted one day for preparation, operated the next day, out of bed the following day, and home the fourth day. In the hospital antibiotics and sedation for pain are given. The patient is allowed to return to his work the following week. The average duration for a cure is eight weeks. The same procedure is followed in the recurrent cases.

I have operated on many cases that had had three, four, or even five previous operations. Thorough excision and leaving the wound open without any attempt at closure will usually cure all cases. In my earlier years I resected many of these clean cases and closed them. I was successful in many of them, but in others secondary infection set in, especially in the closed spaces, and I had to reopen them. This was usually embarrassing despite preoperative explanations of the possibility only of primary union. In one case, a prominent lawyer who insisted on an operation although he was to leave for Europe in ten days, a primary union was successful, although today I would refuse to use this method of treatment. In recent years I have discarded the primary closure entirely. In only one or two cases have I had trouble. One case had had several previous operations, and there was a connecting sinus with the rectum, but even in this case I anticipate a cure.

As I remarked, as I grow older, I feel that a thorough, extensive radical excision without any attempt at primary closure and allowing the healing to granulate from the bottom up gives me my best results. Only on very rare occasions would I do a primary closure and then only in a clean case. In my cases I do the operation under local anesthesia, using 0.5 per cent Novocain or procaine. Also I use a liberal quantity of the solution. Unless one is thoroughly familiar and at home with local anesthesia, spinal anesthesia should be used. Also in my patients, even when abscess is present, I prefer to do the radical operation at this time. I find it difficult to get the patient to go to the hospital once, much less twice. It is a saving of time and money and disability. The resulting scars in any of these operations is minimal. My personal series cover several hundred cases.

In conclusion, I know that this problem is quite an extensive one for the Army. At present, only persons with closed sinuses are accepted by the Army. An open or draining sinus is cause for rejection. I have operated on some patients who wanted to enter the Army, but I know of more who use this as an excuse to avoid service. What to do about these cases is the problem. Personally, I would suggest admitting them and operating on them. This would answer a double purpose. It would be a blessing in disguise for the sufferer, and the Army would have many thousands of otherwise rejected cases. However, that is only a suggestion.

Harry Cohen, M.D.

45 Gramercy Park
New York City

Cost of Medical Care

To the Editor:

The *New York Times* of August 4, 1956, in a "Study on Averages," lists the living costs of people with incomes under $10,000 a year after taxes, as follows:

	Per Cent
Food	28.9
Housing	33.0
Apparel	9.3
Transportation	11.2
	82.4
Recreation	5.2
Miscellaneous	5.2
Medical	5.1
Personal	2.1
	100.0

From the table it is seen that medical expense is next to the lowest item on the family budget. Aside from the fact that some families are hit harder than others, and sometimes inopportunely, the overall medical budget still is only 5.1 per cent.

Why does the low medical cost of 5.1 per cent, by comparison to the four major expenses of 82.4 per cent (or one-sixteenth as much), create the most noise, the most controversy, and even resentment?

This medical-economic paradox has nonplussed many physicians. It would serve physicians well to remember the above table when the matter of "high medical costs" is hurled unjustly at our profession.

B. Garrison Lipton, M.D.

161 West 86th Street
New York 24, New York

Reduction of Dosages of Reserpine and Rauwolfia Serpentina Urged

Editor's Note.—*The following letter from the Department of Health, Education and Welfare has been sent to pharmaceutical manufacturers holding effective new-drug applications for products containing reserpine and Rauwolfia serpentina. In general, it urges reduction of the dosages recommended to physicians in the labeling of these drugs based on the most recent medical knowledge of their effects. The letter is released to the medical press, according to HEW, in the interest of insuring that the information reaches practicing physicians.*

Gentlemen:

This letter is being sent to all pharmaceutical firms holding effective new-drug applications for any product containing reserpine. Its purpose is to make certain recommendations with respect to the labeling of this drug. Although your current labeling may already incorporate many of the following points, it is requested that you give them serious consideration.

When reserpine was first introduced, the available evidence suggested that it was a drug of very low toxicity, with no contraindications and with a wide range of safe dosage. As the drug has been used more extensively, it has become increasingly apparent that reserpine is not the innocuous substance it was first thought to be, that there are contraindications, and that the safe level for long-term outpatient maintenance is lower than the originally recommended dosage schedule.

A number of firms marketing this drug have voluntarily reduced the dosage they are recommending and have added additional warning statements in their literature to physicians. Firms whose new-drug applications have recently become effective have incorporated many of these changed concepts into their labeling. However, the labeling of many preparations that have been marketed for a longer time fails to reflect these new data.

Papers and exhibits presented at the meeting of the American Medical Association held in Chicago, June 11 to 15, 1956, emphasized the importance of apprising physicians of the latest information on the potential hazards of reserpine. There is an urgent need to bring all reserpine labeling into conformance with the best current available knowledge and to insure that this information reaches the practicing physicians.

In the treatment of hypertension or of anxiety states on an outpatient basis, it is the present consensus that the usual recommended maintenance dose should be 0.25 mg. daily. While doses up to 1.0 mg. daily may safely be recommended for the initiation of therapy, they usually should not be continued for longer than a week. No substantial benefit is obtained by larger doses sufficient to compensate for the added hazard. An occasional patient may require up to 0.5 mg. daily as a maintenance dose, but if adequate response is not obtained from this dosage, it is well to consider adding another hypotensive agent to the regime rather than to increase the dose of reserpine.

Continued use of reserpine in doses of 0.32 mg. daily has been shown to increase gastric secretion and gastric acidity in a significant number of cases, whereas daily doses of 0.25 mg. have not been shown to do so. Doses of 0.5 mg. daily for as short a time as two weeks produced this effect in most of the individuals tested and have resulted in massive gastrointestinal hemorrhage or perforation of an ulcer. More important, reserpine in daily doses of 0.5 or 1.0 mg. produces severe depression in a significant number of individuals and has precipitated a very considerable number of suicidal attempts, some of them successful. Many of these depressions have been severe enough to necessitate long-term hospitalization in psychiatric institutions. For these reasons it is believed that reserpine in daily doses above 0.25 mg. is contraindicated and in lower doses should be used with caution in patients with a history of mental depression, peptic ulcer, or ulcerative colitis. Furthermore, physicians should be specifically cautioned with respect to the danger of depression and should be urged to follow their patients carefully with this in mind and to alert responsible members of the family to the hazards. The same general principles should apply to the labeling of Rauwolfia serpentina.

The optimal dose of reserpine in the treatment of institutionalized psychotic patients is not equally well established. There is no general agreement as to the safety of dosages higher than 5 mg. daily, and it is believed that the usual maintenance dose should be stated as 2.0 mg. daily. Labeling of the higher strength tablets of reserpine intended for neuropsychiatric use should contain prominent warnings that reserpine should be discontinued for approximately one week before instituting shock therapy since it may result in increased severity of convulsions, respiratory difficulty, and other complications; that a syndrome suggestive of parkinsonism develops frequently in patients on large doses of reserpine but is usually reversible on lowering the dosage or discontinuing the drug; and that the possible dangers of hypotension and fluid retention should be borne in mind when large doses are used in debilitated patients or those with cardiac disease.

Reserpine tablets of 0.1, 0.25, or 0.5 mg. are suitable for the treatment of hypertension and mild anxiety states. Reserpine tablets of 0.75 mg. potency or higher are suitable only for use in the neuropsychiatric treatment of hospitalized patients under carefully controlled conditions, and the labels would state "For neuropsychiatric use only." In view of the wide variety of dosage forms available it is important that the label declaration of the strength of the tablet should be very prominent and preferably should be of a different color from the rest of the label in order to obviate any chance of 1.0 mg. tablets, for instance, being dispensed in error as 0.1 mg. tablets.

In our opinion it is important, in the interests of safety, to incorporate the above concepts in your labeling for reserpine. Accordingly, it is requested that your labels and labeling be revised, if indicated, to reflect the changes suggested above and submitted as a supplement to your new-drug application at your earliest convenience. Your cooperation will be appreciated.

Ralph G. Smith, M.D.
Chief, New Drug Branch
Bureau of Medicine

U.S. Department of Health,
Education and Welfare
Food and Drug Administration
Washington 25, D.C.

Department of

WORKMEN'S COMPENSATION

DAVID J. KALISKI, M.D., *Director, Workmen's Compensation Bureau*

GERALD D. DORMAN, M.D., *Chairman, Council Committee on Workmen's Compensation*

Medical Society of the State of New York

The chairman of the Workmen's Compensation Board, Miss Angela Parisi, has now revised Item 9 of the Medical Fee Schedule to provide a fee of $15 plus 8 per cent for assistance at operation where the superintendent of the hospital or some other hospital official certifies that an intern or resident was not available to assist.

The chairman has also drawn attention to item 828-a of the fee schedule which provides a fee, in addition to allowances for lines 822-828 inclusive, for final postoperative examination and report by operating surgeon. This report known as C-24 is to be made not less than eight weeks after a single hernia and not less than twelve weeks after a double hernia operation. A fee of $10 plus 8 per cent is provided for this examination and report.

On November 1, 1955, the chairman of the Workmen's Compensation Board issued the following amendment to Rule 23: "No physician shall be designated by the insurance carrier to examine an injured employee if such physician has previously treated or examined the employee or has been consulted concerning the case at the employee's request." This is in addition to rule 23 which prohibits a physician designated by an insurance carrier or an employer as a consultant in the case of an injured employe from subsequently participating in the medical or surgical care of the injured employe without the written consent of the injured employe and his attending physician.

Corticotropin and Cortisone in Letterer Siwe Disease and Gaucher's Disease

Letterer Siwe disease is an acute form of reticuloendotheliosis occurring in children under two and usually proceeding to fatal termination in a few weeks or months. This is a case report of a child five and a half months old when first seen who, at the age of three, looks and acts like any other child his age.

This deviation from the usual history is attributed to the suppressive effect of cortisone and corticotropin. Use of ACTH gel was started about six weeks after the child was first seen, when it was apparent his condition was worsening under antibiotic therapy alone; when this failed to show any result, oral cortisone was added. The child is now maintained on hydrocortisone. Antibiotics, x-ray therapy for adenopathy, and other supportive measures were used. Dr. Jacob Greenblatt cites the experience of other investigators, adding that while treatment is still a moot point, use of cortisone and antibiotics appears justified. Also, he says, the disease is not 100 per cent fatal, as formerly supposed. In a case of Gaucher's disease, cited for comparison, these hormones had no demonstrable effect. —*Connecticut State Medical Journal, March, 1956.*

ANNOUNCEMENT

The following statement by Joseph P. Kelly, Commissioner of Motor Vehicles, concerning issuance of "M.D." license plates to physicians, is printed for the information of our readers.

In order to limit the use of license plates in the "MD" series to properly licensed and registered medical doctors, I have promulgated the following regulations:

1. Only one "MD" plate will be issued to each medical doctor.
2. With the motor vehicle registration application, each doctor will be required to sign a form (*see below*) attesting to the fact that he is currently licensed and registered as a practicing doctor of medicine. He will be required to give us his certificate number.
3. The form will also state that he has not applied for another plate in the "MD" series for the year 1957.
4. On the application the doctor must sign "MD" after his name, i.e., Dr. James Smith, M.D.
5. To avoid difficulty, it is hoped that the doctor will verify the fact that his name is listed in the Bulletin of Registered Physicians, issued by the University of the State of New York. The Motor Vehicle Bureau uses this bulletin to check for current registration.

If the doctor is not listed but is registered, he should bring his biennial certificate with him when registering the vehicle.

If the name on the registration certificate is different from the name listed with the State Education Department, the doctor should change one or the other to make them agree.

6. For questions regarding listing by the State Education Department, doctors should communicate with Dr. John W. Paige, Chief Division of Professional Registration, State Education Department, 23 South Pearl Street, Albany 1, New York.

If these registrations are followed, the doctor will have no difficulty securing a plate in the "MD" series. Unauthorized individuals will not receive these plates and abuse the privileges that a doctor must be granted in the performance of his professional duties.

Joseph P. Kelly
Commissioner of Motor Vehicles

Bureau of Motor Vehicles
State of New York
Department of Taxation and Finance
141-155 Worth Street
New York 13, New York

State of New York
Department of Taxation and Finance
Bureau of Motor Vehicles

I, hereby affirm that I am currently licensed and registered as a practicing Doctor of Medicine as required by the State of New York and have not applied for any other license plates in the "MD" series for 1957.

Name

Street

New York State
Medical License Number

City

Some men change their opinions from necessity, others from expediency, others from inspiration.—Sketches by Boz, Charles Dickens

MINUTES OF THE COUNCIL

The following is a summary of the minutes of the June, 1956, meeting of the Council of the Medical Society of the State of New York, as approved September 13, 1956

The Council met June 7, 1956, from 9:20 A.M. to 12:15 P.M. at the Manhattan Club, New York City. Dr. James Greenough, president of the Society, occupied the chair.

Secretary's Report

Executive Committee.—Dr. Anderton reported regarding Executive Committee action on the following communications:

1. Letter of May 10, 1956, from Dr. Joseph A. Lane, chairman of the Malpractice Insurance and Defense Board, regarding the resolution of the Coordinating Council protesting a letter from Mr. Wanvig which was printed in *Medical Economics.* The committee referred this to the Council recommending the following policy: "That no lay employe or representative, except a duly elected officer of the Medical Society of the State of New York, be permitted to issue statements concerning the Society for publication without approval either of the president of the State Society or a majority of its Council."

It *was so voted.*

2. Report of April 17, 1956, from Dr. Alfred P. Ingegno regarding present status of the Student American Medical Association chapter at the State University of New York College of Medicine at New York City. The report is addressed to the Council of this Society and to the comitia minora of the Medical Society of the County of Kings.

It *was voted* that this report be included, without reading, in the minutes of the June meeting of the Council.

In accordance with recommendations of the Executive Committee, the Council took the following actions:

1. Dr. Dan Mellen was appointed as an observer at the Fifteenth General Assembly of the World Medical Association in Havana, Cuba, October 9 to 15, 1956.
2. The 1959 annual meeting will be held in Buffalo—the 1957 and 1958 meetings being scheduled for New York City—and that the reservations be made.

Dues Remissions.—The Council voted to remit annual State dues of 12 members for 1956 because of illness and of two members for 1955 and seven members for 1956 because of service with the armed forces. It was also voted to request that the American Medical Association remit dues of one member for 1955, 17 members for 1956, and two members for 1957. The Council also voted to rescind remission of annual State dues of one member for 1955 and one member for 1956 because of their release from military service and to request that the American Medical Association rescind its remission of 1956 dues of one member for the same reason.

General.—Dr. Anderton reported: "It gives your secretary pleasure to report that the Board of Trustees, following your last meeting, approved the expenditure of $2,500 by your Sesquicentennial Committee.

"The evening following your last meeting, Dr. Alfred P. Ingegno had his Program Subcommittee commence work for the February, 1957, Society meeting.

"On May 12 your secretary visited Dr. Scott Lord Smith at Vassar Brothers Hospital, Poughkeepsie. He is confined to bed by paralysis agitans.

"Dr. Shirley C. Fisk, of New York City, has consented to invite his father-in-law, Governor Harriman, to reserve dinner time on February 19, 1957, for our Sesquicentennial, and President Greenough is sending a formal invitation."

Dr. Anderton also detailed his activities during the preceding month.

It *was voted* to approve the secretary's report with the exception of matters referred to the Council by the House of Delegates.

Dr. Anderton moved that Dr. Harold Smith, Dr. Kaliski, Mr. Farrell, Mr. Miebach, Mr. Martin, Dr. Iselin, Mr. Alexander, and, in addition this year, the chairman of the Malpractice Insurance and Defense Board be invited to attend meetings of the Council.

It *was so voted.*

Matters Referred to the Council by the House of Delegates.—Dr. Anderton reported: "*(Section 108)* Resolution 56-18 called for study and remedy of inadequacies in civil defense plans which would include specific information, assignments, and duties for all physicians in the event of any major disaster."

It *was voted* to refer this to the Committee on Catastrophe and Disaster.

"*(Section 132)* Resolution 56-20, the House of Delegates 'resolved that the Annual Dinner of the Medical Society of the State of New York be held on Monday evening of the convention week, after 1957.' This was referred 'to the Council for study

[Continued on page 3206]

TODAY'S COLLEGE GRADUATES HAVE

Even college graduates, traditionally the low-birthrate group, are having big families today. Planning them bigger. A survey just completed among 29,494 graduates of 178 colleges shows that men of the class of '45 have families *averaging* 70% larger than those of the class of '36 in the ten years after graduation. It also shows that older graduates (class of '30) have "started to catch up on 'postponed' births" during the past ten years.[1]

Want big families, but spaced families—When these wives come to you for contraceptive advice so that they can *space* their large families, they want to make sure that the method you recommend *really* does a job of protecting them.

Greatest protection for women of high parity—You can give this assurance when you recommend the diaphragm-jelly technique, *the preferred method for women of high parity*. These patients may not be as well protected by use of jelly alone, a method that seems better suited to low-parity women. In urban population groups using the diaphragm-jelly method, unplanned pregnancy occurred only "once in ten to 15 years."[2]

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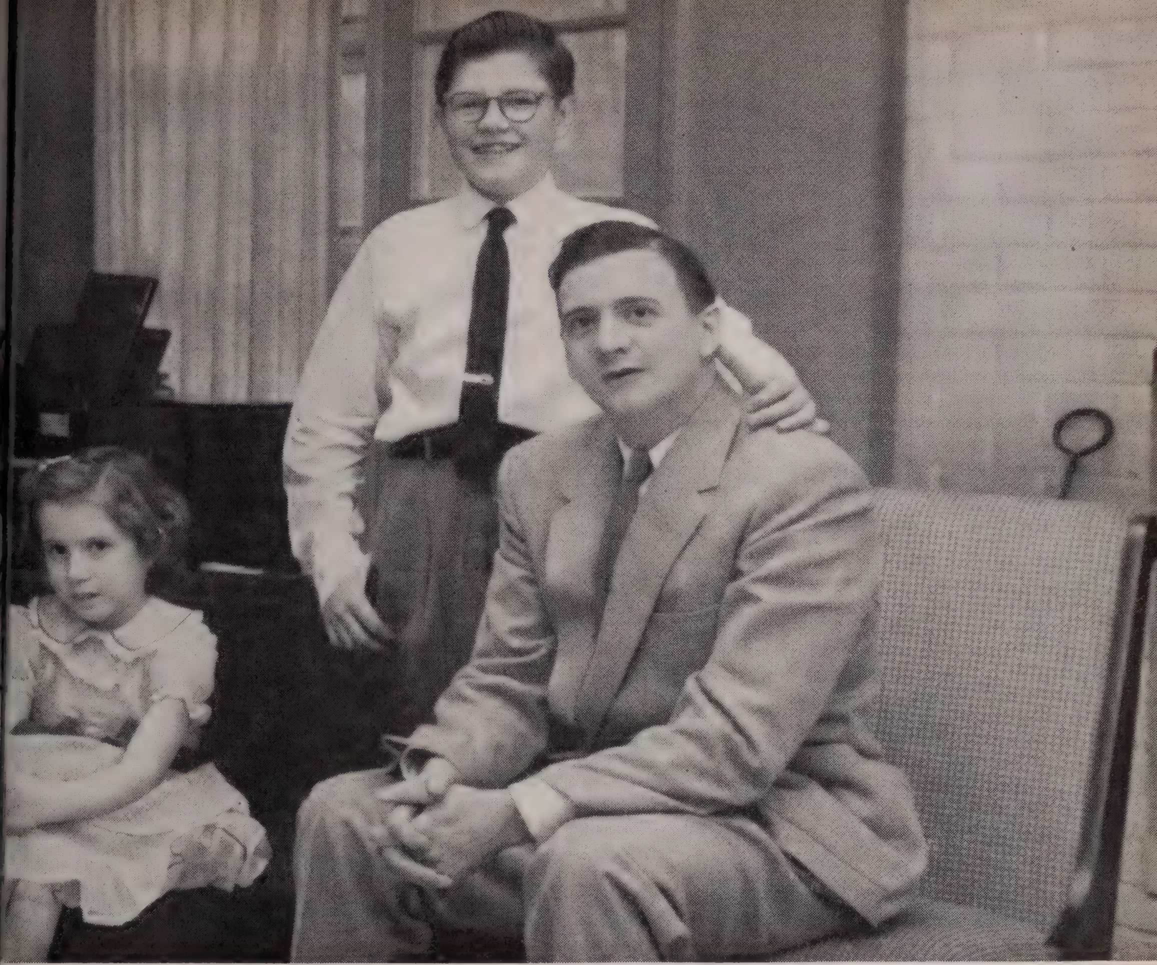

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1. College Study Report: Population Bulletin 11:45 (June) 1955.
2. Tietze, C., in Dickinson, R. L.: Techniques of Conception Control, ed. 3, Baltimore, Williams & Wilkins Co., 1950, pp. 55-57.

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Advertisement

[Continued from page 3203]

before any action is taken.' "

After discussion it *was voted* to refer this to the Special House of Delegates' Committee on Constitution and Bylaws for report at the 1957 meeting.

"(*Section 123*) The House of Delegates referred to the Council the recommendation of a reference committee that the Bureau of Medical Care Insurance be abolished."

It *was voted* to refer this to the Planning Committee for Medical Policies for further study.

"(*Section 156*) The House of Delegates recommends to the Council that the Bureau of Industrial Health be established promptly in conjunction with the Workmen's Compensation Bureau, to be headed by a doctor of medicine."

After discussion it *was voted* to recommend to the Trustees that action be taken on the appointment of a director of the Bureau of Industrial Health and Workmen's Compensation.

After discussion it *was voted* that the Council select Dr. Peter J. Di Natale as director of the Bureau of Industrial Health and Workmen's Compensation and recommend to the Trustees that they negotiate with him for a salary not to exceed $16,000.

(*Subsequently Dr. Di Natale declined.*)

Dr. Anderton continued: "(*Section 156*) There was referred to the Constitution and Bylaws Committee of the House a recommendation that it consider reducing the eligibility for retired membership from seventy to sixty-five years, provided a member in good standing retires not only from the active practice of medicine but also completely discontinues the practice of medicine in any form, which would include any salaried position in any field of medicine. This is for information.

"(*Section 156*) The House voted to change the 'Civil Defense Committee' to 'Catastrophe and Disaster Committee.' That is also information.

"(*Section 156*) The House recommended an impartial fact-finding study of the Public and Professional Relations Bureau and Public Relations Committee and the Legislation Committee and Bureau, suggesting that the two bureaus might be combined with curtailment of expenses and perhaps retaining a professional public relations firm."

This *was referred* to the Planning Committee for Medical Policies for further study and recommendations.

"(*Section 156*) The Medical Licensure and Medical Service Committee was abolished, and the House of Delegates voted that the Planning Committee for Medical Policies should continue its study of the Public Health and Education Committee because so much continuing education is being conducted by medical schools, academies of medicine, and hospital staffs.

"Again that paragraph is for your information, as well as the following item. You have reduced the Workmen's Compensation Committee from fifteen to nine and have provided regional representation by its advisory subcommittee, as advised by the House.

"(*Section 126*) Also the House voted that a letter 'be sent to the superintendent of each hospital' recommending that maternity beds be limited to maternity cases only.

"I move that the secretary be instructed to carry out that desire of the House."

It *was so voted.*

"(*Section 156*) And, sir, the Reference Committee on Report of the Planning Committee for Medical Policies accentuated the need for continuing education, particularly at the county level, regarding the advisability of all medical graduates being members of the American Medical Association and that 'the American Medical Association should make a more determined effort to increase membership.' "

The first part *was referred* to the secretary to be carried out, and the second part *was referred* to the delegates to the American Medical Association.

"(*Section 149*) The House of Delegates reference committee suggested that the Joint Committee of the Medical Society of the State of New York and the Dental Society of the State of New York 'might review the important, controversial topic of fluoridation of water.' "

After discussion it *was voted* that this be referred to the Joint Committee of the State Medical and Dental Societies.

"(*Section 156*) The House of Delegates recommended that the American Medical Education Foundation Committee 'be stimulated to more activity to correlate the information received from the American Medical Association so that our members may be better informed as to how the money is given, to whom, what amount, etc.' "

It *was voted* that the secretary inform the American Medical Education Foundation Committee of this action.

"(*Section 150*) The House resolved 'that those responsible for the administration of all hospitals—voluntary, municipal, and proprietary—be requested by the Medical Society of the State of New York to continue the practice of listing on the staff bulletin boards only the names of duly licensed doctors of medicine and doctors of dentistry.' "

It *was voted* that the secretary write a letter to the hospitals to that effect.

"(*Section 151*) The following resolution, number 56-27, was also passed:

> *Resolved*, that the Medical Society of the State of New York support the continuance and further development of medical care insurance plans, which respect the practice of medicine by the physicians, whether in or out of the hospital; and be it further
>
> *Resolved*, that the Medical Society of the State of New York support hospital insurance plans which confine their coverage to nonphysician hospital services, but it aggressively oppose the inclusion, in any hospital insurance plan, coverage of services rendered by a licensed physician."

[Continued on page 3208]

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1. Am. Heart J. **52**:300 (Aug.) 1956.
2. Ann. Int. Med. **40**:820 (Apr.) 1954.
3. Am. J. M. Sc. **227**:188 (Feb.) 1954
4. Ann. Int. Med. **39**:1189 (Dec.) 1953.
5. Am. Heart J. **45**:108 (Jan.) 1953.
6. Am. Heart J. **46**:276 (Aug.) 1953.
7. Arch. Int. Med. **90**:224 (Aug.) 1952.
8. Circulation **5**:201 (Feb.) 1952.
9. New Eng. J. Med.**246**:225 (Feb.) 1952.
10. Am. Heart J. **42**:292 (Feb.) 1951.
11. Fed. Proc. **9**:256 (Mar.) 1950.

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[Continued from page 3206]

It *was voted* that this be referred to the Economics Committee in order that the Subcommittee on Medical Expense Insurance study it.

"(*Section 152*) Resolution number 56-29 was referred by the House of Delegates to the Council. The resolution states:

> WHEREAS, the American Medical Association at its 1950 meeting approved the Hess Report, which is a directive to prohibit the practice of medicine by hospitals in the fields of pathology, radiology, anesthesiology, and physiatry, through licensed physicians; and
>
> WHEREAS, the hospital practice of medicine has spread by the employment of full-time salaried physicians in all other branches of medicine; and
>
> WHEREAS, the American Medical Association and the American Hospital Association have reached an agreement, which is published in the *Journal of the American Medical Association*, volume 152, page 731, June 20, 1953; and
>
> WHEREAS, a special committee appointed by President Eggston, December 10, 1953, to Study Hospital and Professional Relations reported to the House of Delegates of the Medical Society of the State of New York to wit: The committee was of the opinion that both the medical profession and hospitals should adhere to the provisions of the above-mentioned agreement; and
>
> WHEREAS, another resolution was presented to the House of Delegates of the Medical Society of the State of New York at its 1954 session (Section 46, page 50, Proceedings of the House of Delegates, September 1, 1954, Part II, issue of the NEW YORK STATE JOURNAL OF MEDICINE); and
>
> WHEREAS, this resolution was referred by the House of Delegates to the Special Committee to Study Hospital and Professional Relations; and
>
> WHEREAS, this special committee has been unsuccessful in its discussions with the Hospital Association of New York State in solving this problem; and
>
> WHEREAS, recent developments in insurance contracts have made it more essential that hospitals and physicians recognize the confines of their practice; and
>
> WHEREAS, it was stated that a hospital has caused the transference of fees paid by insurance companies to interns, residents, and members of the attending staff for medical and surgical services rendered to their policyholders; and
>
> WHEREAS, said hospital is holding in escrow more than one half million dollars of such fees, pending a decision as to how to divide this money among the physicians on its staff; and
>
> WHEREAS, such division of fees is in violation of both Section 6514, paragraph 2f, of the Education Law and also the *Principles of Professional Conduct of the Medical Society of the State of New York;* now therefore be it hereby
>
> *Resolved*, that the Medical Society of the State of New York institute legal action to enjoin hospitals from illegally practicing medicine; and be it further
>
> *Resolved*, that disciplinary action be taken after due process against such members of the Medical Society of the State of New York who violate the *Principles of Professional Conduct of the Medical Society of the State of New York* by transferring fees received by the hospital.

"The hope was expressed that the Council could find the best ways and means of preventing hospitals from practicing medicine."

It *was voted* that the "resolved" regarding instituting regular legal action to enjoin hospitals from illegally practicing medicine be referred to the counsel for advice.

After discussion it *was voted* that the county societies should be made aware of the final "resolved" as it is a local and not a State matter, Dr. Winslow voting in the negative.

"(*Section 152*) The House expressed the hope that the Council could find the best ways and means of preventing hospitals from practicing medicine."

The secretary *was instructed* so to inform the Committee on Hospital and Professional Relations.

"(*Section 110*) Resolution 56-1 as altered by the reference committee was passed by the House, 'that the Medical Society of the State of New York request the Blue Shield and Blue Cross plans within the State to study the possibility of insuring subscribers against the cost of diagnostic survey in or out of hospitals,' to be reported on by the Subcommittee on Medical Care Insurance in its 1957 report."

It *was voted* to refer this to the Subcommittee on Medical Care Insurance of the Economics Committee.

"(*Section 124*) The Reference Committee on the Reports of the Treasurer, Board of Trustees, Budget, War Memorial, and Expense Curtailment recommended that members who have joined the State Society since 1948 should voluntarily contribute $12 each 'to insure the War Memorial Committee against any unforeseen contingency.' And the increase of allowance from $600 to $900 a year for each beneficiary was also voted. Also include children of Korean police action member casualties."

After discussion it *was decided* to refer to the War Memorial Committee for implementation the part regarding the $12 voluntary contribution from those who have joined the Society since 1948.

"(*Section 125*) On recommendation of this same reference committee, Dr. John F. Rogers, chairman, the House voted a special assessment of $10 on January 1, 1957, to establish an employes' pension fund."

It *was voted* to refer this to the treasurer and Board of Trustees for implementation.

"(*Section 113*) The Reference Committee on Report of Council, Part VII, Dr. Leonard J. Schiff, chairman, endorsed 'the establishment of an adequate consultation fee' by Blue Shield Plans in New York State and also requested that the Subcommittee on Medical Care Insurance study this matter and report next year. This was passed by the House."

It *was voted* to refer this to the Subcommittee on Medical Care Insurance of the Economics Committee.

[Continued on page 3210]

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[Continued from page 3208]

"(*Section 119*) The House voted approval of the following Blue Shield Plans for the ensuing Society year: United Medical Service, Inc., New York City; Genesee Valley Medical Care, Inc., Rochester; Central New York Medical Plan, Inc., Syracuse; Medical and Surgical Care, Inc., Utica; Northeastern New York Medical Service, Inc., Albany; Chautauqua Region Medical Service, Inc., Jamestown.

"(*Section 114*) Furthermore, the House 'resolved that the Medical Society of the State of New York approved the Western New York Medical Plan, Inc., provided that by September 1, 1956, its bylaws are modified so that the component county medical societies elect their own representative members to the board of trustees of Western New York Medical Plan, Inc."

It *was voted* to refer this to the Subcommittee on Medical Care Insurance of the Economics Committee.

"The secretary reports that on a specific inquiry from the president of the Western New York Medical Plan, Inc., a copy of the resolution which was passed by the House was forwarded to him, Dr. Kinzly, and also to the Medical Society of the County of Erie because they had considerable interest in the matter.

"(*Section 118*) The House also approved of the supplementary report of the Subcommittee on Medical Care Insurance, emphasizing the importance of providing coverage for State civil service employes up to an income ceiling of $6,000. It was suggested that the delegates arrange to have this report read at the next meeting of their county medical societies.

"This is for the information of the Council.

"(*Section 119*) The House voted approval of the reference committee report which stated:

> A change in the Standards for Approval of New York State Medical Care Plans was approved. This changes paragraph 2 under "Claim Payments" to read as follows: 'When care has been rendered by a nonparticipating physician and claim filed for such care, payment shall be made, at the option of the plan, either to the subscriber or to the nonparticipating physician upon request of the subscriber.' This gives an option to the plan and provides an inducement for doctors to become participating physicians.

"No further action is necessary.

"(*Section 156*) President James Greenough has activated the House's vote that the Medical Film Review Subcommittee of the Public Health and Education Committee be continued.

"(*Section 83*) With your concurrence, President Greenough has already elevated the Rural Medical Service Subcommittee to full status of a Council Committee, as advised by the House of Delegates. This elevation requires a committee of only three members, according to the Bylaws; they have not yet been selected.

"The Reference Committee on Report of Council Part III also 'recommended that hospitals serving rural areas be urged to integrate the general practitioners of these areas into their staffs. In this way they will improve the practice of medicine in rural areas and help solve the problem of medical care in rural areas.' "

It *was voted* that the second paragraph be referred to the Rural Medical Service Committee to negotiate with the hospitals to increase their staffs.

"(*Section 156*) The recommendation of a subcommittee that the previous Alcoholism Committee be reactivated has been followed by President Greenough and this Council by the formation of a Subcommittee on Addiction to Alcohol and Narcotics of the Public Health and Education Committee.

"That, sir, is for the information of the Council as well as the following. You have already fulfilled a directive of the House by creating separate movie and television committees. The Public Medical Care Subcommittee of the Economics Committee has also been diminished in size.

"(*Section 161*) Furthermore, the House voted support for continuing the blood exchange program of the Blood Banks Association of New York State, Inc., at an estimated cost to the Society of $200 per month, recommending that there be a proper appropriation by the Council and Board of Trustees.

"I believe that requires action of the Council and recommendation to the Board of Trustees."

It *was voted* that the Trustees be requested to appropriate sufficient funds to provide $200 per month to the Blood Banks Association of New York State, Inc., for its blood exchange program.

"(*Section 161*) Also, the House upheld the recommendation of the Reference Committee on Report of Council, Part IV, Public Health Activities C—Blood Banks, which stated, 'We further recommend that the limit of further deficit for the year 1956 not exceed $15,000'—referring to the expenses of the Blood Banks Association of New York State, Inc., and its blood assurance program—'provided the Council and Board of Trustees find this feasible.' "

After discussion, Dr. Dattelbaum, treasurer, presented the following request from Dr. Thurman B. Givan, chairman of the Blood Banks Commission: "The House of Delegates approved a suggestion that $15,000 be loaned to the Blood Banks Association during the balance of 1956. The Association very probably will need funds during the summer months when neither the Council nor the Board of Trustees will meet. It is suggested, therefore, that some provision be made to make funds available. Last year, the Council requested the Board of Trustees to approve placing such funds as may be allocated under the control of the Commission. As the Association needed funds, monies were transferred. Perhaps the Council and Board of Trustees could be prevailed upon to follow the same procedure this year with the $15,000."

After discussion it *was voted* to recommend to the Board of Trustees that they allocate $5,000 of the $15,000 approved by the House of Delegates to

[Continued on page 3212]

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[Continued from page 3210]

the Blood Banks Commission, and they in turn will allocate it to the Blood Banks Association as needed.

"(*Section 156*) The House also voted that the Blood Banks Commission be reduced from thirteen to seven, composed of president-elect as chairman, chairmen of the Public Relations and Public Health and Education Committees, and one representative from the Red Cross, New York State Department of Health, Blood Banks Association of New York State, Inc., and the New York State Hospital Association. That is for information.

"(*Section 162*) Another resolution, number 56-32, which the House passed, said, 'that the Medical Society of the State of New York institute a thorough objective study of the whole problem of narcotic addiction' and 'that the American Medical Association be apprised of this action on the part of the Medical Society of the State of New York.' "

It *was voted* to refer this study to the Subcommittee on Addiction to Alcohol and Narcotics, of the Public Health and Education Committee, and to have the secretary notify the American Medical Association.

"(*Section 98*) Another action the House took was to recommend 'that the Council will renew efforts next year for the passage of an injunction bill as applied to the illegal practice of medicine.' "

This *was referred* to the Legislation Committee.

"(*Section 98*) It is noteworthy that the House of Delegates adopted the opinion of its reference committee that legislation regarding the practice of medicine by hospitals 'should be reviewed and reevaluated after the Iowa case has been finally settled in the higher courts.' That is for information.

"(*Section 98*) Also the House voted that the Legislation Committee and the Committee to Combat Cults should promulgate their plans long before the opening of the New York State Legislature in 1957."

This *was referred* to the Legislation Committee.

"(*Section 100*) The House of Delegates also 'resolved, that the Medical Society of the State of New York reintroduce said bills in the 1957 session of the New York State Legislature and actively work for their passage,' referring to the so-called Friedman and Pino bills."

It *was voted* to refer this to the Legislation Committee.

"(*Section 101*) A resolution regarding 'taking blood for alcoholic testing' was referred to the Council for proper action on account of alleged liability of any physician who takes blood either without consent of the patient, or with the consent of a patient who is not mentally normal."

It *was voted* to refer this to the Legislation Committee in conjunction with counsel.

"(*Section 81*) The House of Delegates concurred with its reference committee's recommendation (Council Part X, Workmen's Compensation) that there be strong support of legislation 'to abolish the Medical Practice Committee and restore to counties having a population of one million or over those functions which all other counties in the State carry out.' "

It *was voted* to refer this to the Legislation Committee.

"(*Section 93*) When the House of Delegates considered the report of Council, Part XI, pertaining to publications, it recommended that the Council study and clarify its policy on advertising in the JOURNAL and report at the next House of Delegates."

It *was voted* that this be referred to the Publication Committee for report back to the Council.

"(*Section 91*) The Council was requested to 'take appropriate action' on a resolution regarding 'Guide for Cooperation Between the Medical and Legal Professions' which directed the Society to develop such a guide."

This *was referred* to the Public Relations Committee.

"(*Section 89*) Regarding a supplementary report of the Public Relations Committee, the House of Delegates 'recommended that the Subcommittee on Cooperation with Media of Information be continued to supervise the publication of a new edition of the Guide for Cooperation and that funds be provided for this purpose.' "

This *was referred* to the Committee on Public Relations.

"(*Section 92*) The House of Delegates approved one additional member on the Publication Committee, a 'member-at-large to be appointed by the president on the suggestion of the Publication Committee.' The other members of the committee are a trustee, the editor, the secretary, the treasurer, the assistant editor, and an adviser. That is for information."

The Treasurer's report was accepted.

Reports of Committees

Economics.—Dr. John C. McClintock, chairman, presented the following report: "May 3, 1956, Mr. George P. Farrell, director of the Bureau of Medical Care Insurance, attended a joint meeting of Districts II and III of New York State Blue Shield Plans in Syracuse to discuss the implementation of a uniform State-wide contract for State civil service employes, and the annual meeting of the State Society, May 7 to 11, 1956, at the Hotel Statler, New York. The Bureau conducted a booth and distributed literature on Blue Shield plans in the State and a special nine-year progress report.

"On May 9 Mr. Farrell attended a conference called by Mr. Alfred W. Haight, Deputy Superintendent of Insurance, at his office in Albany. The purpose was to discuss payment to dentists for items included in the schedules of allowances of Blue Shield plans relative to the change in Section 250, Article 9-c of the Insurance Laws of 1953. Represented at the conference were United Medical Service of New York City; Northeastern New York Med-

[Continued on page 3214]

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[Continued from page 3212]

ical Service, Albany; Chautauqua Region Medical Service, Jamestown; Health Insurance Plan of Greater New York, and the New York State High School Athletic Protection Plan of Schenectady. Also present were Dr. Harold B. Smith, executive officer of the State Society, and Mr. Charles A. Brind, Jr., chairman of the special committee of New York State Blue Shield Plans. The Dental Society was represented by Dr. Herbert W. Heintz of Utica and Mr. Schaffner, legal counsel. Mr. Raymond A. Harris, Deputy Superintendent and Chief Counsel of the State of New York Insurance Department, was chairman.

"There was difference of opinion between the legal counsel of each group, and Mr. Harris recommended the appointment of a committee representing each interested party to discuss this problem further and write him a brief; otherwise it would be necessary to have this referred to the Attorney-General for an opinion.

"May 16, Mr. Farrell attended a special committee representing Blue Shield Plans and the New York State Dental Society of the State Education Department office, 2 West 45 Street, New York City, Mr. Charles A. Brind, Jr., chairman. Mr. Brind stated the meeting was held at the request of the State of New York Insurance Department so that a report with recommendations could be presented to individual Blue Shield plans for consideration. The principal question in controversy was whether or not Blue Shield plans should pay or be requested to pay for dental care provided through duly licensed dentists for those items included in the schedule of allowances of each plan. Discussion was given to whether x-ray and anesthesia might be considered items for payment if provided in Blue Shield contracts. The dental group made it emphatic they were not interested in having these services paid for, or teeth extractions, or any retroactive payments for services included in the schedule of allowances since the law became effective in 1953.

"It was understood that the committee would submit a report to each Blue Shield plan for action and subsequent report by the committee to the Insurance Department.

"Blue Shield plans were represented by Mr. Charles A. Brind, Jr., and Mr. Lynn Doctor of United Medical Service. The Dental Society was represented by Dr. Herbert W. Heintz of Utica, Dr. Joseph J. Stahl, and Mr. William R. Bogart, legal counsel.

"May 24, Mr. Farrell attended a joint Blue Cross-Blue Shield meeting at the Park-Sheraton Hotel, Rochester, called by Dr. Merle D. Evans, chairman of District III, Blue Shield Plans. The purpose of the meeting was to formulate a uniform Blue Shield contract offering service benefits with a $4,000 per annum income ceiling for an individual and $6,000 for a family, the basic Blue Shield contract to cover primarily surgery in the hospital, home, or office, maternity care on an indemnity basis, anesthesia, x-ray, special pathologic examinations, and in-hospital medical care.

"Also considered were extended and additional benefits to the Blue Cross and Blue Shield basic programs providing for 365 days of hospital care with a coinsurance provision on a 20 per cent basis, extended benefits to provide for visiting nurse service and private duty nursing with certain limitations, appliances and drugs ordered by the doctor for use outside the hospital, medical care following hospitalization for an extended period, and consultation services with the attending physician or surgeon when rendered by a qualified specialist. It is anticipated that a special committee, which has been appointed, will within a few weeks work out the extended and additional benefit provisions.

"On May 25 Mr. Farrell met representatives of the Western New York Medical Plan in Buffalo.

"The following pages* contain the Bureau's quarterly progress report on New York State plans for the period ending March 31, 1956. The report is mailed to secretaries of component county medical societies, Blue Shield plans, and a selected list of those interested in medical care insurance."

It *was voted* to adopt the report.

Public Medical Care Subcommittee.—Dr. McClintock stated: "Mr. President, at the beginning of the April Council meeting a report was handed to me from the Subcommittee on Public Medical Care. I moved that the report be adopted, and because it was obvious I had not had time to peruse the material, the matter was tabled until this meeting. I therefore move you now that this motion be taken from the table."

It *was voted* that this be taken from the table.

Dr. McClintock then stated: "My motion now is for the approval of the report of the Public Medical Care Subcommittee having to do with the freeze program of the Old Age and Survivors' Insurance Program. This change was brought about by a change in the Federal law. The important part concerning the Council is that Dr. Brightman, Assistant Commissioner (Health) for Welfare Medical Services of the State Social Welfare Department, under whose department this matter has been referred, desires to run an announcement in the State Medical JOURNAL and in county medical journals requesting volunteers to submit their names as verification examiners. This program has set up in New York a Disability Board. It is the responsibility of any individual who becomes permanently disabled or who is likely to die, for him or one of his relatives, someone acting in his behalf, to request that his O.A.S.I. benefits be frozen so that he will not lose them. This Board requests information from the family physician and from hospitals to determine, in accordance with standards that are established by the national bureau, whether the man is eligible, and only if verification of some part of the examination is required will the specialist enter into the picture. It is for the purpose of recruiting these specialists that

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* The quarterly progress report, pages 111 to 119 of the verbatim minutes, is included in the office copy of these minutes.

[Continued on page 3216]

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[Continued from page 3214]

Dr. Brightman would like to put an announcement in the State JOURNAL. I therefore urge that the motion to approve the report of the subcommittee be granted, which report was approved by all of the subcommittee except Dr. Scott Lord Smith, who was ill at the time."

Approval *was voted.*

Ethics.—Dr. Harold F. Brown, chairman, reported he had received a communication from Dr. Fred Bromberg, chairman of the Board of Censors of the Suffolk County Medical Society. This stated that inquiries had been received from two members as to the propriety for specialists to put small signs on their office doors indicating their particular field of medicine. The Suffolk County Board of Censors felt this was not objectionable as long as the signs were not visible from the street, but some members of the comitia minora thought objections might be raised and asked that Dr. Bromberg obtain an opinion from the State Society.

Dr. Brown stated: "The members of the Ethics Committee are reporting to Dr. Bromberg, through our secretary, that the Ethics Committee of the State Society feels 'this is a matter for determination locally in your own county society.' We feel this is a matter that, like the printing of cards, the local custom should decide. I move that the Council approve this advice to the Suffolk County Medical Society."

Approval *was voted.*

Legislation.—Dr. Henry I. Fineberg, chairman, stated: "Mr. President and Gentlemen, your chairman attended a meeting of the Section on Ophthalmology at the Hotel Governor Clinton on May 10. At that time we discussed two bills which were introduced in the last Legislature in which the ophthalmologists were interested. One was the medical technician bills, which you remember was defeated. The other was the definition of the practice of optometry, which we opposed and which was passed by the Legislature and signed by the Governor.

"The Section wanted some clarification, which we tried to give them. There was no action taken.

"As far as the program or legislative campaign for the coming year is concerned, the plans are in the blueprint stage. As you know too, the committee has been reduced to five. There have been added two advisors, one from the State Education Department and one from the State Health Department, and we have an advisory board. Before making any definite plans we are awaiting confirmation of these assignments.

"We will visit and confer with the chairmen of the county legislation committees throughout the State during the coming fall.

"There has been some activity on the national scene. H.R.-7225 was passed by the House of Representatives. The Senate Finance Committee deleted certain objectionable features, including at least one feature to which the American Medical Association objected, that which had to do with the payment of disability benefits to those disabled at the age of fifty. During the middle of May we were notified by the American Medical Association that the bill would appear on the floor of the Senate soon. They wanted us to alert folks throughout the State, the county legislation committee chairmen, members of our Legislation Committee, and all others concerned. They wanted us to protest to our two senators against any change in the recommendations of the Senate Finance Committee.

"We did that. Our Bureau did a grand job in alerting everybody concerned. I think you would be interested in the replies I received from our senators. The one from Senator Ives:

> Your communication of recent date has been received, and I have noted carefully the opposition you have expressed with respect to H.R. 7225, the Social Security Amendments of 1955. I appreciate having the views of the members of your Society concerning this important matter. They will be most helpful to me in my consideration of the provisions of H.R. 7225 when this legislation is before the Senate for action.

"Mr. Lehman, among other things, said:

> Although the Senate Finance Committee has not yet completed its consideration of H.R. 7225, I am deeply disappointed with the actions it has taken thus far. I must, in all frankness, say that I intend to do all I can to see that the provisions dealing with the lower retirement age for women and the payment of disability benefits are restored when H.R. 7225 comes before the Senate.
>
> I realize, of course, that it is necessary to provide adequate standards and safeguards in order to prevent abuses of the disability provisions. I can assure you that I intend to do all I can to see that such safeguards are included in any legislation which is enacted.
>
> Although we are not in agreement on this question, I want you to know that I appreciate your comments, and I want to thank you for bringing them to my attention.

"The letter to our secretary was a little bit more drastic. He said:

> I am sure you are already aware of the fact that I support the provisions of this bill. As a matter of fact, I do not feel that it goes far enough, and I have introduced a number of amendments to this bill which would, among other things, lower the retirement age for women to sixty and permit the payment of disability benefits to any age if the other requirements are met.

"This gives you some idea of the attitude of our two senators.

"As of last night I understand that the bill had not been presented to the Senate. It is not on the floor; it has not been debated. The information that I was able to gather is that it will be debated within the next few days, and a vote will be called for some time next week. We still have a chance.

"I don't know whether you read a release from Florida last night. There was one from Senator Smathers of Florida, and he agrees with Senator Lehman.

[Continued on page 3218]

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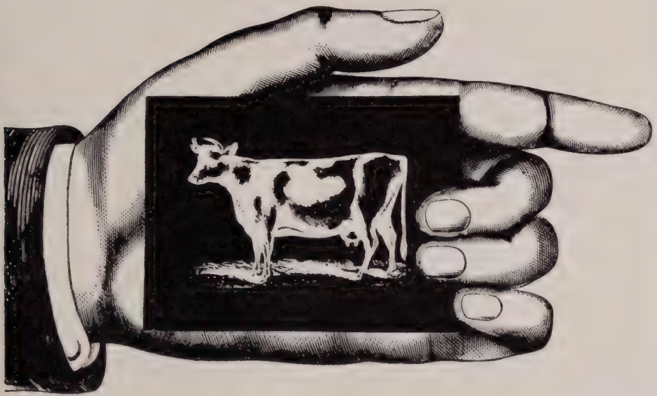

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[Continued from page 3216]

"The only other matter I would like to say a few words about is chiropractic. The chiropractors met in New York last week. We did not attend. We don't know just what took place, but we have heard reports that they are on the warpath. I would like to pass around three articles which appeared in the *New York Daily News*, which I believe are interesting. There is nothing actually here we don't know, that we have not gone over in previous years, but you see what is going on in the press of New York. I think these must have been instigated by some of the chiropractors before their meeting at the Waldorf."

It *was voted* to approve the report.

Malpractice Insurance and Defense Board.—Dr. Greenough welcomed Dr. Joseph A. Lane, who appeared by invitation as chairman of the malpractice Insurance and Defense Board. Dr. Lane stated: "Under date of May 15, 1956, the Malpractice Insurance and Defense Board received from Messrs. Watters and Donovan a letter transmitting to it copies of the Opinion and Decision of the New York Insurance Department in the matter of the Kings County Physicians Guild and Oakeley, Vaughan & Johnston in connection with the solicitation of malpractice insurance for unlicensed insurers. A copy of the Decision was forwarded to you on May 16, 1956, for the information of the Council.

"I have a copy of that letter which accompanied the copy of the Decision attached to this report.

"On June 6 the Board authorized me to present the Decision and letter of transmittal in person to the Council. Copies of both are attached hereto.

"In brief, the Insurance Department found that while the Guild did not violate the law in securing insurance for its members from an unauthorized carrier located outside the State, its subsequent acts in calling attention to the insurance carrier in question was a violation of the law, and directed that such activities be discontinued.

"As to Oakeley, Vaughan & Johnston, the Insurance Department noted that it had violated the law in assisting its Maryland corporation in placing insurance for members of the Society and cautioned them not to make its employes and facilities in New York available to the Maryland corporation for such solicitation in the future.

"So far as the Medical Society of the State of New York is concerned, this would appear to terminate its interest in this matter so far as the Physicians Guild is concerned. It will be noted, however, that our attorneys disagree with the findings of the Department with respect to the activities of Oakeley, Vaughan & Johnston, particularly in view of additional evidence as to their activities in New York which has since come to hand. It will be noted that they have already filed verbal objections to this part of the Decision and propose to continue their negotiation with the Insurance Department for the purpose of securing a modification of the Department's decision.

"The Board urgently requests authority from the Council to authorize this continued negotiation with the Department.

(*Copies of the letter and Decision are in the State Society office.*)

After discussion that portion of the report referring to the continued investigation of the activity of Oakeley, Vaughan & Johnston, Inc., *was approved.*

Dr. Lane continued: "There is one other point that came up last night. On May 13, 1952, the House of Delegates adopted a resolution directing the Malpractice Insurance and Defense Board 'to deny the insurance protection for a period of six months after the date of application for re-entry to any member who is now or hereafter may be insured in the Group Plan and who withdraws from it for the purpose of securing insurance at a lower rate from some other company.'

"At its meeting in New York on June 6, 1956, the Malpractice Insurance and Defense Board concluded that this restriction is no longer necessary and directed me to recommend to the Council that it be abrogated."

It *was voted* that this be adopted.

Office Administration and Policies.—Dr. John J. Masterson, chairman, requested that because the budget had been approved only through June 30, 1956, the Council specifically approve and request that the Board of Trustees approve expenditures necessitated by salary increases to take effect during the last six months of 1956.

He stated that for the purpose of eliminating a possible fire hazard and making available additional storage space, the committee had authorized Dr. Anderton to request that each department destroy obsolete items now stored in the stockroom. The committee wished to receive a report on this program at its September meeting.

The committee approved allowing three-week vacations to employes with five full years or more of service even though employment had been interrupted.

The committee delegated to Dr. Anderton and the office manager entire and sole authority to assign employes to work at the annual meeting and to release employes, for that purpose, from their regular duties at the headquarters office.

It *was voted* to accept the report.

Publication.—Dr. Masterson, chairman, stated: "The Publication Committee held its regular monthly meeting June 6, 1956, in the office of the Society.

"Reports of the editor and business manager were received. The committee approved the purchase of two electric fans for use in the JOURNAL Editorial Department.

"A request from the World Medical Association that we carry an ad in one issue of the JOURNAL was received. Since the purpose was to assist the World Medical Association in its campaign to obtain new members, the committee approved free publication.

"An editorial concerning Mr. Matthew Woll, who

[Continued on page 3220]

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[Continued from page 3218]

recently passed away, was presented to the committee for possible publication in the JOURNAL. Because the article noted particularly the services which Mr. Woll had rendered to organized medicine, the committee heartily voted approval. It was also suggested that the Public and Professional Relations Bureau be requested to prepare a news release on the publication date of this editorial.

"There was discussion of printing estimates for the 1957 *Medical Directory*. The chairman was authorized to approve the selection of a specific printer.

"The committee discussed various sections of the *Directory* giving consideration to possible deletions in order to reduce costs. No action was taken.

"After considerable discussion of our present policy regarding complimentary copies of the *Directory*, the committee approved sending each county society having an executive secretary a complimentary copy of the *Directory* beginning with the 1957 edition. It was also approved to send a complimentary copy of the 1955 *Directory* to Mrs. Ada H. Silliman, executive secretary of the Suffolk County Medical Society.

"In reply to a request of the Medical Society of the County of Queens that they be allowed to have an observer at Publication Committee meetings, it was moved, seconded, and passed to invite Dr. Albert H. Douglas, 87-14 Midland Parkway, Jamaica, to future meetings of the committee.

"The business manager submitted his monthly report, and the committee reviewed the financial results of the JOURNAL for the five months ended May 20, 1956.

It *was voted* to accept the report.

Poliomyelitis, Advisory Committee on.—Dr. Thurman B. Givan, chairman, reported: "I might state that Dr. Curphey did not report that I represented the Society at a meeting in Albany in May of the Advisory Committee on Polio. We discussed four items in regard to the Salk vaccine program. Dr. Hilleboe took the advice of the committee and sent letters to every doctor in the State in regard to the new regulations of extending priorities from six-month-old infants to nineteen-year-olds and pregnant women. That was the main item that was discussed."

Public Health and Education.—Dr. Theodore J. Curphey, chairman, stated that he had attended three meetings and arranged 16 postgraduate lectures and teaching days in 12 counties since his last report to the Council.

He reported: "The meeting on May 23, a symposium on medical aspects of motor vehicle accident prevention, was sponsored by the N.Y.U.-Bellevue Medical Center's Center for Safety Education. It was a workshop study of the problem of accident prevention. The participants were individuals in the field of medical practice and research, as well as a number of laymen with special experience in the problems of traffic safety. Three major groups were formed to study the various aspects: (1) psychiatric-psychologic, (2) organic medical, with subgroups in neurology, cardiovascular disease, orthopedic rehabilitation, eye and ear, etc., and (3) drug and chemical.

"Your chairman participated in the discussion in Group 3 and was one of a subgroup designated to recommend a program of action regarding the education of the public and the medical profession as to means of promoting greater traffic safety."

Dr. Curphey continued: "In addition to the report distributed with the agenda, may I state that at Lake Placid the day before yesterday the Subcommittee on School Health met. Besides the members of the committee, Dr. Furst, of the Education Department, and Dr. Yankauer, of the State Health Department, also attended. A great deal of time was spent discussing the physical health examination of the school child.

"In the State there are two methods of examining school children. In Rochester, Buffalo, and New York City the program is under the State Health Department, and they require four examinations during the full school period of the child. Contrary to that, through the rest of the State the program is under the State Education Department, and an annual physical examination is required. The school physicians present, expressing the opinion of many of the men around the State, pointed out that it was impossible to do a decent physical examination every year on such large numbers of children so that the consensus of the committee favored recommending an amendment to the existing law. This was opposed by the two men who represented the State Education Department. Needless to say, it was supported by Dr. Yankauer, of the State Health Department, so as the matter now stands, it is going to be brought to the attention of the State Health Department and the State Education Department at a future joint meeting when the Council Committee on Public Health and Education meets with the State Department of Health. We propose to invite to that meeting members of the State Education Department as well as the representative from the State Charities Aid Association, who is vitally interested in this problem. I might say that the matter is of sufficient general interest to have excited a popular article in *Coronet* in the last six months. Some of the people are fully aware of the poor quality of many of these annual health examinations that are being given to the school children in this State, and I think it is a very important matter in which the Medical Society has a stake. It is likely that a strong request will be made for some amendment to the law providing better examinations less frequently.

"May I ask that you consider appointing Dr. Richard Freyberg, of the Hospital for Special Surgery, to the Accident Prevention Subcommittee. This is at the request of Motor Vehicles Commissioner Kelly. He has had special experience. He is much interested in the problem, and Mr. Kelly feels he would be quite an addition to the Accident Prevention Subcommittee. He is the Chief of the Division of Internal Medicine at his hospital.

[Continued on page 3222]

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[Continued from page 3220]

It *was voted* to adopt the report including the appointment of Dr. Richard H. Freyberg to the Accident Prevention Subcommittee.

Public Relations.—Dr. Floyd S. Winslow, chairman, presented the following report: "Since the last report the activities of your committee and the Public and Professional Relations Bureau were devoted mainly to the annual convention.

"Before the meeting newspaper releases concerning phases of the convention were mailed. In keeping with the custom of the past several years, summaries of scientific papers were made as newspaper releases in simple terms for the man-on-the-street. This project, which resulted in 28 releases, was handled by Mr. Tracey and Mr. Walsh. They were given valuable assistance by the editorial staff of the NEW YORK STATE JOURNAL OF MEDICINE, under the supervision of Miss Alvina Rich Lewis. Dr. Henry I. Fineberg reviewed the digests.

"During the convention the Bureau maintained a press room. Some 51 writers used these facilities. Among the visitors were reporters representing the *New York Times*, *Herald Tribune*, and other newspapers; also magazine writers, representing such publications as *Medical News*, and free-lance authors.

"Following the pattern started three years ago the Bureau utilized the facilities of radio and television to publicize the meeting. An estimated audience of 29 million persons tuned in on 13 radio and television broadcasts. Twenty-three physician-members of the Society participated. A total of two hundred and twenty minutes were reserved for the Society without cost, on New York City key stations of all major radio and television networks. This project was directed by Mr. Schuyler.

"Your chairman is very pleased to report that the Public Relations Session, of which a member of your committee, Dr. Fineberg, was chairman, attracted 77 persons. According to reports received by the Bureau, which helped in staging the event, the physicians and others present were highly complimentary about the program. The transactions of the session were recorded without cost by A-V Tape Libraries, Inc.

"An exhibit featuring the slogan, 'PR Courses Improve Patient Relations' was designed and erected by the Bureau. This emphasized the value of courses for doctors' assistants and made available literature on how to conduct them.

"After the convention a summary of the proceedings of the House of Delegates was mailed to members of the House of Delegates, county medical society secretaries, and executive secretaries. This was submitted to Dr. W. P. Anderton before mailing.

"An indication of the value of the awards to fifty-year doctors during the convention is the large number of letters from many of the 147 physicians so honored. One woman recipient wrote: 'It was a lovely action on the part of the Medical Society to send me this expression of their sentiment.' Other typical expressions of gratitude included such words as, 'I feel highly honored that the Council remembered me' and 'I want you to know how much I enjoyed receiving your honorable certificate and wonderful letter.'

"The Bureau also cooperated with the Woman's Auxiliary. Help was given in planning, in securing speakers, and obtaining materials for this important occasion. Among projects in which the Bureau's representative, Mr. Walsh, assisted the Auxiliary, was the fourth annual Health Poster Contest and the new president's program of activities. Conferences were held with the new *Distaff* editor and with various committee chairmen.

"Regarding the 150th anniversary commemoration, Mr. Miebach and his staff continued to cooperate with Dr. Freedman in developing plans. The May and June issues of the *Newsletter* also carried reminders of the anniversary.

"News releases were sent to newspaper editors advising them of postgraduate lectures scheduled for the following counties: Broome, Chemung, Fulton, Greene, Montgomery, Nassau, Steuben, and Sullivan.

"Since the exhibit displayed by the Society and the A.M.A. at Saratoga Springs last summer proved to be an outstanding attraction, the Bureau has agreed to cosponsor with the A.M.A. another of the latter's exhibits again this year. An exhibit entitled 'Health Today,' showing a positive portrayal of health advancement in the United States, was erected by the Bureau's representative shortly before Memorial Day in the Hall of Springs, Saratoga.

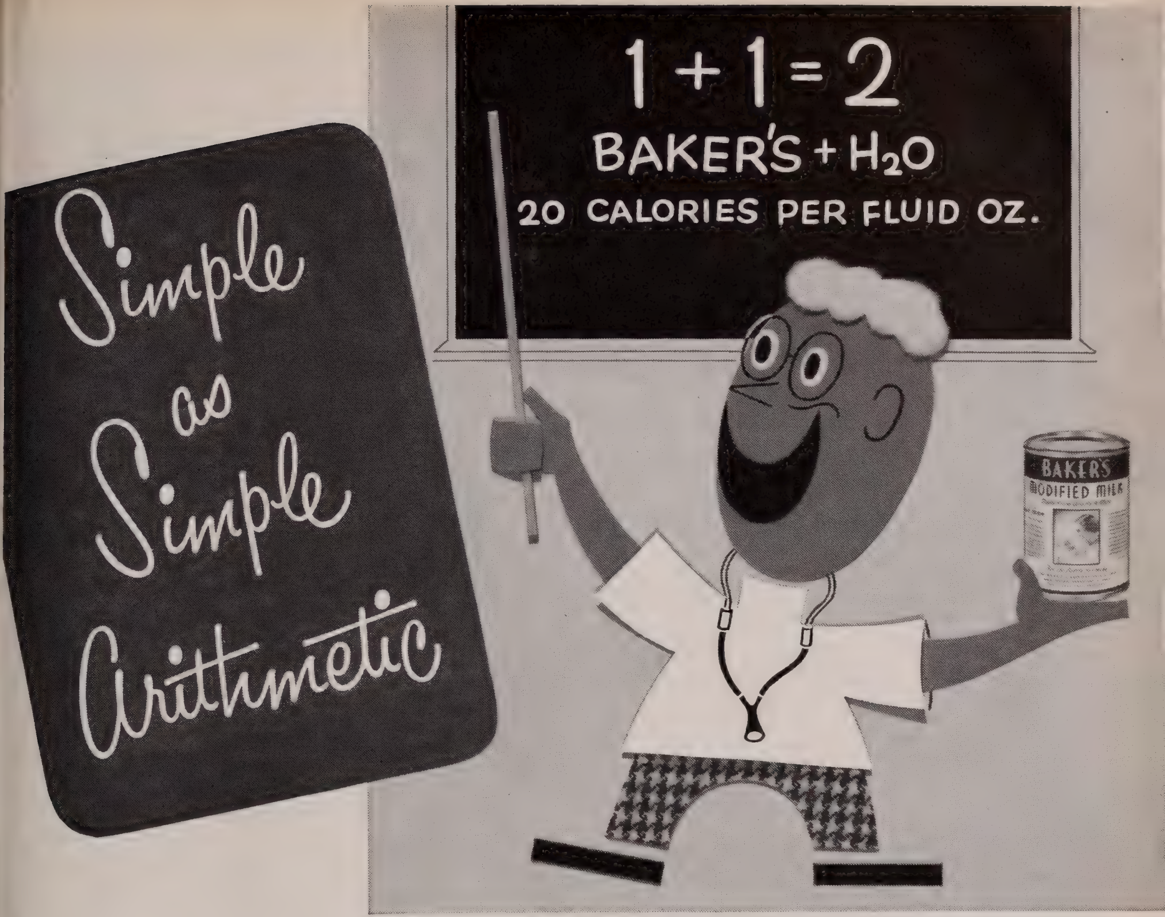
"Members of the Bureau's staff attended several meetings. Among these were a meeting of the Queens County Woman's Auxiliary, May 22, at which Mr. Walsh spoke and the 52nd Annual Health Conference at Lake Placid, June 4 to 7, at which Mr. Tracey represented the Bureau. Mr. Schuyler also was present at the joint meeting of the Seventh and Eighth District Branch committees May 7.

"Several requests for assistance were received by the Bureau from writers and others. Help was given in preparing articles for magazines, such as *Good Housekeeping* and *Coronet*, on subjects ranging from diathermy to hepatitis. Aid also was supplied to the Columbia Broadcasting Company in preparing a nation-wide radio program in which 'spring fever' was discussed.

"A mailing to public relations chairmen consisted of four items. These included a digest of a meeting sponsored by Clinton County Medical Society to discuss the Guide for Cooperation with local press and hospital representatives, 'Guides for Medical Society Grievance Committees' (A.M.A.), a booklet listing local medical services published by the Broome County Medical Society, and a leaflet describing the functions of the Chenango County Medical Society.

"Progress continued to be made in the Bureau's efforts to induce county societies to sponsor public relations conferences for doctors' assistants. Among the latest groups to undertake this important activity were the Suffolk and Schenectady County Medical Societies. More than 100 office personnel participated in the former, while 150 assistants took

[Continued on page 3224]



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[Continued from page 3222]

part in the latter, at which the Bureau's representative, Mr. Tracey, discussed 'Public Relations in the Doctor's Office.' Scheduled for June 14 is a conference jointly sponsored by the Montgomery and Fulton County Medical Societies. Another group planning a similar meeting is Jefferson County Medical Society. Your committee believes that these conferences can do a tremendous amount of good in improving doctor-patient relations in the doctor's office and urges each member of the Council to encourage this project at every opportunity."

It *was voted* to accept the report.

Sesquicentennial.—Dr. Samuel Z. Freedman, chairman, reported: "We have plans for having a luncheon on Monday, February 18, 1957, to be addressed by outstanding religious leaders. We will invite a priest, a rabbi, and a minister. Although this is a detail of the sesquicentennial, there are certain details we believe should be confirmed by the Council. I would move that the Council approve a luncheon to be held on Monday of the week of the celebration, when members of the different faiths could be asked to address the luncheon."

Approval *was voted.*

"The second matter is that we were fortunate in having a member of the Society who is quite an artist draw this seal for the Sesquicentennial, Dr. LaGattuta from the Bronx. It looks like the seal of the Society except he has added background features. He has the word "Sesquicentennial" and the dates 1807–1957."

After discussion and having the seal viewed by all the members it *was voted* to approve the seal as submitted and that appropriate recognition be made to Dr. LaGattuta in the JOURNAL for submitting the seal.

Dr. Freedman stated: "You remember we discussed at the last meeting getting outside financial support for our activities. For instance, the matter of that picture I showed you. We are hoping to get U.M.S. and perhaps the Associated Hospital Service to pay for printing of posters for wide distribution. It will run into approximately $3,000. Now I am told by Mr. Baldwin that other help is available from other sources, particularly pharmaceutical houses. I know there is some objection. I think a decision should be made so we can go ahead one way or another: Shall we accept help from them or not? There is available help, for instance, for the printing of the dinner menus. We can get this outside help, and I think that is a policy which the Council ought to decide one way or the other.

It *was voted* that Dr. Freedman be allowed to carry on in his judgment the policy of securing help from outside legitimate sources.

Woman's Auxiliary, Advisory Committee to.—Dr. Renato J. Azzari, chairman, stated he had been informed by Mrs. Albert Vander Veer, II, new president of the Woman's Auxiliary, that she had received information that this Society will meet in New York in 1957. Also it had been requested that she submit the Auxiliary's plans to the headquarters office by the week of May 21. Since accommodations for the meeting at the Hotel Statler, New York City, would cost about $530 and since a much lower rate is available at either the Biltmore or the Roosevelt, she asked Dr. Azzari's advice. Since it was not possible in the limited time available to obtain previous authorization from the Council, he advised her to make a reservation at one of these two hotels. He asked the Council's approval.

Approval *was voted.*

Dr. Anderton reported: "I have received an annual report to the Council of the Medical Society of the State of New York by the President of the Woman's Auxiliary, signed by Mrs. Isadore Zadek. It did not arrive in time for the annual meeting of the State Society, and I move this be placed in the record without reading."

It *was so voted.*

Workmen's Compensation.—Dr. Gerald D. Dorman, chairman, reported: "The director of workmen's compensation and the chairman of the Workmen's Compensation Committee appeared in Utica at the county medical society on May 22 along with the chairman of the Workmen's Compensation Board, Miss Angela Parisi, and her medical director, Dr. Willis. We had a very interesting meeting, well attended, which brought out a long question period on technical questions.

It *was voted* to accept the report.

Unfinished Business

Committee Appointments.—President Greenough requested approval of the following changes in the committee lists:

Economics Committee, Public Medical Care Subcommittee: Removal of the name of Dr. Roswell L. Schmitt, reducing the subcommittee to three members, as voted by the House of Delegates.

Nursing Education Committee: Substitution of Dr. Beverly C. Smith, 63 East 84 Street, New York 28, for Dr. Joseph H. Geis, who was unable to accept the appointment.

Public Health and Education Committee, Maternal and Child Welfare Subcommittee: Substitution of Dr. Frank A. Disney, 2333 Elmwood Avenue, Rochester 11, for Dr. Paul W. Beaven, who declined.

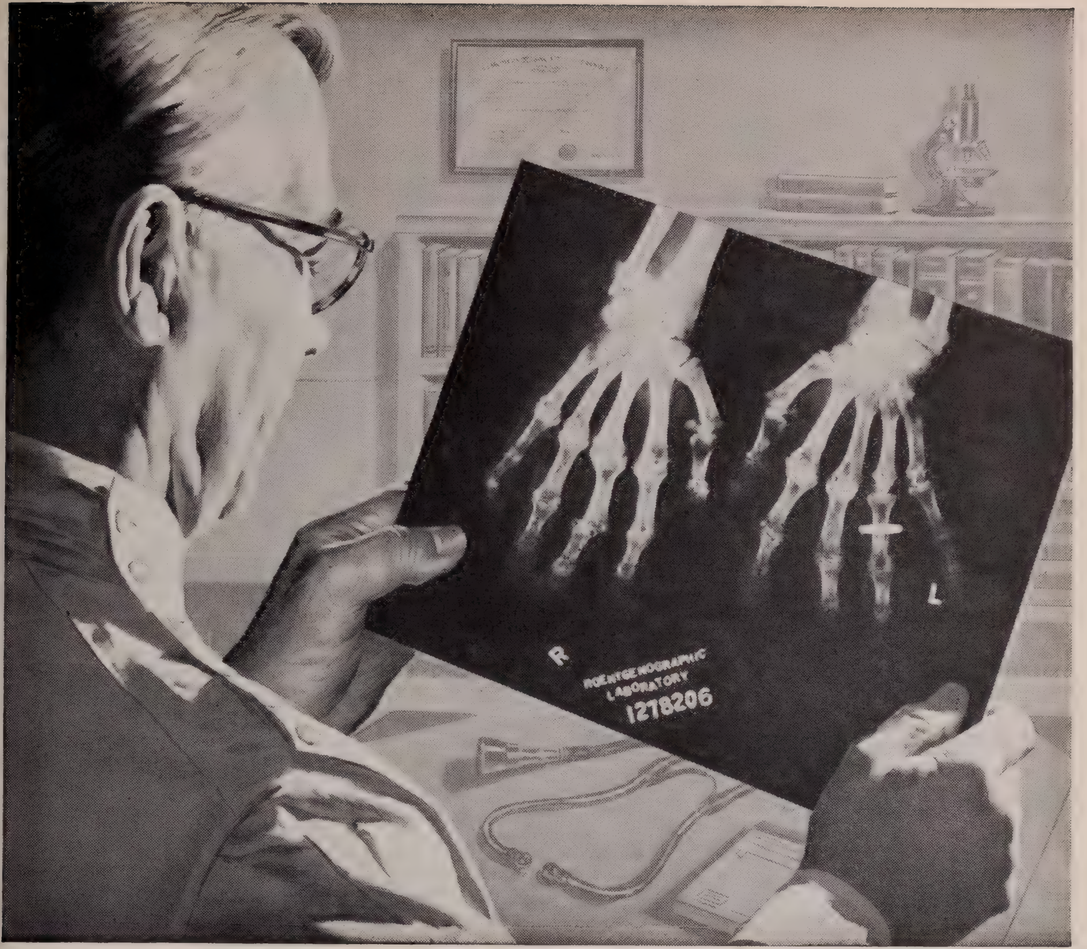
Public Relations Committee: Appointment of Dr. Kenneth T. Rowe, 33 Center Street, Hornell.

Rural Medical Service Committee: Removal of names of Dr. Richard C. Bellaire and Dr. Glenn C. Hatch to reduce the committee to three members as required by Bylaws; appointment of an adviser, Dr. Bert Ellenbogen, New York State College of Agriculture, Cornell University, Ithaca.

Sesquicentennial Committee, Reception Subcommittee: Withdrawal of name of Dr. Eugene H. Coon, at his request.

Woman's Auxiliary, Advisory Committee to: Substitution of Dr. Albert Vander Veer, II, 680 Madison Avenue, Albany 8, for that of Dr. Harry I. Norton, resigned.

[Continued on page 3226]



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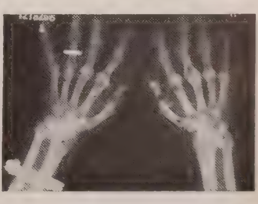

REFERENCES:
1. J.A.M.A. 159:645 (Oct. 15) 1955.
2. J.A.M.A. 158:386 (June 4) 1955.

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[Continued from page 3224]

Workmen's Compensation Committee: Removal of names of Dr. Herbert M. Bergamini, Dr. David Kershner, Dr. Walter S. Walls, and Dr. Earl C. Waterbury, to reduce the committee to nine members as required.

American Medical Education Foundation Committee: Substitution of Dr. William E. Pelow as chairman in place of Dr. Daniel S. Cunning, resigned.

Nominating Committee: Appointment of the following:

District I	Dr. Henry I. Fineberg, 82-68 164 Street, Jamaica 32
District II	Dr. John M. Galbraith, 99 Forest Avenue, Glen Cove
District III	Dr. Albert Vander Veer, II, 680 Madison Avenue, Albany 8
District IV	Dr. Edwin MacD. Stanton, Medical Arts Building, Schenectady 5
District V	Dr. Edward C. Hughes, 713 East Genesee Street, Syracuse 2
District VI	Dr. William T. Boland, 378 West Church Street, Elmira
District VII	Dr. Eldred J. Stevens, Hammondsport
District VIII	Dr. A. H. Aaron, 40 West North Street, Buffalo 2
District IX	Dr. Andrew A. Eggston, 120 Elmsmere Road, Mount Vernon
At large	Dr. Renato J. Azzari, 1951 Benedict Avenue, Bronx 62, *chairman*
At large	Dr. Gerald D. Dorman, 51 Madison Avenue, New York 10

Prize Essays Committee: Appointment of Dr. Allen H. Minor, Lenox Hill Hospital, 111 East 76 Street, New York 21.

Poliomyelitis, Special Advisory Committee Regarding: Designation of Dr. Thurman B. Givan as chairman.

Blood Banks, Conference Committee to Plan for Standards for: Dr. Herbert Berger, 7440 Amboy Road, Staten Island 7, *chairman;* Dr. Herbert R. Brown, Jr., 388 Monroe Avenue, Rochester 7; Dr. Theodore J. Curphey, 386 Fourth Avenue, New York 16; Dr. Herbert Derman, City of Kingston Laboratory, Kingston; Dr. Jacob Geiger, 1070 Park Avenue, New York 28; and Dr. Thurman B. Givan, 115 Remsen Street, Brooklyn 2.

Approval *was voted.*

It *was voted* that the president be granted power to make such other changes or additions to the committees as may seem necessary.

Approval *was voted* of the appointment of Dr. Fred S. Dunn, chairman of the Joint Committee on Dental Care, to the Committee to Protect Our Children's Teeth.

New Business

The Bulletin of the Medical Society of the County of Rockland

It *was voted* that the secretary be requested to send a commendatory letter to the Rockland County Medical Society in regard to their newly established publication, *The Bulletin.*

Annual Meetings of Other State Medical Societies

It *was voted* to grant the president permission to appoint representatives to the annual meetings of the Medical Society of the State of Pennsylvania, the Vermont State Medical Society, the Connecticut State Medical Society, and the Medical Society of New Jersey when and if invitations are received.

Nominations to State Board of Medical Examiners.—Dr. Anderton stated: "Mr. President, through Mr. Killough, Assistant Commissioner of Education, the Regents have requested nominations to the State Board of Medical Examiners, first, to succeed Dr. Leon G. Berman of Syracuse, who is clinical professor of surgery there and has conducted the part of the examinations regarding anatomy. I move that the Council nominate Dr. Berman himself, Dr. Victor M. Emmel of Rochester, associate professor of anatomy, and Dr. Carl W. Clark, Jr., of Syracuse, associate professor of surgery; to succeed Dr. Donald A. Covalt, who examines in physical medicine and the physiotherapists, nominate himself, Dr. Jerome S. Tobis, and Dr. Karl Harpuder; third, to succeed Dr. A. T. Milhorat, who has served three terms on the State Board of Medical Examiners and will probably not be reappointed, nominate Dr. Howard A. Eder, of the State University of New York College of Medicine in New York, Dr. Morris Ziff, of 72 Park Terrace West, New York City, and Dr. Joseph W. Jailer, of 180 Fort Washington Avenue.

It *was so voted.*

Dutchess County Medical Society Sesquicentennial.—Dr. Givan stated: "May I report that I attended at your request the Sesquicentennial of the Dutchess County Medical Society yesterday and last night, and it was a most enjoyable time among a lot of great fellows. I would like to bring to your attention the history of the Dutchess County Medical Society as gotten together by our councilman, Dr. Rogers, which is a wonderful brochure. (*The brochure was passed around.*)

The oldest inhabitant—a man of great importance—had just celebrated his 90th birthday, and all the local newspapers interviewed him.

"Tell us, sir," said one reporter, "if you had your life to live over again, is there anything you would change?"

The nonagenarian appeared lost in thought for a few seconds, then nodded his head. "Yes," he said gravely. "I believe I'd part my hair on the side."—*J.A.M.A., April 7, 1956*

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BOOKS RECEIVED

(The following books were received during the month of August, 1956)

Roentgen Signs in Clinical Diagnosis. By Isadore Meschan, M.D., with the assistance of R.M.F. Farrer-Meschan, M.B. (Melbourne, Australia). Quarto of 1,058 pages. 2,216 illustrations on 780 figures. Philadelphia, W. B. Saunders Company, 1956. Cloth, $20.

Dermatology. By Donald M. Pillsbury, M.D., Walter B. Shelley, M.D., and Albert M. Kligman, M.D. Octavo of 1,331 pages, illustrated. Philadelphia, W. B. Saunders Company, 1956. Cloth, $20.

Observations on Krebiozen in the Management of Cancer. By A. C. Ivy, M.D., John F. Pick, M.D., and W. F. P. Phillips, M.D. Octavo of 88 pages, illustrated. Chicago, Henry Regnery Company, 1956. Cloth, $2.50.

New Bases of Electrocardiography. By Demetrio Sodi-Pallares, M.D., with the collaboration of Royall M. Calder, M.D., Editor, English translation. Quarto of 727 pages, 520 illustrations. St. Louis, C. V. Mosby Company, 1956. Cloth, $18.50.

Ciba Foundation Colloquia on Endocrinology. V.9. Internal Secretions of the Pancreas. G. E. W. Wolstenholme, M.B., and Cecilia M. O'Connor, B.Sc., Editors. Octavo of 202 pages, 100 illustrations. Boston, Little, Brown and Company, 1956. Cloth, $7.00.

Ciba Foundation Colloquia on Ageing. V.2. Ageing in Transient Tissues. G. E. W. Wolstenholme, M.B., and Elaine C. P. Millar, Editors. Octavo of 263 pages, 96 illustrations. Boston, Little, Brown and Company, 1956. Cloth, $6.75.

Proceedings World Congress of Anesthesiologists, Scheveningen, The Netherlands, September 5 through 10, 1955. Edited and published by the International Anesthesia Research Society. Quarto of 321 pages, illustrated. Minneapolis, Burgess Publishing Company, 1956.

Of Water, Salt and Life. An Atlas of Fluid and Electrolyte Balance in Health and Disease. Octavo. N.p. Illustrated. Milwaukee, Lakeside Laboratories, 1956. Cloth, $7.50.

Hay Fever . . . and What You Can Do About It. Octavo of 16 pages, illustrated. New York, American Foundation for Allergic Diseases, 1956. Paper, $.25.

Occupational Health Nursing. By Mary Louise Brown, R.N., in association with John Wister Meigs, M.D. Octavo of 276 pages. New York, Springer Publishing Company, 1956. Cloth, $4.50.

Cancer of the Esophagus and the Stomach. By Owen H. Wangensteen, M.D. Second edition. Octavo. 144 pages, illustrated. New York, American Cancer Society, 1956. Paper, gratis.

Roentgenology of the Heart and Great Vessels. By Robert N. Cooley, M.D., and Robert D. Sloan, M.D. (Renewal pages for Golden's Diagnostic Roentgenology). Quarto. V.p. Illustrated. Baltimore, The Williams and Wilkins Company, 1956. Cloth, loose-leaf, $15.

Venous Return. By Gerhard A. Brecher, M.D. Quarto of 148 pages, illustrated. New York, Grune & Stratton, 1956. Cloth, $6.75.

Cancer of the Lung. An Evaluation of the Problem. Proceedings of the Scientific Session, Annual Meeting, American Cancer Society, Inc., November 3 and 4, 1953. Quarto of 322 pages, illustrated. New York, American Cancer Society, 1956.

J.A.M.A. Queries and Minor Notes. Octavo of 354 pages. St. Louis, Published for the American Medical Association by The C. V. Mosby Company, 1956. Cloth, $5.50.

Clinical Urology for General Practice. By Justin J. Cordonnier, M.D. Quarto of 252 pages, illustrated. St. Louis, The C. V. Mosby Company, 1956. Cloth, $6.75.

Studies in Topectomy. Edited by Nolan D. C. Lewis, M.D., Carney Landis, Ph.D., and H. E. King, Ph.D. Octavo of 248 pages, illustrated. New York, Grune & Stratton, 1956. Cloth, $6.75.

Pulmonary Emphysema. Edited by Alvan L. Barach, M.D., and Hylan A. Bickerman, M.D. Octavo of 545 pages, illustrated. Baltimore, The Williams and Wilkins Company, 1956. Cloth, $10.

Head Injuries and Their Management. By Francis Asbury Echlin, M.D. Duodecimo of 127 pages, illustrated. Philadelphia, J. B. Lippincott Company, 1956. Cloth, $3.00.

Practitioners' Conferences. Held at The New York Hospital-Cornell Medical Center. V.4. Edited by Claude E. Forkner, M.D. Octavo of 407 pages, illustrated. New York, Appleton-Century-Crofts, Inc., 1956. Cloth, $6.75.

Rehabilitation Trends. Midcentury to 1956. Quarto of 96 pages, illustrated. New York, Institute for the Crippled and Disabled, 1956. Paper, $2.00.

[Continued on page 3230]

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*Steigmann, F., and Goldberg, E.: Ambulatory Continuous Drip Method in the Treatment of Peptic Ulcer, Am. J. Digest. Dis. *22*:67 (Mar.) 1955.

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[Continued from page 3228]

An Atlas of Anatomy. By J. C. Boileau Grant, M.B. By Regions, Upper Limb, Abdomen, Perineum, Pelvis, Lower Limb, Vertebrae, Vertebral Column, Thorax, Head and Neck, Cranial Nerves and Dermatomes. Fourth edition. Quarto. N.p. Illustrated. Baltimore, The Williams and Wilkins Company, 1956. Cloth, $15.

BOOKS REVIEWED

The Hemorrhagic Disorders. A Clinical and Therapeutic Approach. By Mario Stefanini, M.D., and William Dameshek, M.D. Quarto of 368 pages, illustrated. New York, Grune & Stratton, 1955. Cloth, $11.75.

This reviewer found great pleasure in reading and studying this worth-while contribution to the confusing subject of the hemorrhagic disorders, particularly in the field of coagulation.

Great credit should be given the authors for making so difficult a subject almost easily readable. The bibliography is well covered and offers those interested in more detailed information an open sesame to the work of others in this vast, confusing, and controversial field.

Hematologists and physicians in general cannot well afford to be without this excellent monograph in the field of practical hematology.—MAURICE MORRISON

The Practice of Sanitation. By Col. Edward Scott Hopkins, Medical Service Corps. U.S.A.R., and Wilmer Henry Schulze. Second edition. Octavo of 466 pages, illustrated. Baltimore, Williams & Wilkins Co., 1954. Cloth, $8.00.

The authors cover the control of those factors of the environment affecting Public Health in 23 chapters. The sciences of bacteriology, biology, entomology, chemistry, and physics are touched upon with engineering application of the basic principles of the sciences mentioned to the design of machinery and structures which tend to develop modern life and present-day civilization with Public Health as the ultimate. Each chapter is followed by considerable references to the literature cited. The authors have had extensive experience and the text is concise. The subject matter is developed as a splendid guide in environmental sanitation procedures for the training of physicians seeking to become health officers, of nurses, sanitarians, and students in sanitary engineering.

A serious reading of the book enables one to be fully informed on the vital issues that enter into assuring the health of a people from a sanitary practice by effecting the principles stipulated in the text. The text reads easily, the format is most acceptable, illustrations are well selected, and only essential tables to clarify the text are used.

The reviewer was most impressed by the contents of the second edition which is a marked improvement in type and paper over the first edition. The book is strongly commended for study as well as reference. The authors are to be congratulated and complimented on their publication of an essential text of a vital subject.—A. JABLONS

Pathologic Physiology. Mechanisms of Disease. Edited by William A. Sodeman, M.D. Second edition. Octavo of 963 pages, illustrated. Philadelphia, W. B. Saunders Company, 1956. Cloth, $13.

It is gratifying to note that this work, neither a clinical treatise nor a textbook, has been popular enough to warrant a second edition. The basic principle, the elucidation of clinical problems by considering them in terms of disturbed physiology, is well sustained in the new edition. There has been considerable revision of the text and two new chapters, one on the genetics of abnormal growth and neoplasia, the other on the nervous system. The former is entirely admirable as far as it goes, but

[Continued on page 3232]

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[Continued from page 3230]

the reviewer would have preferred a somewhat more general discussion of the problems of genetics in clinical medicine rather than the intensive discussion of a restricted topic here presented.—Milton Plotz

The Complete Medical Guide. By Benjamin F. Miller, M.D. Illustrated by R. Paul Larkin. Octavo of 913 pages, illustrated. New York, Simon and Schuster, 1956. Half cloth, $4.95.

This medical guide is an authoritative and comprehensive text on medical and hygienic matters written for the layman. It is extremely well written and holds one's interest throughout. It stresses the importance of avoiding self-diagnosis and treatment, the tendency to which is unfortunately too common in the usual home medical guide. Many of the popular misconceptions concerning heart attacks, sexual and hygienic matters are corrected in a lucid and convincing manner. There are excellent sections on infant care, first aid, and home nursing. A fine glossary completes this very worth-while book.

This book is highly recommended for the mature adult who wishes to get authoritative and up-to-date information on medicine and hygiene.—Morris Zuckerbrod

Functional Otology. The Practice of Audiology. By Morris F. Heller, M.D., with Bernard M. Anderman, M.A., and Ellis E. Singer, M.A. Octavo of 225 pages, illustrated. New York, Springer Publishing Co., 1955. Cloth, $5.50.

The experiences of the author in both civil and military practice have stimulated him to prepare *Functional Otology*. He presents to otologists a means whereby they can integrate the science of audiology into their daily practice. With this thesis in mind Dr. Heller proceeds to outline, describe, and explain the procedures necessary in conducting the otologic survey. He then goes into the phases of rehabilitation of the acoustically handicapped—again attempting to stimulate the otologist to integrate and supervise the rehabilitation of his hard of hearing patients. Hearing tests are described clearly, simply, and concisely so that students and beginners in otology may grasp the technics as well as their significance and relative values. The author is wise in presenting the examples of so-called "typical audiograms"—these are primarily for study and comparison and will prove of great value to students and otologists. Particularly valuable is the author's discussion of lip reading and speech correction.

The format of the book is well planned and arranged so that this volume can be used for a ready reference. A bibliography is included and is particularly valuable, the author having planned and grouped the bibliography to simplify the source material and references with the grouping of the chapters. The author has, in a little more than 200 pages, made available a text as well as a ready reference for those interested in otology, audiology, and rehabilitation. This book is recommended.—Samuel Zwerling

Classics of Biology. By August Pi Suner, M.D. Authorized English Translation by Charles M. Stern. Octavo of 337 pages. New York, Philosophical Library, 1955. Cloth, $7.50.

August Pi Suner is a world famous scientist who has written important papers and books in the fields of biology, physiology, neurology, and medicine dating back to the earliest years of this century. The present work is an English translation by Charles M. Stern of Dr. Pi Suner's book, *Classics of Biology*, originally published in Spanish in 1954.

In this book is to be found the distillation of a veritable five-foot shelf of biologic classics into a single volume. The choice of classics is comprehensive and wise, undoubtedly omitting some more popular works but including the milestones. There is a universality of combined authorship, and therefore we meet many unfamiliar names of foreign scientists whose works, however, are important and germane to the compilation attempted. The essential criterion for choice of excerpt is simply—What is important? More than 60 writers of many nationalities are represented by textual extracts. There are excerpts from Aristotle, Bekhterev, Berkeley, Bernard, Freud, Haller, Morgan, and Ramon Y Cajal, to give but a few examples of scientists of different nationalities. Other examples could be given.

This book is not written for the layman or for popular consumption. The reader who lacks a proper biologic and/or scientific background will find it difficult to digest. The material offered is often technically complicated and at times almost esoteric, nevertheless the material is almost always of the first importance. Some of the textual extracts include Borelli's *De Motu Animalium*, Darwin's *The Origin of Species*, Descartes' *Discours de la Methode*, Freud's *Das Unbewusste*, Hooke's *Micrographia*, to name but a few of the better known works. Some lesser known include Lamarck's *Philosophie Zoologique*, Flemming's *Zellsubstanz, Kern und Zelltheilung*, and Unamuno's *Del Sentimiento Tragico de la Vida*.

There is a fine comprehensive "single-clue" index as well as an index of authors quoted.

The book is highly recommended for medical or scientific libraries, for scholars, and for anyone seriously interested in biology, philosophy, or the history of science.—Norman Shaftel

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn 16, New York. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selections will be based on merit and interest to our readers.

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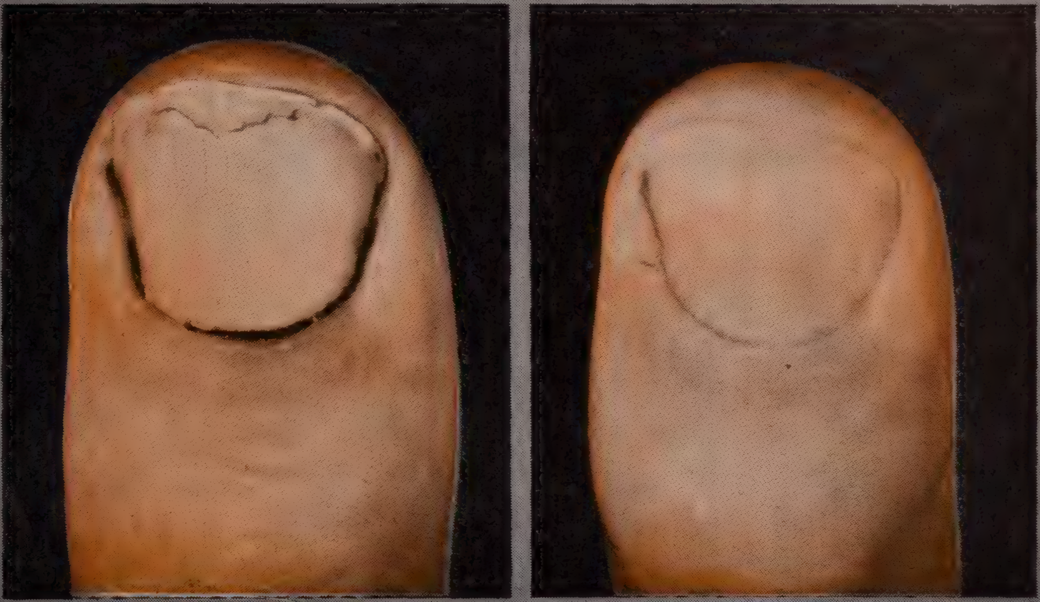

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[1] Rosenberg, S. and Oster, K. A., "Gelatine in the Treatment of Brittle Nails," *Conn. State Med. J.* **19**:171-179, March 1955.

[2] Tyson, T. L., *J. Invest. Dermat.* **14**:323, May 1950.

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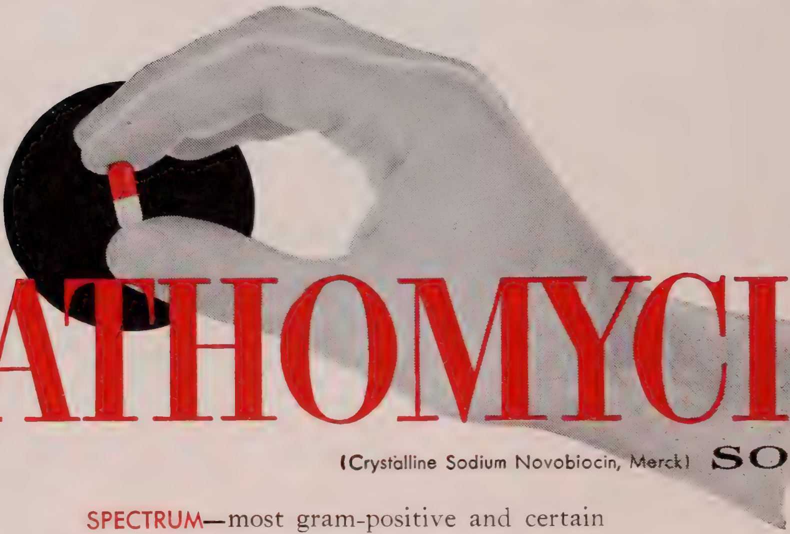

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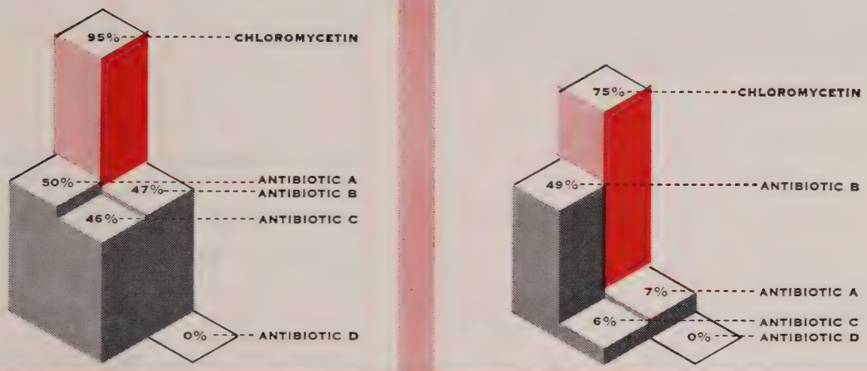

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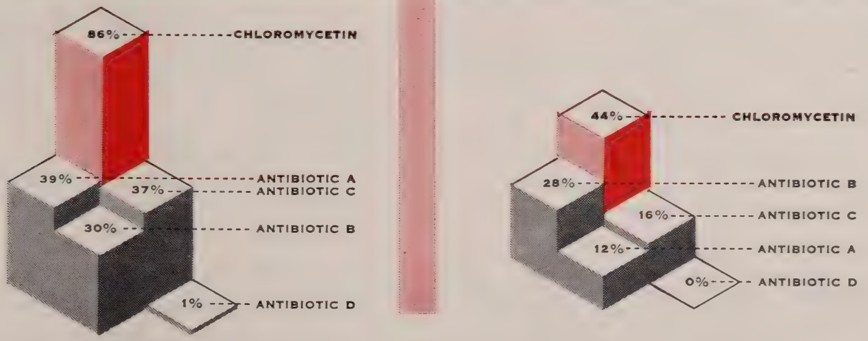

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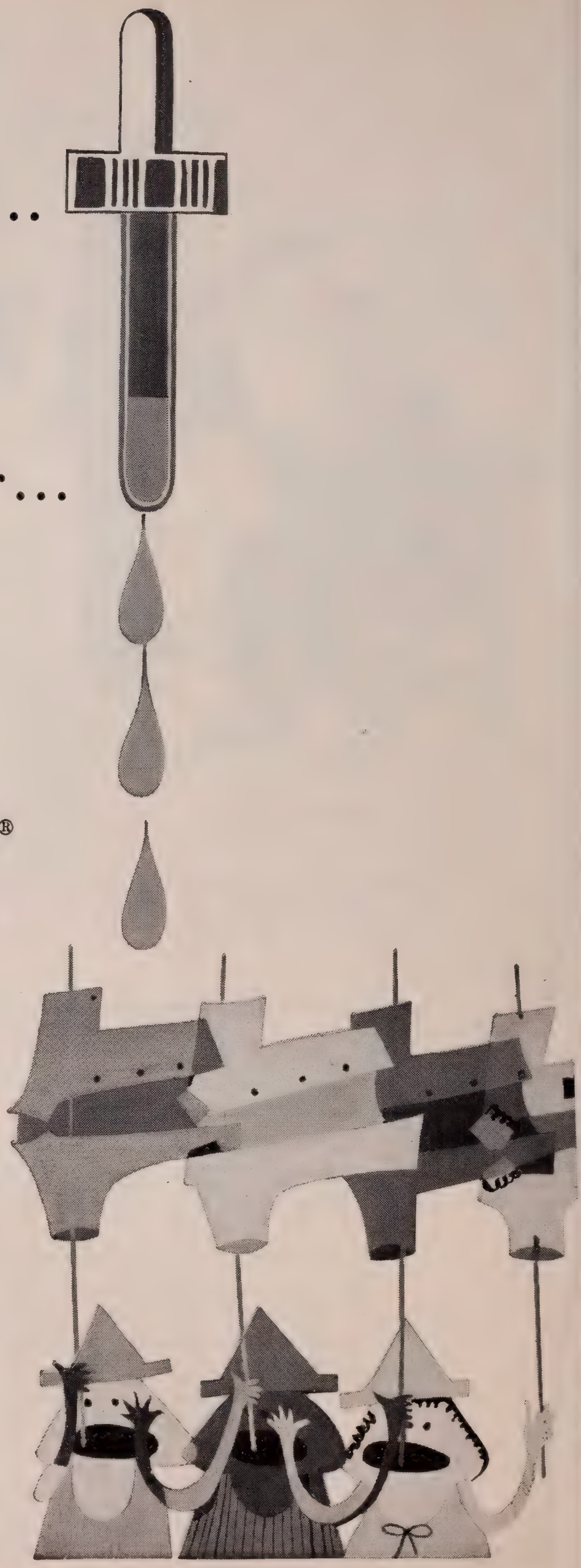

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REFERENCES: 1. Trafton, H. M., et al.: N. England J. M. **252**:383, 1955. 2. Waisbren, B. A., and Crowley, W.: A. M. A. Arch. Int. M. **95**:653, 1955. 3. Schneierson, S. S.: Antibiotics **3**:212, 1956.

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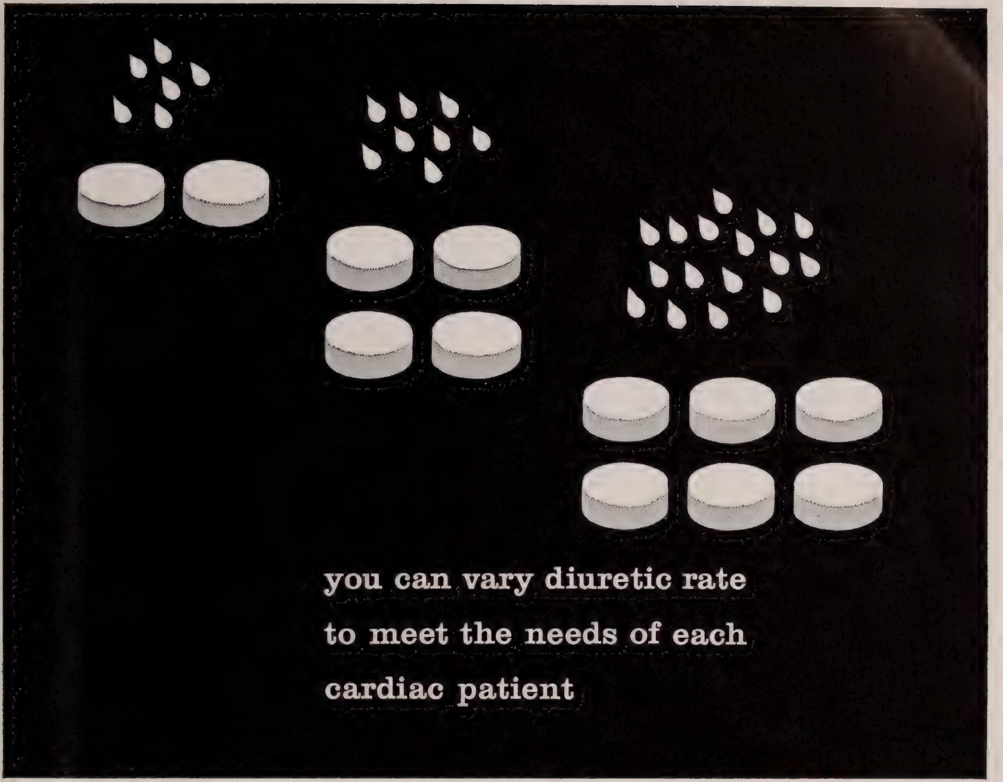
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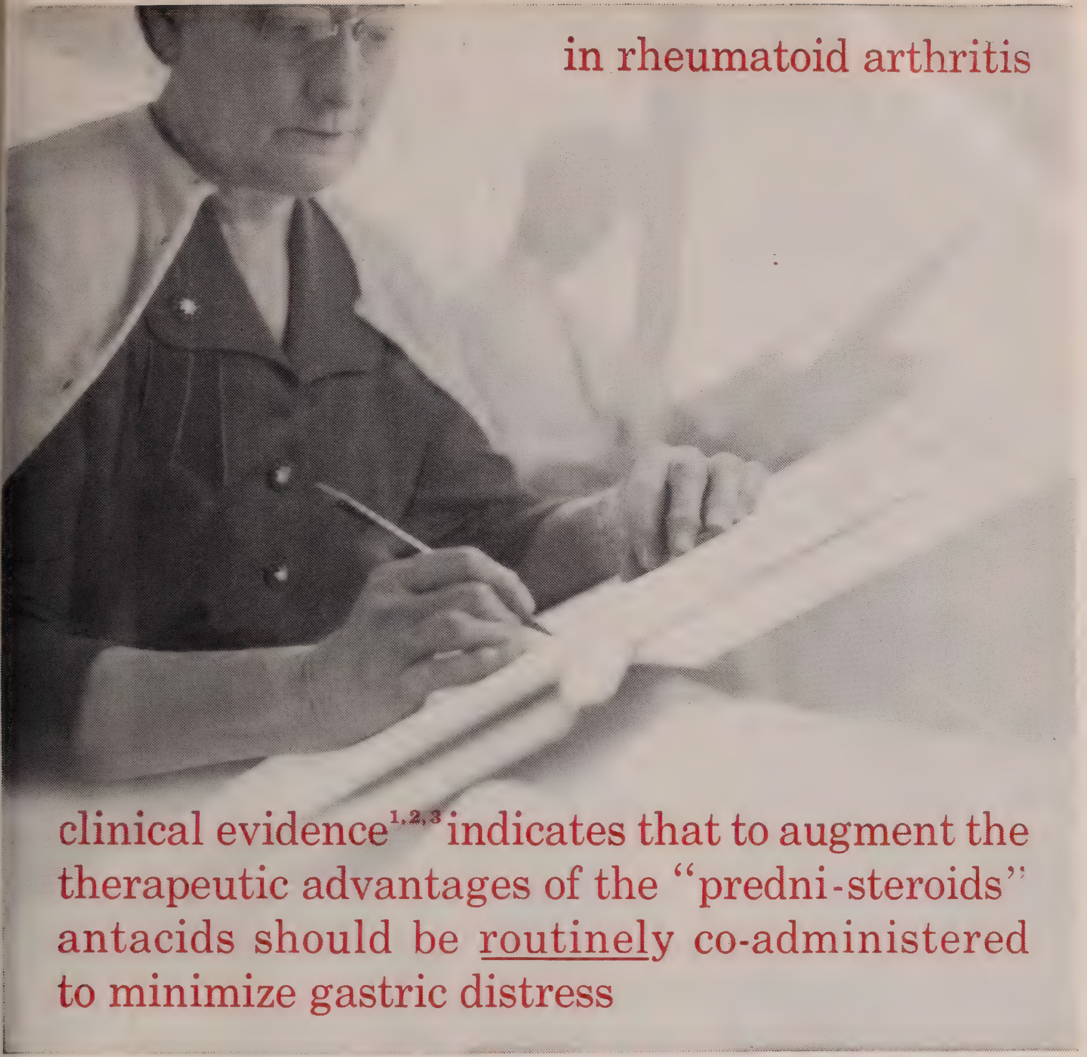

in rheumatoid arthritis

clinical evidence[1,2,3] indicates that to augment the therapeutic advantages of the "predni-steroids" antacids should be routinely co-administered to minimize gastric distress

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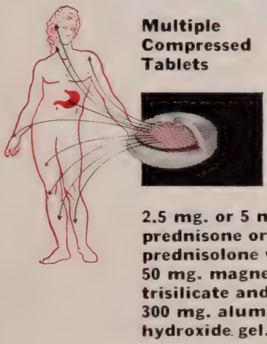

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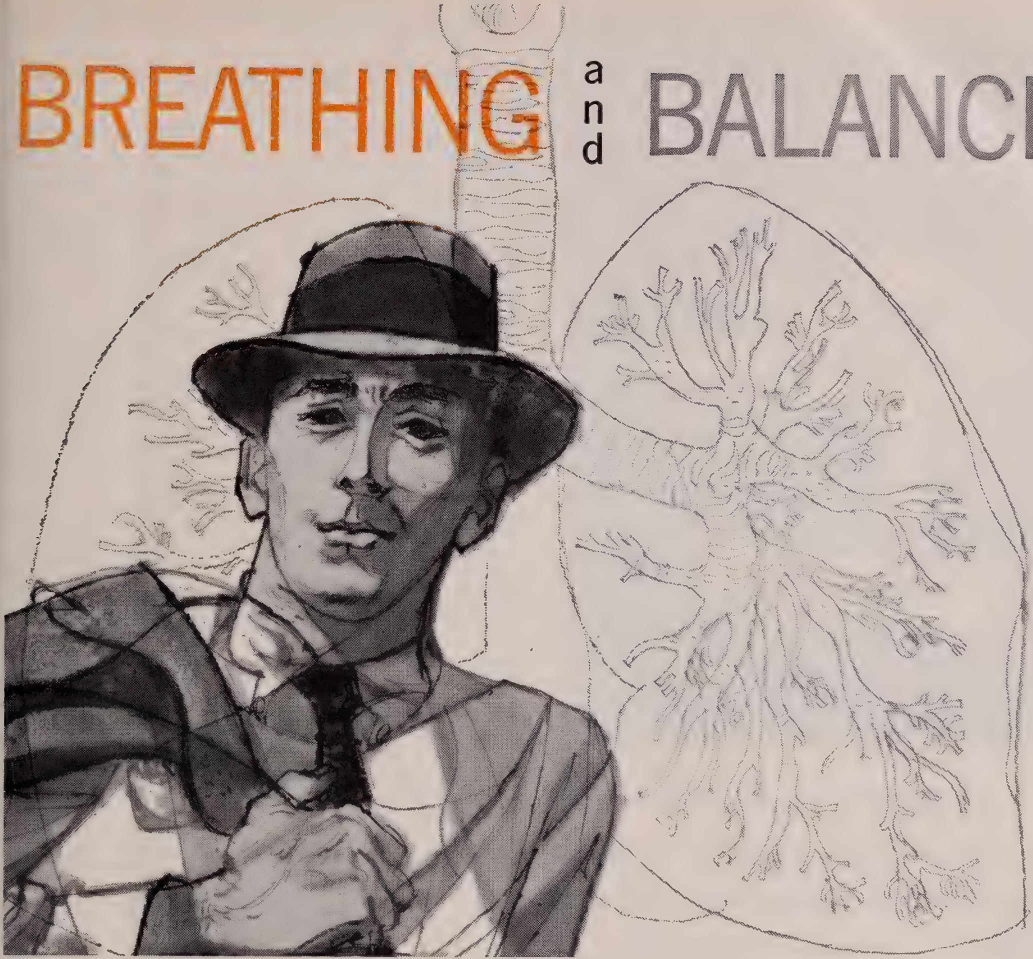

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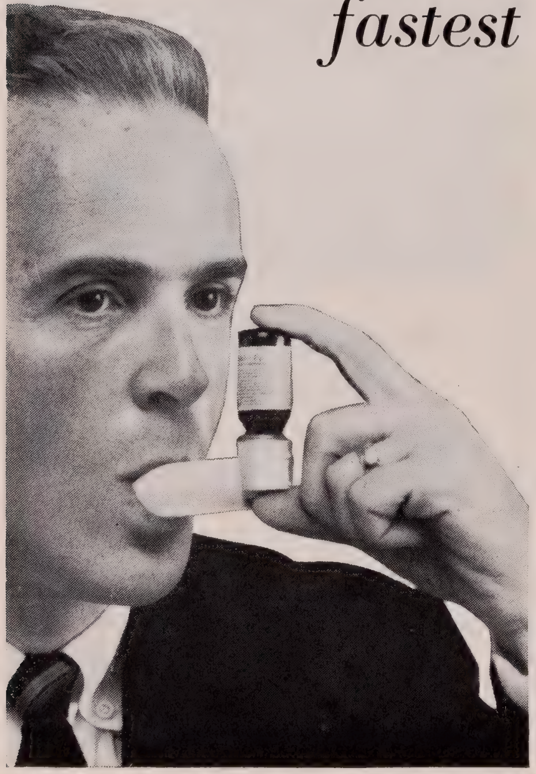

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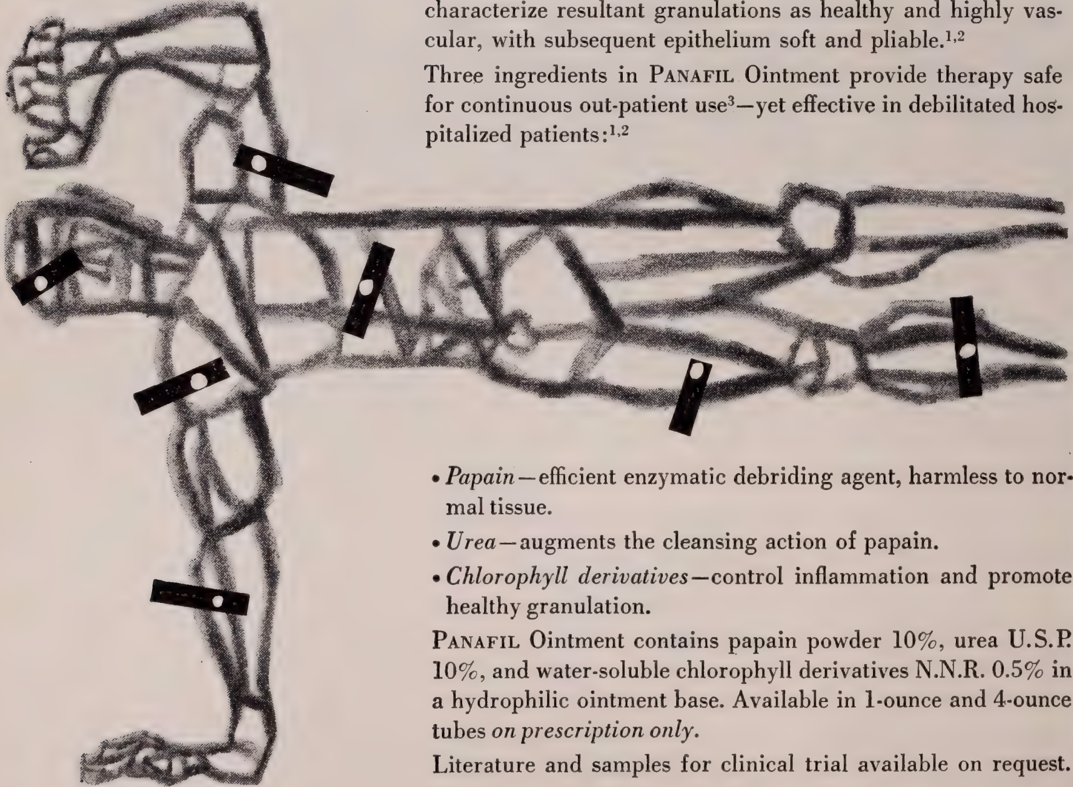

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FEBRUARY 18 to 21

MARK THE DATES!

This is when the Sesquicentennial Convention of the Medical Society of the State of New York will be held at the Hotel Statler in New York City.

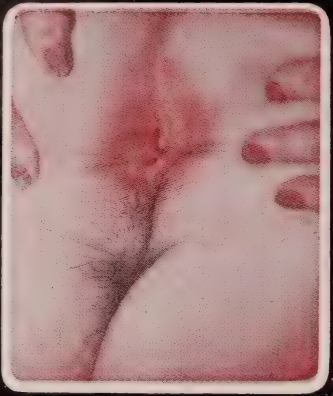
The Banquet will be held in the Grand Ballroom of the Waldorf-Astoria, Tuesday, February 19.

Your Society has planned some very special events to celebrate this anniversary. You will not want to miss any of it!

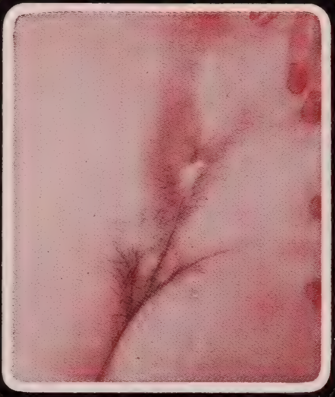
BE SURE TO COME!

FEBRUARY 18 to 21

1957



BEFORE: Female, 61 years. Severe itch in anorectal and vulval areas for 7 years. Area about rectum and vulva reddened and fissured, sensitive, painful. Itching continuous. Moderate crythema.



AFTER: Hydrolamins applied 2 or 3 times daily. Itch and pain relieved first week. Within 3 weeks no irritation, erythema or itch.

STOPS

the silent agony

# of PRURITUS ANI

in 98% of cases*

Breaking the itch-scratch-itch cycle is essential to control of pruritus ani. Topically applied Hydrolamins Amino Acid Ointment relieves itch *with anesthetic speed*—but without danger of tissue reaction.

In a series of 100 unselected sufferers from pruritus ani, the author* reported "Relief... experienced immediately in 98 cases." Moreover, in 88% of cases, "Within a few weeks' time there is every appearance of normal skin."

HYDROLAMINS®

AMINO ACID OINTMENT

Hydrolamins offers an isotonic, specially selected combination of amino acids derived from lactalbumin in a vehicle of polyethylene glycol 1500. Hydrolamins buffers against local (bowel) irritants. It does *not* contain local anesthetics ("caines") or astringents.

SUPPLIED in 1 oz. (28 Gm.) tubes.

Lewal PHARMACEUTICAL COMPANY CHICAGO 14, ILLINOIS

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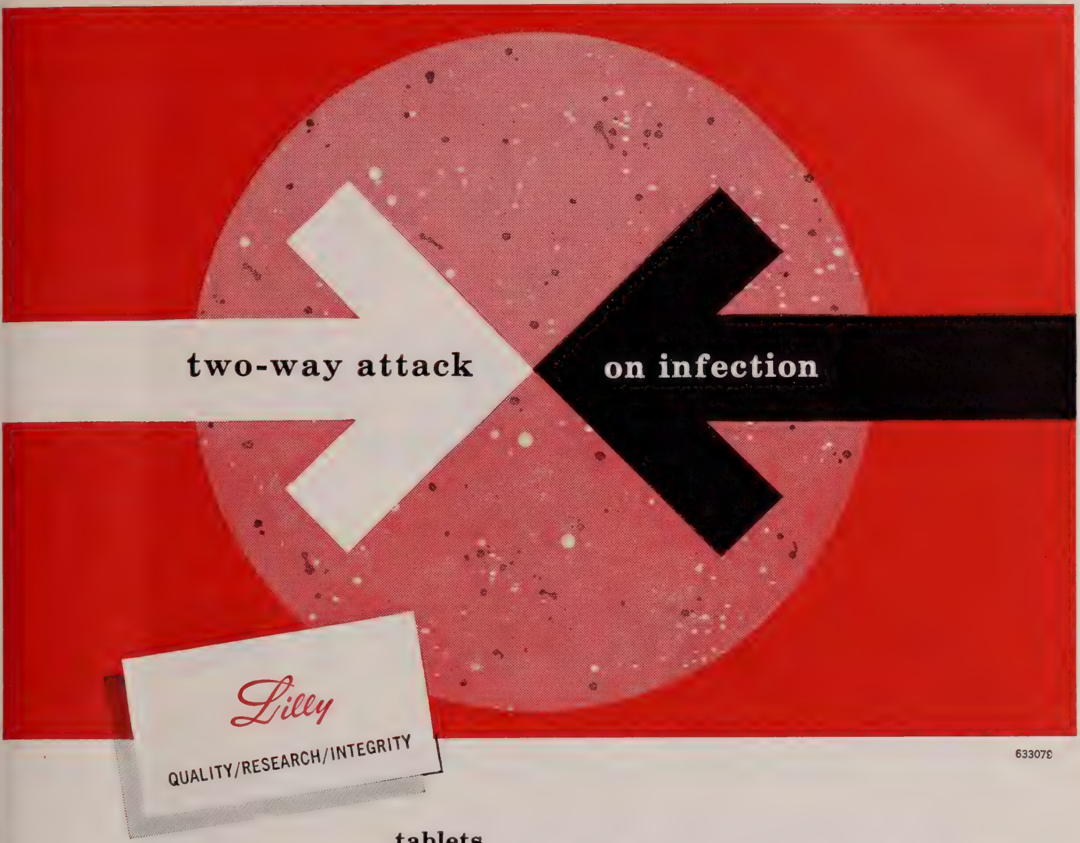
*Bodkin, L.G., and Ferguson, E.A., Jr.: Successful Ointment Therapy for Pruritus Ani, Am. J. Digest. Dis. 18:59 (Feb.) 1951.



633078

tablets

‘V-Cillin-Sulfa’

(PENICILLIN V WITH TRIPLE SULFAS, LILLY)

...combine the superior oral penicillin and three sulfonamides

‘V-Cillin-Sulfa’ provides you greater control over a wider range of microorganisms. ‘V-Cillin’ (Penicillin V, Lilly) and sulfas used concurrently produce faster and more effective antibacterial action in certain infections. In general, the combination is most beneficial in mixed infections, infections due to bacteria only moderately susceptible to either single agent, and conditions in which bacterial resistance might develop.

The much higher penicillin blood levels produced by ‘V-Cillin’ and the effectiveness and safety of the triple sulfas make ‘V-Cillin-Sulfa’ your most valuable preparation of its type.

DOSAGE: 1 to 2 tablets q.i.d.

SUPPLIED: Each tablet provides 125 mg. (200,000 units) ‘V-Cillin’ plus 0.5 Gm. sulfas—equal parts of sulfadiazine, sulfamerazine, and sulfamethazine.

80TH ANNIVERSARY 1876 · 1956 / ELI LILLY AND COMPANY

quick

YES

or

NO

test

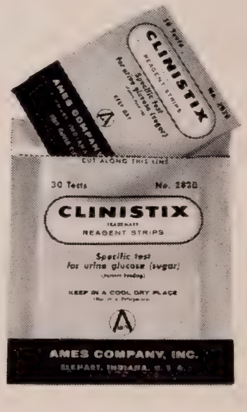
CLINISTIX®

BRAND Reagent Strips

specific enzyme test for urine glucose

CLINISTIX
REAGENT STRIPS
60 Tests No. 2846
KEEP IN A COOL DRY PLACE
DO NOT TOUCH TEST END OF STRIP
AMES COMPANY, INC.

◀ **routine office testing**
bottles of 60 CLINISTIX Reagent Strips


CUT ALONG THIS LINE
30 Tests No. 2838
CLINISTIX
REAGENT STRIPS
Specific test for urine glucose (sugar)
KEEP IN A COOL DRY PLACE
AMES COMPANY, INC.
ELKHART, INDIANA, U.S.A.

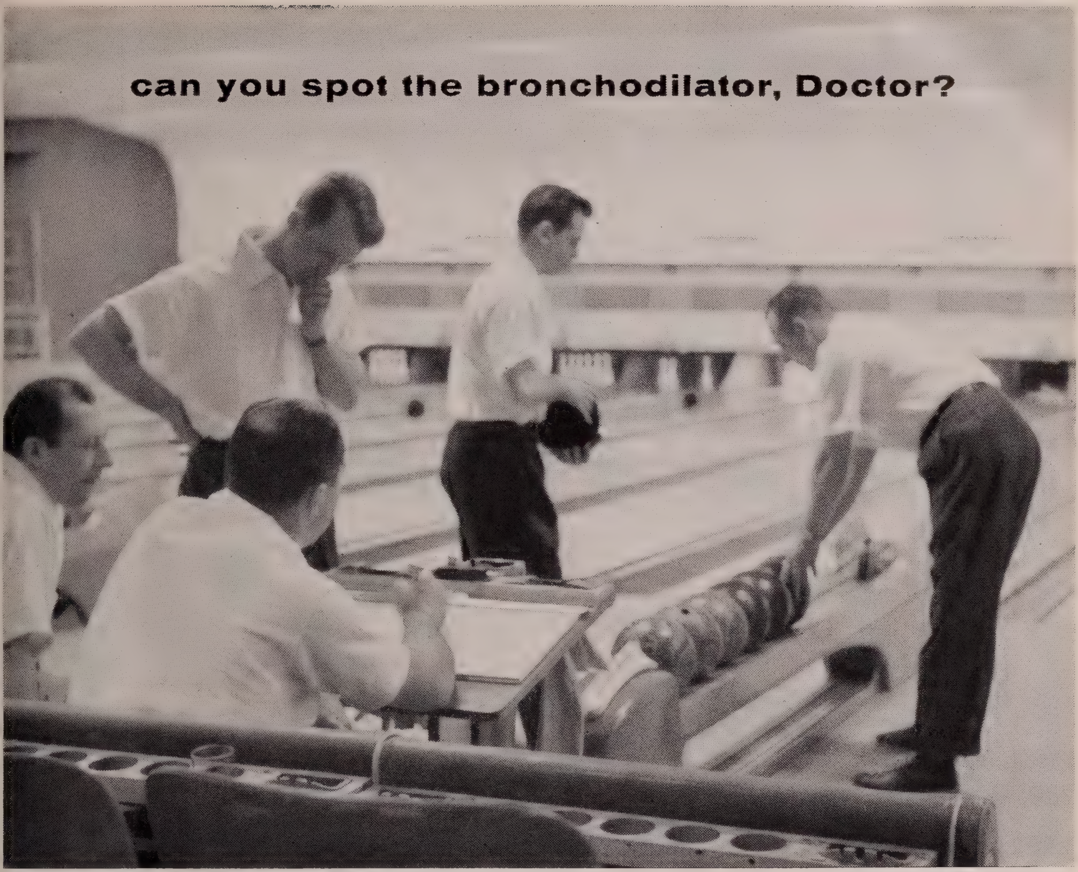
daily check by mild diabetics, ▶
well-controlled diabetics
packets of 30 CLINISTIX Reagent Strips
in new protective foil pouch

utmost simplicity and convenience...A firm, easily handled CLINISTIX Reagent Strip is moistened with urine.

qualitative accuracy...CLINISTIX Reagent Strip turns blue only if glucose is present. No blue color—no glucose!

Ames Company, Inc • Elkhart, Indiana • Ames Company of Canada, Ltd., Toronto 18256

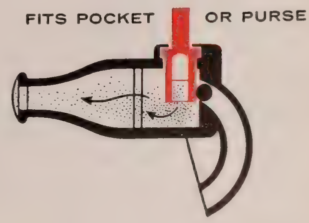
can you spot the bronchodilator, Doctor?



When you prescribe Norisodrine in the Aerohalor, your bronchial asthma patients have fast-acting relief right in the palm of their hands. That's because the Aerohalor is so small it fits pocket or purse, ready for instant use at the first sign of bronchospasm.

More important, Norisodrine is almost as quickly effective as intravenous or intramuscular treatment. Yet, serious side effects are minimized because systemic pressor action is insignificant, and dosage can be accurately adjusted to individual need and tolerance.

Why not keep a few Aerohalors with Norisodrine in your office so you can get your patients started without delay?



NORISODRINE® **sulfate powder** / *in the* **AEROHALOR**®
(*Isoproterenol Sulfate, Abbott*) (*Abbott's Powder Inhaler*)

Abbott

611234

Meat...

Good Nutrition and Endocrine Functioning

Maintenance of homeostasis attuned to health devolves upon good nutrition and normal functioning of the enzyme and endocrine systems.[1,2,3] Conversely, by impairing vital activities of the endocrines, poor nutrition can seriously disturb production of hormones needed to regulate metabolic processes.

Intense and prolonged deficiency in essential nutrients and food energy depresses pituitary, gonadal, and other endocrine activity, leading to subnormal physiologic states. Clinical studies exposing male volunteer subjects to a semistarvation diet produced symptoms resembling those of various endocrine dysfunctions.[4] Since the pituitary and other hormones are protein in nature, it appears logical to assume that protein nutrition plays an important part in their synthesis.[5]

Meat, by supplying valuable amounts of high quality protein, B vitamins, essential minerals, and fat containing unsaturated fatty acids, contributes importantly to any role that good nutrition may play in the maintenance of the endocrines, their functioning, and the production of hormones.

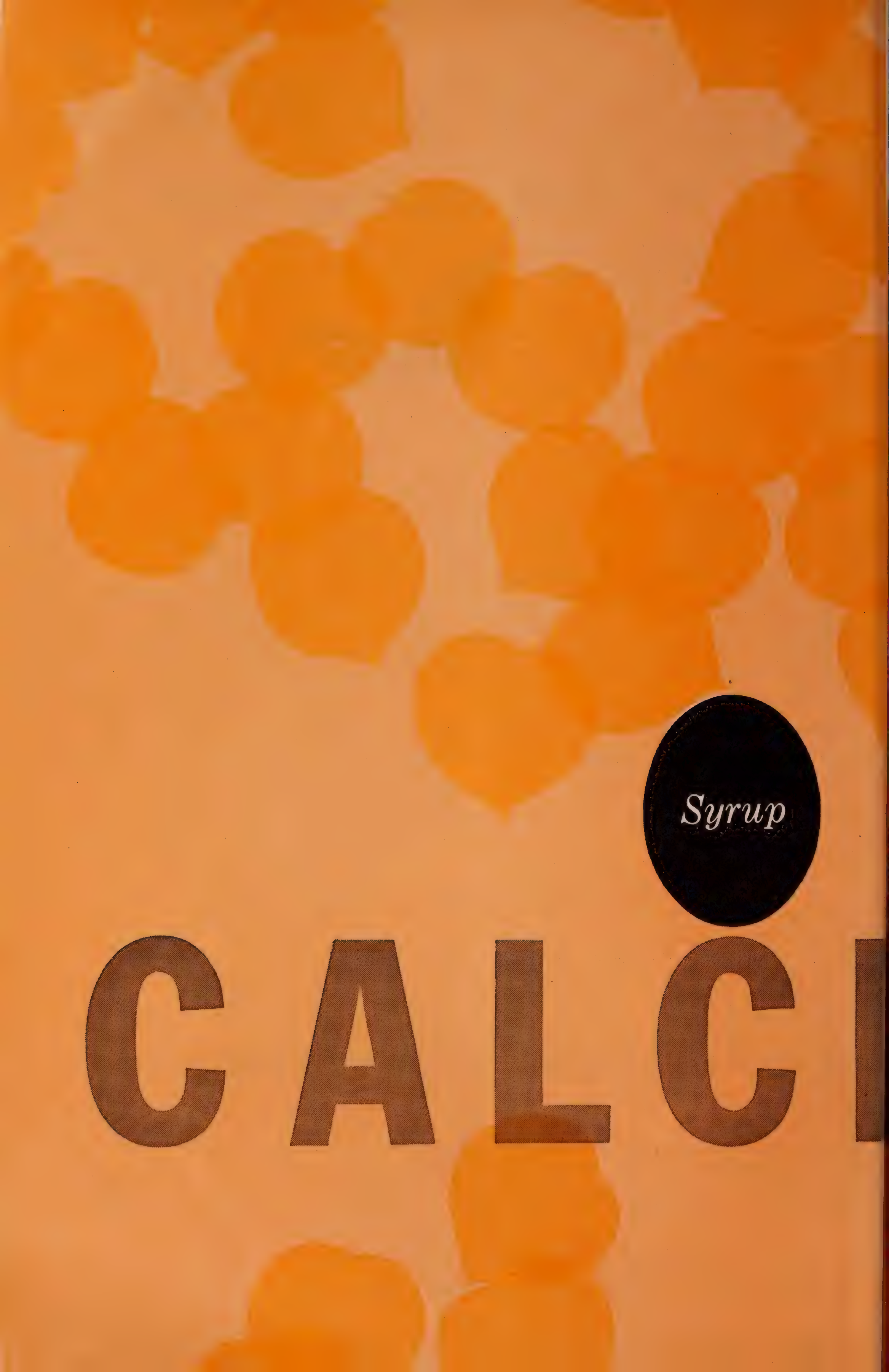
---

1. Ralli, E. P., and Dumm, M. E.: The Hormonal Control of Metabolism, in Wohl, M. G.: Modern Nutrition in Health and Disease, Philadelphia, Lea and Febiger, 1955, pp. 57-74.
2. McHenry, E. W.: Nutrition and Endocrine Function, Borden's Review of Nutrition Research, *16*:17 (Mar.-Apr.) 1955.
3. Ershoff, B. H.: Conditioning Factors in Nutritional Disease, Physiol. Rev. *28*:107 (Jan.) 1948.
4. Keys, A.; Brozek, J.; Henschel, A.; Mickelsen, O., and Taylor, H. L.: The Biology of Human Starvation, Minneapolis, University of Minnesota Press, 1950.
5. Samuels, L. T.: Progress in Clinical Endocrinology, New York, Grune and Stratton, 1950, p. 509.

The nutritional statements made in this advertisement have been reviewed by the Council on Foods and Nutrition of the American Medical Association and found consistent with current authoritative medical opinion.

American Meat Institute
Main Office, Chicago . . . Members Throughout the United States

Look what's happened to an old friend of yours


Syrup
CALC

a bright new look

a new apricot taste

...and just look at

this formula

Each 30 cc. (1 fl.oz.) of improved CALCIDRINE Syrup represents:

Dihydrocodeinone Bitartrate	10 mg. (1/6 gr.)
Nembutal® Sodium (AS NEMBUTAL)	25 mg. (3/8 gr.)
Ephedrine Hydrochloride	25 mg. (3/8 gr.)
Calcium Iodide, anhydrous	910 mg. (14 grs.)

® NEMBUTAL—PENTOBARBITAL, ABBOTT

Note that there is twice as much iodide as before—more than any other cough preparation. Note, too, that dihydrocodeinone replaces codeine—to depress the cough reflex with greater efficiency and no nausea. All this plus ephedrine plus Nembutal . . . in a smooth, nectar-like syrup that even your most finicky patients will accept.

DRINE®

Improved
COUGH THERAPY

Abbott

a new clinical study[1]

adds to the growing promise o

Sparine

HYDROCHLORIDE

Promazine Hydrochloride

10-(γ-dimethylamino-n-propyl)-phenothiazine hydrochlorid

*Trademar

in a diversity

of common clinical conditions

1. Shea, J., et al.: Military Med. 119:221-227 (Oct.) 1956.

Wyeth®
Philadelphia 1, Pa.

● SPARINE Hydrochloride provides dramatic control of agitation in the acute psychotic, acute alcoholic, and drug addict. Especially promising has been the minimal toxicity observed—no case of liver damage has been reported.

In a new study, Shea and others[1] find SPARINE effective for control of a wide range of conditions associated with various medical emergencies. In a series of 47 cases the authors found:

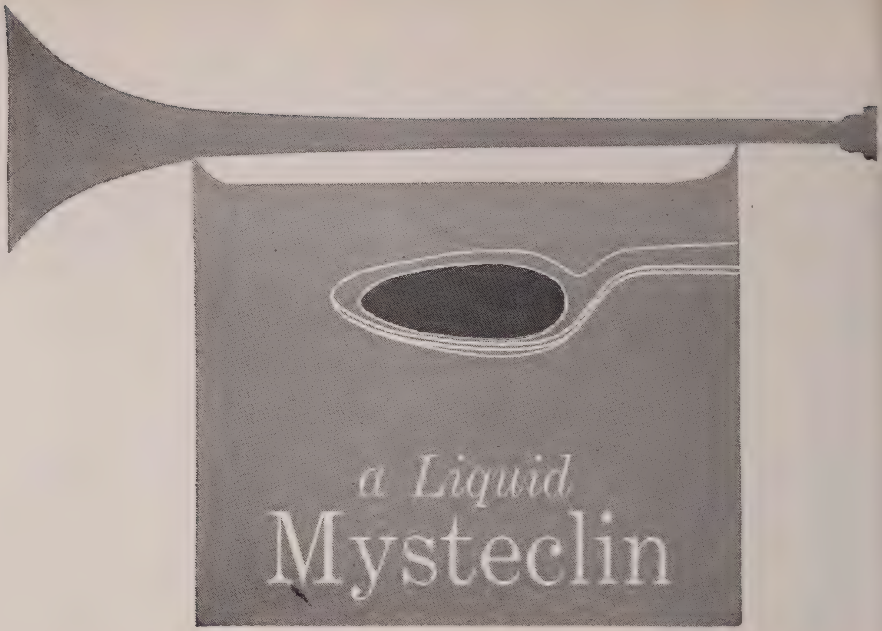
"On all but 2 cases the doses used (25 to 200 mg.) permitted satisfactory control of such . . . problems as agitation, anxiety, nausea, vomiting, pain and hiccoughs."[1]

Clinical Report on . . .

PROMAZINE IN THE MANAGEMENT OF MEDICAL DISTURBANCES[1]

Case No.	Age	Diagnosis	Therapeutic Indication	Dose and Route	Duration of Therapy in Days	Response
1	56	Tetanus	Control convulsions and for relaxation	100 mg., q4h, I.V.	2	Good muscle relaxation Opisthotonos—no convulsions
2	36	Duodenal ulcer, D.T.'s	Control D.T.'s and nausea	50 mg., q6h, p.o.	6	No trouble with nausea
3	60	Peptic ulcer and hiatal hernia	For sedation	50 mg., q6h, p.o.	13	Good response—no pains
4	45	Pancreatitis—Gastritis	Hyperactivity	50 mg., q6h, p.o.	7	Good response—pain diminished
	42	Cir	Hyper	50 mg., q4h, I.M.	7	G
7	40	Intracranial hemorrhage and M.S.	Pain in muscles	50 mg., q.i.d., p.o.	35	Good control of muscle pain
8	30	Ulcerative colitis	Pain from muscle and vomiting	100 mg., q6h, I.M.	36	Fair response
9	38	Sickle cell crisis Narcotic addict	Control pain	100 mg., q4h, p.o.	3	Good response
10	48	Rt. lower lobe pneumonia Chronic alcoholic	Control activity	100 mg., q6h, p.o.	12	Good response
11	44	Pneumonia	Vomiting and D.T.'s	50 mg., q6h, I.M.	6	Good response, immediate
			Abdominal pain		10	Good pain control
22	13	Uremia	Vomiting	25 mg., q6h	4	Vomiting controlled
23	57	Alcoholic (post)	D.T.'s and pain in chest	50 mg., q.i.d., I.M.	25	Controlled D.T.'s, pain relieved
24	42	Alcoholic (post)	Confused and disoriented	50 mg., q6h, p.o.	27	Fair control
25	71	HCVD—cerebral arteriosclerosis	Behavior problem	50 mg., t.i.d., p.o.	9	Good
26	47	Rheumatoid arthritis Acute excitation	Pain	50 mg., q6h, p.o. 50 mg., q6h, p.o.	3 5	Fair response
	16	Stricture of esophagus Pregnancy—hypertension	Vomiting	50 mg., q6h, I.M. 25 mg., q6h, I.M.	2 3	Controlled vomiting
		Chronic glomerulonephritis	Control nausea and vomiting	50 mg	9	C

NOW



MYSTECLIN SUSPENSION

Steclin-Mycostatin **(Squibb Tetracycline-Nystatin)**

Another form of the only broad spectrum antibiotic preparation with added protection against monilial superinfection

PLEASANT TASTING — Mysteclin Suspension is pleasantly fruit-flavored and will appeal to taste-conscious youngsters as well as to adults who prefer liquid medication.

BROADLY EFFECTIVE — Mysteclin Suspension provides well tolerated therapy for the many common infections which respond to tetracycline—and also acts to prevent monilial overgrowth.

READY-TO-TAKE — Mysteclin Suspension requires no reconstitution and can be given by simple teaspoon dosage to patients of all ages.

MYSTECLIN SUSPENSION: a fruit-flavored oil suspension containing the equivalent of 125 mg. Steclin (Squibb Tetracycline) Hydrochloride and 125,000 units Mycostatin (Squibb Nystatin) per 5 cc. teaspoonful. Supplied in two-ounce bottles.

Also available as Capsules (250 mg. Steclin Hydrochloride and 250,000 units Mycostatin) and Half Strength Capsules (125 mg. Steclin Hydrochloride and 125,000 units Mycostatin).

SQUIBB *Squibb Quality — the Priceless Ingredient*

'MYSTECLIN'®, 'STECLIN'®, AND 'MYCOSTATIN'® ARE SQUIBB TRADEMARKS

NEW
PEACE
OF
MIND
ATARAX®
(BRAND OF HYDROXYZINE)

WITHOUT DISTURBING MENTAL ACUITY

ATARAXIC
IN LIQUID FORM

PROMPT-ACTING,
GOOD-TASTING

ATARAX SYRUP

Roerig Rx
Chicago 11, Illinois

FAST—begins to induce "peace of mind" within 15 minutes.[1]

EFFECTIVE—approximately 90% clinical response in anxiety and tension states.[1, 2, 3]

WELL-TOLERATED—virtually no side effects are reported. No toxic action on liver, blood or brain.[1, 2, 3]

DOSAGE: Adults, usually one 25 mg. tablet or two tsp. Syrup, t.i.d. Children, usually one 10 mg. tablet or one tsp. Syrup, once or twice daily. Adjust as needed.

SUPPLIED: In tiny 25 mg. (green) tablets, and 10 mg. (orange) tablets, bottles of 100. ATARAX Syrup in pint bottles, containing 2 mg. ATARAX per cc.

References. 1. Farah, Luis: Int. Rec. of Med. & Gen. Prac. Clin. **169**:379 (June) 1956. 2. Shalowitz, M.: Geriatrics, July, 1956. 3. Robinson, H. M. et al: J.A.M.A. **161**:604 (June 16) 1956.

premenstrual tension

- block premenstrual water retention
- reduce vascular congestion
- eliminate excessive nervous tension
- prevent premenstrual tension...with

Neo-Mensalin*

Each tablet contains:
2-amino-2-methyl-l-propanol
8-bromotheophyllinate .... 50 mg.
Pyrilamine Maleate .... 30 mg.
Samples and literature on request.

*TRADEMARK

Walker LABORATORIES, INC.
MOUNT VERNON, NEW YORK, U. S. A.

Where **LECITHIN** *is indicated* —

GRANULESTIN

— the *original* vitamin-enriched granular phospholipid complex from soy. Rich in *unsaturated fatty acids and organically combined choline-inositol-colamine-phosphorus.* Ethically promoted for ten years as a dietary supplement with Vitamin A, in cardiovascular disease, in psoriasis and for lipotropic activity (as in diabetes, liver dysfunction, alcoholism and in geriatrics). Samples and literature on request.

ASSOCIATED CONCENTRATES
57-01 32nd Avenue, Woodside 77, L. I., N. Y.

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Count 7 average words to each line

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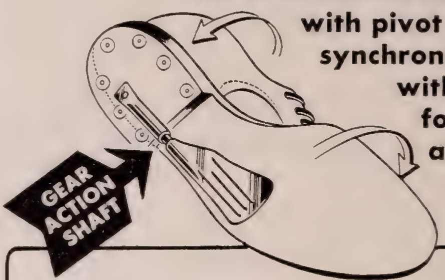
from
Lederle
the first practical
MUMPS VACCINE

An effective immunizing antigen for prevention of mumps in children or adults where indicated. Immunizes for about one year.

Packages: 2 cc. vial (1 immunization)
10 cc. vial (5 immunizations)

LEDERLE LABORATORIES DIVISION
AMERICAN Cyanamid COMPANY PEARL RIVER, NEW YORK

The Gear Action Shoe★ with pivot arch synchronizing with the foot in action



- Insole extension and wedge at inner corner of heel where support is most needed.
- The patented arch support construction is guaranteed not to break down.
- Innersoles guaranteed not to crack or collapse.
- Foot-so-Port lasts designed and the shoe construction engineered with orthopedic advice.
- Conductive Shoes for surgical and operating room personnel. N.B.F.U. specifications.

★We are also the manufacturer of the Gear-Action Shoe designed by noted orthopedic surgeon.

- We make more shoes for polio, club feet and disabled feet than any other shoe manufacturer.

Send for free booklet, "The Preservation of the Function of the Foot Balancing and Synchronizing the Shoe with the Foot."

Write for details or contact your local **FOOT-SO-PORT** *Shoe Agency. Refer to your Classified Directory*

Foot-so-Port Shoe Company, Oconomowoc, Wis.
A Division of Musebeck Shoe Company

Side Reactions With Various Hypotensive Drugs

- postural hypotension
- collapse
- bladder obstruction
- renal complications
- vomiting
- tachycardia
- constipation
- depression
- edema
- impotency
- headaches
- dizziness
- nausea
- bone marrow depression
- collagen-like illness
- G.I. hemorrhage

NONE OF THESE WITH UNITENSEN-R

when you treat hypertension with drugs...

TRY

UNITENSEN*-R

FIRST

a combination ideally suited for treating moderate to severe hypertension where blood pressure has to be lowered

Each tablet contains:

Cryptenamine. .1 mg.
(as the tannate salt)
Reserpine. .0.1 mg.

For prescription economy: prescribe Unitensen-R in 50's

1 tablet b.i.d.

also available—
Unitensen tannate tablets (contain cryptenamine 2 mg.)

to serve your patients today—
call your pharmacist for any additional information you may need to help you prescribe Unitensen-R. He has been especially alerted.

*T.M. Reg. U.S. Pat. Off.

IRWIN, NEISLER & COMPANY • DECATUR, ILLINOIS

IN ANGINA PECTORIS

To Reduce the Incidence of Attacks

Pentoxylon®

Long-acting tablets containing pentaerythritol tetranitrate (PETN) 10 mg. and Rauwiloid (alseroxylon) 1 mg.

Helps In All These 7 Ways

- Reduces incidence and severity of attacks
- Increases exercise tolerance
- Reduces tachycardia
- Reduces anxiety, allays apprehension
- Reduces nitroglycerin need
- Lowers blood pressure in hypertensives—not in normotensives
- Produces objective improvement demonstrable by ECG

Riker
LOS ANGELES

Dosage: One to two tablets q.i.d., before meals and on retiring.

To Relieve the Acute Attack More Rapidly and with less side actions

Medihaler-Nitro™

Octyl nitrite (1%) in aerosol solution

- Faster because self-propelled nebulization produces quicker absorption via the lungs.
- Less side actions because octyl nitrite produces less systemic effects.

for the first time...extended action codeine

no
call
from
pain
tonight

10 to 12 hours uninterrupted pain relief in a single tablet

Donnagesic™

Donnatal® with Codeine extended action tablets

Extentabs*

- no up-and-down analgesia
- better codeine toleration

Belladonna alkaloids and phenobarbital, as in Donnatal, induce mild sedation, reducing pain consciousness and anxiety. Patient is protected from spasm. Codeine constipation, nausea and vomiting are avoided. Phenobarbital directly augments the potent analgesic effect of codeine.[1] Indicated wherever codeine is indicated—in pain or cough.

Donnagesic No. 1 (pink)

CODEINE Phosphate (¾ gr.)	48.6 mg.
Hyoscyamine Sulfate	0.3111 mg.
Atropine Sulfate	0.0582 mg.
Hyoscine Hydrobromide	0.0195 mg.
Phenobarbital (¾ gr.)	48.6 mg.

Donnagesic No. 2 (red)

CODEINE Phosphate (1½ gr.)	97.2 mg.
Hyoscyamine Sulfate	0.3111 mg.
Atropine Sulfate	0.0582 mg.
Hyoscine Hydrobromide	0.0195 mg.
Phenobarbital (¾ gr.)	48.6 mg.

1. Goodman, L. S., and Gilman, A.: The Pharmacologic Basis of Therapeutics, N. Y., The Macmillan Co., 1955; p. 127.

A. H. ROBINS CO., INC.
RICHMOND 20, VIRGINIA
Ethical Pharmaceuticals of Merit Since 1878

*TM Reg. U.S. Pat. Off.—pat. applied for

because anemia complicates
so many clinical conditions . . .

Lilly

QUALITY / RESEARCH / INTEGRITY

'Trinsicon'

(HEMATINIC CONCENTRATE WITH INTRINSIC FACTOR, LILLY)

serves a vital function in your total therapy

Potent 'Trinsicon' offers your patient complete and convenient oral anemia therapy; provides therapeutic quantities of all known hematinic factors. Just 2 Pulvules 'Trinsicon' daily produce a standard response in the average uncomplicated case of pernicious anemia (and related megaloblastic anemias) and provide at least an average dose of iron for hypochromic anemias, including nutritional deficiency types. In bottles of 60 and 500, at pharmacies everywhere.

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EDITORIALS

American Museum of Immigration

It will undoubtedly be of interest to the medical profession of the Empire State that there will be established at historic Fort Wood on Bedloe's Island at the foot of the Statue of Liberty a proposed American Museum of Immigration. In a letter to Major General Ulysses S. Grant, 3rd, general chairman of the project, President Dwight D. Eisenhower has endorsed the idea in the following terms:

> The establishment of the American Museum of Immigration at the foot of the Statue of Liberty is an event of genuine significance. This is a nation of nations. Our forefathers came here from all the countries of the world, and from our variety of ancestries has grown an unimagined national vigor. United as one people, we have created new freedom, and new opportunity for all. There is no story like it in history, and the idea of telling it at the foot of the Statue of Liberty is a splendid one.
>
> I know that millions of Americans will join with me in commending the establishment of this great national shrine.

There is indeed an emotional appeal to the hearts of all of us in such an enterprise, for who among us is not here except as an immigrant or the descendant of immigrants? No project that we can think of could be found with a more basic interest for us who are the inheritors of the American ideals of "freedom and promise, justice and compassion" in the words of Brigadier General David Sarnoff, honorary chairman of the New York Committee of the American Museum of Immigration.

There will shortly be a campaign to enlist the contributions of our men, women, and children as individual, free-will participants in establishing this Museum. It is hoped that the physicians of the State will be actively interested. Naturally, this project raises a lot of questions. The answers will be found on page 3367 of this issue of the JOURNAL, also in the daily press. It is hoped to raise the sum of $5,000,000 to establish the Museum and create a special endowment for it. Once the Museum is in operation, the basic costs of administration and maintenance will be met by the National Park Service, custodian of the Statue of Liberty National Monument.

It is hoped that the physicians of this State and of the nation will generously assist this project which will act as a constant reminder of the debt we all owe to the faith, courage, and enterprise of those who have come to these shores as immigrants from tyranny and oppression elsewhere.

Social Security I

Human nature being what it is, no one will be surprised that the Congress has passed a bill to expand social security benefits in an election year. Pensions have become an issue of great importance to an increasingly large number of elderly voters whose life span and good health the profession of medicine has labored long and successfully to improve.

Having some responsibility for the creation of the problem, the profession may reasonably reserve the right to doubt the wisdom of the Senate action both as physicians and taxpayers. Says the New York *Herald Tribune*, editorially in part:

> The two major provisions of the bill would lower the retirement age for women from the present sixty-five to sixty-two, and would grant substantial benefits to totally disabled workers at the age of fifty. Objections to the

lower retirement age are based on the fact that women are living, and working, longer than ever before, and on the fear that a lower age for one group will lead to a lower age for all.[1]

It might be well to keep in mind that there will be many future election years in which legislators will undoubtedly be open to arguments for further liberalization of the Social Security Act. The number of elderly voters seems to be increasing in the general population, and many of the younger ones cannot be expected to ignore the fact that they are being taxed all their working lives to support the scheme for others. The chances seem to be in favor of a further lowering of the retirement age in the future.

The main controversy centered around pensions for the disabled who have never before been covered by social security. Disability has now become covered. On this point the *Herald Tribune* says:

> It is indeed difficult to see how such a program could be properly administered. It is vulnerable to abuses, and defies uniformity of standards because disability will be determined by state agencies. It thwarts efforts toward rehabilitation and saps the incentive of its beneficiaries to overcome their handicaps. Finally, it sets a precedent for an even greater extension of social security and, consequently, even greater taxes. As envisioned in the Senate bill, the disability program would increase taxes by $850 million a year.
>
> This is not to say that the nation should be indifferent to the obligations of its social conscience, but social responsibility must be balanced by financial responsibility. "We all have sympathy with the special needs that may arise for some individuals," Secretary of Health, Education, and Welfare Folsom told the Senate Finance Committee in March, but "we cannot provide every desirable benefit or cover every possible need without imposing a future tax burden on the people that might endanger public support for the system we are trying to uphold."

It would seem that this action of the Congress has opened the way to what the *Herald Tribune* characterizes as "social insecurity" through mounting taxes. A look at the record tells the story in brief.

In 1935 at the commencement of social security, only protection for the worker in old age was offered. Then another kind of "insurance" was included, protection for the worker's dependents after his death. Now, a further form of protection has been voted by Congress, disability insurance. Some 10,000 disabled children will eventually receive children's benefits for an indefinite period past the present age of eighteen, and some 200,000 people—lawyers, dentists, and other professional persons—will be in the system for the first time. Thus the liberalization of the act has proceeded apace. The tax will rise January 1, 1957, from 1 to $2^1/_4$ per cent each on employer and employe on the first $4,200 of the employe's annual pay. For self-employed persons the tax rises to $3^3/_8$ per cent. In 1975 the tax goes to 4 per cent on employer and employe and to 6 per cent on self-employed persons. These figures are based only on present benefits. If new benefits are added the future tax rates will be increased proportionately.

Physicians are not included in the "covered" groups of self-employed persons. There is yet time for them to consider whether or not they would be better off with or without such "social insecurity."

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[1] July 19, 1956, p. 18.

Freedom of Choice Upheld

At its 1956 meeting the House of Delegates of the Medical Society of the State of New York adopted a recommendation of its Reference Committee on Constitution and Byalws for a referendum, in order to learn how many active members favor and how many disapprove of membership in the American Medical Association being compulsory for members of the Medical Society of the State of New York.

A poll of the Society's membership was taken by the office of the secretary between July 24 and August 8, 1956, by mail ballot with the following result: A total of 14,013 signed replies were received. Of these, 9,563 (68.2 per cent) voted "no," registering their disapproval of compulsory membership in the American Medical Association for active members of the State Society. There were 4,450 (31.8 per cent) who voted "yes," in favor of requiring active members of the State Society to be members of the American Medical Association. Thirty-seven replies were not signed; of these, 31 were marked "no," and six were marked "yes." If these had been counted, the outcome would not have been changed.*

The vote seems to be decisive and, it is hoped, conclusive. There would have been something inconsistent had the profession chosen the path of compulsion in this matter after opposing it in others. Granted that some 30 per cent of physicians members of the Society are not members of the A.M.A. according to our information, that is their prerogative and their personal choice. This apparently was the view of 68.2 per cent of the physicians polled. It does not appear for what reasons the 31.8 per cent who voted contrary thought membership in the A.M.A. should be made compulsory.† Analysis of the vote seems to indicate that opinion for and against was fairly evenly registered by a few of the upstate counties—Schuyler, Schoharie, Madison, Putnam, Orleans, Genesee, Herkimer, and Delaware—but elsewhere opinion was rather heavily weighted against compulsion. In only one county, Richmond, did the vote for compulsion exceed that recorded against.

On the record and on a clear-cut issue a majority of those voting upheld freedom of choice by more than 2:1. This is a healthy state of affairs. Opinions may differ as to the value of such samplings, but as of this time no one could reasonably doubt the attitude of the majority of the polled physicians on this issue nor avoid the inference that where compulsion is in question on any issue, except possibly national defense, a similar vote would probably be recorded, given a question as clearly defined as this one.

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* Editor's Note.—A detailed breakdown of the vote by counties will be found on page 3386 of this issue.

† Those reasons are personal and peculiar to the individual and constitute his right of privacy.

Sesquicentennial Meeting

Medical Society of the State of New York

February 18 to 21, 1957

HOTEL STATLER **NEW YORK CITY**

PRESIDENT'S PAGE

Illness Insurance

James Greenough, M.D.

I wish to discuss medical expense, or health, or, more properly, illness insurance. There are two forms of such insurance. One, indemnity, provides a cash payment to the insured in the event certain illnesses occur. The second, a service contract, pays the bills so that there is no charge to the patient who is ill. The area of coverage may vary in either type. With indemnity insurance, there may be limitation to the diseases covered, and there can be no guarantee that the cash payment will cover the costs incurred. With a service contract, there may be limitation to the procedures covered, but there is a guarantee that those which are covered will be totally covered with no additional costs to the patient.

What does the average citizen want? He desires to be kept well by preventive medicine and when sick to obtain the best medical care available without being ruined financially. Our problem as a medical society, then, is to protect our patients from illness, and when they are ill, to offer the best medical care available, and to do all this in such a way that the cost is not prohibitive.

We should provide leadership in educating the public in ways to avoid illness and, also, to teach them that early attention to any illness will minimize its crippling potentialities. In this field we may count upon assistance from public health agencies. As I pointed out at the Health Officers' meeting in June, we should cooperate with our health departments to promote "behavior-centered" rather than "information-centered" education. In other words, we should not merely impart information to our patients. We must also consider their basic drives and motivations as human beings so that we can stimulate them to put the information into action in order to achieve the maximum health benefits. We should also strive to make preventive medicine attractive by cordial personal relationships with our patients and by keeping its cost at a minimum.

When disease is present we have further responsibilities. We must be conscientious in our patient care. We must neglect nothing, we must give everything we can, and we must be ready and eager to ask for help from our colleagues when we realize that we need help. This is not always easy, but, remember, our patients' lives and health depend upon our putting their welfare above our own emotions.

In general, there are three ways in which medical expense insurance may be sold. An individual may insure with a commercial company, with Blue Cross-Blue Shield, or with a panel-group plan. With commercial insurance the only possible type is indemnity, since commercial insurance companies do not have financial control of hospitals or doctors. Blue Cross-Blue Shield, however, may provide three types: indemnity insurance, a combination of indemnity and service contract, or a service contract. The inherent principle of panel-group plan insurance is total service contract. In other words, in this type of contract the insured and his family knows that all his medical expenses will be paid. With this type of contract, however, the insured must use the physicians in the panel. Free choice of physician is definitely limited or absent.

With this preliminary statement, let us consider what the person seeking insurance wants.

To the great majority of our citizens, sickness is a tragedy. Not only do they worry about regaining health, but all too often is added the strain of heavy financial loss. Hospital care is expensive, and yet hospitals provide this care with an annual deficit. Doctors in general are not overpaid. Their charges have advanced 42.5 per cent while the cost of living has increased 47.5% since 1945.

Groups of medical men are increasing steadily. Many physicians believe better care will result from group medicine. Only time will tell whether the group or the individual is the answer. Our Society could well devote some study to this important development.

What, then, is our duty as a Society in regard to medical expense insurance? We can have little influence in developing commercial insurance. The majority of our members do not believe that panel-group insurance is the method for providing the best medical care with the most satisfactory financial arrangement. Blue Cross-Blue Shield, therefore, is the solution which we offer to the public's health problem.

As you all know, organized medicine developed this form of insurance during the depression. At that time, premiums had to be low and benefits covered only heavy medical expense. But now we are not in a depression. Many groups receive medical insurance as part of their wages or salary. Most of those who do not can afford higher premiums than they could in the 1930's. Conversely, as the payment of premiums becomes easier, the demand for increased benefits becomes greater. As pointed out before, the insured wants total coverage for the cost of illness. And he is right. People do not insure their houses for half their value. If loss occurs they want total replacement. Similarly, when ill, the insured wants his entire hospital and medical bill paid. This means wide service contracts to cover acute illness and catastrophic coverage as well.

As the doctors who underwrote Blue Shield in the beginning, we are in a perfect position to provide total service policies. Some of our plans have almost reached this goal. It behooves us, as a Society, to stop our regional disputes about Blue Cross-Blue Shield coverage. We should all work together so to improve our own insurance plan that it will offer to anyone the coverage he may want. We should all become participating physicians. We must influence our Blue Shield organizations to offer as wide a basic service contract as possible. We must persuade them to explore further extension of riders so that total coverage may be approached or reached. We must, if necessary, assume temporary financial loss in our efforts to give the public what it has every right to demand.

The private practice of medicine is facing a crisis. As the recent survey of the AMA indicated so clearly, patients have every confidence in their own individual doctor but less in the medical profession as a whole.

How can we restore this confidence? How can we prevent any future moves towards socialized medicine as the result of the desire of people to have total financial coverage for illness? There is only one plausible answer. We must clearly demonstrate that we are constantly striving to provide the best medical care available in the way they desire it. That way, as I have tried to show you, is through proper education, preventive medicine, high-grade therapeutic medicine, and adequate sickness insurance coverage, preferably through Blue Cross-Blue Shield.

James Greenough

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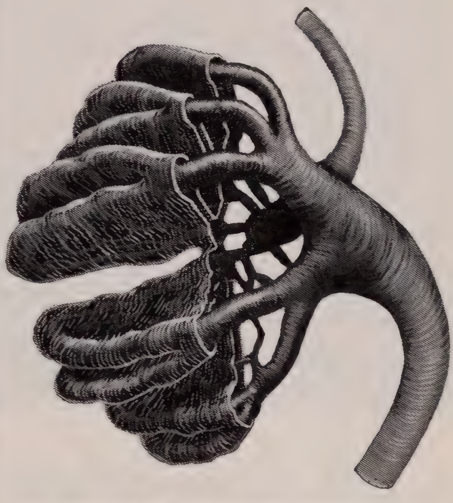

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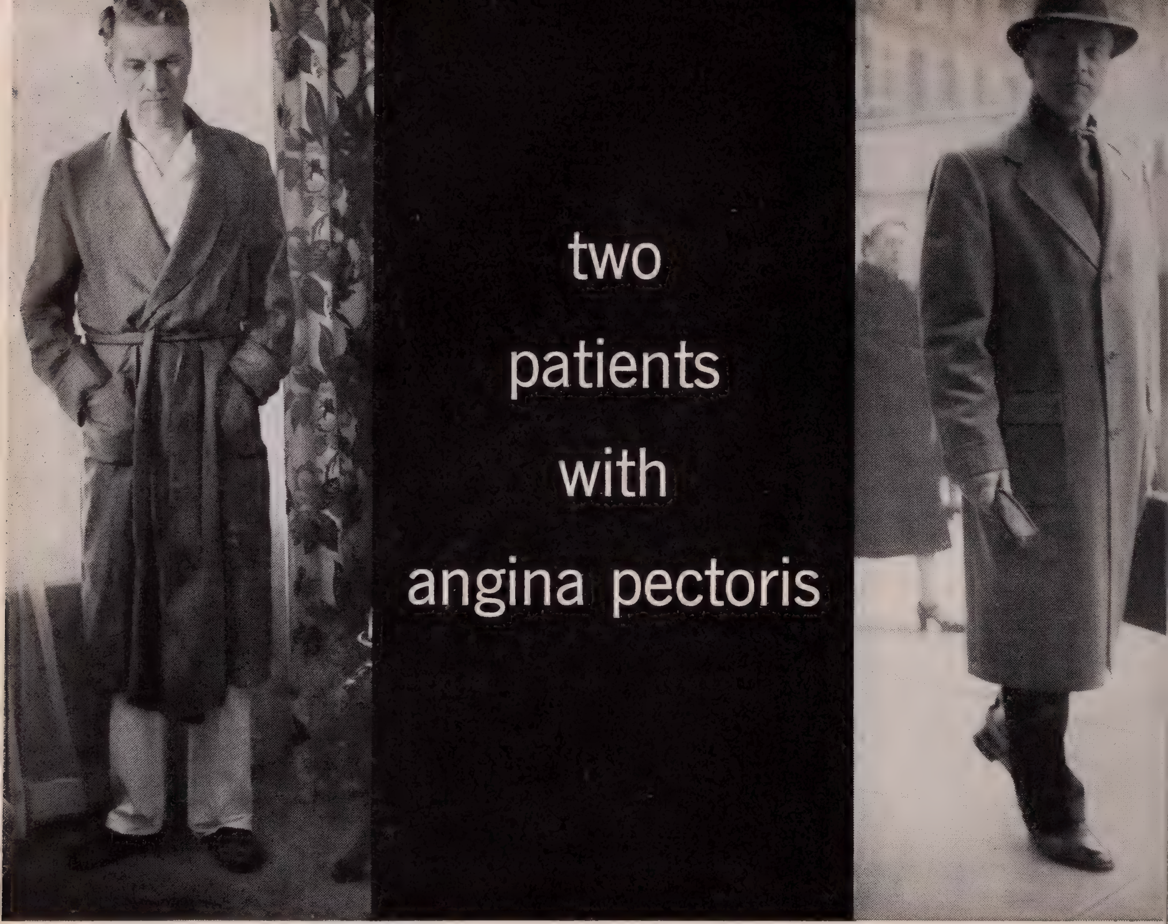

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Usual Dosage: 10 to 20 mg. *before meals* and at bedtime.

References: **1.** Rosenberg, H. N., and Michelson, A. L.: Am. J. M. Sc. *230*:254 (Sept.) 1955. **2.** Kory, R. C., *et al.*: Am. Heart J. *50*:308 (Aug.) 1955. **3.** Winsor, T., and Humphreys, P.: Angiology *3*:1 (Feb.) 1953. **4.** Plotz, M.: New York State J. Med. *52*:2012 (Aug. 15) 1952. **5.** Dailheu-Geoffroy, P.: L'Ouest-Médical, vol. 3 (July) 1950.

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SCIENTIFIC ARTICLES

Factors Contributing to the Successful Treatment of Retinal Detachments

GRAHAM CLARK, M.D., NEW YORK CITY

(From the Department of Ophthalmology of Presbyterian Hospital and the College of Physicians and Surgeons of Columbia University)

There is an inherent evil in the name of any disease. Even if the disease is lucky enough to escape being branded by the name of its discoverer, its name still comes from the original concept of the disease and, unconsciously, our future thought on the disease is strongly influenced by its name. The retinal detachment is such a case, directing our investigative attention toward the retina and shielding the guilty vitreous wherein lies the cause of the detachment. Some learned men have held that it should more properly be called "separation of the retina." An excellent example of a purist straining at a gnat and passing a camel.

I do not propose that the name of this disease be changed, but I do suggest that our thinking about the disease will be clearer if we keep in mind that the disease is the result of the vitreous acting on the retina and that the causative pathology and the active part of this progressive process are due to a disease change in the vitreous.

This is not a new thought for it was first suggested in 1882 by Leber, later accented by Lindner and von Sallman, more recently by the studies of Wadsworth, and most significantly by the work of Dr. Donald Shafer as he will present it later on this program.*

For my part I shall deal with some of the factors contributing to the successful treatment of retinal detachment, and in this discussion let us keep before us the concept that this is a progressive disease caused by active changes in the vitreous.

If this is a progressive disease, the early detection of the process must be an important factor for, if we have an active force in the vitreous which tends to pull the retina from the wall of the eye and we combat that force by chorioretinal adhesions which pull the retina back to the wall, it is obvious that the sooner we exert this latter force, the better our chances will be of success.

The vitreous, unfortunately, is not readily visible, nor are its membranes which pull on and tear the retina so we must be constantly on the watch for the manifestations of a retina so threatened. My professor of syphilology taught us that the early detection of syphilis depends on a high index of suspicion, and this is also the key to the early detection of retinal detachments.

First, we must suspect it in any eye past the age of forty-five whether or not the patient gives us cause for this suspicion in his symptoms. We must examine the pre-equatorial retina for degenerative changes, particularly in either of the upper quadrants, watching for the silvery streaks that tell of vitreous membrane traction or the angulation of the retinal end vessels. We must watch for retinal tears or holes which may well be symptomless, and here we must not be led astray by the numerous vascular changes and cystic areas which, Teng has shown, look so much like retinal holes, or "breaks" if you will.

Light flashes, particularly crescentic ones in the lateral peripheral vision, may well be only senile photopsia, but they must be proved to be so.

Presented at the 150th Annual Meeting of the Medical Society of the State of New York, New York City, Section on Ophthalmology, May 11, 1956.

* See page 3300 of this issue.

Any sudden occurrence of multiple floaters or any frank vitreous hemorrhage must be assumed to come from a tear in the retina until proved otherwise. Many detachment patients report only a transient "watery" vision in one eye, and cataract patients who report that their vision became suddenly worse or those in whom the gross field of vision is incomplete in the periphery must be held under heavy suspicion. Last, any case in which one retina is found to be detached must undergo the most exhaustive and suspicious scrutiny of the other eye. This last precaution will not only show up any similar threat to the other eye but often, when visualization of the detached retina is poor, will give a valuable clue to the possible location of the hole in that retina.

In such examination a maximally dilated pupil, a darkened room, and a powerful light source are essential. The battery-handle ophthalmoscope is not adequate. The indirect ophthalmoscope, either monocular or binocular, is useful here for it gives a view of larger fields of retina, and its inherent depth of focus is helpful in aphakics, myopes, and in cases with lens opacities.

Many concepts of the detachment have and will change, but the words of the late Dr. Arnold Knapp, who said that the battle of the retinal detachment is won or lost in the dark room, will always be true. Unless we fully comprehend the mechanics of the action of the vitreous sheets or strands on the retina, we cannot hope to combat their action effectively, for it is the purpose of the electrosurgical treatment of detachments not only to seal off the retinal hole but, of even greater importance, to create an adhesive reaction which will overcome the pull of the vitreous wherever it persists and prevent further damage. In this connection we must always keep clearly in mind that we are fighting one disease with another. I will have more to say about this later.

Before we proceed to the factors directed against the detaching forces in the eye, let us look at the patient as a whole. First of all, the detachment patient is a frightened and confused person; he has been suddenly confronted with blindness and has had his economic and social existence interrupted without plan or warning. This is a bad state of mind for the physical quiet which is required, as well as delaying the healing process whose speed is so important. What steps will relieve this fear and tension?

1. Do not rush the patient into the hospital. Any eye that is lost after twelve more hours of ambulation was lost before you started.

2. Orient the patient carefully both as to his disease and the hospital and operative routines. We fear chiefly those things which we do not know. The tranquilizing drugs are useful here.

3. Do not require that the patient lie flat and motionless in bed. This is unnecessary in the first place and impossible in the second place. It has been amply proved that the hydraulic inertia forces in the quick movements of the eyes are the forces that promote the detachment mechanism, so bandage the eyes tightly, but allow a comfortable position and slow movement of the head and body. Lavatory privileges do not affect the preoperative settling of a retina and provide some welcome exercise for the patient and remove the psychic trauma of the bedpan.

Postoperatively the rationale of treatment is much the same with ocular quiet considered over and above bodily quiet.

At the end of a proper operation for retinal detachment, when the eyes have been securely bandaged, all the active factors in the treatment have been introduced, and the case stands as a success or failure regardless of any postoperative forces that may intervene. Any surgeon who blames a failure on the postoperative conduct of the patient is false to himself as well as his patient. If a retina does not reattach after surgery, it is the result of improperly placed or inadequate surgery and nothing else. It is true that adequate surgery may be impossible within the limits of the eyes tolerance, but I have never yet seen a failure that was the fault of the patient.

As to the postoperative posture of the patient, the salient factor is again quiet and rest and not immobility, and a comfortable patient will be quieter than one forced into an unnatural position, which includes lying flat in bed. If the retinal hole has been properly sealed by the treatment and the subretinal fluid forced out, you have a closed sphere under positive pressure. The force of gravity is no more a factor than it is in the inflated bladder of a basketball so the patient may be in a semirecumbent or sitting position as he desires. Frequent movements ease the pull on the muscle systems and, if done slowly, have little effect on the hydraulic forces within the globe. The result is a comfortable, relaxed, and truly quiet patient.

For the last 268 consecutive patients we have followed a regime whereby the postoperative patient is allowed any degree of gatch desired and allowed to sit in a chair after the first thirty-six hours with lavatory privileges. In that series, without any significant alteration in our operative technic, our percentage of success has been as good or better, and our rate of recurrences has dropped significantly. The results of this regime have decreased the length of the patient's stay in the hospital and sent him out healthy in mind and body. This is important in the successful cases but even more so in the unsuccessful ones which must face reoperation.

In deciding on the operative technic to employ, it is wise to have no general rules but to tailor the surgery to meet the needs of each case, attempting in each to find and overcome the detaching factors with the minimum of surgery, that is to say, with the least possible damage to an already sick eye.

For the primary decision the general field may be divided into: (1) simple detachments or those in which the repositioning of the retina is unopposed by any mechanical force and (2) complicated detachments where there is a persistent or progressive mechanical force acting on the retina which will not allow it to resume its normal position. Forty-eight hours of quiet rest in the hospital with the eyes tightly bandaged will be the greatest help in determining these two groups. In that time a simple detachment will settle almost completely into place, whereas a complicated one will usually change but little and what settling there is will usually serve to point up the parts of the retina under stress.

The simple detachments should have the lightest diathermy treatment that will ensure closure of the hole. All residual subretinal fluid should be removed. For this latter aim we have found the injection of air into the vitreous chamber to be the most effective method if ample drainage perforations are supplied and the procedure is carried out carefully and slowly. The needle should be inserted through the pars plana and the point placed in the posterior part of the chamber under direct visual control. In over 400 cases we have had only one case in which there was any resulting complication.

The use of a small, well-insulated, sharp-pointed electrode of 0.5 mm. will give the best result. The sharp point will insure the maximum density of current being delivered at the site of application, and the 0.5-mm. length will perforate the sclera adequately to put the current in the choroid where it is wanted and will not endanger the retina. Even if the point of an electrode does not touch the retina, the jet of current from its tip can burn a hole in that highly resistant, delicate membrane.

Visual control of the placing of each treatment point is essential because a break in the treatment barrier can completely nullify your results, and a misfire in the placing of one treatment point can result in such a leak. Conversely, an excessive number of treatment applications can weaken the circulation of an eye, and excessive current or length of application time can cause a pile of choroidal exudate which can hold the retina away from the rest of the adhesive process.

In the complicated cases, as we have said, there are mechanical forces operating which prevent the retina from returning to its normal position, and the use of diathermy alone in these cases cannot work, for you must have contact to have adhesion.

Also, if the holding force is the vitreous, there is ample evidence that heat through the diathermy causes these strands or sheets to contract, and the detachment may well be rendered hopeless, as in the cases of "massive contracture." In these cases some scleral shortening procedure must be employed.

The theory behind the scleral shortening operations is that they convert a complicated detachment into a simple one by bringing the wall of the eye to the retina. It can then be treated as a simple detachment by closing the hole with diathermy.

A third procedure is the employment of the scleral buckle with its buried polyethylene tube. In this procedure a roll of the choroid is placed against the retina in the form of a dike, damming the detaching fluid away from the rest of the retina or isolating the diseased portion of the retina. It offers a possible help in the most extreme cases.

All of these procedures to combat complicated detachments alter the natural state of the eye in an effort to overcome the disease. There is only one procedure in use today in these cases which effectively combats these complicating factors and leaves the eye in its natural form. That procedure will be described by Dr. Donald Shafer. His is, I believe, the greatest contribution to retinal detachment surgery since Gonin. It is not only a highly effective procedure, but for the first time there is available a treatment which actively combats the cause of the retinal detachment in the vitreous.

Discussion

Ivan J. Koenig, M.D., *Buffalo, New York.*—Dr. Clark has re-emphasized some very important factors that are dependent on the successful treatment of retinal detachment or retinal separation.

He very aptly stated that the treatment of this complicated condition should begin with a most thorough and painstaking study of the associated pathology. Retinal separation is not a primary condition. It is invariably secondary to some preexisting intraocular process, and it seems important to spend more time examining the case preoperatively than postoperatively. The prognosis of most of the cases can be seen, and pitfalls may be avoided by more careful and repeated observations.

The important instrument for diagnosis is, of course, the ophthalmoscope with maximum light. The direct ophthalmoscope will only give a fundus view approximately to the equator, and we all know that it is necessary to see beyond that point. The indirect method, especially with the Schepens scope, gives us a much better view toward the periphery. The depression of the sclera during the examination aids a great deal in placing the peripheral portion of the retina in our line of vision. This can more easily be accomplished by the "thimble depressor" of Schepens or with the heel of a strabismus hook.

The surgical correction of retinal separation is often considered the paramount task. Too often the vitreous changes resulting from degenerative or inflammatory changes of uveal tract or vascular disease associated with some of the retinal neuropathies are not taken into consideration. There are some cases of retinal separation in which surgery should be postponed. Cases of hypotension with an active uveitis, acute edema as in pregnancy, advanced retinal neuropathies, and marked degeneration of vitreous and uveal tract are a few examples. A minimal amount of some of these processes is seen in many separations, and their presence should guide us accordingly because it is a known fact that the more the pathologic processes of the inner eye, the graver the prognosis. The amount of detachment is not nearly so important as the associated changes.

The vitreous may influence detachment in two general ways. First, it may seep through a break in the retina and force it away from behind, or second, it may pull the retina forward as a result of a traction band formation. Wadsworth has demonstrated this very well in pathologic sections and has emphasized their importance. Fluid vitreous can seep through a break in the retina more readily than so-called normal vitreous. Fluid vitreous is commonly found as a "normal" progression in the aging process of the eye. These changes in the vitreous are always secondary to other intraocular pathology and not basically a primary feature. The original concept of only sealing the tear or retinal break to bring about reattachment of the retina failed to recognize the importance of the vitreous changes in the development of retinal separation.

The concept of the vitreous strands pulling on the retina is not new, as Dr. Clark stated. It was because of this observation that Lindner in 1933 began advocating the scleral resection as a shortening procedure to overcome this pull on the retina by the vitreous. Many procedures have been mentioned to relieve this traction, and I fully endorse Dr. Clark's theory regarding the vitreous. I think it is proper to emphasize at this point that similar traction bands can be created by too much diathermy in the surgical treatment.

Our surgical treatment to date is only a refinement of Gonin's original hypothesis, which was a sealing of the retinal tear or tears. Many procedures since that time have been tried, and modifications of the older routines have been presented. Hundreds of electrodes have been designed by various men, including one of my own. Very few of them are satisfactory to most operators. It has become apparent to most of us that there is more to the surgical cure of retinal separation than the designing of a machine or any special electrode. Electrocoagulation may be the best method we have of creating a retinal choroidal adhesion, but a better one may be developed. Electrolysis is another method that found favor for a short time. Guist's operation of caustic chemical cautery was unsatisfactory, but will the future give us a less destructive agent which can be injected to create the retinal choroidal adhesion? Tassman suggested fibrin and thrombin. Dellaporta created adhesions by injecting blood between the choroid and sclera for the same purpose. I agree that for the simple detachment a moderate amount of coagulation is the choice today, but will it be in the future?

Since the 1950 International Congress in London, scleral resections, both complete and partial, have swept this country. Previously scleral resections were performed only as a secondary procedure. Since then they have been used more as primary procedures in the complicated cases. There were excellent results in some cases, but all were not satisfactory. Modifications were developed. Implants of polyethylene tubing are giving some excellent results. Recently I have been implanting the removed strip of sclera into the resection so as to increase the buckling inward. Are these shortening operations permanent or temporary? Usually the globe returns to its original size after six months.

During 1955 another method of attacking the shrinking vitreous and traction bands of the vitreous was developed. It consisted of an outward folding of the sclera after the subretinal fluid drainage. Dr. Everett does this with sutures and Dr. Castroviejo with monel metal clamps. This may bring about a more permanent shortening and a more satisfactory approach. At the present time its advantage over other procedures is difficult to evaluate.

The injection of air into the vitreous after a detachment operation in cases in which the retina will not fall back into position is an excellent procedure. However, one should be warned about creating too much pressure by the injection of air into the vitreous, because too much pressure may break the sutures or tear the tissue at the point where the sutures were placed in the sclera.

The conclusion, I think, remains that the less the associated pathology of the inner eye, the better the prognosis. It is those cases which have the least degenerative changes that will always give us our better results.

The postoperative care has been discussed by Dr. Clark, and I definitely agree that the treatment of absolute quiet in bed for three weeks is needless and, if carried out, often results in psychosis and other complications.

However, I think there is a happy medium between three weeks and thirty-six hours. I can see no advantage in rushing ambulation because as long as the patient is hospitalized, he is not going anywhere for at least ten days, and this gives us an excellent opportunity for observation of intraocular changes which may take place.

Median Neuritis or Carpal Tunnel Syndrome

A fairly common hand syndrome, of pain and loss of motor or sensory function, or both, results from a constriction of the median nerve or its branches in the carpal tunnel. Although there may be a history of injury, the syndrome often develops insidiously and spontaneously over periods varying from a few weeks to many years. Limited as it is to that part of the median nerve distal to the transverse carpal ligament, the disability is usually diagnosed without difficulty, but it must be differentiated from other syndromes (cervical disk protrusion, scalenus anticus syndrome, progressive muscular atrophy, amyotrophic lateral sclerosis) which have a much graver prognosis. Treatment may be conservative or operative, depending on the progress of the disability. If treatment is undertaken before irreparable damage is done, prognosis is good. In far-advanced cases the best hope is arrest of progress of the disorder.—*J. Grafton Love, M.D., North Carolina Medical Journal, October, 1955*

Vitreous Implant in Retinal Detachment

A Study of 50 Consecutive Vitreous Operations

DONALD M. SHAFER, M.D., NEW YORK CITY

(From the Manhattan Eye, Ear and Throat Hospital, New York City, and the United States Naval Hospital, St. Albans)

The subject of any beneficial use of vitreous has produced very little medical literature. However, there are many pages of print warning the ophthalmologist of its problems or the troubles it can produce and practically none depicting it as a surgical benefactor. To propose its use in the treatment of retinal detachment, therefore, makes it the same for the author as for the surgeon—a very sticky subject.

However, human vitreous has been planted in complicated retinal detachment cases for several years. In fact, the first successful case was operated at Manhattan Eye, Ear and Throat Hospital in June, 1949, almost seven years ago, and that retina is still attached.

Definitions

As to the matter of definitions, the planting of human vitreous in eyes, as described in this paper, is called a vitreous implant because no vitreous is withdrawn from the patient's eye; new, sterile human vitreous is injected. This is not to be confused with vitreous transplants or replacements, such as are used for massive hemorrhages, which entail withdrawal of the bloody vitreous and its replacement by donor vitreous. The vitreous implant has been used in conditions other than retinal detachment, but this paper will be confined to the problem of such detachments.

A second definition concerns that of the term "vitreous." The vitreous used in this presentation is actually vitreous aspirate, that material which can be aspirated from a human donor eye by the suction of a syringe through an 18-gauge needle. It is a clear, transparent, oily fluid. It is not jelly-like, possibly fortunately so, as will be discussed under the rationale of the procedure.

The final definition pertains to "donor eye." A donor eye is an enucleated human eye received at the Eye Bank for Sight Restoration, usually but not always from a deceased person. The vitreous is aspirated six to forty-eight hours after enucleation from those eyes which had corneas unsuitable for corneal transplantation. Donor eyes with neoplasm, intraocular infection, or with positive serology were not used.

Rationale

The rationale of using vitreous in retinal detachment seemed logical on three different bases. A fourth factor became clinically apparent after a number of cases had been operated.

1. *The anatomic basis:* As we all know, the retina is attached at two points only, posteriorly at the optic nerve and anteriorly, as a ring, at the ora serrata. Between these two extremes there are only the nebulous prolongations of the pigmented cell layer. Thus, the retina extends from front to back in an arc with no proved means of support. It was felt that this support might well come from the vitreous. Therefore, any loss of vitreous volume, such as direct loss in cataract surgery, which we know predisposes to detachment, or indirectly such as subretinal fluid drainage, could lessen the retina's support. Conversely, the replenishment of vitreous volume seemed indicated to renew the support for the retina.

2. *The physical basis for the use of vitreous:* It was felt that a logical cause of retinal detachment was the pull on the retina by the attachments of the vitreous body and consequent hole formation, as proposed by Lindner, Teng, Wadsworth, and others. If so, then the more surge of the vitreous, the more traction on the vitreous attachments. Since many retinal detachments are thought to be preceded by a detachment of the vitreous so that a highly viscous mass is surrounded by a less viscous fluid, the vitreous mass can surge freely. Therefore, the

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TABLE I.—PREOPERATIVE STATUS OF CASES BEFORE VITREOUS IMPLANT

Status*	Number
Saline implant plus diathermy failure	3
Scleral resection or other scleral surgery failures	11
3 or more previous diathermy or scleral surgery failures	14
Aphakic detachments	22
Total detachments	26
Retrolental fibroplasia	2
Fixed vitreous bands	11

* Most eyes had more than one complication.

TABLE II.—RESULTS OF VITREOUS IMPLANT COMPARED TO COMPLICATING FACTOR

Number	Complications	Per Cent Re-attached
22	Aphakic detachments	31
26	Total detachments	35
18	Myopia	
	5.00 diopters or less	50
3	More than −5.00 diopters	0
11	Fixed vitreous bands	36
50	All detachments—all previous failures	42

introduction of a viscous material should reduce the surge of the patient's own vitreous and consequently reduce the likelihood of subsequent detachment. Vitreous aspirate was a logical candidate to form this viscous environment because it most nearly equalled the viscosity of the recipient's vitreous.

3. *The surgical basis:* This is a simple hydraulic fact and can be attained by air or saline. It is effective only at the time of the injection and consists of pushing the retina back against the choroid by the mere use of pressure within the envelope of the retina. The only advantage of vitreous over air or saline is that I believe vitreous is retained to redeem the volume of the vitreous for a long time. On the other hand, we know that air is absorbed in a few days, and I believe saline is too.

4. The fourth basis for the use of vitreous was learned by experience. It was found that fixed retinal folds and vitreous bands were frequently gone after a vitreous implant. Several cases with vitreous bands under obvious tension showed no evidence of the bands a week or two postoperatively. Some of these cases failed to reattach with the first vitreous implant and then, with the bands gone, reattached with a subsequent implant. The same thing happened with fixed retinal folds. The implanted vitreous has a definitely beneficial effect on the retina whether or not it reattaches from the procedure.

Technic

The technic of vitreous implantation is best performed with the patient under general anesthesia. Intravenous Sodium Pentothal was used in all the cases in this series.

After reflection of the conjunctiva and tenons capsule temporally, an incision through the sclera is made at right angles to the limbus. The incision should be 4 mm. long with its center 9 mm. from the limbus. In this position there is no entry through retina, but instead entry is in the posterior portion of the pars plana away from the ciliary body and the lens, if present. Two mattress sutures are placed edge to edge through the scleral lips of the incision. The two sutures oppose each other. In other words, the tying arms of one mattress suture come from each lip of the incision so that each suture can be tied against the counterpull of the other. Size 5-0 monofilament nylon suture material has been found best because the knot slips easily and does not cut itself readily, as does silk and catgut. Good small needles are a great help in tough sclera.

After the vitreous sclerotomy and sutures are placed, the diathermy to seal the tears is performed. I use nonperforating intrascleral diathermy under direct view to be sure the tear is isolated.

Then the subretinal fluid is drained. I prefer to make a scratch-through incision of the sclera and open the choroidal bleb with diathermy. After drainage is complete, using suction if necessary, the donor vitreous is planted.

Through the sclerotomy 9 mm. from the limbus, the choroid (pars plana) is opened with diathermy to avoid bleeding. The nylon sutures are made ready and held by an assistant while a syringe of 4 cc. of donor vitreous with 18-gauge needle attached is inserted. The needle is readily seen through the pupil, and vitreous is injected until the globe becomes quite firm (estimated 50 Schiøtz) and then is held for two minutes. The pressure is then permitted to fall to approximately 30 Schiøtz, and the nylon sutures are pulled snug and the needle withdrawn. The sutures are tied, and a ring of diathermy is placed around the sclerotomy. Any reflected muscles are reattached, and the conjunctiva is closed.

The postoperative handling is the same as for any diathermy case.

TABLE III.—Over-all Results of Vitreous Implant for Retinal Detachment (50 Consecutive Operations)*

Number		Per Cent
44	Complicated Detachments	48 Reattached
50	Vitreous Implants†	42 Successful

* Standard of Success: All the available retina reattached six months or longer.

† One case had three vitreous implants; four others had two each.

TABLE IV.—Visual Results of 21 Successful Vitreous Implants from 50 Complicated Detachments

Vision	Number of Cases
20/30 or better	6
20/40 to 20/70	6
20/80 to 20/200	6
Worse than 20/200	3
Total	21

Results

The standard of success used in assessing the results was reattachment of all of the available retina for six months or longer. In 50 consecutive operations 48 per cent of 44 complicated detachments reattached, and 42 per cent of 50 vitreous implants were successful. One case had three vitreous implants, and four others had two each. Preoperative status of the 50 cases and the visual results obtained are summarized in Tables I through IV.

Comment

It must be emphasized that the cases presented were consecutive, and all were previous failures by other technics. There is no selection of cases, and many of them were truly "hopeless," particularly in the early phases of the work when the outcome or possible complications were not known.

The complications have been surprisingly few. There was no panophthalmitis or endophthalmitis. There have been no major hemorrhages with this technic, although that has occurred when the vitreous implant was combined with a scleral resection. Glaucoma readily controlled by pilocarpine has developed in one case, and in this case the patient has glaucoma in the unoperated eye.

Three successful cases have slowly developed cataracts in the operated eye but only after more than two years, and in one of them there is equal cataract development in the other eye.

Several of the failures have slowly gone on to develop early phthisis but no more rapidly than is usual in old detachment cases.

Indeed, in many cases the improvement in the appearance of the retina and the reduction or absence of folds and vitreous bands are so great that the procedure appears to have a long-term therapeutic value over and above the problem of reattachment alone. Frequently the bands appear to rehydrolyze in the donor vitreous; just how this occurs is uncertain. This effect, coupled with the fact that new bands have rarely formed and never in a successful reattachment, even up to six years postoperatively, has been remarkable. Thus far, no vitreous implant eye has been lost.

Summary

1. The rationale and technic for implanting human vitreous in retinal detachment cases is presented.
2. The procedure resulted in reattachment of the retina in 48 per cent of the eyes, all previous failures by the usual surgical technics.
3. A discussion of the results and complications is presented.

140 East 54th Street

Medical Society of the State of New York
Sesquicentennial Meeting—February 18 to 21, 1957

Diabetes as a Health Problem in New York State

FRANK W. REYNOLDS, M.D., ALBANY, NEW YORK

(*From the Bureau of Chronic Diseases and Geriatrics, New York State Department of Health*)

Traditionally, official health agencies have been concerned primarily with communicable diseases that constitute a menace to the health of the community. Indeed, there are still those who cling to the opinion that diseases that are not communicable should be of no concern to departments of public health. Nothing could be further from the facts of modern public health practice.

A health officer's mandate is to be concerned with the over-all health of his community and not merely with any one aspect of it. That health departments have developed programs directed at noncommunicable diseases only within the past quarter century has been due to the fact that in the past the most serious health problem—and indeed about the only one that health departments have had the personnel and funds with which to cope—has been communicable disease.

In our lifetime this situation has changed materially. As the major communicable diseases gradually have come under control, health departments have been able to devote increasing attention to other health problems. Thus, we have seen the development of programs for cancer control, heart disease, cerebral palsy, fluoridation of public water supplies, rehabilitation of the physically handicapped, and many others.

Few will dispute the fact that diabetes mellitus ranks as one of the major health problems in modern American society. It has been estimated[1] that there are over one million known diabetic patients in the United States today and another million cases that have not been detected. Prevalence studies show proportionately more cases in the Middle Atlantic states than elsewhere in the country, but this may be explained at least in part by the wider application of case-finding. It has been estimated that there are 225,000 cases in New York State and that half of these have not yet been detected.

Diabetes now ranks eighth as a cause of death in New York State. The current reported death rate is 19.5 per 100,000 per year with a significant sex selection, the death rate for women being nearly twice that for men. The life expectancy of the diabetic patient is about 25 per cent less than that of the general population.

Diabetes is not only a highly prevalent disease causing much death and disability; it is also a frequent reason for hospital admissions and leg amputations and is one of the common causes of blindness. Diabetes is especially important because of the frequent complications which it causes in pregnancy: a high fetal mortality rate, more difficult labor for the diabetic mother, more frequent toxemias of pregnancy, and an increased incidence of congenital defects.

Because diabetes is widely prevalent, because it is a major cause of death and disability, and because so many cases are undetected, this disease is a major health problem and, therefore, one that official health agencies cannot ignore. The question is not *whether* official health agencies should participate in diabetes programs, but rather *how* they can most effectively do so.

To answer this question, it is desirable to list all the components of a comprehensive diabetes program and then try to define the respective roles of the various groups interested in diabetes as a health problem.

A comprehensive diabetes program should include the following components:

1. *Prevention:* This requires the dissemination of information regarding the hereditary nature of diabetes and the control of obesity, for it is presumed, although not conclusively demonstrated, that weight control reduces the risk of developing diabetes.

2. *Detection:* It has been noted above that nearly half the diabetic persons in the country are not aware that they have the disease. As an editorial in the *Journal of the American Medical Association* has pointed out, "From every standpoint—personal, community, economic, and professional—it is urgent that unrecognized diabetes be discovered and medical care instituted."[2]

Screening tests for diabetes depend on analyses for glucose in the urine and/or in the blood.

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These tests can and should be done routinely by physicians in their private offices and by clinics and hospitals as a part of the routine patient workup. They also can be done on a mass basis, either as a short-term "drive" or as a continuing, year-round program.

There are many simple and inexpensive procedures for the determination of sugar in the urine. Best known is the method employing Benedict's solution and heat. For use in mass diabetes detection drives, simple kits have been developed (St. Louis Dreypak; Clinitest) for impregnating filter paper with the urine to be tested; the paper is then sent to a central laboratory for testing with the Benedict reagent. Recently a test employing glucose oxidase was developed that gives the test result within one minute and without the need for additional testing in a central laboratory. These procedures are very convenient and readily adapted for use with large numbers of people. Unfortunately, they are comparatively low both in sensitivity and in specificity.[3,4]

Screening methods that depend on analyses of blood for glucose are more sensitive and more specific, the results depending on when the specimen was taken in relation to meals and on the predetermined height of the blood sugar that is taken as the level of suspicion. For many years great reliance was placed on the height of the *fasting* blood sugar. Recent studies have shown, however, that fasting blood sugars are definitely lacking in sensitivity and that the best time to draw blood for diabetes detection is one to one and one-half hours after a meal. During this period of time a blood sugar above 160 mg. per cent constitutes presumptive evidence of diabetes.

In the past blood sugar determinations have seldom been used for mass screening projects because of the technical difficulties inherent in the chemical analysis for glucose. Recently a method for analyzing capillary blood (the Wilkerson-Heftmann method)[5] for glucose content has been developed, which, when used in conjunction with a mechanical device (clinitron) for performing many tests quickly, makes mass diabetes detection based on blood sugar determinations eminently feasible. With the clinitron only 0.1 to 0.125 cc. of blood is required, and the result of the test can be available within five minutes, while the patient is still present.

The clinitron greatly facilitates mass screening surveys for diabetes since approximately 120 determinations an hour can be made. If so desired, water-diluted specimens can be kept up to forty-eight hours under refrigeration before being tested, provided sodium fluoride is added as a preservative. Hence, blood specimens can be drawn anywhere, diluted with 5 cc. of water, and sent to a center operating a clinitron, even though the center may be some distance away.

3. *Notification:* All persons who have participated in a diabetes screening project should be apprised of the result of the test that was made. Those whose tests were normal can be sent a simple postal card, and it is suggested that cards sent to persons who are relatives of known diabetics or who are obese and/or over the age of fifty[6] include a paragraph suggesting that an annual recheck is desirable. Persons whose test was suspicious of diabetes should be sent a sealed letter, and a letter also should be sent to the person's physician, informing him of the result of the test.

4. *Follow-up:* The detection process is not completed until patients with suspicious screening tests have been fully evaluated by their physician, and either a definitive diagnosis of diabetes has been established or evidence has been obtained whereby the patient can be reassured that the disease is not present.

Experience has shown that many patients who have been notified of a suspicious screening test fail to report to their doctor for definitive diagnosis. This situation can be largely obviated by having follow-up visits to the patient by visiting public health nurses. The usual procedure is for the nurse to phone the practicing physician to inquire (*a*) whether his patient has reported to him and (*b*) if not, whether the physician has any objection to the nurse making a home visit to persuade the patient to seek medical advice.

5. *Diagnosis:* It must be kept in mind that screening tests are presumptive and not diagnostic and that the definitive diagnosis of diabetes must be established or excluded by the patient's own physician. In most cases physicians proceed by testing postprandial specimens of blood and urine for glucose content. These tests suffice to establish a diagnosis of diabetes or to confirm its absence in the vast majority of cases. In a few cases a glucose tolerance curve will be required, and rarely the physician must defer his diagnosis pending more conclusive evidence for

the presence or absence of the disease.

6. *Treatment:* The management of the individual diabetic patient is the responsibility of his physician. In some cases the physician may enlist the services of a dietitian to give detailed instruction on food values and menu planning.

7. *Education:* (*a*) Professional education for physicians and nurses. Diabetes teaching days for postgraduate professional groups is one way to raise the standards of patient management.

(*b*) Patient education. This activity can be carried out with individual patients by physicians, nutritionists, and public health nurses. It also would be possible to conduct classes for groups of diabetic patients, giving instruction on diet, exercise, the technic of insulin administration, and the care of the feet. Hospitals that do not routinely give instruction to newly discovered diabetics should be encouraged to do so. If necessary, this service might be made available by the local health department.

(*c*) General public education. The prevention and control of diabetes depends on individual action. The person who is predisposed to diabetes and the person who already has it are the crux of the control program. On them rests the responsibility for individual efforts to prevent or treat this disease. Desirable health habits on their part are largely dependent on their being informed about the facts of diabetes and about the essential steps in the control program.

8. *Research:* Basic and chemical research on diabetes, on new forms of treatment, and on the development of improved screening technics are an important part of an over-all diabetes program. It might also be noted that there is a need for epidemiologic studies on diabetes and on the methodology of applying the technics of diabetes detection.

9. *Evaluation:* Plans for diabetes activities should be developed in such a way that the degree of success can be periodically evaluated. When any phase of the program proves unrewarding, a new and different approach has to be considered.

The Role of Various Interested Groups

Diabetes programs, whether limited to detection or more comprehensive in nature, are initiated and conducted by local communities. Local groups interested in developing diabetes programs should be aware of the many resources available to them:

National Level

AMERICAN DIABETES ASSOCIATION.*—The American Diabetes Association,[7] founded in 1940, is the national voluntary health agency concerned with diabetes. It is unique among voluntary health agencies in that its membership is made up primarily of physicians and its policies are guided by physicians. It is also unique in that it conducts no fund drives but derives its financial resources from membership dues, self-supporting projects such as a professional journal and a magazine for diabetic patients, voluntary contributions by individuals, primarily diabetic patients, and grants by corporations and foundations.

To assist the American Diabetes Association in fulfilling its objectives, local affiliates have been established. There are four local organizations in New York State† at the present time (1956). Each of these affiliates has a clinical society, and some also have lay societies composed of diabetic patients, their relatives, and friends.

The American Diabetes Association has a four-point program:

1. *Public Education and Case-Finding:* A program of public education and case-finding, known as the diabetes detection drive, was established eight years ago. Activities are conducted throughout the year, but the greatest effort is made in observance of "Diabetes Week," which is the third week in November. The American Diabetes Association uses mass communication media to focus the attention of the public on the diabetes drive and provides reagents without cost to carry out St. Louis Dreypak urine testing.

2. *Professional Education:* The program of professional education includes the annual scientific meetings, an unusual postgraduate course in diabetes and basic metabolic problems, publication of the monthly professional journal *Diabetes*, publication of the *Diabetes Guide Book for the Physician*, preparation and showing of exhibits, and community meetings of the physician membership of the local affiliates.

3. *Patient Education:* One of the most far-reaching activities of the American Diabetes

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* 1 East 45th Street, New York 17, New York.

† New York Diabetes Association, 270 Park Avenue, New York 17, New York; Northeastern New York Diabetes Association, 46 Cornelia Street, Plattsburgh; Rochester Regional Diabetes Association, 176 South Goodman Street, Rochester 7; Niagara Falls Diabetes Association, 622 Pine Avenue, Niagara Falls.

Association is the publication of a bimonthly magazine, the *ADA Forecast*, an educational and inspirational publication for diabetic patients. The Association has cooperated with the American Public Health Association in producing an audiovisual kit and with the American Public Health Association and the American Dietetic Association in the publication of food exchange pamphlets and food lists for use by patients.

The American Diabetes Association Committee on Employment has set up standards of employment for persons with diabetes. These standards are useful to employers and patients alike.

4. *Research:* Through special gifts and grants, research funds have been established for the purpose of widening the knowledge of diabetes and its control. Thus far, the research program has been limited to the granting of fellowships.

United States Public Health Service.—The Public Health Service offers opportunities for training in diabetes at the Diabetes Study and Training Center* to physicians, nurses, public health administrators, health educators, dietitians, nutritionists, medical technicians, and medical social workers. No registration or tuition fee is required. Enrollment is limited to ten persons per course, each of which lasts about one week.

The following courses are currently available: (1) A Diabetes Program in Public Health; (2) Group Teaching of Patients; (3) Nursing Aspects of a Public Health Diabetes Program; (4) Nutritional Aspects of a Public Health Diabetes Program; (5) Laboratory Aspects of a Public Health Diabetes Program; (6) Organization and Management of a Diabetes Clinic.

Through its Regional Office in New York† the Public Health Service can make available to local community groups the services of a consultant to train technicians in the operation of a clinitron. Requests for this service should be channeled through the New York State Department of Health.

State Level

Medical Society of the State of New York.—The Medical Society of the State of New York has a Subcommittee on Diabetes, the chief function of which is to promote diabetes detection and education programs throughout the State. This is accomplished by encouraging county medical societies to establish committees on diabetes. The county committees receive materials for their work from the American Diabetes Association.

The subcommittee maintains liaison with the American Diabetes Association and seeks to promote diabetes activities that are consistent with A.D.A. policies. It also makes policy recommendations concerning diabetes to the Council of the Medical Society of the State of New York.

New York State Department of Health.—The following services are provided by the Health Department:

1. *The Bureau of Chronic Diseases and Geriatrics:* This is the unit in the State Health Department responsible for planning, promoting, and assisting with health department activities in the field of diabetes. Available through this Bureau are consultants in the public health nursing aspects of locally administered diabetes programs.

The Bureau of Chronic Diseases and Geriatrics has a clinitron that can be made available to local groups on a short-term loan basis and a technician to operate the machine. Assistance in coordinating a clinitron detection project with other health activities such as chest x-ray surveys also can be given.

2. *The Bureau of Nutrition:* Through this Bureau assistance can be obtained in furthering certain phases of a diabetes control program, such as obesity control and group instruction of patients in the dietary aspects of diabetes control. Nutritionists are available to public health nurses for consultation on dietary problems in the management of diabetic patients, especially in interpretation of diabetic diets in terms of "Meal Planning with Exchange Lists."

3. *The Bureau of Public Health Nursing:* Field Public Health Nurses can be utilized to follow-up persons with suspicious screening tests and diabetic patients discharged from hospitals, to explain and instruct patients and their families on certain aspects of diabetes (diet, insulin administration, care of the feet), and to give home nursing care to patients with certain complications of diabetes. Through the Bureau of Public Health Nursing special training courses and institutes for nurses can be organized.

4. *Office of Public Health Education:* This

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* Public Health Service, Diabetes Study and Training Center, 639 Huntington Avenue, Boston 15, Massachusetts.

† Public Health Service Regional Office, 42 Broadway, New York 4, New York.

office can provide consultative services in all phases of the education program. Assistance can be provided too in the preparation, distribution, and use of educational materials.

Local Level

Local Medical Societies.—It is essential that all phases of a diabetes program have the endorsement and hearty cooperation of the local medical society. In some communities local medical societies have formed committees on diabetes and sponsored diabetes detection activities* with the assistance of the American Diabetes Association or its affiliates.

Local groups interested in promoting a diabetes program should consult with the local medical society, seek their advice and support, and have the society sponsor the program. Through the medical society the assistance of the American Diabetes Association can be obtained.

Local Health Departments.—Local health officers may wish to consider the components of a diabetes program that are outlined herein with a view to determining which activities are feasible within their jurisdiction and which should be promoted.

Where local medical societies sponsor detection drives, the local health department should offer its assistance in organizing and publicizing the drive, in conducting the screening tests, in following up patients with suspicious tests by notification and public health nurses home visits, and in such other ways as may be feasible. In areas where no detection drives have been made, the local health unit can stimulate, cosponsor, and participate in such drives.

In general, local health departments should consider the short-term drives, especially those carried out during Diabetes Week, to be activities in which the local medical societies have the primary responsibility. Health department activities should assist with the short-term drives and develop sustained year-round activities to supplement and consolidate the detection drives.

Local Voluntary Health Groups.—Voluntary health agencies and alert civic groups can assist greatly in diabetes detection activities. Especially useful where they exist are the lay societies of the American Diabetes Association affiliates. In some communities the local health association has provided secretarial assistance in diabetes drives, and in a few instances the association has purchased a clinitron for use in the community.

84 Holland Avenue

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* In 1954, 22 (36 per cent) of the 61 counties in New York State had diabetes detection activities of this kind.

The dying man beckoned to his wife. "Sarah," he whispered, "be sure to put David in charge of the store when I'm gone."

"David? Why not Joey? He's a smart boy."

The man nodded weakly. "Okay, but give Harry the station wagon."

"But Benny needs it for his family!"

"All right—give it to Benny. But I think the house in the country should go to Shirley."

"Papa, you know Shirley hates the country. Give it to Rosalie."

The old man finally lost his patience. "Mama," he groaned, "who's dying—*you* or me?"—*J.A.M.A., April 7, 1956*

A Pilot Project for Control of Diabetes in the New York City Health Department

MORRIS GREENBERG, M.D., AND SIDNEY S. WASSERSTROM, M.D., NEW YORK CITY

(*From the Bureau of Preventable Diseases and the Brownsville District Health Center, New York City Department of Health*)

THE Brownsville Diabetes Control Center of the New York City Department of Health was opened in November, 1954, as a pilot project for the control of diabetes in the city.

The Department of Health initiated a control program for diabetes because it is a serious disease with a high rate of complications and degenerative changes. It rates eighth place as a cause of death in New York City. Although curative treatment is not available, the disease can be controlled and many of the complications prevented. When diabetes is brought under treatment early, the life expectancy of the patient is as good as that of the average person. Good laboratory tests are available for screening, and they can be repeated and confirmed by other tests.

The Brownsville Health Center District was selected because for many years it has had the highest death rate from diabetes among the health districts in New York City.

For the four-year period 1950–1954, the average death rate from diabetes per year in this district was 27.5 per 100,000 population. During the same period the annual average death rate from diabetes in New York City was 20.0 per 100,000.

The district has a population of about 280,000 people, mainly in the low-income bracket. It is estimated that about 80 per cent of the population is Jewish, largely of Russian or Polish origin.

According to the 1950 census 30.4 per cent of the population is foreign born. Six low-income public housing projects have been built in recent years, and the composition of the population is changing, with an increase in the proportion of non-Jewish people—Italian, Irish, Negroes, and Puerto Ricans.

Objectives and Organization

The scope of the diabetes program has included education of the public and physicians, case-finding, stimulating medical supervision, and provision of technical and consultative services to the medical profession on request. The program includes follow-up tests and education of so-called potential diabetics. This group comprises the relatives of diabetics and persons whose laboratory findings are above the accepted screening levels but in whom private physicians and treatment clinics have not made a diagnosis of diabetes. A study will be made to determine the value of periodic testing and education in preventing diabetes in this group. The nutrition clinic in the Health Center is cooperating in this program. Among the obese, weight reduction is the prime obective in preventing diabetes.

The control center is organized as a unit of the Bureau of Preventable Diseases with the district health officer as director. The center has technical assistance from the Bureaus of Laboratories, Nutrition, Public Health Nursing, and Public Health Education. The center has had the cooperation of the medical profession. Its Medical Advisory Committee has representatives from the New York Diabetes Association, Medical Society of the County of Kings, the East New York Medical Society, and the United States Public Health Service. There are two voluntary hospitals in the Brownsville district. The Kings County Medical Society representative is consulting physician in one of the hospitals, and the East New York Medical Society representative is chief of the diabetes clinic in the other hospital.

The control center uses the part-time services of a consulting physician, nurse-in-charge, field nurses, health educator, typist, and clinic physician and the full-time services of a clerk,

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chemist, two technicians, a laboratory helper, and two public health assistants.

Procedures

Promotion, Education, and Registration.—The policy of the center is to bring the program as close as possible to the homes of the residents of the district. Publicity campaigns are followed by clinics in which histories and blood specimens are taken in various neighborhoods.

At the outset a letter was addressed to all of the practicing physicians in the district describing the Diabetes Control Center, the screening program, and the special services available to the physician. A similar announcement appeared in the *Bulletin* of the county medical society. During the summer of 1955 another letter was addressed to all physicians who had received diabetes reports. Among other information interpretation of the particular tests utilized in the center was given.

Community organization for the diabetes program is centered in the existing health and welfare councils in the three main neighborhoods, East New York, Canarsie, and Brownsville proper. As the publicity and educational campaigns and clinics progress from one area to another, special diabetes control committees are organized, usually with subcommittees which concentrate on smaller areas in the neighborhoods. Parents associations, churches, synagogues, organizations in public housing developments, schools, and a variety of other community organizations and clubs are represented in these committees. Each committee develops its own corps of volunteers to aid in the publicity and in the registration of screenees. The health officer and health educator play a large part in the organization and publicity process, assisting the lay councils in expanding intensive campaigns.

The usual publicity media are utilized: meetings, news releases, letters to organizations, bulletins from organizations to the membership, leaflets, flyers, posters, and sound truck announcements.

All organizations are invited to request a speaker for at least one lecture and discussion of diabetes. The director, the diabetes consultant, and the health educator have participated in a series of educational meetings.

Registration for the tests is a continuing activity in the control center. Campaigns and test sessions have been held in the Brownsville District Health Center, the Canarsie Health Center, Cypress Houses, Boulevard Houses, Linden General Hospital, and the Linwood Street Child Health Station as the centers of operation.

Orientation of personnel of the Health Department in the principles of diabetes screening and the pertinent elements of diabetes control is a continuing activity of the center. During the first months of operation the director held weekly conferences with the staff of the diabetes center. Staff conferences are called as needed. At an all-day seminar of all of the Health Department public health educators, diabetes control was the subject of discussion. The nursing staff has had indoctrination in diabetes at several of its staff conferences.

Initial Screening Tests.—Screening tests are offered to residents of the district over twenty-five years of age and to persons of all ages who are blood relatives of diabetics.

All screenees are required to register in advance, and tests are made by appointment. Known diabetics are not tested. The identification history includes age, sex, marital status, color, religion, nationality, pregnancy, and family history of diabetes. Data also include name of private physician or clinic. Height and weight are taken either at the time of registration or when the screenee appears for the tests.

Blood and urine specimens are taken between one and one and one-half hours after a selected meal containing approximately the equivalent of 100 Gm. of carbohydrate. Written instructions are given in person or by mail. Routine blood specimens are venous. Capillary blood is taken only when it is not practical to take venous blood.

The initial screening test for blood glucose is performed with the Hewson Clinitron,* which utilizes the Wilkerson-Heftmann[1] method based on the Hagedorn test.[2] This test measures true glucose. The Clinitron gives results at selected screening levels. The screening levels utilized in the center are 130 mg. per 100 ml. for venous blood and 160 mg. per 100 ml. for capillary blood. The Benedict test for sugar is performed on urine specimens. Lange's test for acetone is performed on positive urine specimens. All blood specimens which screen questionable or positive with the Clinitron are subjected to the

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* Mathewson Laboratory Equipment Division, Mathewson Machine Works, Inc., Quincy 71, Massachusetts.

TABLE I.—LABORATORY FINDINGS OF 1,173 INDIVIDUALS WHO SCREENED POSITIVE

Screening Results	Number	Per Cent
A. Blood positive, urine positive	301	25.7
B. Blood positive, urine negative	379	32.3
C. Blood negative, urine positive	493	42.0
Blood positive (A + B)	680	58.0
Urine negative (A + C)	794	67.7

Somogyi-Nelson[3,4] quantitative test for true glucose. Likewise, all blood specimens of screenees with positive urine tests are subjected to the quantitative blood glucose test.

RETESTS.—The usual practice is to recall screenees for further tests when the result of the quantitative blood glucose tests is at or above the screening level and/or when the urine test is positive, in order to avoid false positive laboratory reports and to provide additional information for the private physician or clinic. On the one hand, many screenees are saved unnecessary visits to the physician. On the other hand, most physicians are reluctant to subject patients who do not have symptoms and who have less than definitive laboratory findings to the inconvenience and expense of more tests. When the initial blood quantitative result is above 200 mg. per 100 ml. with a positive urine test, the screenee is not recalled but is referred directly to his physician or clinic.

Retest as presently practiced consists of a modified glucose tolerance test, with blood and urine specimens taken at one and two-hour intervals after the ingestion of 100 Gm. of glucose with lemon juice. Screenees over sixty-five years of age receive 50 Gm. of glucose, and children over three years of age weighing less than 100 pounds receive 1 Gm. per pound of body weight. The criteria for referral are 130 mg. glucose or over per 100 ml. after one hour and 110 mg. glucose or over after two hours for venous blood or a positive urine sugar test. The accepted levels for capillary blood are 30 mg. per 100 ml. higher.

Results

The final results for the first year of the program are awaiting statistical analysis. Tentative results are presented here.

INITIAL SCREENING RESULTS.—In 1955 a total of 6,470 persons were tested in the screening program. Among these, 204 new cases of diabetes were diagnosed, a case-finding rate of 3.2 per cent in the population screened. There were 83 known diabetics, 41 potential diabetics, and 66 were undetermined at the end of 1955. There were 288 pending.

TABLE II.—AGE, SEX, AND WEIGHT OF FIRST 200 NEW CASES OF DIABETES

	Number	Per Cent
Age (years)		
Under 15	0	0
15 to 24	1	0.5
25 to 44	46	23.0
45 to 59	74	37.0
60 and over	79	39.5
Sex		
Male	73	36.5
Female	127	63.5
Weight		
Normal	40	20.0
Underweight	3	1.5
Overweight	151	75.5
10 to 29%	84	42.0
30 to 49%	48	24.0
50% and over	19	9.5
Unknown	6	3.0

TABLE III.—FAMILY HISTORY, SOURCE OF REFERRAL, AND SOURCE OF DIAGNOSIS OF FIRST 200 NEW CASES

	Number	Per Cent
Family history		
Positive	70	35.0
Negative	127	63.5
Unknown	3	1.5
Source of referral		
Self	173	86.5
Private physician	16	8.0
Nutrition clinic	8	4.0
Other	3	1.5
Source of diagnosis		
Private physician	177	88.5,
Clinic	17	8.5
Diabetes center	5	2.5
Other	1	0.5

Some tentative data are available on results of initial screening. Of the 6,470 persons screened 82 per cent (5,297) screened negative, and 18 per cent (1,173) screened positive. Of those who screened positive 26 per cent had positive blood and urine; 32 per cent had positive blood and negative urine, and 42 per cent had negative blood and positive urine (Table I). Of the positive screenees 58 per cent had positive blood, and 68 per cent had positive urine. It is obvious that among those who screened positive initially, if blood alone were tested, about 40 per cent would have been missed, and if urine alone were tested, about 30 per cent would have been missed. However, of the screened individuals who were later determined to be newly discovered diabetics, a larger percentage had initially positive bloods than positive urines.

NEW CASES OF DIABETES.—Selected data on the first 200 new cases of diabetes are presented in Tables II and III. Nearly twice as many

TABLE IV.—Initial Blood Glucose and Urine Sugar Determinations in First 200 New Cases of Diabetes

Urine	Number	Per Cent	Blood Glucose (Mg. per 100 Ml.) Negative	Positive Total	Positive 130 to 169	Positive 170 to 199	Positive 200 and Over
Negative	93	46.5	1	92	59	25	8
Positive	107	53.5					
Trace	16	8.0	1	15	6	5	4
1+	22	11.0	5	17	8	5	4
2+	18	9.0	3	15	9	1	5
3+	12	6.0	3	9	2	2	5
4+	39	19.5	0	39	5	4	30
Total	200	..	13	187	89	42	56
Per cent	..	100.0	6.5	93.5	44.5	21	28

TABLE V.—Initial Screening Results in First 200 New Cases of Diabetes

Screening Results	Number	Per Cent
A. Blood positive, urine positive	95	47.5
B. Blood positive, urine negative	92	46.0
C. Blood negative, urine positive	12	6.0
D. Blood negative, urine negative	1	0.5
Blood positive (A + B)	187	93.5
Urine positive (A + C)	107	53.5

females as males were diagnosed (64 and 37 per cent, respectively). About three quarters of the new diabetics were forty-five years of age or older; two fifths of them were sixty years of age and over. More than three fourths of the new diabetics were at least 10 per cent overweight. A little more than a third of the new diabetics gave a family history of diabetes. The largest percentage of them (87 per cent) came for screening as a result of the educational campaign carried out in the district; 8 per cent were referred by private physicians. Individuals who screened positive were referred for diagnosis to their physicians or other diagnostic agencies. Eighty-nine per cent of the initial 200 diabetics were diagnosed by a private physician.

Laboratory Findings: In the group of the first 200 new diabetics, 94 per cent had positive blood, and 54 per cent had positive urine on initial screening (Table IV). About 45 per cent of the blood glucose determinations were from 130 to 169 mg. per 100 ml., 21 per cent were from 170 to 199 mg. per 100 ml., and 28 per cent were 200 mg. or more per 100 ml.

On initial screening 16 or 8 per cent of the urine specimens showed a trace of sugar, and 39 or 20 per cent had 4 plus sugar. In one instance both the blood and urine specimens were negative; a glucose tolerance test was requested by the private physician who referred the case, and the positive findings led to a diagnosis of diabetes. Of the 16 screenees with a trace of sugar in the urine, one had a negative blood glucose, and four had blood glucose findings 200 mg. or more per 100 ml. Of the 39 screenees with 4 plus urine sugar, none had blood glucose findings below the screening level, and 30 had blood glucose findings 200 mg. and over per 100 ml.

The necessity for making both blood and urine determinations is illustrated in Table V. If urine tests alone had been made, 46 per cent of the diagnosed diabetics would have been missed. If blood tests alone had been done, 6 per cent of the cases would have been missed.

Conclusion

A description of the Brownsville Diabetes Control Center is presented. The procedures in operation have been found productive in the detection of new cases of diabetes.

The experience in the control center indicates that the utilization of both blood and urine tests is the best choice in diabetes screening.

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Discussion

Leonard J. Schiff, M.D., *Plattsburgh, New York.*—Dr. Reynolds has presented an extremely comprehensive picture of diabetes as a public health problem. He has carefully defined all of the essential components of a diabetes program and has provided a complete listing of all the available resources.

There are perhaps some who will not entirely agree with the philosophy of Dr. Reynolds' approach. Some physicians would still limit public health to the control of communicable disease. On the other hand, there are those who would extend public health to include diagnosis and even in some places medical care. Dr. Reynolds has very wisely chosen the middle road.

Drs. Greenberg and Wasserstrom have shown us how the general principles presented by Dr. Reynolds may be applied to a specific situation. While their particular method of operation may not be applicable in all parts of New York State, it does furnish us with a valuable example and guide. In addition, statistical information of great importance has come and will continue to come from such a project.

Both of these papers touch lightly on one subject which, I am sure, all of us would agree is a proper concern of public health. Research, particularly epidemiologic research, is one of the most important contributions which can come from diabetes programs. The Brownsville study has already provided interesting information regarding the validity of blood and urine tests. The authors state that a study will be made to determine the value of periodic testing and education in preventing diabetes in a group of potential diabetics. This is a very basic question and one for which we do not now have an answer. The results of this study will be eagerly awaited by all of us.

It would also be interesting to know why Brownsville has such a high mortality rate from diabetes. Is it due to a higher total incidence of diabetes or to poorer care with a normal incidence? If total diabetic morbidity is greater, is it because of the heavy Jewish population? Is the changing composition of the district producing a change in the morbidity and mortality? All of these questions could be answered in time.

Even more basic are the questions which both of these papers bring to mind. At present we are basing our diabetes activity on the assumption that it is worth while to find and treat the asymptomatic diabetic and that early and proper treatment will at least alter the course of the disease and lessen the chance of complications. We believe this to be true, but we do not have any large body of statistical proof for this premise. Public health can render a great service by helping to supply this proof.

There are many other such research problems. Some of these are currently being studied in other areas, particularly by the United States Public Health Service in Boston. It will take the combined effort and experience of all of us to solve them.

I am happy to see that both papers have emphasized the cooperation and sanction of the local medical society and the local affiliate of the American Diabetes Association. Approval by the practicing physician is always desirable in any public health program. In dealing with a problem such as diabetes it is a necessity.

Henry E. Marks, M.D., *New York City.*—For the past eight years the American Diabetes Association has conducted an annual diabetes detection week among its affiliates in an attempt to discover as many as possible of the estimated million undetected cases of diabetes in this country. This project rests on a number of assumptions which are likewise implicit in these papers of Dr. Reynolds and Dr. Greenberg and Dr. Wasserstrom.

Sampling studies indicate that there are approximately one million known diabetics in the United States, another million not yet aware of their disorder, and perhaps three or more million persons who will develop diabetes as they grow older. Since severe and longstanding diabetes leads to the development of atherosclerosis, degenerative neuropathies, vascular and infectious renal disease, and retinitis and cataract with consequent illness, disability, and shortening of life, it is apparent that diabetes is one of our major public health problems. The magnitude of this problem is a result of insulin, which keeps diabetics alive but too often fails to keep them well because of inadequate supervision and incomplete control of the diabetes.

Diabetes statistics based on mortality records can be misleading. They give no clue to the true incidence of the disease or to the incidence of illness and disability caused by it. When a diabetic dies of vascular accident, who can say how much his diabetes contributed to the vascular lesion or how much his life span was shortened by his diabetes? We have no data on these things, but the physician working in this field knows that a large proportion of diabetics who have had their illness fifteen years or more show signs of accelerated decay. What can be done to lessen morbidity from diabetes?

The assumptions that underlie diabetes detection programs are as follows: First, that it makes a difference whether you discover diabetes early and, second, that its course and severity can be modified by early discovery and early treatment. A few physicians question this, but most of us feel quite certain that in its initial stages diabetes is progressive and that early discovery and control can slow or halt its advance from a relatively mild loss of tolerance to a more severe stage. Indeed, at this stage good control can result in a marked recovery of tolerance. The diabetic so controlled usually remains in good health; in fact, because of his more careful supervision and habits of living, many of our diabetics enjoy better health than the average nondiabetic of comparable age. Especially in the overeating and obese type of diabetic, early detection of loss of tolerance, reduction of obesity, and establishment of good eating habits restore tolerance and prevent the development of clinical diabetes.

If these assumptions are true, as we have reason to believe they are, there is a large field for preventive medicine in diabetes. There are two closely related goals: prevention of diabetes itself and, in the diabetic, prevention of illness, disability, and shortening of life. Both can be achieved by early detection and proper treatment.

One great difficulty in reaching these goals results from the fact that until late in its course, diabetes is a benign disease with no symptoms or signs to call attention to its presence. The so-called classic symptoms of polyuria and thirst, hunger, weight loss, and weakness appear only when it has reached the stage of tremendous loss of sugar in the urine, a very advanced stage by our standards, and many diabetics, untreated for years, never develop glycosuria of this degree, never develop these classic symptoms, and never discover they have diabetes until the onset of the late degenerative complications brings them to a doctor.

How can we hope to discover diabetes among people who feel they are well? This is a problem we must solve if we are to prevent disease from diabetes. Obviously it is a problem that will demand a coordinated attack by numerous agencies over a considerable period of time aimed at educating physicians and laymen and enlisting the participation of many different agencies.

The annual detection drive of the American Diabetes Association, useful as it has been for educational propaganda, actually has revealed relatively few of the undiscovered diabetics we need to find in relation to the expenditure of effort and money involved. What it has done quite effectively, I believe, has been to alert many agencies to the importance of the problem, and we now begin to see as a result a snowballing of interest in this field.

Several years ago the Committee on Detection and Education of the New York Diabetes Association asked the Department of Health to work with it and to develop this aspect of its work. Out of this, a year and a half ago came the brilliant work of Dr. Wasserstrom, who has organized the first of the department's diabetes detection centers at their Brownsville Health Center. The Brownsville Diabetes Detection Center was set up not only to discover diabetes but to discover a number of things we need very much to know about systematic diabetes detection. Some of the questions we hope Dr. Wasserstrom is going to help us answer are, first, the relative value of different methods under various circumstances. We know the casual urine specimen misses both the early and mild diabetics and the more advanced diabetics with a high renal glucose threshold. How much more effective is the urine test after a prescribed high-carbohydrate meal, and how much more effective than this is the blood sugar determination after such a meal? How does this compare with the standard glucose tolerance test? Do loading tests add enough cases to compensate for the added trouble and time involved? Dr. Wasserstrom is now gathering data which should help us to decide what tests to use in what circumstances and what ones to discard. A new development is a paper indicator test for urinary glucose. This is highly sensitive and specific and could be well adapted to improvements in mass screening technics.

For many years now for diabetes detection I have preferred a blood sugar taken one hour after a high-carbohydrate loading meal containing approximately 100 Gm. of mixed carbohydrate. Under these conditions the normal subject will have a blood sugar level, measured as total reducing substances, not above 130 mg. per cent. If we define diabetes as inability to maintain a normal blood sugar level after the ingestion of a normal amount of carbohydrate, this is a more physiologic load than the ingestion of 100 Gm. of glucose. A blood sugar level at one hour above 150 mg. must certainly be looked on as defective carbohydrate tolerance, but a fair percentage of adults will show values between 130 and 150 and drop to normal at the second hour. How should we classify them? This is a highly sensitive test of carbohydrate disposal. It shows either an inadequate or delayed insulin response. When such responses occur, the patient should have further studies, the test being repeated with blood sugars at one hour and two hours. Those who remain elevated at two hours are definitely abnormal; those who have returned to normal at two hours are doubtful and should be retested at intervals. My own experience is that some tend to remain at this level without restriction of diet, some may show normal levels when retested, and some show further loss of tolerance. Furthermore, many frank diabetics, treated by diet restriction and weight reduction, recover enough tolerance to respond to a high carbohydrate meal with a one-hour blood sugar below 150 mg. Thus the responses in this range must be looked on as including normals with a slight impairment of the carbohydrate disposal machinery, the borderline or doubtful diabetics, the mild diabetics, and the early diabetics who are headed for more severe diabetes unless controlled by careful treatment. This is my current impression. I hope Dr. Wasserstrom will be able to provide the facts when he has had opportunity to follow a large number of these cases over a period of years. Perhaps he will be able to tell us definitely how much difference control of overweight and control of calories can make in the course of these "borderline" diabetics.

One of the most important aspects of Dr. Wasserstrom's program is the education of the physicians of his district. At present the physician is the big roadblock in the treatment of diabetes and particularly in its prevention. What good can it do to detect an early diabetic if his doctor doesn't recognize the importance of teaching his patient how to keep his blood sugar normal and of checking it periodically to make sure of good control? Diabetes control can only function through the doctors who treat the patients. Case-finding is only the beginning of the job.

I am happy to see both New York City and New York State now well embarked on diabetes control. It is a job that can be much better handled by our established public health agencies with their experience, personnel, and facilities than by ad hoc volunteer committees of a temporary nature. Certainly there is an important place for the educational work of the American Diabetes Association and its annual publicity campaign, which above all should reach those under private medical care and their physicians, but in this field, between what we are trying to do and what Dr. Reynolds, Dr. Greenberg, and Dr. Wasserstrom are doing there can be no conflict—only a most welcome opportunity for cooperation.

ANNOUNCEMENT

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MEDICAL SOCIETY OF THE STATE OF NEW YORK

FEBRUARY 18 TO 21, 1957

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W. P. Anderton, M.D., *Secretary*
Medical Society of the State of New York

Medical Problems in the Use of Atomic Energy in Industry

ROY E. ALBERT, M.D., WASHINGTON, D.C.

(*From the Medical Branch, Division of Biology and Medicine, United States Atomic Energy Commission*)

We can classify the industrial utilization of radioactive materials in industry into two main categories. The first consists in the applications of radioisotopes for industrial radiography, thickness gauges, flow measurements, research, etc. Although there are an estimated 1,200 such users in the country, the amounts of radioactive materials employed are relatively trivial compared to the so-called atomic energy industry. This is the industrial complex operated or wholly supported by the Atomic Energy Commission and includes the following major groups: the uranium mines and refineries, gaseous diffusion plants for separation of fissionable and nonfissionable uranium, atomic reactors for plutonium production and research, and chemical separations plants for recovery of plutonium, uranium, and fission products from spent fuel elements.

The unique aspect of industrial medicine in the atomic energy industry quite naturally relates to problems associated with radiation injury. On the other hand, the atomic energy industry has become one of the largest industrial complexes in the country during the past fourteen years, and in actual practice the medical problems cover a much larger range, overlapping those of many other industries. For purposes of this presentation I would like to confine the discussion solely to the medical aspects of radiation hazards.

It is important to remember that we are here concerned only with the various forms of radiation which have the capacity to produce ionization in tissues, unlike microwave, infrared, and ultraviolet electromagnetic radiations. There are a number of physical principles basic to the understanding of radiation hazards, and it would be well to consider these before going on to some of the specific medical problems in the atomic energy industry.

All ionizing radiations with which we are concerned, except those from accelerators of various designs used in physical research, are emitted from radioisotopes. As a radioisotope of one element decays, it changes to another element and simultaneously emits one or more kinds of radiations of which there are essentially four types commonly encountered in the atomic energy industry: alpha, beta, gamma, and neutrons. These radiations are emitted over a wide range of energy, depending on the particular isotope from which they originate, and each varies markedly with respect to penetrability in tissues. For example, alpha particles have a maximum range of a few cell diameters; beta particles can travel a few millimeters at most, but gamma rays in the energy ranges usually encountered are capable of passing through the entire body. The depth of penetration of neutrons varies with their initial velocity and ranges from a negligible extent at very low energies to, for example, 5 cm. at 5 million electron volts. Dosage of ionizing radiation is expressed as the amount of energy (ergs) per gram of tissue. The most common unit is the roentgen, and this is an expression of the concentration of absorbed energy. For this reason, when dealing with radiations of low penetrability, one must be careful to specify the organs or parts of organs which receive a stated dose.

There are only a limited number of ways in which an individual can become exposed to radiation, namely, from a source placed internally or externally with respect to his body. With regard to external sources we are concerned with two important factors: the geometry of the source and the penetrability of the radiation as it strikes the body. For example, a large area contaminated with an isotope emitting only high energy gamma rays will irradiate an exposed individual more or less uniformly through-

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out his entire body. On the other hand, a splash of isotope emitting only beta rays on a limited area of the skin will irradiate only the skin directly beneath the isotope. There are, of course, all combinations of the factors of radiation penetrability and geometric arrangements of the external exposures.

In contrast, sources of radiation within the body result from inhalation, ingestion, or skin penetration of isotopes. Here the fate of the isotope within the body is determined by its physical and chemical form and the organ into which it is first deposited. For example, inhaled relatively insoluble radioactive particulates will remain in the lung for long periods of time and deliver most of their radiation to the lung tissues. If the isotope is a chemical for which certain other tissues have a high degree of specificity, a gradual transfer of the isotope will take place from the lung to the tissue in question. Thus, strontium and radium would be transferred in part from the lung to the bone. The fraction of the material initially deposited in the lung which finally lodges in the skeleton will depend on the competition between the excretory mechanisms and the bone for the isotope. In addition, the hazard to both lung and bone is dependent on the natural radioactive decay of the particular isotope which diminishes its radioactivity in a uniform fashion.

Some isotopes are absorbed from the intestinal tract almost completely, such as radioiodine, and others almost not at all, such as thorium. Once transferred to the bloodstream, the ultimate fate again depends on the chemistry of the isotope and its radioactive half-life. When deposited in a specific tissue, most of the radiation dosage, if the emitted radioactivity is of low penetrability, will be concentrated in the immediate vicinity of the isotope, and conversely, if the radiations have a higher degree of penetrability, the dose will be delivered more diffusely. Isotopes without any specific localization and consequently with wide distribution, such as sodium, will tend to radiate the entire body uniformly.

There are also a few general principles related to radiation damage which it is well to keep in mind. Large doses of radiation can produce acute tissue destruction with a latent period of hours to days, as well as late effects after a period of years. Small repeated doses can also produce the same long-term effects in a matter of years. Of the various tissues in the body, the lymphoid and myeloid elements are the most sensitive; the epithelial cells of the skin, gastrointestinal tract, and reproductive organs are next. Other tissues, such as bone, nerve, muscle, and connective tissues, are relatively insensitive. The clinical manifestations of large doses of radiation are dependent on tissue destruction, inflammatory reaction, and consequent depression of function. Large doses of whole body radiation produce degeneration of the blood-forming tissues and gastrointestinal tract, leading to the typical clinical sequence called the whole body radiation syndrome, involving vomiting, diarrhea, and the manifestations of acute pancytopenia. Acute damage to the skin from radiation results, of course, in a burn. The late effects of radiation damage usually take the form of cancer or degenerative changes. In the case of both skin and bone marrow, the important delayed effect is cancer, i.e., leukemia and epithelial carcinoma.

Internal deposition of isotopes can produce acute or chronic effects, depending on the amounts involved; for example, large quantities of radium, plutonium, or strontium may cause acute blood changes, and all may produce bone cancer as a late effect. The ocular lens is particularly susceptible to degenerative changes, especially from neutrons, which result in the development of cataracts. In experimental animals receiving whole body radiation, a nonspecific reduction in life span has been noted, but this has not yet been observed in humans.

With regard to industrial practice, we expect to see the acute effects of radiation damage only as the result of accidents involving large exposures, but the late effects may also result from repetitive smaller doses. It is convenient to group the radiologic health problems in the atomic energy industry into two principal fields, one associated with the maintenance of exposures to radiations below permissible levels and the other, the medical prevention and therapy of radiation injury. The field of radiologic health protection is frequently left to the physicists, although the division of the health field into two sharply separated categories of health physics and industrial medicine has the disadvantage in some cases of lack of over-all coordination. However, the compelling aspect in the genesis of this schism has been a deficiency in training in radiation physics and biology among our industrial physicians. Incidentally, an attempt to remedy this situation is being made by the Atomic Energy Commission's fellowship program for industrial physicians. Uniformly, the engineering of health protection in the atomic energy industry has been remarkably good and has served to keep the medical problems to a bare minimum. By and large, the medical problems which do exist fall into the following groups: (1) the identification of individuals with physical diseases which might constitute medical-legal problems in the differential diagnosis of radiation damage and (2) management of various types of overexposure to radiation.

As to the first problem, pre-employment medical policies vary from one installation to another, depending on the particular type of hazard. Thus, those installations with potential neutron exposures will establish pre-employment and routine examination procedures for ocular cataracts and set up criteria for medical rejection on the basis of lens opacities. Those facilities where external gamma radiation is a potential hazard will set their rules on the basis of pre-existing blood diseases. The policies themselves depend in part on previous company practices in comparable situations, but the underlying problem is the difficulty in distinguishing radiation effects from many other common medical conditions. The medical management of excessive exposure to radiation depends largely on the particular type of exposure: whether to the whole body or portions of the body by highly penetrating radiation, skin contamination by isotopes, or internal deposition of isotopes by inhalation, ingestion, or skin penetration (usually wounds).

The number of cases of serious overexposure to highly penetrating radiations has indeed been small in the atomic energy industry. Ten cases with two fatalities occurred in the weapons development program within a year of the first military use of the atom bomb. Four nonfatal cases with moderate to small exposures occurred in 1952 at an experimental reactor project. No serious cases have occurred in the atomic reactor production facilities or chemical separations, gaseous diffusion, or metals fabrication plants. This is a remarkably good record when one considers that enormous amounts of radioactive materials are handled daily. For example, a standard atomic reactor will accumulate fission products in the order of millions of curies of radioactivity. This is to be compared with the total world's production of radium to date of a few thousand curies. Although the potential for serious overexposure exists in a number of phases of the atomic energy industry, the engineering of health protection measures has been adequate to make this a negligible medical problem. Among other industrial users of isotopes, a few cases have occurred of overexposure to radiographic cobalt 60 sources. Due to defective labeling the sources were pocketed by unsuspecting workmen. Except for skin burns no serious acute effects were noted in these few instances, but this, of course, is a matter of chance, being a function of the size of the source and the duration of exposure.

Contamination of body surfaces with small amounts of radioisotope is not uncommon and can usually be treated simply by washing with soap (or detergent) and water without special facilities; however, when the extent and magnitude of contamination is great, it is necessary to treat such cases in a special decontamination facility. On entering such a facility, a preliminary radiologic monitoring may be done, and the individual is then routed to a shower where the contaminated clothes are discarded. The decontamination is done with detergents and water and a chelating agent, such as versene, if necessary. In injured contaminated cases this procedure must be done on a table similar to an autopsy table with raised edges to prevent spilling of contaminated water on the floor. Clipping of the hair may be necessary to remove residual radioactivity. It is usually not necessary to remove all the radioactivity from the skin since some of this is bound to the superficial layer which is shed in a few days. The decontamination center is usually organized with a centrally located supply room into which only one person is allowed during periods of operation. This is done to avoid contamination of unused supplies and equipment. The facility should be arranged (with barriers if needed) to clearly define the separation of contaminated from uncontaminated areas and thus minimize the spread of radioactive material.

When internal deposition of radioisotopes occurs from a break in the skin due to laceration or puncture wound, surgical removal of the injured tissue may be indicated. However, the specific type of treatment depends on the physical and chemical characteristics of the isotope and the nature of the wound (the location, depth, and area). It is imperative to make an initial estimate of the extent of the hazard from the deposited isotope in order to determine the proper type of treatment. Important factors on which therapy depends are the type and amounts of the isotopes and the age of the patient. For example, if an amount of a bone-seeking radioisotope, such as strontium, is deposited under the skin by a puncture wound in amounts estimated at five times the maximum permissible body burden, one would feel justified in removing this in a patient of middle age or younger but not in an individual sixty or seventy years old since the latent period for the most serious eventuality (bone cancer) would be in the order of the patient's life expectancy.

An important factor in making judgments of this sort is the estimation of the amount of isotope deposited in the tissues. This, of course, requires monitoring technics which are suited to the physical characteristics of the emitted radiation. If the embedded isotope in question emits alpha or beta particles, it would be necessary to use a probe-type counter which could be inserted into the tissues in order to locate the isotope. Such probes have been fabricated and consist of a tiny scintillation head at the end of the tube no thicker than a 14-gauge needle. Gamma-emitting isotopes, of course, can be detected from the surface of the body. Monitoring procedures are also important during the surgical procedure itself in order to determine whether or not a suitable fraction of the deposited isotope has been removed.

The most common medical problem with respect to internal deposition of isotopes is the case of exposure to airborne radioactivity of sufficient extent to cause a small but measurable urinary excretion of isotope. This situation, of course, does not call for medical therapy in the overwhelming majority of cases where the excretory levels are below permissible limits but rather serves as a guide for the industrial hygiene control of airborne contamination.

The internal deposition of radioisotopes in large amounts following inhalation, ingestion, or removal from site of a wound contamination presents a difficult and somewhat discouraging therapeutic problem. The objective, of course, is to increase the normal excretory rates as much as possible. With an isotope such as sodium, the approach is obvious, i.e., the use of mercurial diuretics with administration of large amounts of inert sodium. With tritium, in the form of tritium water, the therapeutic technic is also apparent: again, administration of large amounts of water and use of diuretics. In the case of radioiodine the standard antithyroid drugs which block iodine uptake by the thyroid gland would be indicated. In the case of a few isotopes there are specific nontoxic chelating agents which render the isotope chemically inert and thus block deposition and increase the excretory rate. A notable example of this is the utilization of versene and zirconium for plutonium poisoning. Even then the method is useful only when treatment is started a very short time after exposure when fixation of the isotope in tissues has not progressed too far. Fortunately, the cases of excessive internal deposition of isotopes are very rare, and to paraphrase an old saw in modern dress, a microcurie of prevention in the atomic energy industry is worth a megacurie of cure.

1901 Constitution Avenue

Power is poison. Its effect on presidents has always been tragic, chiefly as an almost insane excitement at first, and a worse reaction afterwards; but also because no mind is so well balanced as to bear the strain of seizing unlimited force without habit or knowledge of it; and finding it disputed with him by hungry packs of wolves and hounds whose lives depend on snatching the carrion.—Henry Brooks Adams

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*Restoration of Diaphragmatic Function and Breathing Exercises in Pulmonary Emphysema**

ALVAN L. BARACH, M.D., NEW YORK CITY

Attempts to enhance diaphragmatic breathing in patients with pulmonary emphysema by deliberate training have been carried out intermittently since the time of Saenger and Hofbauer. However, it should be recognized that the diaphragm itself is not diseased, except that inadequate use predisposes it to atrophy. A more accurate description of this therapeutic objective is restoration of pulmonary function, since the failure of diaphragmatic ascent is due to impairment of elastic recoil of the lungs in expiration, which is in turn dependent on obstructive bronchiolar trapping of air, alveolar overdistention, and the resultant depression of the dome to a lowered position. The diaphragmatic muscle still may be seen to contract in inspiration, as evidenced by the retraction of the lower costal margins of the thorax, but its ventilatory effectiveness is largely lost until measures are instituted whereby its upper surface is elevated and restored to a convex shape. These measures enhance in varied ways the relaxation pressure of the lung, which permits the diaphragm to function more normally; hence the phrase "restoration of diaphragmatic function" in essence refers to restoration of the recoiling activity of the lung itself.

Some confusion has perhaps arisen because expiration has been termed a "passive" act. When the diaphragm and the intercostal muscles relax, ascent of the diaphragm into the chest is normally brought about by a negative pressure produced through the recoiling force of the lungs; the intrapleural pressure between the lower lobes of the lung and the upper surface of the diaphragm becomes increasingly negative at the end of inspiration, as a result of which the diaphragm is lifted during expiration with the abdominal contents attached to it, i.e., liver, spleen, and omentum. Thus, in normal respiration expiration follows relaxation of the inspiratory musculature, but the contraction of the elastic elements of the lung overcomes the gravitational force of the organs attached to the diaphragm. In patients with pulmonary emphysema in whom elastic recoil of the lung is impaired, the expiratory intercostal and abdominal muscles assist the process of exhaling air, but this is a less efficient mechanism than when the recoiling pressure of normal pulmonary parenchyma accomplishes deflation of the thorax.

Since overinflation of the lung in pulmonary emphysema results directly in a depressed diaphragm, the lower lobes and the hilum will not only be inadequately ventilated but may also be the source of rebreathing with the overexpanded upper portion of the lung, especially when the diaphragm paradoxically moves upward as a result of forceful inspiratory contraction of the muscles of the upper thorax, neck, and shoulder girdle.

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* This paper, from *Pulmonary Emphysema* by Dr. Barach and Dr. H. L. Bickerman, appears through the courtesy of Williams and Wilkins Company, Baltimore, Maryland.

Descent of the diaphragm in the normal individual is accompanied by contraction of the lower five intercostals with the result that the upper abdomen generally manifests a protrusion and the lower ribs are flared outward at the end of inspiration. In severe pulmonary emphysema when the ribs are pulled inward by the diaphragm despite contraction of the lower five inspiratory intercostal muscles, the force of the compensatory expansion of the upper thoracic cage and elevation of the shoulder girdle is then transmitted directly to the alveoli at the periphery, which are overventilated at the expense of the more normal lung tissue at the hilum.

Serious impairment of diaphragmatic (or lung) function also takes place as a result of other factors than anatomic emphysema, both in patients and in otherwise normal individuals. Heckscher has emphasized that a marked diminution or loss of diaphragmatic movement is characteristically observed in soldiers who stand with shoulders thrown back and the "guts" sucked in; this military posture in itself results in hyperinflation of the lungs, flattening and tensing of the abdominal musculature with impairment of its descent on expiration, and an increase in residual air. Gymnastic instructors teach exercises for the purpose of increasing chest expansion and frequently advocate an erect lordotic posture with similar consequences. The diaphragm has also been found to be unusually low in women with hysterical pregnancy and in others who suffer from a syndrome described as periodic abdominal distention not associated with flatulence. Excessive upper thoracic respiration has been observed in a motion picture actress, adopted for its scenic effect, with the result that little or no diaphragmatic motion was seen on fluoroscopy in the standing position. Patients with the hyperventilation syndrome are also costal breathers, the periodic sigh or deep breath being consistently performed with a characteristic upward motion of the thorax and accessory neck muscles, similar to the chest heaving of cases of pulmonary emphysema.

In some patients with poliomyelitis who have had respiratory paralysis three months to a year or more previously, the failure to employ diaphragmatic respiration is not entirely due to central nervous system involvement. Pressure of the hand or the application of an emphysema belt below the umbilicus was found in some cases to produce a conspicuous decrease in the volume of pulmonary ventilation, as well as a marked reduction in upper thoracic and accessory neck muscle respiration with a sensation of diminished effort of breathing. In these instances the lungs of the patient perform as if some degree of impairment of elasticity took place during the acute phase of poliomyelitis, since a slight elevation of the diaphragm resulted in a perceptible increase in its motion with a significant improvement in the efficiency of respiration.

That diaphragmatic respiration was superior in ventilatory effectiveness to that of the chest musculature was stated more than a century ago by Astley Cooper and Duchenne. In 1909 Keith stated that the lower lobes of the lungs were expanded mainly by diaphragmatic excursion, but he did not mention at that time movement of the hilum as a result of diaphragmatic respiration. Howkins, recognizing the interference with diaphragmatic motion exerted by the downward pulling pressure of the visceral organs attached to the undersurface, recommended the supine rather than the sitting position as a method of lowering the incidence of chest complications; he reported a 60 per cent reduction of the vital capacity with a complete immobility of both lobes of the diaphragm. The headward tilt of the thorax naturally aids still further the recoil of the lungs by the weight of the viscera which press upward on the diaphragm. With the decrease in the volume of the thoracodiaphragmatic cage, the pulmonary ventilation is then characterized by increased movement of the reserve air, both in normal subjects and in those with pulmonary emphysema and bronchial asthma.

Reich was the first to make the observation that introduction of air into the peritoneal cavity at a pressure sufficient to elevate the diaphragm 3 cm. resulted in a corresponding increase in its excursion, with simultaneous relief of shortness of breath. The value of this procedure, confirmed by a number of investigators, is still strongly advocated by Banyai. Kountz and Alexander, Christie, and Gordon found that a somewhat similar result was obtained by physical pressure applied to the lower abdomen, either by the flat of the hand or by a specially designed belt. A basic physiologic effect of any procedure that provides a dome shape to the diaphragm and maintains it at a higher level in the chest is an increase in the range of its motion, provided that the pressure attained in the abdominal cavity is not so high that the diaphragm cannot contract against it. In patients who respond to these measures with increased diaphragmatic movement, the intrapleural pressure is altered in the direction of higher negativity. Thus, instead of a range of plus 2 to minus 4 cm. of water during a quiet expiration and inspiration, the intrapleural pressure may be found to be minus 2 to minus 5; a comparable fall in systemic venous pressure takes place in these cases. However, when the venous pressure rises above the control value after pneumoperitoneum, it is an indication that too much air has been employed, and increased dyspnea occurs. This response to pneumoperitoneum will be discussed later, but it may be pointed out here that the patient with emphysema may require specific training in using the diaphragm to take advantage of procedures which elevate it, since upper thoracic costal respiration may persist as a habit until it is deliberately broken. Perhaps it would be better to say that the patient requires an orientation by training which transfers the use of the intrapleural negative pressure to the bases rather than exclusively to the upper periphery of the lung.

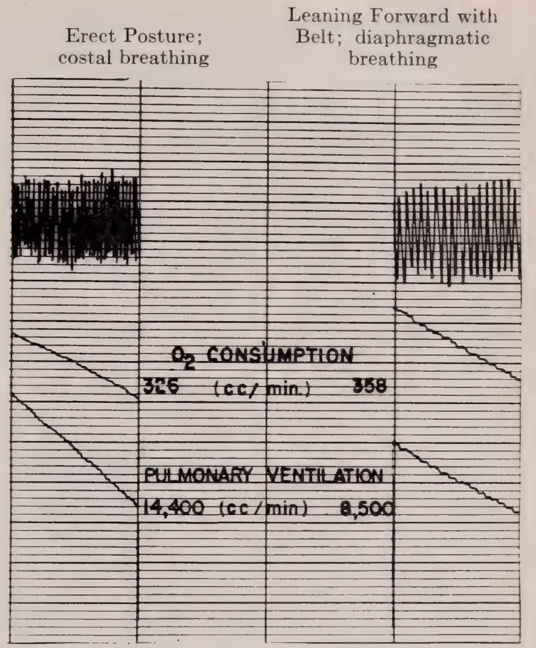

FIG. 1. Pulmonary emphysema. The pulmonary ventilation breathing air was lowered from 14,400 to 8,500 cc. as a result of the changes from the erect to the leaning forward posture together with the application of a Gordon Barach emphysema belt. As a result of the combined procedure costal breathing was altered to a predominantly diaphragmatic respiration.[5]

With the decrease in lung volume produced by elevation of the diaphragm, a reduction in functional residual air is found, as well as an increase in alveolar ventilation, especially of the parts of the lung that are inflated by contraction of the dome of the diaphragm, i.e., the lower lobes and hilum. An increased effectiveness of the cough is in part dependent on better aeration of the dependent areas of the lung. An increase in the relaxation pressure of the lung is a direct result of any increase in intra-abdominal pressure which offsets the gravitational force of the liver and spleen.

A lowering of the minute volume of breathing is a good indication of the increased efficiency of ventilation initiated by raising the dome of the diaphragm; this response is more marked with the employment of the headward tilt of the thorax than with either pneumoperitoneum or the use of the emphysema belt, especially since Beck and the writer have shown that diffusion of oxygen and carbon dioxide is not impaired even with a 20 to 30 per cent decrease in pulmonary ventilation. In the leaning-forward position, either standing or sitting in a chair, the downward pull of the viscera is decreased, but lung volume is in this instance increased, in part due to the falling away of the mediastinum from the posterior parts of the lung. Of four patients with pulmonary emphysema in whom the immediate response to leaning forward 35 degrees was tested, the pulmonary ventilation showed an average decrease of 13 per cent in two and 3 per cent in the remaining two cases. The combined effect of the belt and the leaning-forward position is illustrated in Fig. 1, in which it is seen that there was a decrease in pulmonary ventilation from 14,400 to 8,500 cc. per minute. The decreased minute volume of respiration was made possible by redistribution of air to better preserved parts of better perfused lung, the result of increased diaphragmatic breathing. The slowing of the velocity of air flow also lessens the operation of the check valve mechanism characteristic of bronchial constriction. High rates of air movement are accompanied by increased trapping of air, increased turbulent flow, and decreased compliance, especially in the erect sitting or standing position, which predisposes the patient to the kind of ventilation that is applied to the peripheral, more diseased areas, because of exaggerated expansion of the upper thoracic cage.

The importance of attempts to restore diaphragmatic function by deliberate training in breathing was clearly recognized by Hofbauer who was responsible for a program aimed to facilitate ascent of the diaphragm by deliberate contraction of the abdominal musculature at the end of expiration, a procedure subsequently employed in the main by Livingston and, more recently, by Allan, M. E. Miller, Becklake *et al.*, Fein *et al.*, W. F. Miller, and others. Heckscher, however, believed that the use of the leaning forward "easy standing" posture was a more reliable method of maintaining diaphragmatic respiration than expiratory contraction of the abdominal muscles; the latter procedure was criticized by Christie as an unnatural practice.

The Hofbauer technic has not been generally employed in the treatment of our patients. Although expiratory contraction of the abdominal musculature and lower intercostals can be observed at rest and at times is employed unconsciously during walking, deliberate practice with this method in our hand has not resulted in as much benefit during exertion as training in accentuating the normal process of lung recoil and diaphragmatic contractions. With the use of the supine and the head-down positions, in which the gravitational force of the viscera is less of a handicap to the relaxation of the lungs, a more natural breathing habit has been inaugurated in the majority of 500 patients treated in the past ten years. The use of diaphragmatic respiration during walking, especially when in an erect posture, is physiologically difficult. The patient is therefore encouraged to stand in the leaning-forward position and to wear an emphysema belt, since the lungs are then in an improved position to facilitate increased ascent and consequently effective movement of the diaphragm. Patients carry on upper thoracic breathing partly because of the characteristic pulmonary distention but also as a habit which seems to have developed during periods of acute dyspnea and overinflation of the lung and maintained in part by a posture not suitable to their mechanical breathing disorder. The habit component may be abandoned after instruction and practice as mentioned above; the relief of alveolar distention is attempted by the various therapies presented in this volume.

When the patient is tilted head-down with the thorax inclined at an angle of approximately 20 degrees, the abnormal distribution of ventilation may be seen to change in the direction of normal by the prompt abandonment of the use of the accessory muscles of respiration. The superficial and relatively functionless distended air sacs, which in the erect position are overventilated, fill earlier than the deeper parts, since traction is directly applied by the expanding chest wall and bullous areas interpose little resistance at the start of inspiration. Since the headward tilt of the thorax results, either spontaneously or after instruction, in a prompt abandonment of this type of upper costal breathing, the more normal alveoli around the hilum are now aerated; the intrapleural negative pressure in the region under the lower lobes is aided by the increased (visceral) intra-abdominal pressure. A better over-all perfusion of the lungs also takes place as a result of the effect of gravity on blood entering the lung from the abdomen and the restored rhythmic contractions of the diaphragm; furthermore, the more normal lung tissue at the hilum is itself possessed of a more intact capillary circulation.

Since the surface area of the diaphragm is approximately 270 sq. cm., a gain of 2 cm. in its total excursion would theoretically represent 540 cc. tidal air. If the increased movement were mostly confined to the dome and we were to estimate this surface as one-half the total area, a selective ventilation of 270 cc. would thereby be produced in the better functioning elements of the lung. Since any procedure which raises the diaphragm offers the patient the advantages of a highly efficient redistribution of air in the lungs, similar effects might be expected by a suitable elastic emphysema belt and by pneumoperitoneum. Furthermore, physiologically directed therapeutic procedures, such as inhalation of bronchodilator aerosols for relief of bronchospasm and manual compression of the chest, may also contribute to better diaphragmatic function by decreasing lung inflation, provided the patient has been trained to take advantage of any decrease in pulmonary overdistention through diaphragmatic breathing. Although elevating the diaphragm results in a decrease in lung volume, which theoretically tends to decrease bronchial diameter proportionately, the behavior of the patient indicates that trapping of air is not produced. Deflation of the lung not only diminishes the functional residual air and increases alveolar ventilation, but it would also appear that the bronchiolar walls through which ventilation now takes place are less susceptible to collapse and that the pressure on their external surface is now less in comparison to the airway pressure, perhaps due to a more efficient recoil of the elastic elements attached to hilar and lower lobe lung tissue and in part to the decreased velocity and volume of respiration initiated primarily by the more efficient ventilation.

Although a number of observers have reported clinical benefit following diaphragmatic training, the response of the series of patients mentioned by W. F. Miller included also an increase in vital capacity, maximal minute ventilation, arterial oxygen saturation, at rest and immediately after exercise, as well as a small but possibly significant decrease in arterial pCO_2, both at rest and after exercise. The most striking of the functional evidences of benefit from diaphragmatic breathing was demonstrated in the blood-gas studies on patients tilted into head-down positions, since diffusion of oxygen and carbon dioxide was maintained, even though a marked lowering of the total minute volume of breathing occurred promptly after disappearance of the upper costal respiration. These results illustrate to what extent the faulty distribution of air in pulmonary emphysema can be overcome. Although Wade did not find that diaphragmatic training, as carried out in England, resulted in a greater movement of the diaphragm *during a maximal inflation of the lung,* his data do not support this conclusion during moderate breathing, nor do they appear to be relevant to the problem of the patient with pulmonary emphysema in whom forced ventilatory excursions are not only contraindicated clinically but also result in pathophysiologic events, such as air trapping, that are known to produce alveolar overdistention. Fluoroscopic examination of a patient on a table tilted to the degree required to initiate diaphragmatic motion reveals the abdomen protruding during inspiration, as it does in the head-down position in a bed and a tilting chair or in the leaning-forward position.

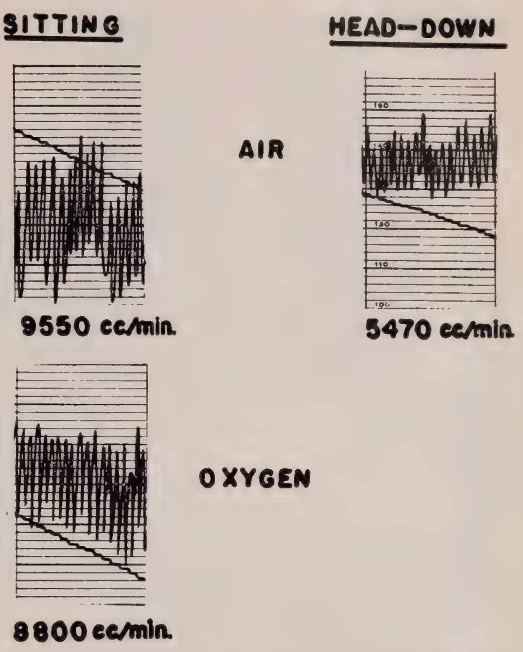

FIG. 2. Pulmonary ventilation. A graphic record of the pulmonary ventilation is shown in a patient with chronic bronchitis and a hyperventilation syndrome; the minute volume of respiration decreased from 9,550 cc. in the erect sitting position to 5,470 cc. when the thorax was tilted head-down 20 degrees. This diminution in breathing was accompanied by a change from an exclusively costal to a diaphragmatic type of respiration. There was, in addition, a slight decrease in pulmonary ventilation during the inhalation of 100 per cent oxygen, although clinical evidence of pulmonary emphysema was absent.

Although a comparison of the pulmonary ventilation with the patient sitting erect and head-down is a sensitive characteristic indication of pulmonary emphysema in most cases, marked reduction of ventilation may occur in people who suffer from the syndrome of hyperventilation on a psychosomatic basis. In Fig. 2 the pulmonary ventilation of a patient with chronic bronchitis and anxiety neurosis decreased from 9,550 to 5,470 cc. per minute when his thorax was tilted headward, accompanied clinically by a disappearance of the characteristic sighing movements of the upper thorax and shoulder girdle. The decrease in the ventilation when breathing 100 per cent oxygen, ordinarily interpreted as a manifestation of the presence of impaired pulmonary diffusion or oxygen, was in this instance not considered diagnostic of pulmonary emphysema because of the highly irregular quality of the ventilation.

At the start of the training of the patient, he is first told that he is not expected to learn the various procedures in the first session! A few

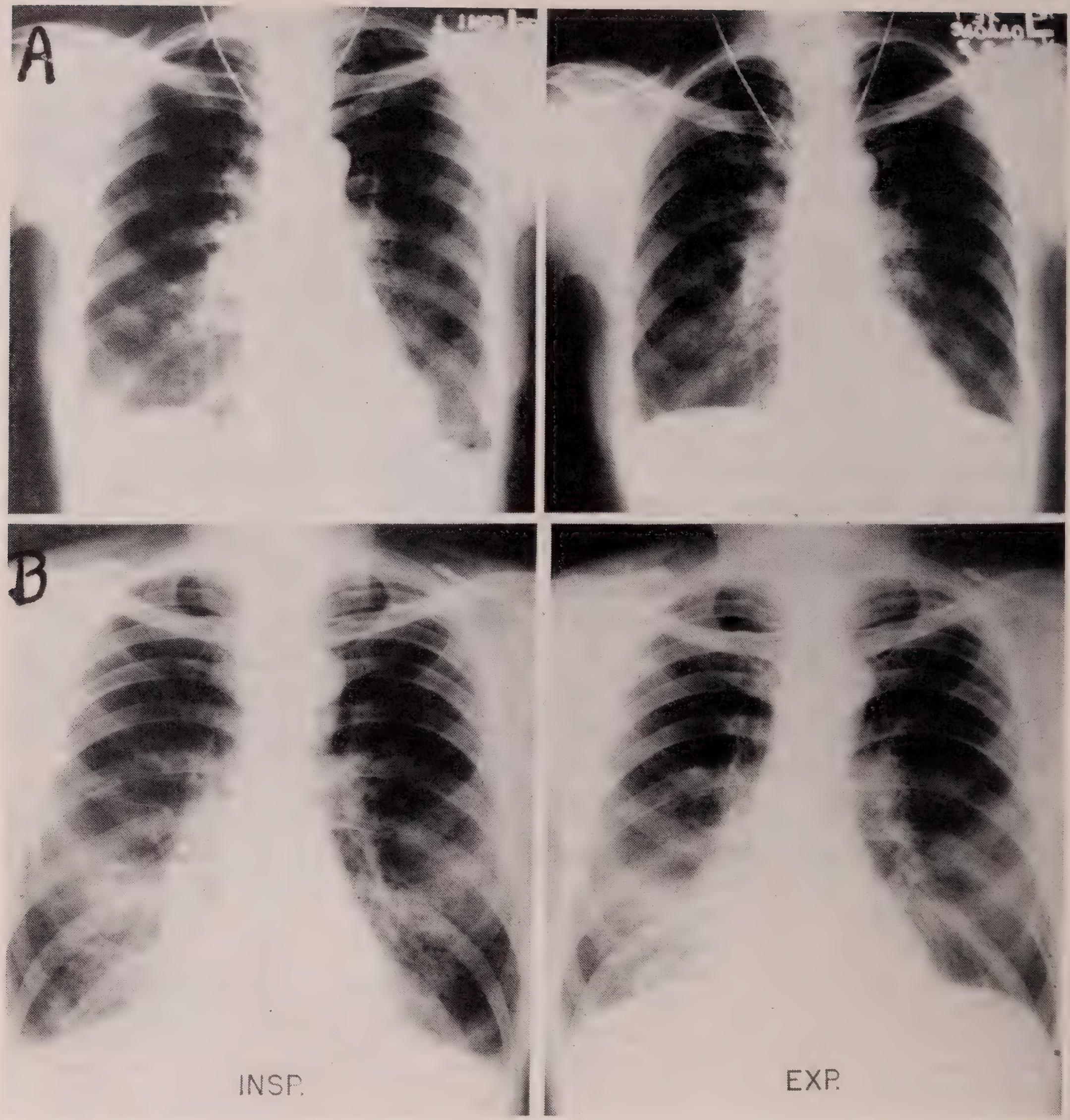

Fig. 3. Effect of training in diaphragmatic breathing of at least three months duration on excursion of the diaphragm after a full inspiration and expiration. (*A*) In this woman with pulmonary emphysema, the degree of diaphragmatic movement is indicated by the change in position of the upper surface of the diaphragm to the eleventh rib on the right side. (*B*) A man with pulmonary emphysema and pulmonary fibrosis. In both (*A*) and (*B*) the diaphragm is flattened on inspiration.

details of the instruction procedure will be given. The supine position may be employed with the pressure of one's hand on the abdomen, but the quickest and most effective method is to use the headward tilt of the thorax to produce diaphragmatic excursion. Two pillows are inserted under the head to prevent flushing of the face. The angle desired, between 16 and 25 degrees, may be determined in various ways, including tilting of the fluoroscopy table with observation of maximal diaphragmatic movement, the Colby chair, an angle-iron board, the foot end of the gatch bed, or the hydraulic bed lifter.* The physician places one hand on the chest and the other on the abdomen to demonstrate the onset of alteration in the character of his breathing. When protrusion of the abdominal wall takes place during inspiration, the hands of the patient

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* Made by Du Puy or Zimmer Co., both in Warsaw, Indiana.

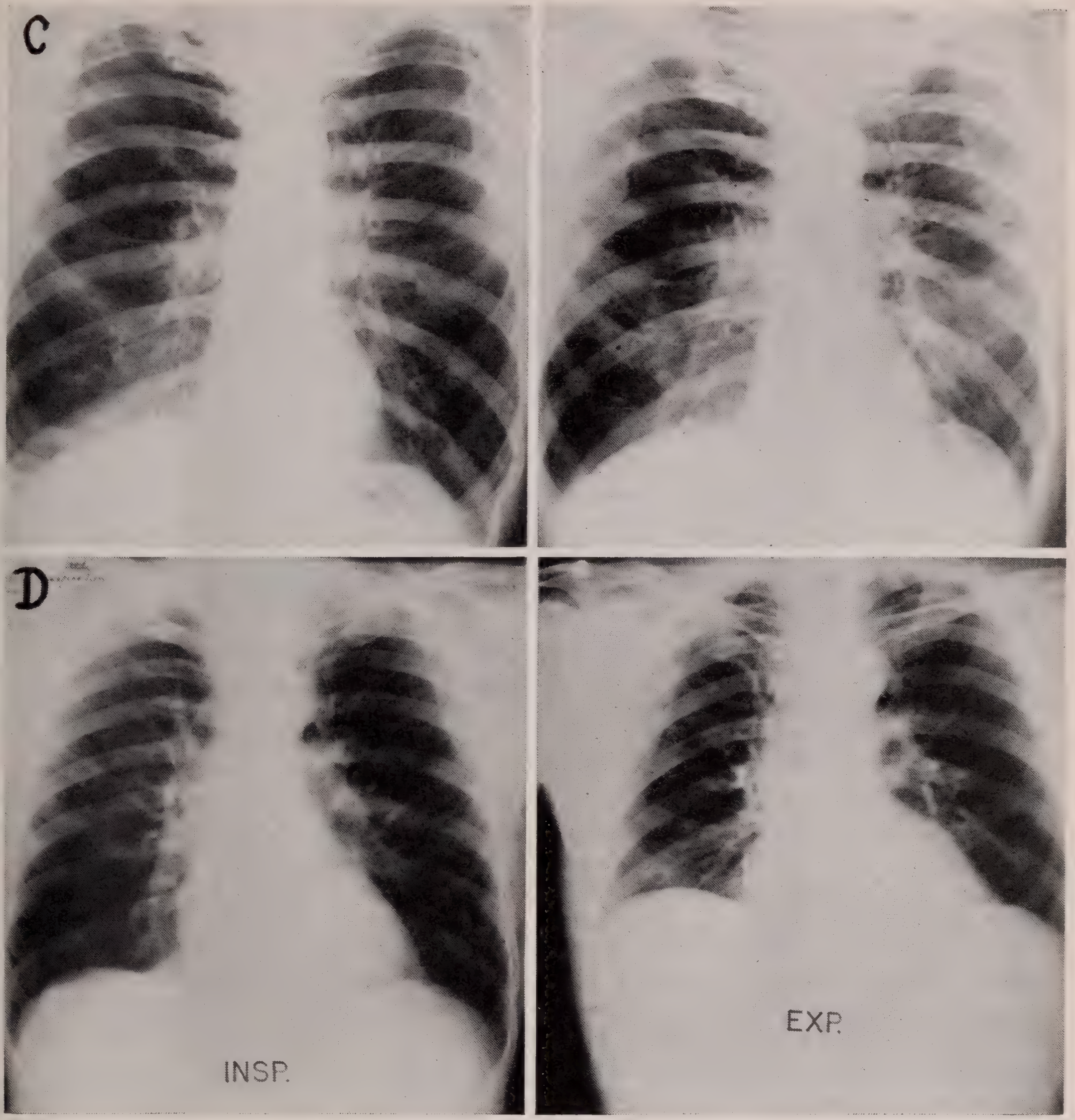


Fig. 3 (contd.). Effect of training in diaphragmatic breathing of at least three months duration on excursion of the diaphragm after a full inspiration and expiration. (*C*) In this case with advanced bullous disease of the lower lobes, maximal diaphragmatic movement was inadequate to relieve dyspnea in either the standing or erect sitting position. Despite three months of training and use of the Gordon Barach belt, the patient was short of breath except when supine, head-down, or breathing nasal oxygen sitting. (*D*) A patient with bronchial asthma and pulmonary emphysema. The marked degree of ascent of the diaphragm at the end of expiration was accomplished with the aid of contraction of the abdominal musculature.

replace those of the physician in order to clarify the procedure further. He is encouraged to dispense altogether with movement of the upper chest and to breathe as little as possible. Decreased sensation of dyspnea and a diminished volume of breathing are noted generally by the patient as well as the physician or therapist. The patient is instructed to carry on a similar practice at home for one-half to one hour three times daily.

The patient is then asked to continue diaphragmatic respiration lying supine, generally with the help of a 10 to 15-pound sandbag on the abdomen, which increases the intra-abdominal pressure and thereby elevates the diaphragm. The sandbag may also be used in this position at home as an exercise for the diaphragmatic muscle itself. When the patient resumes the standing position, costal breathing is apt to return promptly. He is now told to lean far forward with his hands against the upper abdomen until he can tell that diaphragmatic breathing is taking place by an anterior movement of the hands in inspiration. In certain cases he may have to bend until his chest is almost perpendicular to the pelvis in order to demonstrate an unquestionable diaphragmatic motion; under these circumstances the relaxation pressure of the lungs is much increased since the diaphragm moves in a horizontal direction, and the gravitational force of the viscera is directed vertically downward. When abdominal breathing has been adequately demonstrated, he gradually straightens up to a somewhat more upright position, at the same time attempting to preserve diaphragmatic movement. In the fully erect posture the patient will revert again to costal breathing, and he should then be encouraged to lean forward slightly, both in standing and in walking, although the head itself need not be inclined downward. In Fig. 3 x-ray illustration of diaphragmatic breathing is revealed in four patients after at least three months training; the excursion from full inspiration to full expiration was photographed in the standing position.

During the various training procedures hyperventilation is avoided. The patient is told explicitly and repeatedly to breathe as little as possible, to avoid deep breaths, as well as the use of the upper chest, the shoulder girdle, and neck muscles. Exertion should be stopped when puffing begins, and the leaning forward position immediately instituted until breathing becomes quiet. Unfortunately, either through anxiety or improper early training, expansion of the chest has been practiced deliberately in many instances far beyond the ventilatory requirement of the individual. A special effort should be made to talk slowly. Other activities which are also apt to provoke dyspnea, such as raising the shoulders and lifting the hands to the face, as in shaving or combing the hair, are better performed in a leaning-forward posture, whether sitting or standing.

In the same session or on the following day the patient is taught to use an emphysema belt. In order to make clear to him that a very real benefit will follow wearing a support of any kind, he is instructed to walk or exercise on a two-step test until shortness of breath occurs. The physician then stands behind him, bends his thorax forward to facilitate diaphragmatic breathing, and holds the lower mid-abdomen upward and inward with a gentle but firm pressure. A sensation of subjective relief of dyspnea will be experienced by almost all patients with pulmonary emphysema, provided that some degree of diaphragmatic respiration is being employed. The bending-forward position is utilized since the continuance of the exaggerated movements of the thoracic cage for the purpose of ventilation will prevent the objective desired through the application of manual pressure, namely, overcoming the downward pull of the visceral attachments to the diaphragm.

Although the principles of the emphysema belt were outlined long ago and indeed effectively applied by Alexander, Kuntz, Kerr, and others, the slight modifications introduced in the so-called Gordon Barach Emphysema Belt render it a more effective device for increasing intra-abdominal pressure. The elastic bands also store energy during inspiratory descent of the diaphragm which subsequently aids the recoil of the lungs on expiration. The belt is attached below the umbilicus so that no interference with an inspiratory widening of the chest diameter with flaring of the lower ribs is produced as a result of contraction of the lower intercostals as well as the diaphragm. The attachment of the belt is illustrated in Fig. 4. The belt is ultimately worn continuously from the time of arising to retiring. The pressure applied is moderate in degree at first and later increased by tightening the straps. In women and thin men a soft upper band is used for greater comfort and to prevent its bulging through the clothes. It is necessary for some degree of diaphragmatic movement to take place in order to secure the therapeutic advantages desired. For that reason the patient is generally advised to lean forward frequently, at an angle of 15 to 45 degrees, until abdominal breathing is a more or less unconscious habit. In many instances the standing *erect* posture can never be achieved with the full benefit desired from the wearing of an emphysema belt. As the diaphragm becomes stronger as a muscle, tightening of the belt over the lower abdomen may be increased since a higher interabdominal pressure will tend to aid further the elastic recoil of the lungs. In a patient in whom x-ray studies were made on the effect of posture on maximal excursion of the diaphragm, it was found that the average descent

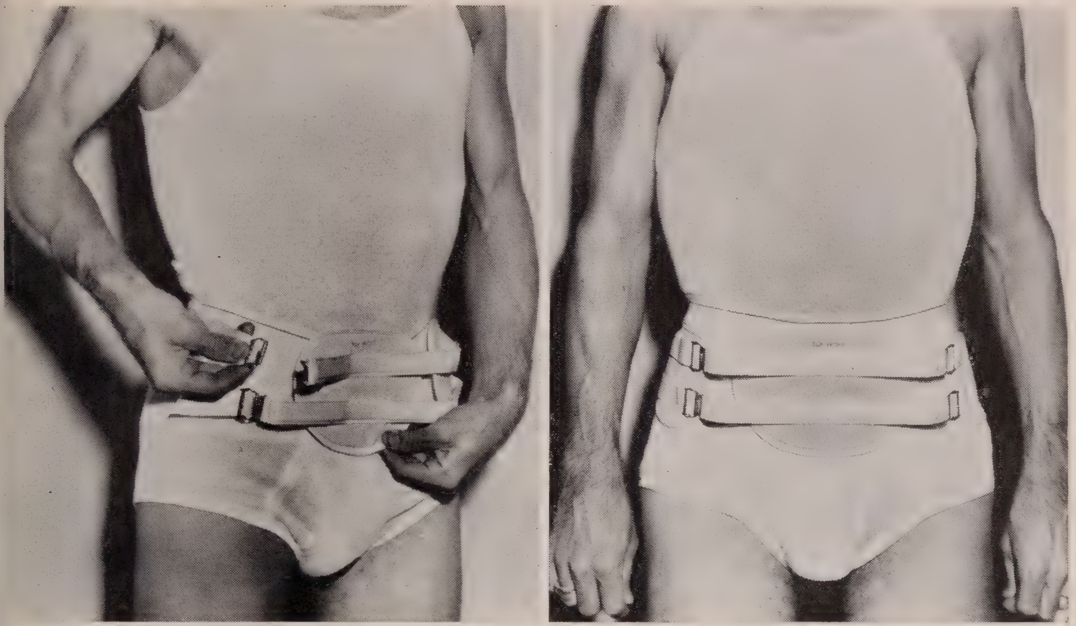
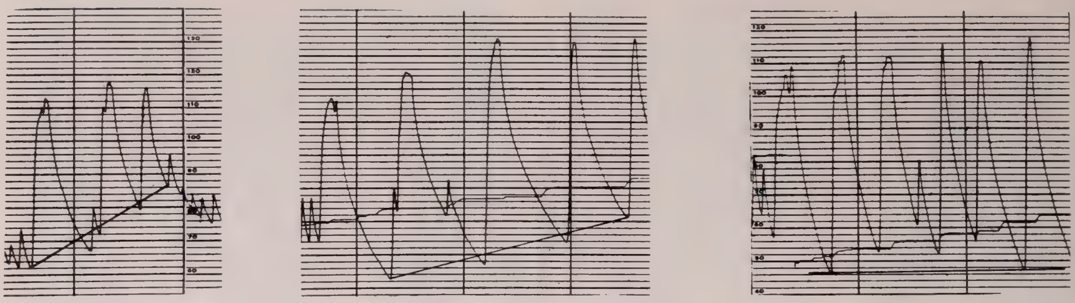


FIG. 4. Gordon Barach emphysema belt. This light abdominal support contains two spring metal bands attached to a pad placed below the umbilicus. The lower band is stronger and designed to increase the intra-abdominal pressure and raise the abdomen. Both bands store mechanical energy during inspiratory descent of the diaphragm, aiding recoil of the lungs during the expiratory cycle. In women a soft upper band is used to prevent bulging of the device through the clothes. In thin men the soft upper band is also employed.

of the right and left anterior leaves of the diaphragm was 2 cm. in the standing position, 3.6 supine, and 5.3 head-down at an angle of 16 degrees. Had the patient with pulmonary emphysema preserved an original inclination to walk on all fours, the belt would be a less necessary item. Under the circumstances of ambulatory activity, however, excursion of the lower parts of the lung and hilum are maintained by this method of aiding the recoiling pressure of the lung, which, from a physiologic point of view, is better applied to the surface of the diaphragm than to the periphery of the upper lobes. A sandbag of 10 to 15 pounds in weight is also frequently employed as a method of increasing the intra-abdominal pressure and of providing exercise of the diaphragmatic muscle. Used in the evening at bed, it is at times helpful in counteracting dyspnea.

An elastic vest has been used in our clinic to restrict as well as to aid upper thoracic motion, but in most cases subjective comfort during the application of pressure was not achieved. However, it seemed to us, both on theoretic grounds and in clinical practice, that some benefit did take place by reason of the compression of the thorax exerted by the sponge rubber or elastic tissue during the expiratory cycle.

Various attempts to decrease lung volume have been employed in patients with pulmonary emphysema, including manual pressure to the abdomen and air pressure applied by cabinets during the expiratory cycle. A maneuver which is readily taught to the patient by the physician consists in manual compression of the lower ribs and upper abdomen, generally carried out immediately after inhalation of a bronchodilator aerosol from a nebulizer. The purpose is both to squeeze excess air out of distended alveoli and to propel mucus from the dependent parts of the lungs and the smaller bronchi into the upper respiratory tract. The hands are placed on the anterolateral surface of the lower ribs and the upper abdomen. The position may be determined by leaving a hand's length space between the two hands which are then used, fully extended and not bent, to compress the lower thorax during the latter half of expiration. If the fingers are kept straight and rigid, an uncomfortable degree of pressure will not be applied to the abdomen. This maneuver is carried out either on ten consecutive expirations or on alternative expirations; it should include three or four sharp, abrupt, vigorous compressions of the



	Control	After manual compression of the diaphragm and lower ribs	Following inhalation of 2.25% racemic epinephrine and manual compression of the diaphragm and lower ribs
Vital capacity, cc.	1000	1350	1500
Trapping (3 breaths), cc.	532	290	0

FIG. 5. Effects of manual compression of diaphragm and lower ribs and nebulized 2.25 per cent racemic epinephrine on vital capacity and air trapping in pulmonary emphysema. Manual compression of the thorax and upper abdomen resulted in diminished dyspnea, a decrease in the trapping of air after three breaths from 532 to 290 cc., and an elevation in vital capacity from 1,000 to 1,350 cc. A still further improvement was manifested when this procedure was done after inhalation of a bronchodilator aerosol (0.5 cc. Vaponephrin). Trapping of air was then absent and the vital capacity rose to 1,500 cc.[6]

thorax. Wheezing may become audible during expiration, as well as larger rhonchi, until the mucus is expectorated.

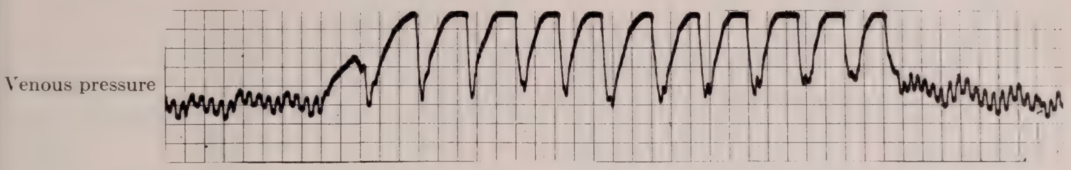
Deliberate coughing is advocated whether or not it spontaneously develops after inhalation of nebulized epinephrine and manual compression of the chest. The coughing effort should not be violent because a too forceful cough results in the development of premature closure of the bronchioles as a result of too high intrapulmonary pressures. Evidence of mucus remaining in the chest will often be noted by the presence of gurgling sounds, and the patient may not bother to cough unless deliberately instructed to do so. Manual compression of the chest is advised three times daily and at other periods when, as a result of exertion, the patient feels dyspneic and presumably has developed overdistention of the alveoli. The vital capacity may show an increase of 200 to 800 cc. immediately after this maneuver, but a better result is generally obtained when the procedure follows inhalation of a bronchodilator aerosol. The effect of manual compression is illustrated in Fig. 5, in which it is seen that the vital capacity was moderately increased after manual compression from 1,000 to 1,350 cc. but was still further increased to 1,500 cc. when manual compression followed the inhalation of 2.25 per cent racemic epinephrine. Furthermore, during the control period deep breathing resulted in the trapping of 500 cc. of air, whereas following the final procedure deep breathing took place without any air trapping. The symptomatic result was marked relief of dyspnea, both at rest and on walking.

The effect of squeezing the lower chest in expiration results in an increased tidal air and a somewhat less marked increase in total minute volume. In ten cases of poliomyelitis with moderate impairment of respiratory function, the mean increase in tidal air was 40 per cent with a decrease in pulmonary ventilation of 16 per cent. The more efficient alveolar ventilation was reflected in a spontaneous lowering of respiratory rate of 3.7 breaths per minute.

A rib-squeezing apparatus is being currently studied in which inflatable balloons are placed over the lower anterolateral surface of each chest. A motor-blower unit is employed to transmit pressure during the latter half of expiration. An increase in tidal air similar to that achieved by manual compression is obtained. The increased movement of the reserve air provided in this way appears to be an aid to ventilation in subjects with moderate impairment of respiratory function and, in patients with pulmonary emphysema and an associated productive bronchitis or bronchiectasis, seems to aid the expectoration of bronchial secretions.

Pursed-Lip Breathing

The physiologic and clinical aspects of pursed-lip breathing are of considerable interest. Hof-



	Control	Pursed-Lip Breathing	Control
Inspiratory	80.7	92.8	81.5
Expiratory	97.6	159.8	104.5
Mean	88.5	136.2	92.3

FIG. 6. The mean rise of venous pressure during pursed-lip breathing was 48 mm. of water; during the expiratory cycle the rise was 62 mm. of water.[8]

bauer and Shutz advocated the use of a whistling or humming sound made by the patient during expiration for the relief of dyspnea in cases of bronchial asthma and pulmonary emphysema. Livingston instructed the patient to make an F sound during a long expiration following a quiet inspiration. Patients with pulmonary emphysema are frequently seen in whom pursed-lip breathing has been spontaneously adopted. In addition, this maneuver has been observed in stone cutters in Italy and lumbermen in Canada, as well as in mountain climbers in various parts of the world during periods of strenuous exertion. In our clinic a full inspiration is recommended, followed by a slow expiration against the pressure induced by constricting the lips, the degree of pressure being generally increased as dyspnea itself is more severe.

The maintenance of this form of expiratory pressure breathing when the lungs are in a more expanded state results in air flow through more patent bronchi than would be the case with a small or so-called quiet inspiration. It will be remembered that the diameter of the smaller bronchi was found to be enlarged during expiration by the application of a continuous positive pressure of 6 cm. of water. As expiration is concluded, lung volume decreases, and the expiratory flow rate diminishes markedly. Although expiration is prolonged by this maneuver, in order to deliver air from the more diseased areas, which eliminate the inspired tidal volume more slowly than the better, more elastic parts of the lung, it should not be so lengthy as to result in a feeling of shortness of breath or, in physiologic terms, to proceed to the point of bronchiolar closure and hypoxia. The pursed-lip exhalation is ended generally at a point in the cycle representing two thirds of a maximal expiration, but in clinical practice the patient himself often decides the optimal length of the expiratory cycle. The abdominal and expiratory intercostal musculature contracts against the increased intrabronchial pressure, and the diaphragm is plainly elevated by the increased intra-abdominal pressure. In fact, patients may then use a degree of expiratory abdominal contraction as an aid to diaphragmatic breathing itself. If this becomes an automatic habit, it is clearly valuable. More time is also allotted to the expiratory cycle, and with a slower expiratory flow rate, check valve closure of the bronchioles is less apt to take place. In fact, sibilant rales audible during asthmatic breathing frequently disappear or are markedly diminished during the period of its use. Contrariwise, patients who adopt rapid respiration with the mouth open and thereby produce loud expiratory sounds are often found among those who seek disability benefits or manifest other psychosomatic influences.

When pursed-lip breathing was carried out with a marked constriction at the lips in normal subjects, a rise in peripheral venous pressure of 60 mm. of water was found during the expiratory cycle (Fig. 6). This response was manifestly comparable to that originally observed in our clinic as a result of pressure breathing and suggests that the use of the maneuver in individuals undergoing marked physical exertion, both normals and those with cardiorespiratory disease, serves the purpose of preventing undue pulmonary congestion. It is reasonable, therefore, to suggest its use to patients during exercise and in asthmatic dyspnea, as well as in acute cardiac asthma due to left ventricular failure. The writer has, in fact, observed a patient in whom the clearing of pulmonary edema took place with pursed-lip breathing in a manner previously repeatedly accomplished by expiratory pressure breathing with a mask.

The physiologic advantages of a slow expiration have been clarified by the studies on expiratory flow rates here presented by Daymon, Alexander, and Cherniak as well as by older spirometric measurements and bronchoscopic observations, all of which indicate that rapid breathing tends to produce bronchial closure in patients with both bronchial asthma and pulmonary emphysema. The handicap of bronchial constriction is clearly minimized when the volume and velocity of expiration are decreased and more complete emptying of the alveoli thereby facilitated. Other procedures which symptomatically relieve bronchial obstruction include inhalation of bronchodilator aerosols, various forms of supra-atmospheric pressure breathing, inhalation of helium oxygen mixtures, and measures which facilitate bronchial drainage. The explanations made for the betterment in breathing accomplished by the use of the pursed lip in expiration would not be complete unless it was also mentioned that a more efficient exchange of gases within the lung is also obtained, a result of improvement in the mechanics of respiration. The expulsion of air during pursed-lip breathing is aided at times by simultaneous manual compression of the abdomen and lower thorax.

The avoidance of hyperventilation, defined in this connection as breathing more than is actually necessary for the relief of dyspnea, is worthy of emphasis. In many patients who have suffered from difficult breathing, a nervous habit of taking a deep breath from time to time or a sighing type of respiration unfortunately develops; in these instances it appears that a momentary sensation of relief is followed by discomfort with the amount of air ordinarily present within the lungs. The most effective method we have encountered to deal with this form of hyperventilation is to initiate training in diaphragmatic respiration, preferably by the headward tilt of the thorax carried on as a practice for one-half hour to an hour three times a day. The bending-forward position, at an angle of 45 degrees, either in the standing or sitting position, may also be employed. The embryonic or fetal posture has also been found to be followed by diaphragmatic breathing and, incidentally, by disappearance of rales during asthmatic dyspnea. The patient lies on his side in bed without a pillow, the knees drawn as far forward as possible with the hands locked around them. The head is also bent toward the knees. The diaphragm thus appears to be elevated to a position where it can contract more efficiently. Here again a better diffusion of oxygen and carbon dioxide is produced as a result of diaphragmatic breathing with decreased dyspnea and minute volume of ventilation. In fact, orthopneic patients with bronchial asthma have been placed head down at an angle of 20 degrees, and even though the initial effect of this altered posture was at times alarming, the dyspnea of the patient was frequently relieved as soon as diaphragmatic breathing was instituted.

Although orthopnea has been termed characteristic of bronchial asthma, this opinion is dependent on the fact that these patients are breathing in the main with the thoracic musculature, and ordinarily, when in the supine position in which the vital capacity is diminished, no physiologic gain is achieved unless diaphragmatic breathing is instituted. This is produced at times by the application of pressure on the lower abdomen, but it is more apt to take place when the patient is placed in the head-down position and actively encouraged to transfer the impulse which inflates the chest to that of the diaphragm, since diaphragmatic breathing itself may not occur spontaneously. In some instances the sudden rush of blood from the abdomen into the lungs produces transient pulmonary congestion and dyspnea. This may be spontaneously counteracted by the patient by pursed-lip breathing, especially in cases in which some circulatory insufficiency may be present, but it is generally advisable to tell the patient to employ pursed-lip breathing at the start of the head-down position if slight dyspnea is present until the heart accommodates itself to the increased pulmonary congestion. The augmentation of blood flow into the lungs is temporary since after a period of time the circulation is restored to its previous cardiac output, at least in those with a normal circulatory apparatus. If dyspnea is moderately severe, the headward tilt is abandoned. In one of our patients with right and left heart failure, fluid from the right base was displaced to the apex when he was placed head down, but improvement in ventilation due to redistribution of blood from the emphysematous areas to better perfused hilar regions of the lung was followed by relief of dyspnea and decrease in total minute volume of respiration, notwithstanding the transient increase in pulmonary congestion. Placing two pillows under the head so that it is inclined upward is also more apt to produce a feeling of comfort in the early use of the head-down position.

Conclusion

The physical aids to breathing have been presented in the main from the point of view of initiating a more efficient ventilation for the relief of dyspnea, but some of these procedures have been presented from the standpoint of their value in the promotion of drainage of retained secretions from the lungs. In our clinic it has been found serviceable to have printed directions for the patient which outline the day's program, beginning with the use of the nebulizer for the relief of bronchial spasm, followed by manual compression of the lower ribs and upper abdomen, training in diaphragmatic breathing with the head-down position, attachment of the emphysema belt, deliberate coughing, and practice in pursed-lip breathing. In addition, exercise of the abdominal muscles is carried out in some cases. The supine position is employed with upward extension of the legs, first one at a time, then both, often followed by a bicycling maneuver. If dyspnea takes place, these exercises are performed during inhalation of 8 to 10 L. per minute of oxygen through the plastic nasal cannula.

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The Oral Antidiabetic Compounds: Selection of Patients by Means of a Blood Sugar Response Test

Preliminary Report

CHARLES WELLER, M.D., LARCHMONT, NEW YORK

(*From the Metabolic Clinic of the Division of Internal Medicine, Grasslands Hospital, Valhalla, New York*)

ATTEMPTS have been made for many years to treat diabetes mellitus with an oral preparation, but these attempts have been unsuccessful up to the present time. In 1955 attention was focused on the work of Franke and Fuchs,[1] as well as Bertram and coworkers[2] in Germany. They reported on the first cases of human diabetes successfully treated with a hypoglycemic sulfonamide agent. Since then considerable work has been done in this field. There are at the present time two compounds, 1-butyl-3-*p*-aminobenzenesulfonylurea (Carbutamide* or BZ-55) and 1-butyl-3-*p*-tolylsulfonylurea (Orinase† or Tolbutamide). These drugs are effective in lowering blood glucose levels and reducing glycosuria in some cases of diabetes, but not in all. This action is thought to depend on the presence of a significant supply of endogenous insulin.[3]

Both Carbutamide and Tolbutamide apparently act in a similar manner in spite of the fact that there is a slight difference in them chemically. They are quickly absorbed according to Ridolfo and Kirtley.[4] Within thirty minutes after oral administration of a single 2.5-Gm. dose of Carbutamide, an appreciable concentration of the sulfonamide can be demonstrated in the blood, as measured by the method of Bratton and Marshall.[5] Maximum values are reached within three to six hours (10 to 15 mg. of free sulfonamide per 100 cc. of whole blood).

Six to seven hours after the administration of the above sulfonamides, the blood level begins to fall slowly. Within two to three hours after the ingestion of 2.5 Gm., a definite lowering in blood sugar level will occur. Excretion of the drug is relatively slow.

The exact mechanism of action of both Carbutamide and Tolbutamide is yet to be elucidated. It was felt by Bertram[2] and others that one of the sites of action may be in the alpha cells of the pancreas, with inhibition of formation of the hyperglycemic factor, glucagon. Mirsky[6] has studied the compounds as insulinase inhibitors. Sirek[7] feels that these drugs may potentiate the action of insulin and that neither the pituitary nor pancreas glands are essential for the action of BZ-55 in the presence of exogenous insulin. McGavick[8] has shown that these drugs diminish the I^{131} uptake by the thyroid gland. Ashworth[9] showed that BZ-55 in rats produced a significant increase in islet tissue in the pancreas. Studies are continuing by these and other workers to determine the exact mode of action of these drugs.

Toxicity of these drugs is apparently quite low. German investigators[1] have reported several cases of drug rash that subsided promptly after discontinuing the drug. In the series recorded by Ridolfo and Kirtley[4] there was no evidence of crystalluria, even when concentrations of the drug exceeded 200 mg. per cent. They recorded one patient who developed a transient leukopenia and eosinophilia.

Attempts have been made to ascertain which patients would respond best to these drugs. From experiments in Germany and Canada it appears that certain factors seem to point to good prospects for success. The best subjects appear to be adult patients who contracted diabetes after forty years of age (so-called "mature onset diabetes"), who are obese, and who have relatively mild diabetes of short duration. To date, these drugs apparently are not effective in juvenile diabetics (so-called "growth onset diabetes") or in those who go into acidosis easily.[1] However, there appear to be exceptions to the above statements, and, because of this, a series of 35 patients were studied in terms of their responsiveness to the sulfonylureas by means of a blood sugar response test.

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* The Carbutamide used in this study was supplied through the courtesy of W. R. Kirtley, M.D., Eli Lilly and Co., Indianapolis, Indiana.

† The Orinase used in this study was supplied through the courtesy of C. J. Donovan, M.D., the Upjohn Company, Kalamazoo, Michigan.

Up to the present time there has not been any short method of determining responsiveness of these drugs except by therapeutic trial, and this can be very time-consuming.

It is thought that in order for the sulfonylureas to be effective, insulin must be present in sufficient amounts, especially in the endogenous form.[2,3] If this is true, then those patients who obtain a good response to the drug must have an adequate supply of endogenous insulin. If the maximum absorption of Carbutamide is within three to six hours,[4] then the blood sugar drop should be effective in three to six hours.

Method and Material

If a patient had been on previous insulin and taking a small amount, i.e., under 30 units, the daily insulin was discontinued for twenty-four to forty-eight hours. This is especially necessary if a depot insulin has been used. If the discontinuance of insulin could not be tolerated, these patients were placed on two doses of regular insulin, to equal the total dose of depot insulin which they had been receiving. The last dose of regular insulin was given no later than 6 P.M. on the day previous to the test. If they were new diabetics who had not been on any previous insulin, no preparation was necessary.

A fasting blood sugar was taken on the morning of the test, and the patients were given 3 Gm. of either Carbutamide or Tolbutamide. Three to six hours later, with the patient still in a fasting state, another blood sugar was done. If there was a 20 per cent drop in blood sugar, the patient was thought to respond successfully to one of the sulfonamides. They were then treated on the following day with 1.5 to 2 Gm. of the preparation and continued on this dosage daily for one week. If good metabolic control was achieved, an attempt was made to lower the amount of the drug. The average case could be maintained on from 0.5 to 1 Gm. per day.

To date 35 diabetic patients have been treated by the author with antidiabetic oral drugs. In most cases the effectiveness of the oral drugs could be predicted by the outcome of the blood sugar response test.

Case Reports

The following case histories are representative examples of how helpful the blood sugar response test is in screening suitable diabetic patients for oral antidiabetic therapy.

CASE 1.—H. L., a fifty-four-year-old obese plumber, weight 252 pounds, had had diabetes six months and had not previously received insulin. He had hyperglycemia and constant glycosuria but was never in acidosis. Physical examination was unremarkable except for obesity. He was placed on a 1,500-calorie diet: carbohydrate 150 Gm.; protein 70 Gm.; fat 70 Gm. His blood sugar response test showed a fasting level of 240 mg. He was given 3 Gm. of Orinase. Three hours later his fasting blood sugar was 124 mg. per cent. He was then given 1 Gm. of the drug per day (0.5 Gm. twice a day). Since that time his fractional urinalyses have been negative, and his blood sugars have varied between 140 and 130 mg. per cent. He stated that he had more pep and energy and felt better than he had in some months.

This case indicates a good response to Orinase in a patient who had a positive blood sugar response test.

CASE 2.—H. K. N. was a fifty-year old, slim female with chief complaint of pain in the hip. On further questioning she admitted thirst, polyuria, and loss of weight for the previous five months. She did not know that she had diabetes and had received no previous treatment. Her fasting blood sugar was 440 mg. per cent. Three grams of Orinase were given, and four hours later her blood sugar dropped to 206 mg. per cent. She was subsequently controlled with 1 Gm. of the drug daily, and her blood sugar levels remained around 140 mg. per cent without glycosuria. She has gained weight, and all of the symptoms of diabetes have disappeared.

This represents another case which had a good blood sugar response test (over 20 per cent drop in blood sugar) and responded well to the antidiabetic drug.

CASE 3.—Miss A. B., a thirty-two-year-old girl of normal weight, had a history of diabetes of four years duration. Her diabetes followed two weeks of cortisone therapy because of asthma. She was adequately controlled on 20 units of NPH insulin daily, although in the past she had had several bouts of acidosis. She was taken off insulin for twenty-four hours, and on the test day her fasting blood sugar was 275 mg. per cent. Three hours after 3 Gm. of Orinase were given, her blood sugar was 269 mg. per cent. She was continued on 2 Gm. of Orinase daily and two days later began to develop acidosis. The Orinase was discontinued, and she was placed back on 20 units of NPH insulin daily and has been stable and under good control since that time.

This represents a case of diabetes in which there was a negative blood sugar response test. The drug was given to prove that it would not be effective, and the patient developed the expected acidosis.

Case 4.—Mr. R. S., a forty-year-old milkman, had a thirteen-year history of diabetes. He was not under good control during this time. He was taking between 20 and 30 units of insulin and showed glycosuria. He had not followed any specific diet. His blood pressure was 130/90. He had no edema, but retinitis was present with marked hemorrhages, exudates, and microaneurysms. He was admitted to the hospital because of severe burns of both feet after having placed them in hot water. He developed gangrene which necessitated amputation of the right leg at the mid-thigh area. His left foot required skin grafts and was chronically infected.

He required 36 units of NPH insulin daily while in the hospital. During this period his blood sugars ranged from 160 to 200 mg. per cent. The NPH insulin was discontinued for twenty-four hours previous to the day of the blood sugar response test. On that day his fasting blood sugar was 265 mg. per cent. He was given 3 Gm. of Carbutamide, and four hours later his blood sugar was 147 mg. per cent. He was placed on Carbutamide therapy, 1.5 Gm. per day, gradually reducing it to 0.5 Gm. per day. During this period his blood sugar range was 138 to 164 mg. per cent. He was taken off Carbutamide for three days, and he began to spill large quantities of sugar in his urine. His blood sugar increased to 300 mg. per cent. He was placed on Carbutamide again and has been under good control since that time.

This case represents another patient who had a positive response test and in whom Carbutamide was effective in controlling the diabetes. He gradually became blind, but the fact that he could take an oral preparation instead of injections of insulin enabled him to leave the hospital earlier.

Case 5.—A. W., a seventy-four-year-old, obese, Negro female, had had diabetes for twelve years. Her previous control was only fair on 25 units of NPH insulin daily. During this period her blood sugars ranged from 330 to 91 mg. per cent, and she had considerable glycosuria but no acetonuria. She had diabetic retinopathy, peripheral neuropathy, and hypertensive cardiovascular disease with an attack of acute myocardial infarction two years previously.

The patient was taken off NPH insulin for forty-eight hours, and her blood sugar response test revealed a fasting blood sugar of 333 mg. per cent. Three hours after Carbutamide it dropped the drug to 194 mg. per cent. She continued taking the drug, 1.5 Gm. per day for one week, which was gradually reduced to 0.5 Gm. per day.

She has been under better control, i.e., has less hyperglycemia and glycosuria, than when she was taking insulin. Her peripheral neuritis has improved, but she reports no change in her other complications.

This case represents another positive blood sugar response test and a good result with a sulfonylurea.

Comments

There are other technics that have been used to determine whether or not a patient will benefit from the use of the sulfonylureas. Duncan[10] uses a plan whereby the patient's dose of insulin is lowered to insure hypoglycemia. On the test day the patient receives 2 Gm. of the drug at 8 A.M. and is then given carefully measured feedings, each of equal nutritional value, every two hours with blood sugars done at these intervals. The duration of the test may be reduced to eight or even six hours if a clearly favorable response is noted at that time.

An insulin tolerance test has been suggested by Smith and Kumar[11] with a view to separating patients sensitive to BZ-55 from those who are not. They did an insulin tolerance test before and after administration of BZ-55. They speculate that those patients who had a considerable fall in the insulin tolerance curve after administration of BZ-55 had either an increased insulin effectiveness from exogenous insulin or an insufficient supply of endogenous insulin. This group of patients would not benefit from BZ-55 unless insulin was supplied exogenously.

The obese diabetic with mature onset and with a short duration of the disease and small insulin requirements, who does not go into acidosis easily, seems to respond most favorably to these drugs. There are other cases in which one would like to see a response. In this group are those cases which require larger doses of insulin, at times up to 100 units per day. Obviously one should never attempt to discontinue insulin therapy entirely in these individuals or even attempt to try a blood sugar response test. The method used in these individuals would be to give them 1 or 2 Gm. of the drug daily and gradually reduce their insulin dosage, starting with a 20 to 50 per cent reduction on the first day, depending on the twenty-four hour quantitative specimens of sugar in the urine and/or blood sugar determinations. Every now and then one finds a case of this type in which the insulin requirement can be lowered a great deal and the diabetes becomes more stable with a combination of both insulin and a sulfonylurea. One must be extremely careful in treating these patients. The insulin dosage must be reduced very gradually and careful watch maintained in order to prevent development of acidosis.

It is well to remember that these drugs do not work the way insulin does and that they are not effective in all cases. Insulin is a specific hormone and replaces or makes up for a relative or absolute deficiency. Substitution of a new drug may carry many risks.

These drugs are still in the preliminary phase of investigation, and it is necessary that all physicians concerned with the treatment of diabetic patients watch the results of forthcoming studies. Even though no serious toxic effects have been reported as yet, the drugs are sulfonamide derivatives, and sulfonamides are well known to have toxic effects in certain individuals, especially on the hematopoietic system. In view of this fact, it is necessary to perform frequent blood counts on all patients who are taking sulfonylureas.

There is no doubt that these drugs are effective in controlling diabetes without the injection of insulin, and they are certainly much more convenient. They are probably effective in a fairly large percentage of diabetics, but they should be used with caution until the true indications for them are firmly established and until it is certain that long-term usage will not produce any complications.

Summary and Conclusions

1. A simple blood sugar response test has been suggested as an aid in selection of diabetic patients who will respond to treatment with the new oral antidiabetic compounds, Carbutamide and Tolbutamide.

2. This test should be used only on patients who require small doses of insulin and who do not go into acidosis easily.

3. Representative case histories have been presented to show how this short, simple test can aid in selection of cases of diabetes that would benefit from treatment with the sulfonylureas. This test can be performed in a physician's office.

4. Other methods for selection of patients have been discussed.

5. The oral antidiabetic compounds appear to be most effective in patients who develop diabetes after maturity, are obese, and are easily controlled by conventional treatment.

6. At the present time the use of these new drugs should be limited to carefully selected cases and to those in which it is felt they will be of value.

17 North Chatsworth Avenue

Addendum

Since the preparation of this manuscript additional information has become available. In a personal communication from Dr. W. R. Kirtley, Eli Lilly and Company, Indianapolis, Indiana, a preliminary survey of short-term results with Carbutamide showed a toxic effect in 5.2 per cent of patients. Most of these effects appeared to be due to a hypersensitive response to a sulfonamide. Most of these cases showed a dermatitis exfoliativa. There were a few cases of leukopenia, anemia, and purpura. There were four fatalities in which the drug may have been implicated, although this was not entirely established. In addition, drug fever with malaise and lethargy, frequently accompanied by nausea and vomiting, has been reported.

The reported incidence of Tolbutamide toxicity, according to Dr. E. L. Burbidge, Upjohn Company, Kalamazoo, Michigan, has been less than 1 per cent. These cases were studied in Germany. The side-effects have all been mild in nature (urticaria, sensations of gastric fullness, and mild intolerance to the ingestion of alcohol).

The apparent difference in toxic effect of these drugs seems to be due to their different chemical structure. Carbutamide has a para-amino grouping, is not bacteriostatic. Tolbutamide has a methyl grouping, is not bacteriostatic, and its only apparent pharmacologic action is to lower blood sugar.

The safety of the above agents can only be predicted by very careful long-term follow-up studies.

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ANNOUNCEMENT

PRIZE ESSAYS

The Lucien Howe Prize and the Merit H. Cash Prize will be awarded at the Sesquicentennial Meeting of the House of Delegates of the Medical Society of the State of New York, May 13 to 15, 1957, in New York City.

The *Lucien Howe Prize* of $100 will be presented for the best original contribution on some branch of surgery, preferably ophthalmology. The author need not be a member of the Medical Society of the State of New York.

The *Merit H. Cash Prize* of $100 will be given to the author of the best original essay on some medical or surgical subject. Competition is limited to the members of the Medical Society of the State of New York who at the time of the competition are residents of New York State.

The following conditions must be observed:

Essays shall be typewritten or printed with the name of the prize for which the essay is submitted, and the only means of identification of the author shall be a motto or other device. The essay shall be accompanied by a sealed envelope having on the outside the same motto or device and containing the name and address of the writer.

If the committee considers that no essay or contribution is worthy of a prize, it will not be awarded.

Any essay that may win a prize automatically becomes the property of the Medical Society of the State of New York, "to be published as it may direct."

All essays must be presented not later than *February 1, 1957,* and sent to the Chairman of the Committee on Prize Essays of the Medical Society of the State of New York, 386 Fourth Avenue, New York 16, New York.

R. Townley Paton, M.D., *Chairman*
Committee on Prize Essays

The Roentgenologic Diagnosis of Lung Cancer

I. D. BOBROWITZ, M.D., NEW YORK CITY

THE problem of bronchogenic carcinoma is of tremendous significance. It is one of the most common malignancies with a steadily rising incidence and death rate. Lung cancer now accounts for about 22,000 deaths a year in the United States.[1] It is the most important tumor in the adult male, in whom it is reaching alarming proportions.

The most effective treatment for carcinoma is its surgical removal while it is still localized to the lung. However, the present situation with lung cancer is a very challenging one. Analysis of large groups of cases indicates that of the patients reaching the thoracic surgeon, about one-third are beyond surgery when first seen because of metastases, and two-thirds are operable but only one-third are resectable.[2,3] Of all the patients the survival or number alive after five years is reported between 5 and 8 per cent.[4,5]

These figures are related directly to the long delay in diagnosis. In most reviews of lung cancer it has been noted that from three to six months elapse between the first symptom and the time the patient sees a physician, and a period of almost similar duration is required before a diagnosis is made.[2,6,7]

It should be emphasized that carcinoma can start insidiously. There is a silent phase of variable duration. However, often many months elapse, during which there are no symptoms but the cancer can be detected roentgenologically. The tumor can also remain unchanged for a variable time or progress slowly with trivial symptoms. During this early period the diagnosis can be made while the neoplasm is still localized and resectable. Rigler[8] has described lung carcinoma of long duration and has shown the slow development of such tumors over a period of years. He reports a series of inoperable cases with an average minimum duration of life of twenty-two months and operable cases with the average duration of life of thirty-six months from the first x-ray evidence of neoplasm until surgery.

In late symptomatic cases at the time of diagnosis or operation the great majority of lung cancers have already extended beyond the lung, and as noted above, only one-third are resectable. In asymptomatic cases the situation is reversed; with prompt surgery almost all are resectable, and the majority show no lymphatic neoplastic spread.[5,9] In instances where the tumor can be resected, the five-year survival rate is indicated to be about 25 per cent.[3,4,10,11] The survival of patients in whom the carcinoma is confined to the lung (without evidence of extension to the regional lymph nodes) is reported increased up to 40 per cent.[3,4,7,10,11] The prognosis in carcinoma is undoubtedly related to the biologic character of the tumor (rate of growth, cell type, invasiveness, incidence of metastases). It is possible that the longer survival rate in a proportion of the surgically treated cases may be due to the "better" or less malignant biologic nature of the tumors, but the surgical statistics are still very significant.

Mass chest x-ray surveys of large segments of the general population have revealed about one case of silent or asymptomatic bronchial carcinoma per 10,000 in the average groups and a higher yield up to one case per 2,000 in selected persons (older males).[12] Because of the advantages it has been emphasized that routine chest roentgenography be done at least once yearly in all males past forty-five. However, this presents a practical problem of major magnitude.

The principal part of this paper is devoted to the roentgenologic criteria by which the diagnosis of lung cancer may be made. The roentgenograms shown are those of patients with symptoms. The fact that symptoms are present makes the prognosis less favorable. However, the criteria can help in earlier diagnosis when the symptoms are still trivial and before the lesions are too advanced for successful surgery. These criteria will be considered according to the development of the different types of neoplasm and the anatomic location of the tumor (from the root area to the periphery of the lung).

Unilateral Enlargement of the Hilus or Root

The root area is normally made up of vascular shadow (pulmonary artery) with the large

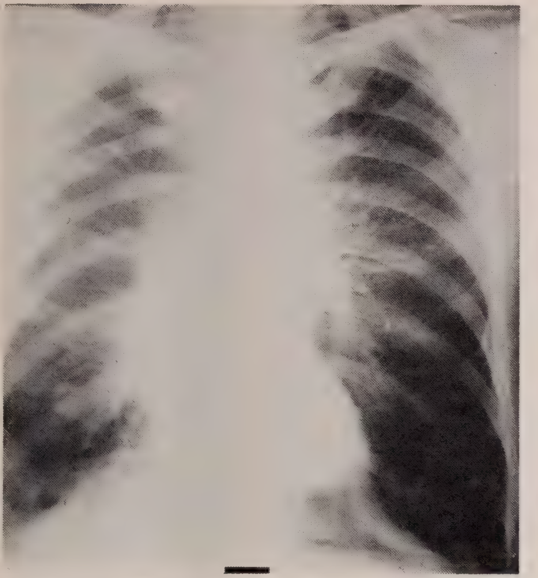

FIG. 1. *Case 1*—Fullness and broadening of the inferior pole of the right root area from epidermoid carcinoma in right stem bronchus.

bronchi and glands of less importance. In carcinoma the enlargement of the root occurs as a result of actual growth of tumor in the bronchus or extension within the lung parenchyma (peribronchial infiltration), and later there may be enlarged hilar glands and secondary pneumonitis or atelectasis. The enlargement of hilar nodes may be due to metastasis or inflammatory lymphadenitis.

The localized enlargement of the root can be present for months before extrabronchial extension and secondary changes occur. Thus the hilar enlargement can exist without symptoms. It has been emphasized[13] that a unilateral enlargement of the root (the transverse diameter) is often an early sign of lung cancer, and the method for mensuration of the roentgen shadow of the hilus has been described. The enlargement can appear as central widening of the hilus shadow but can be limited to the superior or inferior pole of the root area. It is not always possible, therefore, to use the criterion only of an increased width of the root shadow.

In any suspected root lesion it is important to have a view of the chest in the lateral projection. This is necessary to visualize the lesion completely and to determine its size and anatomic extent. Differentiation from a parenchymal lesion can also thus be made, for at times such involvement may appear on a posteroanterior film as hilar enlargement. Segmental pneumonitis or obstruction is also seen in the lateral view.

Because a unilateral enlargement of the hilus can be one of the earlier signs of lung cancer, it is important to consider fullness, increase in width, or density of any part of the root as significant until neoplasm can be disproved or verified.

Figure 1 illustrates a unilateral enlargement of the inferior pole of the right root due to an epidermoid carcinoma in right stem bronchus in a sixty-five-year-old white male.

Obstructive Emphysema and/or Mediastinal Swing

It may take months or even years before a bronchogenic carcinoma causes complete bronchial obstruction or atelectasis. In the earlier pathogenetic phase there is a long period with only partial bronchial obstruction. During this time obstructive emphysema can become evident. The neoplasm causes a check valve narrowing whereby some air gets trapped in the lung, with air movement unimpaired in the normal side. This obstruction is accentuated by the bronchial narrowing that occurs normally during the expiratory phase of respiration. The obstructive emphysema can be localized or massive, with extremes from a small peripheral area to emphysema of an entire lung, depending on the size and location of the bronchus involved. To demonstrate the emphysema, examination in deep expiration is desirable since the contrast between normal lung and the hyperillumination of the emphysematous area is thus exaggerated.

Normally the mediastinum remains in the midline with forced expiration, but with obstructive emphysema and air entrapment, the mediastinum swings to the uninvolved side where the lung has emptied its air content without difficulty. If a minor bronchus is involved, the small area of obstructive emphysema can be present with no mediastinal deviation.

The obstructive emphysema may be associated with pulmonary infiltration, atelectasis, or hilar enlargement. Because the emphysema can be evident for months before these other changes occur, it is important in every chest examination to include studies in deep inspiration and forced expiration. At least this should be done routinely by fluoroscopy with roentgenograms taken when indicated.

Obstructive emphysema[14] and/or mediastinal swing can be among the earlier signs of carcinoma,

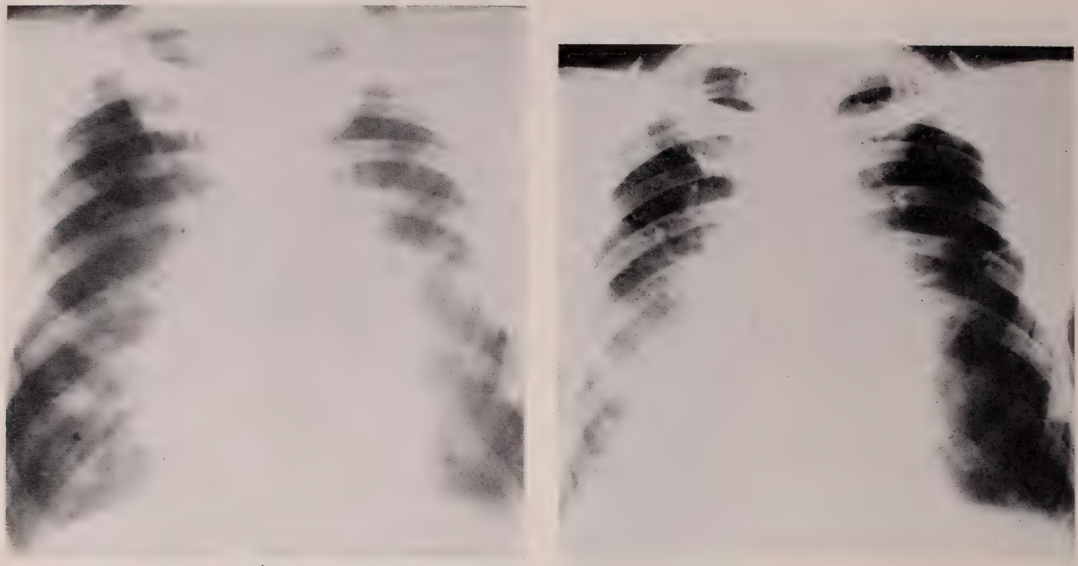

FIG. 2. *Case 2*—(*A*) Inspiration film. Slight deviation of the mediastinum to left. Right lung is clear. Right root of normal contour and size. Left lung shows infiltrative process extending out from the left hilus covering inner third of pulmonary field (S-shaped linear density (fissure) in fourth anterior interspace; infiltration in peripheral portion of seventh anterior interspace). Epidermoid carcinoma narrowing left stem bronchus. (*B*) Expiration film. Considerable deviation of trachea and mediastinum to the right. Increased vascular pattern in right lung. Left lung hyperilluminated with diminished vascular pattern from obstructive emphysema. Pleural thickening left costophrenic sulcus.

and neoplasm must be considered in the presence of either condition.

In Case 2, a fifty-nine-year-old, white male, there was a characteristic mediastinal expiratory swing to the right and obstructive emphysema of the left lung associated with an epidermoid carcinoma, causing marked narrowing in the left stem bronchus and peribronchial hilar infiltration (Fig. 2).

Segmental Obstruction (Linear Density)

Lung carcinomas rarely originate in the main stem bronchi, and most arise in lobar or segmental branches. The tumor is found in these bronchi in about 70 per cent of cases, whereas the remainder begin in the small peripheral branches. In other words, most neoplasms occur in the inner pulmonary zone where these bronchial divisions are found. It has been emphasized[8,15] that as the carcinoma grows, it can push centrally or extend towards the root. With the associated bronchial occlusion and lymph node enlargement, the tumor appears as a mass that reaches the hilus, or else there is a large area of atelectasis. If the lesion has existed for some time, peribronchial tumor infiltration and secondary pneumonitis can constitute part of the large shadow.

In the early evolution of the tumor the initial manifestation can be in the form of a solid linear or bandlike shadow due to the bronchial infiltration and obstruction. This linear density extends out near the lung root for a variable distance and can be short or long or thin or broad, depending on the size of the bronchus involved, but it is well defined. This early sign of lung cancer, the linear density, can exist for many months. *Obstruction of small bronchi precedes the occlusion of large bronchi* since the neoplasm in the segmental branch grows centrally with later involvement of the lobar or stem division. The presence of bronchial obstruction of any degree warrants the presumptive diagnosis of lung carcinoma. The linear density should suggest this diagnosis long before massive hilar enlargement or pulmonary atelectasis have occurred.

Figures 3 and 4 are instances of patients first seen with considerable atelectasis or infiltration where it was possible to obtain earlier films. These roentgenograms at onset of the illness illustrate the linear density which preceded the later typical appearance of neoplasm and show

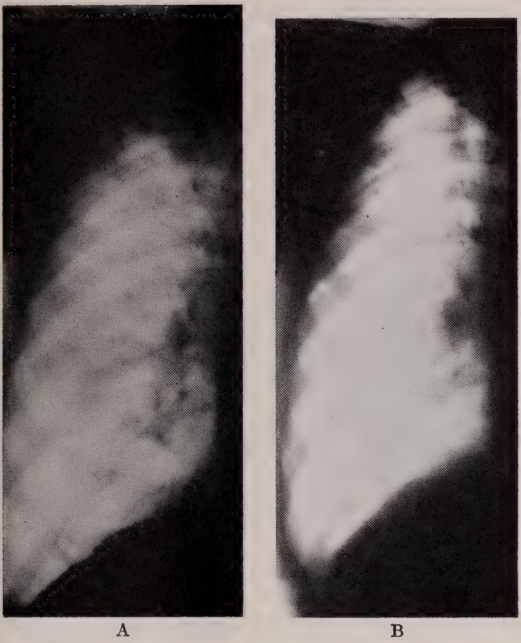

FIG. 3. *Case 3*—(*A*) Entire apical portion of right lung dense and homogeneous due to neoplasm. (*B*) Twenty-six months earlier a linear density extends upward and medially from the superior pole of the right root.

the changes from involvement of small bronchi to major bronchi.

CASE 3.—A sixty-eight-year-old, white male complained of recent pain in right upper back and chronic cough and expectoration. X-ray taken on August 10, 1953, shows the entire apical portion of the right lung to be dense and homogeneous with infiltration in the lateral portion of second interspace (Fig. 3A). (A report in January, 1955, notes destruction of third right rib from indeterminate type of neoplasm.)

Figure 3B was taken on June 16, 1951, twenty-six months earlier, because of palpitation and heart pain. This shows a linear density as a broad vertical band of infiltration, 4 by 1.5 cm., extending from the superior pole of the right root upward and medially. (There is old tuberculous fibrocalcific nodulation and linear fibrosis in third interspace.)

CASE 4.—A sixty-seven-year-old, white male had cough, mucopurulent expectoration, sputum occasionally blood streaked, and short febrile episodes. There had been wheezing at onset of illness a few months previously. Figure 4A taken on November 20, 1948, shows the left lung uniformly dense and atelectatic except for the apex. Bronchoscopy revealed epidermoid carcinoma in the left stem bronchus. Figure 4B, taken a month earlier, shows a heavy linear density extending from the left root area to the diaphragm, parallel to the left cardiac border (as well as retraction of the left lung and elevated left diaphragm).

Progressive (Pneumonic) Atelectasis

In this type of carcinoma the early roentgenologic appearance is in the form of infiltration with no clear-cut or pure segmental bronchial obstruction. The process shows slow evolution and is associated with very little constitutional symptomatology. For a considerable period there is

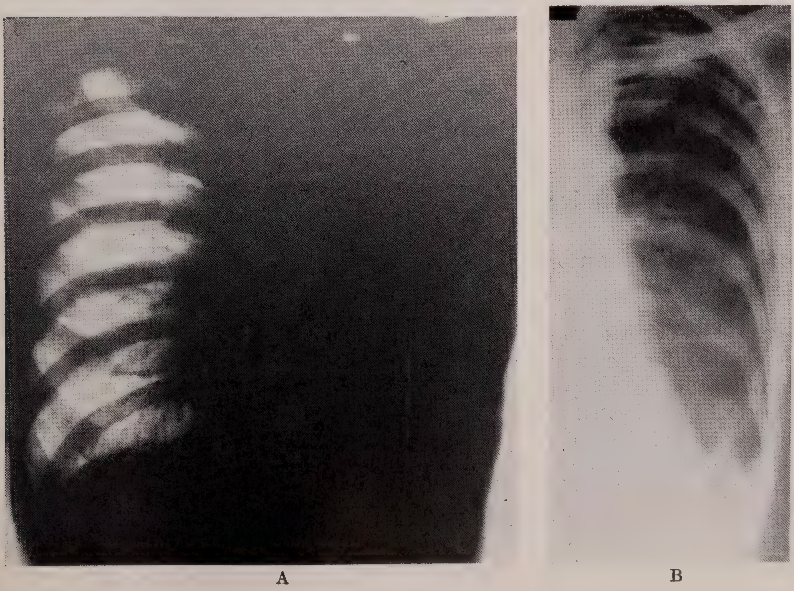

FIG. 4. *Case 4*—(*A*) Atelectasis of left lung except for extreme apex from tumor (epidermoid carcinoma) in left stem bronchus. (*B*) A month earlier a linear density extends from the left root to the diaphragm parallel to the left cardiac border.

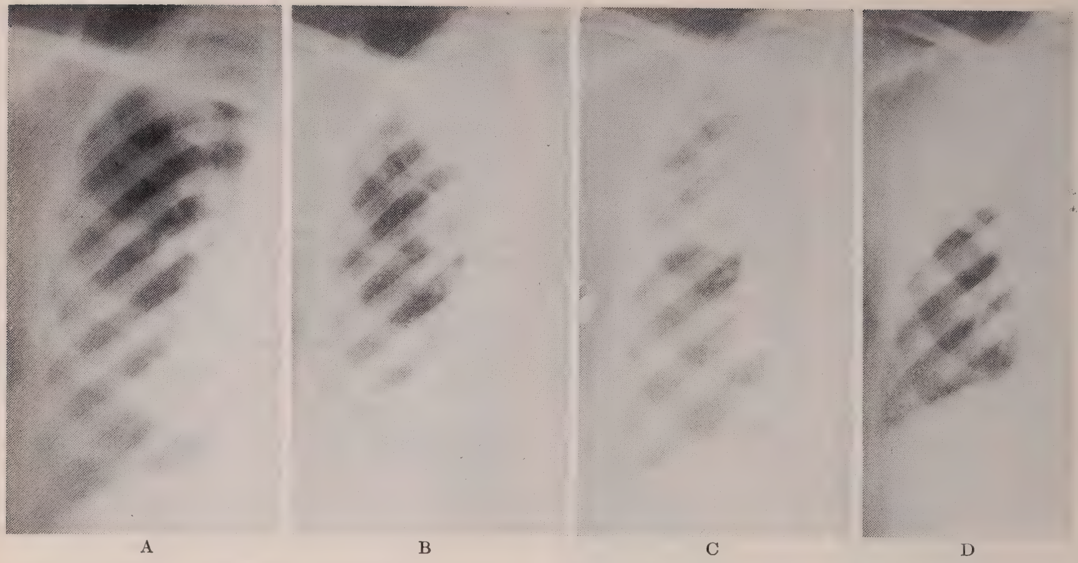

FIG. 5. *Case 5*—(*A*) Clouding of right apex and linear infiltration from apex to hilus. (*B*) Four months later slight progression of lesion in first right anterior interspace and medial part of second interspace. (*C*) Three weeks later increasing atelectasis of right upper lobe with epidermoid carcinoma at mouth of right upper lobe. (*D*) Five weeks later complete atelectasis of right upper lobe.

slight roentgenologic modification, or a gradual increase in infiltration of the involved lobe occurs. As the neoplasm grows within the lung parenchyma, the process may resemble a pneumonic consolidation, and the tumor can reach great size. In addition to the neoplastic infiltration there is often secondary inflammatory or organizing pneumonitis.

In time the signs of bronchial obstruction become more evident. Rapid roentgenologic changes then occur until characteristic, complete obstructive atelectasis is present. Once a considerable degree of lobar atelectasis has occurred, usually local (bronchopulmonary) and constitutional symptoms are apparent.

A chronic, progressive "pneumonic" infiltration or atelectasia warrants a presumptive diagnosis of neoplasm.

Case 5 illustrates a neoplasm in the form of progressive pneumonic atelectasia.

CASE 5.—A forty-four-year-old Negress was admitted to the hospital five months after the onset of illness with cough, expectoration, and right upper chest discomfort. Her disease had been treated as pneumonia, but because of persistence of the upper lobe lesion, it was considered tuberculous, although sputum was negative. Figure 5A, taken on December 5, 1947, at the time of admission, showed clouding of the right apex and infiltration extending from the apex to the hilus. Figure 5B, taken four months later, showed slight extension of the lesion with more infiltration in the first anterior interspace and medial part of the second interspace. The patient had gained 14 pounds in this period, but chest discomfort persisted. Figure 5C, taken three weeks later, indicated increasing atelectasia of the right upper lobe with only the lateral part of the lobe uninvolved. Periods of wheezing and fever were now present. Bronchoscopy revealed granular thickening at mouth of right upper lobe due to epidermoid carcinoma. All sputa were negative for tuberculosis. Figure 5D five weeks later showed complete atelectasis of the right upper lobe.

With pneumonitis in an upper lobe, differentiation from tuberculosis is an important consideration. The diagnosis of tuberculosis because of upper lobe involvement without sputum confirmation is a fallacy. In the presence of sputum persistently negative for tubercle bacilli, a cause other than tuberculosis must be sought. Involvement of the upper lobe is not characteristic of tuberculosis alone for over 50 per cent of carcinomas occur here. Extension of pulmonary infiltration with the sputum remaining negative is an important differential point indicating a nontuberculous etiology of the lesion. The tuberculin test is also a basic diagnostic tool, for aside from rare exceptions active tuberculosis would not be present with the tuberculin test negative. Another differentiation lies in the

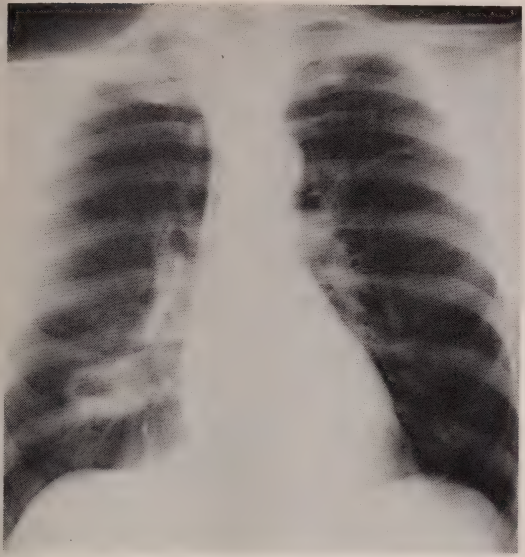

FIG. 6. *Case 6*—An isolated cavitary necrotic epidermoid carcinoma (thick wall, heavy fluid level) in right lower pulmonary field.

fact that chronic chest discomfort or pain are much more characteristic of carcinoma than tuberculosis.

Isolated Neoplastic Cavity or Obstructive Abscess

The tumor may break down as a result of poor circulation and infection. Such necrosis occurs especially in epidermoid carcinoma (about 20 per cent).[16] The isolated cavity which results has a very heavy, irregular, or nodular wall. With a rapidly growing tumor the wall may also show a bulging or protrusion. It is less common for a carcinoma to appear as an isolated obstructive pulmonary abscess. Single abscesses are more often due to carcinoma than inflammatory causes after the age of forty. The carcinomatous abscess frequently appears as a round, thick-walled lesion with a heavy fluid level. The neoplastic bronchial obstruction (which can be small) causes impaired bronchial drainage with secondary pneumonitis and abscess formation. Inflammatory abscesses have an inner smooth lining, varied fluid content, and usually much surrounding reaction or pulmonary infiltration. The evolution of the abscess from a large area of pneumonitis is characteristic, and with effective drug therapy there is usually rapid change in its size as it thins out, empties, and then disappears. Neoplastic abscesses are persistent and usually show no rapid changes with antibiotics.

The well-circumscribed carcinomatous necrotic cavity or isolated obstructive abscess with the remaining lung fields clear of parenchymal change has a characteristic appearance. The roentgenologic picture is often typical enough to suggest the neoplastic etiology.

Figure 6* is a routine pre-employment roentgenogram in a sixty-three-year-old, white male who had no symptoms (Case 6). It is not unusual for symptomatology to be mild or even absent with this lesion. A typical isolated tumor (due to an epidermoid carcinoma) with a central cavitary area of necrosis present in the right lower lobe was resected.

Persistent Pneumonitis (Segmental, Recurrent Pneumonitis)

In all probability the most common mistaken diagnoses of carcinoma are viral or atypical pneumonia and chronic or unresolved pneumonia. Unresolved pneumonia should not be diagnosed for there is no such pure pathologic entity. A pneumonia will ordinarily clear completely in two to three weeks. Any pneumonia that shows delayed resolution—in other words, a persistence of the pneumonitis—must be investigated without delay. There are several reasons for a pneumonia not to resolve, such as tuberculosis, fungous disease, suppuration due to Friedländer's bacillus or staphylococci, etc., but a most common cause for lack of resolution is a bronchogenic carcinoma. From the clinical and roentgenologic point of view this secondary pneumonitis can be the predominant feature. In fact, an extensive pneumonitis can be associated with a small bronchogenic neoplasm.

In every diagnosis of pneumonia the patient must be followed closely with serial roentgenograms. If resolution is not complete, then carcinoma must be considered. Even with resolution a chest film should be repeated in about a month to determine whether the pneumonitis has recurred. A recurrent pneumonitis is often an indication of a neoplasm. This is due to the effect of antimicrobial and chemotherapeutic agents. These medications clear the pneumonitis and alleviate the symptoms. However, this improvement is only temporary for the infection which is secondary to the neoplasm will again increase or reappear because the

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* From the Nathan B. Van Etten Hospital, Bronx, New York.

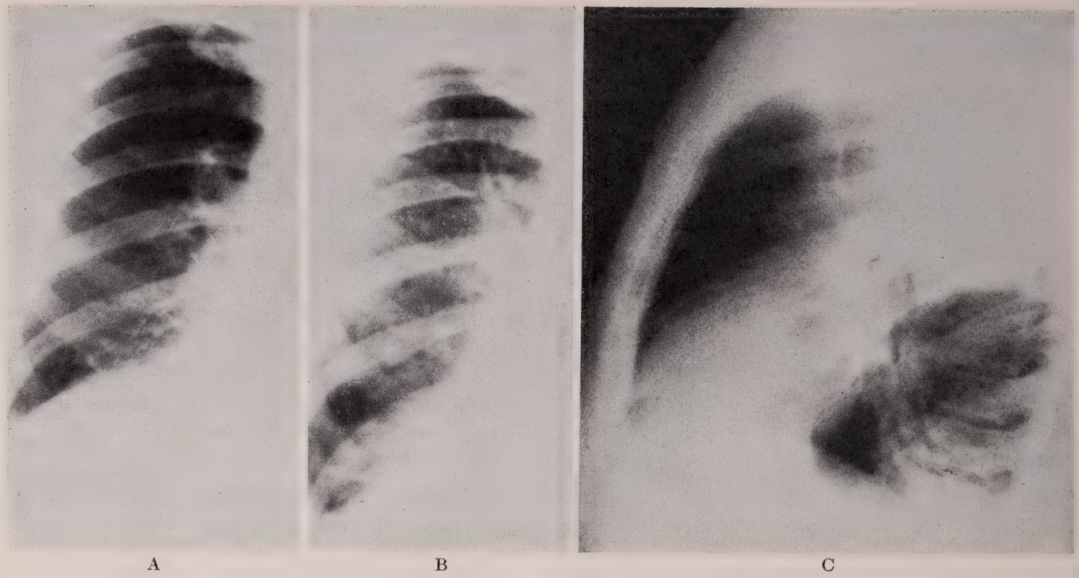

Fig. 7. *Case 7*—(*A*) Infiltration extending from the right root to the diaphragm (cardiophrenic area). (*B*) Two weeks later more extensive pneumonitis in the same area. (*C*) Typical segmental pneumonitis of posterior basilar branch of right lower lobe secondary to epidermoid carcinoma.

neoplastic bronchial narrowing is unrelieved.

Because the pneumonitis associated with carcinoma is often of a segmental or obstructive type, coming off the root area, it is essential to have a lateral chest roentgenogram taken. In this manner the lesion can be seen in its entirety and its segmental nature clearly defined. Much of the infiltration can be lost in the usual posteroanterior view, as shown in Case 7, and a false impression of the extent of involvement thus gained. This is so important that the routine chest x-ray examination of every patient should include a lateral projection in addition to the posteroanterior exposure.

Case 7.—This is an example of a persistent segmental pneumonitis due to an epidermoid carcinoma. Figure 7A shows the infiltration extending from the inferior pole of the right root to the diaphragm. This fifty-year-old, white male had complained of cough, expectoration, and low-grade fever for three weeks, but an exaggerated cigaret cough had been present for months. There were localized findings over the right lower lobe posteriorly (squeaky rales and expiratory rhonchi). Figure 7B, two weeks later, indicates more extensive pneumonitis. The lateral view, Fig. 7C, illustrates bandlike linear infiltrations extending from the lower pole of the root to the posterior part of the diaphragm. This view shows the well-defined segmental pneumonitis much more clearly than the posteroanterior exposure.

Superior Pulmonary Sulcus Tumor (Coexistence of Tuberculosis and Carcinoma)

A solid bronchogenic apical carcinoma can produce an enlarging lesion in the superior thoracic inlet and manifest itself as a superior pulmonary sulcus or Pancoast tumor. With progression of the lesion the homogeneous pulmonary infiltration increases in extent, and typically there is shoulder and arm pain and atrophy of the hand from involvement of the brachial plexus, a Horner syndrome from invasion of the sympathetics, and destruction of the bony thoracic framework (ribs and spine).

The criteria to be considered in the earlier diagnosis of this tumor have in the main been mentioned: (1) a persistent apical pneumonitis, particularly with the sputum negative, (2) the presence of a solid (round) lesion, (3) extension of apical infiltration with sputum negative, and (4) chronic chest discomfort or pain. In any patient with persistent pain in the shoulder, arm, or chest, carcinoma should be considered before treatment for other conditions, such as neuritis, neuralgia, or arthritis.

The prognosis has been very bad in this lesion, although there is a recent report of successful removal and postoperative irradiation in a Pancoast tumor with the patient well two and one-half years after operation.[17]

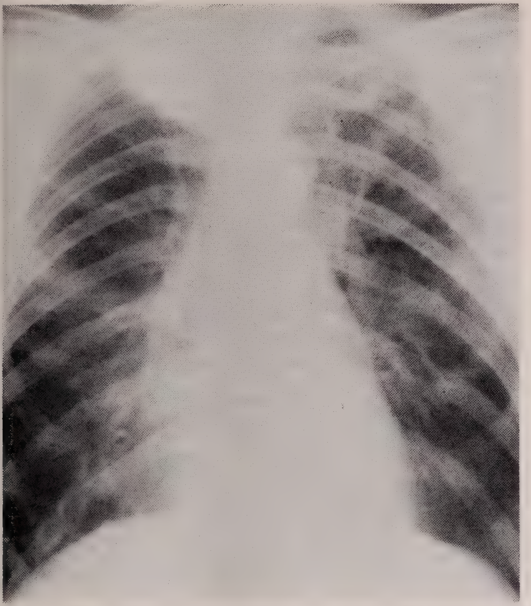

FIG. 8. *Case 8*—Solid dense shadow (epidermoid carcinoma) in right apical lung area (Pancoast tumor). Ghon focus above right diaphragm. Narrowed interspaces over right upper chest. Destruction of third right posterior rib. Scattered tuberculous fibrotic and calcific nodular lesions in left upper lobe.

It is possible for carcinoma and tuberculosis to coexist. Such a combination, although uncommon, is not rare. Each condition can mimic the other, but the danger of delayed diagnosis in carcinoma is naturally much more grave. One condition can be related to the appearance of the other. Neoplastic metaplasia can occur in the wall of a tuberculous cavity, or a carcinoma by growth and necrosis can invade and release tubercle bacilli from previously inactive tuberculous foci. Calcified foci in lungs or tracheobronchial lymph nodes and residua of old healed primary tuberculosis are areas reported to be especially susceptible to the development and localization of bronchogenic carcinoma.[18] In concomitant lesions the following roentgen features suggest that tuberculosis is complicated by carcinoma:[19] (1) a prominent hilus, (2) paratracheal lymph node enlargement, (3) atelectasis, and (4) a "spread" with homogeneous segmental or lobar densities or nodules greater than 3 cm., especially in the lower lung fields.

CASE 8.—A fifty-one-year-old, white male had a solid, round, dense shadow (Pancoast tumor) in the right apical area and scattered fibrotic and calcific nodular lesions in the left upper lobe (Fig. 8). He was admitted to a tuberculosis sanatorium four months after onset of persistent pain in the right shoulder and upper arm which had been treated as neuritis. In spite of the type of lesion and negative sputa, because of the old tuberculosis in the left upper lobe, the new lesion in the right upper lobe was considered tuberculous. Bronchoscopy revealed an epidermoid carcinoma in the right upper lobe bronchus. Rib destruction also became apparent. The differential diagnosis in this condition has already been discussed (Case 5).

Solid Round Peripheral Lesion (Coin Lesion)

In about a third of lung neoplasms the small peripheral bronchi are involved. The resulting carcinomas appear as solid, homogeneously dense, round (coin) lesions. These peripheral, circumscribed carcinomas may not cause early symptoms. This silent phase can exist for a long time, even with the neoplasm enlarging. In fact, the first complaints may be due to extrapulmonary metastases. There is a lack of symptoms because significant secondary effects (pneumonitis and atelectasis) of large bronchial obstruction are not common. Obstruction of small peripheral bronchi occurs, or the tumor grows expansively within the lung. The spheroidal shape and regular outline occur most commonly in tumors, and a notching or umbilication in the margin of the shadow are presumably characteristic of malignancy.[15]

These lesions (with increased incidence of adenocarcinoma) are often picked up in routine x-ray surveys. Because peripheral bronchi are involved, the usual diagnostic methods, such as bronchoscopy or cytologic sputum studies, may not be positive. For definitive diagnosis and treatment an exploratory thoracotomy is essential (a primary neoplasm elsewhere having been ruled out). Thirty-five per cent of the coin lesions are malignant (and the great majority of these are carcinomas, especially in patients over forty) with the remainder nonmalignant (tuberculoma, granuloma, hamartoma, etc.).[20]

Calcification is a very important differential point in determining the nature of the lesion. With central calcification, lamination, or a completely calcified shadow, malignancy is practically ruled out. Scattered or irregular calcific nodulations or deposits are almost as significant, the rare exception being a malignant lesion enveloping an area of old tuberculous calcification. However, there is a recent case report[21] of an isolated pulmonary nodule containing calcium

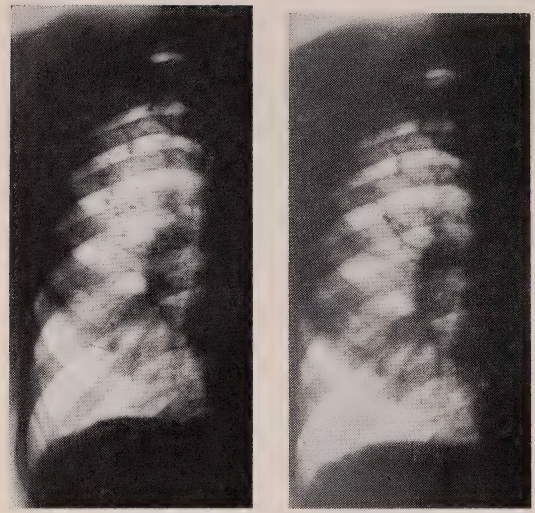

FIG. 9. *Case 9*—(*A*) There are many fibroproductive and fibrocalcific nodules scattered throughout right lung. Film unchanged compared to one four years earlier except for new small round lesion in peripheral part of fifth right anterior interspace. (*B*) Eleven months later there has been considerable increase in the round or coin lesion in the right fifth interspace (an adenocarcinoma).

which was found to be a slow-growing, well-differentiated adenocarcinoma. It is suggested by the authors that the calcium results from the function of the tumor itself. The question of calcification is so important (for noncalcified coin lesions must be explored or excised) that in every case where the conventional film does not clear up this point, tomographic studies should be done to determine whether calcification is present.[22–25]

CASE 9.—Figure 9 illustrates the appearance of a coin lesion in a fifty-five-year-old, white male who had been followed in a chest clinic for his tuberculosis. Figure 9A taken on May 17, 1949, a checkup with patient asymptomatic, was unchanged, compared to other films dating back to 1945, except for a small, solid, round nodule in the peripheral part of the fifth right anterior interspace. Sputum for tuberculosis was negative, and gastrointestinal and genitourinary workup did not reveal a primary neoplasm. An exploratory thoracotomy was refused. Eleven months later there was marked enlargement of the round lesion (Fig. 9B). Operation was accepted, and the tumor, an adenocarcinoma, was removed.

Pleural Fluid

Pleural fluid associated with a known pulmonary neoplasm invariably indicates metastasis with the patient inoperable. On occasion the fluid is due to the secondary pneumonitis (infection) and not the neoplasm, and surgery may not be contraindicated. This is particularly true when the fluid is serous and not bloody.

There are several practical considerations in patients with fluid. Every effort should be made to visualize the lung parenchyma for a lesion may be hidden by the fluid. This requires complete removal of the fluid and use of special roentgenologic technics (Bucky films and perhaps tomography). The x-ray after fluid aspiration may also show pleural nodularity due to tumor deposits. It is essential to examine the fluid for tumor cells. Such cells have been reported in as much as 60 per cent of cases, and the percentage is about the same in bloody and nonbloody fluid. It is desirable to examine several specimens of fluid for a maximum yield of malignant cells.[26,27] In fluid of unknown etiology bronchoscopy and cytologic sputum studies are required. On occasion thoracoscopy with direct inspection of the pleural space or biopsy of pleural nodules leads to the diagnosis.

Massive pleural effusion or fluid that keeps reforming rapidly is more suggestive of carcinoma than other conditions. Bloody fluid (particularly with other causes such as infarction excluded) is frequently associated with carcinoma.[28]

Comment

The diagnosis of lung cancer rests on clinicoroentgenologic findings and special investigative procedures. In this presentation the roentgenologic criteria have been emphasized particularly. The chest x-ray offers one of the most obvious, direct, easily discernible, and early diagnostic methods. Lung neoplasms are associated with various roentgenologic manifestations, depending on point of origin, size of tumor, and secondary changes (amount of infection, bronchial obstruction, and rapidity of growth).

The presence of any one of the following roentgenologic signs warrants a presumptive diagnosis of lung cancer:

1. Unilateral enlargement of any part of the hilus region.
2. Obstructive emphysema (localized or massive) with or without mediastinal swing.
3. Segmental or larger bronchial obstruction (with the linear density an early sign).
4. Progressive (pneumonic) atelectasis.
5. Isolated cavity or obstructive abscess.

6. Persistent pneumonitis (and segmental or recurrent pneumonitis).
7. Superior pulmonary sulcus shadow.
8. Homogeneously solid, round peripheral density (coin lesion).
9. Pleural fluid.

In any particular case there may be a combination of these manifestations, or one finding may precede another.

The early recognition and appreciation of these roentgenologic manifestations of lung cancer is very important if a delay in diagnosis is to be prevented. This is of particular significance because lung cancer often has a long evolutionary period, and with prompt diagnosis it is possible to treat the patient before extrapulmonary spread can occur. The application of these roentgenologic findings in individual instances (as illustrated by the case reports) could have established the diagnosis many months before it was actually made.

It is true that there are no pathognomonic roentgenologic findings in bronchial carcinoma. Lung cancer has been called the great masquerader because the picture can resemble many chest conditions, such as tuberculosis, benign tumor, bronchial foreign body, infections, bronchiectasis, lung abscess, infarction, lymphoblastoma, etc. The differential diagnosis and the causes of delayed diagnosis have been presented in some of the conditions that simulate lung cancer. Serial roentgenograms within a few weeks can often help in making a final diagnosis. But the important point is that in the presence of any of the roentgenologic criteria outlined above, a presumptive diagnosis of lung cancer should be made and investigation done to confirm or disprove the neoplasm.

The ideal objective is to make the diagnosis in an asymptomatic phase. This promises the highest survival rate. For this purpose repeated routine chest roentgenograms in individuals, particularly males over forty-five, have been suggested. An early diagnosis made when symptoms are still trivial may also permit satisfactory surgical resection of the tumor.

The symptoms of bronchial carcinoma are not pathognomonic, and they are common to many other bronchopulmonary conditions. Various combinations of symptoms are associated with the different roentgenologic findings. The point is that carcinoma should be thought of in any acute respiratory tract infection or chronic pulmonary condition.

The essential matter is that with a proper index of suspicion the necessary diagnostic methods can be carried through without delay. The scope of this paper precludes the describing of these procedures. These investigative methods include (1) pulmonary angiography, (2) bronchoscopy, (3) bronchography, (4) cytologic examination of sputum or bronchial washings, (5) special chest roentgenograms—Bucky technic, lateral or oblique views, tomography, inspiration and expiration studies of mediastinal and diaphragmatic movements, (6) thoracoscopy in pleural fluid cases, (7) scalenus node biopsy, and (8) exploratory thoracotomy. Aside from roentgenologic studies the most commonly employed procedures are bronchoscopy and cytologic examinations. We have emphasized the importance of chest x-rays and the benefits from their frequent use.

Under ordinary circumstances, with intensive bacteriologic and cytologic sputum studies and basic investigative procedures (chest roentgenograms and bronchoscopy), a diagnosis of lung cancer may be made within two to three weeks. Otherwise it may be important to do an exploratory thoracotomy. If the basic diagnostic methods are inconclusive, the diagnosis is unquestioned with exploration because of the opportunity to inspect, palpate, and biopsy the lesion. The risk of operation is very small and not much greater than exploratory laparotomy. The urgency of early diagnosis has been stressed. If there is a suspicion of carcinoma, there should be no watchful waiting, temporizing, or delay. The hazard of thoracotomy is not nearly so great as the danger from a missed or delayed diagnosis of lung cancer.[29–31]

Conclusions

1. Bronchogenic carcinoma is one of the most common malignancies and a problem of tremendous clinical importance.
2. The definitive treatment of lung carcinoma and the best chance for survival lie in the early removal of the tumor while it is still localized to the lung.
3. The immediate problem is early diagnosis, for patients now reach the thoracic surgeon too late for resection of the neoplasm.
4. The chest x-ray offers one of the most obvious, direct, and early diagnostic methods.

5. The different roentgenologic manifestations of lung cancer have been presented and illustrated.

6. The presence of any one of these roentgenologic findings warrants a presumptive diagnosis of lung cancer and immediate investigation to confirm or disprove the diagnosis.

7. The application of these roentgenologic criteria can help establish an early diagnosis.

8. With earlier diagnosis, even though symptoms are present, satisfactory resection of the tumor may be possible.

9. This is important, for in many cases the carcinoma shows slow evolution.

50 Park Avenue

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SESQUICENTENNIAL MEETING

Medical Society of the State of New York

FEBRUARY 18 TO 21, 1957

Hotel Statler **New York City**

Methods for the Clinical Appraisal of a New Therapeutic Agent in Rheumatoid Arthritis

JACK R. DORDICK, M.D., NEW YORK CITY

(*From the Medical Service, Beth Israel Hospital*)

IN ANY investigation of the efficacy of an "unknown" drug or agent in rheumatoid arthritis, it is necessary to appreciate or attempt control of certain variables. These include differences in diagnostic criteria as well as differences in the technics of applying treatment and methods of measuring the results. The choice of criteria to measure the course of disease and collection of correlative data are other important considerations. Knowledge relative to the incidence of disease in different age groups of the population, influence of social and emotional factors, effects of climatic and geographic variations, as well as the ability to postulate the probable outcome of a patient with rheumatoid arthritis when seen early in the disease, would be of inestimable value in our understanding. The judgment and experience of the person or persons conducting the examinations provide an imponderable variable in an evaluation of any therapeutic procedure.

A basic understanding of the natural history of the disease is essential since claims of benefits induced by new drugs may fall within the realm of "spontaneous" fluctuations and, hence, produce only coincidental benefits. Systematic follow-up studies[1] have recently indicated that even in the absence of specific, i.e., drug, therapy, one third to one half of rheumatoid arthritic patients followed for at least five years eventually show marked improvement or, less frequently, apparent recovery. On the basis of information gathered largely from hospital or clinic experience, the course of the disease appears to be usually of steady or intermittent progression; complete or nearly complete remissions may occur at first, and some may recover without significant residual disability, even after years of active disease.

Selection of Patients

The patients selected should present unequivocal symptoms and signs of rheumatoid arthritis and should be classified as to stage and class of the disease in accordance with the objective method employed by the American Rheumatism Association.[2] The arbitrary minimal duration of disease should be two years because of the high incidence of spontaneous remission in cases of shorter duration.[3] The joint changes should be partially or completely reversible; in most instances roentgenograms will help identify reversible findings. Evidences of activity should be demonstrable in the form of elevation in temperature, C-reactive protein, erythrocyte sedimentation, or antistreptolysin titer or other agglutination tests. Where possible, the subjects selected should have "pure" or uncomplicated rheumatoid arthritis; the presence of additional degenerative, traumatic, or metabolic joint disease will interfere with the final results. Where drugs were previously employed, gradation of response should be standardized to the procedure adopted by the American Rheumatism Association.[2] The effectiveness or ineffectiveness of previous therapy (salicylates, gold salts, physiotherapy, orthopedic measures) must be recorded. Prior steroid hormone therapy can be utilized as a guide to the comparative antirheumatic or anti-inflammatory potency of the unknown agent, provided the study encompasses similar objective findings over approximately equivalent time intervals.

Role of the Investigator

The investigator should inform the patients that they are being subjected to a trial of a new medication that may or may not be beneficial. The mood or attitude of the examiner will distinctly influence the ultimate response of the individual. The physical surroundings of the interview, as well as the suggestibility offered by the investigator in anticipation of an expected response may be very difficult to control.[4]

To minimize the personal component of the analyst, it may be wise to offer a questionnaire that is filled out in his presence. In this respect a therapeutic score card may be used to appraise results of treatment.[5]

In any given clinical trial one observer should be assigned to one group of subjects, recording simultaneous comparisons in his group, instead of alternating between several groups.

Method of Testing

The technic of investigation should be of the "double blind" variety, where neither patient nor doctor know the identity of the drug. This is best accomplished by employing a placebo identical or almost identical in appearance to the unknown agent. The placebo and material to be tested should be placed in envelopes and coded, the classification known only to a disinterested party. Identity of the "unknown" therapeutic agent should be disclosed after all the results are assembled. This is imperative to avoid or reduce the influence of subconscious bias.

In order to standardize the procedure, other antirheumatic or analgesic drugs, physical aids, and sedation should be discontinued during the clinical trial. In the case of a medication all patients must receive the same number of pills; when the dose is replaced by a placebo, the patients must not be aware of this change.

All assignments should be handled in a completely random manner, the control and test groups being treated alike in all respects.

Comments and observations of floor and ward nurses, orderlies, and interns on service should be recorded. This double check on the investigators may be utilized at the discretion of the head of the investigating team.

More accurate conclusions will be based on the response to many trials rather than on a single investigation.[6]

Material

In many instances animal studies to determine antirheumatic or anti-inflammatory properties and acute toxicity precede the clinical evaluation. In the case of a new drug like prednisone (meticorten), for example, the high degree of anti-inflammatory activity in animals[7] may be compared to previous animal studies with cortisone or hydrocortisone. These two drugs are now well-documented standards of reference.[8] The acute toxicity experiments must also be interpreted and compared to the administration of controlled doses of standard or "known" drugs.

The patient may be transferred directly to the new medication (after total withdrawal from previous therapy) or gradually withdrawn from prior therapy and permitted to revert to a state of relapse; the new drug will then be given in suppressive doses. After a satisfactory anti-inflammatory response is elicited, the dosage is titrated until a maintenance level is achieved.

The determination of the therapeutic range of effectiveness will depend on a balance of the anti-inflammatory or antirheumatic properties and the occurrence of untoward reactions.

Criteria for Effectiveness

According to the criteria of the American Rheumatism Association,[2] a complete remission (grade 1 response) or a major improvement (grade 2 response) should be elicited clinically before the new therapeutic agent can be classified as effective. Physical signs relative to the joints that can be mechanically recorded include swelling, range of motion, local heat, redness, and tenderness. The status of functional capacity is to be considered as a corollary to these findings. Dissociation of the signs of active joint inflammation and the impairment of functional capacity may be very difficult in our estimation.

The joints should be measured in a fixed position by tape measure or other suitable device. The range of motion is best determined by a goniometer and chartered on a graph. Local heat is best estimated by a thermocouple. The degree of redness and local tenderness should be graded. The specific joint phenomena, the objective findings, should be interpreted as part of or independent of a state of well-being or an exaggerated state of well-being (euphoria). The objective findings should be followed for a minimal arbitrary period of four weeks before any preliminary conclusions can be ascertained.

Although it is difficult, evaluation of any medication can be accomplished by means of a patient's subjective response, e.g., pain. When subjective responses are studied, the experiment should be arranged so that it is possible to cancel out as many variables as possible by the use of correlated data, that is, by comparing the placebo with the active agent under comparable circumstances[8] in the same individual.

Valid comparisons of the side-effects of any two therapeutic agents can be made only when equally therapeutically effective doses are considered. Just as with the appraisal of the primary therapeutic effect, the "double blind" technic, placebos and randomization, must be used if the true incidence of toxic effects is to be established.[8]

The over-all clinical effectiveness will also be proportional (in addition to the time-dosage factor) to the individual susceptibility. This factor may not be appreciated in short-term experiments, but over a longer term, individual idiosyncrasies, tolerance, or waning effectiveness may develop and necessitate discontinuation of the medication.

The systemic reactions attendant on the withdrawal of a steroid hormone, such as cortisone or hydrocortisone, is another consideration since they may be as marked or even more severe than the initial active state and preclude further administration.

If a standardized technic of investigation is followed, the response will be classifiable.

Summary

The methods proposed for the investigation and evaluation of a new drug of rheumatoid arthritis should include proper selection of cases according to predetermined diagnostic criteria, classification according to the stage and functional capacity of the active disease, and establishment of control and test groups with assignment in a completely random manner. The use of a standard of reference is essential, as is the use of correlated data and mathematic validation of differences. The "double blind" technic should be employed. Side-effects should be appraised as completely as the primary therapeutic benefits. Arbitrary criteria of clinical effectiveness must be delineated. Only then can one hope to attain a valid therapeutic range of effectiveness.

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SESQUICENTENNIAL MEETING

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Roentgenologic Observation of the Birth Act During the Second Stage of Labor

GERHART S. SCHWARZ, M.D., NEW YORK CITY

(*From the Department of Radiology of the College of Physicians and Surgeons, Columbia University, and the Radiological Service of the Presbyterian Hospital*)

RADIOGRAPHS showing the fetus during its expulsion are extremely rare and usually obtained by accident. To my knowledge only one institution is now equipped with a full power radiographic unit permanently installed in the labor room to enable the obstetrician *intentionally* to obtain roentgenograms at any stage of the birth act. Moreover, serial filming of the birth act requires an undue total body radiation exposure of the fetus. Experimentation in this field has to be limited to a few films until electronic image amplification is perfected to a degree to permit a reduction of the necessary radiation to one hundredth of its present level.

A roentgen investigation of the mechanism of labor remains confined to the occasional accidental exposure obtained when the patient unexpectedly delivers or nearly delivers her child in the x-ray department. Information gained from such radiographs is invaluable and justifies the reporting of a single case. This is in addition to a previous case report by Ball.[1] Rydberg[2] obtained serial roentgenograms during labor in 51 women. However, none of his published radiographs shows the vertex of the fetal head below the ischial tubera, whereas in the case to be reported the final exposure took place after the fetal head left the bony pelvis and entered the subpubic arch. Rydberg's films are not suited for mensuration, and his antelabor films are made with a technic different from that employed for his subsequent radiographs, so that the two cannot be compared. In the present case all radiographs, with one exception, were taken with the same technic in the upright position, and three of the five studies performed permitted comparison of measurements.

Case Report

A single twenty-year-old, Negro girl was first seen at the Sloane hospital on April 1, 1953, with a menstrual history which suggested a pregnancy with an expected date of confinement on August 27, 1953. The physical examination and routine laboratory tests failed to show any accompanying disease. Radiographs taken on July 13, 1953, for visualization of the placenta were inconclusive. Additional films were taken on July 15 and did not reveal any abnormal placenta but raised the question of the pelvis being small. Upright cephalopelvimetry films were taken two days later (July 17) for use with the Ball method[3] when the patient was admitted with slight cramplike pains and bloody show of several hours duration. No disproportion was demonstrated at that time, but the fetal head was still small so that relative measurements were thought to be misleading. A recommendation for a repeat of this procedure at or near term was made. A manual pelvic examination on July 18 showed the cervix to be partially effaced. No soft tissue mass

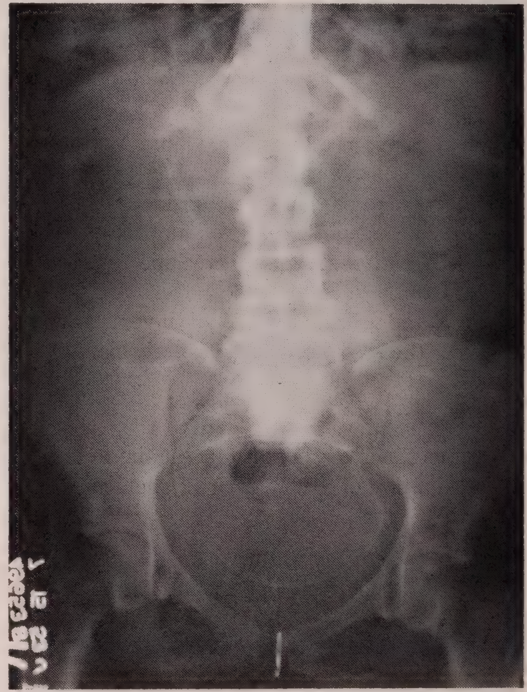

FIG. 1. Supine radiograph of July 15. The fetal head is seen to float above the pelvic inlet.

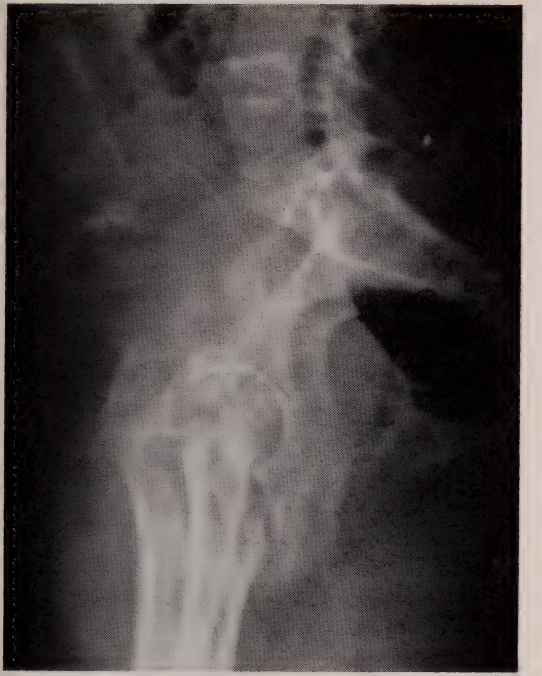

FIG. 2. Upright lateral radiograph obtained July 17. The head is seen in about the same position as demonstrated two days before.

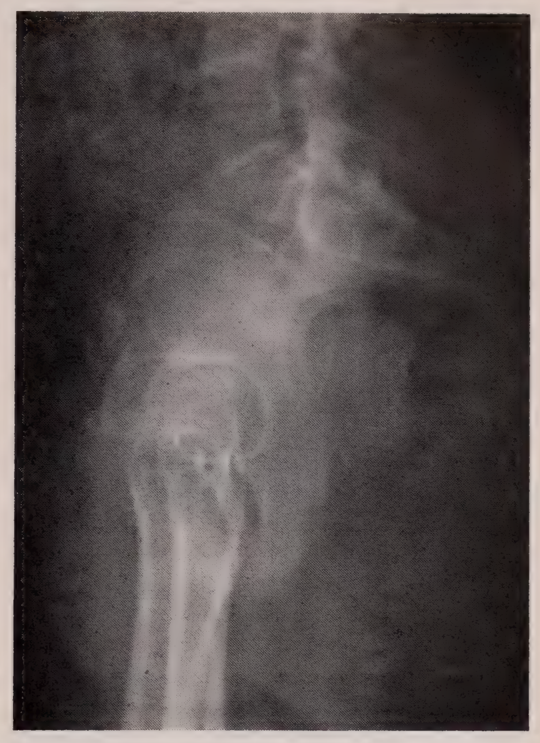

FIG. 4. Upright lateral radiograph of the same date as Fig. 3. The head has descended into the inlet so that its largest circumference coincides approximately with the inlet plane.

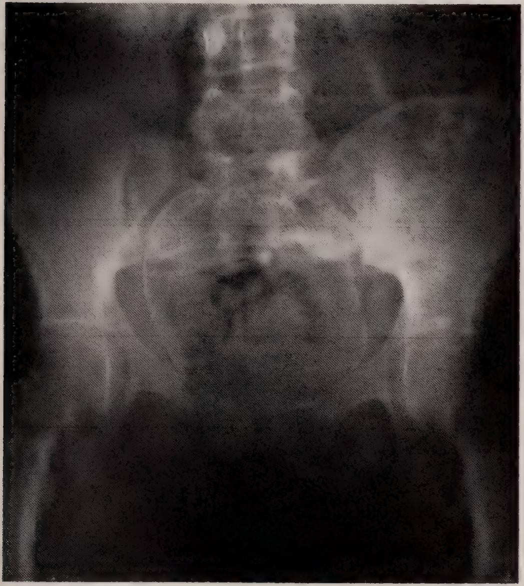

FIG. 3. Upright anteroposterior radiograph of August 17, ten days prior to delivery.

suggestive of placenta previa was palpated, and the patient was discharged with the diagnosis of false labor.

On August 17 the suggested follow-up cephalopelvimetry films revealed a flat posterior segment and a somewhat narrowed fore pelvis at the inlet without definitive numeric cephalopelvic disproportion. With the patient standing, the vertex of the fetal skull was seen to rest at a minus 1 station.

The patient was again admitted on August 27, this time with moderately strong contractions lasting forty to forty-five seconds and occurring every three to five minutes. Labor had begun at 2 A.M. With the patient lying in bed, a manual examination revealed the head to be at station minus 4 and the cervix dilated to three fingerbreadths. Additional cephalopelvimetry films were therefore ordered.

The patient entered the x-ray department at 5:40 A.M. During the radiographic exposure the membranes ruptured, and birth seemed imminent, while the fetal heart tones ceased to be audible. The patient was returned from the x-ray department to the labor room on a stretcher as an emergency case at 6:15 P.M. Ten minutes later, after left mediolateral episiotomy, she was delivered of a normal, healthy female infant in occipitoanterior position weighing 2,570 Gm. and possessing a biparietal diameter of 8.4 cm. The placenta was expelled

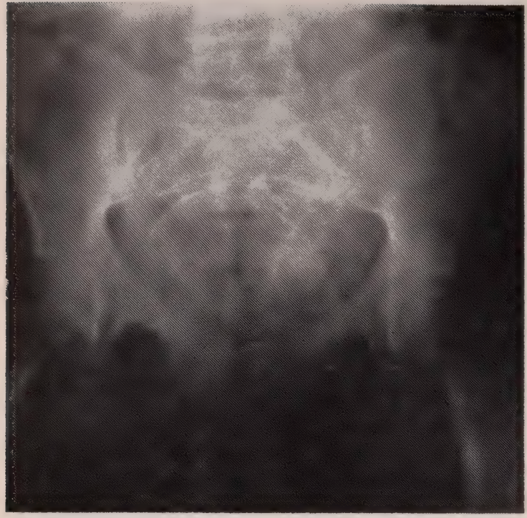

FIG. 5. Upright anteroposterior radiograph taken August 27, during labor, approximately twelve minutes prior to delivery. The largest circumference of the skull has passed the bispinous diameter.

three minutes later, and two cervical lacerations (at 3 and 6 o'clock) were repaired. The estimated total blood loss was 300 to 400 cc. The total duration of labor was four hours and twenty-eight minutes. A follow-up examination on January 25, 1954, showed the mother to be well.

Radiographic Findings

Inspection of those films which were suited for measurements by the Ball method and which were taken on three different occasions reveals the following interesting facts.

1. The anteroposterior diameter of the pelvic inlet, which measured 9.9 cm. on July 17 and 10.0 cm. on August 17, reduced to 9.4 cm. on August 27 after rupture of the membranes and after passage of the fetal head through the bony pelvis while the patient was still in labor.

2. The volume capacity of the inlet in terms of a sphere, as determined by the Ball method,[3,4] rose from 505 to 520 cc. between July and August but dropped to 470 cc. after the passage of the fetal head.

3. The fetal head, likewise as determined by the Ball method, gained in volume from 440 to 520 cc. between the first two studies as a result of fetal growth and further expanded after passage through the bony pelvis to 620 cm. (probably more suddenly) due to the release of hydrostatic pressure.

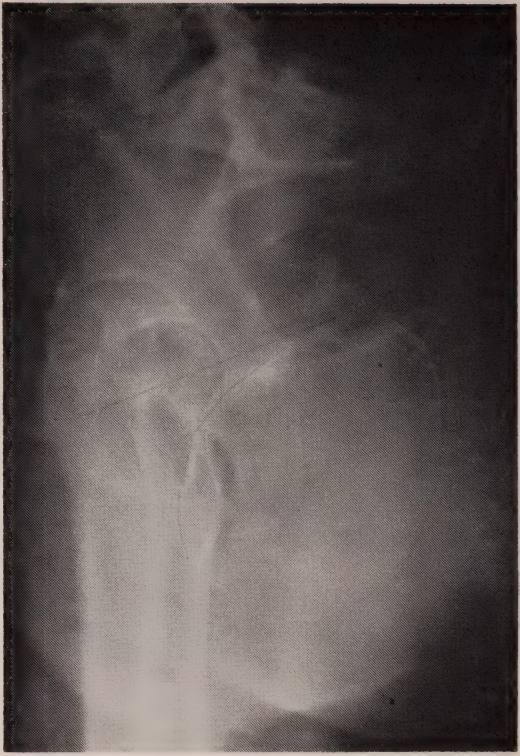

FIG. 6. Upright lateral radiograph obtained about two minutes later, ten minutes prior to delivery. The head has descended further, its upper jaw now coinciding with the bispinous diameter. The head has turned almost 90 degrees into a sagittal position from its previous oblique orientation. Its occiput has hooked under the pubic arch. Now the upper spine of the fetus appears extended, whereas on the earlier studies it was flexed.

TABLE I.—FETAL STUDY BY X-RAYS

Date of X-ray Study	Corrected Mean Circumference by X-rays (Cm.)	Fetal Age Predicted by Curve (Weeks)	Chronologic Age (Weeks)
July 17	27.8	$33^{1}/_{2}$	34
August 17	29.5	$35^{1}/_{2}$	$38^{1}/_{2}$
27	31.3 (after passage)	38	40

4. This series of films affords an opportunity to test the veracity of the growth curve of the mean circumference of the fetal skull established by Scammon and Calkins[5] and modified by Hodges[6] (Table I).

5. The biparietal diameter of the skull, as determined from films, remained unchanged between the first two studies when it measured 8.2 cm. On the last film taken this diameter cannot clearly be identified. Its measurements lie between 8.2 and 8.7 cm. It is reasonable to assume that it enlarged slightly after the passage through

the bony pelvis. Its actual measurement after delivery was 8.4 cm.

The films do not permit accurate measurements of the transverse pelvic diameters because of poor visualization. They were all ample and do not seem to have changed appreciably during the period of observation.

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SESQUICENTENNIAL CONVENTION

Medical Society of the State of New York

February 18 to 21, 1957

HOTEL STATLER **NEW YORK CITY**

CLINICOPATHOLOGIC CONFERENCE

ST. JOSEPH'S HOSPITAL

ELMIRA, NEW YORK

Conducted by F. S. HASSETT, M.D.

MAY 11, 1955

Discussed by PAUL N. YU, M.D.*

Case History

The patient was a sixty-seven-year-old, Negro male who was a stockroom clerk in the research department of a glass works. He entered the hospital complaining of shortness of breath.

The man dated the onset of his present difficulty to about eight months previously. At that time he noticed that he was short of breath when he walked. He went to his physician who found his blood pressure high and gave him medicine for that. However, the shortness of breath continued, and the distance he could walk before he had to stop grew progressively shorter. At irregular intervals he saw his physician who gave him what the patient called "breathing pills," which caused some temporary improvement. Nevertheless, the complaint progressed, and two weeks before admission he was unable to leave his second floor apartment because of dyspnea. Another physician was consulted who gave him some pills "for asthma." The patient did not believe he had asthma. Dyspnea at rest became so severe that the patient sought admission to the hospital.

At no time in this eight-month period did the patient have any chest pain. A history of cough was notably absent. He apparently did not have orthopnea, and he denied ever having had dependent edema. He had nocturia once or twice a night, but this antedated the onset of his illness.

He had had the same job for the past thirty-five years. He handled various kinds of chemicals but did not know of any exposure to beryllium. He did not come into contact with broken fluorescent lighting tubes. He had no allergic manifestations prior to the onset of his illness.

He was a well-developed, well-nourished man who appeared uncomfortable at rest because of severe dyspnea. He had early bilateral cataracts. There was a small mass palpable in the left lobe of the thyroid. The chest was deep in its anteroposterior diameter and moved en masse. The lungs were resonant throughout except at the left base where hyperresonance was noted. The breath sounds were distant over both lung fields. There were no inspiratory rales, but a few scattered expiratory rales were heard. There was an expiratory wheezing heard over the right upper lobe. The heart sounds were distant with no murmurs. The second pulmonic sound was accentuated and louder than the second aortic sound. The liver edge could not be palpated, but there was tenderness in the right upper quadrant. There was no presacral or dependent edema. There was no evidence of recent or old thrombophlebitis of the legs. The temperature was 100.8 F., pulse 116, respirations 28, and blood pressure 160/120.

The urine showed a specific gravity of 1.030 with a 2 plus albumin. Microscopic examination showed only 4 to 5 hyaline casts. The red blood count was 5,300,000 with hemoglobin 16.6 Gm. or 106 per cent. The white count was 7,500 with polymorphonuclears 64 per cent, lymphocytes 31 per cent, monocytes 2 per cent, and eosinophils 3 per cent. The sedimentation rate was 20. The nonprotein nitrogen and serum sodium chloride were normal. The serum proteins were 8 Gm. with albumin 4.5 and globulin 3.5. The vital capacity was 2 L. or 50 per cent of the expected value. A skin tuberculin test was negative.

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* From the Strong Memorial Hospital, Rochester, New York.

Sputum examinations showed a scanty growth of mixed organisms and were negative for acid-fast organisms by smear and culture. The venous pressure was equivalent to 186 mm. of water.

X-ray of the chest on admission showed "both hilar shadows accentuated. There were increased lung markings radiating outwards and upwards and inferiorly from the right hilus. There was increased radiolucency in the left base." Three days later the findings were essentially the same except that the left hilus appeared accentuated. A left lateral x-ray of the chest showed "a huge cystic area of emphysema in the lower half of the anterior portion of the chest with a sharp convex upper border extending from the anterior chest wall halfway posteriorly. There was a fanlike, large segment of increased density in the central chest above this, with the expanded portion of the fan extending upward and anterior from the hilus." Films of the cervical spine, sinuses, hands, and a barium enema were all negative. An electrocardiogram showed inversion of the T waves in the precordial leads V_1 through V_4.

Antibiotic therapy was started, and the temperature fell to normal where it remained throughout his stay in the hospital. He was digitalized, and a repeat venous pressure showed a pressure equivalent to 150 mm. of water. Arm-to-tongue circulation time was fifteen seconds. Oxygen was tried but did not give the patient any relief from his dyspnea.

A bronchoscopy showed moderate inflammatory change in the right bronchus. The left upper lobe bronchus was visualized with a telescope, and an obstructing lesion was seen which was so placed that it could not be biopsied. Bronchial washings obtained at the time of bronchoscopy showed no atypical cells and were negative for acid-fast organisms.

The patient remained in the hospital for twenty days. His dyspnea gradually decreased but still was present at the time of discharge. He was discharged on digitalis, a low-salt diet, ephedrine, and potassium iodide.

Second Admission (One Month Later).—His improvement had continued slowly at home to the point where the man insisted on returning to work. He worked for three days, and then his dyspnea became as marked as it had been on his original admission.

The patient now showed distended neck veins. Rales were still absent from the chest, but the liver edge was palpable five fingerbreadths below the costal margin and was tender. There was no dependent edema. The remainder of the examination showed no change. The temperature was 100.4 F., pulse 130, respirations 30, and blood pressure 140/96.

The urine was negative. His blood count was essentially the same. The nonprotein nitrogen was 37; total proteins were 6.9 with a normal albumin-globulin ratio. Venous pressure was equivalent to 250 mm. of water. A repeat x-ray of the chest did not reveal any significant change from his previous admission. His electrocardiogram showed the addition of digitalis effect.

The patient's temperature remained between 100 and 101 F. Mercurial diuretics were used with a good diuretic response. On the fourth hospital day a Monaldi procedure for drainage of the pulmonary cyst in the left lower lobe was done. Postoperatively the patient was kept in an oxygen tent. Morphine, $^1/_4$ grain, was given for dyspnea and restlessness on four occasions, fourteen, twenty-four, thirty-two, and thirty-seven hours postoperatively. Following the last injection of morphine the patient did not seem as alert and became progressively unresponsive. His pulse became irregular, and his respirations were shallow. The patient ceased to breathe six hours later.

Discussion

Dr. Paul N. Yu: I would like to consider this case, first, from the symptom of dyspnea. That was the most important symptom in this patient, progressive dyspnea of eight months duration. In a person in this age group, naturally we would think of cardiac, pulmonary, and some other etiologic factors.

If the patient had heart disease, then we should have had some manifestations of a cardiac lesion. The only clue we have was that the patient had hypertension. But in looking over the protocol, it seems that the hypertension was not an important factor in producing the patient's dyspnea. In the first place the enlargement of the heart was not marked and was not of the so-called left ventricular type. In the second place the

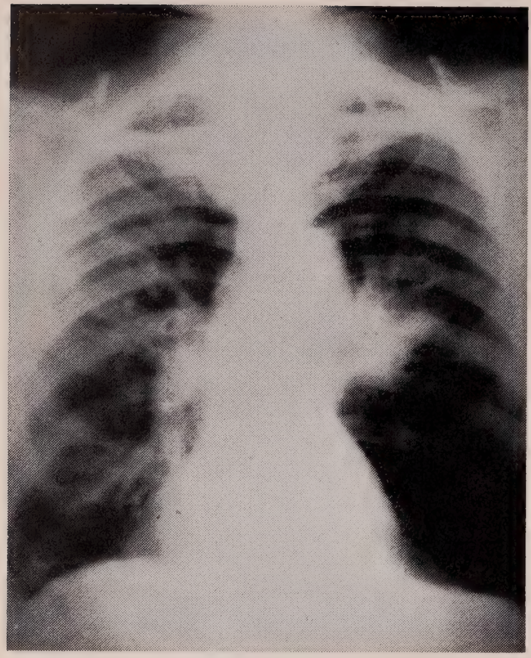

FIG. 1. Cystic changes in the left lower chest and also in part of the right lower chest which compress the adjacent lung tissue. Hilar densities increased.

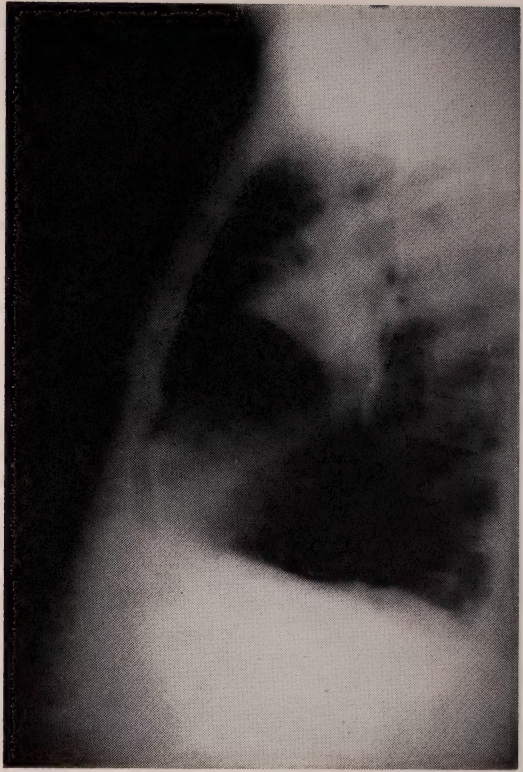

FIG. 2. Lateral view taken at same time as Fig. 1.

manifestations of failure were more of pulmonary and right-sided failure rather than left-sided failure. In patients with hypertensive heart disease usually the first manifestations are left-sided failure with complaints of nocturnal dyspnea and progressive exertional dyspnea. Another point was that the circulation time was actually normal. In a patient with left ventricular failure we expect the circulation time to be prolonged, sometimes up to one minute. I don't think that hypertensive cardiovascular heart disease was an important factor here. Did this patient have arteriosclerotic heart disease and coronary artery disease? We don't have any symptoms to suggest that. The patient did not have any anginal pain, and the electrocardiogram did not show evidence of old myocardial infarction or changes compatible with coronary artery disease. So I will say that the dyspnea was probably not of cardiac origin.

The second category would be dyspnea of pulmonary origin. Do we have any evidence of pulmonary disease? Yes, we have plenty of evidence to indicate that the patient had chronic pulmonary disease. He had definite evidence of pulmonary emphysema with increased anteroposterior diameter of the chest, and he also had a loud second pulmonic sound. This indicated that the patient's pulmonary artery pressure was increased. An accentuated pulmonic sound occurring in an older patient like this would be due either to left ventricular failure, which the patient probably did not have, or to the presence of pulmonary hypertension due to some other cause, such as chronic pulmonary disease. In about 60 per cent of the patients with chronic pulmonary disease, particularly pulmonary emphysema, the pulmonary artery pressure is increased, and some cases may have very marked pulmonary hypertension. Another thing to go with this is that the patient had some polycythemia. The vital capacity was reduced to 50 per cent of the normal value, which again indicates that the patient had considerable pulmonary disability. One thing which we would like to have had is a determination of the carbon dioxide combining power. In these patients in the terminal stage the carbon dioxide combining power is usually increased.

The most important supporting evidence was the x-ray changes (Figs. 1 and 2). The x-rays showed cystic changes in the left lower chest and also in part of the right lower chest. The hilar densities were increased. There was increased infiltration and density over the right lung field. The patient had pulmonary emphysema with multiple cysts and bullae which compressed the adjacent lung tissue. This caused obstruction with retention of secretions, and finally the patient had secondary infection which caused the tachycardia as well as the fever and leukocytosis.

If the patient had chronic pulmonary disease, what lesion was the predominant one? Chronic pulmonary disease may be due to various kinds of lesions; tuberculosis is one of the commonest. This man had a negative tuberculin test, and the sputum examinations did not yield any specific organisms. If the patient had a severe tuberculous infection, I think, unless it was in the terminal stage, that the tuberculin test would have been positive. In the x-rays we do not see any clear-cut changes suggestive of tuberculosis. The patient did not have any chest deformities, such as kyphoscoliosis or funnel chest, to produce a chronic pulmonary condition. In the protocol special emphasis was placed on the history of exposure to beryllium. As you know, some people who work in factories where they manufacture fluorescent lamps may have beryllium poisoning. Those patients show a more or less diffuse granulomatous type of lesion. This x-ray picture is not compatible with a beryllium lesion. Pneumoconiosis due to other causes, such as silicosis, we can dismiss because we have no occupational history to suggest them, and the x-ray did not show any fine nodulations or linear markings to suggest a pulmonary fibrosis.

How about a malignancy of the lung? Naturally, one would think of the possibility of bronchogenic carcinoma obstructing the left bronchus and producing the increased hilar shadows and secondary infection. I think the possibility was rather remote, but I cannot rule it out.

Last, we must consider pulmonary emphysema. I think we have very good evidence here that the patient had one or more large cysts due to pulmonary emphysema with compression of the adjacent lung tissue. That would be my first choice. Another thing that the patient had was cor pulmonale. We have very good evidence for that because the heart was enlarged, venous pressure was elevated, and, later on, there was peripheral edema, liver enlargement, etc.

If my guess is correct, then the patient had impairment of ventilation with retention of carbon dioxide and anoxia. With this condition oxygen therapy would have to be used very carefully because, as you know, in patients with increased carbon dioxide, the respiratory center is relatively insensitive to carbon dioxide. The only drive will be anoxia. If oxygen improves the anoxia, the patient will have hypoventilation with further retention of carbon dioxide. Another dangerous thing is morphine. The administration of barbiturates or morphine to patients with chronic pulmonary disease and right ventricular failure depresses the respiratory center further.

Question: What has been your experience with Diamox as a diuretic agent in cor pulmonale?

Dr. Yu: We have treated several patients with Diamox, and the results were quite encouraging. Subjectively they felt better. Our physiologic studies have shown that although the pH was decreased, i.e., they were made more acidotic, the carbon dioxide combining power and pCO_2 came down, and the vital capacity improved. I think that Diamox has a definite place in chronic pulmonary disease, particularly in those patients with congestive heart failure. The use of Diamox in congestive heart failure due to intrinsic heart disease, such as arteriosclerotic heart disease or coronary heart disease. has not been as dramatic as in pulmonary heart disease.

Question: Could this have been congenital cystic pulmonary disease manifested at age sixty-seven?

Dr. Yu: I think it is more likely acquired rather than congenital disease. Probably there is some congenital defect associated with it.

Diagnoses

Clinical.—*Bronchogenic carcinoma.*

Dr. Yu.—*Pulmonary emphysema, cor pulmonale, and congestive heart failure.*

Anatomic.—*Pulmonary emphysema, cor pulmonale, and congestive heart failure.*

Pathologic Report

Dr. James A. Mitchell: I think Dr. Yu has given us an excellent explanation of this individual's illness. The left pleural cavity contained a small amount of a cloudy, yellowish, purulent fluid situated at the base. There was noted a pulmonary cyst the size of a grapefruit in the left lower lobe which was thin walled, transparent, and filled with air. Also noted were several thin-walled cysts in the upper lobe, varying in size from that of a golf ball to that of an orange. The left main bronchus was patent and showed no gross evidence of neoplasm. The right pleural cavity showed no free fluid. The right lower lobe was a deep red color and showed no gross evidence of consolidation or cyst formation. The middle and upper lobes showed several cystic areas varying in size from 5 to 6 cm. in diameter. They were also very thin walled and transparent. The right main bronchus was patent throughout, and no evidence of any neoplasm was found.

The heart was moderately enlarged, weighing 420 Gm. The left ventricular wall was somewhat hypertrophied and measured 20 mm. in thickness. The right ventricular wall measured 6 mm. in thickness. The coronary arteries were patent throughout, and the myocardium showed no evidence of fibrosis or infarction.

The liver was enlarged, weighing approximately 2,000 Gm. On section it showed some nutmeg markings consistent with chronic passive congestion. The rest of the viscera were essentially normal except for congestive changes in the spleen and kidney. The thyroid gland contained a calcified adenoma, 3 cm. in diameter, situated in the left lobe.

Microscopically, the lung showed marked cystic dilatations with thinning and atrophy of the alveolar walls. There was some thickening of the pulmonary capillary walls. Pneumonitis was present in the right lower lobe and a fibrous pleurisy in the left lower lobe with a terminal bronchopneumonia at the base of the left lower lobe.

Summary

Dr. Yu: I would like to emphasize one point. In a patient with chronic pulmonary disease, particularly in failure, oxygen and morphine should be used very, very carefully. We have just learned this in the past few years. These patients usually have a very high carbon dioxide, so-called hypercapnia, and anoxia. When they are put in an oxygen tent, they become pink, but they become less responsive. The attending physician or house staff will wonder what happened because they look much better. The harm is that you take away the anoxic drive from the patient. If morphine is given, particularly in repeated doses, the respiratory center is depressed, and the patient has more carbon dioxide retention. Carbon dioxide narcosis, which is actually a respiratory acidosis, can happen in a matter of a few minutes when oxygen is being used.

We had one patient whose blood pH went down to 6.97. Ordinarily the pH is 7.35 to 7.45. Because of morphine intoxication she breathed only about four times a minute, her pCO_2 went up to 150 mm. of mercury (normal about 40 mm.), and the oxygen saturation was 99 per cent. Although she had very good oxygen saturation, she had marked hypercapnia and marked respiratory acidosis, and eventually she became comatose.

The only thing that can be done is to stop the oxygen and put the patient in the Drinker respirator. This mechanical ventilation will blow off the carbon dioxide. Surprisingly enough the patients with carbon dioxide retention or hypercapnia are those with pulmonary infection. They usually have some sort of obstruction somewhere in the trachea or bronchus, and then they begin to have carbon dioxide retention.

Sesquicentennial Meeting—February 18 to 21, 1957

FUNDAMENTALS OF MODERN ALLERGY

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Psychic Factors in Allergy and Their Treatment

HAROLD A. ABRAMSON, M.D., NEW YORK CITY

How far should the general physician go in treating the emotional factors which produce disease in his patients? What is the nature of the problem that the allergist in particular faces? These questions can perhaps be best answered by exploring the nature of the doctor-patient relationship in the field of allergy and its significance for the patient and the physician. As a background for our discussion, let us first take up certain specific factors of some importance in the psychologic management of the allergic patient.

Specific Factors

French and Alexander,[1] who treated 27 cases of bronchial asthma by psychoanalytic methods, found various personality types. However, they felt that a constant finding was a basic fear of separation from the mother or the mother figure. It was suggested that asthma may be the equivalent of a cry of rage or anxiety which has been inhibited or replaced. In some cases overprotection by the parents and disapproval by them of psychosexual maturity was believed to be an important cause. The psychologic defenses employed by the asthmatics do not seem to be specific for the allergic disorders because confession, conformance, ingratiation, and utilization of the illness all fit in with the patterns of neuroses found in people who are not asthmatic.

Many attempts have been made in recent years to classify the allergic dermatoses on the basis of specific patterns. In the experience of the writer,[2] the most important factors have been the unorganized and unrecognized rage of the allergic child toward the parent, usually of the same sex. To identify with this parent means normal psychosexual growth. But to identify with someone against whom there is a volcanic inner rage constantly interferes with normal identification processes. This is striving for the impossible without some neurotic utilization of the basic allergic illness. This inner rage is turned outward by the patient against himself and leads to a prolongation of the allergic eczema. We all have seen the remarkable elimination of allergic dermatoses when the emotional situation is changed. In asthma the "parentectomy" of Peshkin[3] is perhaps an extreme example but does not provide the basic psychodynamic mechanism. We know little about the intensity of each of the processes and have much to learn by the coordinated studies of allergic and psychic forces.

We must never forget that a chronically ill individual is anxious, and the treatment of this anxiety is a necessary part of the therapy of the allergic patient, no matter how well controlled the immunologic mechanisms may be. This anxiety may be expressed outwardly to the physician by the dominant expression of anxiety, depression, grief, hostility, phobia, and euphoria, among others. The management of these symptoms is discussed elsewhere in detail.[4]

In view of the difficulties in giving explicit and specific formulations which satisfy statistical reasoning and the combined experience of both allergist and psychiatrist in allergy, I shall attempt to systematize here psychodynamic forces which might be of significance by taking up the general nature of the psychotherapeutic possibilities of allergic patients. Generally speaking, psychotherapeutic processes may be divided into two types: automatic psychotherapy and purposeful or planned psychotherapy which can be further subdivided into (1) reassurance (pharmacologic and supportive), (2) educative with insight, and (3) reconstructive psychotherapy with insight.

What do all of the foregoing groupings mean to the practicing allergist?

The Nature of Therapy in Allergy

AUTOMATIC PSYCHOTHERAPY

Automatic psychotherapy begins when the patient decides to seek the advice of his physician for symptoms, whether hay fever, asthma, or any other condition. He is seeking to establish a relationship with another person, a physician trained not only in the skills of modern medicine but carrying with him the tradition of centuries of medical learning and interest. As the patient enters the doctor's office, this relationship continues and is developed through the interview with the nurse. The doctor's assistant is usually a woman, and she and the physician play the roles of automatic supporting figures—psychodynamically speaking, parental figures—who will listen sympathetically to the complaints of the patient. The furniture in the consulting room, the credentials framed on the wall, pictures of famous physicians of the past and of the present, equipment in the examining room, all reinforce the automatic psychologic processes of therapy that are taking place.

As the doctor takes the history, the family history and the personal history, there is demonstrated to the patient that the physician is not only interested in the *things* to which he is sensitive, but also, without explicitly stating so, in the *people* to whom he might be sensitive. All the loves, the hates, and the anxieties of the patient are directly or indirectly touched on or even avoided during the taking of the history. The patient realizes that this may be just the beginning of a new and important personal relationship which will help him solve many of his problems, not only on a physical level, but also on an emotional level.

Then, bear in mind the psychotherapeutic value of a careful physical examination, blood count, nasal smear, skin tests, and other laboratory devices which slowly but inevitably give to the patient an understanding of the nature of his symptoms. It is true these are physical procedures, but there is an implicit psychologic vector which cannot and should not be underestimated.

Then the decision of the physician, "I recommend that. . ." At last the person with whom the patient has established an important new relationship or re-established an old one gives his conclusions and summarizes what he thinks therapy should be. The patient's symptom, no matter how trivial or how serious, has now become a part of the doctor's life. This is an important process which led the patient to share his needs with the doctor and with his other assistants, if present. The writing of a prescription or the injection of a therapeutic solution may be a physical process, but the procedure, whether a potent drug or a harmless placebo, carries with it the symbolic meaning of the search of one group of men, the physicians through the ages, for technics to heal the sick.

PLANNED OR PURPOSEFUL PSYCHOTHERAPY

1. *Reassurance.*—We have thus far discussed only the automatic psychotherapy which the patient encounters, even though the physician is an organicist who does not "believe in psychiatry." Perhaps the foregoing discussion will enable the strictly organically minded

physician to accept the point of view that he is inevitably involved in a psychotherapeutic relationship with the patient, no matter how physical his procedures.

Leaving this automatic type of psychotherapy, I shall now try to show how planned or purposeful psychotherapy may be employed by the allergist in the great majority of cases, reserving reconstructive psychotherapy, usually psychoanalysis, for only a minor fraction of his patients. It should be borne in mind at this point that this discussion does not include psychotics, borderline psychotics, or near psychotic personality structures.

This group requires much more complicated management than is usually available in the allergist's office. However, a certain number of these patients are always present in the population of any physician's practice, and it is wise to know that the automatic psychotherapy procedures are operating even more potently with these patients, perhaps, than with the nonpsychotic population.

Let us now take up a very safe and satisfactory type of planned or purposeful psychotherapy, i.e., reassurance. I have previously considered the pharmacologic aspects of this type of psychotherapy as *psychodynamic pharmacology*. Recognition that ephedrine and epinephrine may increase the anxiety of the anxious patient and lead to a state of "epinephrine fastness," the use of chloral hydrate to reduce anxiety, the employment of oxygen even though no cyanosis is present, and the utilization of cortisone not only as an anti-inflammatory drug but also to induce euphoria in the asthmatic; the recognition that amphetamine may aid the eczematous patient to emerge from a depressed state; the conscious utilization by the physician of the sedative effect of the antihistamines to ameliorate the anxiety of hives—all combine the best type of medical treatment because both the physical and the psychologic aspects of the patient's difficulties are being simultaneously treated by the drugs employed.

In this category of planned psychotherapy is the reassurance given to the patient by the physician who will tell the patient that his difficulty in breathing is only asthma, that there is no danger or little danger of death, that with the administration of antiserum he is fully aware of the dangers of an anaphylactic reaction, that he understands the nature of the patient's problems, that his allergies are not a disease but a condition, that the hives are in all likelihood a transitory phenomenon. This is supportive psychotherapy. In addition, suggesting a vacation, new occupational interests, or the establishment of new friends and interests outside of self may be utilized by any physician and applied to a major fraction of his patients. There is no danger whatsoever in utilizing supportive therapy of this type. Not only does every physician, whether psychiatric specialist or not, have the right to use this type of therapy, but it is his Hippocratic duty to do so within the limits of his knowledge.

2. *Educative with Insight.*—The second type of planned psychotherapy depends to a greater extent on the personality of the physician, his medical education, and his interest in psychotherapy. All physicians have had enough training to become appropriately active in educative psychotherapy, usually with the development of insight on the part of the patient. In this type of psychotherapy the physician sympathetically explores in more detail the personal and family relationships of the patient, his work relationships, and his position in the community. The nature of his difficulties on a conscious level are brought out, and problems of adjustment leading to better adaptation may be indicated or planned. Readings, such as *Emotional Problems of Living* by English and Pearson, are suggested, and the patient's childhood is discussed in terms of his present adult difficulties. In the case of the allergic child more emphasis is placed on the parent-child relationship, and the problems connected with the establishment of a harmonious home are discussed. Helpful are books such as Dorothy Baruch's *One Little Boy* and other works. As I have mentioned elsewhere, I do not believe, however, in the theory of maternal rejection as the basic psychologic vector in allergy.[5]

Up to this point we have covered approximately 90 to 95 per cent of the average allergist's office population. It is the responsibility and the duty of the allergist, depending on his personality and his interest, to understand and to implement as much of the foregoing psychotherapy as he can.

3. *Reconstructive Therapy with Insight.*—A maximum of 5 per cent of the allergist's patient population is suited for reconstructive psychotherapy with insight. This usually means

a psychoanalysis of four hundred hours or more. Unfortunate as it may seem, not only must the patient have the time and money to undertake this type of therapy, but he must also have sufficient ego strength to utilize the revelations of his unconscious. Reconstructive therapy should be performed only by those trained in this procedure.

Although 5 per cent of the allergist's patient population may be benefited by this type of therapy, less than 5 per cent can avail themselves of this type of therapy. Wolberg[6] summarizes the problem by stating that reconstructive therapy is indicated for those whose problems are initiated by severe distortions in parental relations which have produced retardation in maturity.

Difficulties in which maturation is the chief defense of the patient may lead to the best therapeutic response.

Summary

The psychotherapeutic potentialities practiced in ambulatory medicine are divided into two main types: automatic psychotherapy and purposeful or planned psychotherapy.

The large majority of patients seen by the allergist can usually be treated by the allergist himself by all of the foregoing technics except reconstructive psychotherapy unless he is specially trained in this technic.

133 East 58th Street

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(*Number twenty-four of a series on Fundamentals of Modern Allergy*)

There are people, I'm told—some say there are heaps—
Who speak of the talkative Samuel as Peeps;
And some so precise and pedantic their step is,
Who call the delightful old diarist Pepys;
But those I think right, and I follow their steps,
Ever mention the garrulous gossip as Pepys.—Joseph Ashby-Sterry

CLINICAL ANESTHESIA CONFERENCE

A series of conferences on medical emergencies
in the operating room including causes of death
during anesthesia

Prepared by the Anesthesia Study Committee of the
New York State Society of Anesthesiologists

MEREL H. HARMEL, M.D., *Chairman*

Use of Local Refrigeration Anesthesia

The current interest in hibernation and the lowering of body temperature for operative procedures has somewhat obscured the usefulness of local refrigeration, a technic much in vogue a few years ago. However, awareness and knowledge of this technic are part of the armamentarium of anesthesiology, the usefulness of which in selected cases cannot be denied. The case report which follows illustrates the efficacy of local refrigeration as a method of management in a patient with peripheral vascular disease.

Case Report

The patient, a sixty-five-year-old, Negro female, was admitted to the hospital with a presumptive diagnosis of carcinoma of the breast. During the past year she had noticed a mass in her left breast which had begun to enlarge in recent months.

The patient had a history of hypertension for the last ten years. Three years previously she had had an episode of pyelitis.

Physical examination revealed an obese, Negro female, who looked her stated age. She had a nontender, stony hard mass in the left breast with medial local extension. In addition, there were palpable masses in the left axilla. X-ray studies demonstrated involvement of scapula, ribs, long bones, and lumbar spine. The urine was negative and hemoglobin 12.5 Gm. per cent. Electrocardiograms showed left axis deviation. Other laboratory studies were within normal limits. In view of the extensive nature of her disease, a limited procedure, left simple mastectomy, was performed. This was to be followed by radiation therapy.

The patient's postoperative course was characterized by episodes of unexplained mild fever and malaise sufficient to defer the institution of radiation therapy. About twenty-one days after operation the patient complained of pain in her lower legs. Her temperature at this time was 100 to 102 F. On the twenty-third postoperative day she experienced considerable pain in her left leg. A diagnosis of arterial embolism was made, and a lumbar sympathetic block was carried out with 1 per cent procaine. On every other day for five successive times, left lumbar sympathetic block was performed. While to some extent the block relieved the excruciating pain which was present, there was no visible improvement in the extremity. Gangrene of the foot rapidly developed.

Meanwhile, the condition of the patient deteriorated. Fever persisted at 101 to 103 F. She became markedly anorexic, could not sleep because of pain, and became mildly disoriented. Her heart rate became rapid, 160 with frequent dropped beats. A pulse deficit of 50 beats developed. Hemoglobin determination at this time was unexpectedly 5.5

Gm. per cent, and urine examination showed 1 plus sugar. The patient was blood type B, negative. Such blood was unavailable. It was felt that delay of operation was inimical to the patient's life. Spinal anesthesia was contraindicated in view of the lumbar spine metastases. General anesthesia, it was felt, was hazardous because of the anemia and general toxicity. Since it was decided that operation had to be done, local refrigeration appeared to be the anesthetic method of choice.

The left leg was then refrigerated by being packed in ice. One-half hour after the start of refrigeration a tourniquet was applied $2^1/_2$ inches above the proposed site of incision. During this time the patient's temperature became 99.6 F. The pulse, which had been 160 and irregular, became 82 and regular. The patient was free of pain and slept peacefully for the first time in days. After six hours of refrigeration the patient was brought to the operating room, her leg still packed in ice, and painless amputation carried out. The tourniquet was removed only after the removal of the leg. It was estimated that the blood loss was less than 100 cc. A thin dressing was applied to the stump and ice bags placed about it. The ice bags were left in place for forty-eight hours. In less than twenty-four hours the patient was eating, and feeling returned to the stump in eighteen hours. Healing was satisfactory, and the patient made an uneventful recovery. Irradiation of her carcinoma was then carried out.

Comment

The management of this extremely poor risk patient with metabolic imbalance, profound anemia, and toxicity was effected most satisfactorily by refrigeration anesthesia. In the opinion of the anesthetists and surgeons this happy result could not have been achieved with such ease and relative safety by any other method. As was indicated, spinal anesthesia was precluded by the location of metastatic lesions in the lumbar spine. General anesthesia carried with it some risk, although it could have been employed. In the face of a profound anemia it would have seemed unwise. Local anesthesia, such as femoral-sciatic-obturator nerve block, might have been successfully employed. However, the response of the patient to refrigeration with a manifest decrease in toxicity before operation, the salutary course during operation with minimal blood loss, and her prompt recovery, all tended to confirm the unique advantages of refrigeration under these circumstances.

In contrast to hibernation or lowering of general body temperature where general anesthesia must also be employed, local refrigeration provides total anesthesia of an extremity. The advantage of refrigeration in the management of patients with severe peripheral vascular disease with toxicity far outweighs the inelegance and inconvenience of the method.

That it may be time-consuming (four to six hours) cannot be denied, but in balancing time against safe and satisfactory management, there can be no choice.

(*Number thirty of a series of Clinical Anesthesia Conferences*)

Sesquicentennial Convention

Medical Society of the State of New York

February 18 to 21, 1957

HOTEL STATLER **NEW YORK CITY**

SPECIAL ARTICLES

The American Museum of Immigration

A National Shrine of American Ancestry at the Foot of the Statue of Liberty

U.S. GRANT, III, MAJ. GEN., USA (RET.)

(General Chairman, National Committee, American Museum of Immigration)

Is There a Need for Such a Museum?

Some of our leading historians and commentators on American life have supplied the answer in their unanimous reaction: "Why wasn't this thought of long ago?" They point out that we have museums devoted to natural history, art, science and industry, and even numismatics, but that nowhere has there been brought into focus and interpreted for the public the story of immigration as the common denominator of *all* Americans, wherever born and of whatever ancestry. On this basis John A. Krout and Allan Nevins, of Columbia; Archibald MacLeish and Oscar Handlin, of Harvard; Carl Wittke, of Western Reserve; Theodore Blegen, of the University of Minnesota; John Hope Franklin, of Howard, and Pearl S. Buck, the writer, have already become members of our National Committee. They are joining with museum experts in a subcommittee to make recommendations as to the most effective ways of telling the story of immigration. At the proper time they will ask the heads of nationality organizations for suggestions and aid in selecting and obtaining suitable exhibits.

What Will Be in the Museum?

The detailed answer to this question is still subject to study by the committee of historians and museum experts. The basic approach will be chronologic—from the first settlers to the establishment of our Nation; from then until the end of the Civil War; from then until the outbreak of World War I. Since leaders of the various nationality groups—small as well as large—are members of our National Committee, it is assured that the contributions of each will be appropriately recognized. Provision is also being made for an auditorium and adjacent exhibit space where appropriate groups can stage special ceremonies and exhibits around the "Days" they celebrate annually, thus keeping the story of immigration current and alive. As for the mechanics of presentation there will be both the standard murals, dioramas, and exhibit cases and the latest audiovisual and spectator-participation devices.

Why at the Statue of Liberty?

This is America's one great national monument which is dedicated to an ideal rather than to a person or an historic event. That ideal is the great tradition behind immigration to this country. Where could we more appropriately document this story?

Is There Room for a Museum?

Bedloe's Island, now named Liberty Island by joint resolution of the 84th Congress, has an extent of some 13 acres. It is the site of Fort Wood which was built at the time of the War of 1812. This was the spot selected by Bartholdi for his great Statue. The fort is in the shape of a large star with 11 points and with walls some 28 feet high. The Statue rises from the center of the fort. Lacking funds adequate for completion of the base, our forefathers of seventy years ago had to content themselves with constructing the necessary footing for the Statue and then filling in the rest of the space with rubble and trying to grow grass on top. Excavation of this rubble will provide 50,000 square feet of floor space consisting of main galleries around the Statue's base and supplementary "accent" galleries into the points of the fort. According to museum experts, this floor plan is both adequate and challenging. Because of the fort's high walls the silhouette of the Statue's base will not be affected.

Won't This Site Be Too Far off Center?

In 1955 some 750,000 persons visited the Statue of Liberty. Approximately 90 per cent of them are said to have come from outside New York, impressive evidence of the hold that this national shrine has on the heart of all America. Especially in view of plans for the personal identification with this national shrine of each contributor of $10 or more to establishment of the Museum, it can be anticipated that the present number of annual visitors will rapidly multiply in future years.

Who Will Operate the Museum?

Once the Museum is established it will become an integral part of the Statue of Liberty National Monument, and its administration and maintenance will be taken over automatically by the National Park Service, Department of the Interior. The project, therefore, is definitely a "one-shot" operation; there will be no further occasion for financing.

Contributions, made out to "The American Museum of Immigration," may be sent to: STATUE OF LIBERTY, U.S.A. They are tax deductible.

New York State Psychologists Secure Certification Bill

MATTHEW BRODY, M.D., BROOKLYN, NEW YORK

WITH the approval by Governor Averell Harriman, Senate Bill 3239, Print 4087, relating to the certification of psychologists, became Chapter 737 of the laws of 1956 of the State of New York. The bill conforms to the agreement reached between the American Psychiatric Association and the American Psychological Association in that it contains the following five points:

1. The purpose of this certification bill is to limit the terms "psychologist," "psychological," and "psychology" only to those persons certified by the State Department of Education as possessing the necessary educational qualifications.
2. The law does not differentiate the subspecialties of psychology.
3. The examining board is composed of psychologists.
4. Since this is a certification bill, it does not include a definition of the practice of psychology.
5. The law includes Section 7610 which states "Practice of medicine unauthorized. Nothing herein shall authorize any person to engage in any manner in the practice of medicine as defined in the laws of this state."

This law is a happy culmination of a long series of negotiations between the New York State Medical Society, its counsel, and invited psychiatrists with representatives of the Joint Council of the New York State Psychologists on legislation.

It is a tribute to the spirit of understanding, tact, and cooperation consistently shown by all parties concerned. A brief history of the negotiations might be in order. The psychologists felt on the basis of advice of their counsel and of the counsel of the Department of Education that in New York State the proposed bill would have to be a licensure bill and consequently introduced bills to that effect on April 22, 1955, and February 21, 1956. Psychiatrists and legal counsel to the State Medical Society objected on the basis that a licensure bill without a definition of the field of psychology might possibly constitute an infringement on the Medical Practice Act and felt further that even though this was not the intention of the psychologists, some court might conceivably hold that, on the basis of the proposed bill, the practice of shock therapy or psychoanalysis could be done only by licensed psychologists. In March, 1956, Mr. Jonathan Bingham of the Governor's Office called a conference attended by representatives of the Department of Mental Hygiene and the Department of Education where counsel to the State Education Department withdrew his objection to a certification bill. An agreement was reached that the terms "certificate" and "certify" should be used exclusively in the Van Wiggeren Bill. The psychiatrists then lent what support they could to this new bill, and the official position of the Medical Society was to "refrain from opposing the bill."

It is the feeling of the psychiatrists who have been in touch with the situation that this bill provides the psychologists with official professional dignity and status to which they are entitled and offers them an opportunity to clean their house of unqualified individuals and quacks who label themselves "psychologists" without infringing on the legal right of physicians to diagnose and treat patients. For a long time the personal relationship between individual psychologists and psychiatrists have been good. Now in New York State relationship on an organizational level has been cemented.

Throughout these series of negotiations both the American Psychiatric Association and the American Psychological Association were kept informed. Their advice and support are greatly appreciated.

What the future holds in store we do not know. Much will depend on the manner in which this bill is enforced. The continued good will and spirit of cooperation without an attempt to encroach on each other's respective fields would be of great help.

The names of those who participated in these negotiations are so numerous that it is hoped that no affront will be taken if, by unintended neglect, someone's name is omitted. The chairman of the Legislative Committee of the New York State Medical Society was Dr. Henry I. Fineberg. The subcommittee chairman was Dr. James A. Lynch. The psychiatrists were Dr. Matthew Brody, Dr. Curtis T. Prout, Dr. Irving J. Sands, Dr. Harold R. Merwarth, and Dr. Sam Parker. Counsel for the Medical Society were Mr. J. R. Burns of Martin, Clearwater, and Bell, and Dr. Harold B. Smith. The representatives of the State Psychological Associations included Dr. Stuart W. Cook, Dr. Raymond A. Katzell, and Dr. Harry Bone. In Albany Mr. Charles A. Brind, Jr., represented the State Education Department, and Mr. E. David Wiley represented the Department of Mental Hygiene and Commissioner Paul H. Hoch.

The new law is as follows:

AN ACT

TO AMEND THE EDUCATION LAW, IN RELATION TO THE PROFESSION OF PSYCHOLOGY, AND MAKING AN APPROPRIATION TO THE EDUCATION DEPARTMENT FOR EXPENSES IN CONNECTION THEREWITH

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. The education law is hereby amended by inserting therein a new article, to be article one hundred fifty-three, to read as follows:

ARTICLE 153

PSYCHOLOGY

Section 7601. Definitions.
7602. Qualifications for psychologists.
7603. Board of examiners.
7604. Advisory council.
7605. Qualifications; standards; examinations.
7606. Registration.
7607. Revocation or suspension of certificates.
7608. Violations.
7609. Construction.
7610. Practice of medicine unauthorized.
7611. Privileged communications.
7612. Disposition of fees, fines and penalties.
7613. Department supervision.
7614. Separability clause.

§ 7601. Definitions. As used in this article:

1. "Board" means the state board of examiners of psychologists.

2. A person represents himself to be a "psychologist" when he holds himself out to the public by any title or description of services incorporating the words "psychological," "psychologist" or "psychology," and under such title or description offers to render or renders services to individuals, corporations, or the public for remuneration.

3. "Council" means the advisory council in psychology, pursuant to section seventy-six hundred four of this article.

§ 7602. Qualifications for psychologists. After July first, nineteen hundred fifty-seven no individual shall represent himself as a psychologist within the meaning of this act of other than those certified and registered under the provisions of this act.

§ 7603. Board of examiners. 1. There shall be in the department a state board of examiners of psychologists consisting of seven members who shall be appointed by the regents upon the recommendation of the commissioner and whose function it shall be to examine applicants for certificate as psychologists.

2. Each member of the board shall be a citizen of the United States, a resident of this state at the time of appointment and certified under the provisions of this act, except for the members comprising the board as first appointed who shall be persons who have been engaged in rendering service, teaching, or research in psychology for a period of at least five years. To assure adequate representation of the diverse fields of psychology, the board shall at all times, except for vacancies, have two members representing the training institutions in psychology, three members who engage in rendering service in psychology and two members who devote a majority of their time to rendering service in psychology. The term of office of each member of the board shall be for three years, provided, however, that of the members first appointed three shall be appointed for terms of one year, two for terms of two years, and three for terms of three years. The regents may remove any member of the board for misconduct, incompetency or neglect of duty, after being given a written statement of the charges and an opportunity to be heard thereon. Any vacancy in the membership of the board occurring otherwise than by expiration of term shall be filled for the unexpired terms. Each member of the board shall receive a per diem allowance as determined by the regents for the time spent in the performance of his official duties and shall be reimbursed for all proper traveling and incidental expenses in carrying out the provisions of this article.

3. The board shall hold a regular annual meeting at which it shall select from its members, a chairman and a vice-chairman. Other regular meetings shall be held at such times as the rules of the board may provide and such special meetings as may be necessary or advisable in the judgment of the board or a majority thereof, or upon the call of the department. Notice of such meetings shall be given in such manner as provided in the rules. The board shall have the power, subject to the approval of the regents, to make rules not inconsistent with law, as may be necessary in the performance of its duties. A quorum of the board shall consist of a majority of its members. The secretary of the board shall be appointed by the regents, shall hold office during their pleasure, and shall receive an annual salary in an amount fixed by the regents, within the amount available therefor by appropriation, and shall have such powers and shall perform such duties as are prescribed by the department.

§ 7604. Advisory council. To aid in the formulation of policy under this article, there shall be an advisory council in psychology of not less than twelve nor more than eighteen members, to be appointed by the regents upon recommendation of the commissioner and one of whom shall be designated as chairman. The council shall be broadly representative of psychology. One-fourth of the membership of the council shall consist of the representatives of the professional training centers, and three-fourths of its membership shall be broadly representative of psychologists engaged primarily in rendering psychological services. The term of office of each member of the council shall be for three years; provided, however, that of the members first appointed one-third of their number shall be appointed for terms of one year, one-third for terms of two years and one-third for terms of three years and provided further, however, that in the event of increase or decrease in the number of members of the council from time to time, new members shall be appointed for terms of one, two or three years, as determined by the regents, so that as nearly as may be the terms of one-third of all of the members of the council shall expire each year. The members of the council shall serve without compensation, but they shall receive a per diem allowance for attending sessions of the council and in necessary travel, and they shall be reimbursed for all their proper traveling and incidental expenses in like manner as is provided in this article with respect to members of the board.

The council shall meet at least once each year. Meetings may be held at any time and place designated by the commissioner or the chairman of the councilor of the board. The council shall advise with the department concerning any and all matters that come within the purview of this article and the enforcement thereof.

§ 7605. Qualifications; standards; examinations.

1. The department shall issue a certificate as psychologist to any person who pays a fee of forty dollars, who passes a satisfactory examination in psychology, and who submits evidence verified by oath and satisfactory to the department that he:

a. Is at least twenty-one years of age.

b. Is of good moral character.

c. Is a citizen of the United States or has legally declared his intention of becoming such a citizen.

d. Has received the doctoral degree based on a program of studies whose content was primarily psychological from an educational institution having a graduate program registered by the department, or its substantial equivalent in both subject matter and extent of training.

e. Has had at least two years of satisfactory supervised experience in rendering psychological services.

2. Examinations for applicants under this act shall be held by the department twice each year. Subject to the approval of the department, the board shall determine the subject and scope of the examinations. Written examinations may be supplemented by such oral examinations as the department shall determine upon recommendation of the board. If an applicant fails his first examination, he may be admitted to a subsequent examination upon the payment of an additional fee of forty dollars.

Until July first, nineteen hundred fifty-seven, the board may waive the examination requirement, and the requirement of paragraph e of subdivision one of this section, and may grant a certificate upon payment of a fee of forty dollars to a person who is a legal resident of or has been principally employed in the state of New York for at least two years and who meets the requirements of paragraphs a, b and c of subdivision one of this section and who either:

a. Has a doctor's degree or equivalent thereof from an institution whose programs are registered by the department or which is a member of, or accredited by an accrediting agency recognized by the department, based on a program which is primarily psychological, or the substantial equivalent thereof in both subject matter and extent of training and in addition has had five years of professional experience satisfactory to the board; or

b. Has a master's degree or the equivalent thereof from an institution whose programs are registered by the department or which is a member of, or accredited by an accrediting agency recognized by the department, based on a program which was primarily psychological, or the substantial equivalent thereof in both subject matter and extent of training, and in addition has had eight years of professional experience satisfactory to the board.

In determining the acceptability of the applicant's professional experience, the board may require such documentary evidence of the quality, scope and nature of the applicant's experience as it deems necessary. The determination of the board in respect to experience shall be subject to review by the commissioner at the request of the applicant, in accordance with regulations which the commissioner may adopt. In the case of a person who is an honorably discharged veteran of the armed forces of the United States, the effective date for meeting the foregoing requirements is extended to July first, nineteen hundred fifty-eight.

4. The board may recommend the granting of a certificate without examination to any person who, at the time of application, is licensed or certified by a board of examiners of another state, provided that the requirements of such state for such certification or licensure were substantially the equivalent of the requirements of this article.

§ 7606. Registration. As soon as practicable after the time this article takes effect and, not later than February first, nineteen hundred fifty-seven, the department shall mail to each person who has received a certificate under this article an application blank for registration under this article, which shall contain space for the insertion of his name, office and home address, date and number of his certificate and such other information as the department shall deem necessary. Upon receipt of such application blank, he shall fill out, sign and swear to the accuracy of the same before a notary public or other officer duly authorized to administer oaths, after which he shall forward same to the department, together with a fee of six dollars. Upon receipt of such application and fee, the department shall issue a certificate of registration for the period expiring on the thirtieth day of April, nineteen hundred fifty-nine.

2. On or before the first day of February of each odd-numbered year, commencing in nineteen hundred fifty-nine, the department shall mail to every psychologist registered in this state an application blank for registration, which shall contain space for insertion of information as required for the application blank under subdivision one of this section, addressing the same in accordance with the post office address given at the last previous registration. Upon receipt of such application blank a registrant shall fill out, sign and forward the same to the department, together with a fee of six dollars. No such application, after the issuance of the first certificate of registration, need be verified. Psychologists who apply for registration subsequent to May first, nineteen hundred fifty-eight, or subsequent to the first year of any biennial registration period, shall pay a fee of three dollars. Upon receipt of such application and fee, the department shall issue a certificate of registration, for the period commencing May

first of the year of issue, and expiring on the thirtieth day of April in the year ending the biennial registration period during which such certificate shall have been issued.

3. Applications for renewal of registration therefore must be made biennially on or before the first day of May and if not so made an additional fee of one dollar for each thirty days of delay beyond the first day of May shall be added to the regular fee. Such penalties may for good cause shown in the discretion of the counsel for the department be remitted and compromised. Should any psychologist who has failed to register continue to represent himself as a psychologist beyond the first day of September thereafter, he shall be counted as violating this act and his certificate may be suspended or revoked by the department, in accordance with the provisions of section seventy-six hundred seven.

4. Upon the first day of September of each odd-numbered year, or within twenty days thereafter, the department shall publish and cause to be mailed to each psychologist registered under this article in this state, a list of the duly registered psychologists in this state. On or before the first day of September in each even-numbered year, or within ten days thereafter, the department shall publish and cause to be mailed to each psychologist registered under this article a supplemental list of psychologists duly registered since the date of publication in the preceding year, together with a list of those psychologists whose addresses have been changed since the last date of registration.

§ 7607. Revocation or suspension of certificates.

1. The certificate of any psychologist may be suspended or revoked by the commissioner upon proof that the psychologist:

a. has been convicted of a felony by any court; the conviction of felony shall be the conviction of any offense which if committed within the state of New York would constitute a felony under the laws thereof; or

b. has been guilty of fraud or deceit in connection with his services rendered as a psychologist or in establishing his qualifications under this act; or

c. is or has been an habitual drunkard or addicted to the use of morphine, opium, cocaine, or other drugs having a similar effect; or

d. is or has been committed to an institution for the mentally ill; or

e. has aided or abetted a person, not a registered psychologist, in representing himself as a psychologist in this state; or

f. has been guilty of unprofessional conduct as defined by rules established by the board of regents.

2. No certificate shall be suspended or revoked until after a hearing had before the commissioner or an employee of the department designated by the commissioner upon notice to the psychologist of at least ten days. The notice shall be served either personally or by registered mail and shall state the date and place of the hearing and set forth the ground or grounds constituting the charges against the psychologist. The psychologist shall be heard in his defense either in person or by counsel and may produce witnesses and testify in his behalf. A stenographic record of the hearing shall be taken and preserved. The hearing may be adjourned from time to time. The person conducting the hearing shall make a written report of his findings and a recommendation to the commissioner. The commissioner shall review such findings and recommendations and, after due deliberation shall issue an order accepting, modifying, or rejecting, such recommendations and dismissing the charges or suspending or revoking the certificate. For the purpose of this section, the commissioner and such employee of the department designated by him may administer oaths, take testimony, subpoena witnesses and compel the production of books, papers, records and documents deemed pertinent to the subject of the investigation.

3. The action of the commissioner in suspending, revoking, or refusing to issue or renew a certificate may be reviewed by a proceeding brought under and pursuant to article seventy-eight of the civil practice act.

§ 7608. Violations. Except as hereinafter in this article provided after July first, nineteen hundred fifty-eight, any person not a certified psychologist who shall represent himself as a psychologist, as defined in this article, or who shall violate any of the provisions of this article relating to psychology, or having had his certificate suspended or revoked shall continue to represent himself as a psychologist, shall be guilty of a misdemeanor and, upon conviction, shall be punishable by imprisonment for not more than six months, or by a fine of not more than five hundred dollars, or by both such fine and imprisonment, and each violation shall be deemed a separate offense.

§ 7609. Construction. Nothing in this article shall be construed to limit:

1. The activities, services, and use of official title on the part of a person in the employ of a federal, state, county or municipal agency, or other political subdivision, or a duly chartered educational institution, insofar as such activities and services are a part of the duties in his salaried position.

2. The activities and services of a student, interne, or resident in psychology, pursuing a course of study approved by the department as qualifying training and experience under the terms of this article, provided that such activities and services constitute a part of his supervised course of study.

§ 7610. Practice of medicine unauthorized. Nothing herein shall authorize any person to engage in any manner in the practice of medicine as defined in the laws of this state.

§ 7611. Privileged communications. The confidential relations and communications between a psychologist registered under provisions of this act and his client are placed on the same basis as those provided by law between attorney and client, and nothing in this article shall be construed to require any such privileged communications to be disclosed.

§ 7612. Disposition of fees, fines and penalties. All fees, fines, penalties and other moneys derived from the operation of this article shall be paid to the department and on the fifth day of each month shall be paid by the department to the state treasury.

§ 7613. Department supervision. The provisions of this article shall be administered subject to the provisions of section two hundred eleven of this chapter.

§ 7614. Separability clause. If any section of this article, or any part thereof, shall be adjudged by any court of competent jurisdiction to be invalid, such judgment shall not affect, impair or invalidate the remainder or any other section or part thereof.

§ 2. The sum of forty thousand dollars ($40,000), or so much thereof as may be necessary, is hereby appropriated to the education department out of any moneys in the state treasury in the general fund to the credit of the state purposes fund and not otherwise appropriated, to defray the expenses of the department, including personal services, operation and maintenance, in carrying out the provisions of article one hundred fifty-three of the education law, as added by this act. Such moneys shall be payable from the state treasury on the audit and warrant of the comptroller on vouchers certified or approved in the manner prescribed by law.

§ 3. This act shall take effect immediately.

Woman's Auxiliary
to the MEDICAL SOCIETY OF THE STATE OF NEW YORK

Today's Health

As ONE of its instruments for helping the physicians of New York State promote lay interest in the maintenance of high health standards, the Woman's Auxiliary of the Medical Society of the State of New York has a regular committee for *Today's Health*, the outstanding American Medical Association lay publication. Each county auxiliary has a *Today's Health* chairman also.

The county chairmen are continually striving to increase the circulation in their respective counties. The three most successful approaches employed by them include an appeal to every practicing physician and hospital administrator to place a copy in the reception room, the encouragement of Auxiliary members and others to give subscriptions to mothers of growing children, and the placing by county auxiliaries of gift subscriptions to public and high school libraries and the "Y's."

The Auxiliary also works closely with the circulation department of *Today's Health* and participates in its special circulation campaigns which are divided into sections this year with "Operation Christmas," encompassing September, October, November, and December, "Operation M.D.," January, February, March, and April, and "Operation R.N.," a special project for nurses from January 15 to March 15. As these names indicate the first is directed to encourage gift subscriptions for Christmas, the second to inspire doctors to subscribe, and the third towards subscriptions by nurses. The Auxiliary has also distributed gift copies to all who visited its booth at the State Fair each year.

The number of subscriptions purchased by residents of New York State has increased recently but the Auxiliary plans to continue its efforts to gain greater circulation for *Today's Health*, primarily because Auxiliary members are anxious to make it possible for the patients of their doctors to have access to correct health and medical information and also as a means of combatting the effects of misleading articles on medicine which appear in the lay press and magazines from time to time. With the cooperation of the doctors of New York State the members of the Auxiliary will be able to succeed in greatly increasing the accessibility of *Today's Health* to an even greater number of people in New York State.

Mrs. Joseph A. Squillace, *Chairman*
Today's Health

863 St. Marks Avenue
Brooklyn 13, New York

It is dreadful to observe how long a bad example will be followed; but it is encouraging to know that a good example is never thrown away.—A Child's History of England, CHARLES DICKENS

NECROLOGY

John C. Brown, M.D., of New York City, died on June 14 at the age of eighty. Dr. Brown graduated in 1892 from Albany Medical College.

Theodore Raphael Freedman, M.D., of Rockaway Beach and Far Rockaway, died on June 18 at the age of fifty-three. Dr. Freedman graduated from New York Homeopathic Medical College and Flower Hospital in 1929. He was a member of the Queens County Medical Society and the Medical Society of the State of New York.

George Henry Gage, M.D., of Rochester, died on September 12 at the age of seventy-six. Dr. Gage was graduated in 1903 from Columbia University College of Physicians and Surgeons. He was an attending surgeon at the Park Avenue Hospital, where he had also been president of the Board for the last ten years, and a consultant in surgery at the Monroe County Infirmary. He was recently awarded a certificate of merit from the Rochester Academy of Medicine of which he was a member. Dr. Gage was the only Rochester physician awarded the Distinguished Service Cross for his services as a captain in World War I with the First Infantry Division. Dr. Gage was a past president of the Seventh District Branch, 1950 and 1951, a Fellow of the American College of Surgeons, a Diplomate and Fellow of the International College of Surgeons, and a member of the Rochester Pathological Society, the Monroe County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

William Harley Glafke, M.D., of New York City, died on October 1 at the age of seventy. Dr. Glafke graduated from Northwestern University Medical School in 1911. In 1918 he became an assistant attending physician at St. Luke's Hospital, New York City, in 1930 an associate physician in gastroenterology, then a consultant in gastroenterology. He was a Diplomate of the American Board of Internal Medicine and a member of the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Arthur B. Guinness, M.D., of Brooklyn, died on October 2 at the age of fifty-eight. Dr. Guinness graduated in 1922 from Columbia University College of Physicians and Surgeons.

J. Mott Heath, M.D., of Greenport, died on September 21 at the age of seventy-eight. Dr. Heath graduated from the College of Physicians and Surgeons, Baltimore, Maryland, in 1913 and interned at St. Catherine's Hospital, Brooklyn. He had been attending physician and surgeon at the Eastern Long Island Hospital, Greenport. Dr. Heath had served as Suffolk County coroner for twenty-seven years and was a member of the Suffolk County Medical Society and the Medical Society of the State of New York.

G. A. Hicks, M.D., of Rochester, died on September 13 at the age of seventy. Dr. Hicks graduated in 1916 from the University of Buffalo School of Medicine. He was a retired member of the Monroe County Medical Society and the Medical Society of the State of New York

Louis Perpignan Lane, Jr., M.D., of Brooklyn, died on May 30 at the age of seventy-nine. Dr. Lane graduated from the Long Island College Hospital Medical School in 1913. He was a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Charles Wesley Layne, M.D., of Newburgh, died on September 21 at the age of fifty-five. Dr. Layne graduated from Emory University School of Medicine in 1928 and interned at Bellevue Hospital. He was an attending physician at St. Luke's Hospital, Newburgh, chief attending physician and chief of the Diabetic Service at St. Luke's Hospital Outpatient Department, attending physician in internal medicine at Harlem Valley State Hospital, Wingdale, and a consultant in medicine at Mattewan State Hospital, Beacon, and St. Anthony's Hospital, Warwick. Dr. Layne was a recipient of the New York Academy of Medicine's Alexander Cochran Bowen foreign scholarship. He was a Diplomate of the American Board of Internal Medicine, a Fellow of the American College of Physicians, and a member of the New York Academy of Medicine, the Orange County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Frederick Jerome Leonard, M.D., of Ilion, died on September 22 at the age of seventy-two. Dr. Leonard graduated in 1911 from Syracuse University College of Medicine. He had served as physician and surgeon for the Tabulating and Typewriter Divisions of Remington Rand, Ilion, and was a retired member of the Herkimer County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Lucetta Morden, M.D., of Brooklyn, died on June 2. Dr. Morden graduated from the University of Toronto School of Medicine in 1904.

Chester J. Nadolny, M.D., of Buffalo, died on August 31 at the age of fifty-four. Dr. Nadolny graduated in 1926 from the University of Buffalo School of Medicine. For twenty years he served as health officer of Cheektowaga, retiring from that position in 1951. He was school physician in School District 10, Cheektowaga, and for St. John Gualbert School. Dr. Nadolny was an assistant in general practice at Millard Fillmore Hospital and a member of the Erie County Medical Society and the Medical Society of the State of New York.

Charles H. Nammack, M.D., of New York City, died on September 29 at the age of sixty-eight. Dr. Nammack graduated from Columbia University College of Physicians and Surgeons in 1912 and interned at Bellevue Hospital. He was a retired police surgeon, attending physician at Polyclinic Hospital, and consulting physician at Misericordia, University, New York Infirmary, and Bellevue Hospitals. Dr. Nammack was a Diplomate of the American Board of Internal Medicine and a member of the Pan American Medical Association, the New York County Medical Society, and the Medical Society of the State of New York.

Alexander Nicoll, M.D., of Holbrook, died on September 24 at the age of seventy-five. Dr. Nicoll graduated in 1903 from Columbia University College of Physicians and Surgeons. From 1917 to 1945 he was director of the first surgical division of Fordham Hospital and a consultant in surgery at Fordham, St. Francis (Bronx), Central Suffolk (Riverhead), and Mother Cabrini Memorial Hospitals, and attending surgeon at St. Elizabeth's Hospital.

Dr. Nicoll was a Fellow of the American College of Surgeons and a member of the Suffolk County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

B. F. Ritchey, M.D., of Yonkers, died on September 24 at the age of sixty. Dr. Ritchey graduated from the State University of Iowa College of Medicine in 1921. He was a former medical examiner in the public schools of Yonkers and former district physician for the Equitable Life Assurance Society.

Henry F. Spickschen, M.D., of New York City, died on September 30 at the age of sixty-six. Dr. Spickschen received his medical degree from the University of Munich in 1916. He was senior assistant physician in allergy at the Lenox Hill Hospital Outpatient Department. Dr. Spickschen was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

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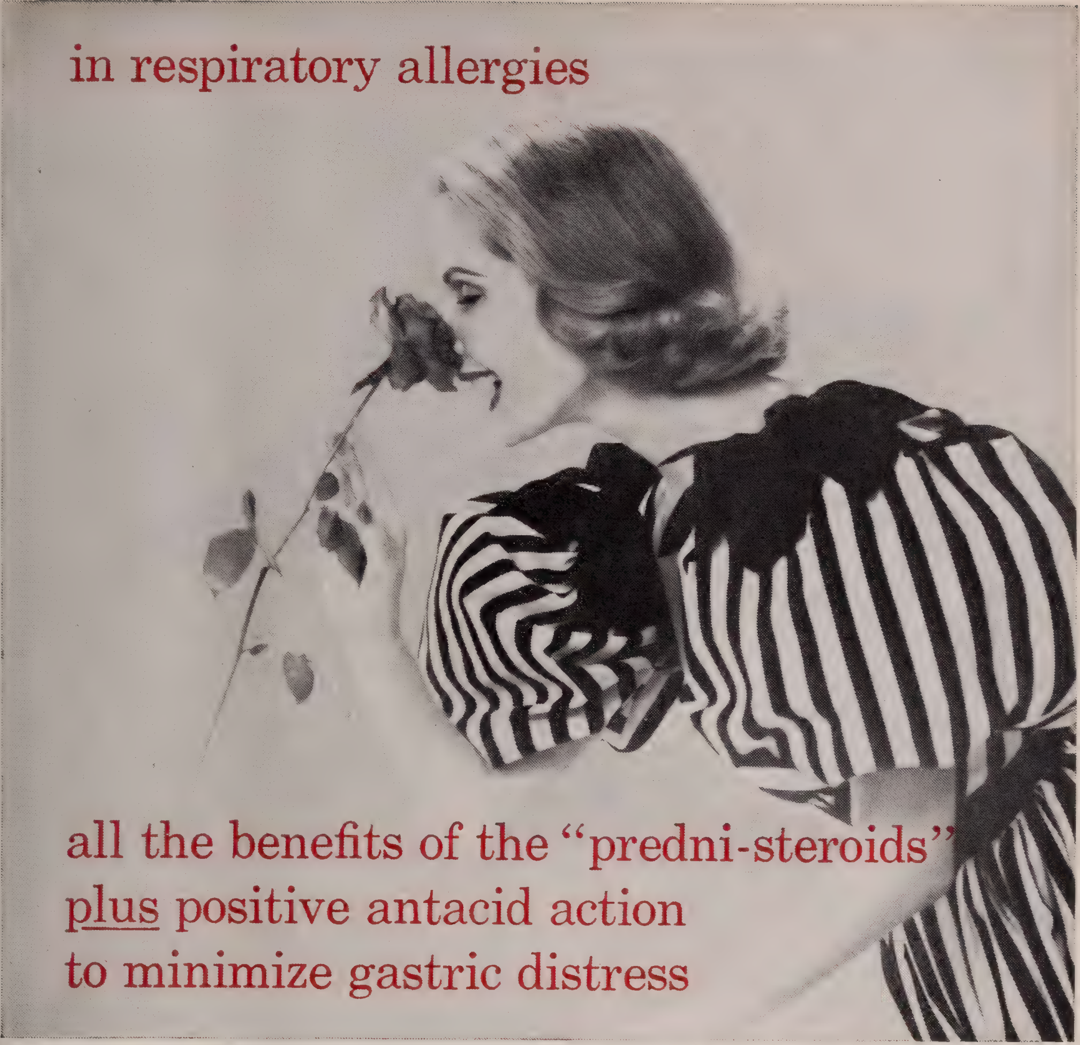
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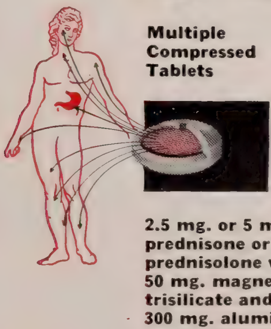

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References: 1. Boland, E. W., *J.A.M.A.* **160**:613 (February 25) 1956. 2. Margolis, H. M. *et al.*, *J.A.M.A.* **158**:454 (June 11) 1955. 3. Bollet, A. J. *et al.*, *J.A.M.A.* **158**:459 (June 11) 1955.

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MEDICAL NEWS

Hill-Burton Grants—The Department of Health, Education, and Welfare has reported the status of all Hill-Burton grants for the State of New York as of August 31. Approved, but not yet under construction are 80 projects at a total cost of $88,385,620, including $23,260,911 Federal contribution and designed to supply 4,528 additional beds.

Under construction are 19 projects at a total cost of $52,883,110, including Federal contribution of $8,390,569 and designed to supply 1,587 additional beds. Completed and in operation are 13 projects at a total cost of $12,387,065, including Federal contribution of $3,273,883 and supplying 487 additional beds.

Madison County Medical Society—The Madison County Medical Society presented a scientific teaching day on September 27 in celebration of its sesquicentennial. Sessions were held in Oneida. Dr. Thomas H. McGavack, professor of clinical medicine at New York Medical College, spoke on "Clinical Conditions Associated with Increased Adrenocortical Function"; Dr. Max Goldzieher, consultant at Goldwater Memorial Hospital, New York City, spoke on "Clinical Applications of Newer Physiologic Concepts of Adrenocortical Function"; and Dr. Nicholas Christy, instructor at the College of Physicians and Surgeons, Columbia University, New York City, spoke on "The Diagnosis and Treatment of Adrenal Insufficiency."

Speakers were presented through the cooperation and assistance of the Council Committee on Postgraduate Education of the Medical Society of the State of New York and the New York State Health Department.

Clinical and Experimental Hypnosis—The New York section of the Society for Clinical and Experimental Hypnosis has been established. All inquiries should be addressed to Dr. Edith Klemperer, 315 East 77th Street, New York 21, New York, secretary of this branch.

Association for the Advancement of Psychoanalysis—On October 24, the Association for the Advancement of Psychoanalysis sponsored its regular meeting at the New York Academy of Medicine, Fifth Avenue and 103rd Street, New York City. Dr. Bella S. Van Bark and Dr. Alexandra Adler (by invitation), both of New York City, spoke on "Feelings of Inferiority."

American Medical Education Foundation—New York State contributors to the American Medical Education Foundation for the month of August were: *Albany*—Albany County Woman's Auxiliary and Dr. William M. Pugliese; *Albion*—Dr. James G. Parke; *Alden*—Dr. R. F. May; *Alexandria Bay*—Dr. Robert B. Burtch; *Amityville*—Drs. F. Felberbaum, H. B. Hendler, G. H. Kopchynski, and Stanley C. Rau; *Amsterdam*—Dr. Adam A. Kindar; *Astoria*—Drs. Rosario M. Gualtieri, William London, and Morris Moskowitz; *Babylon*—Drs. James Corcoran, Earl W. Douglas, William J. Godfrey, Thomas J. Lyons, and K. C. Nicholas; *Baldwin*—Nassau County Woman's Auxiliary; *Ballston Lake*—Dr. Wilber S. Rose; *Batavia*—Genesee County Woman's Auxiliary; *Bayport*—Dr. John A. Canning; *Bay Shore*—Drs. Fred Bromberg, Frank R. Bussey, Frank Cerzosimo, Leonard Kertzner, George S. King, John J. Murphy, Bernard J. Ryan, Sol Shlimbaum, Suffolk County Woman's Auxiliary, and Dr. W. Wreciona; *Bayside*—Dr. Arthur H. Mernit; *Beacon*—Dr. Leonard K. Supple; *Bellport*—Dr. Perry S. Horenstein; *Binghamton*—Broome County Woman's Auxiliary, Drs. Paul M. DeLuca, A. H. Fotouhi, and Herman M. Hurdum; *Blue Point*—Dr. Jacob Breier; *Brentwood*—Dr. Leon Madowicz; *Brewster*—Drs. Robert Cleaver, Robert C. Eliot, and John Simmons; *Brightwaters*—Drs. Joseph T. Judge and Lothar Kalinowsky.

Also: *Bronxville*—Drs. Henry E. McGarvey and James E. Perkins; *Brooklyn*—Drs. Leonard M. Brown, S. C. Failla, N. M. Jason, and Kings County Woman's Auxiliary; *Buffalo*—Drs. H. L. Battaglia, H. H. Bauckus, W. F. Beswick, R. G. Buchheit, H. A. Chernoff, H. D. Duryea, Erie County Woman's Auxiliary, Drs. D. W. Hall, T. F. Houston, C. B. Ireland, H. B. Johnson, R. M. Kohn, N. Kutzman, A. J. Rosso, R. W. Sendker, H. Smolev, H. G. Walker, and H. K. Wittig; *Calverton*—Dr. Barbara J. Young; *Canandaigua*—Ontario County Woman's Auxiliary and Dr. Carl B. Smith; *Carmel*—Dr. William P. Kelly, Jr.; *Center Moriches*—Dr. F. Remy; *Central Islip*—Drs. Joseph J. Cacioppo and F. J. O'Neill; *Cold Spring*—Drs. Ralph M. Hall, Eugene J. Lusardi, and Robert A. Seitz; *Commack*—Dr. Leon L. Winter; *Copiague*—Dr. Gino L. Giorgini; *Corning*—Dr. John A. Holmes; *Corona*—Dr. George W. Herlitz; *Cortland*—Cortland County Woman's Auxiliary; *Coxsackie*—Dr. Elwood G. Weisenburn; *Dansville*—Dr. Victor M. Breen; *Deer Park*—Dr. Gerard Gravina; *Douglaston*—Dr. Martha L. Smith; *Dunkirk*—Chautauqua County Woman's Auxiliary; *East Hampton*—Dr. Paul F. Nugent; *East Northport*—Dr. Dante N. Cannarsa; *Elmhurst*—Drs. Emanuel F. Kalina, John P. Keating, and Attelio Morpugio; *Fairport*—Dr. George

[Continued on page 3378]

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[Continued from page 3376]

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Also: *Forest Hills*—Drs. Seymour S. Balkin, Robert Blaine, Milton Eller, Robert Erdman, Jack Frankel, Olga Frankel, Meyer Monchek, R. Queenan, Chester M. Raphael, Walter V. Schule, and J. R. Van Dyne; *Fort Plain*—Dr. Stanley B. Potter: *Friendship*—Allegheny County Woman's Auxiliary; *Fulton*—Drs. M. J. Dexter, Frank C. Meyer, and Oswego County Woman's Auxiliary; *Garrison*—Dr. V. F. Murray; *Geneva*—Drs. Martin J. Coyne and M. E. Deuel; *Glens Falls*—Drs. Charles R. Bannon, C. R. Barber, Stanley Edmunds, James Glenn, C. F. Hawkins, Robert W. Linehan, Philip T. Schlesinger, William P. Simmonds, William N. St. John, B. C. Tillotson, and Saul Yafa; *Gloversville*—Fulton County Woman's Auxiliary; *Greenport*—Dr. P. J. Tuthill; *Groton*—Drs. Hans Seligman; *Hammondsport*—Dr. Eldred J. Stevens; *Hannibal*—Dr. Harold Brown; *Harrison*—Dr. Anthony V. Sisca; *Helmuth*—Dr. William J. Allexsaht; *Herkimer*—Herkimer County Woman's Auxiliary; *Hicksville*—Dr. John F. Kelly; *Highland*—Dr. Carl F. Meekins; *Holley*—Dr. Arden H. Synder; *Hollis*—Dr. Louis F. Gitlin; *Hornell*—Dr. Glee W. Cheesman and Steuben County Woman's Auxiliary; *Hudson*—Columbia County Woman's Auxiliary and Dr. Kendall Stearns; *Huntington*—Drs. Richard M. Arkwright, William L. Bennett, Crispin Cooke, Milton Gordon, William L. Harris, Ernest B. Hofman, Morris R. Keen, John L. Sengstack, and Howard O. Wunderlich; *Huntington Station*—Drs. William C. Battle, T. J. Cacciatore, Anthony R. Cherry, Bertram Kertzner, and Samuel Teich; *Hurley*—Dr. Harry McNamara; *Indian Lake*—Dr. Hubert F. Carroll; *Interlaken*—Dr. Stanley B. Folts; *Islip*—Drs. Louis F. Garben, David D. Moore, and F. R. Pitrelli; *Islip Terrace*—Dr. David J. Wexler; *Ithaca*—Drs. Temple Burling, Horst J. Heinicke, and Tompkins County Woman's Auxiliary; *Jackson Heights*—Drs. Isidor Block, Maurice A. Golden, Armand Grunwald, Charles Koenig, and John E. Lally; *Jamaica*—Drs. Robert Coleman and Morris Fishman; *Jamestown*—Drs. T. J. Holmlund and Peter P. Vitanza; *Kenmore*—Dr. C. E. May; *Kings Park*—Dr. Robert F. Wagner; *Kingston*—Drs. F. W. Holcomb, Jr., John B. Krom, and Ulster County Woman's Auxiliary; *Lackawanna*—Dr. L. A. Chojnacki; *Lake Success*—Dr. Jerome Weinstein; *Larchmont*—Dr. Peter A. Fauci; *Laurelton*—Dr. J. L. Fine; *Lindenhurst*—Dr. Isaac Schlam; *Livingston Manor*—Dr. Lewis G. Denman; *Lockport*—Dr. George D. Hixson; *Long Island City*—Drs. Harry J. Secky and Frank N. Valente.

Also: *Lowville*—Dr. Edgar O. Boggs; *Mamaroneck*—Dr. Edward Clerkin; *Massapequa*—Dr. Robert B. Bergmann; *Massena*—Dr. L. C. Weston; *Mattituck*—Dr. Stanley P. Jones; *Medina*—Dr. Arthur P. Clark and Orleans County Woman's Auxiliary; *Mexico*—Dr. John R. Anderson; *Middleburgh*—Drs. B. W. Andrew and Duncan L. Best; *Middle Village*—Dr. Joel Liebermann; *Monticello*—Dr. Nathan Nemerson; *Montour Falls*—Dr. William F. Tague; *Mount Vernon*—Drs. Walter A. Bell, M. B. Brahdy, and Louis A. Lobes; *Newark*—Wayne County Woman's Auxiliary; *Newburgh*—Drs. M. Charlap, R. A. McTamaney, and Orange County Woman's Auxiliary; *Newcomb*—Dr. Otton Lazar; *New Rochelle*—Drs. Samuel A. Hand and Mervyn Schacht; *New York City*—Drs. B. J. Hyman, Lawson G. Lowrey, New York County Woman's Auxiliary, Drs. Melvin E. Rossman, David H. Saxe, Matthew Shapiro and Edward Steingesser; *Niagara Falls*—Drs. W. Bender and Guy Philbrick; *North Lindenhurst*—Dr. Kurt Hirschfeldt; *Northport*—Dr. Cyril E. Drysdale; *Oak Hill*—Dr. Laura Miller; *Odessa*—Dr. Francis C. Ward; *Olean*—Cattaraugas County Woman's Auxiliary; *Oneida*—Madison County Woman's Auxiliary; *Oneonta*—Dr. Fisk Brooks; *Ossining*—Dr. Leon Kienholz; *Oswego*—Drs. Umbert Cimildora, Kent W. Jarvis, Milton W. Kogan, and Olin J. Mowry; *Ovid*—Dr. Willis Allen; *Ozone Park*—Dr. Julius S. Kaufman; *Parish*—Dr. W. E. Merrill; *Patchogue*—Drs. David M. Bikoff, Sanford Z. Himel, Edward Klane, and P. J. Laviano; *Patterson*—Dr. Frank Genovese; *Penn Yan*—Yates Woman's Auxiliary; *Phoenix*—Drs. E. J. Dillon and W. H. Dwinelle; *Plattsburgh*—Clinton County Woman's Auxiliary and Dr. George Gonyea; *Pleasantville*—Drs. Mary L. Cassidy and Henry A. Rogan; *Port Chester*—Dr. Peter A. Duncan; *Port Jefferson*—Drs. Frank S. Child, Samuel Feinberg, and R. S. Mills; *Port Jervis*—Dr. G. E. Kenny; *Potsdam*—St. Lawrence County Woman's Auxiliary.

Also: *Poughkeepsie*—Dutchess County Woman's Auxiliary and Dr. P. Schwartz; *Queens Village*—Dr. Casimir J. Jarka; *Rego Park*—Dr. Joseph Lerner; *Richmond Hill*—Dr. Richard Mascola; *Ridgewood*—Drs. Joseph Brody and Bernath Weiss; *Riverhead*—Drs. John M. Johnson, Jr., John A. Northridge, and Victor K. Young; *Rochester*—Drs. Erna G. Anderson, Patrick P. Badamy, Harold Feldman, Sidney Feyder, William B. Forsyth, Phyllis Frost, Charles Kaufman, George R. Lavine, A. M. Massaro, Monroe County Woman's Auxiliary, Drs. Edwin S. Olsan, Carl A. Ottley, David S. Parker, J. M. Parker, Abram Pinsky, Otto G. Sorel, Lucy F. Squire, Victor Totah, and Harry W. Wronker; *Rockaway Beach*—Dr. Justin H. May; *Rockaway Park*—Dr. Burton F. Salpeter; *Rocky Point*—Dr. DeWitt C. Rulon; *Rosedale*—Dr. Francis Muller; *St. Albans*—Drs. Philip Aronson and Aldo N. Palmisano; *Salamanca*—Dr. George A. Hays; *Sayville*—Drs. David L. MacDonald, Sr., and Charles M. Rogers; *Scarsdale*—Dr. H. W. Hyslop; *Schenectady*—Drs. Joseph L. Cirincione and Schenectady County Woman's Auxiliary; *Schoharie*

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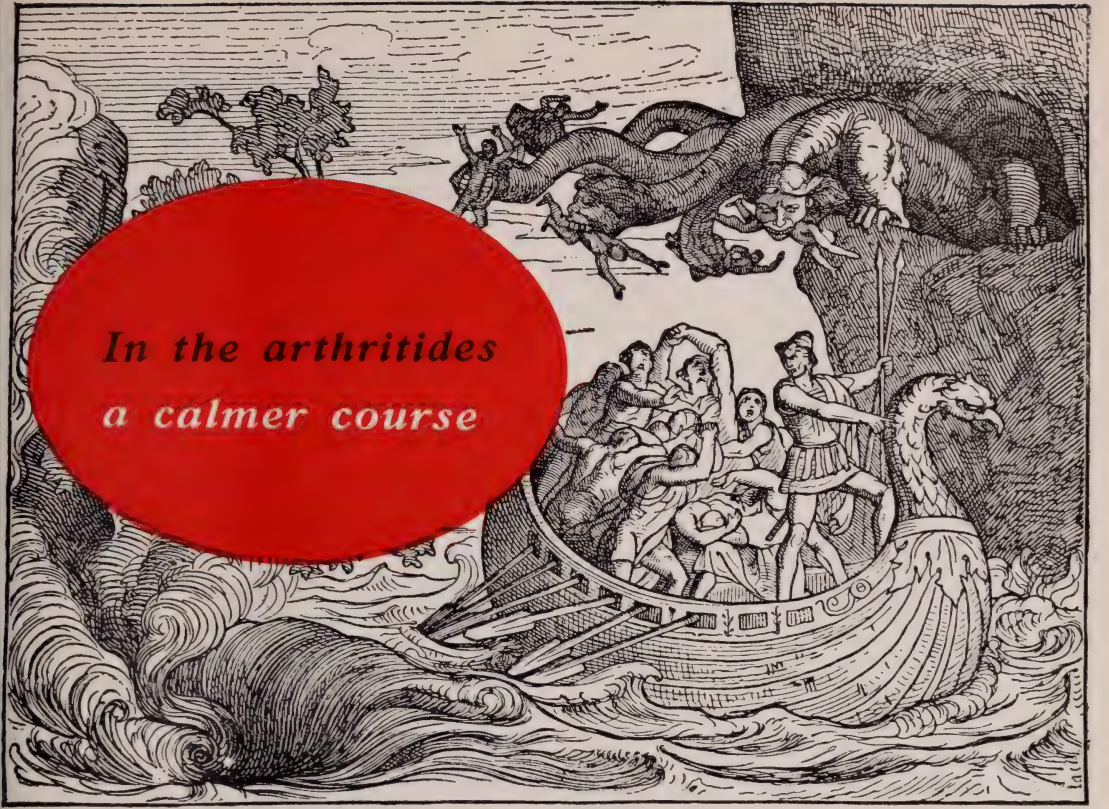

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[1] *Busse, E.A.: Treatment of Rheumatoid Arthritis by a Combination of Cortisone and Salicylates. Clinical Med.* 11:*1105*

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[Continued from page 3378]

—Dr. Harry Plaskov; *Schuylerville*—Dr. Melvin T. Boright; *Seneca Falls*—Drs. Emil J. Bove and Robert F. Gibbs; *Sharon Springs*—Dr. Robert Shelmandine; *Sidney*—Delaware County Woman's Auxiliary; *Smithtown Branch*—Dr. Alfred A. Scharbius, II; *Sonya*—Livingston County Woman's Auxiliary; *Southampton*—Drs. Carmelo P. Cancellieri, William C. Gaynor, Carver V. Livingston, Herman Rubler, and S. H. Saffer; *Staten Island*—Drs. Arpad Berczeller, Richmond County Woman's Auxiliary, and Dr. T. Talbot.

Also: *Stony Brook*—Drs. W. W. Curtis and Walter Sieling, Jr.; *Syracuse*—Dr. Charles E. Bickle, Jr., and Onondaga County Woman's Auxiliary; *Thiells*—Dr. Harry C. Storrs; *Troy*—Drs. H. A. Boswell, F. F. Connor, and Rensselaer County Woman's Auxiliary; *Tupper Lake*—Dr. James F. Martin; *Upton*—Dr. Lee E. Farr; *Utica*—Oneida County Woman's Auxiliary; *Warrensburg*—Dr. Patrick H. Huntington; *Warsaw*—Dr. Melvin S. Martin and Wyoming County Woman's Auxiliary; *Wassaic*—Dr. Ernest S. Steblen; *Waterloo*—Drs. W. R. Holmes and Charles M. Smith; *Watertown*—Jefferson County Woman's Auxiliary; *Watkins Glen*—Drs. Fritz Landsberg, Joseph Y. Roberts, and William C. Stewart; *West Brentwood*—Drs. Francis C. Bauer, John H. Gibbon, Edward W. Gray, and Bernard Pavorsky; *White Plains*—Drs. Dorothy Chayes, D. Egede-Nissen, Arnold W. Forrest, Thomas S. Harper, and Walter W. Mott; *Whitestone*—Dr. Sidney Bennett; *Woodhaven*—Dr. Charles C. Mangi; *Woodside*—Dr. N. M. Kiraly, and *Yonkers*—Drs. Eugene DeAngelio, Milton J. Eisen, Louis Keating, and Liborio A. Volino.

Lecture in Gerontology—The third annual lecture in gerontology will be given by Dr. E. V. Cowdry, director of the Division of Cancer Research, Washington University, St. Louis, at the Brooklyn Hebrew Home and Hospital for the Aged, 813 Howard Avenue, on December 6 at 8:30 P.M. This series of lectures is programmed for the medical profession and others interested in basic studies of the aging process.

Westchester Chapter Formed—At the first meeting of the newly organized Westchester chapter of the American Federation for Clinical Research held on September 24 at the White Plains Hospital, the following officers were elected: Dr. Dennison Young, White Plains, president; Dr. Charles Bertrand, White Plains, vice-president, and Dr. Alfred S. Dooneief, Mt. Kisco, secretary-treasurer.

William Osler Medal—The American Association of the History of Medicine has established the William Osler Medal, to be granted annually to the author of the best student essay submitted to the Association.

The Association will consider unpublished essays by men and women who were students in schools of medicine and had not yet obtained their doctor's degree at the time the essay was written. To be considered, an essay must be submitted before or within one year after the author's graduation. Essays should not exceed 10,000 words and must be sent before March 1, 1957, to Dorothy M. Schullian, Ph.D. chairman, National Library of Medicine, History of Medicine Division, 11,000 Euclid Avenue, Cleveland 6, Ohio.

Society of Medical Jurisprudence—The 699th regular meeting of the Society of Medical Jurisprudence was held at the New York Academy of Medicine Building, 2 East 103rd Street, New York City, on October 8.

Dr. Joe W. Howland, chief of the medical division, Rochester Atomic Energy Project, and professor of radiation biology at the University of Rochester School of Medicine and Dentistry, spoke on "Atomic Energy Detection and Control of Peacetime Hazards."

Cleveland Health Museum—The Cleveland Health Museum, 8911 Euclid Avenue, Cleveland 6, Ohio, is offering a catalog of its exhibits and how to obtain them, available to physicians for $1.00.

The Women's Committee of the museum is offering a $500 scholarship to any qualified graduate student interested in school health education, visual methods in health education, or educational work in museums. For information and applications, address Dr. Bruno Gebhard, Director of the museum.

Personalities

Elected

Dr. Edwin G. Mulbury, Windham, president; Dr. Clement J. Handron, Troy, first vice-president; Dr. Edward F. Shea, Kingston, second vice-president; and Dr. Henry J. Noerling, Valatie, secretary-treasurer, of the Third District Branch of the Medical Society of the State of New York. . .Dr. Henry M. Scheer, New York City, as president of the Section of Ophthalmology and Otolaryngology of the United States Section of the International College of Surgeons at the Chicago Convention on September 12, and Dr. Alan Austin Scheer, New York City, program chairman at the same convention. . .Dr. Donald A. Covalt, New York City, third vice-president, and Dr. Jerome S. Tobis, New York City, fifth vice-president, of the American Congress of Physical Medicine and Rehabilitation.

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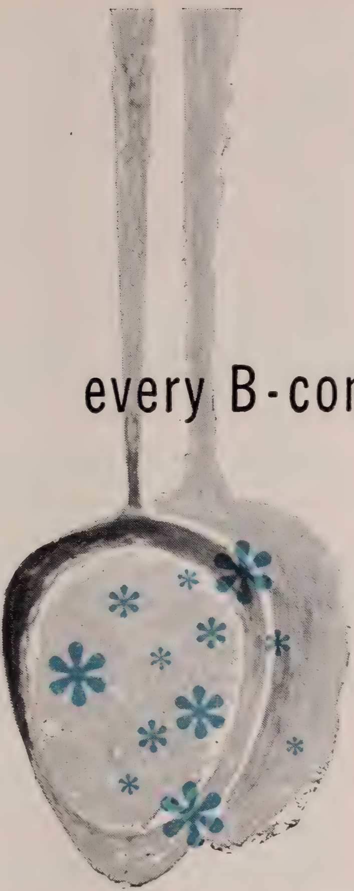

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plus good taste

LEDERPLEX† Liquid

Vitamin B Complex LEDERLE

Each teaspoonful (4 cc.) contains:
- * Thiamine HCl (B_1) 2 mg.
- * Riboflavin (B_2) 2 mg.
- * Niacinamide 10 mg.
- * Folic Acid 0.2 mg.
- * Pyridoxine HCl (B_6) 0.2 mg.
- * Pantothenic Acid 2 mg.
- * Choline 20 mg.
- * Inositol 10 mg.
- * Soluble Liver Fraction 470 mg.
- * Vitamin B_{12} 5 mcgm.

Provides the necessary *good taste* "plus" to a complete B complex formula with B_{12} and Folic Acid.

A flavor that does not "wear thin" or go "flat" over the prolonged dose regimen necessary with vitamin supplementation.

LEDERPLEX is also available in Capsule, Tablet and Parenteral forms.

Lederle

LEDERLE LABORATORIES DIVISION AMERICAN Cyanamid COMPANY PEARL RIVER, NEW YORK

†REG. U.S. PAT. OFF.

[Continued from page 3380]

Appointed

Dr. Frank R. Henne, assistant director of Harlem Valley State Hospital at Wingdale, as director of Newark State School. . .Dr. William P. Nelson, 3rd, as assistant director of postgraduate medical education at Albany Medical College. . .Dr. Thomas M. Rivers, New York City, formerly vice-president of the Rockefeller Institute for Medical Research, as medical director of the National Foundation for Infantile Paralysis.

Speakers

Dr. Donald G. Anderson, dean of the University of Rochester School of Medicine, before the Ontario County Medical Society on October 9 in Canandaigua on "The Medical Professor and Medical Education". . .Dr. William F. Beswick, assistant professor of neurlogic surgery at Buffalo University School of Medicine, before the Jefferson County Medical Society on October 16 in Watertown on "The Diagnosis and Treatment of Head Injuries"... Dr. Michael M. Dacso, New York City, before the First Pan American Congress of Gerontology in Mexico City, September 15 through 22 on "The Teaching of Geriatric Concept in Medical Schools" and "Clinical Aspects of Rehabilitation". . .Dr. Milton Helpern, chief medical examiner for New York City, before the Rensselaer County Medical Society on October 9 in Troy, on "Investigation and Determination of the Cause of Sudden Suspicious and Violent Deaths". . .Dr. Irving Kroop, physician-in-charge of the Cardiovascular-Pulmonary Unit of the Jewish Chronic Disease Hospital, Brooklyn, before the annual meeting of the Sullivan County Medical Society on October 10 in Liberty on "Clinical Application of Cardiac Catheterization and Angiocardiography". . .Dr. Clyde L. Randall, professor of obstetrics and gynecology at the University of Buffalo School of Medicine, before the Geneva Academy of Medicine on November 26 at 8:30 P.M. at the Belhurst, Geneva, on "The Office Management of Female Pelvic Disorders". . . Dr. Nathaniel E. Reich, Brooklyn, before the Research Institute of the Academy of Medical Sciences in Moscow, USSR, on August 14, and before the international meeting of the American College of Chest Physicians in Cologne, Germany, on August 22. . .Dr. Alan Austin Scheer, New York City, before the twenty-first National Congress of the United States and Canadian Sections of the International College of Surgeons on September 10 in Chicago on "Observations and Progress of Transtympanic Mobilization of the Stapes."

New Offices

Dr. Richard E. Bilbo, Syracuse, general practice in Baldwinsville. . .Dr. Arthur T. Hall, Painted Post, practice of pediatrics in Corning. . .Dr. Edward Hart, practice of ophthalmology in Ithaca. . .Dr. H. D. Hartman, general practice in Trumansburg. . .Dr. Patrick J. LaFrate, Fulton, practice of pediatrics in Phoenix. . .Dr. Edward Shaen, Camden, New Jersey, general practice in Plattsburgh. . .Dr. Thomas H. Thomas, general practice in Narrowsburg.

Retired

Dr. Alfred R. Warner, Schenectady, after 51 years in the practice of otolaryngology.

Resigned

Dr. Hart E. Van Riper, as medical director of the National Foundation for Infantile Paralysis, to become medical director of Geigy Pharmaceuticals, a division of Geigy Chemical Corporation, effective November 1.

In order that people may be happy in their work, these three things are needed: They must be for it: They must not do too much of it: And they must have a sense of success in it.—JOHN RUSKIN

announcing Hesper-C Prenatal, the *only complete* preparation with hesperidin and ascorbic acid as capillary-protective factors plus conventional prenatal vitamin and mineral supplementation—

a precaution

in normal pregnancy,*

a necessity

in habitual abortion

*It is estimated that 10% to 20% of all pregnancies end in spontaneous abortion. In a high percentage of these patients, there is objective evidence of increased capillary fragility.[1,2] The capillary-protective factors in Hesper-C Prenatal *restore* and *maintain* capillary integrity[3,4] . . . increase the number of live births.

Each capsule contains:

Hesperidin Complex	100 mg.
Ascorbic Acid	100 mg.
Vitamin A Acetate	1000 USP units
Vitamin D_2	200 USP units
Thiamine Mononitrate	1.25 mg.
Riboflavin	0.75 mg.
Nicotinamide	5.0 mg.
Vitamin B_{12}	0.75 micrograms
Folic Acid	0.05 mg.
Pyridoxine Hydrochloride (B_6)	1.67 mg.
Calcium Pantothenate	1.0 mg.
Ferrous Gluconate (2.5 mg. iron)	21.6 mg.
Calcium Carbonate (83.3 mg. calcium)	208.25 mg.
Copper Sulfate (0.5 mg. copper)	2.0 mg.
Potassium Iodide (0.05 mg. iodine)	0.065 mg.

In bottles of 100 and 500 capsules.

Recommended daily dose: Two capsules t.i.d.

References: 1. Greenblatt, R. B.: Obst. & Gynec. *2*:530, 1953. 2. Javert, C. T.: Ann. New York Acad. Sc. *61*:700, 1955. 3. Barishaw, S. B.: Exp. Med. Surg. *7*:358, 1949. 4. Selsman, G. J. V. & Horoschak, S.: Am. J. Dig. Dis. *17*:92, 1950.

Products of Original Research

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THE NATIONAL DRUG COMPANY
Philadelphia 44, Pa.

MEDICAL MEETINGS

Course in Gastroenterology

A postgraduate refresher course in gastroenterology will be given free at the Roslyn Park Hospital, Roslyn Heights, Long Island, once a week on Thursdays from 4:00 to 5:00 P.M. The course began on October 18 and will continue through December 20. Application for admission to the course may be made in person or by mail to Dr. John R. Scotti, chairman, Postgraduate Education, Roslyn Park Hospital, 275 Warner Avenue, Roslyn Heights, Long Island, New York.

Seminar in Medical Technology

The New Jersey Society of Clinical Pathologists and the New Jersey Society of Medical Technologists, in cooperation with Fairleigh Dickinson University, will present a postgraduate seminar in medical technology beginning November 1. Sessions will be held from 4:00 to 6:00 P.M. on November 1, 8, 15, and 29. On November 1 the subject will be hematology; on November 8, chemistry; on November 15, blood banking, and on November 29, education.

Further information and registration forms are available from Miss Cornelia Van Bentham, 170 Wheaton Place, Rutherford, New Jersey.

Westchester Academy of General Practice

The Westchester Academy of General Practice is presenting postgraduate medical lectures by the faculty of the New York Medical College at Winslow Hall, White Plains Hospital, from 8:30 to 10:30 P.M. on November 1, 8, 15, and 29, and December 6, 13, and 20.

For further information and registration contact Dr. Frederick Saunders, Elmsford, New York.

Academy of General Practice

The seventh annual scientific assembly of the Nassau County Chapter of the American Academy of General Practice, entitled "Progress in Medicine" will be held on November 7 at the Garden City Hotel in Garden City.

American Medical Association

The seventh yearly conference of the County Medical Societies Civil Defense Organization will be held in Chicago, Illinois, at the Morrison Hotel on November 10 and 11. These conferences are designed to assist local groups with health and medical planning in civil defense. Panel discussions on "How to Plan for Disaster" and "Planning for Support" will be presented. A symposium will be devoted to the problems of psychologic disorders as they pertain to large-scale civilian attack.

American Public Health Association

The 84th annual meeting of the American Public Health Association and meetings of 40 related organizations will be held in Convention Hall, Atlantic City, New Jersey, November 12 through 16. Reports of experimental research on vaccines against viruses, including those associated with the common cold, and progress and evaluation of a wide variety of public health activities from prevention of highway accidents through fluoridation of community water supplies will be presented.

Albany Postgraduate Courses

Recent advances in surgery, clinical medicine, and cardiovascular disease will be among the topics treated in Albany Medical College's extensive postgraduate medical education program during the forthcoming academic year.

According to Dr. Frank M. Woolsey, Jr., associate dean and director of the postgraduate education division, the regular program will commence on November 15, with a course in clinical surgery.

Featured on the program will be three courses on recent medical advances. These will be in surgery, November 15 through 17; clinical medicine, January 10 through 12, 1957, and cardiovascular disease, February 7 through 9, 1957. All of these courses, including a one-day program on clinical pediatrics, December 6, will emphasize diagnosis and therapy.

Society of Anesthesiologists

The tenth postgraduate assembly of the New York State Society of Anesthesiologists will be held December 5 through 8 at the Hotel New Yorker, New York City. The program will include scientific sessions, hospital clinics, and a closed circuit telecast.

Society of Industrial Medicine

The annual professional and business meeting of the New York State Society of Industrial Medicine, Inc., will be held on December 6 at 4:30 P.M. at the Hotel Roosevelt, New York City.

Reservations should be sent to Dr. Harry Tebrock, New York State Society of Industrial Medicine, 1740 Broadway, 14th Floor, New York 19, New York.

[Continued on page 3386]

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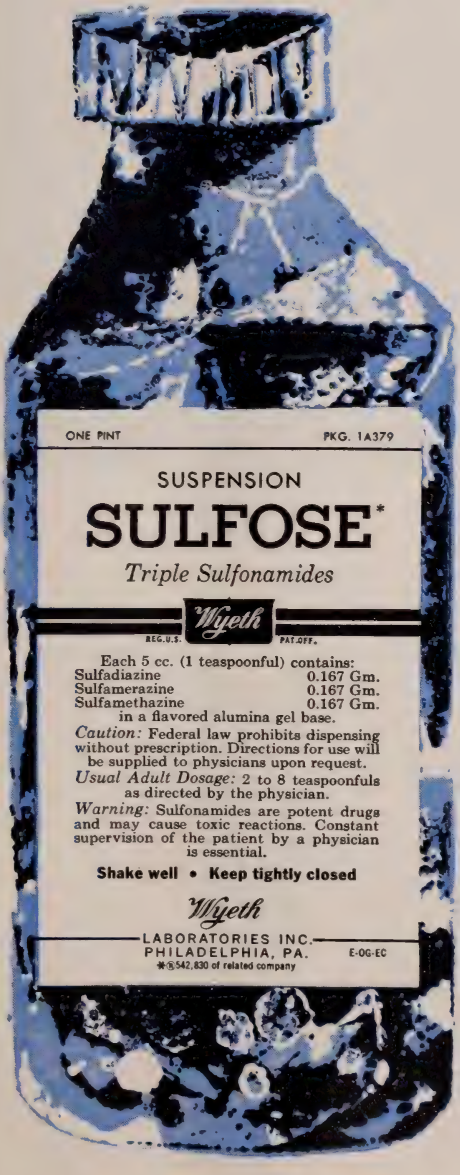
sulfonamide
therapy

Sulfose®

Meth-Dia-Mer Sulfonamides


ONE PINT
PKG. 1A379
SUSPENSION
SULFOSE*
Triple Sulfonamides
Wyeth
REG.U.S. PAT.OFF.
Each 5 cc. (1 teaspoonful) contains:
Sulfadiazine 0.167 Gm.
Sulfamerazine 0.167 Gm.
Sulfamethazine 0.167 Gm.
in a flavored alumina gel base.
Caution: Federal law prohibits dispensing without prescription. Directions for use will be supplied to physicians upon request.
Usual Adult Dosage: 2 to 8 teaspoonfuls as directed by the physician.
Warning: Sulfonamides are potent drugs and may cause toxic reactions. Constant supervision of the patient by a physician is essential.
Shake well • Keep tightly closed
Wyeth
LABORATORIES INC.
PHILADELPHIA, PA.
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*®542,830 of related company

It is significant that sulfonamide therapy has gained new recognition by the medical profession. With improved, effective, relatively non-toxic sulfonamides the physician can control a great variety of upper respiratory, gastrointestinal, and urinary tract infections. SULFOSE is particularly notable for the sustained and high sulfonamide blood levels it produces, and its relative freedom from untoward side reactions. A special base and flavoring give this suspension excellent stability and a pleasant taste. *Bottles of one pint.*

Each teaspoonful (5 cc.) contains:

sulfadiazine 167 mg.
sulfamerazine 167 mg. The Triple Sulfas
sulfamethazine 167 mg.

Also available as Tablets SULFOSE in bottles of 100 and 1,000.

Wyeth

[Continued from page 3384]

Course in Operative Radium Therapy

A course in operative radium therapy will be offered at the Queens General Hospital by the Radiation Therapy Department beginning January 5, 1957, and extending for eight consecutive Saturdays, from 9:00 A.M. to 12 NOON.

The program will include the use of interstitial radiation in the oral cavity, radical insertion of radium in the neck, radium therapy in postoperative carcinoma of the breast, use of different applicators in carcinoma of the cervix, of the Heyman applicator in carcinoma of the endometrium, of radium needles in the parametria, and of radon, iridium-thread, and cobalt interstitial therapy.

Applications should be sent to Dr. L. B. Goldman, director, Department of Radiation Therapy, Queens General Hospital, 82-68 164th Street, Jamaica 32, New York.

Course in Radiologic Safety

A two-week, full-time course in radiologic safety will be given from January 7 to 18, 1957, by the Institute of Industrial Medicine of New York University Post-Graduate Medical School in cooperation with the New York University College of Engineering and the United States Atomic Energy Commission. For the convenience of those who cannot take the course full time, it will be repeated on a part-time basis from January 30 to May 22, 1957. There will also be an optional two-week laboratory session from January 21 to February 1, 1957.

For further information, write to the dean, New York University Post-Graduate Medical School, 550 First Avenue, New York 16, New York.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

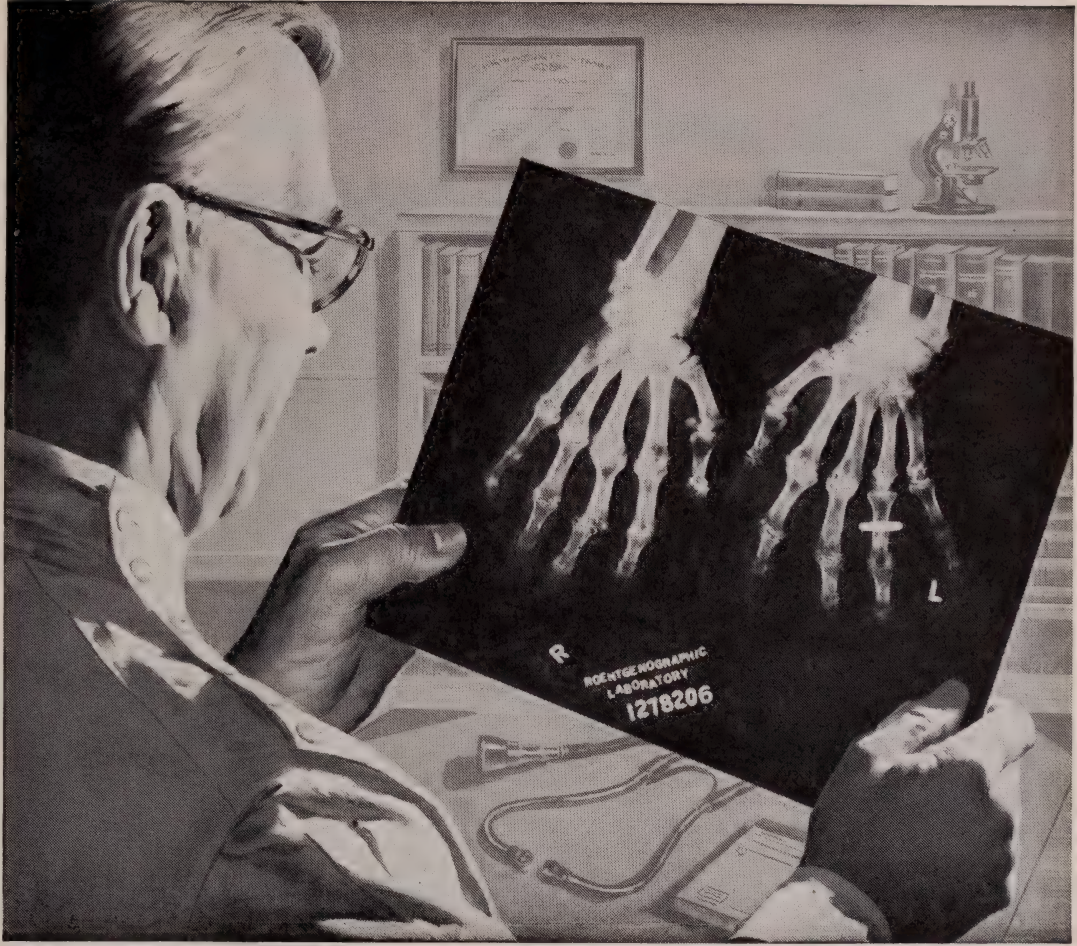
Referendum on Compulsory A.M.A. Membership

Mailed July 24, 1956; polls closed August 8, 1956

Total mailed: 22,813; replies received: 14,077*

County Society	Yes	No	Total Replies
Albany	76	176	252
Allegany	1	24	25
Bronx	250	600	850
Broome	58	124	182
Cattaraugus	22	35	57
Cayuga	13	34	47
Chautauqua	35	44	79
Chemung	23	40	63
Chenango	11	17	28
Clinton	12	27	39
Columbia	11	20	31
Cortland	7	28	35
Delaware	14	16	30
Dutchess	42	109	151
Erie	211	478	689
Essex	11	16	27
Franklin	14	28	42
Fulton	9	34	43
Genesee	15	19	34
Greene	1	13	14
Herkimer	16	18	34
Jefferson	14	37	51
Kings	579	1,268	1,847
Lewis	2	8	10
Livingston	11	23	34
Madison	14	14	28
Monroe	145	377	522
Montgomery	9	31	40
Nassau	278	545	823
New York	1,202	2,611	3,813
Niagara	41	75	116
Oneida	64	108	172
Onondaga	112	246	358
Ontario	18	47	65
Orange	48	82	130
Orleans	6	6	12
Oswego	5	25	30
Otsego	10	35	45
Putnam	6	7	13
Queens	327	807	1,134
Rensselaer	37	56	93
Richmond	65	57	122
Rockland	28	71	99
St. Lawrence	15	33	48
Saratoga	14	20	34
Schenectady	47	83	130
Schoharie	6	8	14
Schuyler	2	3	5
Seneca	5	15	20
Steuben	30	34	64
Suffolk	111	203	314
Sullivan	16	8	24
Tioga	4	8	12
Tompkins	14	43	57
Ulster	30	43	73
Warren	20	34	54
Washington	6	24	30
Wayne	14	23	37
Westchester	235	522	757
Wyoming	5	12	17
Yates	3	11	14
TOTALS	4,450	9,563	14,013
PER CENT	31.8	68.2	100.0

* Total replies received included 37 unsigned ballots and 27 nonvoting ballots which are not considered in the final tabulation.



Flexible Arthritis Therapy with BUFFERIN®

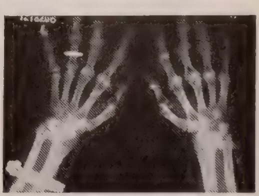
Exploit fully the use of salicylates in arthritis—give steroids in minimal doses—combine salicylates with corticosteroids for additive antiarthritic effect—this is the program Spies[1] advocates in a recent article in the Journal of the American Medical Association.

Treatment of rheumatoid arthritis demands a "highly individualized program," Spies[1] writes. The additive action of salicylates permits use of smaller amounts of hormones, thus lessening or eliminating their well-known side effects. "A proper mixture of salicylates and corticosteroids produces an effective antirheumatic agent in many cases."[1]

Suit your treatment to your individual arthritic patient. Use the hormone you prefer, in the dosage you think best, but for better results combine it with Bufferin, the salicylate proved to be better tolerated by arthritics.[2]

BUFFERIN contains no sodium, a marked advantage when cardiorenal complications make a salt-restricted diet necessary.

Each Bufferin tablet contains 5 grains of acetylsalicylic acid and the antacids magnesium carbonate and aluminum glycinate.



REFERENCES:
1. J.A.M.A. 159:645 (Oct. 15) 1955.
2. J.A.M.A. 158:386 (June 4) 1955.

BRISTOL-MYERS CO., 19 West 50 Street, New York 20, N. Y.

NEWS FROM THE MEDICAL SCHOOLS

Albany Medical College

Appointed—Dr. Fremont C. Peck, Jr.. New York City, has been appointed instructor in the neurosurgery department for one year. Dr. Peck will also serve as clinical assistant in neurosurgery at Albany Hospital.

Other faculty appointments for a one-year period are: Dr. Randall Thompson, *Delmar,* associate professor in the newly-formed Department of Microbiology; Dr. Paul H. Hoch, commissioner of the New York State Department of Mental Hygiene, lecturer in psychiatry; Dr. John E. Glen, *Schenectady,* instructor in urology; Dr. John A. O'Hern. *Albany,* instructor in surgery; Dr. Ray A. Elliott, Jr., *Albany,* fellow in plastic surgery; Dr. Robert L. Clyman, *Albany,* assistant in dentistry; Dr. Joseph L. Cirincione, *Schenectady,* assistant in dermatology; Dr. George Hewitt, *Glenmont,* and Dr. John N. Forrest, *Albany,* research fellows in medicine; Drs. Frederick C. Wood, *Elsmere,* Charles F. Rourke, *Schenectady,* Edward H. Poskanzer, and David C. Poskanzer, *Albany,* Max E. Moravec, *Schenectady,* Richard D. H. Flaherty and Marcus B. Einhorn, *Albany,* Arthur C. Carr, II, *Delmar,* assistants in medicine; Dr. Edward Attarian, *Albany,* research fellow in medicine; Dr. Arthur K. Brelia, *Albany,* assistant in gynecology and obstetrics; Dr. Evan W. McChesney, *Elsmere,* lecturer in pharmacology; Dr. Lawrence Levine, *Albany,* lecturer in microbiology; Dr. Robert M. Gesler, *Albany,* lecturer in pharmacology; Dr. Robert J. Gilston, *Amsterdam,* instructor in clinical pathology and assistant in medicine; Dr. Charles Hurwitz, *Delmar,* associate in bacteriology; Dr. Boris Anolik, *Albany,* assistant in psychiatry; Miss Helen C. McDonald, *Albany,* instructor in psychiatry; Mrs. Nell K. Wall, *Albany,* assistant in psychiatry; Dr. Munir Jobbur, *Syria,* assistant in pathology, and Dr. Edward V Crabill, *New York City,* instructor in anatomy.

Undergraduate Awards—John E. Glennon, Kingston, was chosen by a faculty committee to receive the Hoffmann-La Roche Award, a scroll and a watch, as the second-year student who best exemplified the ideals of the American physician. This choice was based on scholarship, character, personality, and seriousness of purpose. Edward E. Freeman, Ballston, was awarded the Elmer Schacht cash award for greatest proficiency in microbiology. Nathaniel Silon, Brooklyn, received the Trustees' prizes in pathology and pharmacology, and a prize in biochemistry established by Henry Schaffer, Schenectady, medical college trustee, and the Townsend Physiological Prize. Roger A. Yerry, Kingston, and Amnon Rosenthal, Miami, received the Daggett Anatomical Prizes for preparation of the best "anatomical specimens."

First-year Class—A first-year class of 67 students, one of the largest enrolled by the College in its 118-year history, began their studies towards an M.D. degree in September.

New Administrative Post—The post of assistant dean and assistant director of postgraduate medical education has been created at the College. Dr. William P. Nelson, III, serving as chief of medical service, Albany Veterans Administration Hospital, and assistant professor of medicine at the College, was chosen to fill the post and began his duties at the end of September. Dr. Nelson will also be concerned with such undergraduate problems as admissions, health, curriculum, counselling, and internships.

Columbia University College of Physicians and Surgeons

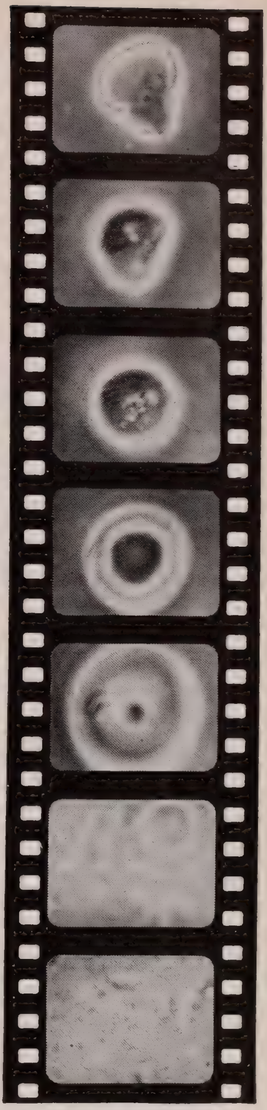
Appointed—Dr. William B. Seaman, formerly professor of radiology, Washington University School of Medicine, St. Louis, and a past president of the Association of University Radiologists, has been appointed director of the radiologic services at Presbyterian Hospital and will also serve as professor of radiology and executive officer of the Department of Radiology at the College.

New York University College of Medicine

Cornerstone Laying Ceremonies—The cornerstone for the 15-story Hall of Residence was laid on September 26. Participants were Dr. Henry T. Heald, president of the University, Dr. George E. Armstrong, vice-president for medical affairs

[Continued on page 3390]

HARD-TO-KILL TRICHOMONADS
EXPLODE
WITHIN 15 SECONDS' CONTACT WITH VAGISEC LIQUID



Top to bottom:
2 sec. CONTACTS
4 sec. COMPLEXES
6 sec. DISSOLVES
8 sec. DENATURES
10 sec. SWELLS
15 sec. EXPLODES
16 sec. SCATTERS

With the Davis technique,† using Vagisec® liquid and jelly, flare-ups of vaginal trichomoniasis rarely occur. Vagisec liquid actually explodes trichomonads within 15 seconds after douche contact.[1] Better than 90 per cent apparent cures follow use of this new trichomonacide,[2] developed as "Carlendacide" by Dr. Carl Henry Davis, noted gynecologist and author, and C. G. Grand, research physiologist.[3]

No trichomonad escapes—The overwhelming action of Vagisec liquid dooms the trichomonad. One chelating agent and two surface-acting agents combine in attack to weaken the cell membrane, to remove waxes and lipid materials from the membrane surface, and to denature the protein. With its cell wall destroyed, the parasite imbibes water, swells and explodes. All this occurs within 15 seconds. Only scattered fragments remain.

No other agent or combination of agents kills the trichomonad in this specific fashion or with the *speed* of Vagisec liquid.[3] When the patient uses Vagisec jelly as well—the recommended routine—these good effects continue indefinitely.[4]

Reaches hidden trichomonads—Unlike many agents, Vagisec liquid thoroughly penetrates and dissolves the cellular debris and mucoid material lining the vaginal surface.[3] It reaches hidden trichomonads — often the cause of treatment failure — as well as parasites swimming freely in the canal.

The Davis technique—Office therapy with Vagisec liquid is combined with home treatment. Both liquid and jelly are prescribed.

> OFFICE TREATMENT—*Wipe vaginal walls dry with cotton balls, then wash thoroughly for about three minutes with a 1:100 dilution of* Vagisec *liquid. Remove excess fluid with cotton balls. Dr. Davis recommends three treatments the first week, two the second and one the third.*
>
> HOME TREATMENT—*Patient douches with* Vagisec *liquid every night or morning and then inserts* Vagisec *jelly. Home treatment is continued through two menstrual periods, but omitted on office treatment days. Douching is contraindicated in pregnancy.*

Husband re-infects wife—Since "trichomonads may be passed from the infected male to the uninfected partner during coitus,"[5] prevent re-infection by recommending the use of prophylactics. Specify RAMSES,® the finest possible rubber prophylactic, transparent, very thin yet strong; or XXXX (FOUREX)® skins, of natural animal membrane — pre-moistened. Your prescription of one of these brands insures the protection afforded by Schmid quality prophylactics and assures full acceptance of your regimen. At all pharmacies.

Active ingredients in Vagisec liquid: Polyoxyethylene nonyl phenol, Sodium ethylene diamine tetra-acetate, Sodium dioctyl sulfosuccinate. In addition, Vagisec jelly contains Boric acid, Alcohol 5% by weight.

Vagisec, RAMSES and XXXX (FOUREX) are registered trade-marks of Julius Schmid, Inc.

†Pat. App. for

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gynecological division
423 West 55th St., New York 19, N. Y.

References: 1. Davis, C. H.: J.A.M.A. *157*:126 (Jan. 8) 1955. 2. Davis, C. H.: West. J. Surg. *63*:53 (Feb.) 1955. 3. Davis, C. H., and Grand, C. G.: Am. J. Obst. & Gynec. *68*:559 (Aug.) 1954. 4. Davis, C. H. (Ed.): Gynecology and Obstetrics (revision), Hagerstown, Md., W. F. Prior, 1955, vol. 3, chap. 7, pp. 23-33. 5. Draper, J. W.: Internat. Rec. Med. *168*:563 (Sept.) 1955.

[Continued from page 3388]

and director, Medical Center, and Dr. Harry Wexler, chairman of the College's Parents Association. The Hall of Residence is scheduled to be completed in December, 1956 with accommodations for 366 students of the Medical School and Center and 30 for accommodations for the College of Dentistry.

State University of New York College of Medicine, Downstate Medical Center

Appointed—Dr. Howard W. Potter, member of the National Advisory Mental Health Council.

State University of New York College of Medicine at Syracuse

Research Grant—The U.S. Public Health Service has renewed the research grant awarded to Dr. William W. Faloon, associate professor of medicine, with which he is attempting at present to determine how the body absorbs, utilizes, and excretes folic acid which is part of the Vitamin B group.

Door-to-Door Campaign—Mr. Thomas G. Altavilla, awarded a summer New York State Public Health Fellowship, and Miss Louise Miller, a teaching and research assistant in preventive medicine, composed a summer team from the College who aided Dr. Thomas Mou, assistant professor of preventive medicine, and Miss Colleen Murphy, public health nurse and instructor at the College, in a door-to-door campaign on their investigations of toxoplasmosis, which is one of the few known causes of congenital disabilities with which a baby is born.

University of Rochester School of Medicine and Dentistry

Research Fellowships—Four groups of postdoctoral research fellowships, to be awarded to graduates of approved medical schools, have been established at the University in fulfillment of terms of a bequest from the estate of the late Ralph Hochstetter, Buffalo. The fellowships are to be known as the Bertha H. Buswell and Dr. Henry C. Buswell Fellowships, and will permit recipients to pursue research in any of the several departments of the School. The Buswell Junior Fellowships will be awarded to promising young medical graduates who have completed one year of internship or equivalent training, and preferably their residency training, who wish to prepare for careers in medical research. These may be renewed for a second or third year. The Buswell Senior Fellowships are for young medical graduates who desire to continue careers in medical research and have completed their hospital training as well as have had one or two years of fellowship training as Buswell Junior Fellows or have had comparable experience in medical research, and may be renewed for a total of five years.

Buswell Faculty Fellowships are to be awarded to members of the Medical School faculty, assistant professor or higher, who are approved medical school graduates and have established themselves as independent medical investigators and continue actively to engage in research. The tenure will be for an indefinite period. The Buswell Distinguished Service Fellowships are awarded to associate professors or full professors on the faculty engaged in medical research who have made outstanding contributions to medical science. The tenure will be for an indefinite period.

Dr. Herbert R. Morgan—Dr. Herbert R. Morgan, chairman of the Department of Bacteriology and director, Rochester Health Bureau Laboratories, left for Geneva, Switzerland, on September 21 for consultation at WHO headquarters before going to Spain where he will aid the National School of Health, Madrid, in setting up a new tissue culture and virus laboratory for the Spanish government.

Curiosity is and has been from the creation of the world, a master-passion.—Barnaby Rudge, CHARLES DICKENS

increasingly preferred

by physicians

strikingly effective

for patients

in rheumatoid arthritis

METICORTEN*

(PREDNISONE)

excellent relief of pain, swelling, tenderness; diminishes joint stiffness—facilitates early physical therapy—expedites rehabilitation

dietary regulations usually unnecessary

minimizes incidence of electrolyte imbalance

1, 2.5 and 5 mg. tablets

METICORTEN,* brand of prednisone.

*T. M. MC-J-2376

Schering
METICORTEN
PREDNISONE
SCHERING

BOOKS RECEIVED

(The following books were received during the month of September, 1956)

Clinical Chemistry. Principles and Procedures. By Joseph S. Annino. Octavo of 720 pages, illustrated. Boston, Little, Brown & Company, 1956. Cloth, $7.50.

The Pathology and Surgery of the Veins of the Lower Limb. By Harold Dodd, Ch.M. (Liverpool) and Frank B. Cockett, M.S. Quarto of 462 pages, illustrated. Edinburgh & London, E. & S. Livingstone, Ltd., (Baltimore, The Williams & Wilkins Co.), 1956. Cloth, $12.50.

Williams Obstetrics. By Nicholson J. Eastman, M.D. Eleventh edition. Octavo of 1,212 pages, illustrated. New York, Appleton-Century-Crofts, 1956. Cloth, $14.

Rosenau Preventive Medicine and Public Health. By Kenneth F. Maxcy, M.D. With 27 contributing authors. Eighth edition. Octavo of 1,465 pages, illustrated. New York, Appleton-Century-Crofts, 1956. Cloth, $15.

Textbook of Gynecology. By Emil Novak, M.D., and Edmund R. Novak, M.D. Fifth edition. Octavo of 840 pages, illustrated. Baltimore, The Williams & Wilkins Company, 1956. Cloth, $11.

The Labyrinth. Physiology and Functional Tests. By Joseph J. Fischer, M.D. Octavo of 206 pages, illustrated. New York, Grune & Stratton, 1956. Cloth, $6.00.

Sleep. By Marie Carmichael Stopes, D.Sc. Octavo of 154 pages. New York, Philosophical Library, 1956. Cloth, $3.00.

Marriage in the Modern World. By Phillip Polatin, M.D., and Ellen C. Philtine. Octavo of 313 pages. Philadelphia, J.B. Lippincott Company, 1956. Cloth, $3.95.

Disease in Infancy and Childhood. By Richard W. B. Ellis, M.D. Second edition. Large octavo of 710 pages, illustrated. Edinburgh & London, E. & S. Livingstone, Ltd., (Baltimore, The Williams & Wilkins Co.), 1956. Cloth, $10.

A Manual of the Common Contagious Diseases. By Philip Moen Stimson, M.D., and Horace Louis Hodes, M.D. Fifth edition. Duodecimo of 624 pages. 83 illustrations and 10 plates, 8 in color. Philadelphia, Lea & Febiger, 1956. Cloth, $8.50.

Lectures on the Scientific Basis of Medicine. Vol. IV. 1954-55. British Postgraduate Medical Federation, University of London. Octavo of 397 pages, illustrated. London, University of London, The Athlone Press, (New York, John de Graff), 1956. Cloth, $6.50.

Kenny Visits the Hospital. A Story in Pictures. By Julia Ann Bartosh, R.N. Octavo of 62 pages, illustrated. New York, Exposition Press, 1956. Cloth, $2.50. (A Banner Book)

Internal Medicine. A Physiologic and Clinical Approach to Disease. By Robert P. McCombs, M.D. Octavo of 706 pages, illustrated. Chicago, The Year Book Publishers, 1956. Cloth, $10.

Home Health Emergencies. A Guide to Home Nursing and First Aid in Family Health Emergencies. Based on an original manuscript by Granville W. Larimore, M.D., revised and edited with Dr. Larimore's assistance by the Bureau of Public Health of the Medical Department of the Equitable Life Assurance Society. Sextodecimo of 256 pages, illustrated. New York, The Equitable Life Assurance Society of the United States, 1956. Paper, gratis on request.

The Medical Clinics of North America. Nationwide Number. September, 1956. Octavo. Philadelphia, W. B. Saunders Company, 1956. Published Bimonthly (six numbers a year). Cloth, $18 net; paper, $15 net.

The Complications of Measles. A Report by a Study Group of The College of General Practitioners. Octavo of 24 pages, illustrated. Torquay, (Devonshire, England), the Devonshire Press, 1956. (Published as a supplement to Research Newsletter No. 11, v.III, No.2, New Series)

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn 16, New York. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selections for review will be based on merit and interest to our readers.

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*Silbert, N. E., Ciba Clinical Symposia; 6: 86; May 1954
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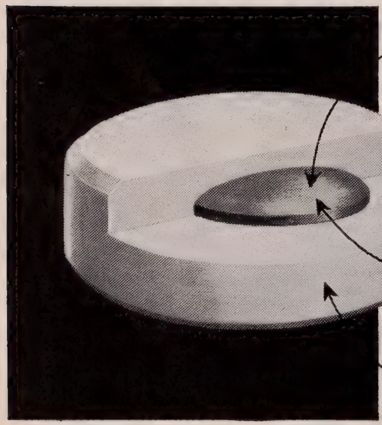

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BOOKS REVIEWED

Sexual Hygiene and Pathology. A Manual for the Physician. By John F. Oliven, M.D. Octavo of 481 pages. Philadelphia, J. B. Lippincott Company, 1955. Cloth, $10.

The book is an admirable presentation of a most difficult subject, one which has caused considerable controversy in different circles. It discusses objectively the various aspects of sex, the normal as well as the pathologic, clearly, concisely, and yet thoroughly. Encyclopedic in its approach, it will serve as a reference book to many people. The volume is divided into four parts, sexuality in childhood, sexuality in the second decade, sexuality of the normal adult, and sexual pathology.

Sexuality as it develops in childhood, with the various psychologic and physiologic implications, is described. This part will answer many of the common questions which parents ask of the doctor in managing their children. The second section deals with many of the current problems with which society is faced in dealing with teenagers. The third part is an instructive analysis of the various aspects of normal adult sexuality and many of its difficulties. The last section deals with sexual pathology and will be helpful to the physician in understanding some of the difficulties which even apparently normal people may at times present.

The book is well indexed. It will prove a most helpful reference to doctors, social service workers, and to all others who are interested in an objective presentation of sex and its deviations.—IRVING J. SANDS

Annual Review of Medicine. By David A. Rytand, M.D., Editor, William Creger, Associate Editor. Volume 7. Octavo of 611 pages. Stanford, California, Annual Reviews, 1956. Cloth, $7.00.

As usual, the seventh volume in this series is a comprehensive, well-edited, highly satisfactory résumé of the previous year's accomplishments in the field of medicine; it is probably the best available for the practitioner and thoughtful specialist who wants to learn about advances in specialties other than his own. Some of the 26 chapters, such as cardiology, are broad reviews of general fields; others are brief monographs, such as the excellent paper by Ebert on pulmonary emphysema. A special feature is the list of reviews which have appeared in other periodicals, and is an invaluable reference aid for the seeker of special information.—MILTON PLOTZ

Christopher's Textbook of Surgery. Edited by Loyal Davis, M.D. Sixth edition. Quarto of 1,484 pages. 1,359 illustrations on 716 figures. Philadelphia, W. B. Saunders Company, 1956. Cloth, $15.50.

The purpose of this sixth edition is to keep *Christopher's Textbook of Surgery* abreast of the rapid advances in surgery. The text is ably edited by Dr. Loyal Davis, an eminent Chicago surgeon. The long list of contributors, each with wide experience and a leader in his field, once again attests to the high quality of the book. The material in general is fully and comprehensively presented. However, several topics might well have deserved greater thought and more extensive preparation. Happily, one might question the soundness and validity of certain data in only a few isolated instances dealing with matter of a controversial nature.

The text comprises 1,484 pages including a well-organized index. The first 100 pages are devoted to the usual introductory subjects which include a brief and scholarly history of surgery by Dr. Allan O. Whipple and discussions on healing of wounds, surgical bacteriology, antibiotic therapy, et cetera. The increasing importance of the basic sciences in diagnosis and treatment is manifested throughout the book and is especially stressed in the discourses on pre- and postoperative care, trauma, shock, burns, and irradiation injuries. Chapter VI deals exclusively with endocrinology and metabolism in surgical care. In succeeding chapters, the conventional topics discussed in all standard texts are presented in a logical and methodical fashion. Limitations of space preclude citing them individually. Consistent with the increasing indications for surgical attack in cardiology, an entire chapter is devoted to the heart and pericardium.

The reviewer commends a final brief and scholarly chapter on the qualifications of a surgeon, by Dr. Paul R. Hawley, to the serious attention of the young graduate interested in a thorough and extensive training in surgery. Indeed, it might well serve as his future guide and code of conduct.

Operative treatment is presented according to the established and generally accepted principles of practice. Technical details should obviously be sought in special treatises on operative surgery. Numerous clarifying illustrations greatly aid in the reader's understanding. Moreover, the various references facilitate his collateral reading and further study. Once again the latest edition has brought *Christopher's Textbook of Surgery* into the forefront of single volume books. It should continue to enjoy wide acceptance.—ARTHUR GOETSCH

Urology. By B. G. Clarke, M.D., and Louis R. M. Del Guercio, M.D. Octavo of 245 pages,

[Continued on page 3398]

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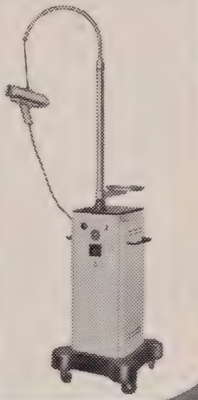

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[Continued from page 3396]

illustrated. New York, The Blakiston Division, McGraw-Hill Book Company, 1956. Cloth, $6.50.

The authors have condensed the essentials of urology into a workable manual, primarily intended for the use of students and medical practitioners who have need to refresh their memories in the fundamentals of this subject. The text is well organized and discusses disease processes involving the urogenital system as a whole rather than the diseases of each organ separately. The illustrations and diagrams are graphic and greatly augment the thought expressed in the text. The material concerned with adrenal disease could be amplified since this is becoming a more important part of urologic practice.

This manual can be highly recommended for use by students and others as an introduction to the common problems seen in urologic practice.—Sidney R. Weinberg

Modern Nutrition in Health and Disease. Dietotherapy. Edited by Michael G. Wohl, M.D., and Robert S. Goodhart, M.D. 55 Contributors. Octavo of 1,062 pages. 80 illustrations. Philadelphia, Lea & Febiger, 1955. Cloth, $18.50.

The increasing literature on the role of nutrition in health and diseased states has made this subject a broad and complex one. This is an important book. The authors have secured the collaboration of specialists in a variety of disciplines to bring together in one volume a comprehensive dissertation on the biochemical and functional aspects of nutritional components as they affect the organism in health and disease.

Among the more significant chapters may be mentioned "The Role of Carbohydrates in Diet" by Soskin and Levine, "Hormonal Control of Metabolism" by Ralli and Dumm, "Metabolism of Fats" by Deuel, and "Essential Trace Elements" by Moore.

The role of vitamins in nutrition is exhaustively treated by several leading authorities.

The second half of the book is devoted to a presentation of all the diseases of metabolism and those other systemic diseases in which nutritional components play a part—allergies, dermatology, ophthalmology, and the surgical patient. The book closes with a discussion of nutrition in physiologic stress. It is highly recommended.—William S. Collens

Hey Groves' Synopsis of Surgery, Illustrated. Edited by Sir Cecil Wakeley, Bt., M.Ch. Fourteenth edition. Duodecimo of 651 pages, illustrated. Baltimore, Williams and Wilkins Company, 1954. Cloth, $7.00.

The first edition of *Groves' Synopsis of Surgery* was published in 1908. The title described the aim and scope of the work which was compiled almost entirely from notes made by Groves in preparing students for examinations. Since the first edition 13 revisions have been made. These have attempted to make an epitome of the current salient facts in surgical practice and to place these facts in a manner most easily referred to or revised. The latest edition was revised by Dr. Cecil Wakeley of London.

It is helpful for the most part as an outline of current surgical practice and may be used as a starting or reference point. Sufficient and complete information will have to be gathered from textbooks and current magazines, lectures, etc. A number of synopses are vestigial and not up to date but by and large it is a good outline of surgical practice which could be used especially by student and teacher.—Frederick A. Pizzi

Handbook of Cardiology for Nurses. By Walter Modell, M.D., and Doris R. Schwartz, R.N. Second edition. Octavo of 320 pages, illustrated. New York, Springer Publishing Co., 1954. Cloth, $4.25.

This handbook contains much useful information for the nurse in the treatment and the care of the cardiac patient. However, it relies almost entirely on the written word for descriptions which could be enhanced immeasurably by a few well-drawn figures.

The table of contents presents a very ambitious array of chapter titles of which many, perforce, are inadequately covered. This is the most serious shortcoming of the book.—Samuel Candel

The Neurosurgical Alleviation of Parkinsonism. By Irving S. Cooper, M.D. Quarto of 104 pages, illustrated. Springfield, Ill., Charles C Thomas, 1956. Cloth, $8.50.

Since its original description the Parkinsonian syndrome characterized by increasing dysfunction of skeletal musculature as a result of tremor, rigidity, and abnormal postures has challenged the ingenuity of the medical profession. Only encouragement and admiration can be offered those who undertake resolution of the many facets of this scourge.

In the present treatise, Dr. Cooper describes his experiences with two procedures, namely anterior choroidal ligation and chemopallidectomy, and presents the protocols of individual instances to illustrate the essential clinical features. Separate chapters are devoted to the anterior choroidal artery itself and the globus pallidus. The essential problem of the Parkinsonian syndrome is adequately stated. It is emphasized that there is no known cure, that in fact even the etiology and pathophysiology of the disease are obscure.

The author's experience has been similar to that of others who have treated the Parkinsonian syndrome surgically, in that the best results seem to be obtained in patients with predominantly unilateral disturbances. The hope is expressed that in the future a combination of bilateral procedures may be successful.

This monograph is recommended to all those confronted with the problem of Parkinsonism. Data heretofore not published is available.—Albert W. Cook

[Continued on page 3400]

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[Continued from page 3398]

The Abnormal Pneumoencephalogram. By Leo M. Davidoff, M.D., and Bernard S. Epstein, M.D. Second edition. Quarto of 518 pages, 696 illustrations. Philadelphia, Lea & Febiger, 1955. Cloth, $15.

A neurosurgeon and a radiologist, both eminently qualified, have collaborated to present a clear picture of intracranial air studies as seen in most of the common and many of the uncommon intracranial lesions. The second edition is essentially unchanged from the first except for a few additions referable to the laminographic study of the midline ventricles. Though the authors refer to sources as to their technic of introducing air into the ventricular and subarachnoid systems, it would have been well to add a short chapter on technic to this volume with particular reference to indications, contraindications, and complications.

All students of neuroroentgenology, whatever their chosen fields, will benefit from repeated reading of this book.—Howard Freedman

The Year Book of Endocrinology (1955–1956 Year Book Series). Edited by Gilbert S. Gordan, M.D. Duodecimo of 367 pages, illustrated. Chicago, The Year Book Publishers, 1956. Cloth, $6.00.

Gordan continues to abstract the important articles in the field of endocrinology. This year, "Primary Aldosteronism and Adrenal Tumor," by E. Perry McCullagh, and "Hypoglycemic Action of Sulfonamide Derivatives in Diabetes Mellitus," by L. Arthur Mirsky, are highlighted. The thyroid and adrenal sections are particularly well done.—Bernard Seligman

Early Care of Acute Soft Tissue Injuries. By the Committee on Trauma. Quarto of 192 pages. Chicago, American College of Surgeons, 1954. Paper, $1.00.

Since 1931 some 50,000 copies of *An Outline of Fractures* have been distributed by the Committee on Fractures, now known as the Committee on Trauma of the American College of Surgeons. The appeal and need for it have been so great that the American College of Surgeons has felt that a manual similar in format and method of presentation to the fracture manual but dealing with all trauma exclusive of fractures has become a necessity.

This first edition of such a manual is regarded by the committee as only a start. The scope of such a work is so wide that many individuals and organizations best qualified in particular aspects of the major problems have contributed their thoughts and opinions. The whole has been edited in a form which presents the material in concise and precise chapters and paragraphs.

All types of trauma are considered with special emphasis on early treatment. The book begins with a discussion of general principles of care of open wounds and goes on methodically through first aid and early care and then specifically treats of injuries to regions and organs.

All treatment is covered in a systematic and brief but thoroughly outlined manner and the book ends with a discussion of general subjects such as burns, shock and its recognition and management, the use of antibiotics and antisera, anesthesia and immunization as prophylaxis for tetanus and gas gangrene.

This is a manual for all physicians. It is especially useful in this era of possible mass catastrophe, and it is urgently advised that everyone avail himself of it.—Frederick A. Pizzi

Practice in Radiotherapy. Under the general editorship of Sir Ernest Rock Carling, F.R.C.S., B. W. Windeyer, F.R.C.S., and D. W. Smithers, F.F.R. Octavo of 516 pages, illustrated. London, Butterworth & Co. (St. Louis, The C. V. Mosby Company), 1955. Cloth, $20.

This book, edited by three noted British radiologists, is a successful effort at answering the multiple complex problems of radiotherapy. The many subjects are covered by British radiologists who have contributed to the various chapters in this work.

The first section deals with a very comprehensive coverage of the physical basis of radiology. There is a particularly good discussion on differential tissue absorption of x-ray. There is also a brief but thorough consideration of dosimetry and methods of treatment planning. The authors also take up the action of radiation on living tissue. They concern themselves with the rearrangement of chromosomes secondary to radiation, also environmental conditions and their effect on radiosensitivity. An excellent section is presented by Sir Stanford Cade on the choice of cancer therapy. In this discussion Sir Stanford pleads, and rightly so, for cooperation between surgeon and radiotherapist. This is a chapter truly worth reading.

The subject matter then turns to the problems of specific malignant and to a lesser extent benign tumors. In the discussion on breast cancer it is interesting to note the stress placed on radiation therapy. The authors are impressed by the futility of surgery in any but early stages. There is evidently a unanimity of thought on the value of radiation in breast cancer in England as compared to the diverse opinions on this subject in this country.

The remaining sections on malignancies are rather routine but complete and deal with both radium and x-ray in treatment of these cancers. One of the few weaknesses in this book lies in the rather limited presentation of tumor pathology in its significance in radiation therapy. Exception to this are particularly good chapters on vaginal and laryngeal carcinoma.

The final section of the book considers the problems of keeping records and presenting statistics.

In summary, we might say that this book is certainly an excellent study worth reading on the problems facing the radiotherapist.—Louis Nathanson

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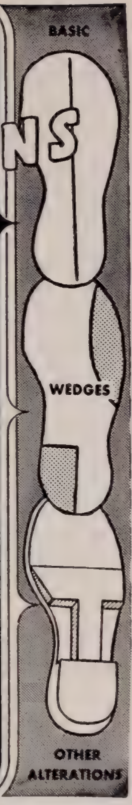

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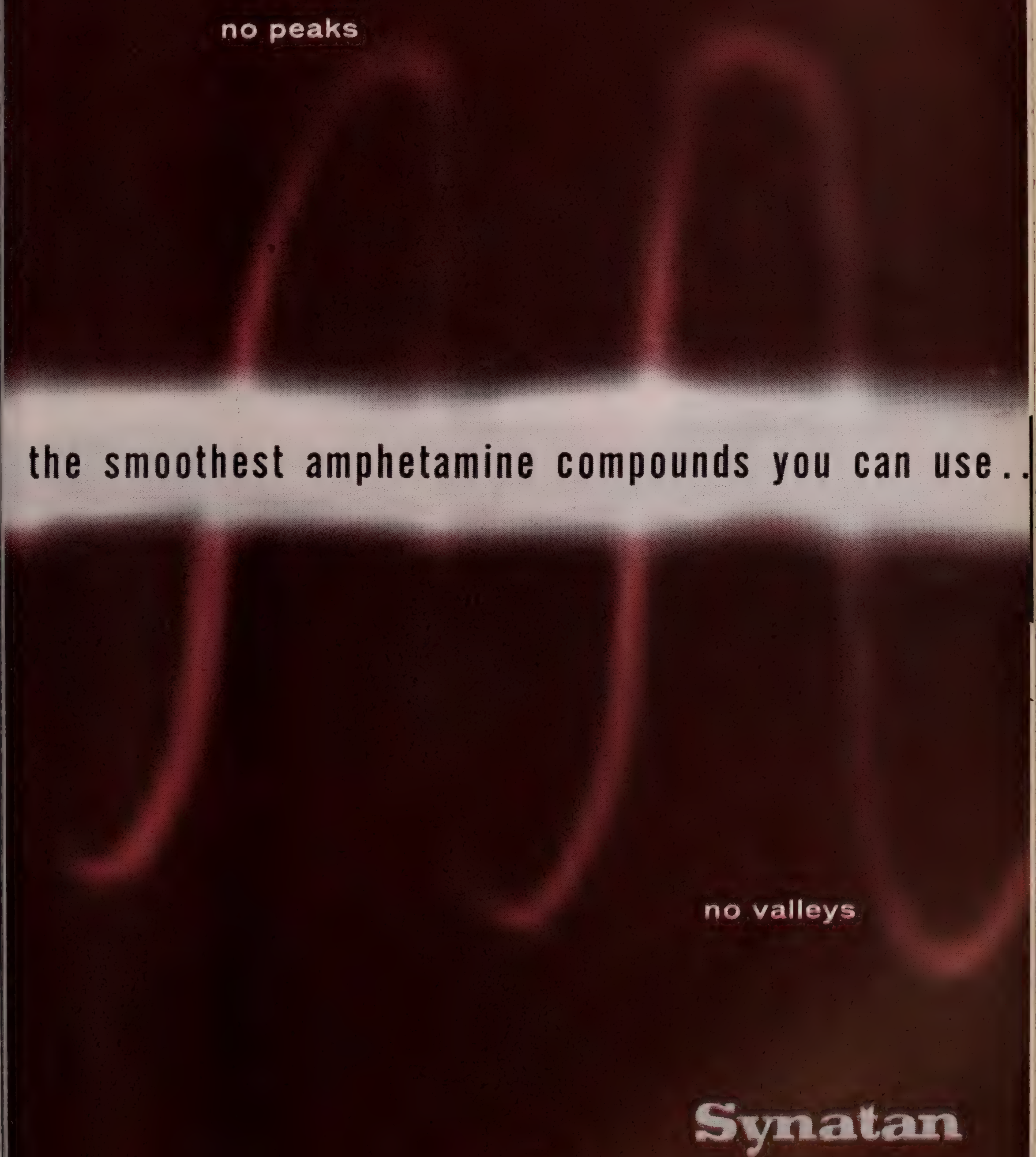
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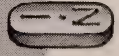

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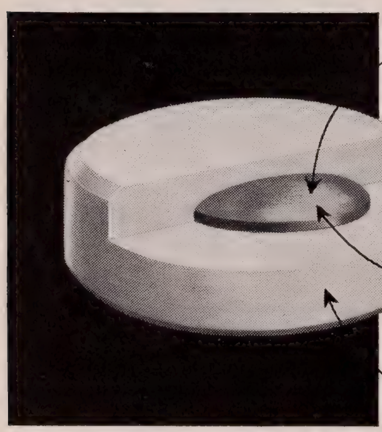

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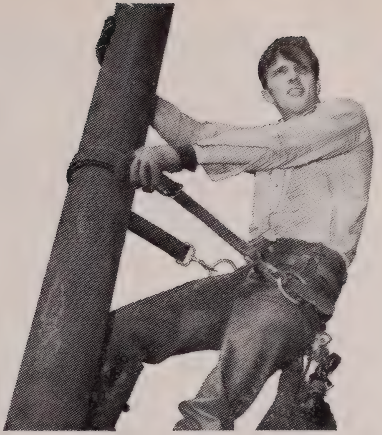

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[1] Posner, A. C., *et al.;* Further Observations on the Use of Tetracycline Hydrochloride in Prophylaxis and Treatment of Obstetric Infections, *Antibiotics Annual* 1954-55, pp. 594-598.

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so sore
it's agony
just to put
my shoe on."

"Our puppy
hasn't been
walked in a week.
I can't get around
so well and
my wife has
her hands full
with the baby."

"I bent over
to pick up
my kid.
Now I can't
bend, sit,
lie down—
nothing!"

"Spent four
dollars on
mustard pla
for my back
before I rea
it wasn't ge
any better."

"I'm not too heavy,
but the slightest
pressure on this knee
and I'm in trouble."

"It's hard enough to
carry this weight around
without legs
that ache all day."

*T.M. SG-J-7106

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s sneeze.
w can you keep
stiff neck
three weeks
t from
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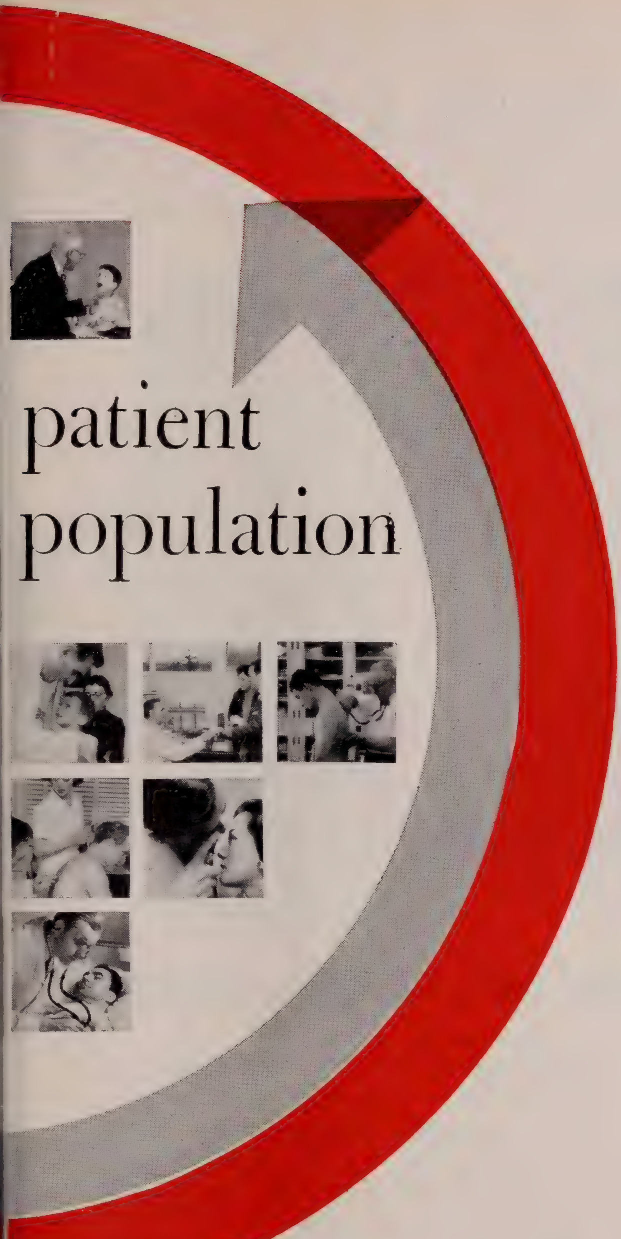

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Superior control of infectious diseases through superior control of the changing microbial population is now available in a new formulation of tetracycline, outstanding broad-spectrum antibiotic, with oleandomycin, Pfizer-discovered new antimicrobial agent which controls resistant strains. The synergistic combination now brings to antibiotic therapy: (1) a new fuller antimicrobial spectrum which includes even "resistant" staphylococci; (2) new superior protection against emergence of new resistant strains; (3) new superior safety and toleration.

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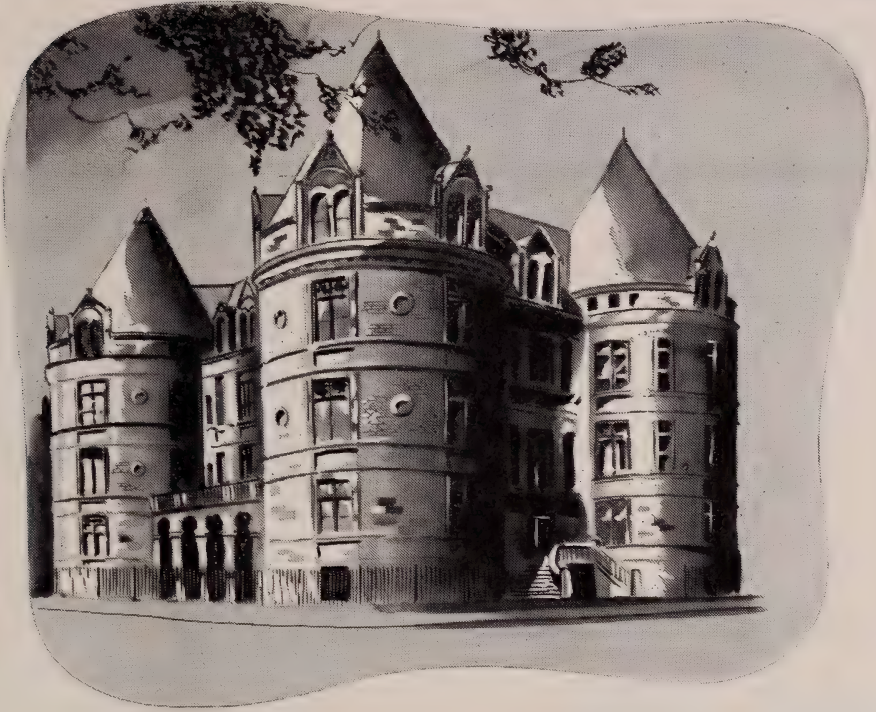

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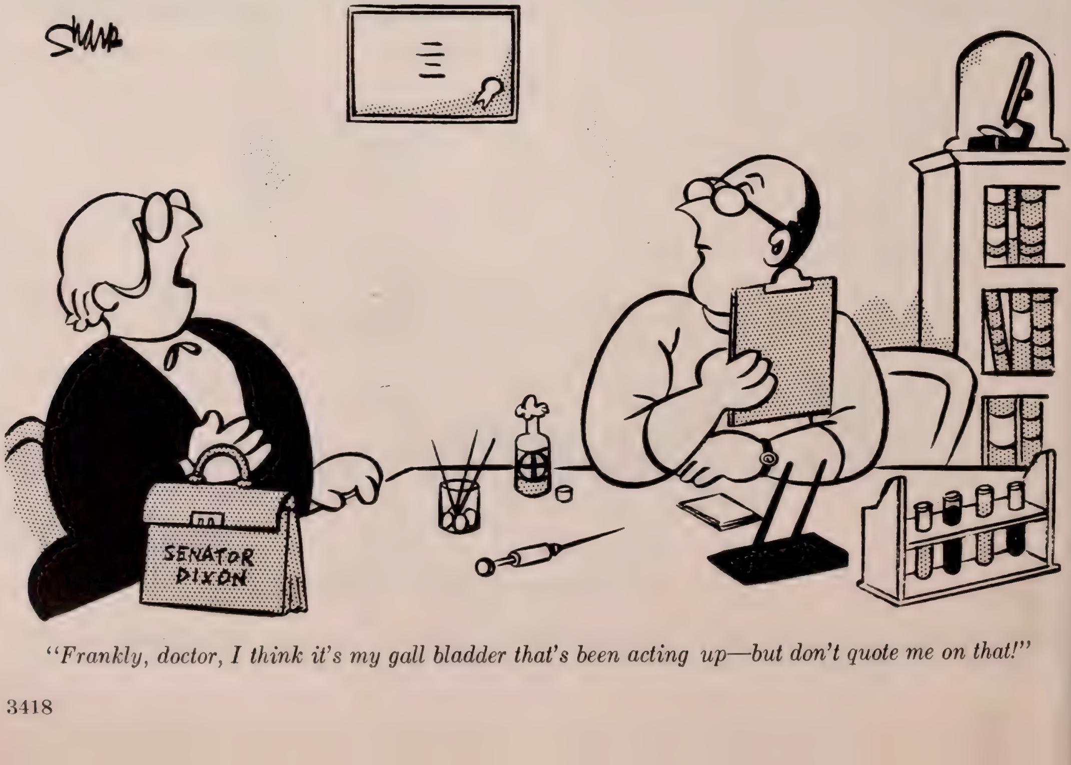

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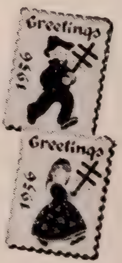

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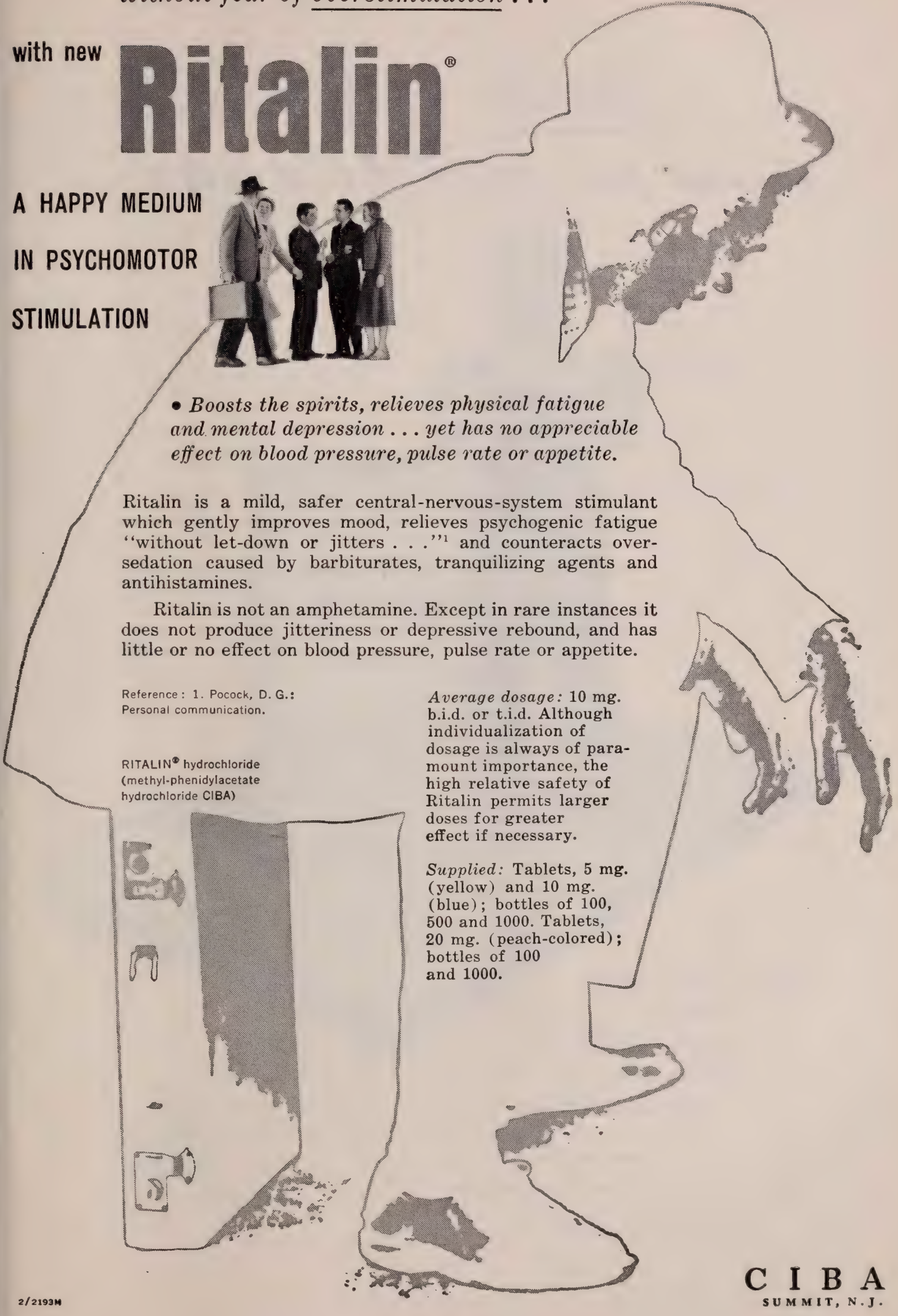

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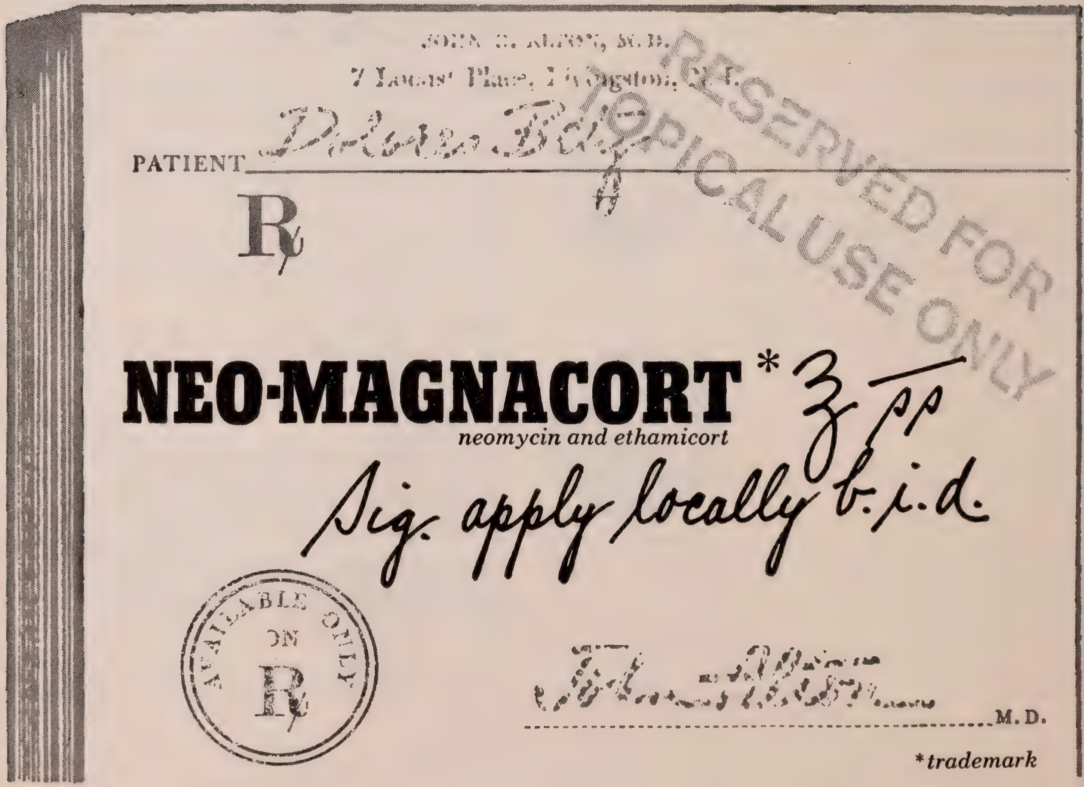

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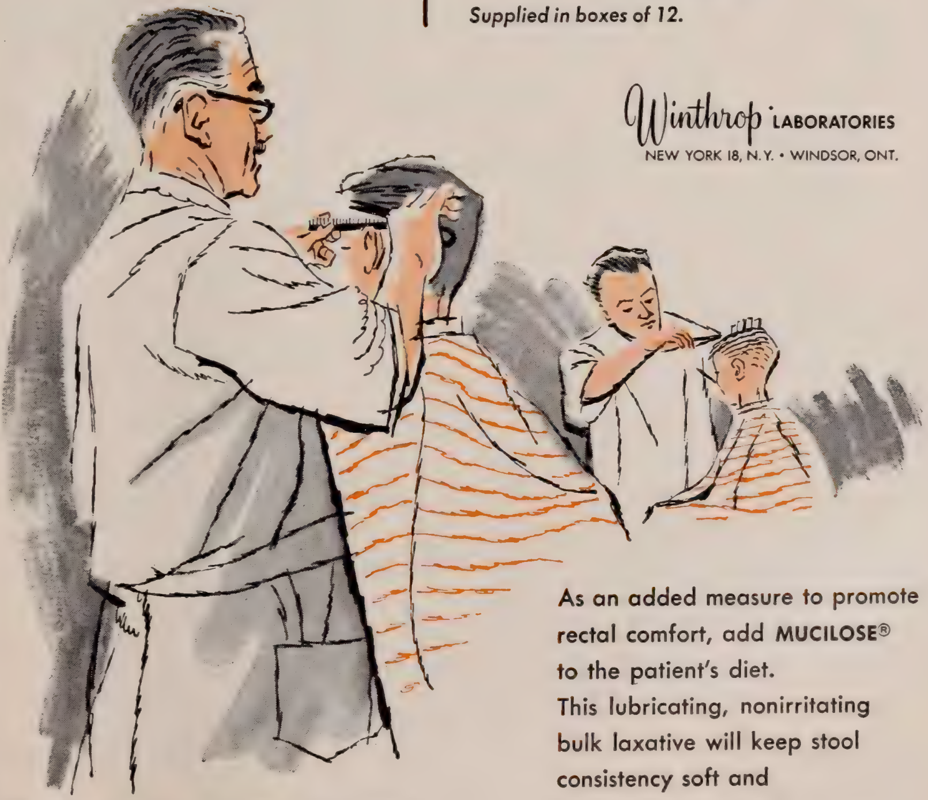

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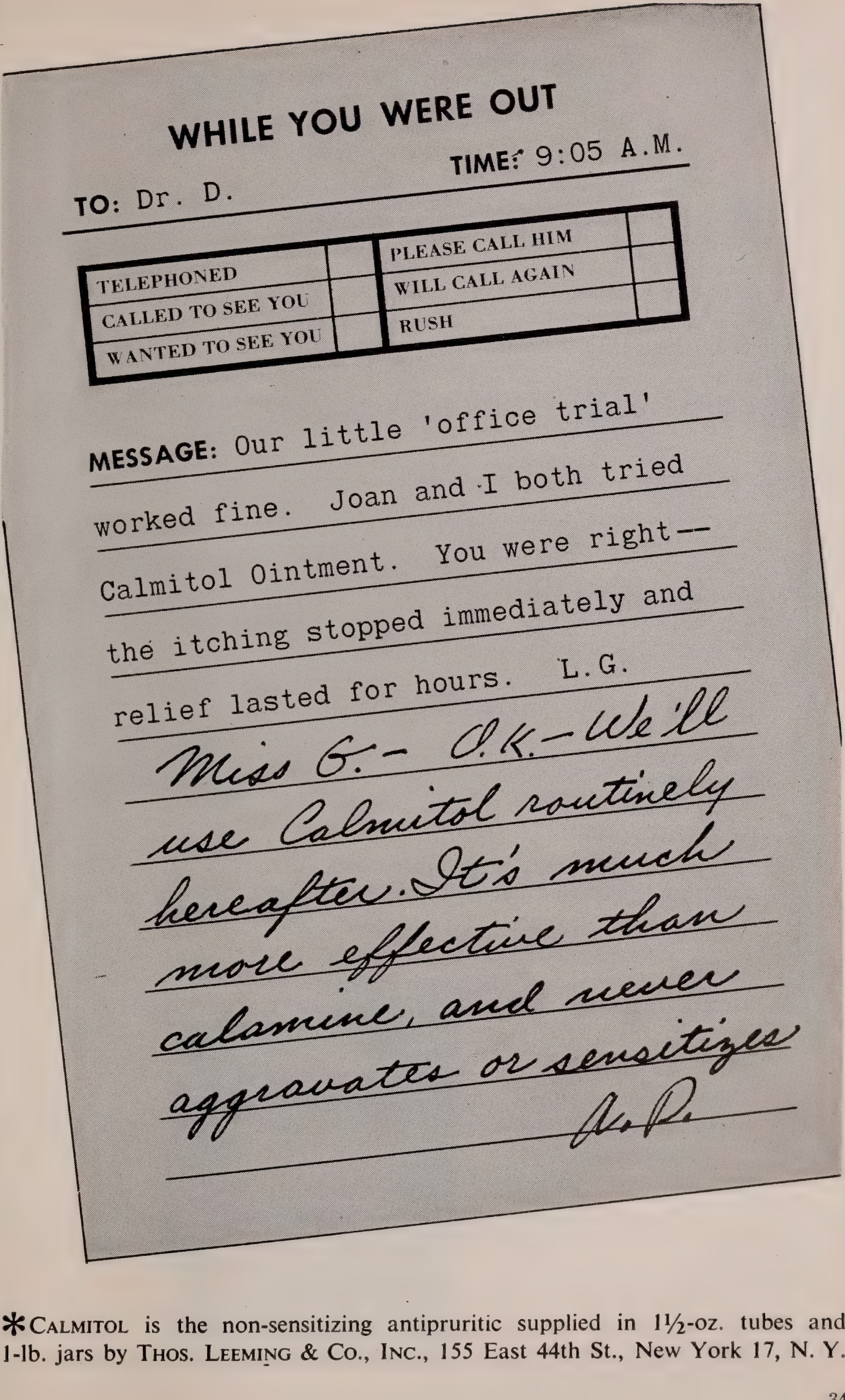

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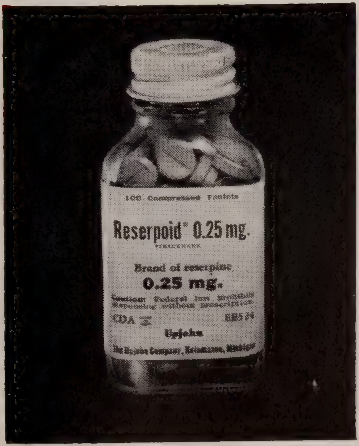
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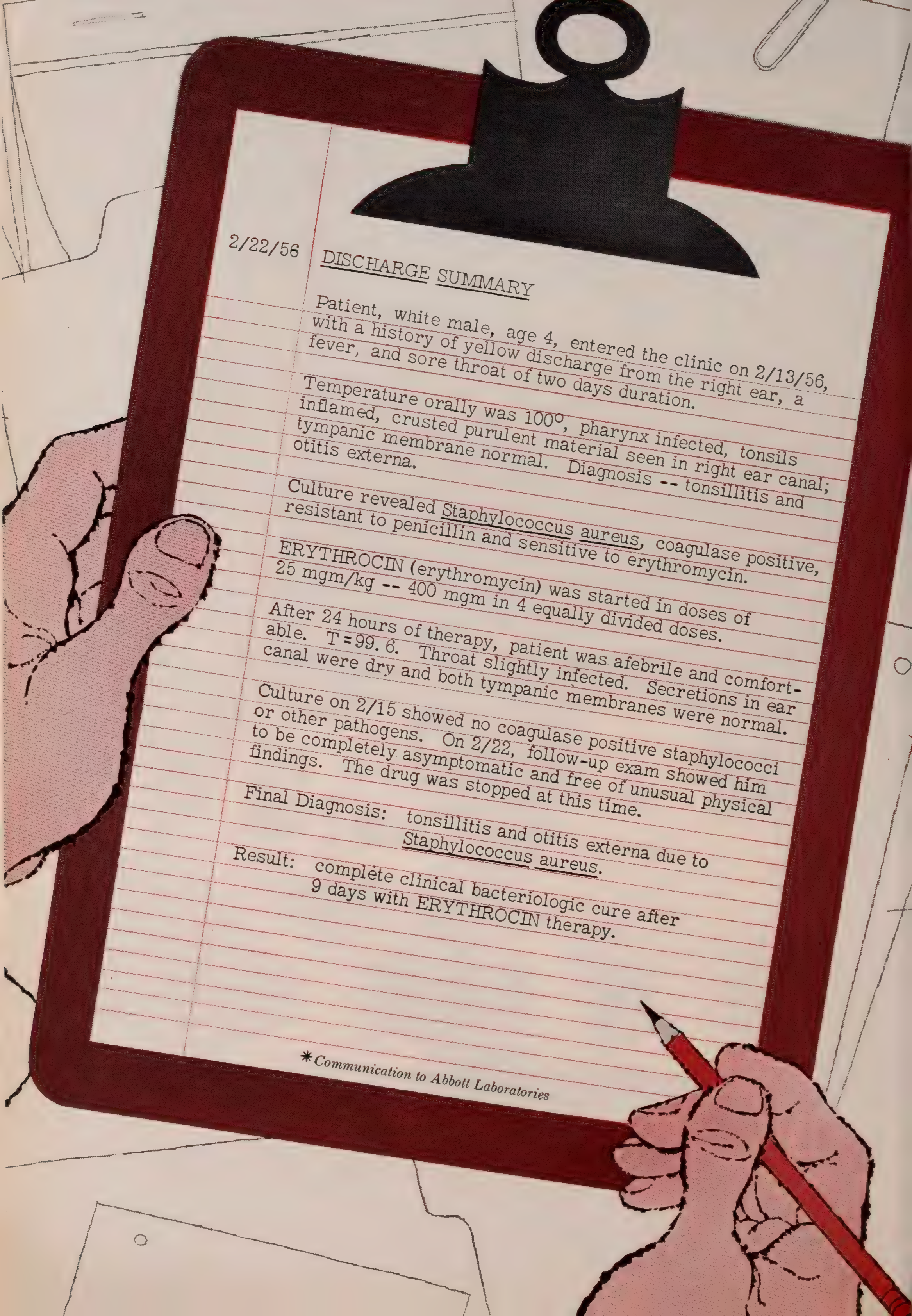

2/22/56 DISCHARGE SUMMARY

Patient, white male, age 4, entered the clinic on 2/13/56, with a history of yellow discharge from the right ear, a fever, and sore throat of two days duration.

Temperature orally was 100°, pharynx infected, tonsils inflamed, crusted purulent material seen in right ear canal; tympanic membrane normal. Diagnosis -- tonsillitis and otitis externa.

Culture revealed Staphylococcus aureus, coagulase positive, resistant to penicillin and sensitive to erythromycin.

ERYTHROCIN (erythromycin) was started in doses of 25 mgm/kg -- 400 mgm in 4 equally divided doses.

After 24 hours of therapy, patient was afebrile and comfortable. T=99.6. Throat slightly infected. Secretions in ear canal were dry and both tympanic membranes were normal.

Culture on 2/15 showed no coagulase positive staphylococci or other pathogens. On 2/22, follow-up exam showed him to be completely asymptomatic and free of unusual physical findings. The drug was stopped at this time.

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1. Herrell, W. E., Erythromycin, Antibiotics Monographs, No. 1, p. 29, New York, Medical Encyclopedia, Inc., 1955. *Idem* p. 30.

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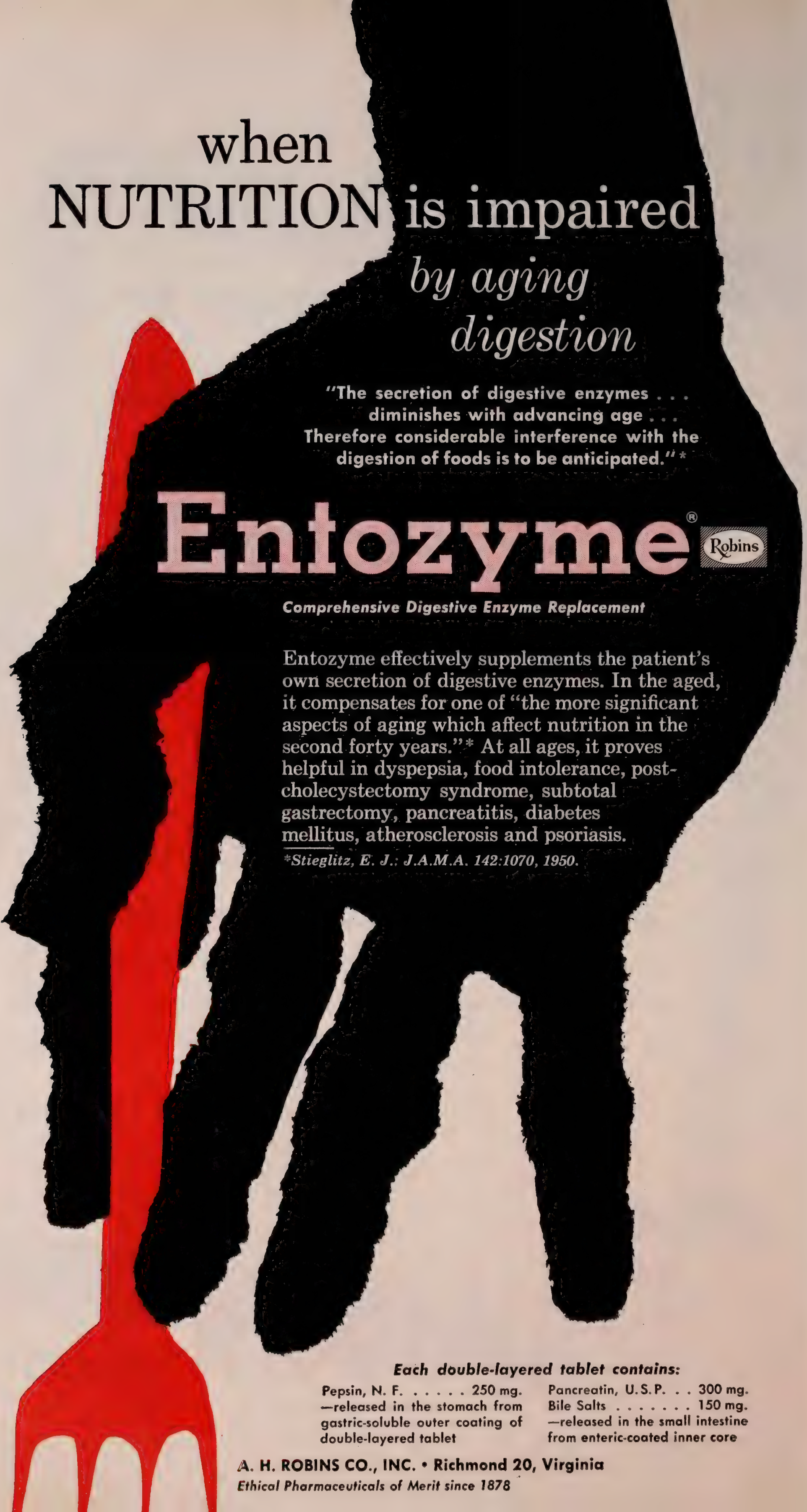

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Ethical Pharmaceuticals of Merit since 1878

recognized

as a potent, specific anti-arthritic

established

by over 100 million patient days

substantiated

in more than 700 published reports

BUTAZOLIDIN®

(phenylbutazone GEIGY)

potent, specific anti-arthritic

Based on an impressive background of achievement attained over a period of four years involving both long-term and short-term therapy in all the major forms of arthritis, BUTAZOLIDIN is recognized as one of the most effective anti-arthritic agents currently available.

relieves pain
improves function
resolves inflammation

BUTAZOLIDIN being a potent therapeutic agent, physicians unfamiliar with its use are urged to send for literature before prescribing it.

GEIGY

GEIGY PHARMACEUTICALS, Division of Geigy Chemical Corporation, New York 13, N.Y.

22686

all "baby desserts" aren't alike, either...

There's a difference:

Comparative composition of 100 gram portions: rennet-custards and commercially canned "Baby Desserts".

	Cal.	Prot. gm.	Fat gm.	Carbo. gm.	Ca. mg.	P. mg.	Vit. A I.U.	Ribo. mg.
***DESSERT A**	94	2.0	2.7	20.2	76	63	Trace	0.111
***DESSERT B**	100	2.32	1.89	17.72	76	43	25 (USP)	0.160
***DESSERT C**	102	2.4	3.2	16.5	75	69	228	0.110
****RENNET-CUSTARDS** (average of seven flavors)	96.5	3.2	3.6	12.7	123	102	175	0.164

**Nationally distributed "ready-to-serve" dessert.*
***Made with fresh milk and "Junket" Rennet Powder.*

Fresh milk is the basis of "Junket" rennet-custards. That is why they are higher in nutritional value than many commercially canned "Baby desserts". Rennet-custards furnish valuable protein, calcium and phosphorus needed for sturdy bone development and growth.

Rennet-custards, made with *fresh* milk and "Junket" Rennet Powder or Tablets, are widely advocated as one of the first solid foods in the infant dietary . . . and as a refreshing, readily digested dessert for toddlers and older children too.

junket®
RENNET POWDER

Makes *Fresh* Milk into Rennet-Custards

"Junket" Rennet Powder — Vanilla, Raspberry, Lemon, Orange, Chocolate, Maple, Strawberry.
"Junket" Rennet Tablets — not sweetened or flavored.

"JUNKET" (Reg. U.S. Pat. Off.) is the trade-mark of Chr. Hansen's Laboratory, Inc., Little Falls, N. Y.,

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quicker relief
and shortened disability
in Herpes Zoster and Neuritis

Protamide®

. . . Five Year Clinical Evaluation

With only one to four injections of Protamide® prompt and complete recovery was obtained in 84% of all herpes zoster patients and in 96% of all neuritis patients treated during a five-year period by Drs. Henry W., Henry G., and David R. Lehrer (Northwest Med. 75:1249, 1955).

The investigators report on a total of 109 cases of herpes zoster and 313 cases of neuritis, all of whom were seen in private practice. All but one patient in each category responded with complete recovery.

This significant response is attributed to the fact that Protamide therapy was started promptly at the patient's first visit.

The shortening of the period of disability by this method of management is described as "a very gratifying experience for both the physician and the patient."

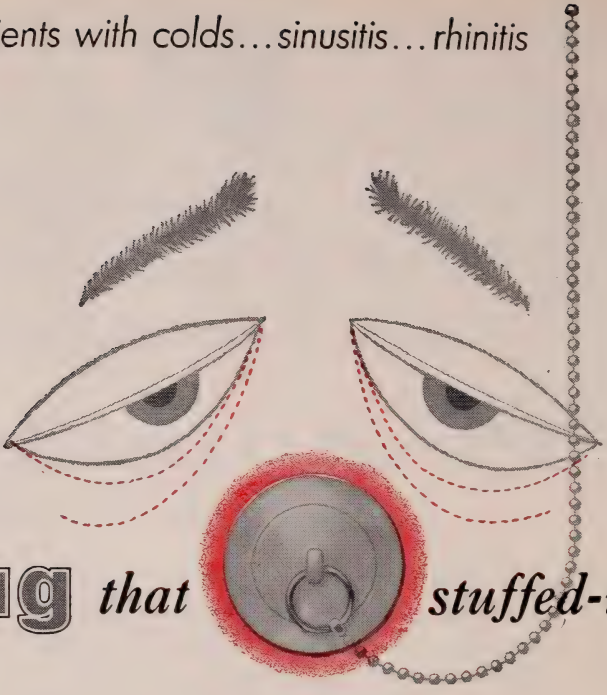
Protamide® is a sterile colloidal solution prepared from animal gastric mucosa . . . free from protein reaction . . . virtually painless on administration . . . used intramuscularly only. Available from supply houses and pharmacies in boxes of ten 1.3 cc. ampuls.

Protamide®

. . . a product of *Sherman Laboratories*
Detroit 11, Michigan

Start **Protamide®** *Promptly*

in patients with colds...sinusitis...rhinitis



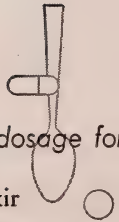
unplug *that* *stuffed-up nose*

orally *with*

Novahistine®

The marked synergistic action of a vasoconstrictor with an antihistaminic drug provides marked nasal decongestion and promotes normal sinus drainage. Oral dosage avoids harmful misuse of topical agents...eliminates nose drop rebound. Novahistine causes no jitters or cerebral stimulation.

Each Novahistine Tablet or teaspoonful of Elixir, provides 5.0 mg. of phenylephrine HCl and 12.5 mg. prophenpyridamine maleate. Novahistine *Fortis* Capsules contain twice the amount of phenylephrine for those who need greater vasoconstriction.



3 dosage forms

elixir
tablets
fortis capsules

PITMAN-MOORE COMPANY ***Division of Allied Laboratories, Inc.,*** **Indianapolis 6, Indiana**

3442

and...

when "head colds"

become "chest colds"

Novahistine®-DH

relieves
congestion
at both sites

Fortified Novahistine with dihydrocodeinone for the control of coughs and respiratory congestion

Each teaspoonful (5 cc.) contains:	
Phenylephrine hydrochloride	10 mg.
Prophenpyridamine maleate	12.5 mg.
Dihydrocodeinone bitartrate (may be habit forming)	1.66 mg.
Chloroform (approximately)	13.5 mg.
l-Menthol	1.0 mg.

(Alcohol content, 10%; sugar, 33⅓%).

PITMAN-MOORE COMPANY
Division of Allied Laboratories, Inc.
Indianapolis 6, Indiana

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"Neither rain, nor snow, nor advancing years shall stay this courier!"

For persons past forty, good health is usually a source of great pride and satisfaction. Each succeeding year seems to heighten their delight and appreciation. To help these "senior citizens" maintain their vigor, prescribe GEVRAL, a comprehensive geriatric diet supplement that provides 14 vitamins, 11 minerals, and Purified Intrinsic Factor Concentrate—all in one convenient, *dry-filled* capsule.

Gevral*

GERIATRIC VITAMIN-MINERAL SUPPLEMENT LEDERLE

dry-filled sealed capsules

for more rapid and complete absorption, freedom from aftertaste. A Lederle exclusive!

Lederle LEDERLE LABORATORIES DIVISION *AMERICAN CYANAMID COMPANY* PEARL RIVER, NEW YORK

*REG. U. S. PAT. OFF.

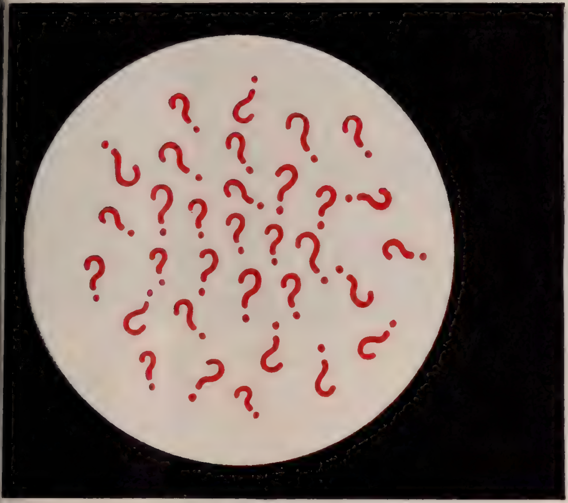
Each GEVRAL Capsule contains:

Vitamin A	5000 U.S.P. Units	Choline Dihydrogen Citrate	100 mg.	Calcium (as $CaHPO_4$)	145 mg.
Vitamin D	500 U.S.P. Units	Inositol	50 mg.	Phosphorus (as $CaHPO_4$)	110 mg.
Vitamin B_{12}	1 mcgm.	Ascorbic Acid (C)	50 mg.	Boron (as $Na_2B_4O_7.10H_2O$)	0.1 mg.
Thiamine Mononitrate (B_1)	5 mg.	Vitamin E (as tocopheryl acetates)	10 I.U.	Copper (as CuO)	1 mg.
Riboflavin (B_2)	5 mg.	Rutin	25 mg.	Fluorine (as CaF_2)	0.1 mg.
Niacinamide	15 mg.	Purified Intrinsic Factor Concentrate	0.5 mg.	Manganese (as MnO_2)	1 mg.
Folic Acid	1 mg.	Iron (as $FeSO_4$)	10 mg.	Magnesium (as MgO)	1 mg.
Pyridoxine HCl (B_6)	0.5 mg.	Iodine (as KI)	0.5 mg.	Potassium (as K_2SO_4)	5 mg.
Ca Pantothenate	5 mg.			Zinc (as ZnO)	0.5 mg.

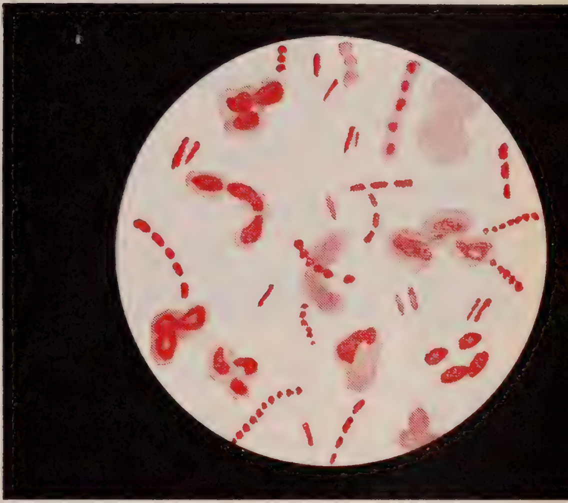
Other Lederle geriatric products include: *GEVRABON** Vitamin-Mineral Supplement Liquid with a wine flavor; *GEVRAL** Protein Vitamin-Mineral-Protein Supplement Powder; and *GEVRINE** Vitamin-Mineral-Hormone Capsules.

COMBINED ACTION FOR DECISIVE CONTROL

IN UNDIAGNOSED INFECTIONS



IN MIXED BACTERIAL INFECTIONS



- Wide antibacterial spectrum for control over a wide range of gram-positive and gram-negative infections
- Effective blood levels for high therapeutic activity
- High urinary solubility, low renal risk
- Special alumina-gel base* for uniform dispersion and rapid absorption

Supplied: Tablets BICILLIN-SULFAS, bottles of 36. Suspension BICILLIN-SULFAS, bottles of 2 and 3 fl. oz. Each tablet and each 5-cc. teaspoonful contains 150,000 units of BICILLIN and 0.167 Gm. each of sulfadiazine, sulfamerazine, and sulfamethazine.

*In Suspension only

TABLETS SUSPENSION

BICILLIN®-SULFAS

Benzathine Penicillin G (Dibenzylethylenediamine Dipenicillin G) and Triple Sulfonamides

Wyeth
®
Philadelphia 1, Pa.

PATIENT *Joe Davis*

℞

MAGNACORT* ℥ ss

ethamicort

Sig. apply locally b.i.d.

AVAILABLE ONLY ON ℞

M.D.

**trademark*

How to reform a persnickety eater

REDISOL®

CYANOCOBALAMIN (CRYSTALLINE VITAMIN B_{12})

Weight gain and increased interest in food often follow the use of REDISOL as a dietary supplement. The cherry-flavored Elixir or the soluble Tablets are both readily miscible with liquids.

MSD

MERCK SHARP & DOHME
DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.

Medihaler

Means self-powered, uniform, measured-dose inhalation therapy...

Medihaler

Means true nebulization. Each measured dose provides 5 to 8 times as many particles in the ideal size range as conventional nebulizers...

Medihaler

Means an unbreakable Oral Adapter—no movable parts—no glass to break—no rubber to deteriorate...

Medihaler

Means effective medications in an inert aerosol vehicle, in leakproof, spillproof, plastic-coated bottles...

Medihaler

Means utmost patient convenience—medication and Adapter together in plastic case, convenient for pocket or purse...

Medihaler

Means greater economy—no costly glass nebulizers to replace, and one inhalation usually suffices for prompt relief.

Medihaler®

THE UNIQUE MEASURED-DOSE INHALATION METHOD

In Asthma

For Rapid Relief of Acute or Continuing Bronchospasm

℞ **Medihaler-Epi™**

Riker brand of epinephrine 0.5% solution in inert, nontoxic aerosol vehicle. Each ejection delivers 0.125 mg. epinephrine. In 10 cc. vial with metered-dose valve, sufficient for 200 inhalations.

℞ **Medihaler-Iso™**

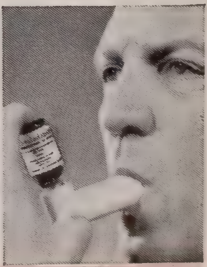
Riker brand of isoproterenol HCl 0.25% solution in inert, nontoxic aerosol vehicle. Each ejection delivers 0.06 mg. isoproterenol. In 10 cc. vial with metered-dose valve, sufficient for 200 inhalations.

Medihaler-Epi replaces injected epinephrine in emergency situations in which respirations have not ceased. It provides rapid relief in acute food, drug, or pollen reactions (including urticaria, bronchospasm, angioneurotic edema, edema of glottis, etc.). In most instances only one inhalation is necessary.

℞ **Medihaler Oral Adapter**

Note: First prescription for Medihaler medications should include the desired medication and Medihaler Oral Adapter.

Oral Adapter made of hard plastic with no movable parts...foolproof...unbreakable and easily cared for by rapid rinsing...entire set, including medication, fits into neat plastic case small enough to be carried inconspicuously in pocket or purse...the smallest package for nebulization ever produced.



In Angina Pectoris

NEW **Medihaler-Nitro™**

Medihaler-Nitro is 1% octyl nitrite in nebulization form. Outstanding for the emergency relief of acute anginal pain. Each inhalation delivers precisely 0.25 mg. of octyl nitrite. By using the lungs as the most direct portal of entry, faster relief than from orally administered drugs is assured because of proximity of pulmonary and coronary circulations. Faster-acting than nitroglycerin. Fewer side effects than from nitroglycerin or amyl nitrite.

Only one or two inhalations necessary. One full minute should elapse between inhalations. In 10 cc. Medihaler bottle with metered-dose valve.

Riker
LOS ANGELES

NEW

For Pain-Free

of everyday

In "Rheumatism"*

M*ultiple*

TEMP

combine:

PREDNISOLONE *(1 mg.)*...

+

ASPIRIN *(0.3 Gm.)*..............

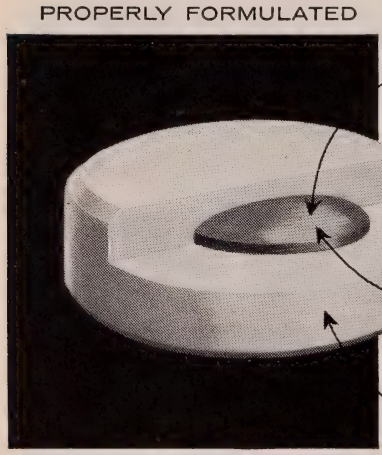
+

ASCORBIC ACID *(50 mg.)*..

+

ANTACID *(0.2 Gm.)*..............

THE PROPER FORMULA
PROPERLY FORMULATED



Physical separation of the steroid component from the aluminum hydroxide as provided by the Multiple Compressed Tablet construction assures full potency and stability of prednisolone.

* Early rheumatoid arthritis
Rheumatoid spondylitis
Osteoarthritis
Still's disease
Psoriatic arthritis
Bursitis
Synovitis
Tenosynovitis
Myositis
Fibrositis
Neuritis

Performance

activities

Patients

C*ompressed* **T***ablets*

OGEN®

. . . . for anti-inflammatory, anti-rheumatic benefits *at effective low dosage.*

. . . . for analgesia plus additional anti-rheumatic activity.

. . . . for anti-stress support that guards against adrenal ascorbic acid depletion.
(Ascorbic Acid present as 60 mg. Sodium Ascorbate.)

. . . . dried aluminum hydroxide gel minimizes the possibility of gastric distress.

DOSAGE: *1-4 TEMPOGEN Tablets t.i.d. or q.i.d. (TEMPOGEN Forte, 1 or 2 tablets t.i.d. or q.i.d.) for one or two weeks. Then lower by 1 tablet every four or five days to maintenance level.*

SUPPLIED: *TEMPOGEN and TEMPOGEN Forte —in bottles of 100 Multiple Compressed Tablets. (TEMPOGEN Forte provides 2 mg. of prednisolone.)*

MSD

MERCK SHARP & DOHME
DIVISION OF MERCK & CO., INC.
PHILADELPHIA 1, PA.

NIGHT and DAY

patients appreciate the effectiveness of **LUASMIN** in controlling the distressing symptoms of **bronchial asthma . . .**

A capsule and an enteric-coated tablet at bedtime generally results in an uninterrupted **night** of sleep— **and** if needed, capsules give relief during the **day.**

LUASMIN

Enteric Coated Tablets and Capsules

provide

Theophylline Sodium Acetate .... (3 gr.) 0.2 Gms.
Ephedrine Sulfate .... (½ gr.) 30 Mg.
Phenobarbital Sodium .... (½ gr.) 30 Mg.

Also available in half-strength.

For samples just send your Rx blank marked 14-LU-11

Brewer
EST. 1852

BREWER & COMPANY, INC. WORCESTER 8, MASSACHUSETTS U.S.A.

Brings
new certainty to
antibiotic therapy
particularly for the
90% of patients
treated in home
or office

new
Sigmamycin*
OLEANDOMYCIN TETRACYCLINE

*TRADEMARK

a new maximum
in therapeutic
effectiveness

a new maximum
in protection
against
resistance

a new maximum
in safety and
toleration

for
your
entire

multi-spectrum
synergistically
strengthened . . .

Sigma
OLEANDOMYCIN TETRACYCLINE

patient
population

a new certainty

in antibiotic therapy,
particularly for
the 90% of patients
treated at home
and in the office

mycin*

Superior control of infectious diseases through superior control of the changing microbial population is now available in a new formulation of tetracycline, outstanding broad-spectrum antibiotic, with oleandomycin, Pfizer-discovered new antimicrobial agent which controls resistant strains. The synergistic combination now brings to antibiotic therapy: (1) a new fuller antimicrobial spectrum which includes even "resistant" staphylococci; (2) new superior protection against emergence of *new* resistant strains; (3) new superior safety and toleration.

*TRADEMARK

Pfizer

superior control of infectious disease through superior control of the changing microbial population

new Sigmamycin*

OLEANDOMYCIN TETRACYCLINE

A synergistically strengthened multi-spectrum antibiotic

Sigmamycin is a new antibiotic formulation providing: (1) the unsurpassed broad-spectrum activity of tetracycline, the outstanding broad-spectrum antibiotic discovered and identified by Pfizer; (2) the action of oleandomycin, the new antimicrobial agent which combats those strains, particularly among staphylococci, now resistant to tetracycline and other antibiotics.

Sigmamycin embodies a new concept in the use of antibiotics, for with this new synergistically active preparation, the development of refractory pathogens and their emergence as important sources of superinfection are more fully controlled.

New superior safety and toleration— Sigmamycin brings to antibiotic therapy new superior safety, new unexcelled toleration because: (1) tetracycline, an outstandingly well-tolerated antibiotic, is formulated with oleandomycin, also known to be remarkably free of adverse reactions; (2) the synergism between oleandomycin and tetracycline enhances antimicrobial potency.

Dosage: 1 to 2 capsules q.i.d.

Supplied: Capsules, 250 mg. (oleandomycin 83 mg., tetracycline 167 mg.) Bottles of 16 and 100.

*TRADEMARK

Pfizer

PFIZER LABORATORIES, *Division, Chas. Pfizer & Co., Inc.*, Brooklyn 6, N. Y.

When an unbidden guest brings diarrhea

CREMOSUXIDINE

SULFASUXIDINE® SUSPENSION WITH PECTIN AND KAOLIN

During warmer months the sharp increase in diarrhea brings you many patients. Confidently prescribe CREMOSUXIDINE, a reliable antidiarrheal and antibacterial. It detoxifies intestinal irritants and soothes inflamed mucosa. Pleasant tasting, chocolate-mint flavored.

MSD

MERCK SHARP & DOHME
DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.

Gallstone Prevention

Gallstones are composed chiefly of cholesterol. The principal cause of the disease is an increased cholesterol content of stagnant bile, leading to inspissation and calculosis.

CHOLOGESTIN prevents gallstones because it maintains cholesterol in solution in the bile, and also increases the secretion and flow of bile. Contains salicylated bile extract with pancreatin and sodium bicarbonate.

The recommended dosage of CHOLOGESTIN is 1 tablespoonful in cold water after meals. If tablets are preferred. 3 TABLOGESTIN Tablets are equivalent to 1 tablespoonful of Chologestin.

F. H. STRONG COMPANY NYS-11
112 W. 42nd St., New York 36, N. Y.

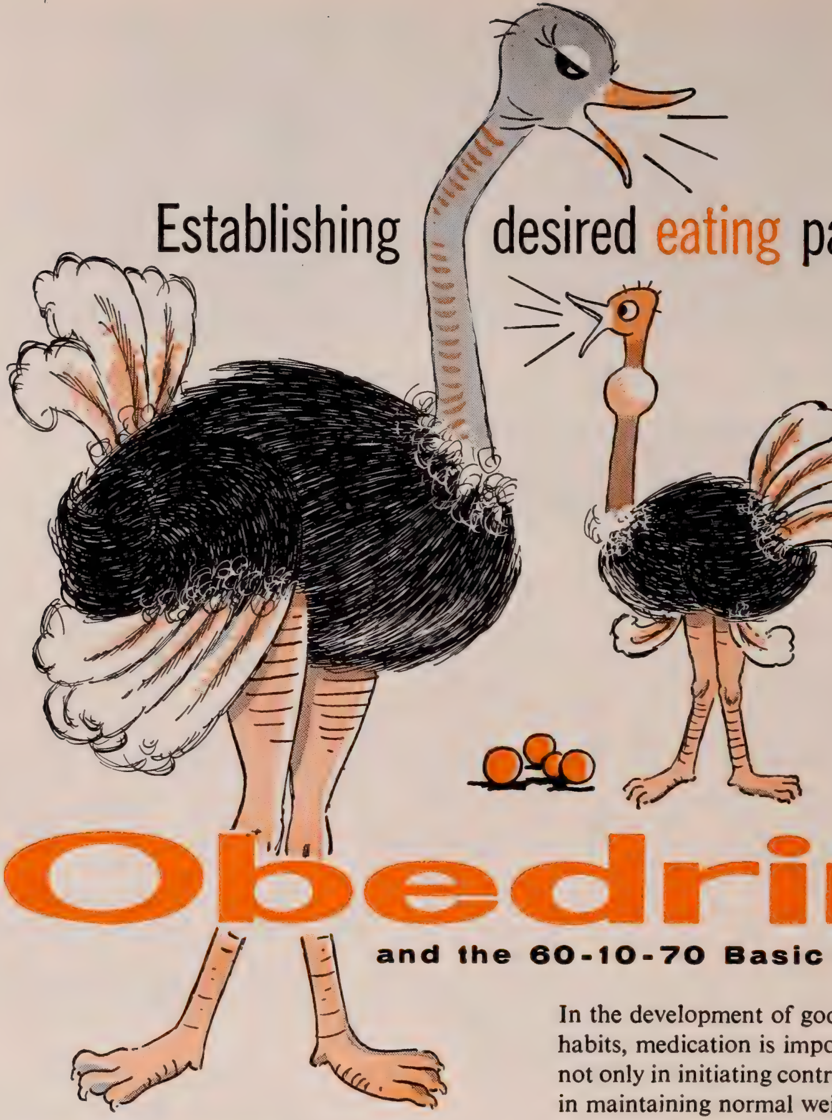
Please send me free sample of TABLOGESTIN together with literature on CHOLOGESTIN.

Dr. ____________________

Street ____________________

City ____________________ Zone ______ State ____________________

Establishing desired eating patterns



Obedrin®

and the 60-10-70 Basic Plan

In the development of good eating habits, medication is important, not only in initiating control, but also in maintaining normal weight.[1,2,3]

Obedrin contains:

- Methamphetamine for its anorexigenic and mood-lifting effects.
- Pentobarbital as a balancing agent, to guard against excitation.
- Vitamins B_1 and B_2 plus niacin to supplement the diet.
- Ascorbic acid to aid in the mobilization of tissue fluids.

Since Obedrin contains no artificial bulk, the hazards of impaction are avoided. The 60-10-70 Basic Plan provides for a balanced food intake, with sufficient protein and roughage.

Formula

Semoxydrine HCl (Methamphetamine HCl) 5 mg.; Pentobarbital 20 mg.; Ascorbic acid 100 mg.; Thiamine HCl 0.5 mg.; Riboflavin 1 mg.; Niacin 5 mg.

1. Eisfelder, H.W.: Am. Pract. & Dig. Treat., 5:778 (Oct.) 1954).

2. Sebrell, W.H., Jr.: J.A.M.A., 152:42 (May, 1953).

3. Sherman, R.J.: Medical Times, 82:107 (Feb., 1954).

Write for
60-10-70 Menu pads, weight charts,
and samples of Obedrin.

THE S. E. MASSENGILL COMPANY
BRISTOL, TENNESSEE

clinically proved, before introduction, in over 12,000 patients

announcing

*Compazine**

a further advance in psychopharmacology

a true "tranquilizer"
and potent antiemetic
with minimal side effects

indicated in:

- mental and emotional disturbances—mild and moderate—encountered in everyday practice
- nausea and vomiting—mild and severe

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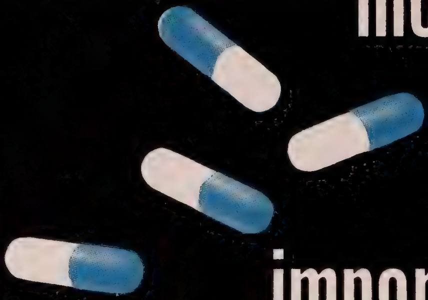

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[1] Karp, M., et al.: Am. J. Obst. & Gynec. 69:780 (April) 1955.

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EDITORIAL

Social Security II

With the signing by President Eisenhower of the new Social Security Bill, carrying with it the added burden of 850 million dollars a year, a new chapter seems to have been written into the history of the system. It is true that coverage has now been extended to more than 200,000 professional men and women not previously covered, but with the pensioning of all disabled persons fifty years of age and over, there seems to be opened a way to possible large-scale abuse of the social security principle. To qualify for disability pensions, disabled persons must have been in that condition for at least three months and must undergo strict medical tests. Says the *New York Herald Tribune* editorially, in part:[1]

> Disabled people are a social responsibility of course. The world has recognized this for a long time. But they should not be supported, as a group, by government pensions. As the President said at his press conference, "We are loading on the security system something I don't think should be there." To begin with, what is the criterion of disability? It is to be determined by state agencies, which means there is bound to be a great disparity of standards, no matter how strict the law says the agencies should be.
>
> Then, some are sure to ask, is it fair to give a fifty-year-old a pension while denying it to a disabled person of forty-nine—or thirty-nine? Disability, they will argue, and with reason, is absolute, and an age qualification is irrelevant. And if the disabled receive pensions, what about their widows and children? It will be hard indeed for Congress, in another election year, not to extend these benefits further.

Determination of disability under the new law involves establishment of criteria by state agencies and the application of whatever standards may emerge to individual cases under adjudication on the basis of medical reports. This directly involves the medical profession and will undoubtedly place it between severe stresses from the upper and nether political millstones.

The President has promised that "government would try to administer the disability provision as efficiently and effectively as possible. He also promised to place more emphasis on rehabilitation efforts. Now that the bill is law, this represents the most positive approach. The public officials concerned will have a heavy responsibility in the years to come to see that the proper standards are created and maintained. Congress will have an even heavier one in holding firm against the swarm of pressures this law is certain to breed."

The medical profession has consistently opposed the disability provisions of the law and is aware of the enormous increase in the tax burden which it will impose on the public, but doctors can be counted on in any event to do their part in the determination of disability, regardless of their personal views regarding the social security principles.

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[1] N. Y. Herald Tribune, July 3, 1956, p. 10.

Medical Society of the State of New York
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The Doctor in CIVIL DEFENSE

Medical Defense Committee of the Medical Society of the State of New York and the Office of Medical Defense, New York State Department of Health

J. G. FRED HISS, M.D., SYRACUSE, *Chairman*

Schuyler County Organized for Medical Disaster

On a certain day each year a major medical disaster could happen in the hills of Schuyler County in the center of New York State. It's the day of the Grand Prix sports car road races, and 50,000 or more people descend on a county of 18,000 people and nine physicians.

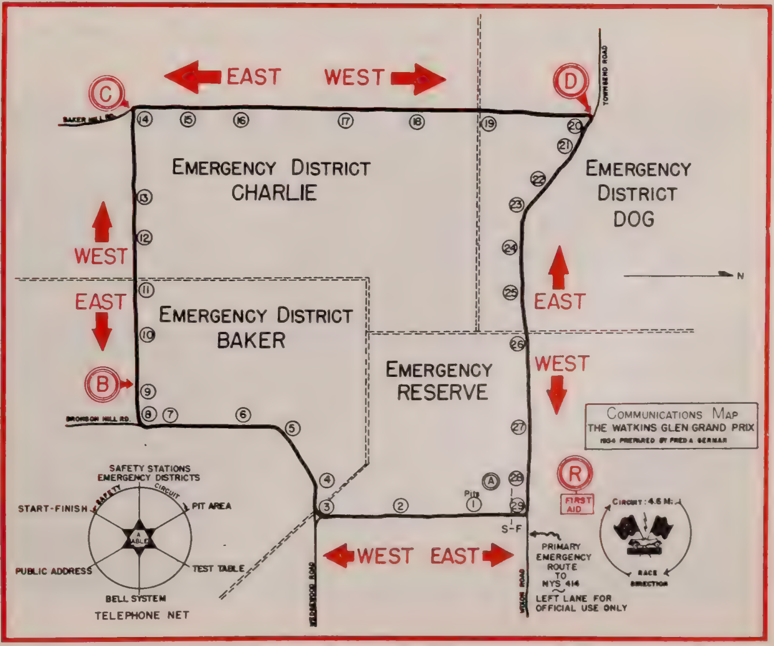
Road races mean accidents, and at one time every bad accident at the Grand Prix meant medical chaos. The medical organization was informal. Ambulances were stationed near the scene of the race, but the means of communicating with them was by amateur radio equipment in cars. The terrain was so hilly that radio communication was poor, and coordination of medical facilities at the time of an accident was virtually impossible.

All this has changed. Now, on Grand Prix day, the entire medical facilities of the county operate on a standby disaster basis—ready to handle any medical emergency.

Road Racing

Before 1948 there had been no road racing in America for some time. In the early 1900's, in the days of Barney Oldfield, races were held on regular highways, from one city to another. It was dangerous, and there were so many accidents that in this country road racing fell into disrepute as a sport.

However, while he was in Europe in the 1940's, Cameron R. Argetsinger of Watkins Glen in Schuyler County became interested in foreign sports car racing and set about to revive the sport in America. The Sports Car Club of America was formed with less than 300 members,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A TABLE
BELL SYSTEM
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PRIMARY EMERGENCY ROUTE TO NYS 414
LEFT LANE FOR OFFICIAL USE ONLY
CIRCUIT: 4.6 MI.
RACE DIRECTION
COMMUNICATIONS MAP
THE WATKINS GLEN GRAND PRIX
1954 PREPARED BY FRED A. GERMAN

and in 1948 the Club and the Watkins Glen Chamber of Commerce sponsored the first road races held in America for many years. There were 26 entries in the races which were run over a 6 or 7-mile course, passing through the center of the village of Watkins Glen.

Races were held again in 1949 and in 1950, and each year there were greater numbers of entries and spectators. Each race day there were a number of races over the same course, and spectators jammed the sidewalks along the streets while the cars raced by.

In 1950 James J. Norton, M.D., came to practice in Montour Falls near Watkins Glen. On Grand Prix day in 1950 he was assigned to an ambulance. That was the year that the famous race driver Sam Collier was killed, and there were several major accidents involving spectators. Dr. Norton was appalled at the lack of coordination of the medical facilities and by the fact that medical personnel were forced to be out on the racetrack in ambulances with cars going by at 120 miles an hour. After the race the County Medical Society, alarmed at the accident potentials of the races, agreed that something must be done to improve the situation. Dr. Norton was appointed to study the problem.

At the same race a photographer, Fred German, of Rochester, New York, had stationed himself with his camera along the course. He too was alarmed by what he observed.

Several days after this 1950 race Dr. Norton and Mr. German appeared independently at a meeting of the Grand Prix committee and asked to speak to the committee. Both said the same thing. The Grand Prix had grown to such proportions and was attracting so many spectators that some safety system had to be devised. The committee said to the two, "Figure out a way."

Operations for Disaster

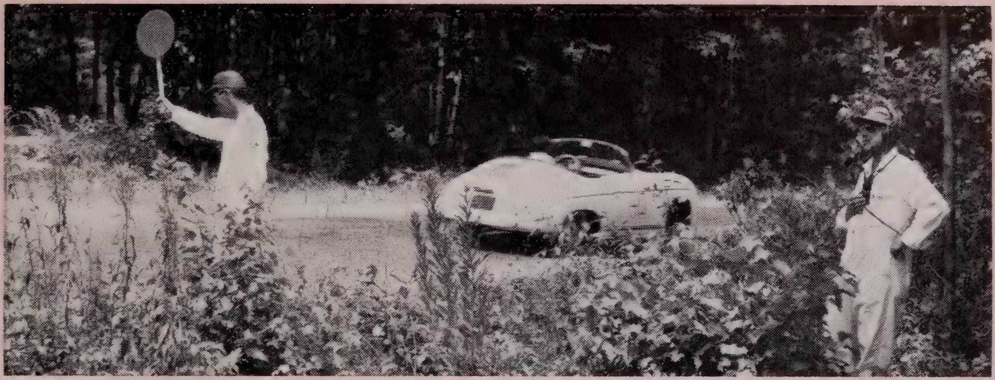
Two factors had to be taken into consideration in preparing a safety system: the distribution of the medical facilities and the installation of adequate control through communications. Dr. Norton tackled the medical problem and Fred German the communications.

By Grand Prix day in 1951 a system had been devised and was put into effect. To insure adequate medical coverage for Schuyler Hospital (located in Montour Falls, 4 miles from Watkins Glen), the resident population, and the races was not easy with only nine physicians available. True, there were always some physicians from outside of the county who, because they were interested in the sport, volunteered their services. But even with them, medical personnel had to be carefully allocated.

In 1953, to make the races even safer for spectators, they were moved into the hills near Watkins Glen where the crowds could be kept back 200 feet from the road.

Before 1953 course of Grand Prix was dangerous route through village of Watkins Glen.

CLOTHES
GRAND PRIX ROAD RACE
START · WATKINS GLEN, N.Y. · FINISH



Thick underbrush makes it difficult for Flagman Ansel Koegler and telephone operator Walter Boughton to operate. (Picture taken at the Wilkes-Barre Brynfan Tyddyn Races.)

The Grand Prix emergency organization is in official operation from 8 A.M. the day of the races until 6 P.M. Five races are held from 10 A.M. to 4:30 P.M., but the emergency organization must be in operation longer to cover possible traffic accidents. From early in the morning the crowds pour into the locality from all nearby states and some even from as far away as South Carolina.

The operations are manned completely by volunteers who wait at their posts ready to move quickly at a time of disaster. The race cars flash by at 180 to 190 miles an hour, slowing down to 60 miles an hour for a right-angle turn. However, since 1953 there have been no accidents involving spectators, and new safety records have been established.

Dr. Norton is medical director on race day, and he directs all movement of medical personnel. The medical director's post is at Communications Headquarters which is near the start and finish line of the race course. He does not leave this post and directs all operations by telephone.

The Communications Map shows the race course and how it is divided into districts called Emergency District Baker, Charlie, Dog, and Reserve. In each district there are stationed two ambulances, a fire truck, and a wrecker ready to move instantly in the event of a disaster in the district. Six ambulances are stationed in the Reserve District. These ambulances are prepared to move where they are needed at the races or anywhere else in the county. Two physicians are stationed at Schuyler Hospital where they remain while the emergency organization is in operation.

Near the Emergency District Reserve there is a first-aid tent, staffed by two physicians and five nurses. There are six cots in the tent, and it contains all the necessary equipment for the emergency treatment of any casualty.

On race day all calls for medical assistance from any part of the county other than the race course are handled by the Schuyler Hospital switchboard. If the patient can be moved, he is brought to the hospital. If he cannot be brought to the hospital, the hospital calls the medical director who dispatches an ambulance and doctor from the reserve pool at the race course.

Dr. Robert Wadsworth, Race Communications coordinator, sets up course conditions on electric panel board.

BAKER
CHARLIE
DOCTOR
LUX

RACE
COMMUNICATIONS

Race Communications Association flagman signals driver that there is ambulance in operation on the course.

Communications

As Dr. Norton says, the medical personnel "are powerless to act without instant and accurate information." He also states that it is necessary to have the information relayed by trained people who can do and say the right thing no matter what happens. Fred German devised the communications system and serves as the Communications Coordinator at the Grand Prix races. He has made unique contributions to safe road racing in the United States. In fact, a manual, *Race Communications*, prepared by him for the Race Communications Association (66 Irving Road, Rochester, New York), has been translated into several foreign languages.

A special telephone circuit surrounds the entire race course, with 30 flagmen and telephone operators stationed in sight of each other. These men immediately report every accident and its apparent severity to the communications coordinator, who informs the medical director.

When people are injured, the medical director dispatches the required number of ambulances to the scene of the accident. No ambulance moves until ordered to move by the medical director who thus has complete control at all times. Meanwhile, flagmen direct the cars still in the race around the scene of the accident. The color of the flag tells the drivers where and how fast to proceed. In case of a major accident, of course, the race is stopped. If a driver fails to observe the flag signals, he is disqualified from the race.

Wearing white uniforms and red caps, the observers and telephone operators are a group of volunteers interested in racing who are trained to report accurately and immediately any trouble on the race track.

Dr. Norton says, "The setup gives us a sense of security because we have a previously planned and rehearsed method of handling our own county medical needs, the needs of 50,000 to 75,000 extra people in a single day, and a major disaster." During the 1952 races there was a serious accident. The race at that time was still held in the village of Watkins Glen. One car swerved to the curb and knocked down 12 people, decapitating one boy. Within eight minutes, however, all injured had been seen by physicians, given preliminary treatment, and started toward the hospital.

All Volunteers

It is interesting to note that everyone who takes part in the Grand Prix Emergency Organization is a volunteer, from Henry Valent, the president of the present Grand Prix Corporation, down. Because of this and the system of assigning cases, physicians have agreed to donate their fees for services on race day to Schuyler Hospital. If a case requires continued treatment, the physician charges his usual fee at the conclusion of the case. Then the County Medical Society determines what share of the fee was earned on the day of the race. This share is donated to the hospital, and the remainder of the fee is kept by the physician.

Natural Disaster

The well-organized medical corps and communications system of the Grand Prix road races is one example of how a community can prepare to meet a disaster, even if resources are limited.

However, as the people of Schuyler County learned, it requires predisaster planning and training. It requires the teamwork and cooperation of everyone taking part.

With careful organization and planning any community can likewise be prepared to meet a disaster, large or small. They can have the same "sense of security" enjoyed by the people of Schuyler County.

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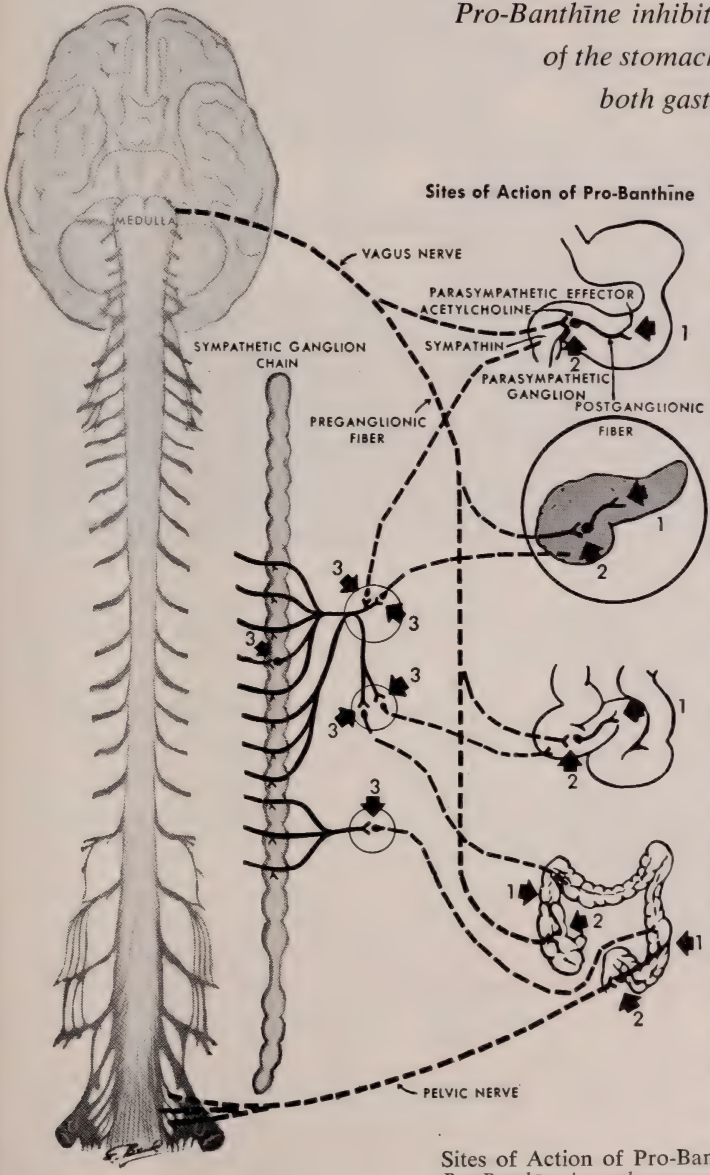
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PARASYMPATHETIC GANGLION
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3
PELVIC NERVE

Sites of Action of Pro-Banthīne. *The principal site of action of Pro-Banthīne is on the parasympathetic system where it exerts a dual action while exerting a single and lesser action on the sympathetic system: (1) parasympathetic effector; (2) parasympathetic ganglion; (3) sympathetic ganglion (see arrows).*

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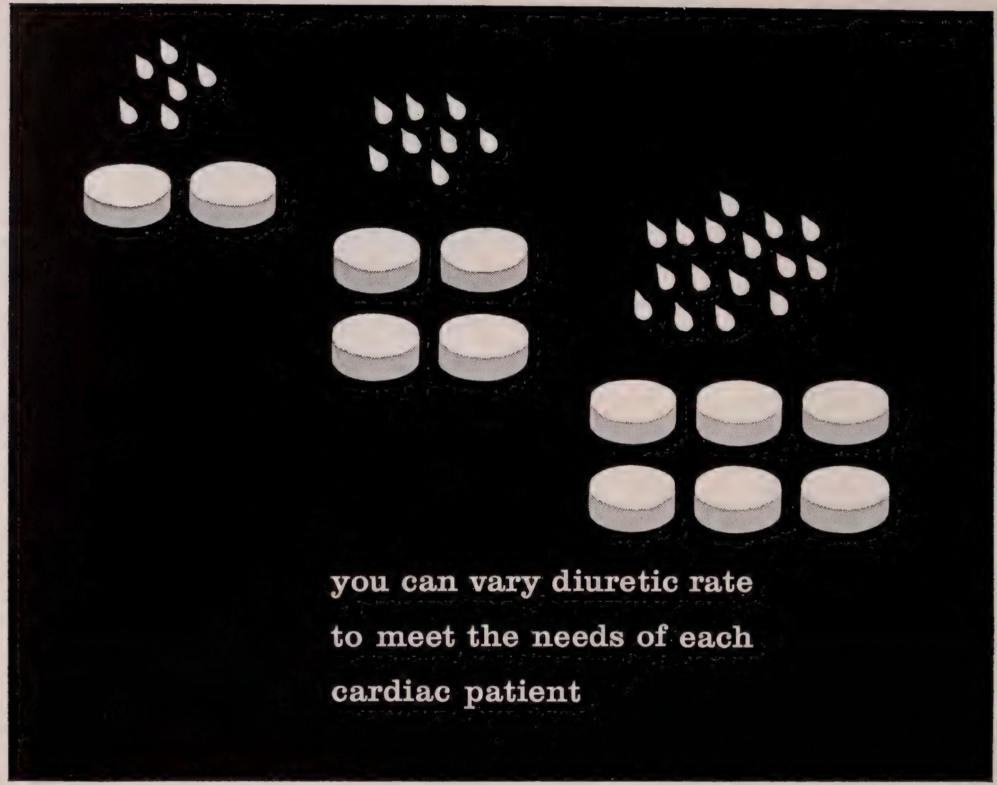
2. Zollinger, R. M.: Postgrad. Med. *15*: 323 (April) 1954.
3. Woodward, E. R.: M. Clin. North America *38*:115 (Jan.) 1954.
4. Schwartz, I. R., and Hinton, J. W.: Personal communication, February, 1955.

SEARLE



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SCIENTIFIC ARTICLES

Primary Carcinoma of the Ureter

WILLIAM J. STAUBITZ, M.D., F.A.C.S., IMRE V. MAGOSS, M.D.,* OSCAR J. OBERKIRCHER, M.D., MELBOURNE H. LENT, M.D., AND MARVIN FRIEDMAN, M.D.,* BUFFALO, NEW YORK

(*From the Roswell Park Memorial Institute, Buffalo General Hospital, and the Department of Urology, University of Buffalo School of Medicine*)

It is the purpose of this paper to report ten cases of primary carcinoma of the ureter and to outline the necessary procedures for early diagnosis of this disease. Often the symptoms and radiographic findings exhibited by tumors of the ureter are misleading. Because of its relatively infrequent occurrence primary carcinoma of the ureter is often not considered as a source of obstructive uropathy, hematuria, and pain. The resulting hydronephrosis and pyonephrosis are treated as such, and the primary ureteral tumor is frequently missed, while the symptoms persist or recur. The correct diagnosis is thus delayed until the disease has become inoperable or is found at autopsy.

Soloway[1] found in a survey of the literature that in over 50 per cent of the cases the diagnosis was not even suspected and that the correct preoperative diagnosis was made in only 39.3 per cent of the cases.

Senger and Furey[2] in 1953 found 310 cases of primary carcinoma of the ureter in the literature, two of which were their own. Fisher[3] in 1954 added 13 cases and found 84 others not reported by Senger and Furey, to make the total 407.

Further perusal of the literature has uncovered an additional 41 cases.[4–12] To this number we wish to add ten cases studied and treated at the Roswell Park Memorial Institute and the Buffalo General Hospital which will make the total 458 (Table I). The majority of the reported cases in the literature were unilateral, but four[13–15] were bilateral.

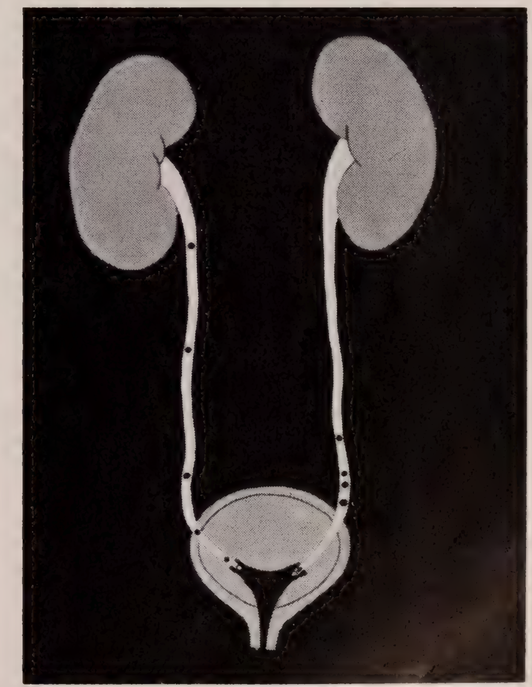

FIG. 1. Anatomic distribution of the tumors in this series.

The youngest patient in this series was thirty-seven and the oldest seventy-six. The average age was 59.3 years, approximating the age incidence in the several reported series which places the maximum frequency of the disease in the fifth and sixth decades.

There were six females and four males. This

---

* By invitation.

Presented at the 150th Annual Meeting of the Medical Society of the State of New York, New York City, Section on Urology, May 11, 1956.

TABLE I.—Summary of 10 Cases*

Case	Date of Admission	Sex	Age	Location of Tumor	History	Physical Examination	Past History	Cystoscopy and X-ray	Pathology	Treatment	End Result
1	Feb., 1953	F	73	Left lower	Hematuria, frequency, burning	Negative	Left nephrectomy 1941 for hydronephrosis	Excretory urogram showed left kidney absent, right kidney normal	Transitional cell carcinoma, Grade III	Left ureterectomy and partial cystectomy Feb., 1953, plus lymph node dissection	Died 1954 of a gastric hemorrhage
2	Nov., 1952	F	51	Right upper	Hematuria	Negative	Negative	Right ureteral catheter met obstruction at L4. Excretory urogram showed right hydronephrosis	Transitional cell carcinoma, Grade II	Right nephroureterectomy Dec., 1952	Alive and well Mar. 1956
3	Mar., 1948	F	62	Left lower	Hematuria, pain left flank, weight loss	Mass along course of left ureter	Left nephrectomy 1946 for pyelonephritis and hydronephrosis	None available	Transitional cell carcinoma, Grade III	Exploratory laparotomy Apr., 1948, showed inoperable tumor of left lower ureter. External irradiation 4,000 r to left lower abdomen	Died of disease Aug.,1948
4	Oct., 1955	F	56	Left lower	Hematuria, pain left flank, frequency, urgency	Tenderness left flank	Left pyelostomy Oct. 17, 1955. Left nephrectomy Nov. 2, 1955, for hydronephrosis	Cystoscopy unable to pass catheter up left ureter. Thought to be nonopaque stone. Excretory urograms showed nonfunctioning left kidney, right kidney normal	Transitional cell carcinoma, Grade III	Exploration of left ureter Jan. 13, 1956. Found inoperable tumor	Alive with disease
5	Jan., 1942	M	56	Right middle	Hematuria, pain right flank and right shoulder	Palpable tender right kidney	Right shoulder pain and limitation of motion of right shoulder of six months duration	Catheter could be passed only short distance in right ureter. Right ureterogram showed obstruction at level of sacroiliac joint. Left pyelogram showed reduplication of left ureter and a double left kidney. Excretory urogram revealed a nonfunctioning right kidney. Osteolytic bone lesion of right humerus	Transitional cell carcinoma, Grade III	Patient expired before any form of therapy could be initiated	Died of disease Feb., 1942. Tumor was diagnosed preoperatively, and diagnosis was confirmed at autopsy. A metastatic bone lesion of right humerus was found

TABLE I.—(*Continued*)

Case	Date of Admission	Sex	Age	Location of Tumor	History	Physical Examination	Past History	Cystoscopy and x-ray	Pathology	Treatment	End Result
6	Mar. 25, 1951	F	76	Right lower	Hematuria, right flank pain, frequency, nocturia	Tenderness in right flank	Negative	Bloody efflux from right ureteral orifice. Obstruction found at right ureter at 15 cm. Right ureterogram revealed no filling beyond obstruction. Left pyelogram normal	Transitional cell carcinoma, Grade III. Metastatic tumor in retroperitoneal lymph glands	Right nephroureterectomy and partial cystectomy plus retroperitoneal lymph gland dissection. External irradiation, 5,280 r to tumor area	Died Sept., 1952, cerebral vascular accident. No autopsy obtained. Clinically there was no evidence of disease.
7	Oct., 1951	M	62	Left lower	Hematuria	Negative	Negative	Bulging left ureteral orifice, mucosa intact, left hydronephrosis, right kidney normal	Transitional cell carcinoma, Grade II	Left nephroureterectomy and partial cystectomy Nov., 1951	Alive and well Mar., 1956
8	Jan., 1953	F	37	Left lower	Left flank pain, frequency	Left flank tenderness	Thought to have left ureteral stone on Sept., 1952. Johnson stone basket removed a piece of tissue from left ureter. Pathologic report showed transitional cell carcinoma	Bladder negative. Left ureterogram revealed filling defect of lower left ureter	Transitional cell carcinoma, Grade I	Left nephroureterectomy and partial cystectomy Feb., 1953	Alive and well Mar., 1956.
9	Apr. 7, 1955	M	66	Right lower	Hematuria, burning, pain right flank, frequency, urgency	Right costovertebral angle tenderness	Left ureteral stricture dx. 1950 with left hydroureter Rx. with periodic urethral dilatations	Bloody efflux right ureter. Excretory urograms showed filling defect in lower right ureter. Air ureterogram outlined tumor of right lower ureter	Transitional cell carcinoma, Grade I	Right nephroureterectomy, partial cystectomy, and retroperitoneal lymph node dissection June, 1955	Alive and well Mar., 1956
10	Mar. 18, 1948	M	66	Right lower	Hematuria, burning, pain right flank, chills and fever	Palpable tender right kidney	Negative	Tumor protruding from right ureteral orifice. Excretory urograms showed nonfunctioning right kidney. Left kidney normal. Catheter met obstruction at 5 cm. in right ureter. Right ureterogram revealed filling defect in right lower ureter and right hydronephrosis	Transitional cell carcinoma, Grade III	Patient expired before treatment could be instituted	Patient developed sepsis and expired July 22, 1948. Autopsy confirmed clinical impression of right lower ureteral tumor

* Cases 1 to 4 were admitted to Buffalo General Hospital; Cases 5 to 10 were admitted to Roswell Park Memorial Institute.

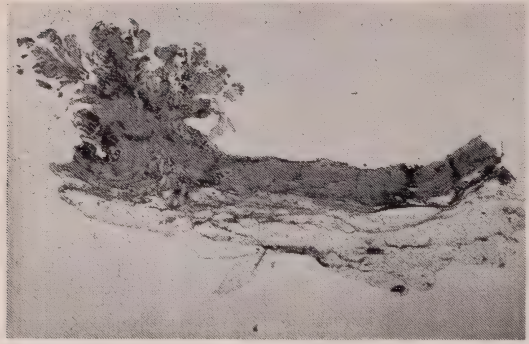

FIG. 2. Specimen represents a Grade I tumor showing no invasion into the ureteral muscle.

varies somewhat from the sex incidence in other series which show a greater predominance in males. In 235 cases Scott[15] had 160 males and 75 females.

Of the ten tumors in this series, eight were in the lower third of the ureter and one each in the upper and middle third. Further breakdown reveals five in the lower left ureter, three in the lower right ureter, one in the right middle ureter, and one in the upper right ureter. Five tumors were primary in the right ureter, and five were in the left. There were no bilateral tumors in our series. Figure 1 shows the topographic distribution of the tumors in this series.

Etiology

Although histologically the primary tumors of the ureter resemble those found in the bladder and the renal pelvis, their incidence is much lower. Several theories have been advanced concerning etiology of ureteral tumors, but none has been consistently true. Hyperplasia and metaplasia of the epithelium due to chronic irritation by calculi and/or infection has been suggested, and although significant in squamous cell carcinoma of the renal pelvis,[16] this does not seem to apply in ureteral tumors. There is one element, however, that may be a factor in the etiology of these tumors, namely, stimulation from a carcinogenic agent. Scott and Boyd[17] in 1953 were able to produce a primary carcinoma of the ureter with the administration of beta-napthylamine to dogs, and this occurred only in those dogs exhibiting some degree of obstruction with stasis. They concluded from this observation that in the presence of a carcinogenic agent, stasis might be a contributing factor in the development of proliferative and primary carcinomatous lesions of the ureter.

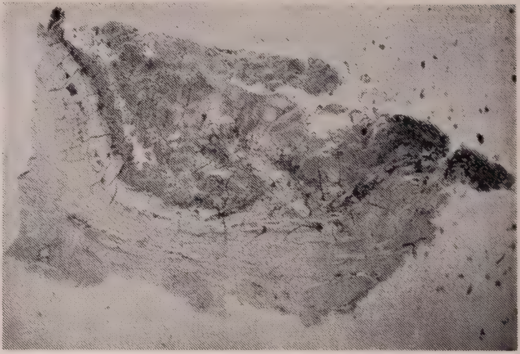

FIG. 3. Specimen represents a Grade II tumor showing invasion of ureteral muscle but no serosal involvement or distant metastasis.

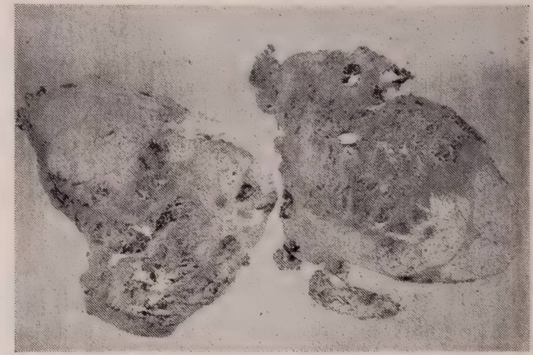

FIG. 4. Specimen represents a Grade III tumor with involvement of both ureteral muscle and serosa and distant metastasis.

Pathology

All the tumors in this series were transitional cell carcinoma. These tumors have been graded in accordance with their invasive tendency, and there has been no attempt to grade them on a cellular basis such as Broder's classification. The tumors are listed in three grades: Grade I represents those lesions that are confined to the mucosa and show no invasion (Fig. 2). Grade II lesions show invasion of the ureteral musculature (Fig. 3), and Grade III lesions are those which have penetrated the muscle and, in addition, have involved the serosa or periureteral tissue or show distant metastasis (Fig. 4).

Table I shows the distribution of these tumors according to their grade. Only two or 20 per cent of the ureteral carcinoma were Grade I or noninvasive. There were two or 20 per cent Grade II tumors with invasion of the ureteral musculature but no invasion beyond the ureter. Six or 60 per cent were of the Grade III variety and showed invasion beyond the ureteral muscle

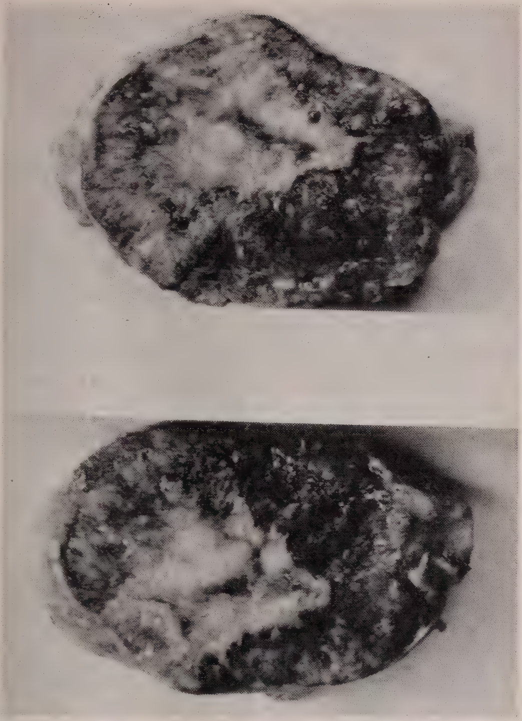

Fig. 5. *Case 5*—Gross specimen of right humerus showing metastasis from primary ureteral tumor.

TABLE II.—Location of Metastases or Local Extension

Location	Number of Cases
Periureteral tissue	2
Sigmoid colon	1
Right humerus	1
Retroperitoneal lymph nodes	1

with involvement of the serosa, periureteral tissue, and/or distant metastasis.

Symptoms

1. In our small series the most prominent symptom was hematuria (90 per cent). Nine out of the ten patients complained about hematuria; two out of these nine patients had painless gross hematuria. The other seven had various additional symptoms, such as pain, frequency, urgency, and burning on urination.

2. Seven out of ten patients (70 per cent) complained of pain in one or more areas of the body. The pain was localized in the flank in three cases and in the back in three cases. Other sites were the shoulder, groin, and lower abdomen, and one patient had generalized abdominal pain. With the exception of one case where the pain was colicky in character, the pain has been described as a steady constant ache.

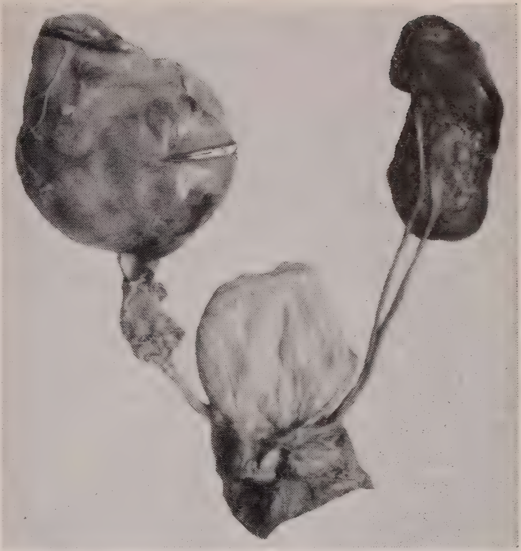

Fig. 6. *Case 5*—Autopsy specimen showing primary ureteral tumor in middle right ureter with right hydronephrosis and a dual collecting system on the left.

3. Frequency occurred in 50 per cent.

4. Palpable mass was found in 30 per cent.

5. Urgency and burning on urination were found in 20 per cent.

6. Weight loss, fever and chills, and nocturia occurred in 10 per cent of the cases.

All these symptoms were intermingled without any evidence of a definite pattern. According to the complaints of this group of ten patients, the cardinal symptoms of ureteral tumors appear to be gross hematuria and pain.

Metastases

Out of 240 cases of primary carcinoma of the ureter reviewed and reported by Scott in 1950,[15] 67 had metastases. In 20 of these patients the metastases were found at autopsy in inoperable cases; 27 had metastases at the time of surgery, and 20 developed metastasis after surgery.

Ureteral tumors metastasize earlier and more frequently than similar tumors of the bladder epithelium. It has been postulated that this phenomenon is due to the thinner wall of the ureter offering less of a barrier than the thicker walled bladder. Also the ureter has a more abundant lymphatic supply than the bladder.[15]

In our series of ten cases metastases and/or local extension were present in five or 50 per cent. The location of the metastases and/or local extension are shown in Table II and in Figs. 5 and 6. In Scott's collected series the most frequent site of metastasis was the retroperitoneal lymph glands where tumor was found in 34 cases. The other common sites of metastasis he recorded were distant lymph glands, liver, lumbar vertebrae, lungs, kidneys, and adrenals.

Diagnosis

Early diagnosis is the most important factor in the successful treatment of ureteral tumors. However, in making an early diagnosis, it is necessary in many cases to employ every possible aid in our diagnostic armamentarium.

Small ureteral tumors can be easily missed by the routine urologic procedures. Two cases in this series (Cases 3 and 4) demonstrate this point well. Each had a nephrectomy for hydropyonephrosis. The renal pathology was thought to be primary, and only after the recurrence of hematuria and pain did further investigation reveal the primary ureteral tumor. In each case, unfortunately, when the correct diagnosis was established, the patient had local extension to such a degree that cure was not possible.

When the cause of obstructive uropathy and/or hematuria and pain cannot be explained fully by adequate routine urologic investigation, it behooves one to consider other forms of diagnostic aids which may uncover small or obscure forms of ureteral pathology. Primary carcinoma of the ureter, although relatively uncommon, is by no means rare. It must be constantly kept in mind as a possible source of hematuria, pain, and obstructive uropathy.

There is no syndrome or symptom complex which is absolutely pathognomonic or characteristic of primary ureteral neoplasm. Hematuria and pain were the most constant symptoms in this series. However, these complaints are often associated with other forms of ureteral and renal pathology. The resulting hydronephrosis and pyonephrosis secondary to ureteral neoplasm are many times accepted as the source of hematuria and pain and overshadow the primary pathology. History provides few if any definite clues to the early diagnosis of this malady other than hematuria and pain.

Physical examination is often negative or may show only a palpable mass due to ureteral obstruction. Here again a palpable mass is not characteristic of primary ureteral tumors only. This may result from other forms of ureteral pathology, such as congenital obstruction, stricture, or stone. In only one case in this series was a palpable mass felt along the course of the ureter, and here the lesion was far advanced with marked periureteral involvement.

The most rewarding procedure in early diagnosis of this disease is cystoscopy with adequate retrograde pyeloureterograms. An additional help is found in excretory urography and pneumourography. Biopsy of lower ureteral tumors is recommended, and an attempt should be made to obtain tissue specimens from upper ureteral lesions with a nylon stone basket. Exfoliative cytology may be helpful when biopsy fails.

Inspection of the urethra and bladder is imperative in all cases of hematuria and should be performed without delay. In numerous cases the bleeding point was easily localized, or a bloody efflux was observed coming from one or the other ureteral orifice.

Small tumors close to or around one of the ureteral orifices may arouse the suspicion of implants originating along the upper urinary tract. Sometimes, hyperemia, edema, elevation, or bulging of the ureteral orifice may suggest a low ureteral lesion (Fig. 7), especially if these suggestive changes are associated with abnormal excretory urogram or bloody efflux from the same orifice. An important finding is protrusion of tumor, necrotic tissue, or blood clot through the orifice. In such fortunate instances it is easy to obtain sufficient tissue for histologic studies.

Ureteral catheterization and retrograde pyeloureterograms are the most valuable diagnostic procedures. The introduced catheter may slip past a small tumor; more frequently, however, the catheter will meet obstruction, and the manipulation of the catheter, trying to bypass the obstruction, produces rather brisk bleeding or may increase the previous hematuria. It is rather dramatic to observe that once the catheter happens to pass the lesion, it will drain clear or only slightly blood-tinged urine, compared with the initial grossly bloody drainage.

It is not difficult to obtain a satisfactory ureterogram in case of a middle or upper ureteral lesion, even with a catheter used for routine examinations. To visualize a low ureteral lesion and especially those located close to the ureterovesical junction requires more skill and the use of a special Foley cone tip catheter which can be

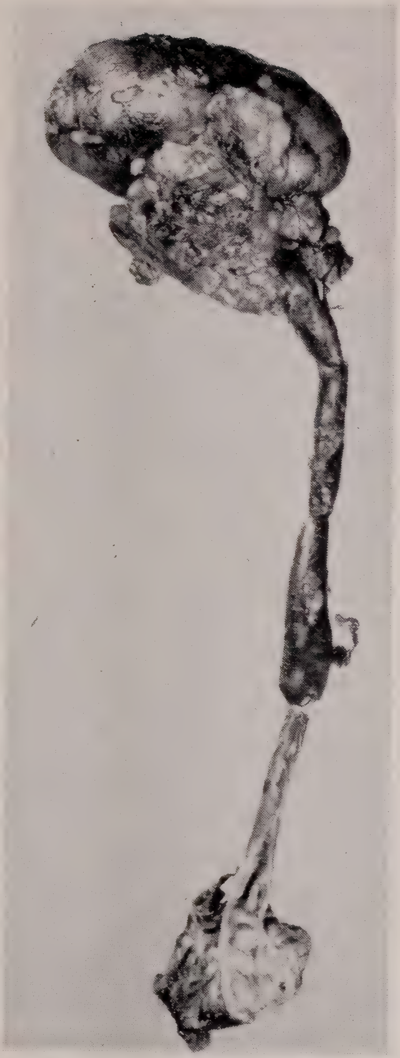

FIG. 7. *Case 7*—Surgical specimen showing primary ureteral tumor in the intramural portion of left ureter producing bulging of left ureteral orifice.

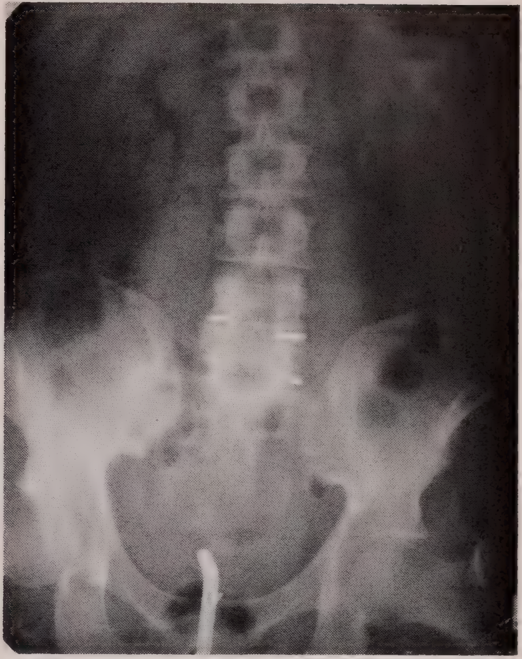

FIG. 8. *Case 9*—Air pyeloureterogram showing intraluminal defect of the primary ureteral tumor in the right lower ureter.

engaged into the orifice, satisfactorily plugging it and so preventing the backflow of the contrast material. With this method the entire length of the ureter may be visualized, whereas with the use of a Braasch-bulb catheter the visualization of the most distal ureter may be obscured by the presence of the bulb itself.

Excretory urograms are useful diagnostic procedures. They usually give ample information about the anatomic pattern of the genitourinary tract and at the same time serve also as renal function study. They give useful data about the affected side if the function is still preserved or delayed or even if the kidney is not functioning. The films may show hydronephrosis and also hydroureter proximal to the lesion and may show the tumor itself as a negative intraluminal filling defect. The disturbing factor is that nonopaque calculi or blood clots may produce exactly the same picture, but at any rate an abnormal excretory urogram should encourage further diagnostic studies.

Air pyeloureterograms belong in this same category. The procedure is safe and gives excellent visualization. One of our last cases was diagnosed this way (Fig. 8). With previous excretory urograms and retrograde studies it is easy to estimate the capacity of the ureter and the collecting system, thus preventing the overdistention of the upper tract by air.

Other x-ray studies, such as chest film, barium enema, etc., have a wide range of possibilities in searching for local extensions or for metastatic lesions, thus substantiating or completing the diagnosis.

To obtain a biopsy where the tumor presents itself through the ureteral orifice is not a major problem. In other cases where the wide open orifice or bulging of the intramural portion of the ureter suggests low ureteral lesions, a transurethral ureterotomy may facilitate the biopsy.

TABLE III.—Treatment in 10 Cases

Treatment	Number of Cases
Nephroureterectomy and partial cystectomy	2
Nephroureterectomy, partial cystectomy, and retroperitoneal lymph gland dissection	1
Nephroureterectomy	1
Nephroureterectomy plus retroperitoneal lymph gland dissection and x-ray	1
Ureterectomy and partial cystectomy plus lymph node dissection	1
Nephrectomy	1
Nephrectomy plus x-ray	1
No treatment	2

If the lesion was localized with previous x-ray studies within the lower ureter, manipulation with any of the nylon stone baskets may produce sufficient material for microscopic study. This was possible in Case 8. There are no definite criteria, however, concerning the highest level of a lesion which still can be biopsied this way. We feel that the contraindications are the same as those for extraction of a high ureteral stone but possibly with a slightly broader range, and one may try to biopsy a higher lesion where he would not attempt the extraction of a stone from the same level.

At the present time we have more and more pathologists experienced in exfoliative cytology. The utilization of this method is becoming standardized, and the finding of malignant cells in properly collected and submitted urine samples is more and more frequent. In a recent case not reported in this series, we were able to obtain help in making a diagnosis of a small primary ureteral tumor by this method.

Treatment

The treatment of choice for carcinoma of the ureter consists of a total nephroureterectomy with a partial cystectomy. This is most likely to remove the lesion completely and prevent recurrence. However, several factors are important in the choice of treatment: (1) the general condition of the patient, (2) the functional quality of the opposite kidney, and (3) the presence of metastases. In our series of ten cases the treatments used are tabulated in Table III.

In two cases nephrectomy was done because of an error in diagnosis, and later ureteral exploration proved the tumors to be inoperable. In one case a nephrectomy was done for hydronephrosis. A primary ureteral lesion was found in the ureteral stump twelve years later. A ureterectomy and partial cystectomy were performed; the patient died of other causes in less than one year. In the two patients not treated, the correct diagnosis was made not long before death. In these terminal cases the diagnosis was confirmed by postmortem examinations.

TABLE IV.—Results of Treatment According to Pathologic Classification

Grade	Number of Cases	Results
I	2	Alive and well
II	2	Alive and well
III	1	Alive with disease
	2	Died of other causes
	3	Died of disease

In five cases in which the diagnosis was made early, four are alive and well without disease, and the fifth lived one and one-half years and died of other causes.

In a recent review of the literature on carcinoma of the ureter by Senger and Furey,[2] nephroureterectomy was the most common treatment used. The treatments most commonly employed in their series are as follows: nephroureterectomy 55, nephroureterectomy plus partial cystectomy 30, partial nephroureterectomy 12, local excision with end-to-end anastomosis or reimplantation in bladder 12, nephroureterectomy plus x-ray four, and nephroureterectomy plus partial cystectomy plus x-ray four. Other treatments used were ureterectomy, cautery, cystectomy with bilateral partial ureterectomy with cutaneous implants, and external radiation.

Most of those writing on this disease consider all ureteral tumors malignant and treat them as such from the start. Vest,[18] however, feels that some localized tumors may be benign and can be treated with local excision. Nevertheless, most urologists have apparently been unable to ascertain which tumors are benign, and their results with conservative therapy have been poorer than those of Vest.

Table I shows the results of the various types of therapy employed. In this small series we were impressed with the finding that the tumors were Grade I and II in those cases in which an early diagnosis was made. These patients are alive and well without disease after surgical treatment. Table IV lists the results of treatment according to their pathologic classification.

Two of the Grade III cases were found to be operable. Wide surgical excision with retroperitoneal lymph node dissection, supplemented with external irradiation, was employed. Both did fairly well postoperatively and died of other causes. Clinically, there was no evidence of disease at death, but an autopsy was not obtained in either case.

In the two Grade III cases in which the resulting renal pathology was treated first and the proper diagnosis was made after long delay, the tumors were found to be inoperable. One of these patients died of her disease in two years. The other patient is still alive after two months with advanced ureteral carcinoma.

The last two of our Grade III cases were admitted in an extremely poor, terminal condition and died shortly after the diagnosis was made. At no time were they candidates for active treatment while they were under our care.

Summary and Conclusions

1. Ten cases of primary carcinoma of the ureter are reported and analyzed.
2. Primary carcinoma of the ureter is uncommon but occurs with sufficient frequency to be a diagnostic possibility when obstructive uropathy, hematuria, and pain are encountered.
3. Early diagnosis is the most important factor in the successful treatment of ureteral tumors.
4. When the cause of obstructive uropathy, hematuria, and pain cannot be explained fully by adequate routine urologic investigation, other diagnostic aids must be used to uncover small or obscure forms of ureteral pathology.
5. Good ureterograms are an important part of each pyelographic study and should be supplemented with pneumourography and exfoliative cytology for early diagnosis.
6. The majority of the cases occur in the lower ureter.
7. Nephrectomy with complete ureterectomy including a cuff of the bladder is the operation of choice. It is further recommended that a retroperitoneal lymph node dissection be done.

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Discussion

Archie L. Dean, M.D., *New York City.*—Ten primary tumors of the ureter constitute an unusually large series from a single institution. In reviewing the Memorial Hospital experience I found 12 patients with the admission diagnosis of ureteral tumor, but only four of these were primary growths. Eight were secondary to tumors of the renal pelvis and were discovered at various intervals after nephrectomy.

I think it is helpful for the clinician to remember that transitional epithelium lines the kidney pelvis and calyces, the ureter, and the bladder and that a cancerogenic substance excreted in the urine may induce growth of the same tumor types in each location. There appears to be a close relationship between the frequency of tumors occurring in these regions and the length of time urine is in contact with the mucous membrane. While this metabolic product has not been described and no means are known of preventing its formation, it appears to be excreted by both kidneys, although not necessarily equally. It probably affects the mucosa of the entire urinary tract. Epithelial tumors appear regularly in the ureter of the affected side or in the bladder after simple nephrectomy for tumors of the kidney pelvis, and an incidence of about 5 per cent has been described in the remaining contralateral kidney and ureter within ten years of nephroureterectomy.

If tumors arise in proportion to the time the area is in contact with urine, one might suppose that obstructions producing stasis would be associated with an unusually high incidence of epithelial overgrowths. Probably this does occur clinically as well as experimentally. Since frequent tumor formation has not been associated with the most striking stenoses, the congenital obstructions in infants, it appears likely that before tumors arise from transitional epithelium, the action of the cancerogenic agent must be exerted for a considerable time, and perhaps its excretion in the necessary concentration requires well-functioning kidneys.

To help these patients, a thorough urologic examination must follow the first symptom. Evidently it was impossible to determine the sequence of symptoms in these patients, although hematuria, frequency, urgency, dysuria, and a distant pain occurred at some time during the course of the disease. Most likely, hematuria usually occurred first because the other complaints were the result of later developments, being produced by obstruction or by obstruction with subsequent infection. If so, before frank bleeding occurred, there probably were occult red blood cells in the urine, and their discovery, followed by a search for their source, might have forestalled some hopeless consequences.

Perhaps the most important factor in diagnosing ureteral tumors which are rare and have few characteristic features is a lively suspicion in the mind of the examiner that the lesion might be a tumor. It is helpful also to remember that tumors are fixed, and small stones and blood clots of a similar roentgenographic appearance may be movable. If efforts are made to displace these and ureterograms are repeated, the differential diagnosis may be clarified.

I must confess that I was confused by the pathologic description of these tumors. The writers state: "All the tumors in this series were transitional cell carcinomas. . . . no attempt has been made to grade them on a cellular basis such as Broders classification. The tumors are listed in three grades: Grade I represents those lesions that are confined to the mucosa and show no invasion; Grade II lesions show invasion of the ureteral musculature, and Grade III lesions are those which have penetrated the muscle and, in addition, have involved the serosa or periureteral tissues or show distant metastasis." Since this grading applies only to the extent of the disease and the statement is made that "all the tumors in this series were transitional cell carcinomas," one might gain the impression that these tumors had a uniform structure, which I doubt. Later, in the tabulated analysis of each patient, the pathology is described as transitional cell carcinoma, Grade I, II, or III, which is the wording of Broder's cellular classification and could be misunderstood unless one remembered the writers' viewpoint and adhered to it literally. Transitional cell tumors often appear as papillomas, increase in their invasive tendencies, and show structural changes indicative of greater malignancy as they grow. Also they present different clinical problems during these developments. Hence, I believe the value of this contribution would be increased by including the cellular description of each tumor. This, correlated with the extent of each growth, would amplify the clinical picture considerably, thus assisting other urologists to utilize more accurately these important observations. A cellular description in an accepted terminology would also make it easier to add these tumors to groups of similar neoplasms for detailed study.

The writers show clearly that the cure of these patients depends on surgery alone. Radiation being ineffective, there is nothing whatever to fall back on if an incomplete operation is performed. With this realization the urologist must be prepared to go to unusual lengths in his efforts to remove all of the patient's disease. On three occasions I have resected portions of the external iliac artery because its wall was infiltrated by tumor. I suggest, therefore, that one should be prepared to repair this vessel or the common iliac artery, either by direct suturing or use of an arterial graft.

Little need be said about the local removal of a ureteral tumor. If the tumor is small, it can be removed in a number of ways. The important consideration is that by the time a tumor has developed in the ureteral lumen, it is likely that all of the ureteral mucosa has been similarly condemned to malignant degeneration.

Attempts to save the ureter of patients with single kidneys by removing only the tumor-bearing area may be justified on the basis of expediency, but ureterectomy and nephrostomy might be a better solution.

Following nephroureterectomy examinations should be carried out at intervals, depending on the rapidity with which tumors in the bladder might grow. Every four months is usually satisfactory. I suggest that these examinations include not only the bladder but the mucosa of the urethra, where on two occasions I have discovered tumors. Excretion urograms should be made at least every six months.

The results reported are excellent. In every instance with the growth confined to the urinary tract, diagnosis was so prompt and surgical treatment was so thorough that the disease was apparently controlled.

In the successful treatment of ureteral tumors early and accurate diagnosis is so essential that it is gratifying to realize that no rare or peculiar technics are necessary to clarify the clinical problem. It is essential, however, that the examiner be alert to utilize information which has long been available.

Sesquicentennial Meeting — February 18 to 21, 1957

Symposium

CUTANEOUS MALIGNANCIES

Cytodiagnosis of Cutaneous Malignancy

FREDERICK URBACH, M.D.,* EUGENE M. BURKE, B.S.,* AND HERBERT L. TRAENKLE, M.D.,
BUFFALO, NEW YORK

(*From the Roswell Park Memorial Institute*)

Cytologic methods for the diagnosis of cancer have been utilized in various ways at least since 1847.[1] However, it was not until after publication of the work of Papanicolaou and Traut[2] on exfoliative cytology in 1943 that interest in this approach became widespread. Their method and modifications of it have been applied to most body areas where suitable material for examination can be obtained.

Cutaneous tumors do not lend themselves readily to the study of the morphology of exfoliated cells since the surface of the skin tends to be either tough, hyperkeratotic, or crusted. Various methods for obtaining smears from skin tumors have been reported. These include needle aspiration,[3] impression smearing,[4] surgical biopsy, absorbent sponges,[5] and curettage.[6] Some of these, however, were used predominantly for obtaining tissue to be processed by conventional paraffin section. Likewise, numerous staining technics have been employed. Among these are Wright stain, May-Grünewald-Giemsa, and various Papanicolaou modifications.

The first large-scale study of cytodiagnostic technics as applied to cutaneous diseases was performed by Tzank and coworkers[7] in 1948. These authors came to the conclusion that the examination of isolated cells obtained from the surface of the skin was of value because of the simplicity and rapidity of the test and the amount of information to be gained by a trained observer.

Since then Hitch and his associates[3] have reviewed the literature and reported on an evaluation of cytodiagnosis in cutaneous malignancy. More recently Wilson[4] used impression smears in studying the cytology of cutaneous lymphomas and infiltrative lesions. In over one third of his neoplastic cases, cytodiagnosis was more specific than diagnosis made by conventional histologic examination. Haber[8] employed a cytologic technic in the study of a variety of cutaneous diseases and reported on the distinct cytologic appearance of basal and squamous cell cancer.

In order to evaluate the accuracy of cytodiagnosis in cutaneous cancer, the following controlled study was initiated.

Method

Five hundred consecutive skin biopsies obtained from patients seen in the Dermatologic Outpatient Department of Roswell Park Memorial Institute were examined. The biopsies were taken by curet or by punch. In specimens obtained by curet, the base of the biopsy was gently rubbed over the surface of a clean, dry microscope slide immediately after removal from the patient. Punch biopsies were cut with a scalpel perpendicularly to the plane of the specimen, and the freshly cut surface of one of the halves was rubbed gently over a clean, dry slide. The preparations were immediately placed in a glass jar containing equal parts of alcohol and ether, fixed for a minimum of twenty minutes, and then stained according to a modification of the Papanicolaou technic.[2] The tissue specimens from which the smears were obtained were placed separately in 10 per cent formalin, fixed for twenty-four hours, then prepared in routine

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* By invitation.

Presented at the 150th Annual Meeting of the Medical Society of the State of New York, New York City, Section on Dermatology and Syphilology, May 9, 1956.

TABLE I.—TYPES OF MALIGNANT LESIONS FOUND

Lesions	Number of Cases
Squamous cell carcinoma	81
Basal cell epithelioma	245
Metastatic carcinoma	4
Malignant melanoma	1
Lymphoma cutis	2
Adnexal carcinoma	2
TOTAL	335

TABLE II.—RELATIVE ACCURACY OF DIAGNOSIS OF SMEAR AND SECTION

Smear	Number	Per Cent	Section	Number	Per Cent
Insufficient	6	1.2	Insufficient	5	1.0
False negative*	7	1.4	False negative*	9	1.8
False positive*	8	1.6	Diagnosis reversed on review	7	1.4

* As determined by serial section of specimen.

TABLE III.—TYPES OF BENIGN LESIONS FOUND

Lesions	Number of Cases
Keratoses	81
Inflammatory lesions	48
Papillomas	7
Nevi	8
Angioma	2
Scleroderma	2
Xanthoma	2
Verruca vulgaris	1
Molluscum contagiosum	1
TOTAL	152

fashion, embedded in paraffin, and stained with hematoxylin and eosin. The cytologist and the pathologist examining the specimens reported their findings independently, without consulting each other and without being informed of the clinical diagnosis. At the completion of the study all the smears and sections in which there was any disagreement between cytologist and pathologist were reviewed by the entire study group. Serial section recuts were made in all disputed specimens.

Results

Of the 500 biopsies taken, 348 were diagnosed as "malignant" and 152 as "benign" (Table I). In 335 biopsies of malignant lesions, a definite cytologic diagnosis was made in 303. Malignancy was recognized, but the exact nature of the tumor could not be determined in 32. In seven cases the smears were reported as "negative" when the biopsy sections were clearly "positive." Six smears were insufficient for any diagnosis.

The pathologists reported five out of the 335 specimens as insufficient. In seven biopsies the diagnosis was changed from "negative" to "positive" on review of the recuts. Nine biopsy specimens were reported as "negative" when rebiopsy clearly showed cancer correctly diagnosed by the original smear (Table II).

In the benign lesions the diagnostic accuracy of the routine pathologic section was clearly superior. Definite cytologic diagnosis could be made in only 90 of 152 specimens. Eight of these were falsely reported as "positive" for malignancy when recut of the section and clinical diagnosis showed no cancer (Table III).

Comment

This study indicates that an accurate, specific diagnosis can be made by cytologic study of Papanicolaou stained smears obtained from biopsies of cutaneous malignancies. The interpretation of such smear preparations, however, requires a considerable amount of experience. Usually the services of a trained cytologist are required.

Microscopically, there are striking differences between smears obtained from malignant and from benign skin lesions. Distinguishing features are found in the appearance of individual cells and in the number and arrangement of the cells adhering to the microscope slides. In general, smears from benign lesions show only a few epithelial cells, which are always keratinizing and easily recognized by the small dense nucleus, abundant pale cytoplasm, and angular outlines. White and red blood cells may be present, particularly if the preparation is obtained from an inflammatory lesion.

Exfoliated malignant cells from cutaneous cancer generally are found in much greater numbers than the cells obtained from benign lesions. Their cytologic appearance differs markedly, depending on the specific type of neoplasm examined. Tumor cells obtained from squamous cell carcinoma may show considerable variation in appearance, depending on the degree of differentiation of the tumor. All variations may be seen from large cells with huge hyperchromatic nuclei, showing multiple nucleoli and marked chromatin clumping, to small cells, still showing hyperchromatism and increased nucleocytoplasmic ratio (Plate A-1). In general, cells obtained from squamous cell carcinomas have more cytoplasm than those obtained from basal

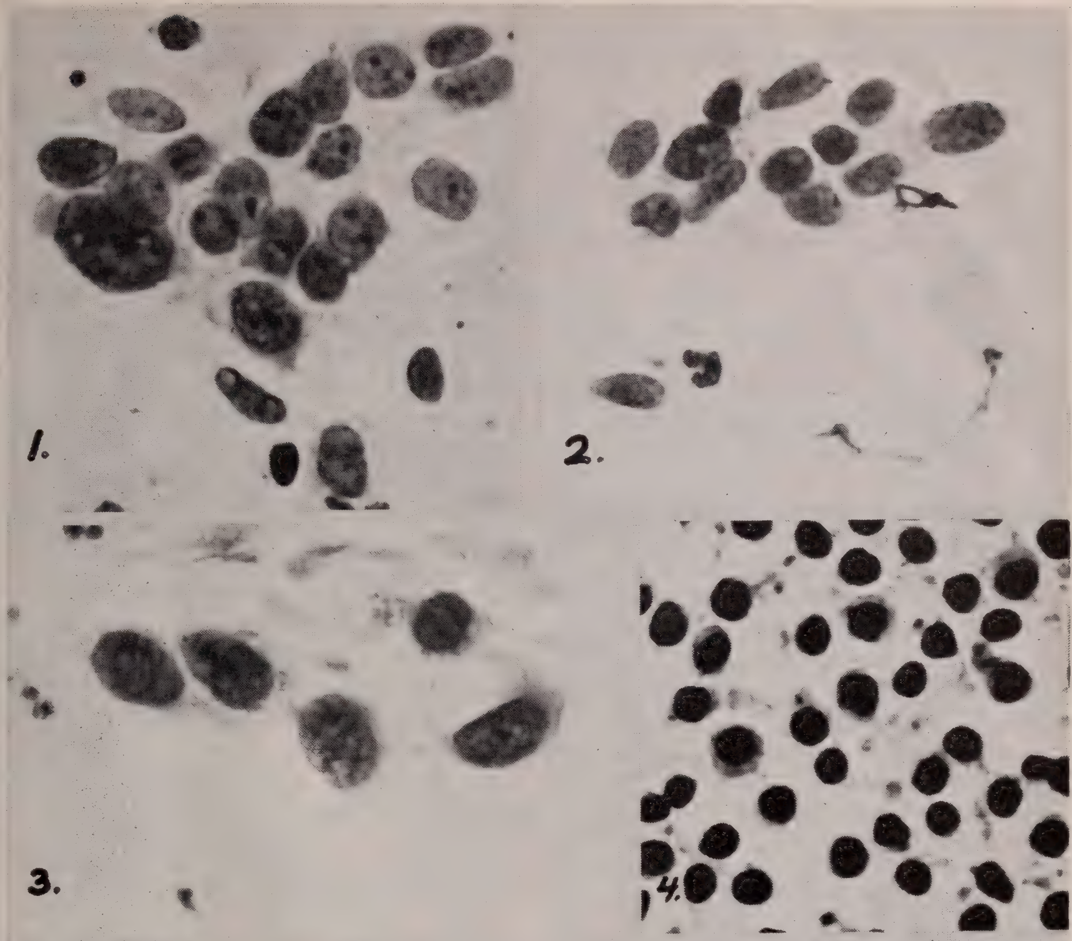

Plate A. (1) Squamous cell carcinoma. Note the relatively large nuclei and pale scanty cytoplasm. (2) Basal cell epithelioma. The nuclei stain darker and are of more regular size, and there is only very little cytoplasm (3) Metastatic carcinoma (ovary). Note the signet ring cell in the right lower corner. (4) Cutaneous lymphocytic leukemia. All cells are approximately identical size and resemble large adult lymphocytes. (5) Malignant melanoma. Note the huge giant cell and the cordlike arrangement of some of the cells. (6) Intradermal cellular nevus. The cells resemble nevus cells seen in histologic sections and are in part arranged in cords.

cell carcinomas. The cells may be arranged in small clumps or scattered singly throughout the slide.

In basal cell carcinomas the tumor cells are fairly consistent in size, have a dark-staining, oval nucleus with relatively little cytoplasm, and are usually found in clumps of 10 to 15 cells (Plate A-2). Isolated individual basal cells may be scattered along the path of the imprint.

In the cutaneous lesions of metastatic cancer, the cytologic appearance depends on the primary source of the tumor (Plate A-3). In metastatic epithelial tumors the cells tend to be hyperchromatic and exhibit gigantism, and many may show marked cytoplasmic vacuolization. In cases of leukemia or lymphoma cutis large quantities of the abnormal leukocytes specific to the disease are found (Plate A-4).

The exfoliated cells of malignant melanoma are consistently larger in size than most other malignant cells obtained from the skin. They show clumping of the chromatin, doubling of nucleoli, and occasionally fusion of cells to form huge giant cells (Plate A-5). Fine melanin granules may be seen in the cytoplasm at times. In contrast, cells obtained from dermal cellular nevi tend to be regular in size and to show dark-staining nuclei and regular chromatin distribution. At times the cells are grouped in small nests or strands similar to the arrangement found in pathologic sections (Plate A-6).

As a rule the cytologic appearance of smears obtained from benign lesions is not specific. One sees rare individual epithelial cells in various stages of cornification. Cells obtained from any infiltrate from which a specific diagnosis can be made are those of viral origin (such as the herpes group and molluscum contagiosum), pemphigus, some benign nevi, occasional cases of sweat gland adenoma, and many seborrheic and solar keratoses in which the predominant feature is a large quantity of desquamated keratin.

As has been previously pointed out, smears obtained from malignant tumors are characterized by a relatively large number of cells, as compared to the paucity of formed elements seen in preparations from benign lesions. To study the cause of this phenomenon, an attempt was made to determine experimentally the mechanism of exfoliation of cancer cells. Epidermis was separated from corium (by heating) in specimens of normal skin and of basal cell epitheliomas. Then the epidermis and corium of each were separately smeared and sectioned. It was apparent that even when the entire basal layer of separated epidermis was applied to the slide, no normal cells were removed. However, in the malignant lesion tumor cells were found in profusion when similarly prepared. It is probable that this phenomenon is due to lack of cohesiveness of malignant cells, an observation previously made and experimentally substantiated by Coman.[9] Thus, tissue smears from tumors would act very much like differential centrifugation, concentrating malignant cells on the slides.

Finally, it should be pointed out that while the smear technic is relatively rapid, simple, and of a degree of specificity which favorably compares with that of routine histologic examination, there are distinct disadvantages to this procedure. The main problems which we have encountered were, in order of their relative importance, the need for training in cytology, the impossibility of defining the exact extent of the lesion, and the difficulty of specifically diagnosing benign lesions.

It should be stressed that cytodiagnostic examination is an adjunct, not a substitute, for histologic study. Routine histologic preparations are indispensable in order to determine the architecture of the diseased tissue, the extent of the lesion, and in many cases the more exact degree of differentiation.

Summary

1. The cytologic features of cells obtained from 500 consecutive skin biopsies by a smear method were compared with routine histologic sections of the same specimens. The accuracy of cytologic diagnosis compared very favorably with that of routine histologic examination as far as malignant lesions were concerned.

2. The distinguishing cytologic features of various cutaneous malignancies have been described. Outstanding findings were the relatively large number of cells exfoliated from malignant tissue as compared to the paucity of formed elements obtained from normal specimens and the distinct morphologic and staining characteristics of the malignant cells.

3. Advantages of the smear technics are its relative speed and simplicity, the need for only small specimens, and a high degree of specificity.

4. Disadvantages are the need for training in cytology, the impossibility of defining the exact

extent of the lesion, and the difficulty of specifically diagnosing benign lesions.

5. Cytologic examination of cutaneous malignancy is not to be considered a substitute or replacement for the usual histologic tissue examination, but rather it should be used as an adjunct procedure similar to histochemical staining or phase microscopy.

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Discussion

Perry M. Sachs, M.D., *New York City.*—I am much impressed and to some degree surprised at the similarity of the results obtained by cytodiagnosis and examination of the tissue specimens. However, I do feel that the discrepancies found in examination of the sections have a much higher rectifiable component in arriving at the correct diagnosis than the variations found in the smears. To exemplify, it is our custom to cut through an entire block when we find no malignancy or see no significant pathology to explain a clinical impression of such an entity This procedure, as recorded in the report, was the means employed to rectify some of the enumerated errors in regard to the proper diagnosis. If this had been done initially, the percentage of error in establishing the diagnosis of malignancy in the group that was sectioned would have been appreciably reduced.

The advantages of this method, as stated, rest in the simplicity and speed with which an accurate diagnosis of a cutaneous malignancy can be made. However, as admitted, the smear method is not comparable to sections in the diagnosis of those clinical lesions which prove to be benign. Furthermore, diagnosis of the type of malignancy present probably is established more often by sections than by smears. Then again information as to the behavior of a malignant neoplasm, such as the presence or absence of the palisade margin, the type of inflammatory protective zone, the arrangement of the lesion, whether disseminated or en masse, as well as the extent of infiltration, is obtained in sections but not at all in smears.

In addition, in the consideration of cutaneous malignancies, I do not believe that the saving of forty-eight hours or so is of significant importance. Frozen sections, which are a rapid method, have not proved a great adjunct in the management of cutaneous malignancies. On the other hand, I do not agree that the requirement of special training for cytologic diagnosis is a disadvantage for this requirement applies equally to section work.

I am inclined to feel that the authors, although fully aware of it, did not emphasize the potential value of their work. The importance of their efforts may lie in the facts derived in future studies in regard to the behavior of these cells, as well as more accurate information about morphologic changes in malignant cells. In section work we are accustomed to see these cells, not separated or as isolated cells, but as part of groups.

To conclude, I am in accord with the authors that this method may prove a valuable adjunct but is not intended as a substitute or replacement for histologic tissue examination.

Medical Society of the State of New York
Sesquicentennial Meeting—February 18 to 21, 1957

The Chemosurgical Method for the Microscopically Controlled Excision of Cancer of the Skin

FREDERIC E. MOHS, M.D., MADISON, WISCONSIN

(*From the Chemosurgery Clinic, University Hospitals, and the University of Wisconsin Medical School*)

CHEMOSURGERY is a comparative newcomer in the treatment of cancer of the skin. The idea that cancer might be excised under complete microscopic control, thus eliminating the danger of missing "silent" outgrowths from the main mass, was conceived in the early thirties, but it was not until 1936, just twenty years ago, that the method was sufficiently developed for clinical use.[1,2]

The most practical means of attaining complete microscopic control of excision was found to be by producing fixation in situ and then excising layers of fixed tissue for microscopic study by means of frozen sections. In experiments on rats numerous fixative chemicals were tested to find the one best suited for fixation in situ. Zinc chloride, a century-old caustic chemical, finally was chosen because it had little systemic toxicity, it produced adequate fixation, and it penetrated the tissues in a controllable manner when incorporated in a paste vehicle of special design. The vehicle was composed largely of stibnite, an inert material in the form of fine granules which formed a matrix through which the zinc chloride could readily permeate. This permeability permitted a considerable range in the depth of fixation by simply varying the depth of application. The formula most used contained 40 Gm. of stibnite (80 mesh sieve), 10 Gm. of powdered sanguinaria, and 34.5 cc. of a saturated solution of zinc chloride.

Would treatment of cancers with zinc chloride increase metastasis? To answer this question 114 cancer-bearing rats were paired off into a control group and a group in which the cancers were repeatedly treated with subcurative doses of zinc chloride. There was no increase in metastasis from this treatment.[1] Clinical experience with nearly 5,000 patients with cancer in the Chemosurgery Clinic has confirmed this conclusion.

Technic

The technic by which microscopic guidance of excision is accomplished with frozen sections is illustrated in a case of comparatively early and uncomplicated basal cell carcinoma of the forehead (Fig. 1).* The clinically visible and palpable portion was first excised under local procaine anesthesia producing a saucer-shaped depression (broken line in Fig. 2A). Hemostasis was secured by the application of dichloracetic acid which also was applied to the skin at the periphery to penetrate the keratin which otherwise would retard the passage of the zinc chloride through the skin. The zinc chloride fixative paste then was applied in a thickness sufficient to penetrate 2 or 3 mm. A thick application was used since it was to be permitted to act for only four hours, but a thin application would have been used if the interval were to be twenty-four hours. Codeine and aspirin were prescribed for use as needed for analgesia during the penetration of the chemical.

When the first layer of fixed tissue was excised after four hours, the incision was made through fixed tissue at a level just distal to the unfixed tissue; hence, no pain or bleeding resulted. The layer was divided into four specimens of convenient size, and the source of each specimen was marked both on the lesion and on a map on a pad of paper (Fig. 2B). In fifteen minutes frozen sections through the undersurface of each of the tissue specimens were ready for scanning under the microscope by the operator. The location of the unexpected extension of the cancer in the dermis at the superior and lateral edges was marked on the map in red pencil (stippled in Fig. 2B).

Presented, by invitation, at the 150th Annual Meeting of the Medical Society of the State of New York, New York City, Section on Dermatology and Syphilology, May 9, 1956. Due to the sudden illness of Dr. Mohs during the annual meeting, his paper was read by the discussant, Dr. Charles D. Post, Ridgewood, New Jersey.

* In the presentation of this paper the technic was illustrated by means of colored moving pictures.

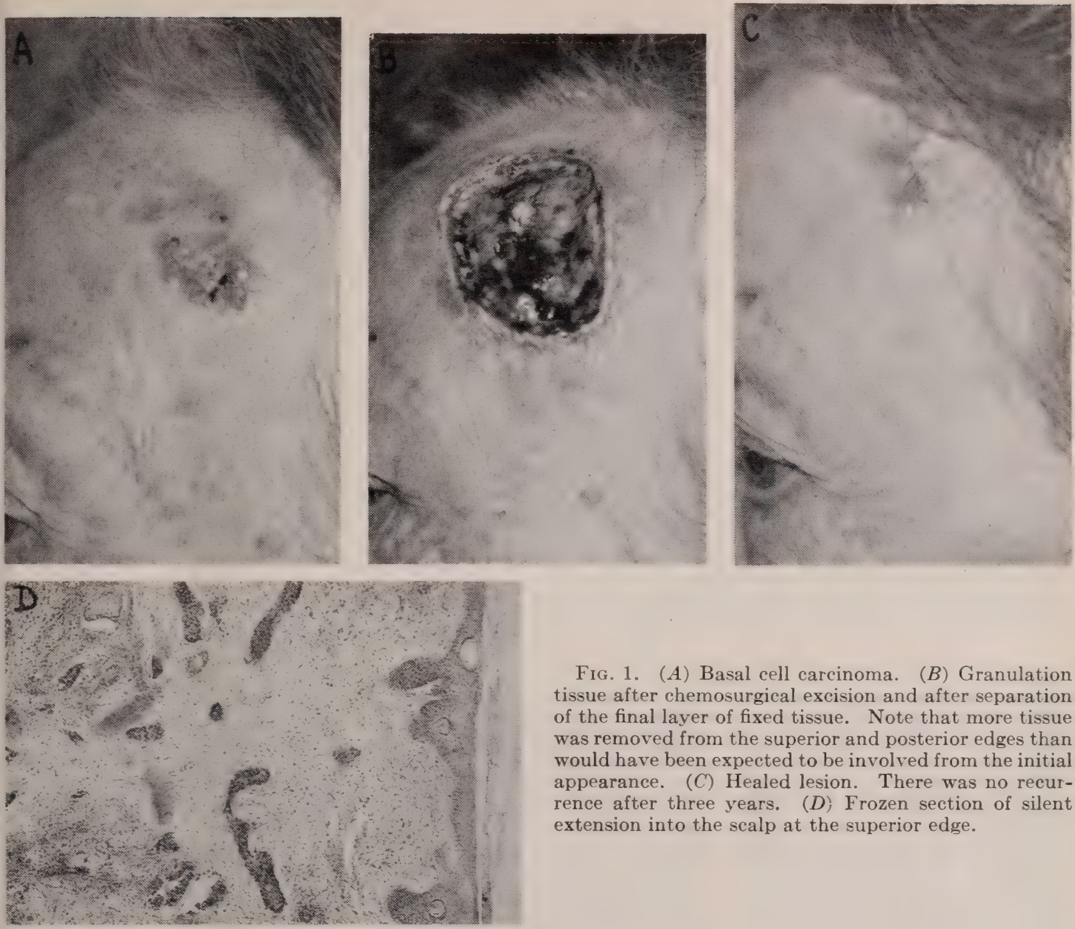

FIG. 1. (*A*) Basal cell carcinoma. (*B*) Granulation tissue after chemosurgical excision and after separation of the final layer of fixed tissue. Note that more tissue was removed from the superior and posterior edges than would have been expected to be involved from the initial appearance. (*C*) Healed lesion. There was no recurrence after three years. (*D*) Frozen section of silent extension into the scalp at the superior edge.

Reapplication of the fixative was limited to the cancerous areas, and further layers of fixed tissue were excised from these locations until a completely cancer-free plane was reached (Fig. 2C and 2D). Thus, by virtue of the microscopic control the cancer was removed in a selective manner. At the superior edge the cancer extended for 12 mm. beyond the clinically detectable limits of the neoplasm. In this particular case the silent outgrowth was limited to the dermis and extended for only a moderate distance, but in many cases the pattern of spread is more complicated and the silent outgrowths extend much further.

On completion of the chemosurgical excision there remained a thin layer of fixed tissue which separated in eight days, leaving granulation tissue which was well vascularized and resistant to infection (Fig. 1B). Rapid epithelization took place with a final scar that was soft, smooth, pliable, and of the same color as the surrounding skin (Fig. 1C).

Indications

The most common indication for chemosurgical treatment is cancer of the skin,[3] but the method may be used in other accessible sites where a stage-by-stage procedure is feasible, such as in the nasal cavity, sinuses, lips,[4] mouth, salivary glands,[5] larynx, vulva, vagina, penis, anus, and anal canal. Except for local recurrences cancer of the breast is not an indication because of the mode of spread.

CANCER OF THE FACE, SCALP, AND NECK.[6]—The microscopic control of excision afforded by the chemosurgical method is useful in the treatment of comparatively early, uncomplicated cancers of noncircumorificial areas, such as illustrated in Fig. 1, but it is even more valuable in the treatment of the more advanced, recurrent

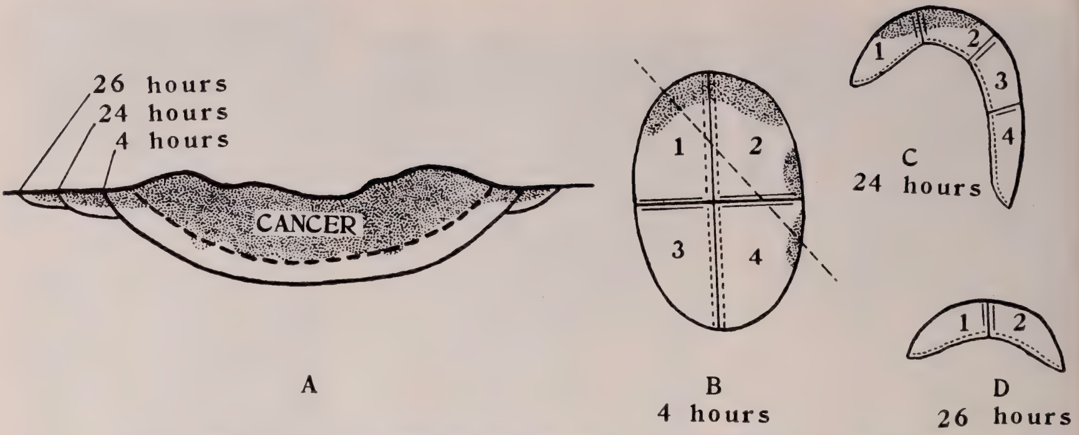

FIG. 2. Diagram illustrating the chemosurgical technic as used in the treatment of the cancer pictured in Fig. 1. (*A*) Vertical cross sectional view of the cancer which is indicated by stippling. The broken line indicates the level of the initial surgical excision of the main mass. The solid lines indicate the levels of the chemosurgical excisions after four, twenty-four, and twenty-six hours. (*B*) Map of the four specimens which comprised the first chemosurgically excised layer. Stippling indicates the areas of cancer which were located microscopically. The broken diagonal line indicates the location of the cross section in (*A*). The solid and dotted lines along the edges of the specimens are symbols indicating that red and blue dyes have been used on the respective edges to facilitate orientation when the frozen sections are examined under the microscope. (*C and D*) Maps of specimens taken at twenty-four and twenty-six hours.

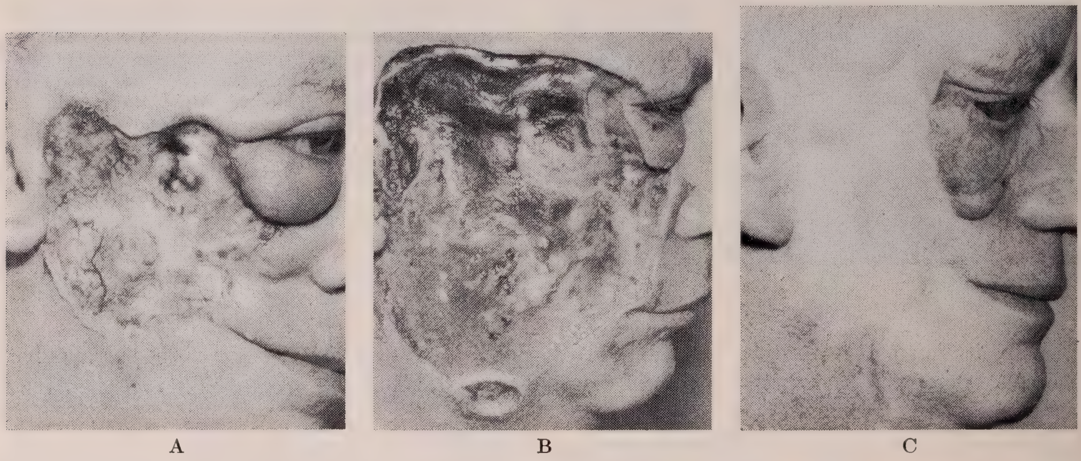

FIG. 3. (*A*) Basal cell carcinoma of a highly invasive, sclerosing type. It had recurred after numerous treatments with x-rays, radium, and electrosurgery. (*B*) Granulation tissue after chemosurgical excision. There were silent extensions along the periosteum of the zygoma into the orbit, along the perichondrium of the auricular cartilages, along the fascia over the buccinator muscle, along the interlobular septa of the parotid gland, and in the dermis into the scalp, submaxillary region, cheek, and lower eyelid. (*C*) Healed lesion shortly after the placement of a graft. There was no recurrence after eight years.

lesions in which the clinically unpredictable outgrowths may be so numerous and extensive that the prognosis otherwise would be very poor (Fig. 3). Since there are relatively few structures which might complicate chemosurgical treatment, the rate of cure of cancer in these sites is very high. Thus, in a series of 464 consecutive cases of basal cell carcinoma of these areas, there were 338 determinate cases with a five-year rate of cure of 100 per cent; in the corresponding series of 230 cases of squamous cell carcinoma the rate of cure was 84.8 per cent.[7] It is only when deeply situated structures are invaded that complications may rise. For example, when the parotid gland is invaded, the facial nerve may be in jeopardy, but the microscopic control makes it possible to limit paralysis to the branches which are actually surrounded

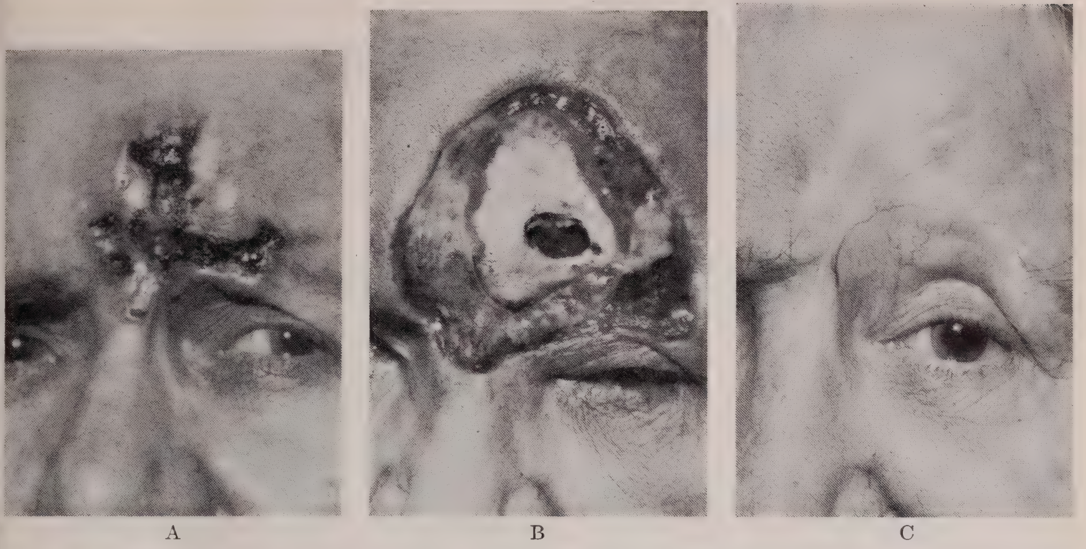

Fig. 4. (*A*) Squamous cell carcinoma, malignancy grade 3, had recurred after radium and electrosurgical treatment. (*B*) Lesion after chemosurgical excision. The cancer had eroded through the bone and had involved the mucosa of the frontal sinus over an area 2 cm. in diameter. (*C*) Healed lesion after one year. The opening into the sinus closed spontaneously. There was no recurrence after five years.

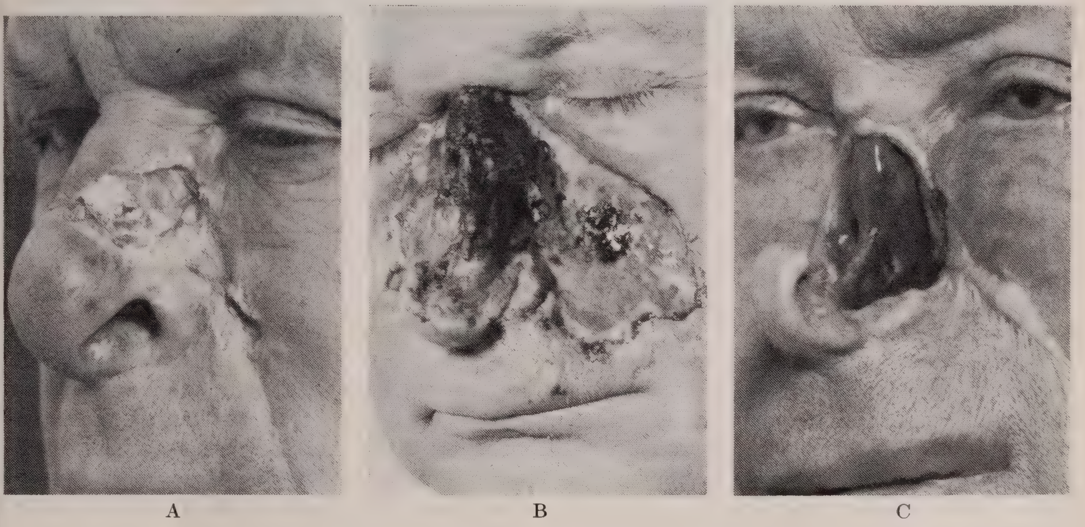

Fig. 5. (*A*) Basal cell carcinoma which had recurred after treatment by capable specialists by means of electrosurgical excision, radium plaques, x-rays, radon seeds, and surgical excision with plastic repair. (*B*) Granulation tissue after chemosurgical excision. The bridge and the septum were extensively invaded, but the columella was uninvolved so it could be preserved for use in the plastic repair which was carried out later. There were silent extensions in the walls of the nasal cavity, on the nasal and frontal bones, in the medial canthus, and in the cheek. (*C*) Healed lesion. There was no recurrence after twelve years.

by cancer. Or when the temporomandibular joint is invaded and some of the joint structure must be removed, there may result some degree of malocclusion, but never does ankylosis supervene. Or when there is invasion of bone over a sinus, it may be necessary to enter the cavity in order to remove the cancer in the mucosa (Fig. 4). Cure is impossible only when the cancer invades such vital structures as the carotid or jugular vessels, the spinal canal, or too large an area of the brain or when there is metastasis which is uncontrollable by surgical dissection.

Cancer of the Nose.[8]—The extent of many cancers of the nose cannot be determined exactly

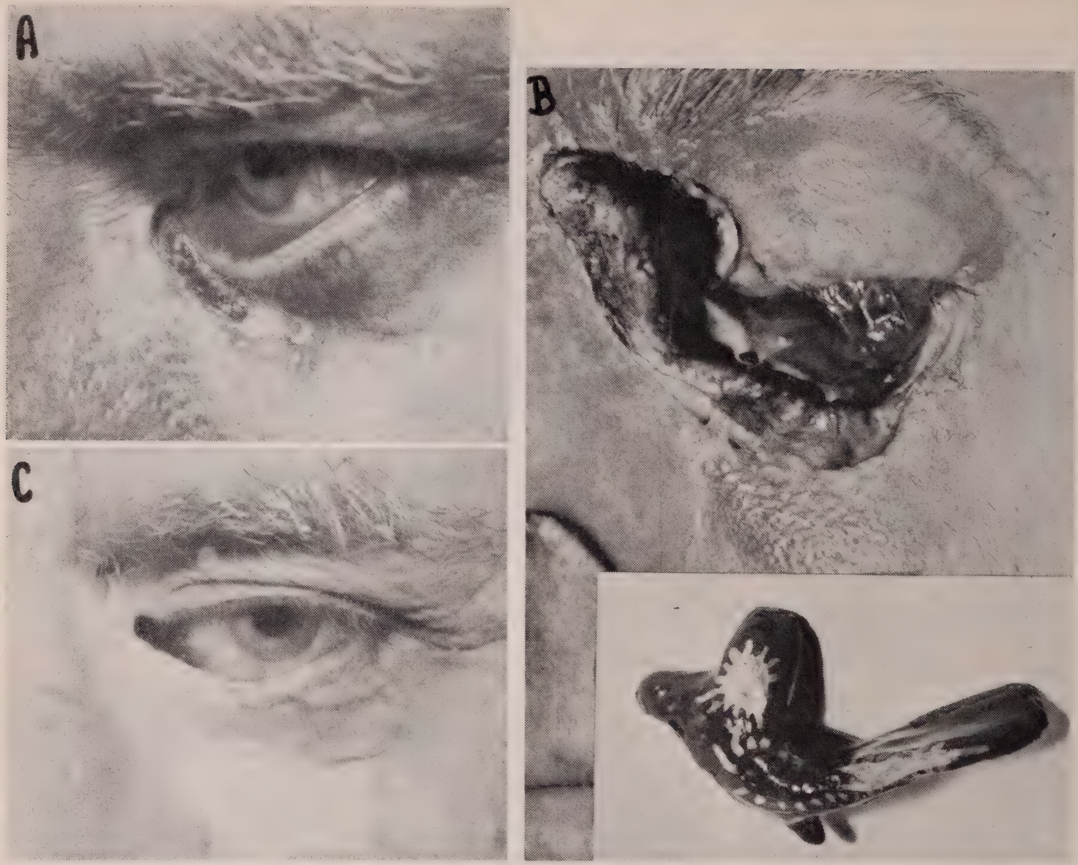

Fig. 6. (*A*) Basal cell carcinoma which had recurred after three radium treatments and surgical excision. (*B*) Lesion at completion of chemosurgical removal of the carcinoma which extended into the inferior and medial orbit, into the upper eyelid, onto the nasal bone, and into the fossa of the lacrimal sac. These extensions are illustrated by the reconstruction shown in the insert. (*C*) Healed lesion after plastic repair. There was no recurrence after sixteen years.

by clinical examination for two reasons: first, the consistency of the fibrocartilaginous tissues of the nose is so similar to that of cancer that the smaller outgrowths cannot be located by palpation, and, second, most nasal carcinomas are rather highly invasive, and they often send out irregular extensions in the dermis, periosteum, perichondrium, embryologic fusion planes, and other tissue structures. In the region of the nasolabial fold the silent extensions are especially common, and consequently, the microscopically guided chemosurgical excisions are of particular value, not only to assure eradication of the cancer but also to avoid unnecessary mutilation. The more advanced nasal lesions may invade unexpectedly for a long distance in some directions and yet invade but a short distance in other directions; in such cases the microscopic control makes it feasible to preserve structures which are useful in the subsequent plastic repair (Fig. 5). Cancers of the root of the nose may invade deeply into the medial orbit, but fortunately the extensions usually follow along the periosteum and rarely invade the eyeball; hence, by the use of the chemosurgical method the eye usually can be saved.

Cancer of the Eyelids.[9]—Unless there is actual invasion of the sclera by cancers originating on the eyelids, the eye is not endangered by the experienced use of the chemosurgical method. Obviously, careful technics to keep the fixative from entering the eye must be employed. An extra margin of safety is provided by the chemically produced swelling of the lid and bulbar conjunctiva which pushes the treated area away from the eyeball; moreover, the tears prevent damage by diluting the chemical as it slowly permeates through the eyelid.

The remarkable tendency for the lower eyelid to pull up into normal position after the removal of carcinomas of appreciable size results in exceptionally good cosmetic results. Even though extensive cancers may necessitate the removal of much of the lower lid, the eye is not endangered since the upper eyelid provides adequate closure (Fig. 6).

Inner canthal neoplasms often extend unexpectedly deeply into the medial orbit and into the soft eyelid tissues, but since the eyeball itself usually is not invaded until late in the disease, it need not be damaged (Fig. 6). The cosmetic results in lesions of moderate extent are excellent. When the commissural tissues are affected, a medial tarsorraphy may be required to prevent separation of the eyelids as the scar contracts. Outer canthal cancers are somewhat more likely to invade the eyeball because of the small space between it and the lateral rim of the orbit. However, damage to the lacrimal gland during chemosurgical removal of lesions in this region is of no serious consequence because the other glands of the eyelids usually provide enough moisture and lubrication. Most cancers of the upper eyelid can be removed without noticeable deformity, not only because of the conservatism which may safely be practiced, but also because of the plentiful redundant tissues which are available to close over the defect. However, when most of the lid has to be removed, the resultant exposure of the eyeball requires immediate closure to prevent corneal ulceration.

Cancer of the Ear.[10]—Since large defects of the external ear often are difficult to repair satisfactorily, the fact that there is no need to remove more than 1 or 2 mm. of normal tissue beyond the furthest extent of the cancer is an important advantage of the chemosurgical method. As in other sites the main mass of the carcinoma usually is surgically excised prior to the institution of the chemosurgical excisions which are needed for the microscopic control.

Cancer of the Extremities and Trunk.[11]—Not infrequently, the conservatism which is possible with the chemosurgical method is the means by which amputation of a finger, a hand, or a foot may be avoided. Thus, in a number of physicians and dentists the preservation of functional fingers was of particularly great economic importance. The essential functions of the hand may be impaired only slightly even when a deeply invasive carcinoma of the dorsum of the hand necessitates the removal of the extensor tendons and portions of the metacarpal bones. Cancers elsewhere on the extremities and trunk also may be removed with the reliability and conservatism which results from the microscopic control provided by the chemosurgical method.

Comment

The reason why the microscopic control of excision is such an important feature of the chemosurgical method is that many cutaneous cancers tend to grow out into the surrounding tissues in an irregular and unpredictable manner. Sometimes the silent outgrowths extend peripherally in the dermis, a mode of spread which often is most striking in highly invasive basal cell carcinomas of the forehead, temples, and scalp. In some cases the unpredicted extensions are deep and may follow structures such as the periosteum, perichondrium, fascial planes, embryologic fusion planes, nerve sheaths, lymphatics, and blood vessels. In other cases there may be no selective affinity for any of these tissue structures, but there may be irregular and unpredictable extensions as a result of the countless variations in the mechanical and nutritive conditions for the spread of cancer through the tissues. Dr. Lathrop and I have made a number of reconstructions of cancers which have graphically illustrated these silent extensions.[12]

Of course everyone engaged in the treatment of cancer of the skin knows that it often is impossible to determine just where the neoplasm has spread by gross visualization and palpation alone. Thus, the excision of a wide extra margin of tissue around a cancer has been the mark of an experienced cancer surgeon. Similarly, the experienced radiotherapist has routinely included an extra zone in the radiated field. Now, however, the microscopic control afforded by the chemosurgical technic makes it unnecessary to remove or destroy this extra margin of tissue.

The chief advantages of the chemosurgical method with its microscopic control may be listed as follows: (1) unprecedented reliability, (2) conservatism, (3) low operative mortality rate, and (4) the extension of operability to a considerable group of otherwise inoperable cases.

The reliability of the method is attested by the five-year end results which are given in detail in my book which is in publication.[7] In the consecutive series of 1,554 cases of carcinoma of the skin the five-year rate of cure was 94 per cent which compares favorably with the next best rate of 87.6 per cent in a series of similar cases recently reported from the Radiumhemmet of Stockholm, Sweden.[13] The rate of cure in a series of 1,071 cases of basal cell carcinomas which were removed chemosurgically was 98.2 per cent, while in the series of 483 cases of squamous cell carcinoma the rate of cure was 84.8 per cent. This series included the cases of all patients with histologically proved carcinoma, both early and advanced, previously untreated and recurrent, with and without metastasis who were treated in the Chemosurgery Clinic during the twelve-year period. One third of the lesions had recurred after previous surgical or radiation treatment. In an appreciable number of cases the lesions ordinarily would have been considered inoperable, many of the patients having come from other parts of the country where chemosurgical treatment was not available.

The low operative risk, which is largely attributable to the lack of need for a general anesthetic, is an important feature of the chemosurgical method because many patients with cancer are elderly and in poor general health. In a series of 1,554 cases of carcinoma of the skin the operative mortality was less than $^{1}/_{3}$ of 1 per cent (0.32 per cent).

The conservatism possible with the chemosurgical method also is a result of the microscopic control which makes it safe to remove only a millimeter or two of tissue beyond the furthest extent of the cancer at any point. This is one reason why the majority of the lesions heal with remarkably little defect. Moreover, in cases in which the location of the cancer necessitates the removal of a part which must be replaced for functional or cosmetic reasons, the preservation of maximal amounts of adjacent tissues greatly facilitates a satisfactory repair. Because the removal of the cancer is made certain by the microscopic control of excision, the repair often may safely be carried out immediately.

One of the most important uses of the chemosurgical method is in the treatment of cancers which have become rather advanced because of neglect or because of failure to respond to the usual surgical or radiation technics.[14] As has been illustrated in some of the cases described herein, it is possible to follow out accurately all of the diverse ramifications of advanced cancers. The only limitation is the involvement of vital structures or the presence of metastases which cannot be surgically resected.

Of course the chemosurgical treatment of advanced cancers with extensive silent outgrowths may be rather time-consuming and painful, but since the prognosis in such cases otherwise would be very poor, these seem relatively unimportant disadvantages. Other disadvantages of the method are the necessity of special training and experience on the part of the operator and facilities and technical personnel for the preparation of the superior type of frozen sections which are essential for the attainment of the best results.[15]

The chemosurgical method has many other uses besides the treatment of cancer of the skin. Three rather common conditions in which chemosurgery is particularly effective are carcinoma of the lip,[4] malignant melanoma,[16] and carcinoma of the parotid gland,[17] but other malignant and benign neoplasms, precancerous lesions, certain infections, and gangrene[18] also respond well to chemosurgical technics.[7] In view of the wide applicability of the method, it would seem that facilities and personnel for chemosurgical treatment eventually must be made available in each large center of population.

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Discussion

Charles F. Post, M.D., *Ridgewood, New Jersey (By invitation).*—The dermatologist has more modalities of treatment of cancer of the skin at his command than any other medical specialist. This includes minor surgical excision, electrocautery and electrodesiccation, x-ray, and radium therapy. Some of us employ one method or another more skillfully and extensively than others, the choice depending largely on our own training and experience.

For the past ten years or more, we have been reading Dr. Mohs's articles in the medical literature concerning the technic of chemosurgery, and his method of cancer treatment is constantly discussed at medical society meetings in this area. Prompted then by Dr. Mohs's publications, our society discussions, and my own curiosity, I visited Dr. Mohs one year ago this month at his clinic at the University Hospital in Madison, Wisconsin.

When one observes chemosurgery in practice, as done by Dr. Mohs, it becomes apparent and, indeed, necessary that dermatologists learn this technic. Our present methods give us a high cure rate of cancer of the skin, but treatment of many cases can be improved with chemosurgery, and other apparently hopeless ones can be saved.

The technic is well suited for dermatologists for several reasons. We are trained diagnosticians of cutaneous tumors, and our background in histopathology has been extensive and thorough. These two skills are essential, and in addition, one must have basic knowledge of surgical procedure and surgical anatomy. The tools and instruments of chemosurgery are available to all of us, and it is largely an office procedure, although hospitalization is advisable for some cases.

I feel that to practice chemosurgery at all means to practice it in the same manner as Dr. Mohs, its originator. Each piece of tissue removed by chemosurgery must be sectioned immediately and in its entirety by frozen section technic. Then you must sit down and map out the "cancer-involved" and "cancer-free" areas and proceed in this manner daily until all areas are "cancer-free."

Soon after my own visit to Madison, I sent a technician out to Dr. Mohs's clinic for training. She had had previous experience doing frozen sections and block tissue sections. Since last fall I have done several cases with gratifying results. I have continued to use the other technics in cancer treatment that are known to all of us, but I have found chemosurgery most applicable in large superficial epitheliomas previously treated or untreated and particularly valuable for an epithelioma that has not responded or has not been treated widely enough by x-ray therapy.

I have had the privilege of reading the manuscript of Dr. Mohs's book, and this will undoubtedly further the employment of chemosurgery in various centers throughout the nation. The scientific manner in which Dr. Mohs has pursued the clinical application of chemosurgery and his unselfish willingness to teach others will establish his technic as a safe, sound, and reliable means of treating accessible human cancer and certain infections.

Outstanding Guest Lecturers

at the

Sesquicentennial Meeting

Medical Society of the State of New York

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HOTEL STATLER **NEW YORK CITY**

Clinical Experience with Hydroxydione Sodium (Viadril), a New Intravenous Anesthetic

HELENE D. MAYER, M.D., HERBERT G. CAVE, M.D., AND CHARLES L. BURSTEIN, M.D., NEW YORK CITY

(From the Departments of Anesthesiology of the Harlem Hospital, Department of Hospitals, and the Hospital for Special Surgery)

The depressant action of certain steroids on the central nervous system of experimental animals was reported in 1942.[1] It appeared possible, therefore, to take advantage of this property in these steroids to prepare an anesthetic agent. Out of a large series of newly discovered and synthesized compounds, one steroid, 21 hydroxypregnanedione sodium succinate (Viadril*), was found to possess a number of unique attributes.[2]

The compound was found to be water soluble and free from hormonal effects and to have some anesthetic action. In experimental animals Viadril demonstrated double the safety factor of other anesthetic agents. Murphy, Guadagni, and DeBon[3] administered Viadril intravenously to humans, using a 2.5 per cent solution, and reported satisfactory anesthesia, but they had three cases (2.4 per cent) of thrombophlebitis. The frequent occurrence of thrombophlebitis in dogs following the intravenous administration of this anesthetic was also noted in early experimental studies. This high incidence of thrombophlebitis at the dosage level employed brought into question the desirability of Viadril as an intravenous anesthetic drug.

In preliminary investigations[4] it was found that the pH of a 2 per cent Viadril solution was 8.5, and the pH of a 2.5 per cent solution was 9.8. An 0.1 per cent solution has a pH of 7.8, which is more physiologic than the concentrated solutions. In many cases induction of anesthesia could be accomplished by the intravenous administration of an 0.1 per cent solution in 5 per cent glucose in distilled water at an initial rate of 150 drops per minute. When this dilution was administered, patients became drowsy after 150 to 200 cc. had been absorbed in fifteen to twenty minutes. This technic had the further advantage that the anesthetist could observe the patient during the administration of the drug and adjust the required dose to the individual patient. This was in contrast to the large predetermined dose of 1 to 2.5 Gm. employed by others.[3]

One of us (C.L.B.) has described satisfactory results with this technic in 500 cases without a single instance of thrombophlebitis. In other cases a higher concentration of Viadril, 0.2 to 0.4 per cent, was used. This report encompasses the clinical observations on 600 cases in which Viadril was used in conjunction with general anesthesia or spinal analgesia.

The mental attitude of the patient being prepared for surgery is a factor in determining the choice and amount of an anesthetic agent for satisfactory induction. The 0.2 and 0.3 per cent solutions proved more adequate for prompter and smoother induction and allowed us to eliminate completely the use of ultra-short-acting barbiturates.

In our experience Viadril furnished satisfactory anesthesia and allowed smaller quantities of the inhalation agents to be used. A decrease in the requirements for muscle relaxants was also noted. Respiratory depression, laryngospasm, and bronchospasm were not encountered. We observed no cases of thrombophlebitis.

Complications

When a new drug is employed, it is sometimes difficult to distinguish between complications due to the drug itself and those which are only coincidental with its administration. Only careful observation of numerous cases will provide the answers. We are here presenting variabilities or complications which were observed in our cases without giving definite interpretations

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* The Viadril employed in this investigation was furnished through the courtesy of Chas. Pfizer & Co., Inc., Brooklyn, New York.

of their significance in the over-all action of this new anesthetic agent. Those we will discuss are variability of response, cough, hiccough, tremor, emergence excitement, infiltration, pain at the site of injection, and cardiac arrest.

VARIABILITY.—Some patients required a small dose of Viadril for hypnosis. In others a larger dose was necessary to achieve the same effect. In most cases where inhalation anesthesia was employed, either with or without muscle relaxants, it was found that the required amounts of each agent were decreased with the use of Viadril. However, in a few cases the amounts of the agents necessary seemed no less than if Viadril had not been used. No patient in this group returned for further surgery, a circumstance which would have afforded us the opportunity for additional study of the individual reaction.

COUGHS.—Four patients developed coughing shortly after the administration of Viadril was started. Three of these patients stated that they felt a "tickling" in the throat. In two cases this cleared within a few minutes with continuation of the drug. In one patient receiving spinal anesthesia who had not been given a belladonna drug as premedication, the coughing ceased with the injection of $^1/_{150}$ grain of atropine intravenously. In the fourth patient, also receiving spinal anesthesia, the drug was discontinued because of the coughing and the development of copious secretions before hypnosis was achieved.

HICCOUGH.—One patient undergoing a subtotal gastrectomy under fractional spinal anesthesia had a bout of hiccoughs when the surgeon initially put traction on the stomach. The rate of flow of Viadril was increased without cessation of the hiccoughing and despite the fact that traction on the stomach had been relieved. However, intravenous Nisentil in two doses of 6 mg. each five minutes apart controlled the hiccoughs.

TREMORS.—One patient under spinal anesthesia for a left lumbar sympathectomy for peripheral vascular disease, who had received 800 mg. of Viadril over a fifty-five-minute period, awoke with twitching of the muscles of the face and then developed tremors of the hands. The patient could be aroused at any time during the procedure and apparently was never anoxic. His respirations remained normal. Sodium Penthothal, 200 mg., and nasal oxygen controlled the tremors for ten minutes. When they recurred, the patient received 15 mg. of Nisentil intravenously in divided doses and 1 Gm. of calcium gluconate intravenously. For about five minutes after this medication, the tremors recurred whenever he was disturbed. After that period he remained quiet. Lacking any other explanation for this occurrence, we concede that it may have been caused by the Viadril.

EMERGENCE EXCITEMENT.—Emergence excitement was observed in some patients to whom Viadril had been administered, particularly those of athletic physique or with an alcoholic history.

INFILTRATION.—In one case, at the conclusion of a subtotal thyroidectomy, it was discovered, when the drapes were removed, that possibly the total amount (1,000 cc.) of an 0.1 per cent Viadril drip had infiltrated into the arm. Hyaluronidase was infiltrated subcutaneously and into the muscle, and within fifteen hours there was complete absorption with no pain or sequelae.

PAIN AT SITE OF INJECTION.—A few patients complained of transient pain in the arm at the site of injection, but there were no sequelae.

CARDIAC ARREST.—In two patients in this series cardiac arrest occurred. In neither case did we feel that this phenomenon could be attributed directly to the Viadril.

Case 1.—This was a twenty-eight-year-old male with a ten-year history of peptic ulcer who was scheduled for subtotal gastrectomy. He had a history of drug addiction but stated that his last narcotic injection was about six months prior to this hospitalization. His blood pressure was 120/80, pulse 100, and respiration rate 20 per minute. Morphine $^1/_6$ grain and scopolamine $^1/_{150}$ grain were administered at 7:30 A.M. On arrival in the operating room, his blood pressure was 118/76, pulse 92, and respirations 12. At 8:30 A.M. spinal puncture was performed, and a vinyl plastic catheter was passed to the tenth thoracic level. A level to the third thoracic vertebra was obtained with 100 mg. of procaine. The surgeon raised the gallbladder rest for better exposure. Viadril in an 0.2 per cent concentration was started at this time at the rate of 150 drops per minute. The patient was somnolent by 8:50 A.M. after receiving 500 mg. of Viadril. At this point an 0.3 per cent Viadril concentration was substituted in order to decrease the total fluid intake. The patient wakened and became restless on three occasions at approximately the time that additional procaine was required. In each instance he again became somnolent following the addition of 50 mg. of 5 per cent procaine.

At 10:20 A.M. depressed respiration was observed. Viadril was discontinued after 1,900 mg. had been absorbed. The surgeon complained about "pushing," and the anesthetist injected 50 mg. of procaine, overlooking the possibility that the spinal may have been so high at this point as to cause intercostal paralysis and diaphragmatic hyperactivity. The total dosage of procaine at this time was 325 mg. of 5 per cent heavy procaine, received over two hours and five minutes. There was a sharp drop in blood pressure from 100/80 to 60/40. This was associated with gaspy respirations at the rate of about 6 per minute. The patient became cyanotic despite oxygen by mask. The blood pressure in the ensuing five minutes became unobtainable, and the radial and temporal pulse were imperceptible. The surgeon could feel a weak aortic pulse at this juncture. In twenty seconds this could no longer be felt. The chest was opened immediately, and the heart was found to be in asystole. The patient was relaxed and was easily intubated at this time to insure better ventilation. Cardiac compression led to a normal heart beat in about five minutes.

Following this incident the patient had spasticity on his right side and blindness for a period of eighteen hours. This is a recent occurrence, and at present the patient appears to have no sequelae.

It is our impression that this catastrophe was due primarily to the high spinal, overlooked because of its combination with too great a degree of sedation.

Case 2.—This was a sixty-two-year-old, obese female with a three-month history of an increasing mass of the neck, progressive dysphagia, stridor, and pain in the neck on flexion. A diagnosis of carcinoma of the thyroid was made, and the patient was scheduled for a radical thyroidectomy. The physical examination was negative except for the above findings. However, this patient appeared older than her stated age and was regarded by the surgeon as a poor risk.

Nembutal 100 mg. was administered per os at 8:00 A.M. At 1:30 P.M. the patient received morphine 10 mg. and scopolamine 0.6 mg. by subcutaneous injection. She was well sedated on arriving in the operating room but was not depressed. Her blood pressure at that time was 140/100, the pulse 64, and the respirations 26 per minute. At 2:25 P.M. an 0.2 per cent Viadril solution in 5 per cent glucose in saline was started at the rate of about 60 drops per minute. Five minutes later, since the surgeons were waiting, the patient was given 325 mg. of 2.5 per cent (13 cc.) Surital solution and 30 mg. (2.5 cc.) of succinyl choline, and her trachea was intubated with a number 36 silk woven catheter. She was maintained on 50:50 L. per minute of nitrous oxide and oxygen, succinyl choline, and Viadril.

Her course was uneventful with blood loss estimated at below 200 cc. until 4:25 P.M. (one hour and fifty-five minutes after the start of anesthesia) when the blood pressure and pulse suddenly were undemonstrable. The surgeon was asked to interrupt the operation and to check for pulsations in the neck arteries. When none were felt, thoracotomy was immediately performed. Cardiac compression was begun, but artificial circulation, as evidenced by a radial pulse, could not be instituted. An unsuccessful attempt was made to open the pericardium, which was found to be adherent. The heart showed marked fatty degeneration, particularly on the right side. There were slow, inefficient contractions of the left ventricle, but there was no response of the right ventricle.

It is our impression that in view of the severe cardiac pathology in this obese, elderly woman, any anesthetic and major surgery might have resulted in the same outcome, and Viadril was not culpable in this fatality.

Summary

A report has been made of clinical observations on the use of Viadril in some 600 cases, using a technic of dilute intravenous drip administration. It is our opinion that Viadril is a useful adjunct to anesthesia and analgesia. In none of the reported complications encountered in these cases could Viadril be definitely implicated. No specific contraindications to its use were discovered.

A decrease in the required amount of inhalation agents and muscle relaxants was observed in a majority of the cases in this study.

Laryngospasm, bronchospasm, and respiratory depression were not encountered. There was no instance of thrombophlebitis.

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Discussion

Rose M. Lenahan, M.D., *Buffalo, New York.*—I have been very interested in Viadril and have been making extensive inquiries concerning its use in the past several months. Although as yet I have not used it personally, I have talked to many who have tried it. In this discussion I would like to incorporate some of their opinions and evaluations of the drug.

Dr. Mayer is certainly to be congratulated for her pioneer work. She and her colleagues have shown an admirable determination in striving for newer methods of anesthesia.

I am sure that we shall share the fruits of their labor in the future, but in all honesty I must say that I cannot share their enthusiasm for Viadril in its present state.

After talking with Dr. Ansbro who reported the use of Viadril in 1,000 cases at the A.M.A. meeting in Chicago in June, 1956, I believe that the disadvantages of the drug outweigh its merits at the present time. In his talk he agreed with the findings of Dr. Murphy and his coworkers and Dr. Howland and his associates, as well as others who have said that thrombophlebitis does occur. Dr. Ansbro stated that it has a sclerosing action on the intima of veins, thus being mildly similar to sodium morrhuate. Also he frequently encountered cardiac irregularities, tachycardias as high as 120 per minute, hypotension in many cases, hypertension in some, and tachypnea in some instances as high as 60 per minute.

Viadril's prolonged induction, as noted by some, is surely not too pleasant for the patient, but the risk of hypotension is less. A fast induction with a more dilute solution, as used by others, does decrease the incidence of thrombophlebitis; however, the large amounts of fluid which are then necessarily given may be objectionable.

At a recent meeting of anesthesiologists in Miami, some of my confreres who have used Viadril also found more disadvantages than advantages. Dr. Sadove was of the same opinion too but mentioned to me that possibly after further studies it might prove useful with nitrous oxide and oxygen for certain cases. Dr. Ansbro thought it might have a place in head and neck surgery because it obtunded pharyngeal and laryngeal reflexes and for sedation in regional anesthesia.

This paper not only stimulates our interest in Viadril but also arouses our hope that future studies may improve it so that it will become a universally accepted drug.

Reserve the Dates . . .

SESQUICENTENNIAL MEETING

Medical Society of the State of New York

FEBRUARY 18 TO 21, 1957

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RECENT ADVANCES IN MEDICINE AND SURGERY

A series of review articles dealing with medical progress

ROBERT TURELL, M.D., *Editor*

Moles

GEORGE T. PACK, M.D., AND JEFF DAVIS, M.D., NEW YORK CITY

(*From the Mixed Tumor Service, Memorial Center for Cancer and Allied Diseases*)

The pigmented nevus is the most common tumor in the entire category of cutaneous neoplasias. The average white adult has about 15 to 18 visible moles. Nevertheless, these growths are often confused with numerous other skin conditions. Seborrheic keratoses, squamous cell and basal cell carcinomas, pigmented neurofibroma, hemangioma of various types, papilloma, and verrucae are sometimes mistaken for nevi. Whenever the clinician is particularly acquainted with dermatologic conditions, a greater incidence of correct clinical diagnoses may be anticipated.

Natural History of Nevi

Nevi are essentially pigmented or, in some instances, nonpigmented (amelanotic) tumors composed of atypical melanoblasts (pigment-producing cells). They are found in the skin, mucosa, and eye. All nevi are probably congenital, even though they are not always observable at birth or shortly thereafter. The term "acquired nevi" is questionable. This concept has been based on the observation that many nevi become evident at various periods in postnatal life. The time of origin of nevi and the onset of their first appearance are not necessarily the same because many nevi in newborn infants are invisible at birth. In examination of the skin of 200 infants, we found an incidence of only 2.4 per cent of pigmented nevi. This figure is in contrast to the fact that the average adult has at least 15 to 18 pigmented moles distributed over his body. Nevi continue to appear for a variable time after birth, perhaps after some external exposure that has exerted a melanin-provoking influence or a comparable effect brought about through the stimulation of internal secretions. Showers of newly visible nevi are frequently reported by patients and observed on examination in sites of the skin not previously known to be involved. During pregnancy and at puberty this is not uncommon. Parents frequently are alarmed when their adolescent children rather suddenly seem to acquire many new moles not previously seen and when moles already present become more prominent, larger, more elevated, and more darkly pigmented. This time of appearance and change coincides with the increase in gonadal and pituitary hormones, e.g., during ages nine to twelve years.

The growths originally appear as macular areas of pigmentation that may enlarge and change in color, size, and configuration, or they may fade or remain arrested. In most instances they reach a point where they remain stationary and inactive for the remainder of life as a result of fibrotic changes that occur in their natural evolution. However, they may grow slowly and mature, become reactivated at any time of life from various causes, or they may regress. Hair may or may not be evident. Its presence usually indicates that the growth is benign, although this is not an invariable rule. One or more lesions may occur on any portion of the body. They are equally disposed in both sexes.

Classification of Nevi

Nevi are differentiated histologically as follows:

1. Intradermal nevus: The neval cells are located in the dermis.
2. Junction nevus: The tumor cells are mainly at level of the dermoepidermal junction.
3. Compound nevus: It contains both dermal and junctional elements.
4. Blue nevus (Jadassohn-Tieche): It is composed of spindle-shaped melanoblasts in the deep portion of the dermis (mesoblastic).
5. Prepubertal melanoma (juvenile melanoma): The gross and microscopic appearance of this tumor simulates and is sometimes confused with true melanoma.

INTRADERMAL NEVUS.—The intradermal nevus or the common mole accounts for at least 75 per cent of all nevi. It is commonly the raised fleshy type of papular or nodular nevus seen about the face, although it may occur at any other site. It is seldom found on the palms, soles, and genitalia. The intradermal nevus can be mistaken at times for a junction nevus, and a microscopic examination may be necessary to make the differentiation. The majority of hairy nevi and large bathing trunk nevi fall into this category. The pure intradermal nevus, i.e., one without concomitant junctional elements, is rarely seen before puberty. Its incidence increases with the onset of adult life. It seldom becomes malignant. When it does, it is usually combined with a junctional element in a portion of the growth and, therefore, should come under the classification of a compound nevus.

JUNCTION NEVUS.—The junction nevus is the most important of the group because it possesses the potentiality of changing to a malignant melanoma. The term junction is appropriate because the vital element in its cellular structure transpires at the dermoepidermal junction. The growth appears as a smooth, hairless, flat macule or slightly raised papule, and it varies in color from light to dark brown or black. The superficial appearance of this nevus often belies its malignant possibilities. The majority of these nevi are relatively small, varying in diameter from several millimeters to 2 cm. The junction nevus may appear at birth or any time thereafter. The majority probably present themselves near the time of puberty and in early adult life. There are no particular sites of predilection on the skin, but those nevi occurring on the palmar and plantar surfaces, digits, genitalia, and mucous membranes are commonly of the junction type. This accounts for the relative frequency with which melanomas develop on these sites and emphasizes the prophylactic importance of removing these junction nevi even in childhood.

This growth cannot always be distinguished from other types of nevi or at times from melanoma. It has been mistaken for pigmented basal cell carcinoma, angioma, histiocytoma, Kaposi's sarcoma, granuloma pyogenicum, and other growths. In these instances excisional biopsy is necessary to ascertain the correct diagnosis.

The junction nevus has latent potentialities for change to any one of a number of different patterns. It may show retrogression, remain inactive, or actively evolve into either an intradermal nevus or compound nevus, a juvenile melanoma, or be transformed into a true malignant melanoma. Allen and Spitz are of the opinion that 90 per cent of melanomas arise in junction nevi. There is a prolonged latency between the development of a junction nevus and any demonstrable transformation into malignancy, an alteration which may require many years. Thus there is some element of the aging process in the evolution of the malignant change. However, it does not equal that which exists in the degeneration of precancerous keratoses of the skin into carcinoma. In the latter the incidence curve very closely parallels the increase in age, while in melanoma the greatest incidence occurs between the ages of thirty and sixty with no marked difference in the number during these later decades.

The rarity of melanomas as compared with the frequency of pigmented moles and more specifically of junction nevi indicates the low incidence of transformation of the average mole into a malignant tumor.

COMPOUND NEVUS.—Whenever a nevus is histologically composed of both a junctional and an intradermal element, it is termed a compound nevus. According to Allen and Spitz, 98 per cent of dermal nevi in adolescents are of the compound variety. But only 12 per cent in adults show the combined characteristics because after puberty most dermal nevi lose their junctional component. These nevi are not clinically distinguishable from dermal nevi. Microscopic examination is necessary to identify their compound nature. Hairy moles are ordinarily intradermal nevi. On rare occasions they possess a junctional element, and then, like all compound nevi, they have the potentiality for malignant change to melanoma. Only a small percentage of melanomas arise from compound nevi. Of 362 melanomas Allen and Spitz found 3.9 per cent to originate in compound nevi.

The erroneous impression that a "common mole" (intradermal nevus) can give rise to a melanoma rests on the fact that a dermal nevus which looks like an ordinary "mole" may have a junctional portion which contains the same potential for malignant transformation as does a pure junction nevus. For this reason it is important to excise any dermal nevus that has shown evidence of change or is suspicious in appearance.

Blue Nevus (Jadassohn-Tieche).—The blue nevus was formerly considered to be rare. However, the increasing familiarity of clinicians with this growth and the greater number of specimens becoming available to the pathologist for microscopic examination have altered this belief. Montgomery and Kahler have also expressed the opinion that it is not of low incidence.

Diagnosis of these tumors solely on the basis of color is not warranted since the growths frequently mimic the clinical appearance of a melanoma and other nevi may assume similar coloring. A history of many years duration without change is in keeping with the general behavior of a blue nevus. In doubtful cases, and particularly those in which the growth is apparently of recent origin, an excisional biopsy is indicated.

The blue nevus is a benign growth which seldom undergoes malignant change. The deep color and the microscopic picture of the benign blue nevus is easily confused with the true melanoma. Its dark color is created chiefly by its relatively deep position in the dermis. At times it has been found microscopically to be associated with or juxtaposed to an intradermal or junction type nevus. Some authentic cases of malignant degeneration of a blue nevus have been reported, and we have had several bona fide cases in our own experience. Such a diagnosis of melanoma arising from a blue nevus must be accepted only after careful consideration of the clinical and pathologic findings. In some instances highly cellular and extensively pigmented blue nevi may closely resemble a melanoma on pathologic examination. In other cases a spindle cell melanoma or spindle cell melanotic metastases may be mistaken for the degeneration of a blue nevus.

Prepubertal Melanomas.—In 1939 the concept was originally proposed that the majority of diagnosed melanomas of childhood tend to follow a benign course and seldom metastasize (Pack). The probability of hormonal influences inhibiting melanomas during childhood and stimulating them to active malignancy after the onset of puberty was emphasized. Some few years later, additional reports in the literature by Pack, Sylven, and Webster, Stevenson, and Stout gave further confirmation of this concept. The term "prepubertal melanoma" was suggested for these tumors which had been clinically differentiated from adult melanoma because of their benign behavior during adolescence but which were as yet histologically indistinguishable from melanomas (Pack). Shortly thereafter, Spitz proposed the term "juvenile melanomas" and presented histologic differences in about half the cases, by which they could be separated from adult melanomas. In this series and in those of Allen and Spitz and Williams, cases of fatal malignant melanoma in children were presented. Allen and Spitz came to the conclusion that growths previously considered melanomas of childhood because of their benign course and designated histologically by them as juvenile melanomas were definite histologic entities, quite separate from adult malignant melanomas. Similar lesions having the same histologic appearance were also observed in adults and found to pursue a subsequent benign course.

Thus it became apparent that there was a growth (prepubertal melanoma) occurring in children and in an occasional adult, whose histology resembled a true malignant melanoma but which clinically pursued an entirely benign course, while at the same time there were true malignant melanomas occurring in children, although rarely before puberty, with consequent metastatic extension and death. When they do occur, they are not histologically different from adult melanomas and have a rabid microscopic picture. Although some melanomas of childhood metastasize, there have been extremely few in the long history of the Memorial Cancer Center where there has been unusual interest in this problem. The distinction is not absolute even with the aid of the microscope; a so-called benign juvenile melanoma or cellular nevus has metastasized, thus necessitating a change in the pathologic diagnosis. Confusion on the basis of the age of the patient rather than the microscopic features of the tumor was responsible for the error inasmuch as the patient, although not menstruating yet, had developing breasts and axillary and pubic hair, the accompaniments of approaching puberty.

Transformation of Benign Nevi into Malignant Melanoma

It is now well authenticated that melanomas of the skin and mucous membranes arise from a junctional or compound nevus. The only exception is the rare instance of the malignant transformation of a blue nevus. Junctional and compound nevi are not malignant per se, nor do they contain melanomatous elements. They only have the potentiality of malignant transformation. Thus they are precancerous or premelanomatous growths. That melanomatous change supervenes in only a minute percentage of cases is apparent from the omnipresence of these tumors and at the same time the relatively low incidence of melanomas. Not only is the junctional nevus which shows microscopic evidence of activity a candidate for malignant transformation, but the quiescent junctional nevus may on occasion eventuate in a melanoma. Allen and Spitz state that "in those restive junctional nevi which are anaplastic and in which certain qualitative cellular changes have occurred, the odds are enormous that this altered junctional nevus, if allowed to remain, in time would evolve into a melanocarcinoma." As yet, there is no means of determining which growth will actually exhibit malignant change.

The concept is no longer tenable that other pigmented nevi, including the intradermal nevus or common mole, are capable of transformation to melanoma. As has been stated, the one exception is the blue nevus which occasionally does so.

Significance of the Hairy Mole in Relation to Malignancy

It has been a widely accepted principle that hairy nevi never undergo melanomatous change. In general, this rule is reliable insofar as hairy nevi are usually of the dermal variety and, therefore, not prone to malignant change. However, a junction nevus located on a hairy portion of the body or contained within the substance of a hairy mole may be the nidus for a change into malignant melanoma. Hairy moles are not commonly found on the feet and genitals where junction nevi abound.

Trauma as a Factor in Malignant Transformation of Nevi

There has been considerable forensic interest in the reputed role of trauma in converting a benign pigmented nevus into a malignant melanoma. It seems incredible that a single injury to normal skin could induce the onset of a tumor so highly complicated as a nevus or a malignant melanoma. Accumulated case histories would seem to testify that repeated chronic irritation of pre-existing nevi could be a factor in inducing their change to the malignant tumor. More than half of the cases of melanoma in which trauma was considered a factor have occurred on the feet in the cases reported by Gleane, Amadon, Coley and Hoguet, Stevenson, Klauder, Hazen, and Farrell. Patients honestly are of the opinion that pressure or irritation of clothes or shoes on a known existent mole must have been responsible for its conversion to melanoma, and our numerous case histories so record this relationship.

In our opinion it is time to cast proper doubt on this attempted correlation. When patients discover that the towel, the shoe, the belt, the suspender causes a mole to bleed, to ulcerate, or to become tender, the chances are that the mole already had become malignant. The disordered architecture of the melanoma is infinitely more susceptible to injuries than the benign mole. The higher incidence of transformation of nevi into melanomas on the foot, for example, may be explained not so much by the influence of injury as by the fact that these nevi are usually of the junction or compound variety. It seems like heresy to discount trauma as the responsible agent for the malignant transformation of most nevi, but this is our belief.

There is an erroneous belief among many laymen and unfortunately among some physicians that one should never remove a pigmented nevus unless it bothers the individual who has it because it might result in the production of a melanoma. This is a dangerous doctrine. When a pigmented nevus begins to trouble the patient, it may mean that a melanoma has already developed. The local recurrence of a melanotic tumor or the appearance of metastases in regional nodes or distant viscera after the conservative removal of the supposed benign nevus indicates that the original tumor was already malignant but unrecognized as such at the time of the conservative excision. This offers a strong argument for the routine microscopic study of every pigmented nevus that is excised.

Is There Danger in Removal or Biopsy of a Nevus?

The fear of trauma has created some differences of opinion as to the advisability of removing tissue from a nevus for biopsy. It is believed by some that this may be responsible for stimulating a nevus into activity. Ordinarily, nevi are of such proportions that excision biopsies may be performed. When an extensive nevus is present and complete removal would entail the excision of a great amount of tissue or cause disfigurement, a biopsy would be of paramount importance in order to ascertain whether or not complete removal of the lesion was necessary. In the few instances where such a biopsy is indicated, it is believed that there is little possibility of dissemination of tumor emboli. This gains confirmation from the opinions expressed by Ewing, Wood, Boyd, and Sachs, MacKee, Schwartz, and Pierson.

Influence of Active Melanoma on Coexistent Moles in the Same Patient

Inasmuch as many melanomas apparently originate in precursory benign nevi, it is remarkable that more patients do not have multiple primary malignant melanomas. A survey by Pack and Lenson revealed that the average white adult had 15 pigmented moles. The ubiquity and universal occurrence of moles in the white race and rarity of melanomas suggest that the likelihood of any one mole undergoing malignant change may be very slight indeed, were it not for the fact that not all moles are equally culpable. Our incidence of 1.28 per cent of multiple primary melanoma is not large but is much higher than the occurrence of melanomas in the general population.

Contributing to the tendency for multicentricity of melanomas in the same patient is the known stimulating influence of active melanomas on nevi coexistent in the same subject. The mechanism by which this stimulation occurs is unknown, but conceivably it could be of hormonal or neurohormonal nature. So cognizant are we of this phenomenon that when we operate for the malignant melanoma, more recently, we have been removing moles of suspicious type. Our pathologists have frequently commented on the histologic evidence of unusual cellular activity in these moles, especially those with junctional components.

Hormonal Influences on Nevi

The exact physiologic processes involved in the transformation of a quiescent junctional nevus into melanoma is unknown. One important stimulating element in this transformation is probably the role of the endocrines. The pronounced influence of hormonal secretions is perhaps even more striking in the critical stage during which a benign nevus changes to a malignant melanoma.

Changes in pigmentation and growth brought about in nevi and melanomas by the onset of pregnancy and puberty and through the administration of corticosteroid compounds (ACTH and cortisone) contribute to the evidence that these pigmentary growths are affected by hormonal stimuli. Hormones of pituitary, adrenal, and ovarian origin are presumably responsible for stimulative changes in these growths.

The research of Houssay and Velhagen has indicated that the pituitary and adrenal secretions are capable of affecting the activity of the melanoblasts and the production of melanin. It has been noted by Loeb, in a discussion of Addison's disease, that nevi may deepen markedly in pigmentation, even though there may be only minute changes evident in the general pigmentation of the skin. This is consistent with the observations of Goldman and Richfield who state that cutaneous hyperpigmentation and junctional nevus formation are rarely found associated with any of the hyperadrenocortical syndromes. They demonstrated, however, that after the administration of corticotropin (ACTH) or cortisone or both for a prolonged period, five out of 31 patients developed an unusual hyperpigmentation and new junctional nevi that had not been clinically evident previously.

There has been abundant clinical evidence to indicate that a hypersecretion of the pituitary gland was associated with hyperpigmentation, and conversely, a decrease in pituitary activity creates a decreased pigmentation. An early method of biologic assay of pituitary extract was the darkening of the skin of frogs and fish. In a recent article (1953), Lerner and Fitzpatrick have demonstrated that extracts of hog pituitary injected into human subjects bring about a generalized increased pigmentation of the skin. They believe that the factor in this agent is a melanocyte-stimulating hormone (MSH) and that the increased pigmentation of Addison's disease and of pregnancy is probably due to an increased output of this product. They have found increased quantities in the urine during pregnancy and in Addison's disease. They were of the opinion that new nevi were possibly produced as a result of injection of MSH into the normal male.

Undoubtedly, the tumor in this group most closely influenced by the endocrine system is the juvenile melanoma. It is susceptible to the activity of the endocrines, notably the gonads, the suprarenal cortex, and perhaps the pars intermedia of the hypophysis. In keeping with this opinion, we have often observed malignant melanomas which occurred in adolescent girls and boys just after the age of puberty, and furthermore, we have commented on the extremely rapid growth and wide dissemination of these tumors at this early age. Apropos of the influence of sex hormones, we have had quite a number of instances in which a pigmented nevus underwent malignant degeneration into melanoma during pregnancy or shortly thereafter. When this occurred, the tumor grew with startling rapidity and was usually widely disseminated beyond control by any form of surgical intervention, no matter how radical.

Relation of Complexion and Race to the Incidence and Behavior of Moles

In the course of management of some 1,400 patients with malignant melanomas, one definite fact became evident, namely, the preponderance of these cancers in people with blond or sandy complexions. Only about 8 per cent of Americans are natural blondes, and only 3 per cent are redheaded, a combined group comprising no more than 11 per cent of our population; yet at least three fourths of our patients with malignant melanoma fall into this category. Perhaps the incidence and significance is even greater because New York City and its environs, from which our patients originate, is probably more decidedly brunette.

The common subject usually has a pale, fair skin, translucent, without pigment, and who sunburns rather than tans on exposure. The eye color is light blue to hazel. Although by maturity their hair may be light brown, they almost uniformly admit that in childhood their hair was white to golden in color. The redheaded group vary from the typical individual with delicate white skin to the sandy-complected people with excessive freckling. It is this latter group which seems especially susceptible to the conversion of moles into malignant melanomas.

It naturally follows that people of these complexions should have their moles examined and the pigmented moles excised. Attention to this detail may be the best means of melanoma prophylaxis, exceeding in importance and reward our injunctions about the removal of moles in childhood, pregnancy, and from certain anatomic sites.

Apropos of these statements, moles and melanomas are not commonly encountered in the American Negro; melanoma is disproportionately frequent on the sole of the foot and in the nailbed. When it does occur on Negro skin, the subject usually has a liberal admixture of caucasoid elements. We have made large surveys and have constructed composite scattergrams illustrating the frequency and regional distribution of moles in Negroes, East Indians (Bombay), pure American Indians (Guarani), Mestizos (Paraguay), Polynesians, Chinese, Japanese, Filipinos, etc. The pigmented mole is not as frequent in the pure darker-skinned peoples, but it is very frequent in the Mestizos or other peoples with mixture of caucasoid blood. These facts are consonant with the biologic experiment of Dr. Myron Gordon who mated the albino swordtail fish with the spotted platus (micromelanophores), closely related small Mexican fish that never spontaneously develop melanoma. In subsequent offspring of this cross-mating, macromelanophores appear and subsequently true metastasizing melanomas according to the Mendelian ratio.

Regional Distribution of Moles and Melanomas

From an outpatient diagnostic service, 1,000 white patients who came for other complaints were carefully examined by Pack, Lenson, and Gerber in order to note and record the character, number, and locations of their moles. The data so obtained could be interpreted as representative of the natural incidence in adult white people. A total of 14,609 nevi were recognized on these 1,000 people, an average of 14.6 moles per subject. The very frequency of its occurrence lulls suspicion and favors tolerance of these tumors by patients and physicians alike.

Another group of 840 patients had moles removed and microscopically identified as benign. In general, it may be stated that the percentage distribution of excised moles and malignant melanomas was almost identical for the skin of the trunk and upper extremities. Judging from comparative figures, there was apparently less and insufficient concern about nevi on the lower extremities and a disproportionate eagerness to have moles on the face excised, the latter probably for cosmetic improvement.

Only 13.2 per cent of moles as they occur in the general population were situated in the skin of the head and neck, but 28.9 per cent of malignant melanomas were situated in the same regional distribution, indicating that the malignant tumor occurs with twice the relative frequency as the mole in this location. The 31 malignant melanomas occurring in the oronasal cavity were only 2.5 per cent of the entire number of melanomas seen and treated. Pigmented nevi that can be identified as such are of extraordinary rarity in the mucosa of the oral cavity, pharynx, and nasal accessory sinuses. The inability to detect the precursory lesions accounts for the failure to practice prophylactic excision.

Of 14,609 nevi examined, only 14 such moles were discovered on the skin of the genitals in both the male and the female. This regional distribution comprised only 0.1 per cent of all moles, as compared with the relative frequency of melanomas, of which 35 or 2.8 per cent of 1,222 melanomas were situated in the skin of the male and female genitals. Two conclusions may be drawn from these figures: first, that the malignant melanoma is proportionately twice as frequent as its benign prototype, the pigmented nevus, and second, that due to the relative infrequency of moles on the genital skin, one might conclude that they were more often predisposed to undergo malignant degeneration than moles in other locations.

In view of the thousands of proctoscopic examinations which are done every year, it is surprising that pigmented nevi are not commonly found in the anorectal mucosa. This is unfortunate, inasmuch as it removes all opportunity for the prevention of anorectal melanomas which in most patients have been of fatal termination.

Pack, Lenson, and Gerber found 30.2 per cent of moles situated in the skin of the upper extremities, whereas only 10.9 per cent of malignant melanomas were so located. On the other hand, only 17.2 per cent of the pigmented moles were in the skin of the lower extremities, whereas 29.6 per cent of melanomas were in the skin of the lower extremities. Therefore, moles occur almost twice as frequently in the upper extremities as compared with the lower extremities, and melanomas occur almost three times as frequently on the lower extremity as compared with the upper extremity.

Melanotic whitlows or subungual melanomas comprise 37 or 2.9 per cent of the malignant melanomas in our series. Pigmented nevi are not so frequently encountered in the nailbed and, when seen, should be surgically excised in their entirety in order to be available for microscopic study. In our experience the melanoma occurs much more frequently in the nailbed than does the pigmented nevus.

Newer Experimental Approaches to Differentiate Between Nevi and Melanomas

It is not always possible to observe by clinical means the transformation of a pigmented nevus into a malignant melanoma. Sometimes only histologic examination may reveal the junctional nevoid origin of a melanoma. A patient with evidence of melanomatous metastasis to regional lymph nodes may present a closely adjacent pigmented nevus which clinically appears to be perfectly innocuous. Only when such a tumor is excised does the histologic picture indicate that the tumor is a true melanoma. When a pigmented nevus that has long been quiescent undergoes certain changes, such as becoming more elevated with increased pigmentation or with ulceration, bleeding, and localized discomfort or pain, it often indicates that the tumor is becoming malignant.

The determination of the point at which a junction nevus has changed to a melanoma in a recent small lesion may also pose a difficult problem from the pathologist's standpoint. Recent histochemical technics developed by Fitzpatrick indicate a new approach to this dilemma. He has demonstrated that of the malignant neoplasms, melanoma cells alone are capable of forming melanin when incubated in the enzyme tyrosine, whereas nonmalignant pigmented cells in normal skin require activation of the tyrosinase system by an additional stimulating factor, such as ultraviolet light, in order to form melanin when incubated in tyrosine. By this means benign junction nevi have been differentiated from melanomas.

Cawley, Rathbun, and Wheeler made infrared spectroscopic studies of pigmented tumors, including nevi and melanomas. The pigmented skin tumors were examined in the infrared spectrometer to determine differences in infrared transmission and absorption of these growths in the region of 2 to 16 micra. The infrared spectra of the pigmented tumors showed dissimilarities of absorption in the region of 8 to 16 micra. These differences in absorption intensity could be correlated with differences in concentration of the nucleic acid content of various tumors (phosphoric acid and pentose constituents). In general, it appeared to the authors that malignant melanomas, both primary as well as those metastatic to the skin, contained more nucleic acid compounds than any of the nevi or other pigmented tumors examined.

Indications for Prophylactic Removal of Nevi

1. When a nevus on any portion of the skin is subjected to repeated trauma and irritation.
2. When a nevus shows any evidence of change, such as (*a*) increased pigmentation; (*b*) increase in size or contour; (*c*) inflammatory reaction in or about the nevus; (*d*) ulceration, bleeding, crusting (these are late signs); (*e*) pain or discomfort.
3. All nevi on the genitals, hands, feet, and mucous membranes. This injunction is considered to be especially important for subungual nevi.
4. All nevi that are any shade of blue or black.
5. Any deeply pigmented nevus on a patient whose complexion is blonde, extremely fair, or redheaded.
6. Any nevus which exhibits significant physical changes during pregnancy.
7. Nevi showing increased pigmentation in a patient with known melanoma because of the recognized possibility of multicentric origin of this malignant tumor.
8. Changes that occur in nevi which have appeared late in life arouse special suspicion.
9. Decision as to removal should not be made according to the presence or absence of hair in a nevus. In general, hairy nevi are not the pathologic variety which give rise to melanoma, but this is not an invariable rule.
10. In extensive nevi covering a large skin surface where decision as to removal depends on consideration of the pathologic type, biopsy is permissible.
11. Juvenile melanomas usually appear benign. Increase in size or deepening in pigmentation may be the only clinical sign of their character. Therefore, any nevus in a child before adolescence that demonstrates such changes should be surgically excised.

Definitive Treatment of Nevi

1. Surgical excision under local anesthesia is the appropriate method of treatment.
2. Nevi, like melanomas, are radioresistant; therefore, x-ray or radium is never employed for their treatment.
3. Partial biopsy is never indicated in lesions small enough to be entirely removed at the time of the surgical procedure. In extensive growths where decision as to operative procedure is dependent on the type of nevus involved, biopsy may be performed.
4. The excision should be wide enough to accomplish complete removal of all pigment-containing cells, both in the depth and at the border of the lesion. In other words, radical surgical excision for a benign nevus is not indicated. A small margin of normal skin is included.
5. Electrodesiccation or cryotherapy of nevi is hazardous because:

(*a*) Biopsy is usually not made available by this procedure.

(*b*) Removal by electrodesiccation may be superficial, allowing some neval cells of the tumor to remain.

(*c*) If a portion of a nevus remains after electrocautery, this partial procedure may be followed by rapid regrowth.

(*d*) Usually a superior cosmetic result can be achieved by means of a careful, precise, surgical excision with meticulous attention to proper closure of the wound.

6. In fairness to the patient all specimens should have the benefit of a pathologic examination regardless of the clinical diagnosis.

7. Whenever feasible, all patients having a surgical excision for a nevus of any type should have the wound re-examined after a reasonable interval for evidence of residual pigmentation or development of keloid formation.

8. Extensive bathing trunk type of nevi are treated by surgical excision and plastic repair. Such operative removal may be done in several stages and should be completed before pubertal changes occur.

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Good-nature is more agreeable in conversation than wit, and gives a certain air to the countenance which is more amiable than beauty.—JOSEPH ADDISON

Two Cases of Histoplasmosis Acquired in Felling a Decayed Tree in the Mohawk Valley

JAMES H. CULLEN, M.D., ELIZABETH HAZEN, PH.D., AND ROLF SCHOLDAGER, M.D., ALBANY, NEW YORK

(From the Medical Service of the Albany Veterans Administration Hospital and the Division of Laboratories and Research, New York State Department of Health)

AFTER Darling's first report of the disease and identification of the organism in 1906,[1] histoplasmosis was considered for many years to be a rare, fatal disease of world-wide distribution. In 1945 Palmer[2] and later in the same year Christie and Peterson[3] reported the high incidence of association of a negative tuberculin reaction with pulmonary calcification and a positive histoplasmin skin test in the Midwest. This led to the realization that there is a benign form of the disease common in endemic areas.

The present concept of the pathogenesis of histoplasmosis, as expressed by Furcolow and his coworkers,[4,5] consists of three main types of disease:

1. A common form that is asymptomatic and only manifested by histoplasmin sensitivity. This occurs primarily in the endemic area of the Ohio, Missouri, and Mississippi River valleys.
2. The acute pulmonary form which often has a miliary distribution. It usually occurs in epidemics and is a disease resulting from inhalation into the alveoli of a large number of spores of less than 5 micra in diameter.[5]
3. A chronic protracted type of disease involving isolated organs, frequently the lung. This seems to be a reinfection form of the disease but whether endogenous or exogenous in origin is unsettled at present. It often ends fatally.

Grayston and Furcolow[5] point out that epidemics occur primarily in individuals who have not been previously exposed to Histoplasma capsulatum. The epidemics usually occur at the periphery of endemic areas or in individuals, such as army recruits, who have recently arrived in an endemic area.

White and Hill[6] in 1950 reported the relationship of positive histoplasmin skin tests to pulmonary calcification in the St. Lawrence and Champlain Valleys of New York State. In a small histoplasmin survey in this area, they found approximately 15 per cent positive reactors. They reported further data relative to an epidemic of acute disseminated pulmonary disease that occurred in Plattsburgh in 1938. Their findings suggested that it was due to histoplasmosis. Monroe and Kurung[7] reported the first bacteriologically proved case in New York State, one of whose occupations was as a timber cutter.

Clinical Features of the Acute Pulmonary Form

The clinical course consists of an acute febrile illness of variable length occurring two to three weeks after exposure to organic dust. This dust usually consists of substances such as animal excreta and wood. Some cough and expectoration are usually present. There is often an anemia but no leukocytosis. According to Furcolow[4] the duration and severity of the acute illness are directly related to the duration and intensity of the exposure to the point source of infection. Recovery is the rule.

The diagnosis is best established by recovery of H. capsulatum by culture. Bone marrow and lymph nodes are good sources of organisms. Silverman and his coworkers[8] state that the identification of the organism in tissue sections is fraught with errors. A significant elevation of complement fixation titer is considered by Furcolow[4] to be diagnostic of active disease. A rising or falling titer is further confirmation of the activity of the disease. A positive histoplasm skin test reveals that infection has occurred in the past but does not indicate the activity of the disease.

The Mohawk Valley Cases

In November, 1954, two lumbermen brothers, Jesse and Leon M., felled a decayed tree near Johnstown, New York, raising a considerable amount of dust. Two weeks later Jesse M. developed fever,

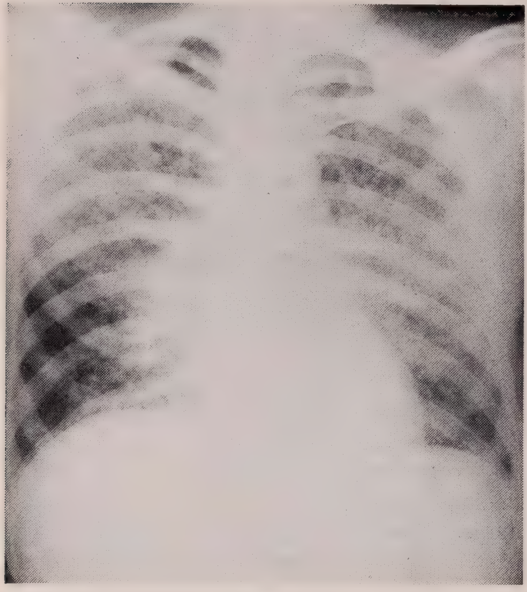

FIG. 1. Chest x-ray taken on admission on December 13, 1954.

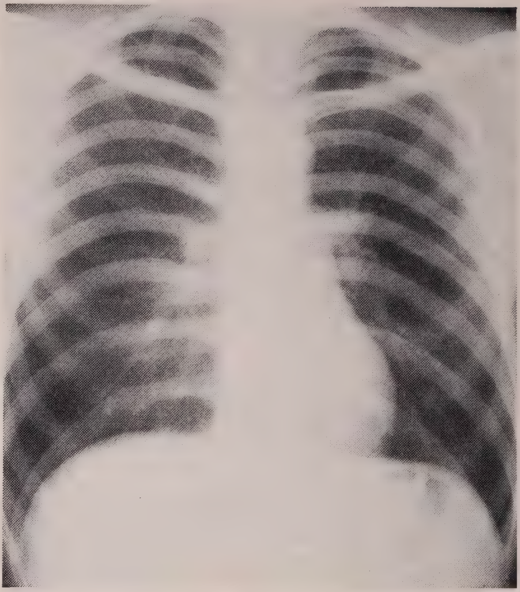

FIG. 2. Chest x-ray taken on August 16, 1955.

chest pain, and a productive cough. He was treated at home with penicillin for twelve days and then was admitted to the Albany Veterans Adminstration Hospital on December 13, 1954. During this same period Leon M. complained of fatigue and malaise but did not seek medical aid.

On admission to the hospital Jesse M. was febrile and had x-ray evidence of diffuse, coarse, nodular disease throughout both lung fields with enlarged hilar areas (Fig. 1). There was a mild anemia but no leukocytosis. Because of the possibility that this might be miliary tuberculosis, streptomycin, para-aminosalicylic acid, and isoniazid were started on December 16, three days after admission, when baseline studies of sputum, urine, and spinal fluid had been obtained and pending completion of the remainder of the workup. It was found that the patient did not react to tuberculin through second strength PPD but that he did have a positive reaction to histoplasmin in 1:100 dilution. The coccidioidin skin test was negative to a 1:100 dilution.

Because of the negative tuberculin and positive histoplasmin skin tests, blood was obtained for a complement fixation test for histoplasmosis on December 16. This was subsequently reported as showing a titer of 90 with the yeastlike cell antigen. While the results of the serologic test were being awaited, blood, sputum, and bone marrow were cultured for H. capsulatum without success. Although no lymph nodes were palpable, a supraclavicular fat pad biopsy was done January 3, 1955. Lymph nodes in this specimen showed chronic lymphadenitis with reticuloendothelial hyperplasia. No H. capsulatum were identified in the sections. However, from this specimen H. capsulatum was cultured at both the laboratory of the Albany Veterans Administration Hospital and the Division of Laboratories and Research of the New York State Department of Health.

On January 7, 1955, streptomycin, para-aminosalicylic acid, and isoniazid were discontinued in view of the negative tuberculin reaction, failure to find tubercle bacilli, and a complement fixation titer indicative of active histoplasmosis. Thereafter, the patient was treated symptomatically. His temperature gradually fell from 104 F. to normal by the first week in January. He showed progressive symptomatic improvement except that in the middle of March, 1955, he suddenly developed enlarged lymph nodes over the left pectoral muscle which spontaneously disappeared over the next two weeks and have not recurred.

Serial chest x-rays showed a 2-cm. reduction in the transverse cardiac diameter between admission and December 31, 1954. The pulmonary lesions have been undergoing gradual progressive resolution and in August, 1955, appeared as fairly well-circumscribed nodules (Fig. 2). There is no evidence of calcium deposition as yet.

Serial electrocardiograms taken in January and February, 1955, showed a changing ST-T pattern suggestive of myocardial involvement. These changes are illustrated in Fig. 3; V leads taken January 6 and February 9 are shown. A tracing taken earlier might have shown even greater abnormalities, but it was the reduction in heart size that

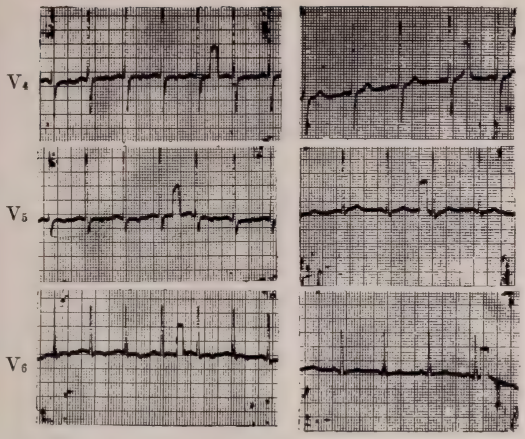

FIG. 3. Serial electrocardiograms taken on January 6 (*left*) and February 9, 1955 (*right*).

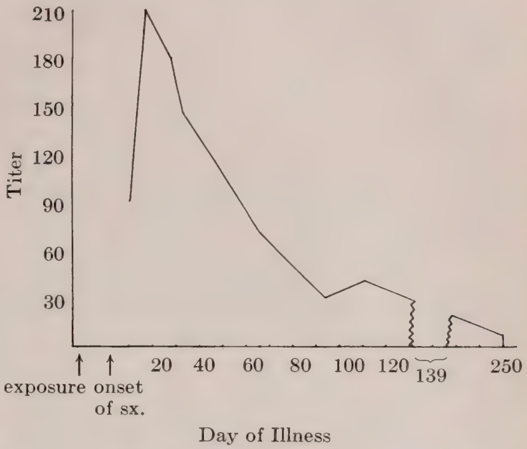

FIG. 4. H. capsulatum complement fixation titers using yeastlike cell antigen.

suggested the electrocardiogram. There were no other abnormal cardiac findings.

Serial complement fixation titers using the yeastlike cell antigen are shown in Fig. 4. The first examination done about two weeks after the onset of the illness showed a titer of 90. It reached a peak of 210 about three weeks after the onset and then gradually fell to a titer of 7 over an eight-month period. The slight rise around the one hundred and tenth day after the onset of the illness occurred at the time when the pectoral nodes appeared. However, this small increase cannot be considered a significant elevation.

The brother, Leon M., had only the vague indisposition already mentioned. He was persuaded to have chest x-rays on January 25 and February 21, 1955, which were normal. Histoplasmin skin test was positive. The histoplasma complement fixation titer was 85 on January 25 with yeastlike cell antigen, the titer falling to 40 by February 21, 1955. Since the exact end point was titrated, this is a significant fall. Interestingly, these titers are approximately the same as those of Jesse M. during this period. No further blood specimens could be obtained. Since at the Division of Laboratories and Research a titer above 8 is believed to be significant, the high falling titer in this individual indicates recent active disease, even though the organism was not recovered nor the site of infection demonstrated.

In an effort to recover H. capsulatum from the likely source of infection, decayed matter from the suspected tree trunk was cultured on January 25, 1955. H. capsulatum was obtained. This was done by injecting the material into mice and recovering the organisms by culturing their livers and spleens. Because Jesse M. had a chicken coop in his yard, some material was obtained from that source. H. capsulatum was also recovered from this material in the same manner as above. However, this chicken coop had not been used for two to three years and was undisturbed during the period in question.

Comment

The important factor in contracting clinical histoplasmosis is being exposed to H. capsulatum in recently stirred up dust which can be inhaled rather than that lying around undisturbed. We believe that the source of infection in the above cases was the dust raised on felling the decayed tree and not the H. capsulatum found in Jesse M.'s chicken coop (1) because the chicken coop had not been used for two years and its dust had not been disturbed and (2) because the exposure to dust from the tree two weeks before the onset of the acute illness implicates the tree rather than the chicken coop. Finally, Leon M. never visited the chicken coop. As might be well imagined, a decayed tree forcibly hitting the ground raises a considerable amount of dust. According to the belief of Furcolow,[4] the differences in morbidity in these two brothers was probably due to the differences in exposure to the source of infection, the decayed tree. Although Leon M. had few symptoms and no objective evidence of pathology, the significant complement fixation titer, which fell markedly, indicated he had active disease.

Previous epidemiologic studies have indicated that individuals living in valleys tend to have a higher incidence of histoplasmin sensitivity and pulmonary calcifications than those living in surrounding areas. Therefore, incrimination of the Mohawk Valley as a source of histoplasmosis, in addition to the St. Lawrence and Champlain Valleys, is not surprising. Although the incidence of histoplasmin sensitivity in these valleys is higher than in surrounding areas, it does not approach that found in the true endemic area in the Midwest.[2,6] These regions of New York State may be considered fringe areas of relatively low incidence of infection, such as those in which Furcolow believes most epidemics occur.

Summary

Two cases of histoplasmosis with markedly different clinical features have been presented. They occurred in the Mohawk Valley as a result of felling a decayed tree. H. capsulatum was recovered from one of the patients and the point source of infection.

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BAL Therapy in Lead Poisoning

RUDOLPH C. GIANNATTASIO, M.D., MASSAPEQUA PARK, NEW YORK

(*From the Kings County Hospital, Brooklyn, New York*)

CONTROVERSY about the treatment of lead poisoning in the acute and chronic phase still persists. In several papers the author and others have tried to show that BAL is the agent of choice in all phases of lead intoxication.[1,2] Early diagnosis and prompt institution of BAL therapy has resulted in a drastic reduction of mortality and neurologic residua in plumbism.[2]

The following discussion has been prepared from 18 cases of plumbism studied and treated by the author at the Kings County Hospital in Brooklyn from February, 1951, to September, 1952.[1-3] The purpose of this paper is to raise the following questions: What really is happening to the lead in the body after the acute phase of plumbism is over? Is the patient actually safe or as safe as one can be sitting on a keg of dynamite? In the acute phase of lead poisoning, is BAL mobilizing lead from the tissues, or is it merely binding free lead in the blood stream and transporting it to the kidney for excretion?

Eight cases of acute lead encephalopathy were treated initially with high calcium, inorganic phosphate, and vitamin D intake. These cases remained in the hospital for periods of two to three weeks and were discharged. During the course of the next four to twelve months each patient was followed in the outpatient department. Roentgenograms of the long bones revealed that the lead deposits were increasing rather than decreasing. There were at least two possible explanations: First, the patient was ingesting more lead but in subclinical amounts; histories of repeated lead ingestion could not be obtained. Second, it may be that there was a metabolic turnover of residual deposited lead and that conditions favoring the deposit of lead in the bones were present during these months.

Some of these cases were subsequently placed on BAL therapy during the chronic phase of lead poisoning. It was observed that the resting urinary output of lead was raised as much as sevenfold. The urinary lead output remained consistently high until treatment was stopped. Roentgenograms of the long bones before, during, and after therapy demonstrated steady diminution of lead in these areas.[1]

It is evident that when compared to the amount of lead that must be actually present in the body, only negligible amounts are excreted slowly in the urine under normal circumstances. As a matter of fact, when nature is left to her own devices, she may actually deposit lead in the bones in preference to excretion in the urine.

In some cases of acute lead encephalopathy treated initially with BAL only, it was noted that on re-examination of the long bones after ten to twenty days, the amount deposited was in fact increased. In the chronic cases of lead intoxication it was shown that BAL actually removed lead from these sites.[1]

It would appear then that in the acute phase, when lead is abundant in all the tissues and blood, BAL will mobilize, bind, and transport what it can, and the excess continues to stream to the bone. It may also be that lead present in the brain, blood, and other tissues is more accessible to BAL than that present in the bones, and the increased amount of lead in the urine in the acute phase is largely from these sources. One would presume that the continued action of BAL will eventually send the stream of lead from the bones to the urine, as shown in the chronic cases.[1]

An analysis of the cases studied and treated by the author prompts the following conclusions:

1. Prompt diagnosis and proper treatment are the key to good management of lead intoxication. If treatment is delayed, no therapeutic regime will be successful.

2. It would appear unwise to leave a chronic case of lead intoxication untreated because most of the lead in the body is then transported to the bones. Only a small amount will be excreted in the urine over a long period of time. Accidental mobilization of lead at any time may be fatal or leave the patient a hopeless physical or mental cripple.

3. BAL appears to be a safe theraputic agent because it mobilizes, binds, and transports large amounts of lead to the kidney without the danger of exacerbation of the symptoms of plumbism. A distinct advantage of BAL therapy over other forms of treatment is that it need not be given intravenously in any solution. Any agent which requires fluid intravenously for administration over and beyond that needed to correct serious dehydration might increase the cerebral edema present in plumbism. An increase in cerebral edema could be fatal or might result in permanent neurologic residua.

1130 PARK BOULEVARD

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Outlook for Poliomyelitis

The outlook in poliomyelitis, both immediate and long range, appears favorable, according to the statisticians of the Metropolitan Life Insurance Company. Through the first eight months of 1956, reported cases of the disease are 45 per cent fewer than in the comparable period of last year.

An outstanding feature of the long-term poliomyelitis trend, say the statisticians, is a pronounced shift to the older ages. The disease now claims more of its victims among older children and among adults up to age thirty-five than it formerly did, according to the mortality experience of the insurance company's industrial policyholders.

The shift in the age pattern, the statisticians comment, may result primarily from a rise in the age at which natural immunity is acquired, possibly reflecting lessened frequency of exposure among children.

A sharp drop in 1955 in the frequency of hospital admissions of cases with paralytic poliomyelitis at ages seven and eight, it is noted, coincided with the wide use of the Salk vaccine at those ages.

Reperforations of Peptic Ulcers

DANIEL H. MANFREDI, M.D., NEW YORK CITY

(*From the Surgical Staffs of Knickerbocker and Misericordia Hospitals*)

THE incidence of reperforation in a previously ruptured peptic ulcer within a five-year period of the original perforation has been variously estimated to be between 10 and 20 per cent. The fact that 90 per cent of all perforations occur in the duodenum and only 10 per cent are found in the stomach tends to confirm the hypothesis that most reperforations must of necessity have their lodgment in the duodenum.

It has also been ascertained by various investigators that 30 per cent of initial or first time peptic ulcer perforators require no further medical or surgical treatment following simple suture of the opening. The aforementioned statistics present one of the main arguments of the advocates of conservative treatment, i.e., simple suture rather than subtotal gastric resection. They maintain that a policy of immediate resection of a ruptured peptic ulcer would unnecessarily subject one out of every three of these cases to a mutilating stomach operation with the subsequent life span of a possible gastric cripple. Another argument presented in favor of conservatism is the fact that some investigators have disclosed figures totaling as high as 16 per cent of cases which had undergone resection at the time of their perforation developing a new ulcer and 30 per cent developing a marginal ulcer. These high figures are attributable to the ulcer diathesis which is still in a very active phase at the time of operation.

Of the remaining 70 per cent of initial perforators (30 per cent having been discharged as not requiring any further medical or surgical care following simple suture of ulcer opening), all of them are subject to additional medical or surgical care as shown in Fig. 1. Twenty per cent will require an active medical regimen for many years, and the remaining 50 per cent will have additional definitive surgical procedures performed.

Subtotal gastrectomy for the immediate treatment of ruptured peptic ulcer was first performed by Keetley in 1902. He advocated subtotal gastrectomy for coincident perforation and hemorrhage and also for extensive ulcers so surrounded by edema that gastrectomy was more feasible than simple closure.

Perforation is one of the natural terminations of an ulcer which continues to penetrate the deeper tissues. It is generally seen in ulcers from a few days to a week in duration in which there is a rapid penetration of the deeper coats. Ulcers of long standing with an abundance of scar tissue formation are much less liable to perforate. Those ulcers with continuous symptoms are the more dangerous ones.

Many continental writers have paid more attention to the risk of reperforation and are loud advocates of immediate gastrectomy. Yudin[1] has reported a mortality of less than 9 per cent in 900 cases. This mortality rate was less than that for his simple closures and suggests that selection of cases was practiced and that subtotal gastrectomy was not performed as a routine procedure.

Werbel[2] stated in his series that 17 per cent of first time perforators reperforated the second time; 1 per cent reperforated the third time and 1 per cent the fourth time. Eighty per cent of his cases later developed pain, and 34 per cent developed bleeding. Twenty-one per cent became obstructed at the pylorus. The time interval for reperforation was as follows: 40 per cent reperforated within one year, 14 per cent within two years, 14 per cent within three years, and 10 per cent within four years. The remainder of his series were single cases recurring after seven, nine, fifteen, and nineteen years.

The site of reperforation may be the same as the original ulcer or in such close proximity that it is often impossible to determine whether the same ulcer has been reactivated. Nonabsorbable suture material frequently aids in the differentiation.

DeBakey[3] in his classic article on peptic ulcers reported that the acidity is usually normal or only slightly elevated in perforated peptic ulcers. These determinations have been rare in the medical literature and hardly ever noted on hospital charts of surgically treated patients.

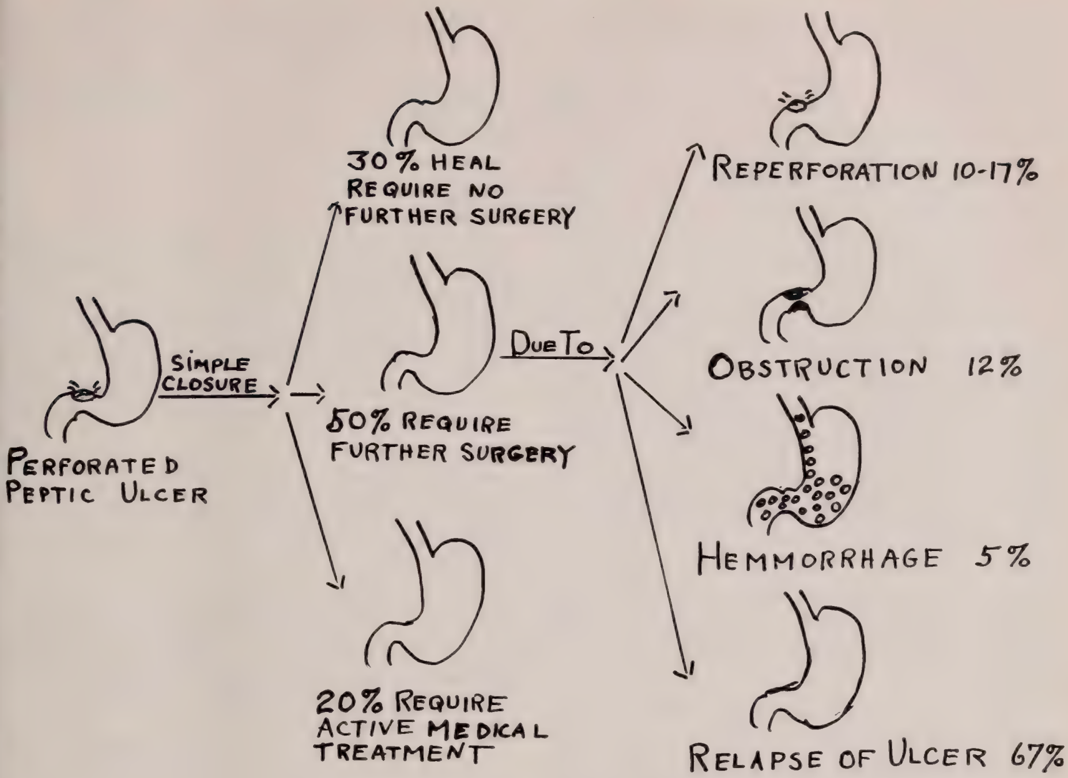

FIG. 1. Follow-up cycle of perforated peptic ulcer.

Glenn[4] reported eight cases of reperforation (5.7 per cent) out of 139 cases of previously perforated peptic ulcers. Schaeffer[5] reported that six out of 109 perforators had a recurrence. The *Glasgow Medical Journal*[6] reports that 34 cases out of 509 ruptured ulcers were recurrent.

Two case histories of reperforators recently treated in the hospital are given in detail in order to illustrate the problems and sequelae of this condition.

Case Reports

CASE 1.—Mr. W. W. first experienced a perforated peptic ulcer on October 12, 1945. He was thirty-seven years old at that time, and he was immediately hospitalized at Knickerbocker hospital. His perforation was closed by simple suture several hours after admission. He convalesced satisfactorily, and he was discharged from the hospital with his wound well healed twelve days postoperatively. He was well for about one year, during which time he smoked and drank excessively.

On January 1, 1947, about one year and two months after his first episode of perforation, he was readmitted to the hospital with a similar surgical emergency. A repair of his perforation was again performed by simple suture five hours after admission. He was discharged from the hospital fourteen days postoperatively with his wound well healed.

On July 25, 1955 a lapse of eight years after his second repair, he was readmitted with a third perforation. He had continued his overindulgence in alcohol and tobacco. However, he had been gainfully employed and was taking occasional antacids for control of his discomfort. On the day of his third admission he was taken to the operating room, and a repair of his perforated duodenal ulcer was performed by simple suture. It was noted at this laparotomy that the duodenum was well scarred, and it was impossible to determine whether the site of perforation was the same as previously. Eight days after the repair of his third perforation on August 2, 1955, it was noted that his gastric retention was very high, and a barium swallow revealed almost complete duodenal obstruction. An anterior gastrojejunostomy was performed, and the thickly scarred duodenum was noted. Six days after this procedure, on August 8, he commenced to drain profusely, losing copious amounts of gastrointestinal contents from his abdominal wound. The anterior abdominal wall began to break down, and despite all intravenous therapy, gastric suction, sump drainage, and transfusions, he continued to lose a considerable amount of gastrointestinal contents, and it became almost an impossibility to restore his proteins and electrolytes to a normal level.

Two weeks after his gastroenterostomy on August 22, 1955, a partial gastric resection was performed. At this operation it was noted that a large duodenal perforation had recurred and that the mucosa pouted out over the serosa. A small marginal ulcer at the efferent loop of the gastrojejunostomy had developed also. The duodenum at this operation was sutured with two layers well below the previous site of perforation, and a gastric resection with excision of the marginal ulcer was completed in a satisfactory manner. He had almost no abdominal wall to suture, and he left the operating room in fair condition. His postoperative course was continuously downhill. We were unable to bring his proteins to a satisfactory level. His entire anterior abdominal wall had been digested, and all his veins had developed a severe phlebitis. He expired on October 3, 1955, still draining large amounts of gastrointestinal fluids from his wound. No postmortem examination was obtained.

Case 2.—J. F. was a forty-nine-year-old, white male who first experienced a perforation of a peptic ulcer in January, 1948. This was repaired by simple suture, and he continued asymptomatic until June, 1950. At this time his ulcer reperforated, and was resutured with complete subsidence of his symptoms. In February, 1951, eight months after his second perforation, a subtotal gastric resection was performed. He remained completely asymptomatic for four years. In October, 1955, he returned to the hospital with a severe gastrointestinal hemorrhage. He was treated supportively with multiple transfusions, fluids intravenously, suction, and sedation with subsidence of his bleeding and improvement of his condition. He is now in the hospital awaiting further evaluation.

Comment

1. Since the etiology of peptic ulcer is not definitely established, all treatment of this syndrome is of necessity empiric.

2. Once the ulcer diathesis appears, perforation is one of its most natural terminations.

3. Patients who sustain perforations are subject to further gastric difficulties in 70 per cent of cases.

4. Reperforations are relatively frequent sequelae of perforations of peptic ulcers, and the likelihood of further perforations is enhanced by a previous rupture.

5. For the true evaluation of the modern trend toward subtotal gastrectomies for perforated peptic ulcers, the results of this procedure must be weighed against the statistics of the advocates of simple suture.

642 Park Avenue

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Sesquicentennial Meeting

Medical Society of the State of New York

February 18 to 21, 1957

HOTEL STATLER **NEW YORK CITY**

Fractures of the Anterior-Superior Beak of the Os Calcis

WALLACE GREEN, M.D., F.A.C.S., NEW ROCHELLE, NEW YORK

FRACTURE of the anterior beak of the os-calcis must be considered when the patient has sustained a twisting injury of the foot, when pain and swelling are located about the dorsolateral aspect of the foot, and when injury to the lateral malleolus, the lateral ligaments of the ankle joint, and the base of the fifth metatarsal has been ruled out. Otherwise the injury may be misdiagnosed as "severe sprain of the foot," with the result that inadequate therapy would be instituted.

There are few reports in the literature concerning this type of fracture. Christopher[1] in 1931 wrote, "Although there is an abundant literature on fractures of the calcaneus with careful studies of crushing fractures, avulsions, etc., no mention has been found of fractures of the anterior process of the calcaneus. It is not improbable that this injury is common and deserves recognition as a definite clinical entity." Dachtler[2] in the same year stated, "Attention is called to these cases not because we believe them extremely rare—but from the fact that we fail to find them mentioned in the textbooks on fractures." Jaekle and Clark,[3] describing fractures in various portions of the os calcis, said about fractures of the anterior beak, "Because of relative rarity in all reports on fractures of the os calcis and with the frequency of occurrence in our series we believe it must be frequently missed." Gellman[4] noted that "the sparsity of reported cases may be due to the fact that this type of fracture is relatively rare or is frequently overlooked."

Mechanism of Injury

In contradistinction to fractures of the body of the os calcis or its posterior tuberosity, where a fall is the most frequent cause, fractures of the anterior beak of the os calcis are usually sustained as the result of a twisting injury of the foot. By studying an articulated skeleton of a foot it can be readily demonstrated that inversion of the os calcis with the talus securely held in the ankle mortise produces a shearing stress on the anterior beak of the os calcis at the point where the head of the talus articulates with the os calcis (the anterior talocalcaneal joint). Also strong abduction of the forefoot occurring while the os calcis is fixed against the ground will cause the cuboid to shear away a portion of the anterior beak. A third mechanism of injury may occur when dorsiflexion of the forefoot with the hindfoot fixed causes the cuboid to shear away a portion of the anterior beak of the os calcis. A combination of these forces probably occurs in twisting injuries of the foot.

In the reported cases there was a marked preponderance of women (except for Dachtler, who reported industrial accidents, and Jaekle and Clark, whose series was composed of men working on Boulder Dam). This is also the experience of the present writer. The preponderance of women has been thought by some to indicate that since women wear high heels, the position of equinus plays a major role in the mechanism of injury. However, since another type of injury in this region, fracture of the base of the fifth metatarsal, is also more frequently found in women, it is my opinion that the wearing of high heels in itself disposes women to twisting injuries of the foot.

Clinical Findings

The patient gives the history of a twisting injury of the foot followed by sudden severe pain and swelling about the dorsolateral aspect of the foot.

The pain is well localized and quite severe. The patient is carried or hops since weightbearing greatly aggravates the pain. The usual small size of the fracture and its usual lack of displacement should alert the examiner to the possibility of an anterior beak fracture after he has excluded the other more common injuries in this region. The patient with a fracture of the body of the os calcis, even when it is intraarticular, may limp to the doctor; patients sustaining fracture of the beak of the os calcis usually have too much pain to bear any weight. When the patient is seated, pain is minimal.

Inspection of the foot reveals an area of swelling, sometimes quite prominent, distal and inferior to the lateral malleolus. Digital pressure in this region causes marked increase of pain. Digital pressure in the sole of the foot opposite the site of pain on the dorsum likewise causes marked discomfort. Further digital exploration in this region will disclose that neither the adjacent base of the fifth metatarsal, the lateral malleolus, nor the anterior talofibular ligament is tender. The maximum point of pain is localized approximately midway between the lateral malleolus and the base of the fifth metatarsal. Motion of the talar joint is normal in range and painless or slightly restricted and uncomfortable. This latter fact may lull the examiner, as may the fact that standard anteroposterior and lateral x-rays reveal no evidence of fracture. An oblique view of the foot demonstrating the os calcis in its entirety will reveal the superior anterior beak of the os calcis to be the site of an undisplaced or minimally displaced fracture.

Treatment

Treatment consists of immobilizing the foot and ankle in neutral position without weight-bearing. Immobilization may be accomplished by either firm adhesive strapping or a plaster boot. The patient is given a pair of crutches and instructed to refrain from weight-bearing and keep the limb elevated. If pain persists following immobilization, it is probably caused by hematoma from the fracture site expanding against the resistant fascia and ligaments of the subtalar region. The pain may persist for several days whether the patient is immobilized by strapping or a plaster boot and is an indication to keep the foot constantly elevated. If the foot is allowed to dangle for more than several minutes, the patient usually complains of a throbbing pain which is alleviated by again elevating the foot. Elevation of the foot is maintained until dependency is no longer uncomfortable; this may take several days to a week. The patient is then permitted to walk with crutches without bearing weight on the affected foot. After two weeks guarded weight-bearing is begun and is gradually increased according to the patient's lessening discomfort. The usual period of disability is four to six weeks. Healing invariably occurs, and the prognosis for normal function is good.

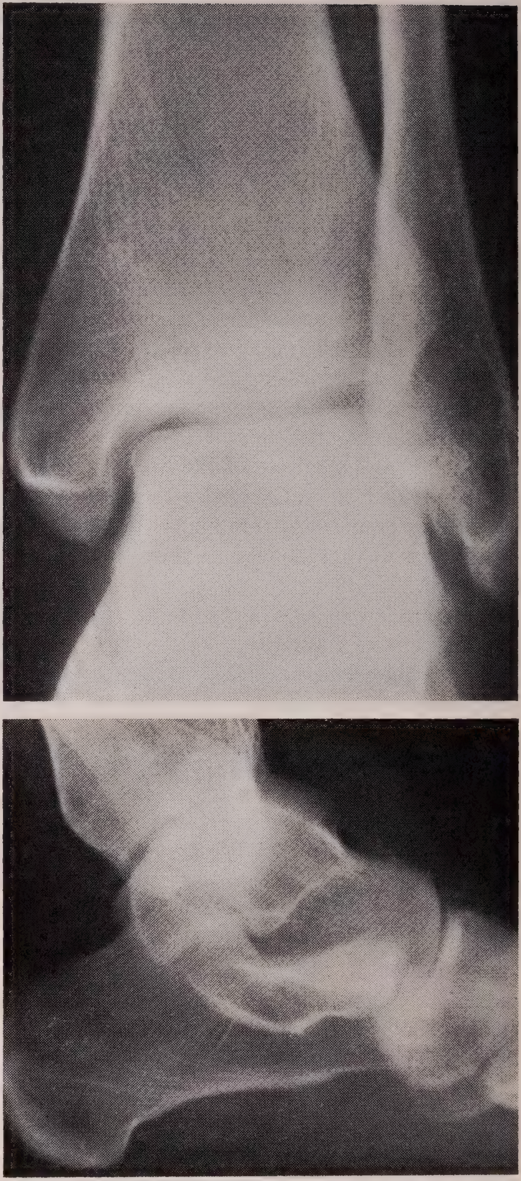

Fig. 1. No bony pathology visible on routine x-rays, anteroposterior (*upper*) and lateral (*lower*).

Case Report

A thirty-three-year-old woman wearing high heels sustained a twisting injury of her right foot. There was immediate severe pain about the lateral aspect of the foot below the ankle. The pain was greatly aggravated by attempts to bear weight on the affected extremity. Immediately after the accident there was swelling in the painful area. Her

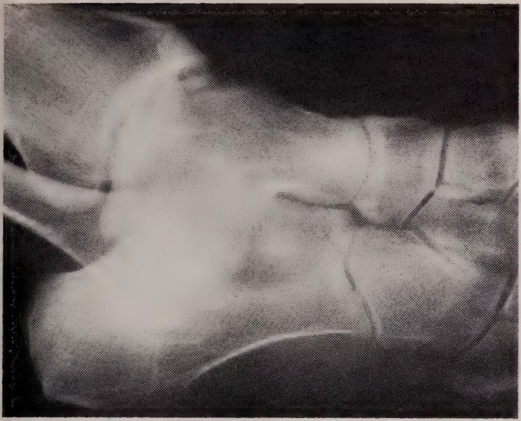

Fig. 2. Oblique views revealed fracture of the anterior process of the os calcis.

physician examined the foot and ankle, and his clinical impression was severe sprain of the foot with a large hematoma. He strapped the foot and ankle but was unable to relieve the pain. He telephoned for an emergency orthopedic consultation, expressing his opinion that one of the "spreading agents" injected locally would disseminate the hematoma and relieve the pain.

The patient was seen by me shortly after her injury. She was unable to bear any weight on the affected extremity because of severe pain; yet in the seated position she was practically pain-free. Talar and subtalar motion was almost normal and painless. The site of hematoma and pain were identical, being midway between the lateral malleolus and base of the fifth metatarsal. The remainder of the physical examination was not significant. Routine anteroposterior and lateral x-rays did not reveal any bony pathology (Fig. 1). Oblique views of the foot revealed a fracture of the anterior process of the os calsis (Fig. 2).

The foot and ankle were immobilized in neutral position by adhesive strapping. The patient was given a pair of crutches and was sent home where she kept the foot elevated. The acute pain subsided in several days, after which she was allowed to ambulate with crutches, and weight-bearing was gradually increased. Four weeks after the date of injury the strapping was removed, the patient was given a pair of orthopedic type oxfords, and whirlpool therapy was instituted three times a week. Two weeks later the patient was able to walk about the house without any support and with minimal pain. At that time she had a normal painless range of motion of the ankle and foot and no swelling.

Summary

Fractures of the anterior beak of the os calcis may go unrecognized.

The mechanism of injury, the physical findings, and the importance of oblique views of the subtalar region are discussed. The principles of treatment are outlined.

650 Main Street

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Sesquicentennial Convention

Medical Society of the State of New York

February 18 to 21, 1957

HOTEL STATLER **NEW YORK CITY**

CASE REPORT

An Apparent Case of Chronic Lymphocytic Leukemia Terminating as Hodgkin's Disease (Sarcoma)

ROBERT D. EPSTEIN, M.D., F.A.C.P., YONKERS, NEW YORK

(*From the Divisions of Medicine and Neoplastic Diseases, Montefiore Hospital, Bronx, New York*)

THE interrelationship of the diseases grouped under the classification of lymphoma is well known and has been recorded often.[1,2] However, transformation of chronic lymphocytic leukemia into Hodgkin's disease (sarcoma) has not been described frequently. Such a case has been observed recently, and because of the unusual relation of these two diseases, this case is reported.

Case Report

F. G., a thirty-year-old, white female, was admitted in March, 1947, to another hospital with a six-month history of increasing fatigue and weakness. Two weeks prior to admission she experienced profuse diarrhea, intermittent epistaxes, and spontaneous subcutaneous ecchymoses.

Physical examination revealed a pale young woman with ecchymoses on the legs and left arm. There was a generalized, moderate-sized lymphadenopathy and a four-fingerbreadth hepatosplenomegaly.

Pertinent laboratory data were as follows: leukocyte count 13,000 to 17,000 per cu. mm. with 60 to 70 per cent adult lymphocytes, hemoglobin 8 to 10 Gm. per cent, erythrocyte count 2,300,000 to 3,900,000 per cu. mm., and platelet count 204,000 per cu. mm. A cervical node biopsy was reported as "chronic lymphatic leukemia of lymph node." Mediastinal widening consistent with enlarged nodes was present on chest x-ray.

At this time the patient was transferred to the Montefiore Hospital where the above findings were verified with the exception of the platelet count which now was 43,000 per cu. mm. In addition, marrow aspirated from an iliac crest was found to be very cellular with 90 per cent of the cells small adult lymphocytes. Megakaryocytes were absent, and the other marrow elements were decreased in numbers.

The diagnosis of chronic lymphocytic leukemia was made. Two transfusions were given, and radiotherapy over the spleen was begun, 75 r twice weekly. Shortly thereafter the leukocyte count fell to 4,000 to 5,000 per cu. mm. levels, and local irradiation was discontinued. Supportive measures were employed, and subsequently generalized body irradiation was administered, inducing both a clinical and hematologic remission in the blood and marrow.

Throughout 1948 and most of 1949 the patient was largely asymptomatic. Short courses of generalized body irradiation and local irradiation to the cervical nodes were employed early in 1948. In December, 1949, relapse again occurred, characterized by metrorrhagia with thrombocytopenia of 40,000 to 75,000 per cu. mm., fever, anorexia, and lymphocytic infiltration of the bone marrow without elevation of the peripheral total white or lymphocyte counts. She was treated with transfusions and generalized irradiation, and again a remission was induced.

In February, 1950, she was hospitalized because the hemoglobin was found to be 4 Gm. per cent. At this time the leukocyte count was 4,500 per cu. mm. with only 44 per cent lymphocytes. A sternal aspiration was reported as showing 90 per cent lymphocytes, "small and large." The specimen was interpreted as being typical of chronic lymphocytic leukemia. She was treated with blood transfusions, and at the time of her discharge in March the hemoglobin was 13.5 Gm. per cent without change in the leukocyte count. Until November, 1950, she remained in remission, but at this time she was again seen to have a generalized, small to moderate-sized lymphadenopathy, three to four-fingerbreadth splenomegaly, and slight sternal tenderness. However, her blood data and bone marrow aspirate were normal at this time. Two axillary lymph nodes were biopsied and reported as follows: "Sections of the lymph nodes disclose a distorted architecture. The bulk of the node is composed of a diffuse, patternless scattering of adult lymphocytes. The appearance is that of a malignant lymphocytic lymphoma. Diagnosis: malignant lymphoma (lymphocytic type)." No treatment was instituted.

Late in January, 1951, the patient was again hospitalized because of an acute febrile episode, the etiology of which was not clearly demonstrated. A good response to antibiotics was obtained. Her laboratory data were not remarkable aside from a platelet count of 70,400 per cu. mm. In March epistaxes and a slight increase in her lymphadenopathy occurred. A bone marrow aspirate in April was again typical of chronic lymphocytic leukemia. Generalized radiotherapy was begun and another clinical and hematologic remission induced which lasted until August when, because of enlarged, tender lymph nodes peripherally, additional, similar treatment was given.

In January, 1952, she was hospitalized because of a six-week history of occipital headaches and left homonymous hemianopsia. Investigation of these symptoms, including spinal tap, electroencephalogram, and x-rays of the skull, failed to reveal additional abnormalities. No other significant neurologic findings were present. The hematologic data were also within normal limits. It was felt that these symptoms were possibly due to leukemic infiltration in the optic radiations, and after a period of further observation, radiotherapy to the base of the brain was begun in April. Symptomatic improvement was prompt, but objectively the hemianopsia remained. During the remainder of 1952 she was essentially asymptomatic except for peripheral adenopathy which responded to local irradiation.

Bone marrow and peripheral blood findings were normal in January, 1953. In June of that year she complained of severe pain in the posterior cervical region and right knee. X-ray films of the dorsal spine revealed collapse and wedging of the body of the seventh dorsal vertebra. Films of the right tibia revealed a large area of osteolytic destruction in the anterolateral portion of the bone. At this point the possibility was entertained of a conversion of the leukemic process to another form of lymphoma or another independent neoplastic process. In July she complained of mid-epigastric pain that was considered to be due to progressive liver involvement. Radiotherapy was given locally with equivocal results. In October the liver enlarged to three to four-fingerbreadths, and in early December this organ became hard and grossly nodular.

The patient was readmitted to the hospital in January, 1954, for liver biopsy. This procedure produced "two fragments of very dense fibrous tissue, one of which is seen to contain an epithelial-lined, ductlike structure. Contained in the fibrous tissue are numerous round cells." The specimen was unsuitable for definitive diagnosis. Bone marrow aspiration revealed an essentially normal specimen. Skull films revealed an irregular lytic area 9 by 13 cm., mainly within the left parietal bone. In February the liver biopsy was repeated. The report of the microscopic examination in part was as follows: "This appears as a fairly dense fibrous tissue containing numerous isolated bizarre cells and round cells. Moreover, disposed in numerous clumps, which are fairly evenly spaced, are aggregates of elongated, closely packed cells with hyperchromatic nuclei. These clumps of cells with hyperchromatic nuclei represent malignant neoplasm." A course of nitrogen mustard was given without benefit in late February. Steroids were administered in March without alteration of her progressively downhill course, and death occurred on February 25, 1954.

An autopsy was perfomed twelve hours after death. Foci of tumor tissue were found throughout the body. Specifically involved were the liver, lymph nodes, intestines, kidneys, adrenal glands, ovaries, adnexae, vagina, peritoneum, lungs, pericardium, gallbladder, and bone. On microscopic examination the tumor tissue was described as consisting of masses of moderately loosely packed, large, polyhedral cells with scant, pale, acidophilic, homogeneous cytoplasm and large, irregular, hyperchromatic, vesicular nuclei with and without nucleoli and without mitoses. The cells were pleomorphic in some areas, and some giant multinucleated cells were seen. The stroma consisted of scant, loose, fibrous, cellular connective tissue in narrow strands. Parts of the tumor showed degenerative change with necrosis.

On both gross and microscopic examinations sections of the brain showed the site of an old infarction in the right occipital lobe. There was no evidence of a leukemic infiltration.

Similarly, the marrow showed no evidence of active leukemia. Foci of lymphocytes were present in the somewhat hypoplastic vertebral marrow, and the tumor described above was present in the rib marrow. The lymph nodes contained tumor tissue and areas of necrosis but no suggestion of lymphocytic leukemia.

The final anatomic diagnoses were as follows: primary—malignant lymphoma (Hodgkin's sarcoma); secondary—infarct in right occipital lobe, intradermal nevus of mons pubis, and accessory spleen.

Comment

Reports of the coexistence of leukemia and Hodgkin's disease are infrequent in the medical literature. However, instances of the presence of lymphocytic, myeloid, or monocytic leukemia with Hodgkin's disease have been recorded.

Krim *et al.*[3] report a case very similar to the one presented above. The patient initially had findings consistent with chronic aleukemic lymphocytic leukemia. The total leukocyte count was never found to be over 7,000 per cu. mm. At autopsy there was no evidence of the leukemic process, the pathologic diagnosis being Hodgkin's disease and tuberculosis. Watson's[4] case was also considered to be chronic lymphocytic leukemia, but at autopsy both the changes of leukemia and Hodgkin's disease were present. The white cell count of that patient was 11,000 per cu. mm. Seife *et al.*[5] record the association of chronic lymphocytic leukemia with Hodgkin's disease. A single white cell count of 103,000 per cu. mm. is recorded six months before death and before treatment with urethane. Several other white cell counts in the range of 40,000 to 75,000 per cu. mm. were obtained but none above 21,350 per cu. mm. during the last five months of life.

McCartney[6] recorded a white cell count of 4,500 per cu. mm. in the protocol of his unusual case which clinically was thought to be aleukemic lymphocytic leukemia. Autopsy showed lesions of Hodgkin's disease, endothelioma, lymphosarcoma, and lymphocytic leukemia. The case of MacMahon and Parker[7] was found to have aleukemic lymphocytic leukemia, Hodgkin's disease, and generalized tuberculosis. Initially, the leukocyte count did not exceed 15,000 per cu. mm. Midway in the course of his illness the count rose to 59,000 per cu. mm., associated with an acute exacerbation of the illness. During the last year and a half of life the total leukocyte and differential cell counts were normal.

Gill and McCall[8] have described a case of Hodgkin's disease that terminated after two years with clinical and hematologic findings of acute lymphocytic leukemia. Dubberstein's[9] patient also had these two diseases with a terminal leukocyte count of 21,000 per cu. mm.

In their discussion Seife *et al.*[5] quote Fabian's case of a "chloromyeloid leukemia" and Hodgkin's disease. Watson[4] and Samwick *et al.*[10] describe cases of chronic myelogenous leukemia and Hodgkin's disease, and Skworzoff[11] reported an instance of acute myelogenous leukemia and Hodgkin's disease. Monocytic leukemia with Hodgkin's disease has been recorded by Craver.[12]

In the present case the leukocyte count was never greater than 12,200 per cu. mm. The majority of the numerous counts performed during the seven years of her illness were in the range of 4,000 to 7,000 per cu. mm. with many counts between 2,000 and 4,000 per cu. mm. The percentage of adult lymphocytes varied from 15 to 60 per cent of the total white cell count in the peripheral blood and up to 90 per cent of the cells present in the bone marrow aspirate.

It may be questioned whether the patient originally had chronic lymphocytic leukemia or a period of prolonged lymphoid hyperplasia prior to the development of Hodgkin's disease. This question cannot be answered fully. During the early part of her course she had all of the characteristics of chronic lymphocytic leukemia except that the peripheral leukocyte count was persistently normal or somewhat leukopenic. Lymph node biopsies were consistent with this diagnosis, and the patient responded both clinically and hematologically to the relatively small amounts of roentgen ray exposure used in generalized body irradiation. Such a response will not be obtained in Hodgkin's disease with the amount or modality of irradiation used in this case. On the other hand, if this patient did have chronic lymphocytic leukemia initially, it is unusual for there to be no evidence of this disease at autopsy.

The absence of an elevated total leukocyte count and relative lymphocytosis in the peripheral blood over a long period of time in chronic lymphocytic leukemia may indicate the conversion to another type of lymphoma.

Summary

A report is made of a case presenting initially as chronic lymphocytic leukemia and terminating as Hodgkin's disease (sarcoma). There was no leukocytosis during the course of seven years observation, and no evidence of leukemia was found at autopsy.

630 McLean Avenue

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Those men of the world who go through it in armour, defend themselves from quite as much good as evil.—The Old Curiosity Shop, CHARLES DICKENS

CLINICOPATHOLOGIC CONFERENCE

DEPARTMENT OF MEDICINE, NEW YORK UNIVERSITY POST-GRADUATE MEDICAL SCHOOL AND FOURTH MEDICAL (N.Y.U.) DIVISION, BELLEVUE HOSPITAL

Conducted by RAYMOND S. JACKSON, M.D.

FEBRUARY 10, 1955

Case History

DR. MARIE C. ROSATI: A fifty-year-old, white male was admitted to Bellevue Hospital on January 11, 1954, because of severe anorexia of two weeks duration. The patient had been in good health until two weeks prior to admission when he noted the gradual onset and progression of loss of appetite, malaise, and easy fatigability. One week later he noticed a subumbilical discomfort and tenderness unrelated to food intake or position changes. There was soreness in the low back area unrelated to the abdominal discomfort. He then began to experience bouts of nausea and retching. Three days before admission he noted marked darkening of the urine. There was no change in the color, quantity, or characteristics of bowel movement. On the following day he noted that his eyes and skin were yellow.

There was no history of fever, chills, arthralgias, pruritus, fatty food intolerance, or hemorrhagic tendency. He denied past injections, blood transfusions, exposure to hepatotoxic agents, rat bites, and alcohol and had not been out of New York City. There had been a 20-pound weight loss in the past two months.

Physical examination revealed a well-developed, well-nourished white male who appeared neither acutely nor chronically ill and showed deep icterus of the sclerae and skin. Blood pressure was 130/90, pulse 80, and temperature 100 F. There were no angiomata or palmar erythema. The body hair had a normal male distribution. There were a few firm, nontender left axillary nodes. There was dullness and diminished breath sounds at the right base posteriorly. Examination of the heart was within normal limits. A tender, smooth liver was palpated two fingers below the right costal margin. No other organs or masses were palpable. Rectal examination was negative, and the stool was light brown.

Laboratory data on January 12 included the following: Urine was amber, specific gravity 1.018, negative for albumin and sugar, positive for bile; 5 to 6 white blood cells and 1 to 2 red blood cells; urobilinogen 1:20. Hemoglobin was 15 Gm., red blood cells 4,170,000, white blood cells 5,850 with transitionals 11, polymorphonuclears 56, lymphocytes 21, monocytes 5, eosinophils 6, basophils 1. Erythrocyte sedimentation rate was 43; hematocrit 41 per cent; prothrombin time twelve seconds (control twelve seconds). Albumin-globulin ratio was 4.0:5.0; cholesterol-esters 220/55; icterus index 98; cephalin flocculation 4 plus; alkaline phosphatase 4.4; acid phosphatase 0.5; van den Bergh immediate; Mazzini negative; stool guaiac negative; heterophil agglutination negative.

On January 19 fibrotic strands at the right base were seen on chest x-ray. Gastrointestinal series on January 21 showed no organic lesion of the stomach or duodenum and a radiolucent area within the second portion of the duodenum. On February 15 there were again no organic lesions of the stomach or duodenum, but slight irregularity of the apex of the bulb and descending duodenum suggesting common duct dilatation was seen. Gallbladder series on February 9 showed no identifiable gallbladder shadow, and on February 16 diverticula of the colon were seen.

The patient's appetite was fairly good in the hospital, and on January 19 he began to have diarrhea and left lower quadrant pain. He continued to have considerable tenderness in the right quadrant. The patient was treated with strict bed rest, high-caloric diet, and vitamin supplements. After two weeks of such therapy there was improvement in the liver chemistries which had showed evidence of hepatocellular damage on admission.

On February 8, 1954, Terramycin and streptomycin were started because of continuous low-grade fever (99 to 100.4 F.). The jaundice, which had been decreasing, began to increase in severity. On February 13 the liver was described as being finely nodular, firm, nontender, and palpable four fingers below the right costal margin. The spleen tip was palpated on deep inspiration. The abdominal and low back pain disappeared.

A close friend of the patient stated that he had been a chronic alcoholic who had moderated his indulgence for several months until six months prior to admission when he again began drinking heavily.

Two liver biopsies were performed and revealed "tissue insufficient for diagnosis."

Because of a progressively downhill course, on March 1, 1954, the patient was transferred to surgery after the case had been presented and discussed at the Surgical Staff Conference. An exploratory laparotomy was performed on March 11, 1954. A small amount of bile-stained ascitic fluid was observed. The liver was slightly enlarged, darker than usual, and granular. The gallbladder was smooth and distended. Attempt at exposure of common duct was unsuccessful because of excessive bleeding. The duodenum was normal on palpation. It was the impression of the operating surgeon that there might be a tumor mass in the head of the pancreas. A liver biopsy was taken and mushroom catheter placed into the gallbladder and brought out through a stab wound.

Postoperatively the patient was given intravenous fluids and streptomycin. The patient's condition deteriorated rapidly. On March 17 he was semicomatose with deep jaundice. Cortisone, 75 mg. intramuscularly every six hours, was begun on March 18. There was some improvement in the level of consciousness. On March 19 he again lapsed into coma with a temperature of 102 F. The patient expired on March 20, 1954.

Discussion

Dr. Michael S. Bruno. This most interesting case has a number of perplexing and apparently contradictory aspects, as many similar cases do. In any case of jaundice of this type the primary consideration is, and was, a decision as to the nature of the jaundice. Was the icterus of hepatocellular origin, was it due to an extrahepatic obstruction, or was it possibly the result of a combination of these two factors? Having first decided on this question, we would then have to consider the various possibilities in each category in a differential diagnosis and attempt to arrive at the correct answer.

From the course of events that transpired, we have to assume that a number of the physicians that were following the case felt that surgical intervention was warranted. I would assume that the reports of the gastrointestinal x-ray series, showing, first, a radiolucent area within the second portion of the duodenum and, second, changes suggesting common duct dilatation, tipped their hand. These changes, as will be discussed later, were by no means striking and could well have been misleading.

In a discussion of those conditions causing extrahepatic obstruction, carcinoma of the head of the pancreas, carcinoma of the ampulla of Vater, common duct stone, and carcinoma of the bile ducts must be considered.

Carcinoma of the head of the pancreas is a common carcinoma making up from 2 to 3 per cent of all carcinomas in various autopsy surveys. It occurs more commonly in males past the age of fifty. According to Marble it is significantly more common in diabetics. Typically, this carcinoma runs a short clinical course seldom extending beyond ten months in total duration. Contrary to what we often learned as medical students about the clinical picture found in this condition, pain is often a prominent and early feature. So-called typical painless jaundice only occurs in a minority of cases. The pain, when it occurs, is variable and is usually referred to the upper abdomen, the periumbilical area, and sometimes to the right hypochondrium. Back pain unrelated to the anterior abdominal pain may be a feature. Pain is the initial complaint in more than 50 per cent of cases, and it can be severe enough to create the problem of drug addiction. Jaundice is another early symptom due to encroachment on and invasion of the common bile duct. It is naturally of the obstructive type. It may be of variable intensity early in the course of the disease which is difficult to comprehend when one understands the pathology. It eventually becomes very prominent and completely obstructive in character. Other symptoms include those associated with migratory phlebothrombosis and thrombophlebitis, diarrhea, and a steatorrhea-like syndrome due to pancreatic insufficiency and striking neurotic and psychotic manifestations. Physical examination is usually negative except for jaundice early in the course of the disease. Eventually hepatomegaly and enlargement of the gallbladder may be noted. Not all cases by any means develop the latter. A pancreatic mass may be noted eventually.

Laboratory changes that may be noted include glycosuria and a diabetic glucose tolerance curve, particularly if the body and tail of the pancreas are involved. These patients may have an elevated serum amylase and lipase. A secretin test will naturally reveal a deficiency of pancreatic enzymes.

There are certain indirect x-ray signs. The loop of the duodenum in these patients may be enlarged by an expanding lesion from within, the so-called widened duodenal swing. The duodenum may be irregularly indented, a common form being the so-called inverted figure of three, and the stomach may be displaced anteriorly and to the left. Our patient demonstrated none of the signs.

We are told that at laparotomy the surgeon had difficulty because of bleeding but that it was his impression that a mass might be present in the head of the pancreas. I would like to underscore his wording. Even under normal circumstances it is sometimes most difficult for a surgeon to be sure about gross pancreatic pathology. With the added problem of hemorrhage superimposed, probably due to hypoprothrombinemia, his task was increased considerably. In the light of the case as a whole, I do not feel that our patient had a pancreatic carcinoma in spite of the surgeon's suggestive report.

Primary carcinoma of the periampullary area of the duodenum is the next condition that we can consider. Carcinoma of the duodenum is rare, but when it does occur, it is almost always in the second portion, the periampullary area. The most common type is the adenocarcinoma. This carcinoma is often associated with a characteristic clinical syndrome. Initial symptoms may suggest a lesion of the pyloroduodenal segment, or they may simulate a peptic ulcer. Postprandial pain can occur at varying intervals. It is ordinarily relieved by vomiting rather than by eating. Very often the first manifestation of a carcinoma of the ampulla is jaundice; pain and jaundice often appear together. Jaundice can fluctuate considerably, and it may actually disappear entirely for brief periods, only to recur. Where this is a striking finding in a case of extrahepatic obstruction, differentiation from a common duct stone is particularly important. Gastrointestinal bleeding, where it occurs, is an important differentiating factor. Hemorrhage can be massive in character and may be the presenting complaint. Most of these patients will have evidence of blood in their stool. The association of intestinal bleeding, jaundice, and postprandial epigastric discomfort relieved by vomiting in a patient in the cancer age group should arouse great suspicion. The gallbladder is often palpable if it is not diseased. Late duodenal obstruction is not uncommon. Duodenal drainage may reveal a decrease in the enzyme titers. It is often most helpful in demonstrating local infiltrative pathology. In some cases where the carcinoma arises from the papilla of the ampulla of Vater, the x-rays fail to reveal any pathology. However, these cases are rare, and eventually in most instances at least partial intestinal obstruction develops and is radiologically evident. In our case we did not have the history or the x-ray and laboratory findings that are compatible with this diagnosis. On the contrary we are told that the duodenum was entirely negative even at laparotomy. The radiolucent area described in the series was inconstant and not visible at all in the second series. If this shadow was of significance, it would certainly have been more persistent.

Choledocholithiasis has to be at least mentioned for the sake of completeness. Most cases are symptomatic for an average of five to six years prior to surgery. There is usually an antecedent history of recurrent episodes of biliary colic and symptoms suggestive of pre-existing gallbladder disease. This condition is much more prevalent in females. Twenty per cent of patients do not have a history of pain. Jaundice may not be present, but when it is, it fluctuates widely, frequently disappearing only to recur. Chills and fever of the intermittent Charcot type are often present. Interestingly enough, to contradict the Courvoisier Law, 10 to 15 per cent of these patients have a palpable gallbladder. Our patient certainly did not have enough in his history to suggest this diagnosis, especially in view of the short, fulminating course of events.

Primary carcinoma of the bile ducts is the last of this group of conditions associated with an extrahepatic biliary obstruction that will be mentioned. Fortunately, this is a rare condition. The diagnosis is not frequently made correctly, and where so, it is by the process of exclusion. There are villous, diffuse, and nodular types, the last being the most common. In more than one third of these cases the common duct is the site of involvement. In another third the primary lesion arises at the junction of the cystic and common hepatic duct. The onset is insidious and painless. Jaundice appears early and progresses constantly. Evidence of complete common duct obstruction eventually appears. Terminally, patients have an enlarged liver and easily palpable gallbladder.

We do not have much from a clinical point of view to suggest carcinoma of the bile ducts or choledocholithiasis. It would be most difficult likewise to entertain seriously the diagnosis of carcinoma of the ampulla of Vater. The diagnosis of carcinoma of the head of the pancreas should definitely be considered. To my way of thinking, however, there is an imposing array of laboratory data which would make it difficult for me to consider this or any other diagnosis within this group.

I believe that the patient's primary pathology resided in the liver parenchyma itself and that his jaundice was the result of extensive hepatocellular damage. A look at the numerous batteries of liver chemistries is now in order. The patient had bilirubinuria and urobilinogenuria. The albumin-globulin ratio was consistently and progressively more inverted. Terminally, the patient had a strikingly low serum albumin and an elevated serum globulin. The total cholesterol was normal or on the high side of normal. Most significantly, the esterified fraction was low, even on admission, and terminally, this fraction was extremely low. The cephalin flocculation was consistently strongly positive, and the alkaline phosphatase was never elevated appreciably. The prothrombin time, normal on admission, progressively increased in spite of large doses of vitamin K administered parenterally. This emphasized the etiology of the hypoprothrombinemia as an inability of the diseased liver to metabolize prothrombin. Finally, the stool guaiacs were negative. The weight of laboratory evidence is strongly on the side of a hepatocellular origin for the jaundice.

In the light of our history and physical examination and considering the differential of those conditions in which diffuse hepatocellular damage is striking, I believe that infectious hepatitis is our most likely diagnosis. It is certainly possible for the patient to have had underlying liver pathology, such as a fatty or cirrhotic liver. However, I would find it most difficult in the light of what has been presented to make such a diagnosis.

The patient may have been an alcoholic, and certainly alcoholism is an important feature in the pathogenesis of most of the cirrhosis that we see. However, being an alcoholic and being a cirrhotic are not one and the same. Our patient was described as being well nourished and well developed and had none of the stigmata usually associated with cirrhosis of the liver. His liver was smooth and tender on admission, and he did not have splenomegaly.

On the other hand, our patient was fifty years of age, which is a little unusual for the average case of infectious hepatitis. However, all of us have seen infectious hepatitis in older people, especially at Bellevue. Serum hepatitis may be most fulminating in its course in this older group. The history of a 20-pound weight loss for two months prior to admission is disconcerting to say the least, if true. I am inclined to doubt this, particularly as the patient was described as being well nourished on admission. The presenting complaints, the physical examination, the laboratory, and the clinical course are all compatible with the diagnosis of hepatitis of the fulminating type. In some quarters this has been called acute or subacute yellow atrophy depending on the total duration of the illness. The patient was cholemic and had evidences of severe hepatic derangement and insufficiency terminally.

In short, when all factors are considered and weighed against each other, I find it difficult to escape the diagnosis of infectious hepatitis, subacute yellow atrophy of the liver, hepatic insufficiency, and cholemia.

Dr. Shepard Aronson: When adding up the pros and cons in this case, one must go along with the diagnosis of hepatocellular disease. There is an excellent article in the *American*

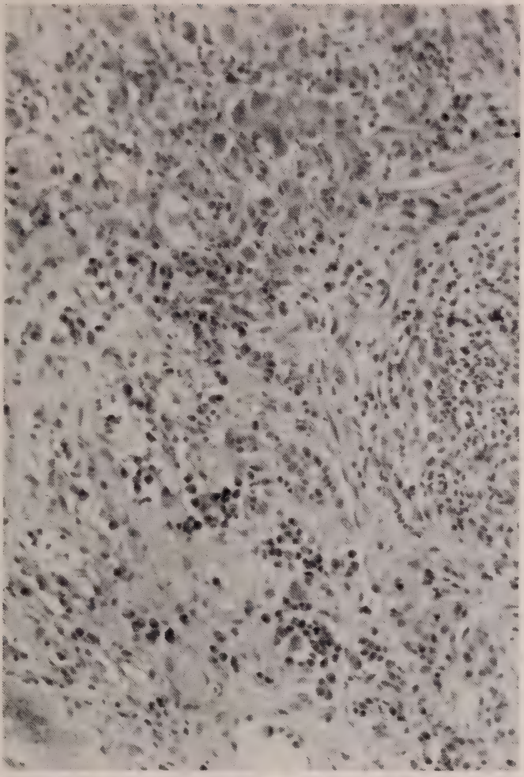

FIG. 1. Section of liver taken at laparotomy. There is loss of hepatic parenchyma and inflammatory cell infiltrate. (*Hematoxylin-eosin*)

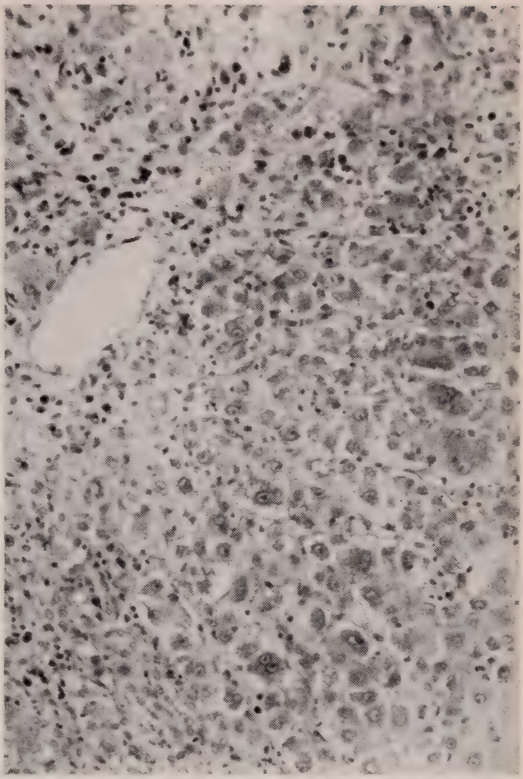

FIG. 2. Section of liver taken at laparotomy. There are many bizarre hepatic cells, some of which are multinucleated.

Journal of Medicine, May, 1954, on hepatitis, in which the relapsing type of hepatitis is described. The point is made that with excellent management of the disease one may still be confronted with a fatal outcome. There are a few things in this case which are confusing. Because of the abnormal albumin-globulin ratio and the low esterification on admission, one has to believe that the liver disease existed for quite a while before admission. In obstructive jaundice with a severe degree of cellular damage, an elevated alkaline phosphatase may go down, and the esterification may decrease. These laboratory data show increasing cellular damage, but I feel that there must have been pre-existing disease. As to the nature of the obstruction the possibility raised by Dr. Bruno should be considered along with the possibility of a relapsing pancreatitis.

DR. BRUNO: These facts disturb me as well.

DR. M. GELFAND: I should like to mention the possibility of primary carcinoma of the liver in this patient. However, with these laboratory findings which point to an existence of hepatocellular damage, if the pathologist gives us a diagnosis of obstructive jaundice, I am afraid that we shall have to throw all our laboratory tests out of the window.

Diagnoses

Clinical.—*Carcinoma of head of pancreas.*
Dr. Bruno.—*Infectious hepatitis.*
Anatomic.—*Infectious hepatitis.*

Pathologic Report

DR. NORMAN S. COOPER: The liver biopsy obtained at laparotomy (nine days before the patient's death) showed considerable loss of hepatic parenchyma, with collapsed reticulum and plasma cells, mononuclear cells, and lymphocytes occupying its place (Fig. 1). No new collagen was detectable. There were many bizarre forms among the hepatic cells, including syncytial giant cells; these are usually interpreted as indicating regeneration of hepatic tissue (Fig. 2).[1] There was slight bile duct proliferation. Bile pigment was found in bile canaliculi and in the cytoplasm of hepatic and Kupfer cells.

These changes are those of infectious hepatitis.[1,2]

At autopsy the patient was deeply jaundiced. The liver weighed 1,530 Gm. (about normal). It was deep green-yellow and flabby. The cut surface showed many small tan nodules, from about 0.5 to 1.5 mm. in diameter, separated by depressed areas 0.5 mm. or less wide. There were also large depressed areas in which only a few small nodules were seen. Major bile ducts appeared normal. Histologically there were large areas of necrosis, much more than was seen in the biopsy. There were also many neutrophils; in some areas these acute inflammatory cells predominated, indicating that the hepatitis was still quite active. Extensive architectural derangement and the presence of bile in hepatic cells and canaliculi but not in bile ducts suggested considerable intrahepatic biliary obstruction. This was particularly interesting in view of the consistently low alkaline phosphatase values.

The pancreas was normal grossly. Histologically the lobular structure was intact. Because of autolysis no other details were discernible in the pancreas.

The laparotomy was precipitated by the unfortunate coincidental presence of a duodenal polyp. This was seen as a filling defect on x-ray and was suggestive of ampullary carcinoma. It is usually said that operations adversely affect the course of hepatitis. As far as we know, this has never been established statistically. In any event it is not possible to evaluate the effect in this case. The notably greater necrosis in the autopsy material as compared with the biopsy was surprising for a nine-day interval, particularly at this relatively late stage of the disease. The discrepancy might be fortuitous. The biopsy was quite small and may well have been selected from a nodular and therefore regenerating area. If the difference represented a real change, it would suggest acceleration of the process by the operation.

Additional autopsy findings included mild chronic passive congestion of the spleen. There was marked hyperplasia of vertebral bone marrow, as well as some extramedullary hematopoiesis in spleen and adrenal. Severe lobular pneumonia was found in the left lower lobe. This, together with marked acute prostatitis, probably was responsible for the presence of acute splenic tumor.

Dr. Bruno: I guess that Dr. Gelfand will have to go on relying on laboratory data. I should like to emphasize one point. After reading the surgeon's note, it becomes clear to me that the description of a mass in the pancreas was even more striking than stated in the protocol. Examination of the pancreas, even by a good surgeon (and this surgeon, I know, is certainly very capable), can be very difficult, and the gross description is not infrequently incorrect.

Dr. Cooper: I should like to endorse this statement in regard to the surgical examination of the head of the pancreas. It also applies to the diagnosis of pancreatitis at operation which frequently cannot be substantiated on pathologic examination.

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Marriage is that relation between man and woman in which the independence is equal, the dependence mutual, and the obligation reciprocal.—Louis Kaufman Anspacher

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Allergy to Drugs

WILLIAM B. SHERMAN, M.D., NEW YORK CITY

(*From the Institute of Allergy, Roosevelt Hospital*)

IN GENERAL, the causative agents in allergic disease are substances with which the patient comes in contact naturally, such as foods and environmental dusts, and which are not harmful to the nonallergic person. In the case of allergy to drugs, one must consider a group of chemically and biologically active substances with which there is normally no contact and which have definite pharmacologic effects on the normal person.

When an untoward effect follows the therapeutic use of a drug, the distinction between its toxic action and an allergic reaction resulting from acquired hypersensitivity is not always easy. Allergic phenomena usually result from reaction of antigen and antibody, and the existence of antibodies of various types can be established in many allergic diseases. In the cases of allergy to drugs, however, this evidence of an allergic mechanism is only rarely demonstrable, presumably because the drugs act as haptens rather than complete antigens. Likewise, the types of skin tests applicable in the diagnosis of inhalant and food allergies only occasionally show positive reactions in drug allergy. For these reasons the diagnosis of reactions to drugs as manifestations of allergy is usually based on the clinical observation of acquired sensitivity. A patient who at first shows no adverse reaction to a drug develops a reaction differing from the usual toxic effects after a period of use and then subsequently shows the same reaction to smaller doses.

Most of the common manifestations of allergy, such as asthma, rhinitis, contact dermatitis, and urticaria, may be caused by drugs. In addition, a considerable variety of reactions which rarely, if ever, result from allergy to naturally encountered allergens may be caused by hypersensitivity to drugs. Such reactions include fever, a wide variety of skin rashes, hepatitis, leukopenia, and thrombocytopenic purpura.

As a cause of asthma and rhinitis, aspirin is by far the most important offender among the drugs, although many others, both synthetic compounds, such as sulfonamides and arsphenamine, and proteins such as papain, are occasional causes. Except in the case of protein drugs, skin tests rarely yield positive reactions. It is important to remember that in susceptible persons extremely severe asthma may result from ordinary doses of aspirin. Attempts to perform scratch or intracutaneous tests with aspirin on such individuals are both futile and dangerous since they may produce violent asthma without showing any local reaction. The diagnosis must be based on history alone. Patients known to be allergic to aspirin should be warned of its presence in most proprietary remedies for headaches and colds.

The list of drugs which may cause urticaria is a long one, including penicillin, streptomycin, aspirin, sulfonamides, barbiturates, insulin, liver extract, and others. The most common cause, penicillin, is discussed in another article of this series. Skin tests are of little value in the diagnosis of drug urticaria. When urticaria develops in a patient taking various drugs, the best procedure is to stop or change all of them until the effects are observed.

Drug fever is a common complication of treatment with sulfonamides, thiouracil, para-aminosalicylic acid, arsenicals, mercurial diuretics, and anticonvulsant drugs. Many other drugs are less frequent causes. The onset typically occurs a week or more after the first use of the drug. The fever may reach 102 to 105 F. and may be continuous or intermittent, depending on the frequency of dosage. When the offending drug is discontinued, the fever subsides as soon as it has been eliminated from the body, usually in a few days. After sensitization has occurred, subsequent use of the same drug may produce fever in a few hours. Drug fever may or may not be accompanied by a skin rash which most often is maculopapular or erythematous. The leukocyte count may be normal or increased with a predominance of polymorphonuclear neutrophils. Eosinophils are rarely increased. The diagnosis may be suspected if unexplained fever develops during the administration of the commonly causative drugs and subsides when they are discontinued.

If the drug which causes fever is promptly eliminated, the whole episode is usually mild, and the patient suffers little discomfort. However, pathologic studies of patients dying during the course of the fever show that it is accompanied by widespread lesions involving many of the vital organs. One of the commonest lesions is arteritis, which involves the smaller arteries and arterioles, with fibrinoid degeneration of the media and perivascular infiltration quite similar to periarteritis nodosa, as pointed out by Rich.[1] The myocardium is often involved, with edema between the muscle fibers and infiltration about the small vessels. Foci of necrosis, infiltrated with wandering cells, may be seen in the liver, spleen, kidneys, lymph nodes, and less often in other organs. Apparently these lesions heal quickly if the drug is discontinued, but they indicate the potential danger of further use. Continuing the administration of sulfonamides and other drugs in the presence of drug fever has led to fatal results in some cases.

While many types of skin rashes may be due to drug allergy, the two commonest forms are dermatitis medicamentosa due to systemic medications and contact dermatitis due to topical applications. Both are evidence of acquired sensitization and characteristically occur a week or more after the first contact with the drug. Dermatitis medicamentosa may be due to any of the drugs mentioned as causes of drug fever and also to barbiturates, gold salts, and many others. It usually begins as a maculopapular rash which particularly affects the trunk. It is sometimes but not always accompanied by drug fever. If the drug is stopped in the early stages, the rash fades promptly, except when due to slowly excreted drugs such as gold salts and arsenicals. If the causative drug is continued, the rash tends to become confluent and may progress to exfoliative dermatitis.

Contact dermatitis may be produced by sulfonamides, antibiotics, local anesthetics, antihistaminic drugs, mercurial ointments, and many other topically applied drugs. It is characteristically vesicular and does not differ materially from contact dermatitis due to poison ivy or industrial contactants. As a rule the patch test with the offending drug is diagnostic.

Less common forms of dermatitis due to drugs include erythema nodosum, most often caused by the sulfonamides and antithyroid drugs, fixed drug eruptions resulting from sensitization to phenolphthalein, aminopyrine, barbiturates, and arsenicals, and acneiform eruptions produced by iodides and bromides.

Hepatitis produced by arsenicals, sulfonamides, cinchophen, gold salts, and atabrine shows the features of an acquired sensitization and is often accompanied by other manifestations of drug allergy, such as fever and dermatitis. On the other hand, carbon tetrachloride and other chlorinated hydrocarbons cause hepatitis by direct toxic action. A distinction between these two types of drug hepatitis and infectious hepatitis is not always easy, but the occurrence of jaundice during the administration of any of the above drugs is reason enough to discontinue them.

Leukopenia and agranulocytosis may result from the use of aminopyrine, arsenicals, thiouracil, sulfonamides, gold, and anticonvulsive drugs. Except for gold and arsenic these drugs are rather quickly eliminated from the body, and the tendency is to recover within a week after the drug is discontinued. During the stage of marked leukopenia antibiotics are essential for the control of infection. Thrombocytopenic purpura is most often caused by Sedormid, arsenicals, gold, and sulfonamides. Recovery generally follows excretion of the drug.

The diagnosis of drug allergy depends chiefly on knowledge of the types of allergic reactions apt to be produced by various drugs and alertness in recognizing the causative relationship. While the most frequent causes of various manifestations have been mentioned, these lists are not complete. For a list of other drugs reported to cause these conditions, the reader is referred to Alexander's *Reactions with Drug Therapy.*[2]

Since most of the manifestations of drug allergy tend to subside as the causative agent is excreted, the most important point in treatment is prompt discontinuation of the medication. In the case of arsenic and gold elimination is slow, and the occurrence of serious allergic manifestations calls for the use of BAL to aid detoxification and excretion. For symptomatic treatment cortisone and corticotropin are the most effective measures. However, they are of little value in hepatitis and agranulocytosis. Desensitization with drugs is rarely effective, although some favorable results have been reported, especially with para-aminosalicylic acid.

Drug allergy tends to persist over long periods of time, and further use of the drug which has once produced a reaction should be avoided except in cases of dire need where there is no possible substitute medication.

60 East 58th Street

References

1. Rich, A. R.: Harvey Lect. **42**: 106 (1946-7).
2. Alexander, H. L.: Reactions With Drug Therapy, Philadelphia, W. B. Saunders Co., 1955.

(*Number twenty-five of a series on Fundamentals of Modern Allergy*)

ANNOUNCEMENT

SCIENTIFIC EXHIBITS

SESQUICENTENNIAL CONVENTION
MEDICAL SOCIETY OF THE STATE OF NEW YORK

FEBRUARY 18 TO 21, 1957

Applications for space for the scientific exhibits should be made directly to the Chairman of the Subcommittee on Scientific Exhibits of the Convention Committee:

William L. Watson, M.D.
340 East 72nd Street
New York 21, New York

The Sesquicentennial Convention will be held February 18 to 21, 1957, at the Hotel Statler, New York City.

No applications can be considered AFTER DECEMBER 1, 1956.

There will be two groups of awards:

Group I: Awards in Group I are made for exhibits of individual investigation, which are judged on the basis of originality and excellence of presentation.

Group II: Awards in Group II are made for exhibits which do not exemplify purely experimental studies and which are judged on the basis of presentation and correlation of facts.

W. P. Anderton, M.D., *Secretary*
Medical Society of the State of New York

CLINICAL ANESTHESIA CONFERENCE

A series of conferences on medical emergencies
in the operating room including causes of death
during anesthesia

Prepared by the Anesthesia Study Committee of the
New York State Society of Anesthesiologists

MEREL H. HARMEL, M.D., *Chairman*

The Medical Versus the Surgical Emergency

THE need for careful medical evaluation of patients who present themselves at the hospital is sometimes obscured by the seeming urgency of emergency situations. In the face of catastrophes like massive hemorrhage, gastrointestinal or otherwise, this is understandable. However, it must be continually borne in mind that more careful preoperative evaluation may on occasion, even in these circumstances, mark the difference between success and failure. While the anesthetist may practice a brand of "operating room medicine," he should also be in a position, if possible, to contribute somewhat to this preoperative medical evaluation. How to differentiate a surgical emergency from an impending medical castastrophe may sometimes be impossible. The case report which follows illustrates the concurrent development of such a combination.

Case Report

The patient, a sixty-three-year-old, white male, was admitted to the hospital with the chief complaint of tarry stools of four days duration and massive hematemesis for one day duration. This same patient had been admitted to the hospital approximately a year ago, at which time a diagnosis of peptic ulcer had been made. He was at that time treated conservatively and placed on a medical regimen which had apparently controlled his symptoms. At the time of his previous admission a stone was discovered in the right ureter, and a ureterolithotomy was performed under general anesthesia. The patient recovered and was discharged improved.

On readmission to the hospital the patient was mildly hypotensive. His blood pressure was 90/60 and pulse rate 92. He was given 1 pint of frozen plasma and 100 cc. of compatible blood. Laboratory studies prior to transfusion revealed the following: hemoglobin, 5 Gm. per cent; white blood count, 15,000; hematocrit, 17 per cent; urinary sugar, 1 plus; albumin, 3 plus. The urine was also positive for acetone. Blood volume was 64.7 cc. The red blood cell mass was 12.1 per Kg.

Ten minutes after the administration of the first pint of blood, the patient began to complain of severe chest pain. A sample of blood was taken and centrifuged. No hemolysis was present, and thus it was felt that transfusion reaction was not occurring. An electrocardiogram taken at the time the patient was having chest pain indicated that the patient was suffering from myocardial anoxia, but there was no evidence of infarction of recent origin. There was, however, some evidence that the patient had an old posterior wall myocardial infarction.

It was decided that the patient should have an exploratory laparotomy and a gastrectomy. Premedication consisted of 0.4 mg. atropine. On his arrival in the operating room, the patient's blood pressure was 104/64, pulse 96, and respirations 24. In view of the history of hematemesis, intubation of the trachea was carried out under topical anesthesia. Following intubation the patient began to cough up nonviscid fluid through the endotracheal tube. Wheeze and rales became apparent. At first it was felt that this fluid may have resulted from aspiration of gastric contents. However, later developments made it apparent that this was not the case. The administration of anesthesia was nonetheless begun with cyclopropane and oxygen. The pulse throughout the course of the procedure varied between 100 and 120 beats per minute, and the blood pressure maintained a steady course from 100/60 to 110/70.

A gastrectomy was performed, the operative procedure lasting six hours and thirty-five minutes. At the conclusion of operation the patient's pressure was 120/70, and the pulse was 80 to 120. At the conclusion of the operation auscultation of the chest revealed rales at the bases. The fluid which now was being aspirated from the endotracheal tube was frothy and red. A diagnosis of congestive heart failure with pulmonary edema was inescapable. At 12:15 P.M., five hours and fifteen minutes after the beginning of anesthesia, $3^3/_4$ grains of aminophylline were administered intravenously, followed by 0.8 mg. of Cedilanid.

Within the period of the next hour and a half the evidence of pulmonary edema subsided. The patient was extubated, sent back to the ward, conscious, in obviously poor condition. An electrocardiogram taken on his return to the ward now showed the presence of Q waves in leads II, III, and aVF with RST segment elevations in leads II and III. In view of the old myocardial infarction and the recent gastrointestinal hemorrhage, it was felt that the patient had probably suffered a fresh myocardial infarction which precipitated his developing congestive failure. Further digitalization was then carried out with Digitoxin. Mercuhydrin was also given intramuscularly, and the patient was placed in an oxygen tent. A hemoglobin obtained at this time was 11.5 Gm. per cent. There were coarse rhonchi in the left chest and fine rales at both bases. The neck veins were markedly distended when the patient was at a 20-degree elevation. His surgical status, however, appeared satisfactory.

During the course of the first postoperative day the patient's pressure was approximately 106/60 with a pulse of 92 and respirations which varied between 36 and 40. Toward evening of the first day the blood pressure gradually began to rise, and at 8 P.M., thirty hours following the conclusion of operation, the pressure was 130/70. However, the patient began to develop cyanosis which did not respond to therapeutic concentrations of oxygen. By 8:40 P.M. the patient became intensely cyanotic, and despite all resuscitative measures, including intracardiac adrenalin, he died.

Comment

The death of this patient raises many problems, not the least of which is the decision to operate on a patient in acute congestive failure. The magnitude of hemorrhage made this imperative. Yet it is obvious that a worse result could not have been contemplated. There is no question but that the diagnosis of congestive failure became obscured by the pressing nature of the surgical emergency and manifested itself clearly only during and after surgical intervention. Perhaps more prompt restoration of the blood pressure may have prevented infarction. On the other hand, there is a real suspicion that failure was in full sway just prior to the administration of the anesthetic, as manifested by the chest pain, wheezes, rales, and fluid aspirated from the trachea. Admittedly this was a most difficult diagnosis to make under the circumstances. A monitoring electrocardiogram might have been helpful. Digitalization was deferred for at least five and one-half hours, during which time the patient was subjected to the stress and strain of a major procedure.

Even though one cannot say that earlier digitalization and more conservative treatment may have altered the situation, one must be prepared to take such measures in the face of a surgical emergency. Even deferring operation merits most careful consideration.

(*Number twenty-one of a series of Clinical Anesthesia Conferences*)

That most knowing of persons—gossip.—SENECA

Postgraduate Radio Program

NEW YORK ACADEMY OF MEDICINE

Presented over Station WNYC-FM and arranged by the Committee on Postgraduate Radio Programme of the Graduate Medical Faculty

NORTON S. BROWN, M.D., *Chairman*
IAGO GALDSTON, M.D., *Secretary*

Cancer of the Lung

WILLIAM L. WATSON, M.D., NEW YORK CITY
(*From the Thoracic Surgical Service of Memorial Hospital*)

In this presentation we are focusing our attention on the important problem of lung cancer. This subject is worthy of serious consideration, first, because those who are acutely interested in the management of this disease should pool clinical and research information and disseminate it as widely as possible. Second, the urgent need for more knowledge about this disease becomes much more compelling when one considers the rapid yearly increase in the incidence of lung cancer.

Study of 2,554 Cases

My thought was to go over as completely as possible the facts as I see them in relation to the etiology, diagnosis, and the treatment of lung cancer. The information to be presented has been worked out from the current literature and a study of more than 2,500 cases of lung cancer.

I should like to start off by saying that we on the Thoracic Surgical Service at Memorial Hospital look on the management of a patient with cancer of the lung as a coordinated team effort. This calls for the best talent from the Departments of Medicine, Radiographic Diagnosis, Radiation Physics, Pathology, Anesthesiology, etc.

As for the incidence of lung cancer I can only say that it has taken an abnormally long time for the medical profession in general to accept the great weight of evidence which proves beyond a shadow of doubt that there is an alarming increase in the lung cancer rate here in this country and abroad. For example, from London on April 2, 1954, came a report by the Registrar General's office that the incidence of lung cancer among British men has increased 57 per cent since 1947. For the general British population the incidence of lung cancer is 385 per million, and 40 per cent of all male cancer deaths in England and Wales are due to lung cancer.

A Virgin Field

In the United States in 1950 the death rate for the male population was 200 per million which represents a twelvefold increase in lung cancer incidence in this country since 1930. An understanding of the factors underlying this increase and the development of measures to combat or control it have been hindered by delay in the recognition of the increased incidence. The prevention of lung cancer is a comparatively virgin field for scientific medical endeavor.

Cancer of the lung is, for some as yet undiscovered reason, predominantly a disease of men. The ratio of men to women varies in this country and abroad, but we have charted the sex relationship over a period of twenty-seven years and note that women make up 11 per cent of all our lung cancer cases. Although there has been a detectable rise in the incidence of lung cancer in women during recent years, this has not been nearly as dramatic as the curve showing the rapid increase in the incidence of lung cancer in men.

We are on solid ground, I believe, when it is said that no one knows for sure the real reason why lung cancer develops in otherwise healthy lung tissue. I strongly doubt the existence of any one single cause for this disease. No matter what the exact sequence of events may be, it seems clear that a group of factors have exerted an influence over a period of time. If one subscribes to the irritation theory for the origin of cancer, then for lung cancer one must discover a number of severe irritants exerting a harmful effect on aging but otherwise healthy lung tissue over a period of years.

Modern man is exposed to a number of lung irritants, especially if he lives in a big metropolitan community where he breathes into his lungs, day after day, air which is heavily polluted with particulate matter from furnaces, incinerators, and chemical manufacturing plants. On a quiet day during the rush hour the streets of our busy city present a blue haze of exhaust fumes from diesel engines of buses plus the less dense smoke from the gasoline engines of trucks, taxis, and private automobiles. In addition to these outdoor irritants, one must consider the many indoor occupations which subject workers to repeated lung irritation. In this respect we think of miners of coal, cobalt, and asbestos.

Now if the average male citizen is not only exposed to the above air pollution and occupational hazard but, in addition, is a heavy cigaret smoker, then his lungs are really abused. We have found that the vast majority of our male patients with lung cancer have been smokers, and most of them have indulged in the habit for many years.

It is our feeling that the chronicity of this irritant is the important factor, but we are diligently seeking by experiments, such as those being conducted with the cigaret-smoking machines, to determine, if possible, the presence of a definite carcinogen in tobacco smoke.

A Potential Hazard

In August, 1954, a new air pollution factor came on the scene. We know from the study of the Schneesberg miners that radioactivity in the air is a definite factor causing lung cancer, and now it is known that there is a measurable amount of radioactivity in the atmosphere around us.

The explosion of nuclear bombs will result in the release of considerable amounts of radioactivity, and the effect of this on the air we breathe into our lungs will depend on the nature of the blasts and the atmospheric conditions prevailing at the time of explosion. This potential hazard has been recognized by the Atomic Energy Commission, the United States Public Health Service, and other agencies. Appropriate measures for control are being worked out.

Diagnosis

Now that we have taken a brief look at the incidence and etiology of lung cancer, we may turn our attention to the problem of how to diagnose this deadly disease. In my opinion this is a real problem. As you know, in many specific instances lung cancer has defied diagnosis, and it is the most often missed diagnosis in any large autopsy series. From the diagnostic standpoint lung cancer has earned a reputation as a most difficult visceral cancer to detect. Radiographic study of the lungs is our most important asset in the detection of lung cancer; it has been compared to a precision instrument. In the hands of those interested in the early diagnosis of lung cancer by x-ray measures, new technics leading to earlier diagnosis have been worked out. In this regard the "retroscope" discussed by Rigler is of considerable interest. We also have begun to collect an increasing number of patients with cancer of the lung who have had serial x-ray films of their chests taken over a period of years. This, as Rigler has pointed out, gives us a chance to review serial films of the chest and lungs over a period of years and in this way pick up the earliest radiographic indication of an impending lung cancer. This is retroscopy.

Mass surveys, routine chest x-rays, preemployment chest x-rays, and induction and discharge x-rays of the chest carried out by the Army, Navy, and Air Force have added to our information regarding the early diagnosis of lung cancer.

Tomography has been very useful to us in locating the exact size and position of the lung tumor and, in addition, it has been invaluable in our study of lungs thought to present a single solitary metastatic lung deposit. Quite frequently continued intensive x-ray study will reveal the presence of other metastatic nodules and so make an operation unjustified.

Angiocardiography is being employed with increasing effectiveness by us. It is useful in differentiating mediastinal tumors from aneurysm and lung cancer. It is also of value to determine inoperability due to pulmonary artery invasion or extension of disease into the superior vena cava or other large vascular structures.

Bronchoscopy has taken a less important position with us than was formerly the case.

New radiographic information has recently been obtained by the use of the supervoltage machines such as the 1 or 2 million electron volt machines for the making of radiographs of the mediastinum and lungs. This technic seems to bring out lymph node enlargements, especially about the hilum and the mediastinum, in much more detail than can be obtained in the routine chest films. The higher voltage apparatus seems to burn out the bone detail and bring into prominence the soft tissues, especially in the mediastinum.

It is our opinion that next to radiographic studies the most important weapon in diagnosis of lung cancer is the combination of bronchoscopy and cytologic study of exfoliated bronchial cells.

After radiographic study and cytologic study, the next most important diagnostic step is exploratory thoracotomy. If a definite diagnosis cannot be established and there is no medical contraindication to exploration, then we recommend it. The operative mortality is very low, less than it is for exploratory laparotomy, and the information to be obtained is often vital. Definitive surgery can be carried out if indicated by the frozen section, or aspiration biopsy study can be made while the thorax is open.

Lung cancers have usually been divided into squamous or epidermoid carcinoma, adenocarcinoma, and anaplastic or oat cell carcinoma. In recent years another type of cancer has received recognition, namely, "terminal bronchiolar lung cancer" or, as some prefer to call it, "alveolar cell" cancer of the lung. This is a very interesting and, from the etiologic standpoint, possibly a very important type of lung cancer. The first case of terminal bronchiolar lung cancer in our series was encountered in 1932, and since that time we have studied more than 60 patients with this disease. It is noteworthy that 48 cases have come to us in the past seven years, an indication, I believe, that this particular type of lung cancer is becoming more common.

Treatment

From the standpoint of radiation therapy several new and more radical methods and technics have been developed in the last several years for the more satisfactory management of lung cancer, especially lung cancer which is beyond the stage of surgical resection. In 1940 we first began to use gold-filtered radon seeds in lung cancers which proved to be nonresectable at the time of thoracotomy. A substantial amount or radiation of the interstitial type was employed, and as I look back on it, I believe the results were encouraging, but the procedure fell into disfavor and was not again employed routinely until four years ago. Since that time we have used interstitial radon in nonresectable cancers in a fairly large number of cases, and some of these patients have done surprisingly well. Several have gone over the three-year period without definite evidence of recurrence of disease.

We have been using radioactive colloidal gold for instillation in the pleural cavities of patients who have cancer of the lung and recurrent pleural effusion. This method has much to recommend it, and in at least 50 per cent of the cases we feel that it has been of considerable value. Radioactive silver-coated colloidal gold has been introduced bronchoscopically. The results in animals indicate that a good uptake of this material can be obtained in the specific lobe of lung desired and that the radiation effect is prominent in the drainage area lymph nodes. A few cases in humans have been undertaken with indefinite results. The problem here is due to the fact that when cancer has metastasized to the lymph nodes, they do not then act as normal drainage way stations, and therefore the radioactive material may never reach them.

For palliative treatment of lung cancer in our institution we depend most heavily on the million-volt x-ray therapy machine and believe that any patient who is physically able to withstand the treatment should be given this form of therapy because of the very definite possibility of obtaining substantial palliation and occasionally a cure.

Although we have had a Tela cobalt apparatus in operation only a short time, it seems fair to say that it should give us about the same sort of results as we have obtained during the past years with the million-volt x-ray machine. A 25 million electron volt machine at the present time is being cautiously studied for its effect on cancer of the lung, but we are not willing to make a statement regarding its value in the treatment of lung cancer. There have been some reports from elsewhere stating that this apparatus seems to be valuable in the treatment of the so-called Pancoast tumor of the lung.

Surgery has made great progress in the management of lung cancer, and we believe that one of the major advances has been the development of so-called radical pneumonectomy for lung cancer.

Although we have more than 35 patients who have lived five years or more after their treatment for lung cancer, the percentage of cures is depressingly low, and I believe a measure of culpability must be assumed by the general practitioner, the internist, and the family doctor.

Summary

I hope I have made the following points:

1. The successful management of lung cancer depends on a combination of many talents and efforts.
2. The early diagnosis of this disease is possible with the aid of routine chest x-rays and bronchial cytology studies.
3. We have at hand a cure for lung carcinoma; what we need is more curable cases, and here unquestionably the family doctor is the key figure and the patient's first line of defense.

340 East 72nd Street

(*Number nine of a series of Postgraduate Radio Programs*)

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SESQUICENTENNIAL MEETING

Medical Society of the State of New York

February 18 to 21, 1957

HOTEL STATLER **NEW YORK CITY**

SPECIAL ARTICLE

The American Physician and the World Medical Association

LOUIS H. BAUER, M.D., NEW YORK CITY

(*Secretary General, The World Medical Association*)

THE World Medical Association has become a strong factor in protecting and promoting the professional interests of the medical profession and the cause of world peace.

Now in its ninth year, W.M.A. is a federation of the most representative national medical association in each of 53 nations. These member organizations represent more than 700,000 physicians. The American Medical Association is a leading member of the World Medical Association.

Doctors of medicine the world over cherish the same basic ideals of conduct and the same devotion to the welfare of mankind. The World Medical Association is cultivating the common purposes of the profession. This growing community of interest is a source of strength to the physicians in every land.

Already, by solid accomplishments, the World Medical Association has earned the right to call itself "the international voice of organized medicine." Thanks largely to the United States Committee and similar supporting committees of physicians in other leading nations, W.M.A. has a well-tried constitutional structure, a small but efficient secretariat, and a trilingual journal whose world-wide influence and value to the profession is rapidly growing. The permanent office of the secretariat, which serves both the Association and the United States Committee, is located in the United States.

The membership of the United States Committee has been growing slowly but steadily. In 1955 the committee reached its first important milestone of growth: a membership of 5,000 American physicians.

Even with this modest membership representing scarcely 3 per cent of American medicine, important achievements have been registered, many of which would have been impossible if the American pharmaceutic and related industries had not consistently matched the financial support given the United States Committee by its physician members.

Last year 126 members of the United States Committee attended the Ninth General Assembly of the World Medical Association in Vienna. This privilege is available to members of national supporting committees. There is unique inspiration, personal enjoyment, and intellectual stimulus in meeting our colleagues from many lands and in helping to formulate programs that may have incalculable benefits for the profession and for the welfare of the world.

The World Medical Association assists traveling physicians by providing them with introductions to colleagues in other countries, by making speaking engagements for them abroad, by acquainting them with visiting doctors from other countries, and, of course, by sending the *World Medical Journal* to members of all national supporting committees.

In 1953 the World Medical Association sponsored the First World Conference on Medical Education, held in London. Representatives from many nations have reported concrete benefits from this epochal meeting in terms of better standards and practices in medical education in their countries. A Second World Conference on Medical Education is now being planned for 1959, to be held in the United States.

Two other World Medical Association accomplishments that have brought great credit to our profession and strengthened its solidarity throughout the world were the promulgation in 1948 of the Declaration of Geneva, comprising a modern restatement of the Hippocratic Oath, and the adoption in 1949 of an International Code of Medical Ethics.

The activities of W.M.A. in the field of social security are of particular interest to American physicians. They have revealed boldly and unmistakably the physician's inherent and universal need for freedom from third-party interference with the practice of medicine. Such activities should not only fortify but inspire the efforts of American medicine to solve our socioeconomic problems without resort to governmental subsidy or control.

On the international stage the World Medical Association has endeavored to counter efforts of the International Social Security Association and the International Labour Organization to promote state medicine under social security programs. The World Medical Association has earned the respect of the International Labour Organization for its defense of the interests of medicine against the International Labour Organization Convention for Medical Socialization in 1952. Now the World Medical Association is attempting to wrest from the

International Labour Organization the recognized world leadership in the field of occupational medicine.

The World Medical Association has engaged in efforts to protect medical research, to safeguard the national pharmacopoeias and the rights of individuals discovering new drugs and agents to name them.

The World Medical Association has served the profession by representing it in relation to the World Health Organization, the official health agency of the United Nations. In the attempt by other agencies to draft an International Code of Medical Law, W.M.A. has insisted that such a code be based on ethical principles acceptable to the profession.

For all these activities and for many more which demand our attention, additional funds are needed. Each new member not only contributes his nominal membership dues, but, more vitally, he lends his name and influence to the program of the W.M.A. and of its United States Committee.

America's world leadership challenges America's physicians to make the United States Committee a truly impressive and representative body of American physicians. Every individual physician in the U.S.A. is eligible for membership in the United States Committee. Annual membership dues are $10. The dues for Patron Members are $100 or more. Many of our members regularly make contributions to the U.S. Committee in addition to their annual dues. All such contributions to the United States Committee of the World Medical Association are tax deductible.

As the international voice of organized medicine, the World Medical Association is speaking for you. It is seeking to promote and protect your interests. You are urgently invited to help these efforts along by joining the United States Committee and participating in its work.

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SESQUICENTENNIAL CONVENTION

Medical Society of the State of New York

February 18 to 21, 1957

HOTEL STATLER **NEW YORK CITY**

MINUTES OF THE COUNCIL

The following is a summary of the minutes of a special meeting of the Council of the Medical Society of the State of New York on August 21, 1956, and approved September 13, 1956.

A special meeting of the Council was held August 21, 1956, from 9:20 to 10:40 A.M. at the Society's offices, 386 Fourth Avenue, New York City. Dr. James Greenough, president of the Society, occupied the chair.

Those present were: Members—Drs. James Greenough, W. P. Anderton, Maurice J. Dattelbaum, Samuel Z. Freedman, Frederic W. Holcomb, Gerald D. Dorman, Frederick A. Wurzbach, Jr., Peter J. Di Natale, Floyd S. Winslow, Harold F. Brown, Theodore J. Curphey, John C. McClintock, Norman S. Moore, Henry I. Fineberg, John F. Rogers; Editor—Dr. Laurance D. Redway; Invited Guests—Dr. Louis H. Bauer, Mr. William F. Martin, and Mr. George P. Farrell.

Medical Care Insurance for New York State Civil Service Employes.—Copies of the minutes of the Executive Committee meeting of July 26, 1956, were distributed.

MINUTES OF EXECUTIVE COMMITTEE.—A meeting of the Executive Committee of the Council of the Medical Society of the State of New York was held on Thursday, July 26, 1956, at 2 P.M., at the offices of the Society, 386 Fourth Avenue, New York City. Dr. Greenough, president, presided.

The following members were present: W. P. Anderton, M.D., Renato J. Azzari, M.D., Maurice J. Dattelbaum, M.D., Floyd S. Winslow, M.D., and Leo E. Gibson, M.D. The following invited guests were present: Henry I. Fineberg, M.D., John J. Masterson, M.D., Carl Z. Ackerman, M.D., Samuel Z. Freedman, M.D., Louis H. Bauer, M.D., and William F. Martin, Esq. Dr. Thurman B. Givan, president-elect, was excused.

Dr. Greenough stated this meeting was called as a result of several communications he had received in regard to the Temporary Health Insurance Board of the New York State Civil Service Commission, appointed to study health insurance for civil service employes. He had received personal communications from two members of the Society objecting that the Medical Society was not consulted in the appointment of the board medical members. In addition, he had received a telegram from the Coordinating Council and a telegram from the Comitia Minora of the Medical Society of the County of Kings. He felt it was advisable, in view of the feeling in regard to the board, to discuss what our attitude should be and what steps should be taken, if any. The Executive Committee members had received copies of the telegrams and the letters.

Dr. Greenough read a letter dated July 13 from Dr. Charles F. McCarty, director, Medical Society of the County of Kings, and a telegram of the same date from Dr. Warren A. Lapp, secretary of the Medical Society of the County of Kings; also a telegram from Drs. Ezra A. Wolff and Charles F. McCarty, chairman and secretary of the Coordinating Council, dated July 11, as well as a telegram dated July 17.

Dr. Greenough stated he asked Mr. Martin to be present to tell about the legality of the board. Chapter 461 of the 1956 Laws of New York State was summarized: Chapter 461 (Senate Intro. 928; Pr. 4189; Metcalf). Adds Civil Service Law Article 7 entitled health insurance for State and retired State employes. Creates a temporary health insurance board consisting of eight members, four to be appointed by the Governor, two by the Majority Leader of the Senate, and two by the Speaker of the Assembly. The board, subject to the provisions of the article, is empowered to establish regulations relating to eligibility, terms, and conditions of the insurance contract or contracts, the purchase of subject contract or contracts, and the administration of the health insurance plan. The president of the Civil Service Commission with the approval of the board is authorized and directed to establish a health insurance plan for State officers and employes and their dependents providing for group hospitalization, surgical and medical insurance against the financial costs of hospitalization, surgery, medical treatment, and care, including prescribed drugs, medicines, prosthetic appliances, hospital inpatient and outpatient service benefits, and medical expense and indemnity benefits. Under the law the insurance contracts may be with any commercial or voluntary company licensed to do business within the State.

Dr. Freedman said his conclusions are that this board is to initiate the machinery which is to be administered by the chairman of the Civil Service Commission.

Dr. Greenough stated he had asked Dr. Louis Bauer to attend and give his opinion in regard to this legislation. Also two representatives of the Coordinating Council were present by invitation, Dr. Carl R. Ackerman and Dr. Henry Fineberg.

Dr. Bauer said that since the Medical Society had been ignored in the appointment of the board members and also in some other State medical matters, it was time to protest publicly against this policy. He had drawn up a resolution which he read.

After discussion the following resolution *was adopted.*

WHEREAS, the medical profession of New York State has a duty to the citizens of New York State in protecting their welfare in all medical matters; and

WHEREAS, there is no other group so well qualified to give advice on problems incident to the provision of medical care as the medical profession; and

WHEREAS, no plan of medical care can be implemented without the services of physicians; and

WHEREAS, representatives of the organized medical profession are ready to sit down with any group and aid it in solving its medical problems; and

WHEREAS, the Medical Society of the State of New York is the recognized representative of the organized medical profession of the State; and

WHEREAS, there have been an increasing number of plans for medical care and the use of physicians' services proposed by bodies outside of the medical profession, the most recent being the appointment of a Temporary Health Insurance Board to develop a program of medical care for New York State civil service employes; and

WHEREAS, several proposals, including the one involving the appointment of the Temporary Health Insurance Board, have been made independently of any consultation with the designated representatives of the medical profession; and

WHEREAS, the medical profession feels that its services cannot be arbitrarily commandeered; therefore, be it

Resolved, that the Medical Society of the State of New York pledge its continued full support to the cause of the best medical care for the people of the State of New York; and be it further

Resolved, by the Medical Society of the State of New York, the representative agency of over 24,000 physicians in the State, that it has the right to be officially consulted before final decisions are reached by any body whatsoever undertaking to provide a program for medical care through the use of numerous physicians' services over a State-wide area; and be it further

Resolved, that when such a program for medical care is limited to a local area, the county medical society or societies concerned, shall be consulted; and be it further

Resolved, that the Medical Society of the State of New York go on record that it will not be a party to agreements binding on physicians and arrived at without their knowledge and consent and that it will advise its members not to participate in any medical care plan based on such type agreements; and be it further

Resolved, that this resolution be sent to the Governor of the State of New York, to the Majority Leader of the Senate, the Speaker of the Assembly, to the members of the Temporary Health Insurance Board, to members of the Legislature, to any other body known to be organizing a medical care plan, to each of the county medical societies, and to the press.

It was agreed that this resolution should be sent to each member of the Council for approval or disapproval.

Dues Remission.—Dr. Anderton reported he had a request from the Jefferson County Medical Society that the 1956 dues of Dr. Dunlap P. Penhallow be remitted because of illness and a request from the Medical Society of the County on Oneida that Dr. Lynn M. McConnell's 1956 dues be remitted on account of hardship.

These remissions *were voted.*

Sesquicentennial.—Dr. Greenough read a letter from Dr. Alfred P. Ingegno, chairman of the Scientific Program Subcommittee of the Sesquicentennial Committee, regarding solicitation of contributions from pharmaceutical houses for expenses of speakers invited to participate in the scientific program and for the publication of a special program booklet.

On motion duly made and seconded, it was *voted* that pharmaceutical houses should not be solicited for monies to pay for expenses of speakers and that it be the policy of the State Medical Society not to accept any money from outside sources for expenses connected with the scientific activities of the Medical Society.

The meeting adjourned at 4:15 P.M.

Respectfully submitted,
W. P. ANDERTON, *Secretary*

Dr. Greenough stated that these minutes were sent to all members of the Council. He reported: "Sixteen voted in favor, one opposed, two requested a meeting for discussion, and three sent in discussions but would not vote one way or the other.

"I believe that this is a very important action on the part of the Medical Society, and I felt that, as some members of the Council had hesitation in regard to this action and this resolution, we should have a special meeting so that those members who have reservations could enjoy discussion and then that the Council should vote.

"I therefore throw open to discussion the report of the minutes of the Executive Committee of July 26, 1956. We have as invited guest Dr. Louis Bauer, who is vitally interested in this matter, and I have asked Mr. George Farrell to be present because he has a great deal to do with the Blue Shield.

"We have on this Temporary Health Insurance Board a member of the Council. Possibly he can give us some description of what has happened and what the situation is.

"As you all realize, when you read this resolution in the form adopted by the Executive Committee, the resolution refers to any action of the Legislature involving medical care. It does not specifically pinpoint any particular or special action of the Legislature, but all actions of the Legislature affecting the medical profession. I think that should be borne in mind during our discussion."

Dr. Norman S. Moore stated that, as a member of the board, he had better start the discussion. He felt that this resolution was a repudiation of him as a member of the board. He reviewed the facts, which were that, when Mr. George Metcalf's committee, the Joint Legislative Committee, was established about a year and a half ago, Mr. Norman Hurd (Governor Dewey's budget director) had become consultant to the Republican Legislature. Mr. Hurd, a friend and patient of Dr. Moore, telephoned him and stated he had to get someone as a consultant to Mr. George Metcalf who was acceptable to the Medical Society, and he had suggested the name of Dr. Raymond Trussell. Dr. Moore contacted Dr. Anderton who reported, after investigation, that Dr. Trussell, in Dr. Anderton's opinion, would be acceptable to organized medicine. Dr. Trussell was appointed as counsel by the Joint Legislative Committee.

A hearing was held in February, at which a number of people appeared, including Dr. George Baehr and Dr. John C. McClintock.

In June Mr. Oswald Heck, Speaker of the Assembly, telephoned Dr. Moore and asked him to serve on the Temporary Health Insurance Board. After consideration Dr. Moore accepted and took an oath of office to do the best job he could for the people of the State of New York. He stated he did not feel that he should resign.

Dr. Frederick A. Wurzbach, Jr., stated: "I want Dr. Moore to understand very definitely that there was no discussion as to his qualifications, technically or in any other manner whatsoever. There was nothing personal at the Coordinating Council regarding your appointment, sir. But the fact was that the only thing that you might say—use the word—irritated the New York City group at the Council was the fact that there was no man who could be said to be officially there through the State Society, as a representative of the State Society, representing all its members. That was the entire crux of the matter."

During a long discussion it was brought out that State Medical Society representatives were present by invitation at hearings held by the Joint Legislative Committee, while drafting the law, but that the Society had not been consulted in regard to the personnel of the Temporary Health Insurance Board. Dr. Louis H. Bauer stated: "It never occurred to me that this resolution or the wording of it would be interpreted by anybody as a slam against Dr. Norman Moore, because certainly nobody had that in mind, and if it is being so interpreted, then I think it should be changed so that it will eliminate any possibility of thinking we are not backing him up, because he is the only hope we have got on that commission at the present time.

"If this resolution as it is worded is causing embarrassment to Dr. Moore or is interfering with what we want to accomplish, then certainly I think it should be amended, and in any event I think it has to be worded so that we give him complete protection and backing, but I think personally it is high time that the Medical Society told these people—not only these people but everybody—that we are not going to continue to be shoved around, that we have got something to say about this. After all, you cannot run any medical care plan—I don't care what it is—unless you have doctors."

The Council *voted* that the secretary be authorized to edit the minutes.

After further discussion it *was voted* that the mail vote of the Council be rescinded.

It *was voted* to table the resolution.

It *was voted* that the Executive Committee redraft the resolution and present it to the Council.

Medical Care for Dependents of United States Military Personnel.—A schedule was distributed to those present comparing fees in many categories of Veterans Medical Care Plan of New York, Inc., United Medical Service (New York City) for subscribers having annual incomes not exceeding (*a*) $4,000 and (*b*) $6,000, and of Genesee Valley Medical Care Plan, Inc. (Rochester) with $6,000 ceiling.

Dr. John C. McClintock stated: "On June 7 President Eisenhower signed the Dependents Medical Care Bill, which becomes Public Law 569 and is effective December 8, 1956. It will provide for the medical care of dependents of armed forces personnel.

"Briefly, Dr. Merle Evans and myself and Mr. George Farrell represented this Society at a meeting called by the American Medical Association on July 28 and 29 in Chicago.

"I shall highlight this report and say that the Department of Defense had all of its big guns there connected with this matter. They estimate there are two million dependents, of which 40 per cent or about 800,000 will receive care in civilian facilities. In civilian facilities the care is in the hospital only. Sixty-three per cent of the military personnel have incomes under $3,300, including maximal allowances. Eighty-two per cent of all armed forces personnel are under the $4,300 income limit.

"Then we discussed the directives that are being drawn up by the Department of Defense to implement the law. The seventh version of this is now being rewritten. The American Medical Association has a liaison committee that is advisory to the Task Force of the Department of Defense, and it was our impression that the Department of Defense was coming to the medical profession to secure our help. Representatives of Blue Shield and representatives of the commercial insurance companies were present at these meetings.

"In conclusion Captain Noel, chairman of the Task Force for the Department of Defense, requested that all state and territorial medical societies notify the Department of Defense through Dr. Lull's office within thirty days or sooner if possible, but at the latest within forty-five days, whether their state society would participate and whether a home-town type of program was acceptable.

"We are requested to designate a fiscal agent and to create a fee schedule based on nomenclature to be provided by the Department of Defense. The fiscal agent is to act as the go-between from the Department of Defense to the physicians.

"Of ten states which answered the question at the time of the meeting, seven indicated that Blue Shield had already been selected as their fiscal agent. The agent has nothing to do whatsoever with setting up fees. It has nothing to do with the provisions of the law or the implementation of it. It simply acts on a cost-plus basis to collect the doctors' bills, pay the doctor and the hospital, and in turn send these to the Department of Defense for payment. So that we have at this time to designate a fiscal agent and also to establish or make provision for the creation of a fee schedule. We have not yet received the standard nomenclature from the Department of Defense.

"As far as the naming of the fiscal agent is concerned, it might be suggested that the best procedure would be to request the Third District of the national organization, of which Dr. Evans is the president, to call a meeting of the Blue Shield Plans in this State to accept the designation as the fiscal agent for the Medical Society of the State of New York. There are seven plans in this State. Whether or not they want to act independently as seven fiscal agents or whether they want to designate one of the plans as the chief fiscal agent, with the other subgroups, I should think could, perhaps, be decided by the Blue Shield itself if we determine the Blue Shield is to be our fiscal agent. We can be the fiscal agent, the Council of the State Society can be the fiscal agent, or we can select a commercial carrier. That is the number one thing we have to do.

"The second is to create some mechanism whereby, when the nomenclature comes from the Department of Defense, we can draw up a temporary fee schedule which the Department says can be revised at any time, and certainly should be revised at least annually, and which can be set up on a regional or State-wide basis.

"Mr. Farrell has drawn up a tentative fee schedule, and with your permission, Mr. President, may I have him indicate what it shows."

Dr. Greenough requested Dr. Anderton to read a resolution which was adopted by the House of Delegates at its last meeting. The resolution and Dr. Anderton's comment follow:

> "*Resolved*, that the Council of the Medical Society of the State of New York approve the principle of providing medical care for dependents of service personnel using civilian medical and hospital facilities wherever possible.

"That is part of the report of the Council, an annual report, which was reported favorably by the Reference Committee and which was then adopted by the House of Delegates.

> "and be it further
>
> "*Resolved*, that this care be provided through nonprofit insurance for which the service personnel pays a per cent of the premium cost; and be it further
>
> "*Resolved*, that a copy of this resolution be sent to the presidents of all component county medical societies in the State of New York and to the general manager of the American Medical Association.

"The crux is the resolved that Blue Cross and Blue Shield act as agents in providing this coverage."

Dr. McClintock stated that this was approval of a principle but that "now we are faced with a slightly different law." He continued: "One of the 'Resolves' provides that the service personnel pay a per cent of the premium cost. That ended up in the law that the dependent will pay $25 or $1.75 per day times the number of days in the hospital, whichever is the greater. It is not quite as our resolution, and this was in principle, but now we have to designate."

Mr. George P. Farrell reported: "I want to call to the attention of the Council that the home-town medical care plan has been based generally on the Veterans Administration fee schedule that has been accepted throughout the country as 'Catalogue Number 5' and which is under the fee schedule in use by the Veterans Administration in New York State. The Veterans Administration fee schedule in New York State is higher than the Veterans Administration schedule throughout the country generally.

"As Dr. McClintock indicated, we do not have the Department of Defense nomenclature. However, I have taken about 150 to 200 items that show what our present Veterans Administration schedule pays and have compared the United Medical Service $4,000 schedule. You will notice that it is very comparable. Then I used the two highest fee schedules, the United Medical Service $6,000 and the Rochester $6,000, to show you what the highest schedules are in New York State. However, I think we must gear our thinking to one basic principle, that we are preparing a schedule of allowances for patients who, in 62 per cent of the instances, could be medically indigent. That is important.

"I think this would be a safe statement, Dr. Greenough, in saying that the Veterans Administration schedule is comparable to the Albany schedule, comparable to the old Syracuse schedule, where they have a $4,000 level, and Dr. McClintock's plan, with a $4,500 schedule.

"There is one item that I think should be brought out very specifically, and I would like some guidance on it when we get our nomenclature. I want to point out that on Page 2, Item 2903, delivery in pregnancy, excluding cesarean, those fees are indemnity allowances in each one of the plans. Please keep in mind that this is a full service benefit schedule that the Veterans Administration is asking for. I also want to point out there is only one plan in New York State which does provide full service for obstetric delivery, and that is Jamestown with a $5,000 ceiling using a $90 full service fee. So if someone could give me guidance on what they might think is a reasonable fee to put in when we do get the nomenclature, it would be very helpful, because another factor is that this is for dependents of servicemen, and there will be a great deal of work dealing with surgery, delivery, among the majority of females.

"The last pages I want to speak about briefly. You will find no comparisons, for the reason that many of the plans do not provide these services. All I am showing this for is to show you what the present Veterans Administration schedule pays. We have tried to pick out the types of procedures which will be more frequent than others and give you a thumbnail sketch of how your schedule is going to shape up.

"Any suggestions I receive will be very helpful."

It *was voted* that the Medical Society of the State of New York request Blue Shield Plans to act as the fiscal agents of the Society; that the Medical Society of the State of New York notify the Department of Defense through Dr. Lull's office of the American Medical Association that it will participate in providing medical care to dependents of armed forces personnel; that the Medical Society of the State of New York agrees to participate in home-town medical care; that, if nomenclature is received from the Department of Defense, Mr. Farrell be empowered to draw up a fee schedule; and that the Executive Committee act on Mr. Farrell's temporary fee schedule, with emphasis on its temporary nature.

MINUTES OF THE COUNCIL

The following is a summary of the minutes of the September, 1956, meeting of the Council of the Medical Society of the State of New York, as approved Oct. 11, 1956.

THE Council met September 13, 1956, from 9:15 A.M. to 12:10 P.M. at the Manhattan Club, New York City. Dr. James Greenough, president, occupied the chair.

Secretary's Report

Dues Remission.—The Council voted to remit annual State dues of one member for 1955 and 18 members for 1956 because of illness, of one member for 1956 because of financial hardship, and of two members for 1955 and 40 members for 1956 because of temporary service in the armed forces. It was also voted to request remission of American Medical Association dues of one member for 1955, 39 members for 1956, and one member for 1957.

Executive Committee.—Dr. Anderton reported: "The Executive Committee considered the proposed regulations by the Commissioner of Motor Vehicles to restrict the use of 'MD' license plates to registered practicing doctors of medicine and to provide for the issuance of only one plate to each, as well as a proposed form to be signed and submitted by each physician applying for an 'MD' license plate.

"The committee recommends that these regulations be approved, that Mr. Kelly, Commissioner of Motor Vehicles, be so notified, and that the regulations be published in the NEW YORK STATE JOURNAL OF MEDICINE."

It *was so voted.*

General.—The secretary's report continued: "Gentle reminder: annual committee reports are due at headquarters by February 15, 1957, in order to be processed and published in the April 1 JOURNAL. Each subcommittee reports through the chairman of its parent committee.

"Since your June meeting, as authorized by you, President Greenough has made the following appointments: Committee to Combat Cults—Drs. Henry I. Fineberg (chairman), Floyd S. Winslow, Theodore J. Curphey, and advisers, Dr. Harold B. Smith, Mr. Frederick W. Miebach, and yours truly; Committee on Rural Medical Service—Dr. Bert Ellenbogen, adviser, New York State Agricultural College, Ithaca; Special Committee to Confer with New York State Health Department Regarding Standards and Licensing of Blood Banks—Dr. Lester Unger.

"Dr. Ada Chree Reid, executive officer of Physicians' Home, and her secretary moved into our space on the sixth floor on July 9. In accordance with your instructions, I conferred with Dr. Chas. Gordon Heyd, chairman of the Board of Trustees of Physicians' Home. Reimbursement to our Society has been accepted in principle. When Dr. Heyd returns from Europe, details will be reported.

"On July 24, 1956, 22,813 letters of explanation, each with postal card for vote, in accordance with directions from the House of Delegates, were mailed. A total of 9,563 votes were received against compulsory membership in the American Medical Association for active members of our Society; 4,450 votes were received in favor. We considered as not voting the 16 who so requested. We also did not count as voting 11 who did so with qualifications and 37 postals without signatures.

"Through clerical error the following resolution, referred by the House of Delegates, was not submitted to the Council in June:

> WHEREAS, the recommendations of the Second Hoover Commission as they pertain to Federal medical services meet with the approval of the medical profession; and
>
> WHEREAS, numerous bills have been introduced to implement the recommendations of the Hoover Commission, but there has been a notable absence of legislative activity on the recommendations of the Commission pertaining to Federal Medical Services; now therefore be it hereby
>
> *Resolved*, that the Medical Society of the State of New York support measures to implement these recommendations and urge enactment into law of the purpose and aims of this report of the Hoover Commission as it pertains to Federal medical services.

"The Executive Committee recommended that this be referred to the Committee on Legislation."

It *was so voted.*

"Dr. W. Guernsey Frey, Jr's., membership on the Joint Commission in New York State for Improvement of Care of the Patient, as one of the representatives of our Society, terminates this month. Dr. Frey has been an interested, active member of this commission and would not be averse to your nomination for an additional term of three years.

"The Executive Committee recommended that Dr. Frey be nominated to succeed himself."

Approval *was voted.*

"Through Mr. Robert C. Killough, Jr., Assistant Commissioner for Professional Education, the Board of Regents of the New York State Department of Education has requested that our Society submit the names of three candidates for its Medical Committee on Grievances, one to be selected to replace the late Dr. Frank E. Mallon, an ophthalmologist, of Brooklyn. Your secretary takes the liberty to suggest that the Council vote to recommend to the Board of Regents, Dr. James I. Farrell of Utica, Dr. William T. Boland of Elmira, and Dr. Harold H. Joy of Syracuse, all ophthalmologists.

"Mr. Killough also requested recommendation of two other physicians, one of whom would be a possible appointee in place of Dr. James C. Potter of Rochester, although Dr. Potter will probably be selected for a second five-year membership on the Medical Committee on Grievances. May I suggest that the Council advocate the names of Dr. MacNaughton Wilkinson and Dr. Eugene R. Duggan, obstetrician-gynecologists, of Rochester.

"The Executive Committee recommended that these names be submitted."

The Council *voted* approval.

"We have also been requested to send names for selection of a member of the State Board of Medical Examiners, to replace Dr. Ade T. Milhorat, whose third term as examiner in biochemistry will end this year. After considerable correspondence your secretary takes the liberty to suggest that you recommend Dr. Irving M. London, professor of medicine, Albert Einstein College of Medicine, Bronx; Dr. Howard A. Eder, associate professor of medicine, State University of New York College of Medicine at New York City; Dr. Joseph W. Jailer, associate professor of clinical medicine, Columbia University, New York City; and Dr. Robert W. Raymond, assistant clinical professor of medicine, Albany Medical College. Your approval of these suggestions would replace Dr. Morris Ziff, who declined your June nomination and would substitute the names of Drs. London and Raymond.

"The Executive Committee recommends approval of these suggested nominations with the exception of that of Dr. Irving M. London, who has declined since the secretary's report was written."

The Council *voted* approval.

Dr. Anderton continued: "There were two matters referred to the Executive Committee by the Council at its special meeting in August:

"1. Resolution regarding consultation of this Society by the Temporary Health Insurance Board ('any body whatsoever undertaking to provide a program for medical care through the use of numerous physicians' services over a State-wide area'). The committee submits for approval by the Council a revised resolution, which has been distributed."

Dr. Greenough stated: "The resolution discussed at the special meeting of the Council on August 21, was tabled. Therefore, if another one is to be substituted, the previous one should be removed from the table."

It *was voted* to remove the resolution from the table.

The revised resolution was read by Dr. Anderton.

> Whereas, the responsibility for preventive and therapeutic medical care for the people of New York State must eventually devolve upon the licensed physicians of the State; and
>
> Whereas, the Medical Society of the State of New York, with its more than 24,000 members, is the recognized representative of the medical profession of the State; and
>
> Whereas, the Medical Society of the State of New York is ready at all times, as stated in Article I of its Constitution, "to promote the betterment of public health; and to enlighten and direct public opinion in regard to the problems of medicine and health for the best interests of the people of the State"; and
>
> Whereas, there is no other group so well qualified to give advice on problems incident to the provision of medical care as the medical profession; and
>
> Whereas, recently doctors of medicine have been appointed to a Special Board in the State Government without consultation with the Medical Society of the State of New York; therefore be it
>
> *Resolved*, that the Medical Society of the State of New York pledges its continued full support to the cause of the best medical care for the people of the State of New York; and be it further
>
> *Resolved*, that the Medical Society of the State of New York requests that it be officially consulted before any final decisions are reached by any body whatsoever undertaking by law, regulation, or agreement to alter or modify present laws, regulations, or agreements covering medical care over a State-wide area; and be it further
>
> *Resolved*, that this resolution be sent to the Governor of the State of New York, to the members of the Legislature of the State of New York, to any other body known to be planning such action, and to the county medical societies.

After discussion it *was voted* to amend the resolution by adding the third resolve in the original resolution, which reads: "*Resolved*, that when such a program for medical care is limited to a local area, the county medical society or societies concerned should be consulted," this paragraph to be inserted before the last "Resolved."

Dr. Freedman moved and Dr. Wolff seconded an amendment to include a "Resolved," which was in the original resolution and had been deleted: "*Resolved*, that the Medical Society of the State of New York go on record that it will not be a party to agreements binding on physicians and arrived at without their knowledge and consent and that it will advise its members not to participate in any medical care plan based on such type agreements."

After discussion the amendment was put to a vote and *was lost* with Dr. Freedman and Dr. Wolff voting in the affirmative.

Dr. Anderton read the following telegram from the Coordinating Council:

> At a meeting of the Coordinating Council held September 11, 1956, a motion was passed urging the Council of the Medical Society of the State of New York to approve and implement the resolution introduced at the special meeting of the latter body, concerned with the Temporary Health Insurance Board of the New York State Civil Service Commission. It was felt that the matter should preferably be handled at the State level but that it would be pursued by the Coordinating Council if positive action were not taken by the State Society.
>
> Charles F. McCarty, M.D., *Secretary*

Dr. Anderton stated: "I move approval of the secretary's report, as amended in the report of the Executive Committee."

Approval *was voted.*

The Treasurer's report was accepted.

Reports of Committees

Blood Banks Commission.—Dr. Thurman B. Givan, chairman, reported: "The Commission held its last meeting on June 7, 1956. The action of the 1956 House of Delegates in connection with the Blood Banks Association was discussed, particularly limiting further deficit for 1956 not to exceed $15,000. As of April 30, 1956, the Society had loaned the Association $85,000, and it would seem, therefore, that no more than $100,000 should be advanced through the end of this year.

"Dr. Greenough reviewed the progress that he had made toward licensing intrastate blood banks by the State Health Department. At a meeting on May 9, 1956, with Dr. Clemmer, Dr. Curphey, Dr. Greenough, and Dr. Miller, who represented the State Health Department, a nine-point plan prepared by Dr. Greenough was approved, and it was agreed that a committee should be appointed to continue negotiations with the State Health Department to initiate the program. The aim would be to continue working with the State Health Department in order to arrive at a method of inspecting and approving blood banks. It would give particular attention to the standards of the State Health Department and the National Institute of Health as well as rules for transfer of blood and standardization of laboratory fees.

"It was understood that in the event a workable inspection program was proposed, it would be carried on by the State Health Department and that any certificate of approval issued would not carry the name of the Blood Banks Association.

"The Association had been without the services of an executive director since February of this year. During the summer candidates for the position were interviewed by Dr. Herbert Berger, president. The result was that Miss Evelyn P. Clarke was employed on August 20, 1956. Miss Clarke is a graduate of Connecticut College and has been employed by the New York School of Social Work, National Association for Mental Health, and the United Hospital Fund of New York. In her work with these organizations she has had contact with the public, and she has done much the same kind of work that she will be doing for the Association.

"When our last meeting was held, we had had no information from the State Insurance Department as to whether our donor program was in fact insurance. Under the date of June 11, 1956, Mr. William F. Martin received a communication from the State Insurance Department which reads as follows:

> Dear Mr. Martin:
>
> This will confirm the advices given to you in our telephone conversation of May 25. At that time I informed you that Deputy Superintendent and Counsel Harris had completed his study of the proposed changes in the method of operations of the Blood Banks program as well as the new proposed underlying agreements with subscribers.
>
> On the basis of such study Mr. Harris has concluded that the program as revised is not insurance within the meaning of Section 41 of the Insurance Law.
>
> I regret that the pressure of travel incident to Department business has prevented earlier confirmation. I ask your indulgence in the delay.
>
> Yours very truly,
> William C. Gould, *Chief of the Property Bureau*

"Having received this letter, the Association felt that it could proceed with its program, and the executive director has already commenced. It is hoped that definite information can be given to the Council in October.

"With regard to the finances of the Association, I believe that a comparison of this year through the end of August with the same period last year is worthy of note. "Last year our income for eight months was approximately $7,000; this year $12,000. "Expenses for last year $44,000; this year $19,000. "Net loss last year, approximately $37,000; net loss this year approximately $6,700.

"In other words, we have been averaging a monthly loss of $850 this year. This figure may increase over the next few months because of the additional expense involved in the employment of an executive director. It is to be hoped, however, that in the long run this additional expenditure will more than repay the Association through income."

Dr. J. Stanley Kenney supplemented the report as follows: "May I say for the information of the Council that I came back a week ago from the American Association of Blood Banks annual meeting in Boston, which was attended by Dr. Geiger and by the new director of our Blood Banks Association, and I can tell you that definite steps have been taken to initiate the regional clearing house. A meeting was held with seven blood banks from seven New England and Middle Atlantic states. We were fortunate that during the week before last we had the assistance of Mrs. Hemphill, of California, who spent three days with the new director in New York City, setting up the mechanism for the regional clearing house."

It *was voted* to accept the report.

Constitution and Bylaws.—Dr. Frederick W. Williams, chairman, reported: "The County of Monroe has submitted several amendments to its constitution. These were reviewed by the secretary, by the counsel, and the committee. Therefore, I move that the Council approve these amendments to the Monroe County constitution."

Approval *was voted.*

Economics.—Dr. John C. McClintock, chairman, presented the following report:

Mr. George P. Farrell, director of the Bureau of Medical Care Insurance, attended the Fourth Annual National Medical Civil Defense Conference at the Morrison Hotel, Chicago, June 9, 1956; and at the Palmer House, Chicago, Conference of Presidents and Other Officers of State Medical Associations, June 10, 1956; American Medical Association House of Delegates, June 11 to 14, 1956; and the Medical Executives Conference, June 11, 1956.

Mr. Farrell also attended, with me, the conference held July 28 and 29, 1956, called by Dr. Edwin S. Hamilton, chairman of the A.M.A. Task Force on Dependent Medical Care, to discuss the implementation of Public Law 569. Dr. Hamilton pointed out that the bill was signed June 7, 1956, and would become effective and in operation December 8, 1956.

Captain J. V. Noel, Jr., USN, chairman of the Task Force on Dependent Medical Care of the Department of Defense, pointed out that there are approximately two million dependents of men in military personnel, and it is estimated that 800,000 would have to be treated and cared for in civilian facilities. Captain Noel stated that 63 per cent of military personnel have incomes under $3,300 and 82 per cent under $4,300, these figures including base pay and all maximum possible allowances, and that the remaining 18 per cent earn less than $7,000 per annum.

It is planned that the following medical care will be made available through civilian facilities for dependents of active duty personnel who do not have access to service medical facilities:

1. Hospitalization in semiprivate accommodations up to three hundred and sixty-five days for each admission, including all necessary services and supplies furnished by the hospital during inpatient confinement.
2. Medical and surgical care incident to a period of hospitalization.
3. Complete obstetric and maternity service, including prenatal and postnatal care.
4. Required services of a physician or surgeon before and after hospitalization for a bodily injury or for a surgical operation.
5. Diagnostic tests and procedures, including laboratory and x-ray examinations, accomplished or recommended by a physician incident to hospitalization.

Mr. Farrell was appointed technical consultant to a special advisory committee to work with Dr. Hussey, chairman of the working committee of the Board of Trustees of the American Medical Association, in relation to the dependent medical care plan with the Department of Defense Task Force.

Two steps will be necessary to implement this program: (1) the submission of a schedule of allowances to the Department of Defense for use with a nomenclature developed by the Department (Mr. Farrell anticipates this fee schedule will be completed before the Council meeting) and (2) the signing of a formal contract between the Department and the state societies.

It is recommended by the legal counsel of the American Medical Association that the state society be the primary contractor and that the state society appoint one fiscal agent whose function will be to process claims and reimburse the doctors for services rendered to dependents of servicemen. It was also felt that arbitration procedures might be necessary regarding disputed or unusual claims and matters of policy. Therefore, the state medical society should have full authority and jurisdiction over these matters. It was felt by the technical advisors to the Hussey Committee that the American Medical Association should establish a permanent liaison committee with the Department of Defense where matters of policy are to be determined.

It has been pointed out by Dr. Ernest B. Howard, assistant secretary of the American Medical Association, that the Department of Defense prefers if possible that one schedule of allowances be developed for an entire state.

(*The quarterly progress report of the Bureau is filed in the secretary's record.*)

Dr. McClintock also presented the following supplementary reports: "Mr. Farrell attended a joint meeting of Blue Cross and Blue Shield Plans September 6, 1956, in Rochester, when Dr. Merle D. Evans, chairman of District III of Blue Shield Plans, discussed these plans acting as fiscal agents on a cost-plus basis in connection with the proposed home-town medical services for dependents of personnel in the armed forces, as requested by the Medical Society of the State of New York. It was the consensus of the plans to accept the request, but in most instances these plans have not had an occasion to act on this proposal in a formal manner; therefore, the acceptance is unofficial.

"The board of trustees of the Hospital Association of New York State, Inc., has adopted a resolution which has been transmitted to the State's Temporary Health Insurance Board of the Civil Service Commission. This was done because the association was concerned about the possibility of the loss of State employes and their dependents to commercial carriers and the effect it would have on Blue Cross and Blue Shield."

The Hospital Association's resolution follows:

> WHEREAS, it has come to the attention of the Hospital Association of New York State that, as provided in the laws of 1956, the Temporary Health Insurance Board is now concerned with the development of policy and specifications of a health insurance program which will provide group hospitalization, surgical and medical insurance for the employes of the State of New York and their dependents; and
>
> WHEREAS, the Hospital Association of New York is a nonprofit corporation incorporated under the Membership Corporations Law of the State and is representative of 305 voluntary and public nonprofit hospitals in the State providing 95 per cent of all such general and allied special hospital beds and facilities; and
>
> WHEREAS, voluntary and public nonprofit hospitals are convinced after twenty years experience that full service benefits as provided by nonprofit Blue Cross Plans in cooperation with nonprofit hospitals offer the greatest protection to the entire community at lowest possible cost for comprehensive quality care; and
>
> WHEREAS, the nonprofit Blue Cross Plans are an arm of our member hospitals and act as the logical intermediary serving the entire community on the one hand and the hospitals on the other; and
>
> WHEREAS, hospitals, in the interest of the community, are the founders and sponsors of Blue Cross and recognize it as their official hospital prepayment plan, designed specifically to serve all groups in the community; and
>
> WHEREAS, 8,700,000 residents of the State of New York have embraced the benefits and philosophy which are uniquely inherent in this community endeavor; now, therefore, be it
>
> *Resolved*, that the Hospital Association of New York State strongly and respectfully urges the Temporary Health Insurance Board that in the development of specifications for group hospitalization for

the employes of the State of New York and their dependents it be guided by the provisions of the uniform contract of service benefits offered by the Blue Cross Plans of the State of New York which is fully endorsed, in the public interest, by the Hospital Association of New York State which is representative of those institutions which will provide the necessary hospital service.

Dr. McClintock said, "Therefore, I recommend a similar resolution to the Council for adoption, to be forwarded to the State's Temporary Health Insurance Board members."

After discussion it *was voted* to adopt for the State Medical Society the following resolution:

WHEREAS, it has come to the attention of the Medical Society of the State of New York that as provided by law, the Temporary Health Insurance Board is now concerned with the development of policy and specifications of a health insurance program which will provide group surgical and medical insurance for the employes of the State of New York and their dependents; and

WHEREAS, no plan of surgical and medical care can be implemented without the services of physicians; and

WHEREAS, the Medical Society of the State of New York is the recognized representative of the organized medical profession of the State; and

WHEREAS, the doctors, in the interest of their respective communities, are the founders and sponsors of Blue Shield and recognize it as their official surgical-medical prepayment plan, designed specifically to serve all groups in the State; and

WHEREAS, the medical profession is convinced after seventeen years experience that benefits as provided by nonprofit Blue Shield Plans in cooperation with physicians offer the greatest protection to the entire community at the lowest possible cost for comprehensive quality care; and

WHEREAS, over 40,000 employes of the State of New York have enthusiastically endorsed the benefits and philosophy which are uniquely inherent in this community endeavor by subscribing to Blue Shield through payroll deduction; now, therefore, be it

Resolved, that the Medical Society of the State of New York pledge its continued full support to the cause of the best surgical-medical care for the people of the State of New York; and be it further

Resolved, that the Medical Society of the State of New York strongly and respectfully urges the Temporary Health Insurance Board that in the development of specifications for prepayment surgical-medical care coverage for the employes of the State of New York and their dependents it be guided by the coverages offered by the Blue Shield Plans of the State of New York, including free choice of physicians, as fully endorsed by the Medical Society of the State of New York.

The supplementary report continued: "The Genesee Valley Medical Care Plan, Inc., Rochester, requests to use on a poster the name of the Medical Society of the State of New York, as the Council allowed United Medical Service to do in February, 1955. I move to extend this privilege to any Blue Shield Plan in New York State which is approved by the Medical Society of the State of New York."

Approval *was voted.*

"I wish to report that the Western New York Medical Plan, Inc., Buffalo, has informed me that they are in the process of amending their bylaws so that component county medical societies in the area will elect their representative members to the board of trustees. Dr. John Kinzly, president, informs me that these changes will be presented at their board meeting September 27, 1956, and I move that this Council take no action until after that date."

It *was so voted.*

"We have received a nomenclature for proposed medical care fees from the office of Captain J. V. Noel, Jr., chairman, Dependents Medical Care Task Group of the Department of Defense. This nomenclature is to be submitted, with fee schedule, to the Department of Defense by October 1, 1956. Mr. Farrell has completed a schedule of fees according to the nomenclature and has reviewed it with Dr. David Fertig, member of the Council Committee on Economics, Dr. Carl Ackerman, chairman of the Subcommittee on Medical Expense Insurance, and myself. In attempting to arrive at a fair and reasonable schedule, all plan schedules in New York State offering service benefits were taken into consideration, also Workmen's Compensation Law, the present Veterans Administration hometown plan schedule, and the relative value schedule adopted by the California Medical Association. The schedule was compiled to accommodate a $5,000 income ceiling level program.

"Mr. President and members of the Council, events are changing so swiftly in the implementation of Public Law 569 that we have to modify some of the actions we have already taken, and there will undoubtedly be further modifications as the program develops.

"I would like to call your attention first to the paragraph of the Economic Report stating it is recommended by legal counsel of the American Medical Association that the state society be the primary contractor and that the state society appoint one fiscal agent whose function will be to process claims and reimburse the doctors for services to dependents of servicemen. In view of this recommendation stemming from the Legal Department of the American Medical Association, I would like to recommend, sir, that the Medical Society of the State of New York be the primary contractor for New York State with the Department of Defense for the provision of medical care to dependents of personnel in the armed forces under Public Law 569."

After discussion it *was voted* to adopt this portion of the report.

Dr. McClintock referred to portions of his report and supplementary report relating to a request of the Department of Defense that a State-wide fee schedule for medical care to dependents of military personnel be submitted to the Department by October 1, nomenclature for the schedule having been received on September 4. He stated: "I would like to propose to the Council that permission be granted to submit a temporary fee schedule as required by October 1, but that the final fee schedule be circular-

[Continued on page 3448]

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[Continued from page 3546]

ized to each member of the Council with the request that they approve, subtract, add, change, modify, and return to the office of the secretary, so that the final fee schedule may be voted upon by this Council at the October meeting. We will have to inform the Department of Defense that we cannot meet the October 1 date. This is in the form of a recommendation, and I move the adoption of this part of the report."

It *was voted* to adopt this portion of the report.

Dr. Greenough read the following telegram:

> Please present before the Council in its meeting on Thursday, September 13th, the following resolution from the Medical Society of the County of Monroe: "Resolved that the Council of Medical Society of the State of New York be asked to consider the opinions of the component county medical societies with regard to the proposed fee schedule applicable to the new dependents' medical care law; and that the schedule be regionalized on the existing fees prevalent in the respective Blue Cross-Blue Shield Plan areas throughout the State; further that this request be publicized to all of the component county societies; and lastly before the Council take final action on this matter that all component county societies be consulted."
>
> Lynn Rumbold, M.D., *President*
> Monroe County Medical Society

It *was voted* that a copy of this telegram be sent to each Council member with the proposed final fee schedule, and the report as a whole was adopted.

U.S. Veterans Administration, Subcommittee on Liaison with.—Dr. Herbert H. Bauckus, a member of the subcommittee, reported as president of the Veterans Medical Service Plan of New York, Inc. He stated that some items mentioned in his report had been received only a few days previously and had consequently not been reported to Dr. McClintock, chairman of the Economics Committee. He suggested that if the State Society enters into a contract with the Department of Defense for care of dependents of service personnel, it might be advisable to make a similar contract with the Veterans Administration and eliminate the Veterans Medical Service Plan of New York. He reminded the Council of complaints that workmen's compensation cases were being treated in Veterans Administration hospitals and advised that the legal necessity for such admissions be investigated. He reported that medical service rendered to veterans under the plan in the Syracuse area in 1956 had amounted, in fees, to $141,893, showing that some veteran patients still need home-town care. He expressed dislike for remaining a member of the board of directors because of its apparently self-perpetuating nature since 1946. He quoted letters from the Chief Medical Officer in the Syracuse area to doctors in that area expressing the desire of the Veterans Administration Regional Office to have prescriptions sent to their pharmacy. Dr. Bauckus transmitted information from the coordinator in that area regarding the number of tranquilizing drugs that are used and the decrease in the number and dollar value of prescriptions filled by local drug stores. Recalling difficulties which had arisen in the past regarding druggists' bills for filling prescriptions issued by physicians after their authorizations had expired, Dr. Bauckus stated a policy had been established of paying for filling all prescriptions issued in good faith. He recommended taking no action on the question of sending prescriptions to the Veterans Administration pharmacy until complaints are received from the Pharmaceutical Association, and he asked for Dr. McClintock's suggestions on that situation.

Dr. McClintock stated: "The subcommittee has only been placed under the Economics Committee during the summer recess, and I have not had time yet to consider this."

Ethics.—Dr. Harold F. Brown, chairman, read correspondence from the Nassau County Medical Society relating to the possibility that a hospital in that county had been purchased by a group of osteopathic physicians and inquiring whether or not it would be ethical for doctors of medicine to continue treating their patients there. The county society also inquired whether an anesthesiologist should administer anesthesia for an osteopath.

The opinion of the committee on these questions was divided, and it was felt that further information should be secured before recommending a ruling.

After discussion it *was voted* to refer both letters back to the committee.

Hospital and Professional Relations.—Dr. John F. Rogers, chairman, reported progress.

Industrial Health.—Dr. Peter J. Di Natale, chairman, stated: "May I be given the privilege of speaking for one minute personally? I would be remiss I think if I did not express my sincere thanks with all due humility for the kind words that were said about me at a meeting of the Council when the appointment of the directorship of the combined industrial and workmen's compensation bureaus was talked about.

"I regret certain eventualities that have come to pass that have prevented me from carrying on what I had hoped I could do for the State Society. However, I would not let this opportunity pass without thanking the many friends in this Council for their kind words.

"Briefly, to bring us up to date on this problem, some time late in July I heard from Dr. Greenough about a letter that he was proposing to send to several men interested in industrial medical practice. One was to Dr. Draper, executive medical director of the United Mine Workers Association, and the other was to Dr. B. Dixon Holland, the newly selected secretary of the Council of Industrial Health of the American Medical Association. Letters were sent to those individuals telling them of our problem, and we have received replies that were not much help. Your chairman suggested a copy of the letter be sent to about 20 other men interested in industrial medicine, who I thought were leaders, and we have had some recommendations. It is my hope and desire that by the next meeting of the Council a name can be presented for your consideration for the directorship of this new bureau."

[Continued on page 3550]

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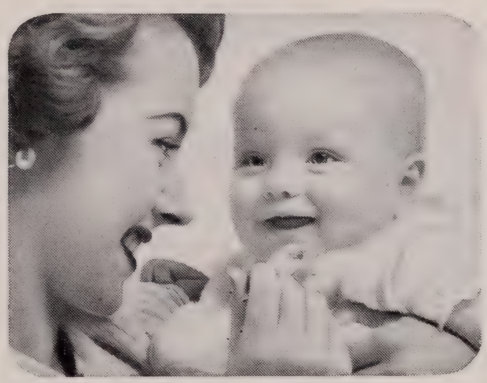

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[Continued from page 3548]

Legislation.—Dr. Henry I. Fineberg, chairman, presented the following report:

No meetings were held during the summer.

Your chairman has been in contact with the four other members of the committee, the two advisers (one from the State Department of Health and the other from the State Education Department) and the 11 members of the Advisory Subcommittee.

Each of them has been apprised of those matters which were directed to the attention of the committee by the House of Delegates:

1. We should renew our struggles for the enactment of an Injunction Bill. (This is also being considered by the Committee to Combat Cults.)
2. Legislation concerned with the practice of medicine by hospitals should be reviewed and reevaluated after the Iowa case has been finally settled in the higher courts. In the meantime we should have reintroduced in the 1957 Legislature the so-called Friedman and Pino bills and "actively work for their passage."
3. We should study a resolution regarding the "taking of blood for alcoholic testing." This was referred for proper action on account of alleged liability of any physician who takes blood without consent of the patient or with the consent of the patient who is not mentally normal. The counsel of the Society should be called in consultation by our committee regarding this matter.
4. We should strongly support legislation "to abolish the Medical Practice Committee (Workmen's Compensation) and restore to counties having a population of one million or over those functions which all other counties in the State carry out."
5. We should have reintroduced these amendments to the Workmen's Compensation Law: (*a*) to make decisions of the Medical Appeals Unit binding on the Workmen's Compensation Board chairman, and (*b*) to provide for the establishment of panels of expert consultants.
6. We should again strive for an amendment to the autopsy law. Dr. John V. Connorton, executive director of the Greater New York Hospital Association, has stated that his organization will work with us. Your chairman has recently written to the president of the New York Board of Rabbis, asking for his opinion about the performance of autopsies and whether this procedure is contrary to the precepts of Judaism.

Other problems that your committee will discuss are the licensing of chiropractors and the ophthalmologic medical technician bill.

It is the feeling of your chairman and others that we should concentrate on those bills which have a chance of passing and not waste too much time and energy on the proposals which will, in all likelihood, be "thrown out the window."

A meeting of the Council Committee on Legislation will be held on September 24 in New York City.

Last December a subcommittee was appointed to study the problem of the procurement of cadavers for medical schools. A very fine report has been submitted to us. It will also be examined at the next meeting of the committee.

In accordance with the precedent set several years ago, your executive officer and chairman expect to visit several areas of the State in order to meet county legislation chairmen.

Contrary to our procedure of last year we have not been in touch with the legislators. Very little can be accomplished until after the elections in November. There will undoubtedly be some changes in the Assembly and Senate.

Your committee cooperated with the American Medical Association in opposing H.R. 7225. Senators Ives and Lehman were approached. When the bill finally passed both houses, we asked the President to veto it. It was signed on August 1. Attached to this report is a copy of a communication from the Special Counsel to President Eisenhower.

Dr. Anderton and your chairman have been invited to attend a meeting at the New York Office of the State Education Department on September 22 in order to discuss the certification of psychologists (this law was passed at the last session of the Legislature and signed by the Governor). Representatives from the Psychological Association will also be present.

The White House

Statement by the President

I have today signed H.R. 7225, the Social Security Amendments of 1956. The new law embraces a wide range of changes in old-age and survivors insurance, the public assistance programs, and child welfare services.

This Administration's strong support of the social security program was demonstrated by the broad expansion and improvements enacted in 1954 at my recommendation. The 1954 amendments, which extended coverage of the program to millions of additional persons and included higher benefits for all who were then or who would become beneficiaries, have had a major impact in bringing greater security to our people.

The new law also contains certain major provisions which were recommended by the Administration. It extends social security coverage to about 600,000 additional farm owners or operators and about 225,000 self-employed lawyers, dentists, and others.

It provides for increased Federal funds to encourage better medical care for the needy, aged, blind, disabled, and dependent children. This will help meet a critical problem for these groups.

Another Administration proposal placed increased emphasis, in public assistance programs, on services to help more needy people build toward independence. The law initiates new program of grants to train more skilled social workers and to support research in ways of helping people overcome dependency Another Administration proposal will increase funds for child welfare services.

The law also includes provisions about which the Administration had serious reservations in their initial form; these provisions were modified and improved before their final enactment and now meet, in part, some of the Administration's objections.

The original proposal to lower the retirement age for all women was changed to provide that employed women and wives may accept reduced benefits at an earlier age or obtain full benefits at age sixty-five. I am hopeful that this provision will now have no adverse effect on employment opportunities for older

[Continued on page 3552]

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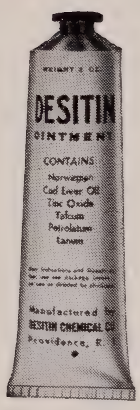
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1. Overall, J. C.: Southern M. J. 47:789, 1954. 2. Editorial: New England J. M. 246:111, 1952.
3. Grayzel, H. G., Heimer, C. B., and Grayzel R. W.: New York St. J. M. 53:2233, 1953.
4. Heimer, C. B., Grayzel, H. G., and Kramer, B.: Archives of Pediatrics 68:382, 1951.
5. Behrman, H. T., Combes, F. C., Bobroff, A., and Leviticus, R.: Ind. Med. & Surg. 18:512, 1949.
6. Turell, R.: New York St. J. M. 50:2282, 1950.

[Continued from page 3550]

women. The law allows full benefits at age sixty-two for widows because of their special needs.

Congress also modified somewhat the original proposal to provide disability benefits at age fifty or above. A separate trust fund was established for the disability program in an effort to minimize the effects of the special problems in this field on the other parts of the program—retirement and survivors' protection. We will, of course, endeavor to administer the disability provisions efficiently and effectively, in cooperation with the States. I also pledge increasing emphasis on efforts to help rehabilitate the disabled so that they may return to useful employment.

The original proposal would have imposed a 25 per cent increase in social security taxes on everyone covered by the system. I am pleased that the tax increase has now been cut in half. Our actuaries report that while they cannot estimate costs of the disability program with certainty, the tax increase should be adequate to finance the benefits, assuming effective administration.

Although there were differences of opinion over separate provisions, the final legislation was approved overwhelmingly by Congress. In signing this legislation, I am hopeful that this new law, on the whole, will advance the economic security of the American people.

It *was voted* to approve the report.

Dr. Fineberg continued: "Also you have before you a reprinted article from the *Reader's Digest*, "The Truth About Autopsies." We expect to send a copy of it to every member of the Legislature after the elections.

Committee to Combat Cults.—Dr. Henry I. Fineberg, chairman, stated: "The Committee to Combat Cults met in the office of the State Medical Society on September 12 at 2 P.M. Present were Drs. James Greenough, Floyd S. Winslow, Theodore J. Curphey, Harold B. Smith, Henry I. Fineberg, chairman, and Mr. Frederick W. Miebach; by invitation Mr. James J. Beasley and Dr. I. Jay Brightman, executive director, New York State Interdepartmental Health Resources Board.

"The Interdepartmental Health Resources Board has been organized to replace the New York State Interdepartmental Health Council and Mental Health Commission.

"Its function is to consider any problem which concerns more than one department. At present it has under study mental retardation in children, alcoholism, the aging population.

"A short time ago Dr. Brightman notified your chairman that the Governor's office has asked the Board 'to look into the problem of the licensing of the chiropractic profession.' It was for this reason that he was invited to attend this meeting.

"The members of the Board are as follows: James E. Allen, Commissioner of Education; John J. Bourke, M.D., director, Joint Hospital Survey and Planning Commission; Herman E. Hilleboe, M.D., Commissioner of Health; Paul H. Hoch, M.D., Commissioner of Mental Hygiene; Raymond W. Houston, Commissioner of Social Welfare; Isador Lubin, Industrial Commissioner; Lee B. Mailler, chairman, Board of Parole; Thomas J. McHugh, Commissioner of Correction; Angela R. Parisi, chairman, Workmen's Compensation Board.

"The committee was apprised of the following matters: The Council at its June 7 meeting 'voted that the Legislation Committee and the Committee to Combat Cults should promulgate plans long before the opening of the State Legislature in 1957.'

"A report to the chiropractic 'profession' by the Chiropractic Guild of New York, Inc., reviews the history of their past battles to pass licensure laws, their deliberations with the Board of Regents and other bodies, and Mr. Javits' memoranda to the Governor.

"The following action is planned by the Guild:

" '1. To advise the State athorities that a chiropractic bill corresponding to the 1953 bill will be introduced at the next session of the Legislature.

" '2. To arrange now for influential sponsors and begin immediately to plan a 1957 legislative campaign.

" '3. To call a special convention of the Guild for the purpose of (*a*) removing the present restriction of 250 on regular memberships, and substituting therefor a 400 limitation; (*b*) eliminating the $100 initiation fee, substituting other requirements such as will still limit admittances to qualified chiropractors; (*c*) adopting a special reduced dues schedule for new practitioners and those returning from military services.'

"The Interdepartmental Health Resources Board will hold a meeting on September 25, at which time it will start its consideration of the Governor's request, noted above, and blueprint its course as far as this project is concerned.

"The licensing of chiropractors has become an important issue in one of the State senatorial races in Nassau County. The incumbent (Republican) is unalterably opposed to chiropractics, whereas his adversary (Democrat) has reportedly declared that he is running on a platform which includes licensing them and that, if elected, he will introduce a bill to that effect. A committee of chiropractors is being formed to sponsor his election. This pattern may well be followed in other communities.

"After considerable discussion of the above informative material, the committee decided to present this plan of action for your approval.

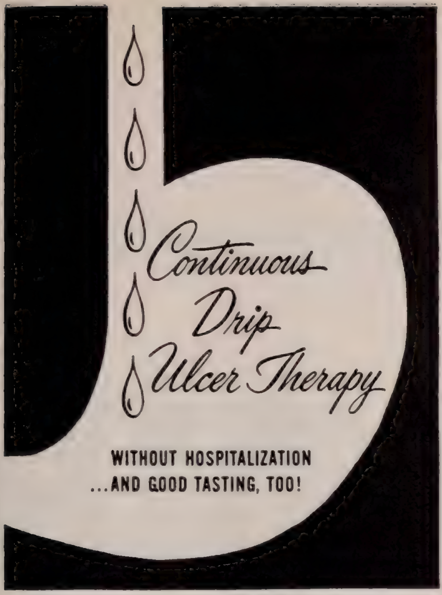
"I. We reiterate our stand that chiropractic is quackery; that we cannot be a party to any program that will license chiropractors and give them the stature to which they are, by the widest stretch of the imagination, not entitled; that we cannot compromise with charlatanism; that we will not sponsor or support any amended or so-called 'strong' bill—no matter how many restrictions and limitations are included. We refuse to recognize that chiropractic is anything but cultism.

'Should chiropractic licensing legislation pass at some time in the future—and we hope that this will never happen—no one will be able to point a finger at the medical profession of this State and say that we were instrumental in making possible legislation inimical to the public welfare or that we agreed to go along with the least of several evil bills.

"I move approval of this part of the report."

It *was voted* to approve this part of the report.

[Continued on page 3558]



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A recent clinical study* of 46 ambulatory non-hospital patients treated with Nulacin† and followed up to 15 months describes the value of ambulatory continuous drip therapy by this method. Total relief of symptoms was afforded to 44 of 46 patients with duodenal ulcer, gastric ulcer and hypertrophic gastritis.

The delicately flavored tablets dissolve slowly in the mouth (not to be chewed or swallowed). They are not noticeable and do not interfere with speech.

Nulacin tablets are supplied in tubes of 25 at all pharmacies. Physicians are invited to send for reprints and clinical sample.

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*Steigmann, F., and Goldberg, E.: Ambulatory Continuous Drip Method in the Treatment of Peptic Ulcer, Am. J. Digest. Dis. *22*:67 (Mar.) 1955.

†Mg trisilicate 3.5 gr.; Ca carbonate 2.0 gr.; Mg oxide 2.0 gr.; Mg carbonate 0.5 gr.

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NEO-MAGNACORT ideally unites the new dermacoid with an outstanding topical antibiotic, neomycin, for unsurpassed dual anti-inflammatory, anti-infective therapy.

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MAGNACORT is several times more potent topically than hydrocortisone and effects marked dermal diffusion and penetration.

MAGNACORT provides remarkably rapid, dependable and frequently superior suppression of itching, edema, swelling, oozing and other symptoms of a variety of inflammatory dermatoses—with only 1/2 of 1% concentration. It can be effective where other topicals are unsatisfactory or inadequate.

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MAGNACORT and NEO-MAGNACORT are apparently free of any risk of systemic reactions. Extensive initial and continuing clinical investigations report no evidence of systemic effects.

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TRICHOMONIASIS

KARNAKY reports in treating vaginal trichomoniasis ". . . approximately 39 to 47 per-cent of resistant cases are reinfections from the sexual partner."[1]

Symptom-free carriers. Most infected husbands of infected wives are asymptomatic. They are ". . . none the less a potential source of re-infection in wives successfully treated."[2]

Protect the wife. Karnaky recommends in recurrent cases of vaginal trichomoniasis that the husband wear a prophylactic at coitus for as long as four to nine months. By the end of this time the trichomonads he harbors will usually die out.[3]

Prescribe high quality prophylactics. Take advantage of Schmid product improvements to win cooperation of the husband. According to the preferences and problems of your patient, prescribe Schmid prophylactics by name.

XXXX (FOUREX)® skins are made from the cecum of the lamb and are pre-moistened. They feel like the patient's own skin and *do not dull sensory effect.* RAMSES® natural gum rubber prophylactics are *different*—transparent, tissue-thin, yet strong.

Your prescription of Schmid prophylactics circumvents embarrassment, assures fine quality, provides essential protection.

Treat the wife. The Davis technique† with VAGISEC® liquid shows better than 90 per cent success in clinical data obtained by more than 150 physicians.[4] Unusual three-way attack with VAGISEC (originally "Carlendacide") actually *explodes* trichomonads. Liquid and jelly.

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References: 1. Karnaky, K. J.: Urol. & Cutan. Rev. *42*:812 (Nov.) 1938. 2. Lanceley, F., and McEntegart, M. G.: Lancet *1*:668 (Apr. 4) 1953. 3. Karnaky, K. J.: J.A.M.A. *155*:876 (June 26) 1954. 4. Davis, C. H.: West. J. Surg. *63*:53 (Feb.) 1955.

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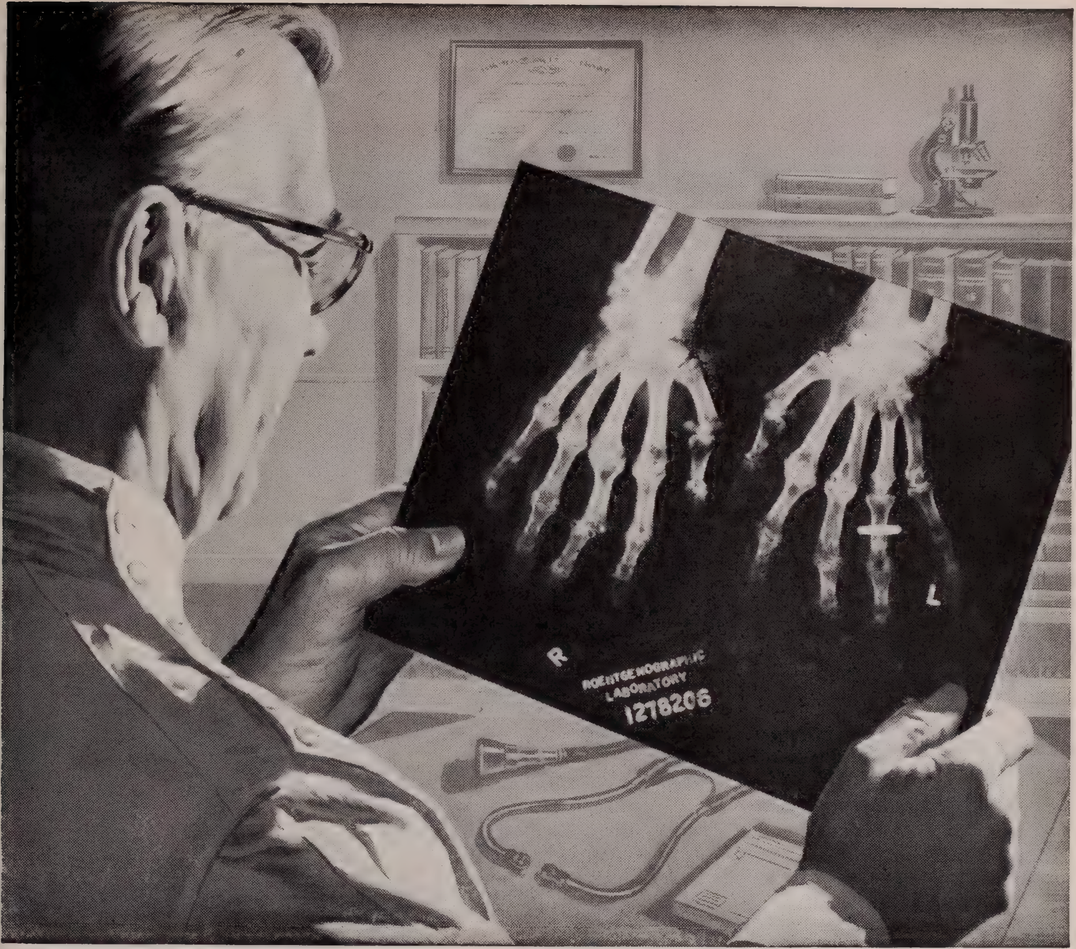

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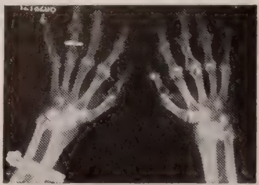
Exploit fully the use of salicylates in arthritis—give steroids in minimal doses—combine salicylates with corticosteroids for additive antiarthritic effect—this is the program Spies[1] advocates in a recent article in the Journal of the American Medical Association.

Treatment of rheumatoid arthritis demands a "highly individualized program," Spies[1] writes. The additive action of salicylates permits use of smaller amounts of hormones, thus lessening or eliminating their well-known side effects. "A proper mixture of salicylates and corticosteroids produces an effective antirheumatic agent in many cases."[1]

Suit your treatment to your individual arthritic patient. Use the hormone you prefer, in the dosage you think best, but for better results combine it with Bufferin, the salicylate proved to be better tolerated by arthritics.[2]

BUFFERIN contains no sodium, a marked advantage when cardiorenal complications make a salt-restricted diet necessary.

Each Bufferin tablet contains 5 grains of acetylsalicylic acid and the antacids magnesium carbonate and aluminum glycinate.



REFERENCES:

1. J.A.M.A. 159:645 (Oct. 15) 1955.
2. J.A.M.A. 158:386 (June 4) 1955.

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[Continued from page 3552]

Dr. Fineberg continued: "II. We will continue our antichiropractic campaign in accordance with the plans set into operation a year ago. This will again be a joint effort of the Public Relations Committee and the Legislation Committee (and their bureaus) and the Committee to Combat Cults.

"Literature will be distributed over the entire State. The cooperation of many groups will be enlisted: the county medical societies and their legislation and public relations committees and their woman's auxiliaries, the Woman's Auxiliary of the State Medical Society, the press, the allied professions, and public spirited citizens.

"I move, gentlemen, at this time approval of this part of the report."

After discussion it *was voted* that this part of the report be approved and that the Council recommend an appropriation to the Board of Trustees.

Dr. Fineberg continued: "III. We propose to have reintroduced in the Legislature an injunction bill and to work very actively for its passage. Dr. Harold B. Smith and Mr. Beasley will formulate such a bill."

Approval *was voted.*

"IV. Notification of the above policy will be transmitted to the Board of Regents, through Dr. Maurillo. I would like to do that this weekend, and I move approval of this portion of the report."

Approval *was voted.*

"V. We expect to cooperate with the Interdepartmental Health Resources Board and offer our services in any of their discussions and evaluations of the chiropractic situation.

"Dr. Winslow has announced that Mr. Oliver Field, director of the Bureau of Investigation of the A.M.A. or his representative, will discuss 'What's New in Chiropractic Throughout the Nation' at the State Medical Society Public Relations Conference on October 6. It is our intention to introduce him to Dr. Brightman with the idea that he might be of great help to the Interdepartmental Health Resources Board during its study of chiropractic."

It *was voted* to approve the report as a whole.

Dr. Fineberg stated: "There is one other item. A short time ago Dr. Smith wrote to me and included this paragraph: 'I recently received a communication from Dr. Anderton stating that the Medical Society's policy is "that no lay employe, or representative, except a duly elected officer of the New York State Medical Society, be permitted to issue statements concerning the Medical Society for publication, without approval either of the president of the State Society or a majority of its Council." I am oftentimes confronted with newspapermen who desire statements. Many of the memoranda of this Legislation Bureau are by their very nature available for publication, and this bureau actually publishes my editorial comment in its *Bulletin*. I am wondering if this statement of policy of the Medical Society is to be interpreted as preventing me from doing anything that I have done in the past or whether my past practices would not come under the recent statement of policy?'

"I submitted this paragraph to Dr. Anderton for his comment and opinion, and his reply is: 'I believe the policy of the State Society to which Dr. Harold B. Smith referred does not include the bulletin of your Legislation Bureau, because the bulletin is a publication of our committee. I believe, however, there are times when it is important for Dr. Smith to talk authoritatively and promptly to newspaper reporters and radio and television commentators. Perhaps you would like to bring up the matter when the Council meets September 13?'

"I am bringing this to your attention now, and I would like to have your opinion as to what course Dr. Smith should follow."

After discussion it *was voted* that the director of the Legislation Bureau be allowed at any time to talk to the press, radio, or television representatives regarding matters which have to deal with legislation in which the State Society is interested.

Malpractice Insurance and Defense Board.—Dr. Joseph A. Lane, chairman, reported: "There has been no meeting of the Malpractice Board since your last meeting. I have been in conference with Mr. Wanvig during the summer. We hope to have a report for you at the next Council meeting.

"There have been quite a few new subscribers."

Office Administration and Policies.—Dr. John J. Masterson, chairman, reported: "The Office Administration and Policies Committee met on September 12 for the first time since the summer.

"Personnel changes were approved.

"During the summer the editorial work for the forthcoming *Directory* continued at full pace.

"During the summer a portion of our staff was engaged in two special projects: One was in connection with the referendum on the question of compulsory A.M.A. dues; the other was the compilation of a list of present members who had not contributed to the War Memorial Fund.

"Work on the setting up of the details of our pension plan is progressing. The firm of Marsh & McLennan was employed some months ago to go over the problem with us."

Approval of the report *was voted.*

Publication.—Dr. Masterson, chairman, stated: "The Publication Committee held its regular meeting on September 12, 1956.

"Reports were received from the editor and the business manager. We are happy to report that nearly all of the annual meeting papers of the State Society last May have been processed. This required the assistance and cooperation of associate editors.

"Numerous clinicopathologic conferences have been obtained for publication, as well as an original contribution concerning the cytology of diseases of the lung.

"Progress has been made in the preparation of the history of the Medical Society of the State of New York, which is to appear in the February 1, 1957, issue of the JOURNAL, the sesquicentennial number. Among these are Dr. Emerson Crosby Kelly of Al-

[Continued on page 3560]

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[Continued from page 3558]

bany, Dr. John Rogers of Poughkeepsie, Dr. Norman Shaftel of Brooklyn, as well as Mr. Wesley Draper of the Kings County Medical Library and Mr. John Ische who have been preparing an exhaustive annotated bibliography.

"The committee gave considerable attention to the possibility of increasing the subscription price of the JOURNAL from $5.00 to $7.50 per year. The $5.00 rate has been in effect for some years. The committee believes that the NEW YORK STATE JOURNAL OF MEDICINE has been substantially improved over the years and the quality of its contents has been bettered. Because of this it was decided to effect an increase in the annual subscription rate to $7.50 effective January 1, 1957.

"Because of the increase in both advertising and text, the employment of an additional staff member is recommended to the Council.

"Dr. Redway submitted copy of two advertisements which he had not approved for publication in the JOURNAL.

"It was agreed to have the annual editorial dinner on November 7, 1956.

"It was reported to the committee that one of the advertisers in the 1955 *Medical Directory* still owed a balance of $400, and efforts to collect had failed. The committee approved authorizing the business manager to place this account in the hands of our attorney, Mr. William F. Martin, with instructions that, if necessary, legal action should be instituted."

It *was voted* to approve the report.

Public Health and Education.—Dr. Theodore J. Curphey, chairman, stated he had attended four meetings and arranged 28 postgraduate lectures and teaching days in eight counties since his last report.

He stated: "On July 31 a letter was sent to county medical society presidents and secretaries urging them to collaborate with local health officers in encouraging the public to utilize the allotments of Salk vaccine in their respective communities before the expiration dates of the various batches."

ACCIDENT PREVENTION SUBCOMMITTEE.—Dr. Curphey stated: "At the meeting of the Subcommittee on Accident Prevention on June 27 it was agreed that the committee's task is a problem in preventive medicine; that their primary function is to offer opinions on a medical level and to recommend to the Commissioner of Motor Vehicles specific physical standards to be met by an applicant for a license in order to make him a "safe" driver. It was also agreed that comprehensive education of the public and profession will be necessary to enlist their cooperation for the welfare of the entire citizenry. A small group of the committee was assigned to explore the procedure to be followed.

"On July 19 this group concluded that the Accident Prevention Subcommittee should (1) collect data already accumulated for the purpose of study, (2) lay down preliminary "course rules," subject to future revision, for each type of disability represented on the committee in order to assist Commissioner Kelly as quickly as possible, (3) draw up a program to present to foundations or industrial or insurance organizations in an effort to (4) procure funds enabling the committee to (5) conduct research in each of these medical areas to test the validity of the preliminary regulations suggested to the Commissioner.

"At the August 15 meeting the preparation of a resolution concerning the last three points, for presentation to the Council, was discussed.

"There was another meeting of the Subcommittee on Accident Prevention on September 6.

"1. A resolution was approved (*see below*).

"2. The criteria set forth in the project design of the State Health Department for its Driver Research, Driver and Testing Center are to be drawn to the attention of each of the members of the Subcommittee on Accident Prevention, with a letter to the effect that this outline is the first step toward setting up standards for the Commissioner of Motor Vehicles and that they are requested to come to a meeting of the committee in the near future with specific recommendations using the outline as a guide. Point out that in the areas of psychiatry and neurology the experience in Massachusetts, as referred to in the outline, might be used for guidance.

"3. Dr. Toker (who represents Dr. Korns, and who is going to be the research director of the project testing center in Albany) was asked to report to Dr. Korns that the committee considered the Project Design a very good document and carefully thought out but that the committee felt there should be included in the foreword, end of last paragraph, the sentence 'The Medical Society of the State of New York has been requested by the Commissioner of Motor Vehicles to collaborate in this study.' "

Dr. Greenough stated: "We have with us this morning Dr. Wortis, who very kindly has come to tell us about the accident prevention campaign regarding motor vehicles."

Dr. S. Bernard Wortis, chairman of the subcommittee, reported: "Your Subcommittee on Accident Prevention of the Public Health and Education Committee has had an unusual opportunity this year because a State agency, the Commissioner of Motor Vehicles, came to us to ask our help in setting up standards that would make driving safer, to protect the community. We were asked originally to set up criteria with regard to the licensing of individuals who have had either a syncopal attack or an epileptic attack, and as a result of the deliberations of that subcommittee with Dr. Curphey, we presented certain criteria which were most useful to the Commissioner and which have resulted in a letter of commendation from the Governor of the State.

"The subcommittee subsequently was given the responsibility of enlarging its interest to the general area of accident prevention, particularly motor vehicle accident prevention, and as a result we have had several meetings and conferences which the committee has participated in, one in connection with the New York University College of Medicine Medical Center, where there were about 70 experts from all over the world to consider the problem of setting up criteria for drivers, for the study of acci-

[Continued on page 3562]

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Each 5 cc. teaspoonful of the Suspension, or each Tablet, supplies:

Sulfadiazine	0.167 Gm.
Sulfamerazine	0.167 Gm.
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Sulfacetamide	0.111 Gm.

Tablets: Bottles of 100 and 1000.
Suspension: 4 and 16 oz. bottles.

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Each tablet or 5 cc. of suspension contains—in addition—250,000 units of potassium penicillin G.

Tablets: Bottles of 36 and 100. Powder for suspension: 60 cc. bottles to provide 2 oz. of suspension by adding 40 cc. of water.

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[Continued from page 3560]

dents, and establishing some means for getting us information as to how the physician and the public could be better educated to participate in such a program.

"As your subcommittee has considered this more definitely, we have come to the conclusion that there are great opportunities, first, because government has called upon us to do a job, which is unusual; second, because there is a great opportunity to help the public, and third, because this is a great opportunity to educate the medical profession in the area of health and accident prevention which generally has not come to their attention. But as we have gone into this further, we have felt it would be wise for us to get outside funds so that projects could be set up so that the physicians of this State could be used as regards their clinical skills, and we can get better answers to some of the questions that are posed for us.

"We have, therefore, presented you with a resolution which I can read if you like, Mr. Chairman. The purpose is to implement the work of our subcommittee. We feel it is terribly important and that it gives to the State Medical Society and the practitioners of this State, the physicians, an unusual opportunity to participate in a venture in which government has asked us to join and in which we can maintain leadership and give direction both to physicians and the State if given the opportunity. Therefore, may I read you, gentlemen of the Council, this resolution:

> WHEREAS, the New York State Commissioner of Motor Vehicles has sought the counsel and advice of the Medical Society of the State of New York, through the Subcommittee on Accident Prevention, of the Council Committee on Public Health and Education of the Medical Society of the State of New York, and the Department of Health relative to regulations governing the issuing of operators' licenses to persons with physical and/or mental disability; and
>
> WHEREAS, in the course of these joint deliberations it has become obvious that there exists an urgent need for research into the cause of motor vehicle accidents; and
>
> WHEREAS, the Medical Society of the State of New York is the recognized representative of the medical profession of the State; therefore, be it
>
> *Resolved*, that the Medical Society of the State of New York exert leadership in the field of accident prevention to the extent of helping in the collection of data, in the education of the public and the physicians of the State, and in focusing of research projects in this public health area; and further be it
>
> *Resolved*, that the Medical Society of the State of New York approve the principle that the support of such research is its proper function and that it accept funds from public and private agencies to facilitate the conducting of such research, recognizing that these funds, when accepted, will be controlled by the Medical Society and would not impose any additional expense on the Society membership.

"We feel this is a most unusual opportunity for the Society to participate so that standards can be established by the medical practitioners of the State, and we feel very strongly that it is a most unusual opportunity. We bespeak your support of this resolution. Thank you!"

Approval *was voted.*

SUBCOMMITTEE ON ADDICTION TO ALCOHOL AND NARCOTICS.—Dr. Curphey stated: "I have here a report from Dr. Berger of the Subcommittee on Addiction to Alcohol and Narcotics, dated September 7, 1956:

"The Subcommittee on Alcohol and Narcotics has been active in several areas since its inception. In summary, they are as follows:

"Several letters were referred to us by relatives of alcoholics and some from attorneys who are attempting to find a solution to various medicolegal problems. These were answered by Dr. Marvin Block who brings to the committee a wealth of experience in the field of alcoholism.

"The committee was represented at a meeting of the Senate Committee on Juvenile Delinquency in Washington where we were able to present some of the medical aspects of those conditions. Our committee prepared for Senator Herbert Lehman a refutation to the narcotic bills which were presented to the last Congress. Mr. Lehman used this material in a speech made on the floor of the U.S. Senate.

"A member of the committee debated with Congressman Howard Baker of Tennessee on a coast-to-coast radio hookup on the Town Meeting of the Air on the narcotic bills.

"Recently the committee was represented in a similar capacity on a television program with Congressman Hale Boggs of Louisiana."

It *was voted* to adopt the report and place it on file.

MISCELLANEOUS.— Dr. Curphey stated: "Mr. President, the Annual Conference of Chairmen on Mental Health of State Medical Associations will be held in Chicago on November 16 and 17, 1956. This Council has always authorized the sending of a representative to this meeting. Dr. Prout, chairman of the subcommittee, has gone in previous years, but he is unable to attend this year, and he wishes Dr. Steckel, who is the senior ranking member of the subcommittee, to represent the State Society. May I request permission from the Council that we provide travel funds and expenses for Dr. Steckel to attend the meeting?"

It *was voted* to grant permission.

Dr. Curphey stated further: "I apologize to the Council for bringing this up, but I think it is also necessary to obtain approval from this body for the following: It concerns a minor change in the application for enrollment as clinical consultant to the New York State Department of Health and omits a check paragraph which reads: 'Check if you wish County Medical Society and State Department of Health to use information previously submitted on Workmen's Compensation application.' Apparently this has worked a hardship on certain of the county medical societies, most notably the New York County Medical Society, and they have requested that it be omitted and that the man provide the Health Department with his credentials on the form itself. Incidentally our committee approves of this

[Continued on page 3564]

Side Reactions With Various Hypotensive Drugs

- postural hypotension
- collapse
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- renal complications
- vomiting
- tachycardia
- constipation
- depression
- edema
- impotency
- headaches
- dizziness
- nausea
- bone marrow depression
- collagen-like illness
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[Continued from page 3562]

request by the State Health Department, but I am asking for authorization of the Council so to state."

Approval *was voted*..

Dr. Curphey continued: "There is a communication here from Dr. Stiles D. Ezell, Mr. President. It is important and suggests an amendment of the Medical Practice Act. There is one letter addressed to Dr. Anderton dated June 18, 1956;

> Dear Dr. Anderton:
>
> Due to the recent agitation about internship in the House of Delegates of the A.M.A., it occurred to me that it might be well if we amended our Medical Practice Act or suggested an amendment requiring an approved rotating internship for admission to the medical examinations for graduates of registered medical schools.
>
> As you know, our law has never had this requirement. Mr. Killough suggested that I ask you to get the opinion of your Council on this matter at their next meeting, and let us have their recommendation if they desire to make one.
>
> Very truly yours,
> Stiles D. Ezell, M.D., *Secretary*
> Board of Medical Examiners

"Dr. Anderton turned this letter over to me, and I wrote to Dr. Ezell asking for a little more information."

Dr. Curphey then read Dr. Ezell's reply, which asked, in substance, for the insertion in the Medical Practice Act of the requirement to have one year of internship before admission to the State medical licensure examinations.

After discussion it *was voted* to refer this to the Committee on Legislation.

It *was voted* to adopt the report as a whole.

Public Relations.—Dr. Floyd S. Winslow, chairman, presented the following: "During the summer the efforts of the Bureau were concentrated on public relations projects for the fall, while the staff carried on its regular activities. The field men limited their visits to county societies, traveling only when requested by the local organizations.

"Among the summer activities was preparation for the Fall Conference of County Medical Society Public Relations Chairmen scheduled for Saturday, October 6, at the Hotel Biltmore, New York City.

"Another important project was the sesquicentennial celebration. Progress was made by working closely with Dr. Samuel Freedman, sesquicentennial chairman. The Bureau gathered information regarding such matters as a proposed seal, and a letter was mailed to the deans of medical schools in the State advising them about our plans. A special report of plans for the sesquicentennial was sent to the American Medical Association for use at its Public Relations Institute in Chicago, August 29 and 30.

"At the request of Dr. Frederic D. Zeman, chairman of the Geriatrics Subcommittee, the Bureau prepared an 18-page brochure containing suggestions for implementing a program of the first annual Statewide campaign for professional and lay education in chronic diseases of the aged, sponsored by the Committee on Public Health and Education and the Health Department of the State of New York. The topic for 1956–1957 is 'Diagnosis and Management of Hemiplegia in the Aged.'

"Representatives of the Bureau attended several meetings. Mr. Schuyler witnessed a private showing of a film dealing with cortisone, entitled "Bigger than Life,' a full-length motion picture intended for release to the general public. Mr. Walsh attended an all-day session on 'Developing Comprehensive Rural Group Practice,' sponsored by the Rip Van Winkle Foundation in Hudson, New York. Mr. Tracey was a speaker at the Public Relations Conference for Medical Assistants conducted jointly by the Montgomery and Fulton County Medical Societies. He also was present at the 52nd Annual Health Conference at Lake Placid.

"Following the President's operation the Bureau helped obtain participants for a program televised over the Dumont Network on the subject of ileitis.

"The Pennsylvania State Medical Society also asked for detailed information on setting up a newsletter, costs, and other data, which the Bureau supplied.

"With the beginning of the Woman's Auxiliary year, the Bureau worked with its representatives. Among the special programs were the new *Distaff*, the Auxiliary page in the Journal, the State Fair, and the Health Poster Contest.

"Requests from free-lance writers and members of the staffs of national publications were received. Working with Dr. Curphey and Dr. Fineberg, the Bureau, through the field staff, assisted writers to prepare articles for *Newsweek*, *Colliers*, *Ladies Home Journal*, as well as the *Herald Tribune* and United Press.

"The revised edition of 'You and the Medical Society of the State of New York' was published and distributed by the secretary.

"Copies of the digest of the Public Relations Session of the annual convention were mailed to all who attended and to all county public relations chairmen and executive secretaries.

"On August 29 and 30 Mr. Miebach and his field staff attended the annual Public Relations Institute of the American Medical Association in Chicago. Mr. Tracey discussed our campaign against chiropractors conducted by the Committee to Combat Cults.

"Your chairman attended a special meeting of the Council committee chairmen called by Dr. Greenough.

"Your committee also undertook handling the Outstanding General Practitioner selection as directed by the Council. A special letter bearing the signature of Dr. W. P. Anderton was mailed to county medical society secretaries requesting nominations and supporting data.

"As directed by the House of Delegates, your committee commenced negotiations for drawing up a Guide for Cooperation between the legal and medical professions. Several meetings were held, and Mr. Miebach conferred with Dr. John McClintock in Albany. As a means of obtaining background information, a letter was mailed to the sec-

[Continued on page 3566]

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All pure coffee...
97% caffein-free

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[Continued from page 3564]

retaries of the county medical societies. The purpose was to find out how many county medical societies already have guides for cooperation between themselves and the legal profession. As soon as this information is obtained, your committee hopes to commence negotiations with the legal profession."

It *was voted* to adopt the report.

Sesquicentennial.—Dr. Samuel Z. Freedman, chairman, presented the following report of the 1955–1956 Convention Committee:

The 150th Annual Convention of the Medical Society of the State of New York was held at the Hotel Statler in New York City, May 7 to 11, 1956.

REGISTRATION.—The registration figures follow:

Physicians	3,815
Guests (included are medical students, nurses, dentists, technicians, *et al.*)	1,318
Technical exhibitors	1,078
TOTAL	6,211

HOUSE OF DELEGATES.—The House of Delegates met the first three days of the convention. An evening session was held Tuesday. Thirty-eight resolutions were presented.

SCIENTIFIC PROGRAM.—Twenty section meetings, three session meetings, five general sessions, two series of postgraduate lectures, and an evening round table discussion were held. The Physical Medicine Section had its first meeting as a section.

The following are the attendance figures for the scientific meetings:

Sections		
Allergy	Wednesday A.M.	80
Anesthesiology	Friday A.M.	77
Chest Diseases	Friday A.M.	54
Dermatology and Syphilology	Wednesday A.M.	124
Gastroenterology and Proctology	Thursday A.M.	50
General Practice	Wednesday A.M.	133
Industrial Medicine and Surgery	Wednesday A.M.	48
Medicine	Friday A.M.	75
Neurology and Psychiatry	Wednesday A.M.	52
Obstetrics and Gynecology	Thursday A.M.	98
Ophthalmology	Friday A.M.	140
Orthopedic Surgery	Thursday A.M.	108
Otolaryngology	Thursday A.M.	60
Pathology and Clinical Pathology	Thursday A.M.	100
Pediatrics	Friday A.M.	60
Physical Medicine	Wednesday A.M.	95
Preventive Medicine and Public Health	Thursday A.M.	46
Radiology	Thursday A.M.	120
Surgery	Wednesday A.M.	35
Urology	Friday A.M.	64
Sessions		
History of Medicine	Tuesday evening	75
Legal Medicine	Wednesday A.M.	42
Public Relations	Thursday A.M.	77
General Sessions	Monday P.M.	200
	Tuesday P.M.	400
	Wednesday P.M.	400
	Thursday P.M.	200
	Friday P.M.	125
Round Table Discussion	Thursday evening	35
Postgraduate Lectures		
	Tuesday A.M.	90
	Wednesday A.M.	50
Blood Banks Association	Tuesday A.M.	150

SCIENTIFIC EXHIBITS.—From the 66 scientific exhibits, the Scientific Awards Subcommittee recommended the customary awards (published in Part II of the September 1, 1956, issue of the NEW YORK STATE JOURNAL OF MEDICINE, page 115).

Certificates were sent to the winning exhibitors.

SCIENTIFIC MOTION PICTURES.—Motion pictures, chosen by the Scientific Motion Pictures Subcommittee, were shown with the cooperation of the Medical Film Guild, Ltd.

TECHNICAL EXHIBITS.—Mr. Charles L. Baldwin, exhibits manager, reported 143 technical exhibits. The exhibitors were pleased by the number of physicians who registered at their booths.

ANNUAL MEETING AND DINNER DANCE.—The Annual Meeting and Dinner Dance was held on Wednesday evening of convention week. A total of 303 persons attended. The guest of honor was Dr. Buell B. Gallagher, president, City College of New York, who delivered a scholarly address. There was dancing to the pleasant tunes of Ben Cutler's orchestra.

WOMAN'S AUXILIARY.—The Woman's Auxiliary had a busy convention. They expressed appreciation for the facilities provided them. Mrs. Thomas M. d'Angelo, chairman of the hostess committee and a group of auxiliary members helped to record attendance at scientific meetings and acted as guides. Their help is appreciated.

MISCELLANEOUS.—A card of thanks was sent to each participant in the scientific program. A card was also sent to each Woman's Auxiliary hostess.

We were pleased to make facilities for meetings available for the following: New York State Academy of Preventive Medicine; New York State Chapter, American College of Chest Physicians; New York State Society of Anesthesiologists; Radiological Society of New York State; Veterans Medical Service Plan of New York, Inc., Board of Directors; and Blood Banks Association of New York State.

1957 SESQUICENTENNIAL.—The Sesquicentennial will be celebrated February 18 to 21, 1957, at the Hotel Statler in New York City. A dinner meeting of the Subcommittee on Scientific Program was held May 10, 1956, to discuss the scientific program for 1957. Dr. Alfred P. Ingegno, chairman, Scientific Program Subcommittee, is presently working on the program with the chairmen of sections and sessions. Instead

[Continued on page 3568]

three-fold action against anxiety, stress and tension states with

NEURO-CENTRINE*

adds emotional to visceral tranquility

More than an antispasmodic is needed for relief of spastic conditions of the gastrointestinal tract, associated with underlying anxiety, stress and tension.

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3. **Reserpine (0.05 mg.)—a well-known tranquilizer.**

Neuro-Centrine is also recommended for the relief of symptoms associated with functional disorders of the gastrointestinal and cardiovascular system.

Descriptive literature on request.

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[Continued from page 3566]

of formal section and session meetings, there will be two large scientific meetings daily, which will be of interest to specialists and general practitioners.

The Scientific Exhibits Subcommittee met on July 18, 1956. It was thought that the historical phase of medicine should be emphasized and portrayed in exhibits.

Meetings and exhibits for the laity are also planned. A luncheon for the laity has been scheduled for Monday, February 18, where three religious leaders have been invited to discuss "Religion and Medicine." A public forum, at which physicians will discuss subjects of interest to the laity, is being considered. The banquet will be held at the Waldorf-Astoria, Tuesday evening, February 19. The meeting of the House of Delegates will be held May 13 to 15, 1957, at the Hotel Statler in New York City. Dr. Frank LaGattuta designed an impressive seal to be printed in gold for use on letters.

Approval *was voted.*

Dr. Theodore J. Curphey stated: "It has been suggested by Dr. Anderton that I present a motion to the Council empowering the secretary of the State Society to have added to the prize-winning certificate the name of a doctor, whom I inadvertently omitted on the exhibit, 'Every Doctor's Office a Cancer Detection Center.' His name is Dr. Kenneth Whitaker, and he did most of the work in preparation of the exhibit."

It *was so voted.*

War Memorial.—Dr. Walter W. Mott, chairman, reported: "The House of Delegates approved the suggestion that members who have joined our Society since 1948 be asked to contribute $12 each to the War Memorial Fund.

"A search of our records reveals that 7,377 of our total membership have never subscribed. The committee feels that all these members might properly be canvassed for this voluntary contribution. The printing and mailing cost would be about $375; if only the members joining since 1948 are circularized, the number will be 5,100 and the printing and mailing costs would be $275.

"The funds of the War Memorial are used solely for aid in education, and expenses have been paid out of current funds of the Society.

"The committee asks the guidance of the Council in this matter and requests that you recommend to the Board of Trustees an appropriation sufficient to carry out whatever course you decide on."

After discussion it *was voted* to recommend an appropriation, not to exceed $500, to the Board of Trustees.

Workmen's Compensation.—Dr. Gerald D. Dorman, chairman, presented the following report: Physicians who are subpoenaed to appear before referees to determine claims for disability (nonoccupational) benefits are not entitled to a fee except the ordinary small subpoena fee, in contrast to the Workmen's Compensation Law which provides a fee for testimony where the referee decides that the physician's testimony is necessary to the determination of the claim.

A number of physicians have been subpoenaed to appear at disability benefits cases, and the referees have been unable under present law to award them a fee. Fees for attorneys representing disability benefits claimants must be approved by the referee, but even such fees are deducted from the amount awarded to the claimant.

We have ascertained from the Administrator of the Workmen's Compensation Board that they have had complaints from physicians who have been subpoenaed to testify and spent considerable time before a referee and have been uncompensated for their testimony.

We feel, therefore, that in the coming session of the Legislature a bill should be introduced to amend the Disability Benefits Law, which was signed by Governor Dewey on April 13, 1949, to the effect that physicians shall be paid where, in the opinion of the referee, testimony is necessary to decide the claim.

Section 207 of the Disability Benefits Law, paragraph 3, could be amended to conform with the provisions of Section 13-F, paragraph 2 of the Workmen's Compensation Law, reading as follows: "Whenever his attendance at a hearing is required, the physician of the claimant shall be entitled to receive a fee . . . in an amount to be fixed by the Chairman in addition to any fee payable under Section 120 of the Workmens' Compensation Law."

About a year ago representatives of the Commerce and Industry Association met us in an effort to obtain an amendment to the Workmen's Compensation Law relating to the designation of physicians of outstanding qualifications as expert consultants. These meetings were initiated as a result of conferences with representatives of the Commerce and Industry Association with respect to certain plans which this group had drawn up for the rehabilitation of compensation claimants.

The bill agreed on, which we supported, was known as Senate Intro. 3060, Mr. Mackell, and Assembly Intro. 3703, Mr. Rice. We were informed by Mr. Tom Curtis, representing the New York State Federation of Labor, that at a meeting of the New York State Joint Legislative Committee, held at the Whiteface Inn this past summer, the Commerce and Industry Association had regressed to a position it took in October, 1950, and were recommending an amendment to Section 13 of the Workmen's Compensation Law, which Mr. Curtis felt would do away with free choice of physician on the part of injured workers. Mr. Curtis requested your director to write a critique of the proposed legislation. We submitted our brief to him on July 26, 1956. We pointed out that the present Workmen's Compensation Law is adequate for all reasonable attempts to apply the knowledge we have at this time with respect to the rehabilitation of injured workers. We pointed out that as to the medical provisions both general practitioners and specialists are able to carry out most of the treatments and can determine the indications for treatment. Most of our hospitals are now equipped to assist in the rehabilitation of patients who require hospitalization.

[Continued on page 3570]

Why wine in Anorexia?

It has been popularly held that various types of alcoholic beverage are appetite stimulants, but objective laboratory investigations have clearly shown that alcohol itself, under controlled conditions, acts as a depressant to appetite.[1, 2]

Wine, however, the classic beverage of moderation, used as an aperitif, has been found to exert a profound stimulating effect on appetite and on the ability of both normal and anorexic patients to detect faint odors.[3] Goetzl and his co-workers have attributed this effect to such wine components as tannic acid, tartaric acid and acetic acid.[4, 5]

In actual clinical trials, Goetzl has reported the successful use of dry wines in increasing not merely the appetite, but also the food intake of patients suffering from anorexia. In one study on the appetite-stimulating action of wine, the average daily caloric intake in a substantial group of anorexic patients was increased from an average of 773 to 1228 calories.[6]

The above excerpts are taken from the brochure "Uses of Wine in Medical Practice" which describes the results of recent laboratory and clinical research on the medical attributes of wine. Herein are reported the latest findings on the value of wine as a stimulant to flagging appetite, as an aid to digestion, as a vasodilator, as a daytime and night-time sedative.

A copy of the brochure is available to you—at no expense—by writing to: Wine Advisory Board, 717 Market Street, San Francisco, California.

℞

1. Margulies, N.R.; Irvin, D.L., and Goetzl, F.R.: Permanente Found. M. Bull. **8**:1 (Jan.) 1950.
2. Irvin, D.L.; Ahokas, A.J., and Goetzl, F.R.: Permanente Found. M. Bull. **8**:97 (Oct.) 1950.
3. Goetzl, F.R.: Permanente Found. M. Bull. **8**:72 (April) 1950.
4. Irvin, D.L., and Goetzl, F.R.: Permanente Found. M. Bull. **9**:119 (Oct.) 1951.
5. Irvin, D.L.; Durra, A., and Goetzl, F.R.: Am. J. Digest. Dis. **20**:17 (Jan.) 1953.
6. Goetzl, F.R.: A Note on the Possible Usefulness of Wine in the Management of Anorexia, unpublished.

[Continued from page 3568]

New and separate facilities on the part of the State, as recommended by the Commerce and Industry Association, are unnecessary, and the huge cost would be a great burden on business, industry, and the consumer. A copy of the brief is available.

As a counterfoil to this regression to 1950, we recommend to the Commerce and Industry Association and to the legislators the amendents to Section 13 which we agreed on in 1955, which would restore panels of experts on a part-time salary basis to assist referees in the adjudication of claims so far as medical testimony is concerned, to evaluate testimony and determine all medical questions concerning casual relationship, degree of disability, and other matters in dispute between physicians, employers, carriers, injured employes, and the Workmen's Compensation Board.

Your director attended a meeting of the Workmen's Compensation Advisory Committee for Dr. Dorman on June 12, 1956.

There probably will be a recodification of Section 13 of the Workmen's Compensation Law which will possibly be begun some time in 1957. It is important that the Medical Society be adequately represented in order to prevent substantive changes in Section 13 which might modify important sections of the law as amended from 1935 to the present to the disadvantage of the medical profession, of injured workers, especially free choice of physician. It was announced that a committee of employers, insurance carriers, and other interested parties had agreed on fees for hospitalization of workmen's compensation claimants.

It was pointed out that some insurance carriers do not manifest any interest in early rehabilitation of the ordinary compensation claimant. A few leaders of insurance companies are sincere, but the vast majority of claim men and physicians employed by insurance carriers as examiners give very little attention to rehabilitation. Attempts are constantly made to have the physician treating a condition for which there is a fixed fee and after-care period share the expenses of rehabilitation, such as physical therapy, during this early period, even though it can be shown that such early additional physical therapy, etc., by specialists would greatly reduce the period of disability and restore the claimant to his work more quickly.

Your director again pointed out the advisability of panels of experts in this field to whom cases could be referred for early diagnosis, indications for treatment, rehabilitation, etc. He agreed to publish in our State JOURNAL a brief bulletin on early rehabilitation urging doctors to take the initiative.

A hospital fee schedule agreement was announced at the meeting. Your director drew attention to two items in this schedule which require comment. Accompanying the bulletin issued by the New York Compensation Insurance Rating Board, Mr. Robert E. Marshall, general manager, is a memorandum. On page 4 of this memorandum, attention is drawn to rules 14 and 19. Rule 14 indicates that a hospital or dispensary shall not operate a medical bureau or clinic but that voluntary hospitals may operate x-ray laboratories or bureaus for x-ray examination, diagnosis, or treatment, etc. This is in accordance with the law.

Rule 19, however, so far as it refers to hospitals rendering bills for board and room accommodations, medical and surgical supplies, and nursing facilities, including bills from voluntary hospitals for x-ray services, is correct. However, the rest of the rule pertaining to billing for physiotherapeutic, anesthesia, and pathologic services when rendered by or under the supervision of salaried physicians on the staff of the hospital is not in accordance with the Workmen's Compensation Law. Your director drew attention to this at the meeting.

With respect to hospital rates, the fees vary from \$12.50 per day in hospitals up to 49 beds to \$17.50 in hospitals with 400 beds and over. However, no hospital may charge more in a compensation case than it would charge for like service to a self-paying semiprivate patient at the minimal established rates for the particular hospital. The memorandum makes a statement to which we think objection should be taken: "If service in straight semiprivate or private room is deemed necessary or demanded by the patient or his doctor, such service would come under the classification of 'Authorization and Arrangement' and must be accompanied by authorization directly from the carrier; otherwise any difference in the rates should be assumed by the patient." So far as the patient assuming any differential for any semiprivate room, we believe this would be improper since a compensation patient is regarded as a private patient and should receive at least the advantages of a semiprivate room and the privileges incidental thereto. It should be borne in mind that many hospitals are attempting to restrict more and more the number of semiprivate rooms forcing patients into the private pavilion or into ward accommodations, especially if they are compensation cases. In closed hospitals this might have the effect of limiting the choice of the patient which is contrary to the spirit and letter of the Workmen's Compensation Law. We have always been of the opinion that the patient is entitled to semiprivate accommodations where available, or if placed in the ward, the patient should have the status of a semiprivate patient with full privileges and free choice from among the attending and courtesy hospital staffs.

Now that the committee has completed the work on the hospital fee schedule, your director and chairman will meet representatives of insurance carriers, employers, self-insurers, and members of the Commerce and Industry Association in the office of the New York Compensation Insurance Rating Board on September 20, 1956.

A plea was again made by your director for a simplification of the report forms to ease the burden of physicians and speed hearings. We again offered our assistance to the Workmen's Compensation Board, some of whom felt that a simplification of forms would be valuable.

We are pleased to inform the Council that the chairman of the Workmen's Compensation Board has at last revised Item 9 of the fee schedule to indi-

[Continued on page 3572]

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1. Blank, P., and Boas, H.: Ann. West. Med. & Surg. 6:376, 1952.
2. Piper, C. E., and Nicklas, F. W.: Indust. Med. 23:510, 1954.

*U.S. Pat. 2,628,185

[Continued rom page 3570]

cate that a fee for assistant shall be paid where it can be shown that interns or residents are not available for operation and this fact is certified by the superintendent or director of the hospital concerned.

It *was voted* to adopt the report.

New Business

Report of the New York State Delegation to the American Medical Association

Dr. Floyd S. Winslow, chairman of the delegation, presented the following report:

Your delegates to the American Medical Association House of Delegates, in Chicago, Illinois, June 11 to 14, 1956, represented you in their usual able manner.

At a delegation meeting on Monday, June 11, there were present: Delegates Di Natale, Dorman, Kenney, Dattelbaum, Mellen, Flood, Azzari, Greenough, Wolff, Moore, Wertz, Givan, Winslow, Loughran, Murray, and Anderton. Dr. Aaron's train was delayed. Also present were Drs. Eggston, Heyd, Redway, and Fineberg and Messrs. Farrell and Miebach.

Dr. Wolff was assigned the introduction of our resolution regarding ethics, our proposed new Section 12 for Chapter I of the American Medical Association's Principles of Medical Ethics. It was referred to the Reference Committee on Constitution and Bylaws. This reference committee's adverse report was defeated, but the House took no further action.

Dr. Loughran was detailed to introduce our resolution regarding reimbursement for collecting American Medical Association dues. The Reference Committee on Reports of Board of Trustees and Secretary recommended that this be referred to the Board of Trustees, and the House of Delegates voted approval.

Dr. Di Natale was given the assignment to introduce the resolution regarding increasing membership of the American Medical Association. This went to the Reference Committee on Report of Board of Trustees and Secretary, and later the House of Delegates voted approval and referred the matter to the Board of Trustees.

Dr. Kenney was delegated to introduce the resolution regarding establishment of inhalation therapy schools. The Reference Committee on Medical Education and Hospitals recommended its approval in principle, and the resolution was referred to the American Medical Association Council on Medical Education and Hospitals.

Dr. Dorman was given the introduction of our resolution on disapproval of internship "one-quarter rule." The Reference Committee on Medical Education and Hospitals recommended its disapproval, and the House of Delegates concurred.

Dr. Winslow in a resolution advocated holding the 1961 American Medical Association convention in New York City. The Reference Committee on Report of the Board of Trustees and Secretary urged the House of Delegates to send this to the Trustees, with the hope that it be carefully studied.

The introducers of these resolutions and others supported them ably before reference committees.

Your delegation breakfasted together Monday, June 11, and Wednesday, June 13. We were luncheon guests Tuesday, June 12, of Mr. Royal Ryan, executive vice-president of the New York Convention and Visitors Bureau.

At the second meeting of your delegation, June 12, 7:45 to 8:20 A.M., all your delegates were present. Reports were made regarding action of various reference committees. Candidates for president-elect, vice-president, trustees, and members on Council on Medical Service, Council on Constitution and Bylaws, and Council on Medical Education and Hospitals were discussed. Dr. Winslow was requested by vote to appoint a committee of three to make explicit recommendations regarding entertainment of members of the House of Delegates and others at Seattle, Washington, next November, and in New York City, June, 1957.

A number of important policy resolutions were passed by the House of Delegates, such as one deprecating the practice of medicine by hospitals or other corporations, lectures on ethics at medical colleges, medical care for dependents of the armed services, reconsidering principles for evaluating management and union health centers, and others.

Dr. Wertz was re-elected to the Council on Medical Service.

You are respectfully urged to familiarize yourselves with actions of the American Medical Association House of Delegates by studying the summary of proceedings which appear in the *Journal of the American Medical Association* during the summer.

It *was voted* to adopt the report.

Representation at Inauguration of President of Hobart and William Smith Colleges

The Council *voted* to request Dr. Carlton E. Wertz to attend the inauguration of the Reverend Louis Melbourne Hirshon as president of Hobart and William Smith Colleges at Geneva, October 12, as representative of the American Medical Association.

Representatives at Annual Meeting of the Pennsylvania Medical Society

The Council *authorized* Dr. Greenough and Dr. Anderton to represent the Society at the annual meeting of the Medical Society of the State of Pennsylvania.

Appointment of Representatives at Drum Hearing

Dr. Greenough requested the approval of the Council for his designation of Dr. Harold B. Smith and Dr. Frederick Schroeder to appear at the Drum hearing at Cooperstown on September 19 and 20.

Approval *was voted.*

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Lockwood, James H., Cmdr., MC, USN
U.S. Naval Hospital, San Diego, Cal.
Bulletin of the Association of Military Dermatologists, June 1955, p. 2

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Surgical Pathology	January 19 to April 27
Heart Disease and Circulatory Dynamics	February 19 to April 23
Hematology, Laboratory Methods in	February 25 to March 21
Roentgen Diagnosis of Lesions of G. I. Tract	March 4 to 15
Radiology of the Chest	March 18 to 26
Radiology of Chest, Differentiai Diagnosis in	April 1 to June 3
Laboratory Methods in Blood Banks	April 2 to May 7

Intensive Courses (Full-time)

Minor Surgery	January 7 to 9
Elementary Electrocardiography	January 14 to 18
Advanced Electrocardiography	January 21 to 25
Cardiovascular Diseases	January 28 to February 8
Office Proctology	February 18 and 19
Neurology, Clinical	April 1 to 5
Gastroenterology	April 8 to 12

Courses for Specialists

(A) Indirect Laryngoscopy and Voice Rehabilitation;
(B) Audiology................February 11 to 16 (full-time)
Note: (A) and (B) may be taken together or as two separate courses.

Mobilization of Stapes	March 18 to April 5 (full-time)
Trans-meatal (Endaural) Surgery	April 8 to 19
Radium Therapy	April 30 to June 11
Radioactive Isotopes, Clinical Use of	June 3 to 28 (full-time)
Rhinoplasty and Otoplasty	July 13 to 27 (full-time)

Courses of which Dates are to be Arranged

Use of Radioactive Iodine	March to May, 1957 (3 months)
Radiotherapy	A 6-month or 12-month course (full-time)

For application forms and information address the Registar for Postgraduate Medical Instruction, The Mount Sinai Hospital, Fifth Avenue at One-hundredth Street, New York 29, New York.

NECROLOGY

Wilmot B. Allen, M.D., of the Bronx, died on October 12 at the age of eighty-one. Dr. Allen graduated from Baltimore Medical College in 1898. He was a consultant in ophthalmologic surgery at St. Francis and St. Joseph's Hospitals, honorary assistant in eye surgery at New York Eye and Ear Infirmary, and an acting consultant in ophthalmologic surgery at the Bronx Eye and Ear Infirmary, of which he was one of the founders. Dr. Allen was a member of the Bronx County Medical Society and the Medical Society of the State of New York.

Milton Berger, M.D., of New York City, died on October 21 at the age of fifty-five. Dr. Berger graduated from Long Island College Hospital Medical School in 1923 and interned at St. Mark's Hospital. He was a retired commander in the Medical Corps, United States Naval Reserve, and while serving with the Navy during World War II was wounded during the assault on Okinawa. He was an honorary medical officer of the New York City Fire Department and a member of the Association of Military Surgeons of the United States, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Addisone S. Boyce, M.D., of New City, died on October 17 at the age of seventy-three. Dr. Boyce graduated from New York Medical College and Hospital for Women in 1906. She retired in 1946 and devoted herself to the Boy and Girl Scout movements in Rockland County. She was a member of the New York State Homeopathic Society.

Truman Leo Boyes, M.D., of New York City, died on October 17 at the age of fifty-eight. Dr. Boyes graduated from the University of Toronto Faculty of Medicine in 1922 and interned at Bellevue Hospital. He was clinical professor of ophthalmology at the Post-Graduate Medical School and attending ophthalmologic surgeon at New York Eye and Ear Infirmary, consultant in ophthalmology at Misericordia, Rockland State (Orangeburg), St. Mary's (Hoboken, New Jersey), and Good Samaritan (Suffern) Hospitals. Dr. Boyes was a Diplomate of the American Board of Ophthalmology, a Fellow of the American College of Surgeons, and a member of the American Academy of Ophthalmology and Otolaryngology, the Pan American Association of Ophthalmology, the New York Academy of Medicine, the New York Celtic Medical Society, the New York Ophthalmology Society, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Egbert Lamontt Burhyte, M.D., of Lewiston, died on September 27 at the age of seventy. Dr. Burhyte graduated from the University of Buffalo School of Medicine in 1911. He was an honorary member of the staff of Niagara Falls Memorial and senior surgeon at Mount St. Mary's Hospitals, Niagara Falls. Dr. Burhyte was a Fellow of the American College of Surgeons and a member of the Buffalo Academy of Medicine, the Niagara County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Eugene O. Chimene, M.D., of Jackson Heights, died on June 26 at the age of sixty-one. Dr. Chimene graduated from Rush Medical College in 1919. He was District Health Officer for the New York City Department of Health. Dr. Chimene was a member of the American Public Health Association, the Queens County Medical Society, and the Medical Society of the State of New York.

John Henry Famian Coughlin, M.D., of Troy, died on October 19 at the age of seventy-three. Dr. Coughlin graduated from Albany Medical College in 1905. He was a consultant at St. Mary's Hospital. In 1955 he was cited by the Medical Society of the State of New York for completing fifty years of medical service and in 1951 was named the outstanding general practitioner in Rensselaer County.

Ralph Leo Dourmashkin, M.D., of New York City, died on October 10 at the age of sixty-five. Dr. Dourmashkin graduated in 1915 from New York University and Bellevue Hospital Medical College and interned at Fordham Hospital. He was a consultant in urology at Fordham and Stuyvesant Polyclinic Hospitals. Dr. Dourmashkin retired in 1949. He was a former senior surgeon with the United States Public Health Service and a past president of the Fordham Hospital Alumni Association which he organized. The hospital's medical library was named for him. For his services on behalf of the New York University-Bellevue Medical Center, he was designated a founder. In 1949 he received the University Alumni Meritorious Service Award and last year he was elected vice-president of the Bellevue Medical Center's alumni association.

Dr. Dourmashkin was the author of numerous papers on urology and devised instruments bearing his name, modified the operating cystoscope and originated a new cystoscope for operative procedures. During World War I he served as a captain in the U.S. Army Medical Corps and was in charge of uro-

[Continued on page 3576]

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Karo—a balanced mixture of dextrins, maltose and dextrose—enables the feeding of larger amounts of total carbohydrate than is possible with a single sugar such as lactose or sucrose. Karo is double rich in calories and, more importantly, it is easily digested, completely utilized and well-tolerated; even by prematures and newborns.

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[Continued from page 3574]

logical services at a camp hospital. A founder of the International College of Urology, he was a member of the American Urological Association, the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Robert Roland Braden Fitz-Gerald, M.D., of Lockport, died on September 11 at the age of seventy-five. Dr. Fitz-Gerald graduated in 1905 from the University of Toronto Faculty of Medicine. He was a consultant in surgery at Niagara Falls Memorial Hospital. In December, 1955, Dr. Fitz-Gerald was honored by the Niagara County Medical Society for his fifty years of distinguished professional service. He was a former chairman of the board of managers of the Lockport City Hospital and a member of the Niagara County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Edward Leo Glynn, M.D., of Richmond Hill, died on October 4 at the age of forty-nine. Dr. Glynn graduated from New York Medical College in 1936. He was an assistant attending physician at St. Mary's and Mary Immaculate Hospitals. Dr. Glynn was a member of the Queens County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Alfred Sethell Grussner, M.D., of Schenectady, died on September 12 at the age of sixty-four. Dr. Grussner graduated from the Medical College of Virginia in 1918. He was an associate in surgery at St. Clare's Hospital, an assistant in surgery at Ellis Hospital, a consultant on the staff of Benedict Memorial Hospital (Ballston Spa), and a consultant in surgery at Schenectady City Hospital. Dr. Grussner was a Fellow of the American College of Surgeons and a member of the Schenectady County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Harry Hallarman, M.D., of New York City, died on October 9 at the age of seventy-three. Dr. Hallarman graduated in 1913 from New York University and Bellevue Hospital Medical College. He was chief of pediatrics at Stuyvesant Polyclinic Hospital.

John Evan Holt-Harris, M.D., of Albany, died on October 16 at the age of eighty. Dr. Holt-Harris graduated from Albany Medical College in 1929. A native of Wales, he received a medical degree from Mason University, Birmingham, England, and came to the United States in 1906 and served as pathologist at Willard Park Hospital. For some time he acted as city bacteriologist for Albany to which he had moved in 1922. He was a codeveloper of a test used to detect typhus and other communicable diseases.

Anna Hubert, M.D., of New York City, died on October 18 at the age of seventy-seven. Dr. Hubert graduated in 1911 from Johns Hopkins University School of Medicine. She was a consulting director of surgery at the New York Infirmary, a Fellow of the American College of Surgeons, and a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Arthur Langstadt, M.D., of Flushing and New York City, died on July 20 at the age of seventy-two. Dr. Langstadt received his medical degree from the University of Munich in 1909. He was a junior assistant in gynecology at the Lenox Hill Hospital Outpatient Department. Dr. Langstadt was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Max Levi, M.D., of Jamaica and New York City, died on October 9 at the age of sixty-one. Dr. Levi received his medical degree from the University of Munich in 1922. He was senior clinical assistant in urology at Mount Sinai Hospital. Dr. Levi was a Diplomate and Fellow of the International College of Surgeons and a member of the Rudolf Virchow Medical Society, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

James Ernest McAskill, M.D., of Watertown, died on October 9 at the age of sixty-eight. Dr. McAskill graduated in 1914 from Queens University Faculty of Medicine, Ontario. He was a former chief of the ear, nose, and throat division of the medical department of the House of the Good Samaritan and Mercy Hospitals and after his retirement became an honorary member of the two hospital staffs. He instituted the audiovisual educational system for nurses at the House of the Good Samaritan and Mercy Hospitals and from 1942 to 1947 served as the chairman of the school of nursing committee at Mercy Hospital. From November, 1938, to November, 1939, he was president of the Jefferson County Medical Society, and in September, 1947, was elected president of the Fifth District Branch, having served since 1945 as vice-president. He has also served as secretary of the Fifth District Branch and vice-president and treasurer of the county medical society. In May, 1949, he was elected vice-president of the Medical Society of the State of New York and had also served as chairman of the section on ophthalmology and otolaryngology of the Medical Society of the State of New York. From 1935 to 1936 he served as president of the medical staff of the Mercy Hospital. In 1949 he was elected president of the Queens University Alumni Association and until his death was a member of the University's board of trustees to which he donated equipment for a room to be used in audiovisual education in medicine.

Dr. McAskill was a Diplomate of the American

Board of Otolaryngology, a Fellow of the American College of Surgeons, and a member of the American Academy of Ophthalmology and Otolaryngology, the American Laryngological, Rhinological and Otological Society, the Jefferson County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Siegfried Meier, M.D., of Glen Cove, died on October 10 at the age of sixty-four. Dr. Meier received his medical degree from the University of Geissen in 1919. He was a member of the American Academy of General Practice, the Nassau County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Pasquale Peluso, M.D., of New York City and Brooklyn, died on October 14 at the age of seventy-four. Dr. Peluso received his medical degree from the University of Naples in 1909. He was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Guy Sterling Philbrick, M.D., of Niagara Falls, died on September 20 at the age of sixty-three. Dr. Philbrick graduated from Creighton University School of Medicine, Omaha, in 1917. He was attending surgeon, obstetrician, and gynecologist, and director of medicine at Niagara Falls Memorial Hospital, and attending surgeon, obstetrician, and gynecologist at Mount St. Mary's Hospital. He was a member of the Regional Hospital Planning Committee and the medical advisory committee of Blue Cross and Blue Shield. During World War I he was a commissioned officer in the Medical Corps and at the conclusion of the war joined the U.S. Department of Public Health, later becoming clinical director of the Marine Hospital, Buffalo, a post he resigned in 1927. Dr. Philbrick was a member of the Niagara Falls and Buffalo Academy of Medicine, the Niagara County Medical Society of which he was a past president, the Medical Society of the State of New York, and the American Medical Association.

Richard A. Rendich, M.D., of Port Washington, died on October 13 at the age of sixty-five. Dr. Rendich graduated from Fordham University School of Medicine in 1913. He was a consultant in roentgenology at Kings County, Brooklyn Eye and Ear, and Holy Family Hospitals, all in Brooklyn. Dr. Rendich was a Diplomate of the American Board of Radiology, a Fellow of the American College of Radiology, and a member of the Radiological Society of North America, Inc., the New York Roentgen Society, the Brooklyn Roentgen Ray Society, the Nassau County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Carlo Salvati, M.D., of New York City, died on

[Continued on page 3578]

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[Continued from page 3577]

May 31 at the age of ninety. Dr. Salvati received his medical degree from the University of Naples in 1893.

Herman Sharlit, M.D., of New York City, died on July 16 at the age of sixty-four. Dr. Sharlit graduated from Cornell University Medical College in 1917. He was attending dermatologist and syphilologist at University Hospital and associate attending in dermatology and syphilology at Bellevue Hospital. Dr. Sharlit was a Diplomate of the American Board of Dermatology and Syphilology and a member of the American Dermatological Association, the New York Academy of Medicine, the Manhattan Dermatological Society, the Bronx Dermatological Society, the New York County Medical Society, and the Medical Society of the State of New York.

Julius Solomonica, M.D., of New York City, died on June 11 at the age of eighty-two. Dr. Solomonica received his medical degree in 1901 from the University of Vienna.

William Giles Sprague, M.D., of Barker, died on September 28 at the age of ninety. Dr. Sprague graduated from Trinity College Faculty of Medicine in 1891. For many years he served as medical school examiner and was the health officer of the Town of Somerset for more than thirty years. Dr. Sprague was a member of the Niagara County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Bernard Stattman, M.D., of Brooklyn, died on August 26 at the age of seventy. Dr. Stattman graduated from New York University and Bellevue Hospital Medical College in 1908. He was an associate in surgery at Samaritan Hospital of Brooklyn. Dr. Stattman was a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Leopold Stieglitz, M.D., of New York City, died on October 7 at the age of eighty-nine. Dr. Stieglitz received his medical degree from the University of Heidelberg in 1891. He held New York license number one which was issued by the New York State Board of Regents in December, 1891, and began practicing in January, 1892 and continued until 1952. A few years ago, the Leopold Stieglitz Visting Professorship at New York University, which provides funds for a visiting professor to spend a month at the medical college and deliver a lecture, was established in his honor by grateful patients. He was a consulting physician at Maimonides Hospital and a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

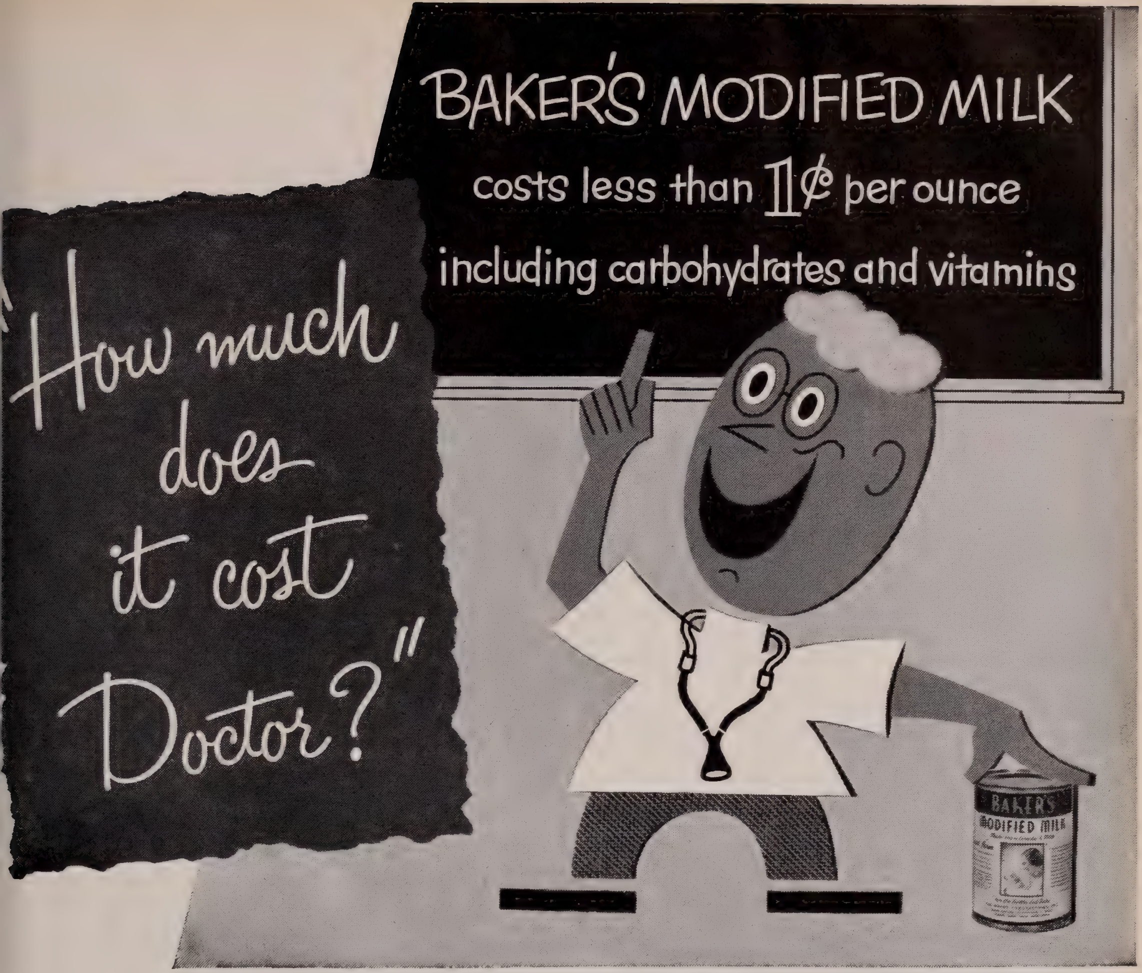
Guy Hanford Turrell, M.D., of Smithtown Branch, died on October 7 at the age of eighty-four. Dr. Turrell graduated in 1896 from Columbia University College of Physicians and Surgeons. He was an honorary staff member of the Southside Hospital (Bay Shore) and attending physician at Central Islip State Hospital. From 1905 to 1931 he served as sanitary officer of Smithtown. He was a past president of the Second District Branch and the New York State Sanitary Officers and Public Health Nurses. He was a Diplomate of the American Board of Internal Medicine, a Fellow of the American College of Physicians, and a member of the Suffolk County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Thomas F. Weldon, M.D., of Hicksville, died on June 28 at the age of sixty-one. Dr. Weldon graduated from the Long Island College Hospital Medical School in 1914.

Leopold Leo Wertheim, M.D., of Mountain Dale, died on April 6 at the age of seventy-three. Dr. Wertheim graduated from Columbia University College of Physicians and Surgeons in 1905.

Paul Zimmering, M.D., of New York City, died on October 16 at the age of forty-seven. Dr. Zimmering graduated from the University of Bristol Faculty of Medicine, England, in 1937 and interned at Bellevue Hospital. He was an assistant in neuropsychiatry at Bellevue Hospital and assistant in psychiatry at Flower and Fifth Avenue Hospitals. Dr. Zimmering was a Diplomate of the American Board of Psychiatry and Neurology, a life member of the American Psychiatric Association, and a member of the Society of Medical Psychoanalysis, the New York Society for Clinical Psychiatry, the New York County Medical Society, and the Medical Society of the State of New York.

The generality of men are naturally apt to be swayed by fear rather than by reverence, and to refrain from evil rather because of the punishment that it brings, than because of its own foulness. —ARISTOTLE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PHYSICIANS' HOME

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ADA CHREE REID, M.D., *Executive Director*

Thanksgiving Message

On Thanksgiving Day in the year 1918 the late Dr. Wolfe Freudenthal learned that an elderly and distinguished physician was an inmate of the poorhouse. Disturbed at this news, he called together a group of physicians who deliberated over the problem, and as a result the Physicians' Home came into being. It was incorporated in 1919 with the purpose of giving aid to elderly, needy members of the Medical Society of the State of New York. To date 93 of our elderly colleagues have received aid from Physicians' Home—aid which has been made possible by contributions from the members of the State Medical Society, for the directors have always opposed solicitation of funds from the public at large.

The letters from these guests are full of gratitude because they no longer fear that they may become public charges, and the allowance they receive from Physicians' Home enables them to live with self-respect in their own home communities among old friends and familiar surroundings. Here are a few excerpts from these letters:

> From a widow—"*Dear Doctor: It is impossible to express my appreciation and gratitude for your immense kindness to my dear husband and now to me. Your offer to send me a check each month is truly beyond belief. It removes all my anxieties from my mind and I now feel assured of the future.*"

> From an eighty-eight-year-old doctor—"*When I read your letter, it touched my heart deeply, almost to tears. It has been the most emotional moment of my long professional experience of hard work and continued misfortune. . . I will keep your letter by my heart and will treasure it in my memory as long as I live. Please accept my best wishes . . . and my immense feeling of gratefulness for the Society.*"

> From a county society secretary—"*Dear Doctor: If you could have seen the tears in her eyes when I handed her the check and gave her the news she would receive this sum monthly, you would have been well repaid.*"

> And another from a widow—"*Dear Doctor: I have just received your wonderful letter—the wording has instilled such a very different feeling, as if I am not accepting charity. It is difficult to find words to express my gratitude . . . for brightening the days to follow, which appeared so black. I thank you all so much.*"

And the directors of Physicians' Home thank you all so very much for your contributions which make this benevolent aid possible. Your Thanksgiving Day should be a happier one, knowing that these elderly colleagues have not been forgotten.

Postdoctoral Scholarships

The Sister Elizabeth Kenny Foundation announces a program of postdoctoral scholarships to promote work in the field of neuromuscular diseases. These scholarships are designed for scientists at or near the end of their fellowship training in either basic or clinical fields concerned with the broad problem of the neuromuscular diseases.

The Kenny Foundation Scholars will be appointed annually.

Each grant will provide a stipend for a five-year period at the rate of $5,000 to $7,000 a year depending upon the scholar's qualifications. Candidates from medical schools in the United States and Canada will be eligible.

Inquiries regarding details of the program should be addressed to: Dr. E. J. Huenekens, Medical Director, Sister Elizabeth Kenny Foundation, 2400 Foshay Tower, Minneapolis 2, Minnesota.

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MEDICAL NEWS

Outstanding Practitioner Chosen—Dr. Edward Danforth, of Bainbridge, has been chosen as the outstanding general practitioner of New York State for 1956 by the Medical Society of the State of New York, according to an announcement by Dr. James Greenough, of Oneonta, president.

The award is given each year by the State Society's governing body, the Council, which considered candidates submitted by county medical societies from various parts of the State. Dr. Danforth was nominated by the Chenango County Medical Society. He will now be the State Society's nominee for the honor of America's Outstanding General Practitioner, which will be awarded by the American Medical Association at its next meeting in Seattle.

Dr. Danforth was graduated from the Columbia University College of Physicians and Surgeons, New York City, in 1902. Following a period of service on the house staff of Bellevue Hospital, New York City, and graduate work in medicine in Vienna, Austria, Dr. Danforth returned to his native village of Bainbridge and started the practice of medicine in 1906.

He is a member of the Medical Society of the State of New York, the American Medical Association, and served as president of the Chenango County Medical Society in 1915. He has seen service on the board of managers, Chenango County Tuberculosis Hospital; board of visitors, Binghamton State Hospital; the associated staff, Chenango Memorial Hospital, Norwich, and the Aurelia Fox Memorial Hospital, Oneonta. In 1928 he purchased the property now occupied by the Bainbridge Hospital and was instrumental in starting that institution, where he is still the active attending physician and surgeon.

Broome County Award—*Broome County Medicine*, monthly publication of the Broome County Medical Society, was the recipient of an honor award for distinguished service in medical journalism presented by the American Medical Writers' Association at the Association's 13th annual meeting in Chicago on September 28. The division in which the award was made is open to county and city medical periodicals which employ paid executives and/or which have more than 500 members.

John Sargeant, of Binghamton, is executive secretary of the Society, and editor of *Broome County Medicine*. He was specifically cited for his editorship of the magazine.

The Association's awards are described as "akin to the Pulitzer prizes in journalism," and are presented for "Accuracy, clarity, conciseness, and newness of information in articles, editorials, and other materials; for excellence of design, printing, and illustrations, and for distinguished service to the medical profession rendered by United States and Canadian Medical Journals."

New Coney Island Hospital—The new 567-bed Coney Island Hospital in Brooklyn, constructed and equipped at a cost of almost $18,000,000, was dedicated on October 30. In addition to its bed capacity of 567, the new hospital will have 68 bassinets and an expanded outpatient service. The Coney Island Hospital is the third major general hospital completed in New York City's $200,000,000 postwar hospital construction and reconstruction program.

Psychotherapy Association—The 143rd scientific meeting of the Association for the Advancement of Psychotherapy was held at the New York Academy of Medicine Building, 2 East 103rd Street, New York City, on October 19. Dr. Alvin Goldfarb, New York City, discussed "Psychotherapy with Elderly Persons."

Academy of Psychosomatic Medicine—The third annual meeting of the Academy of Psychosomatic Medicine was concluded on October 6 at the Plaza Hotel in New York City. Dr. Lester L. Coleman, New York City, was elected vice-president, and Dr. Wilfred Dorfman, Brooklyn, was elected historian.

Course in Air Pollution—The New York University Post-Graduate Medical School, together with the College of Engineering is offering a course in air pollution from November 26 to December 7.

For applications and further information, address the Office of the Dean, Post-Graduate Medical School, 550 First Avenue, New York 16, New York, before November 23.

Personalities

Elected

Dr. Arthur E. Corwith, Bridgehampton, president; Dr. John N. Shell, Freeport, first vice-president; Dr. Charles W. Shlimbaum, Bay Shore, second vice-president; Dr. Albert M. Biglan, Central Islip, secretary, and Dr. George C. Erickson,

[Continued on page 3585]

1957

FEBRUARY 18 to 21

MARK THE DATES!

This is when the Sesquicentennial Convention of the Medical Society of the State of New York will be held at the Hotel Statler in New York City.

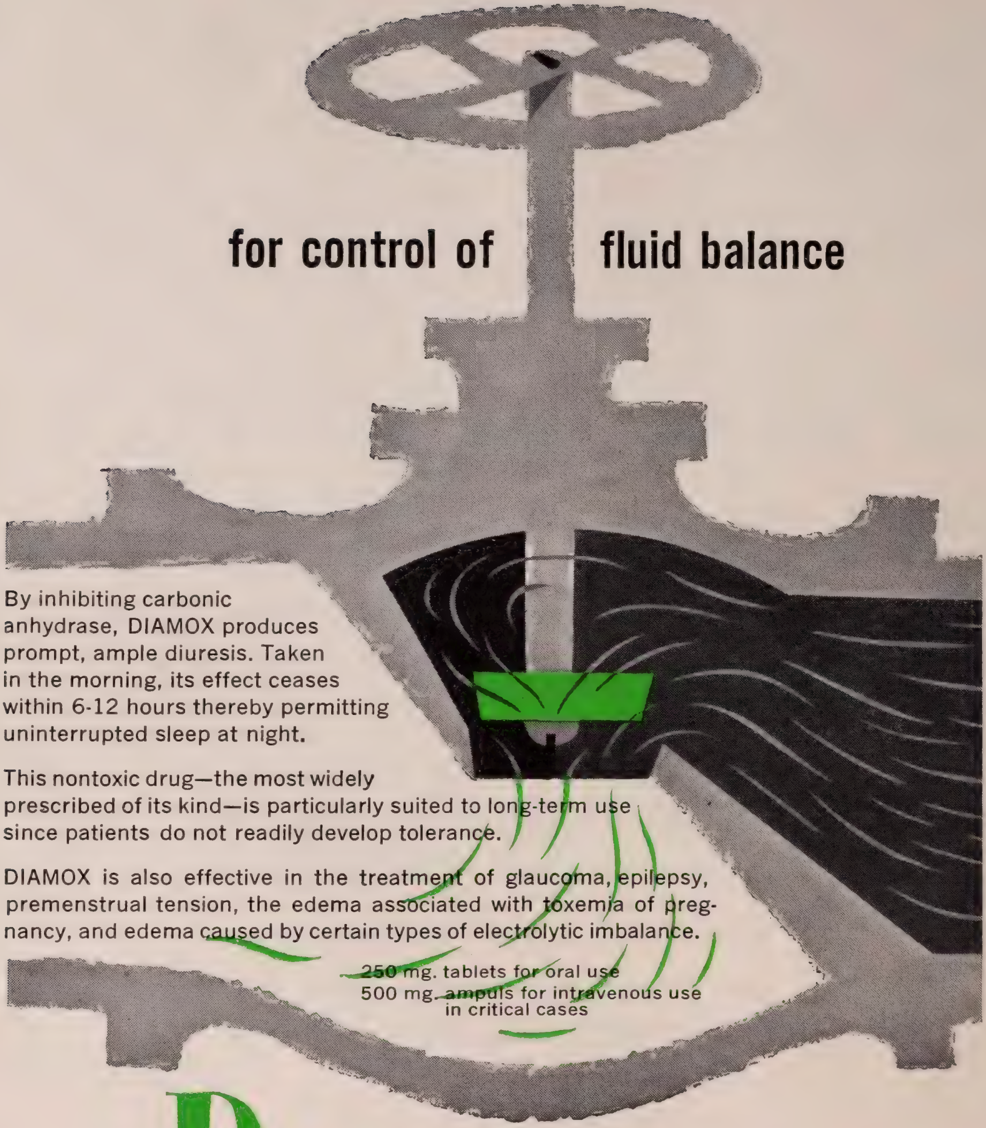
The Banquet will be held in the Grand Ballroom of the Waldorf-Astoria, Tuesday, February 19.

Your Society has planned some very special events to celebrate this anniversary. You will not want to miss any of it!

BE SURE TO COME!

FEBRUARY 18 to 21

1957



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[Continued rom page 3582]

Hempstead, treasurer of the Second District Branch of the Medical Society of the State of New York at its fiftieth annual meeting on October 3 . . . Dr. Sol Maranov, president; Dr. Aaron Tolk, vice-president, and Dr. Ernest I. Melton, secretary-treasurer of the Kings County Radiological Society . . . Dr. Leonard J. Schiff, Plattsburgh, president; Dr. Roman R. Violyn, Amsterdam, first vice-president; Dr. Milton J. Greenberg, Hudson Falls, second vice-president; Dr. Arthur Q. Penta, Schenectady, secretary, and Dr. Webster M. Moriarta, Saratoga Springs, treasurer of the Fourth District Branch of the Medical Society of the State of New York at its fiftieth annual meeting on October 4 . . . Dr. Earl C. Waterbury, Newburgh, president; Dr. Reid R. Heffner, New Rochelle, first vice-president; Dr. William P. Kelly, Jr., Carmel, second vice-president, Dr. Maxwell Gosse, Poughkeepsie, secretary, and Dr. Frank E. Ciancimino, Nyack, treasurer of the Ninth District Branch of the Medical Society of the State of New York at its seventh annual meeting on October 3.

Appointed

Dr. Alvin I. Goldfarb, New York City, as consultant on psychiatric services for the aged in the State Department of Mental Hygiene by Com, missioner Paul H. Hoch . . . Dr. Louis Odessky-Brooklyn, as pathologist and director of laboratories of St. Elizabeth's Hospital, New York City.

Awarded

Drs. J. H. Ferguson and M. F. Hilfinger, of the Research Foundation of the State University of New York, a life science research contract by the U.S. Atomic Energy Commission . . . Dr. Richard B. Hadley, Rye, the Golden Head Mirror Honor Award of the American Rhinologic Society "for meritorious sharing in the service of rhinology" at the second annual banquet in Chicago on October 13 . . . Drs. Dickinson W. Richards and Andre F. Cournand, Columbia University College of Physicians and Surgeons, the 1956 Nobel Prize in Medicine for evolving a method of charting the interior of the human heart.

MEDICAL MEETINGS

Ontario Medical Association

The surgical section of the Ontario Medical Association will present a course in pediatric surgery on November 19 and 20 with the cooperation of the surgical staff of the Hospital for Sick Children in Toronto, Canada. The meeting will take place in Osler Hall of the Academy of Medicine, Toronto.

Pediatric Section Meeting

The Pediatric Section of the Medical Society of the County of Kings and Academy of Medicine of Brooklyn will meet on November 26 at 8:45 P.M. at the Kings County Medical Society auditorium, 1313 Bedford Avenue, Brooklyn 16, New York. Dr. Richard L. Day, professor of pediatrics, and Dr. Lois Johnson, assistant instructor in pediatrics, at the State University College of Medicine at New York City, will discuss "Further Studies on the Toxicity of Bilirubin."

Court Problems To Be Discussed

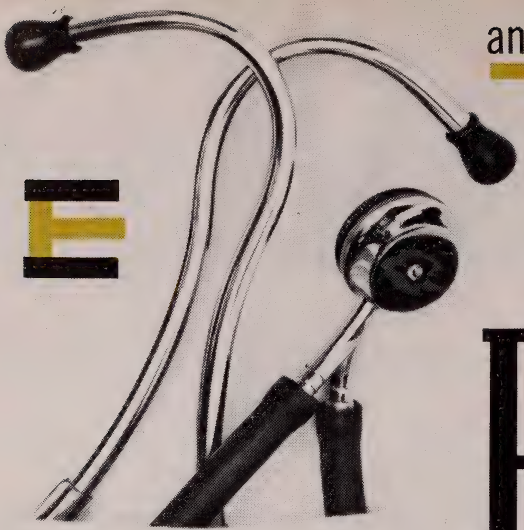
A meeting of the League of Women Voters of the City of New York will be held on November 27 at 8:30 P.M. in the Vanderbilt Auditorium, New York University School of Law, Washington Square South. Judge Harold R. Medina will speak on the problems of the New York State courts. Physicians and the public are urged to attend the meeting.

Association for Advancement of Psychoanalysis

The Association for the Advancement of Psychoanalysis will hold its regular meeting at the New York Academy of Medicine, 2 East 103rd Street, New York City, on November 28 at 8:30 P.M. Dr. Sara Sheiner, New York City, will speak on "Horney's Contribution to the Treatment of Schizophrenia" and Drs. Louis R. Hott and Emy A. Metzger, both of New York City, will be the discussants.

New York Heart Association

A one-day conference on "Artherosclerosis and Coronary Heart Disease" will be held by the New York Heart Association at the Waldorf-Astoria on January 15, 1957. Dr. Robert L. Levy, New York City, is chairman of the steering committee. Speakers will include Drs. Paul D. White, E. Cowles Andrus, Herman E. Hilleboe, and Ancel Keyes.



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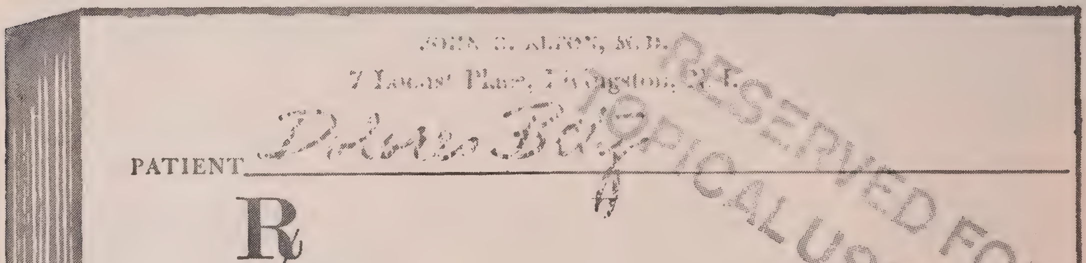

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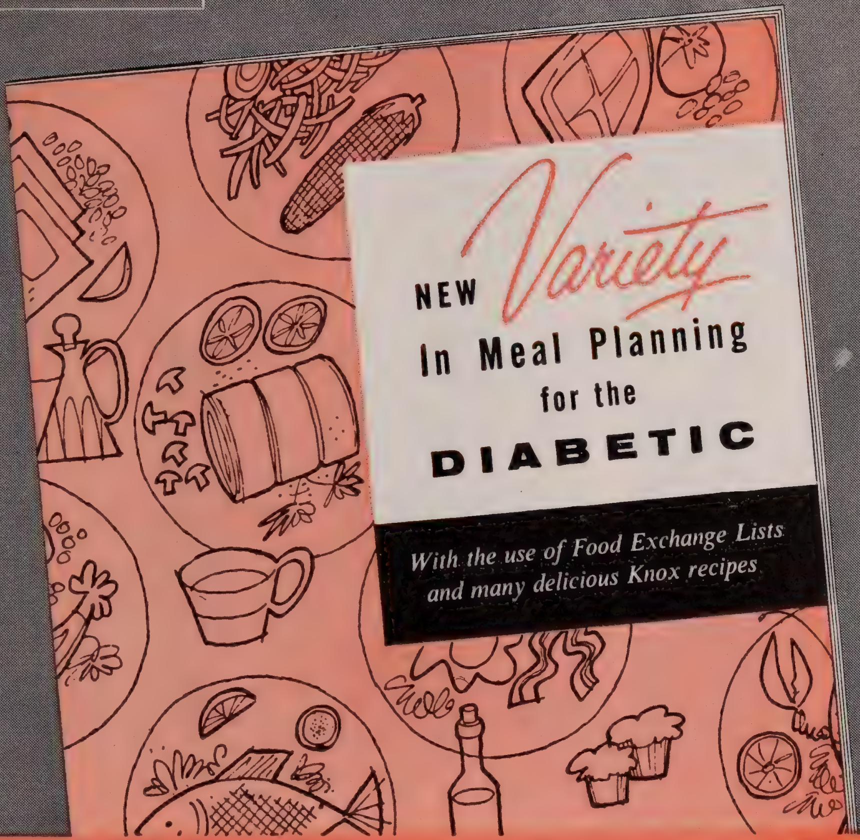

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th insulin.

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es and to help maintain this enthusiasm. It
plains the importance of diet to the diabetic,
ows him how to use the newest dietary advance
Food Exchange Lists[1]—and then describes how
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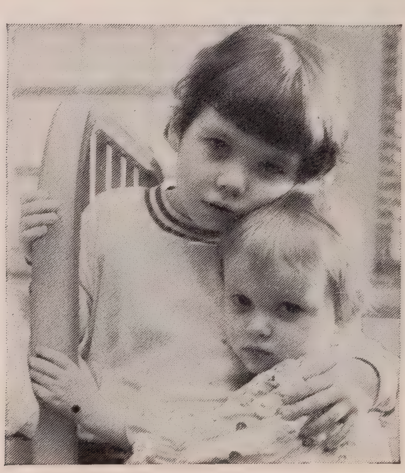

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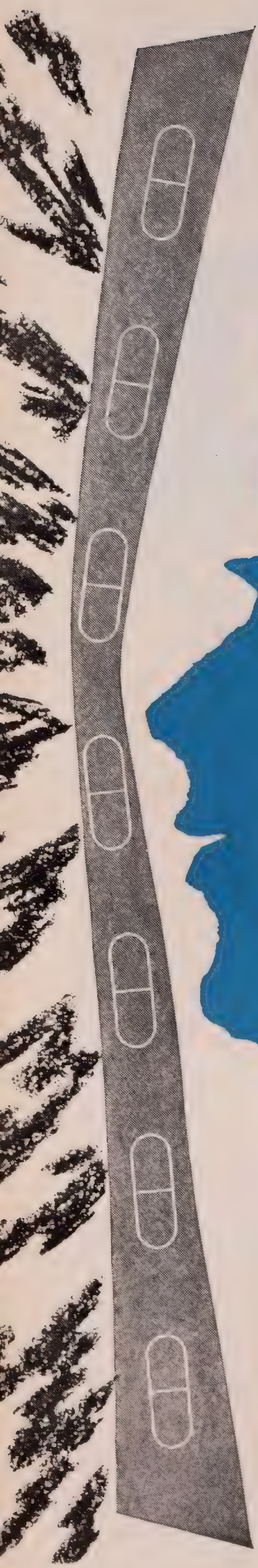

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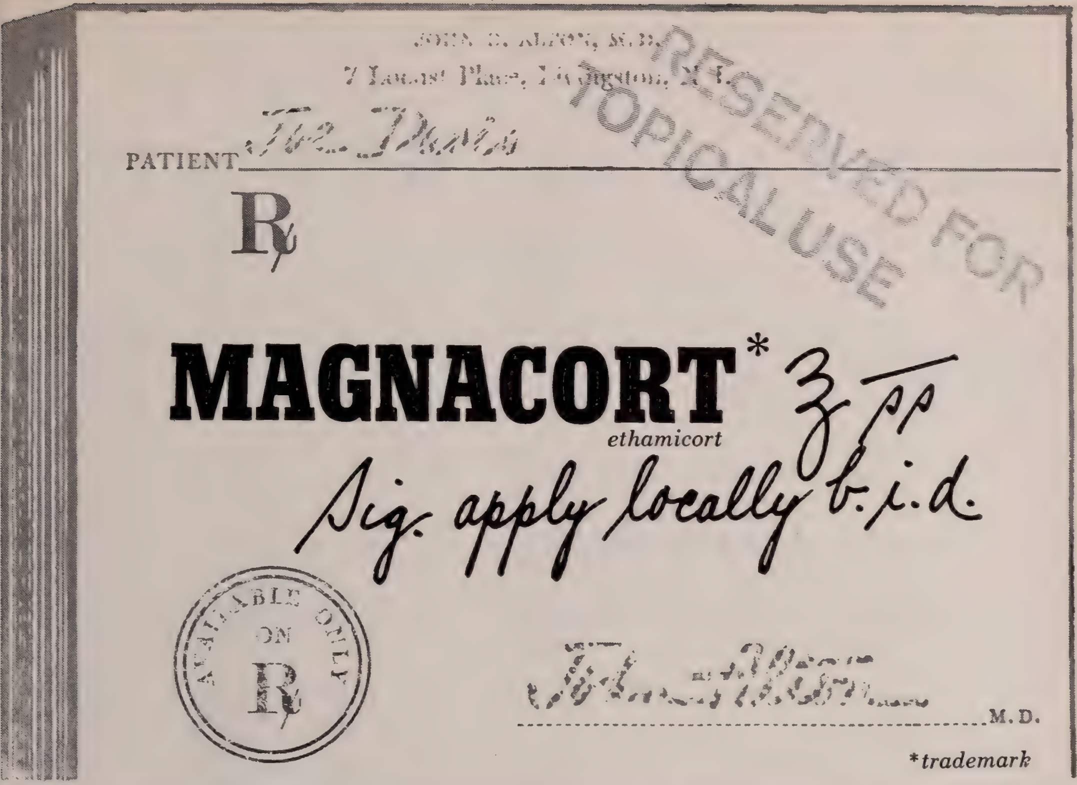
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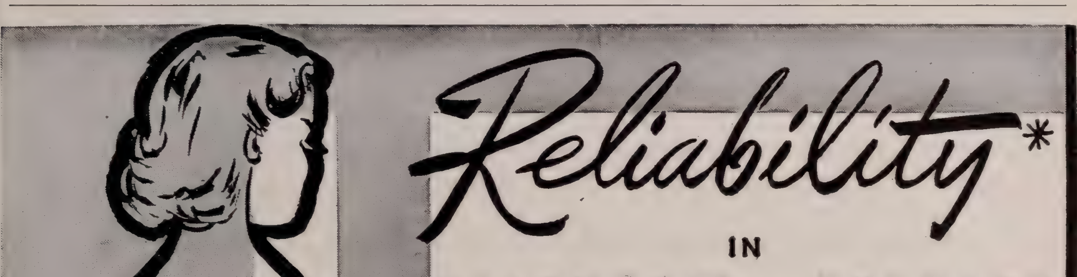

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References. 1. Farah, Luis: Int. Rec. of Med. & Gen. Prac. Clin. **169**:379 (June) 1956. 2. Shalowitz, M.: Geriatrics, July, 1956. 3. Robinson, H. M. et al: J.A.M.A. **161**:604 (June 16) 1956.

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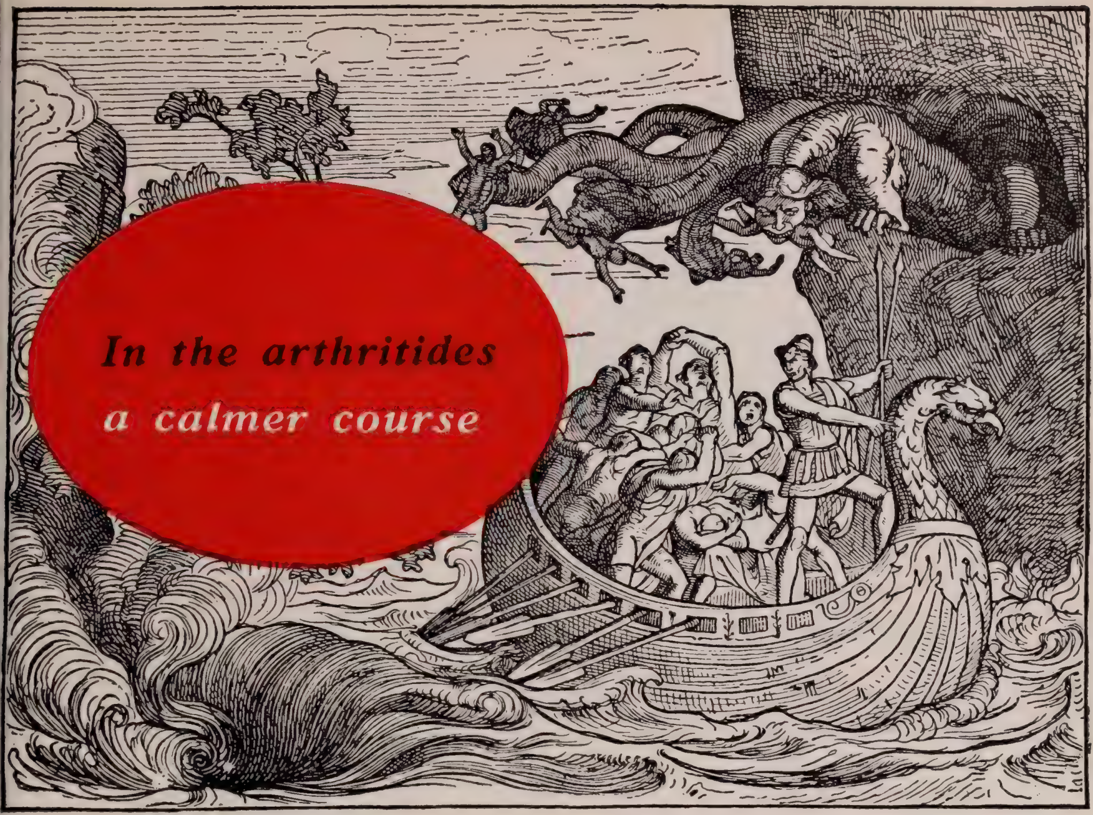

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[1] *Busse, E.A.: Treatment of Rheumatoid Arthritis by a Combination of Cortisone and Salicylates. Clinical Med.* 11:*1105*

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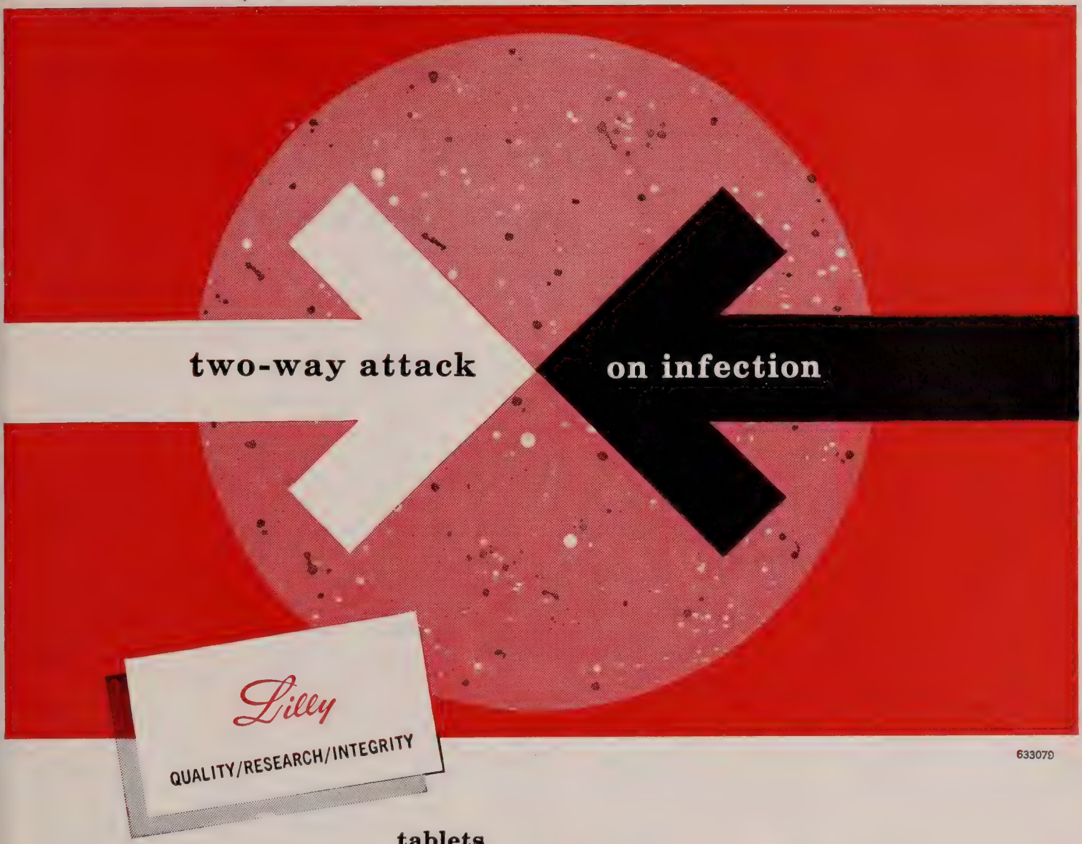

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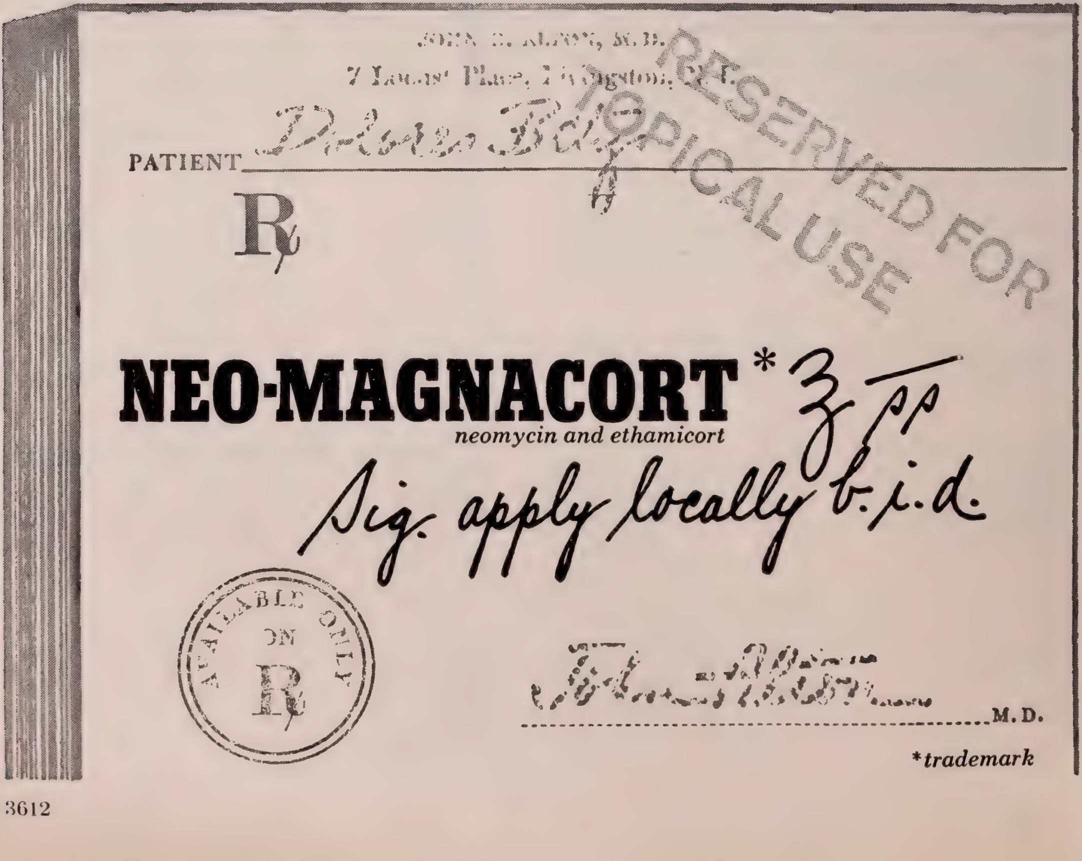

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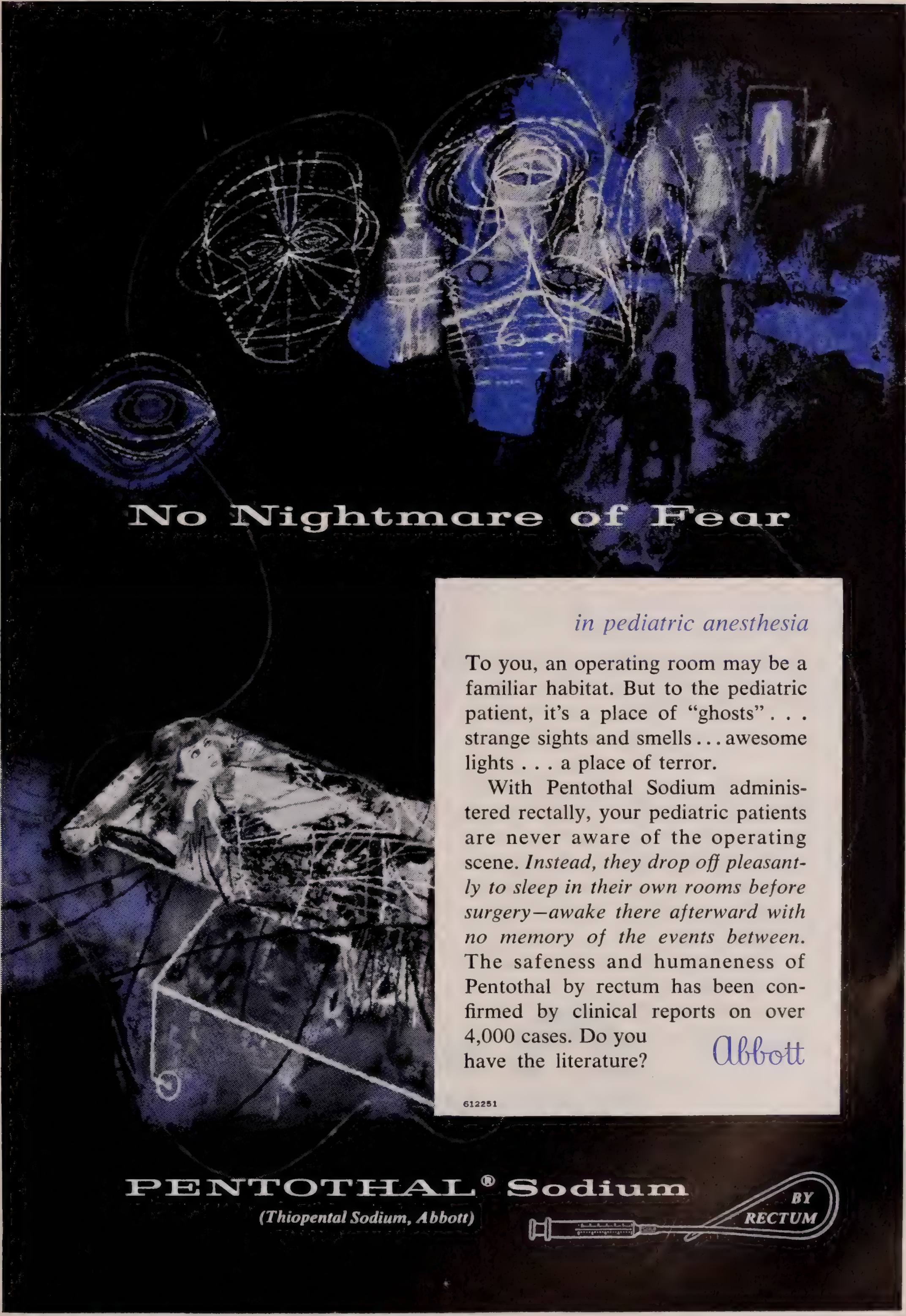

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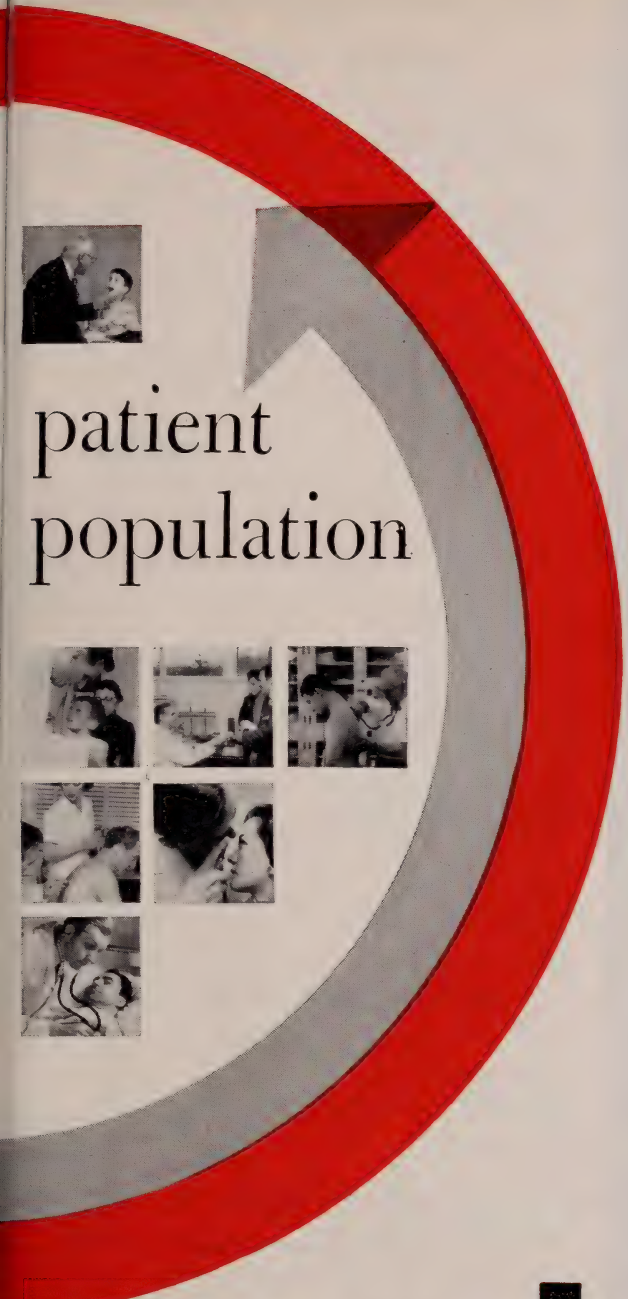

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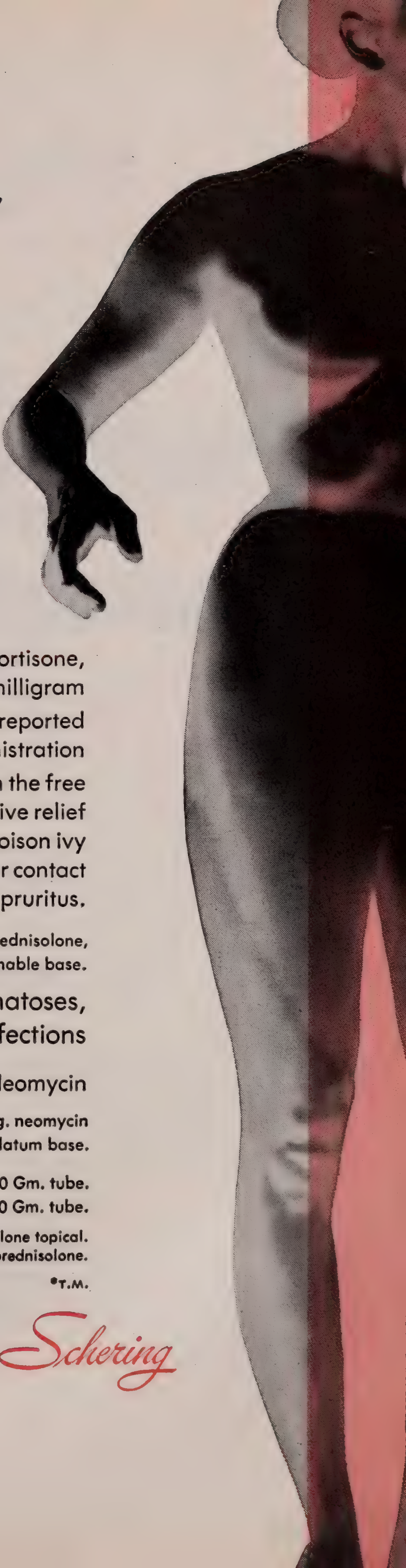

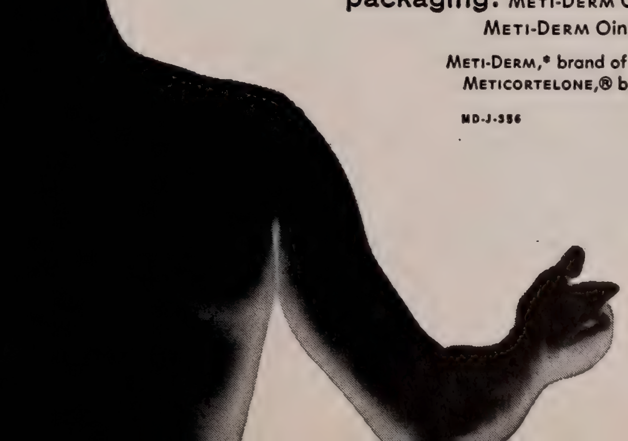

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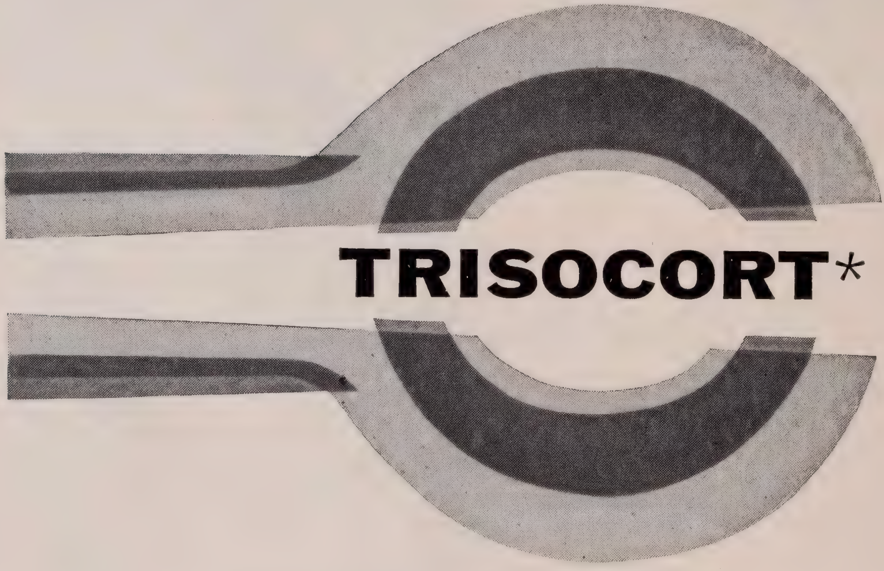

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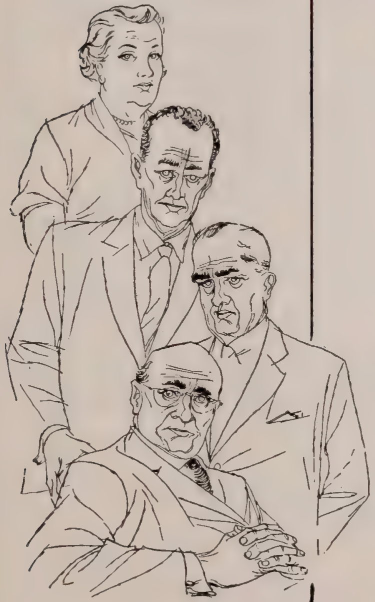

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over a prolonged dose regimen

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Vitamin B-Complex Liquid LEDERLE

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Riboflavin (B_2)	2 mg.	Choline	20 mg.
Niacinamide	10 mg.	Inositol	10 mg.
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Pyridoxine HCl (B_6)	0.2 mg.	Vitamin B_{12}	5 mcgm.

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Supplied:

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with Neomycin
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sulfa
therapy…

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palatable syrup … tablets

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Indications: all infections which respond to treatment with sulfonamides.

Each 5 cc. (1 teaspoonful) of syrup*
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Sulfadiazine	0.165 Gm.	*The Triple Sulfas*
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(*also 0.5 Gm. of sodium citrate in each 5 cc.)

Bottles of 100 and 500 tablets; 4 oz., 16 oz. and one gallon syrup.

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For Pain-Free

of everyday

In "Rheumatism"*

Multiple

TEMP

combine:

THE PROPER FORMULA
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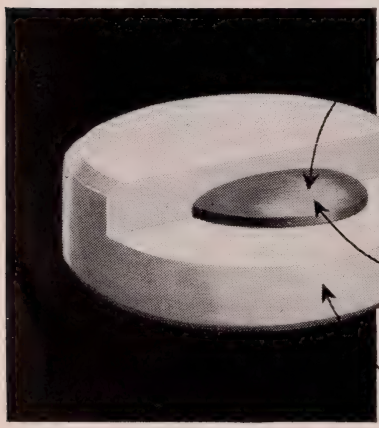

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PREDNISOLONE (*1 mg.*)....

+

ASPIRIN (*0.3 Gm.*)..............

+

ASCORBIC ACID (*50 mg.*)..

+

ANTACID (*0.2 Gm.*)............

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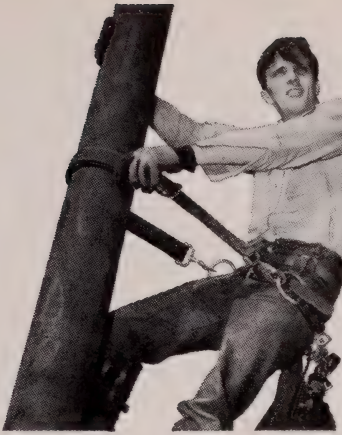

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. . . . for anti-stress support that guards against adrenal ascorbic acid depletion.
(Ascorbic Acid present as 60 mg. Sodium Ascorbate.)

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in normal pregnancy,*

a necessity

in habitual abortion

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Each capsule contains:

Hesperidin Complex	100 mg.
Ascorbic Acid	100 mg.
Vitamin A Acetate	1000 USP units
Vitamin D_2	200 USP units
Thiamine Mononitrate	1.25 mg.
Riboflavin	0.75 mg.
Nicotinamide	5.0 mg.
Vitamin B_{12}	0.75 micrograms
Folic Acid	0.05 mg.
Pyridoxine Hydrochloride (B_6)	1.67 mg.
Calcium Pantothenate	1.0 mg.
Ferrous Gluconate (2.5 mg. iron)	21.6 mg.
Calcium Carbonate (83.3 mg. calcium)	208.25 mg.
Copper Sulfate (0.5 mg. copper)	2.0 mg.
Potassium Iodide (0.05 mg. iodine)	0.065 mg.

In bottles of 100 and 500 capsules.

Recommended daily dose: Two capsules t.i.d.

References: 1. Greenblatt, R. B.: Obst. & Gynec. *2*:530, 1953. 2. Javert, C. T.: Ann. New York Acad. Sc. *61*:700, 1955. 3. Barishaw, S. B.: Exp. Med. Surg. 7:358, 1949. 4. Selsman, G. J. V. & Horoschak, S.: Am. J. Dig. Dis. *17*:92, 1950.

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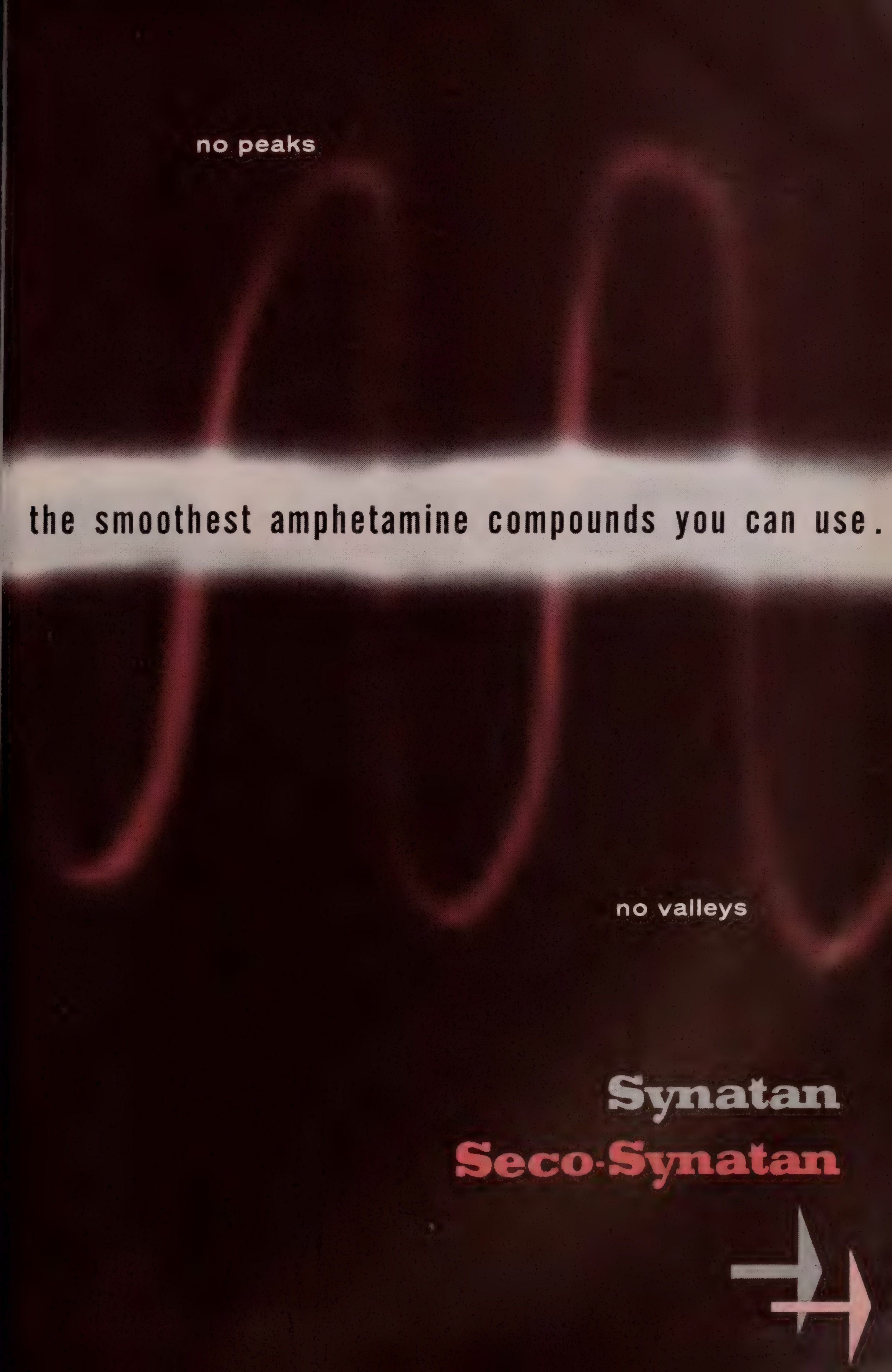
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no valleys
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mood
up

weight
down

blood
pressure
untroubled

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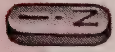
Synatan with secobarbital, Irwin-Neisler



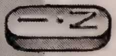
for predictable control
of the DIS/ease
of anxiety, depression
or obesity—

the smoothest amphetamine compounds you can use...

AND

Synatan

tanphetamin protocolloid complex, Irwin-Neisler



for predictable control of
appetite and mood—
free of exaggerated
response

buffers the patient against the disquieting ups and downs of his environment

CONTROLS the patient's appetite . . . all through the day . . . breaks the barrier of depression and creates a welcome sense of optimism and well-being.

CONTROLS the patient's emotions by a highly desirable calming effect . . . and contributes to the feeling of security, comfort and optimism.

Seco-Synatan

each tabule contains

Tanphetamin*
(*d*-amphetamine tannate) . . . . 17.5 mg.
Secobarbital . . . . 35.0 mg.

*Patents Pending

DOSAGE: Usual dose is 1 or 2 tabules at 10:00 a.m.

...gradual and uniform release of *d*-amphetamine by simple laws of dialysis

- independent of any mechanical fabrication of tablet
- independent of varying intestinal pH or motility

...just one dose a day provides all day control

- minimal, if any, side effects
- more dependable results . . . economical, too

the first basic amphetamine improvement in 10 years

Synatan

Each Synatan tabule is composed of a protocolloid complex containing tanphetamin (dextro-amphetamine tannate) 17.5 mg., equivalent to 5.25 mg. of *d*-amphetamine base.

DOSAGE: Usual dose, 1 or 2 tabules at 10:00 a.m.

To serve your patients today— Call your pharmacist for any additional information you may need to help you prescribe Synatan and Seco-Synatan. He has been especially alerted. For prescription economy, prescribe Synatan and Seco-Synatan in 50's.

IRWIN, NEISLER & COMPANY • DECATUR, ILLINOIS

for the first time...extended action codeine

no
call
from
pain
tonight

10 to 12 hours uninterrupted pain relief in a single tablet

Donnagesic

Donnatal® with Codeine extended action tablets

Extentabs

- no up-and-down analgesia
- better codeine toleration

Belladonna alkaloids and phenobarbital, as in Donnatal, induce mil sedation, reducing pain consciousness and anxiety. Patient is protected from spasm. Codeine constipation, nausea and vomiting ar avoided. Phenobarbital directl augments the potent analgesic effec of codeine.[1] Indicated wherever codeine is indicated—in pain or cough

Donnagesic No. 1 (pink)

CODEINE Phosphate (¾ gr.)	48.6 mg
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Atropine Sulfate	0.0582 mg
Hyoscine Hydrobromide	0.0195 mg
Phenobarbital (¾ gr.)	48.6 mg

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CODEINE Phosphate (1½ gr.)	97.2 mg
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Atropine Sulfate	0.0582 mg
Hyoscine Hydrobromide	0.0195 mg
Phenobarbital (¾ gr.)	48.6 mg

[1] Goodman, L. S., and Gilman, A.: The Pharmacologic Basi of Therapeutics, N. Y., The Macmillan Co., 1955; p. 127

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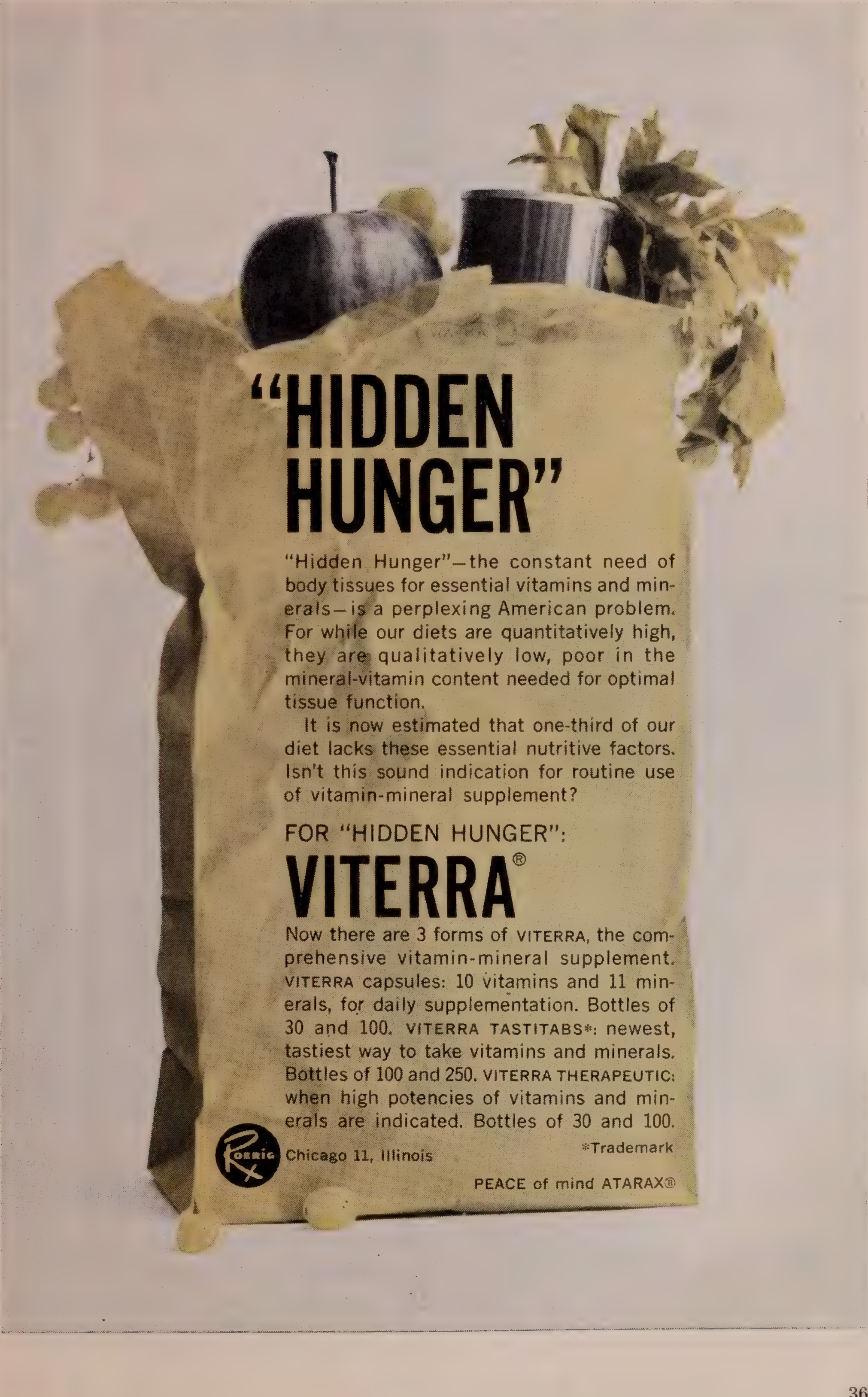


"HIDDEN HUNGER"

"Hidden Hunger"—the constant need of body tissues for essential vitamins and minerals—is a perplexing American problem. For while our diets are quantitatively high, they are qualitatively low, poor in the mineral-vitamin content needed for optimal tissue function.

It is now estimated that one-third of our diet lacks these essential nutritive factors. Isn't this sound indication for routine use of vitamin-mineral supplement?

FOR "HIDDEN HUNGER":

VITERRA®

Now there are 3 forms of VITERRA, the comprehensive vitamin-mineral supplement. VITERRA capsules: 10 vitamins and 11 minerals, for daily supplementation. Bottles of 30 and 100. VITERRA TASTITABS*: newest, tastiest way to take vitamins and minerals. Bottles of 100 and 250. VITERRA THERAPEUTIC: when high potencies of vitamins and minerals are indicated. Bottles of 30 and 100.

ROERIG Rx Chicago 11, Illinois

*Trademark

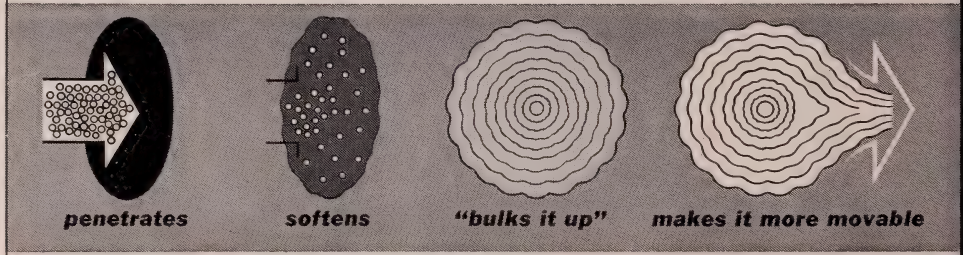
PEACE of mind ATARAX®

a *penetrant* emulsion for chronic constipation

KONDREMUL® (PLAIN)

COLLOIDAL EMULSION OF MINERAL OIL AND IRISH MOSS

permeates the hard, stubborn stool of chronic constipation with millions of microscopic oil droplets, each encased in a film of Irish moss... makes it more movable



KONDREMUL *(Plain)*—Pleasant-tasting and non-habit-forming. Contains 55% mineral oil. Supplied in bottles of 1 pt.

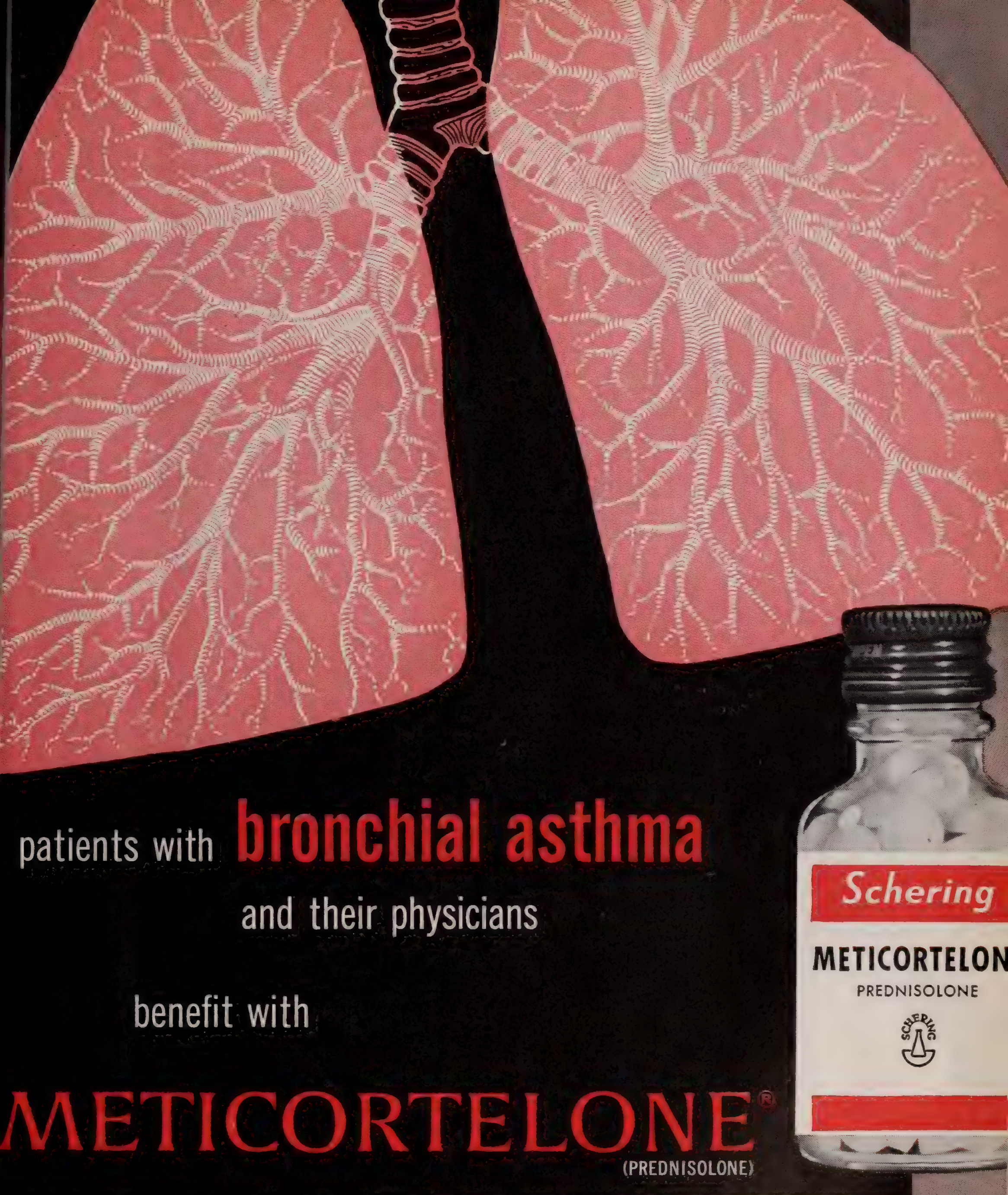
KONDREMUL *(With Cascara)*—0.66 Gm. nonbitter Ext. Cascara per tablespoon. Bottles of 14 fl.oz.

KONDREMUL *(With Phenolphthalein)*—0.13 Gm. phenolphthalein (2.2 gr.) per tablespoon. Bottles of 1 pt.

When taken as directed before retiring, KONDREMUL does not interfere with absorption of essential nutrients.

THE E. L. PATCH CO. — STONEHAM, MASSACHUSETTS

KONDREMUL
PATCH



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and their physicians

benefit with

METICORTELONE®
(PREDNISOLONE)

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rapid relief of bronchospasm, dyspnea; permits effective cough following bronchodilating action; vital capacity and pulmonary function improved...electrolyte imbalance unlikely...hastens rehabilitation

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facilitates inhalational and other adjunctive therapy; far smaller dosage than with oral hydrocortisone ...little or no worry about edema, sodium retention, potassium loss... patient cooperation assured

buff-colored tablets of 1, 2.5 and 5 mg.
METICORTELONE,® brand of prednisolone.

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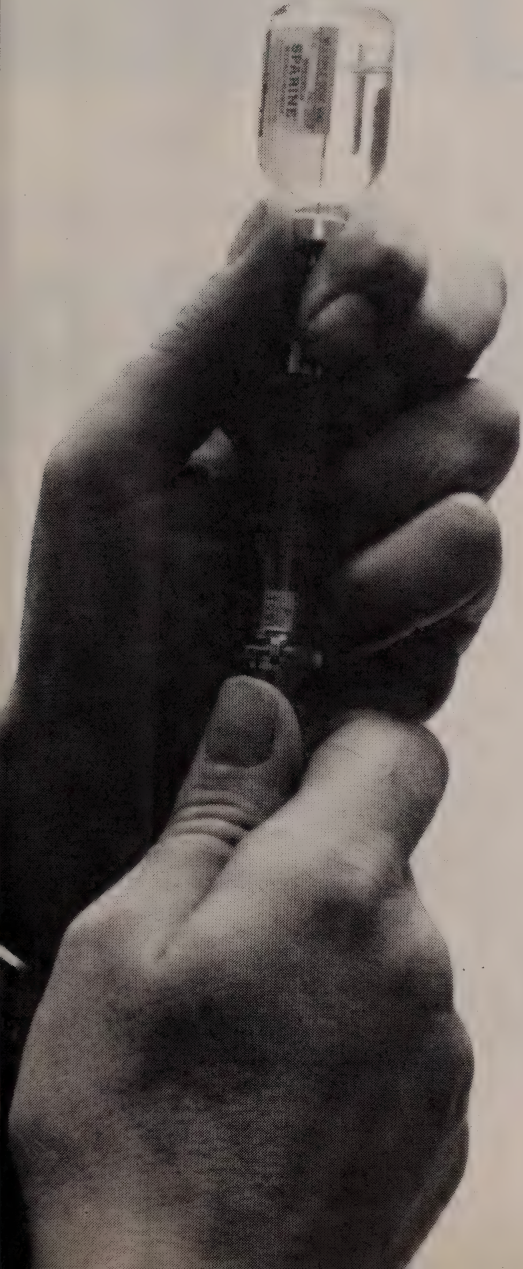
When agitation must be controlled...

SPARINE offers dramatic tranquilizing action. In your practice, it is a means to simplify difficult management—to bring acute agitation under prompt control.

SPARINE is well tolerated on intravenous, intramuscular, or oral administration. Toxicity is minimal—no case of liver damage has been reported. Parenteral use offers (1) minimal injection pain; (2) no tissue necrosis at the injection site; (3) potency of 50 mg. per cc.; (4) no need for reconstitution before injection. Professional literature available upon request.



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Philadelphia 1, Pa.

sparine*
HYDROCHLORIDE
10-(γ-dimethylamino-n-propyl)-phenothiazine hydrochloride
Promazine Hydrochloride

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New unsurpassed

superior
specific
'dermacoid' **MA**

ethamicort

+ NEOMYCIN FOR

NEO-MA

neomycin and and ethamicort

℞

Reserved
for topical use
for ℞ only

MAGNACORT is a *dermacoid*–a unique, new steroid highly active in topical use only and therefore reserved specifically for topical therapy.

NEO-MAGNACORT ideally unites the new dermacoid with an outstanding topical antibiotic, neomycin, for unsurpassed dual anti-inflammatory, anti-infective therapy.

EFFECTIVENESS

MAGNACORT is several times more potent topically than hydrocortisone and effects marked dermal diffusion and penetration.

MAGNACORT provides remarkably rapid, dependable and frequently superior suppression of itching, edema, swelling, oozing and other symptoms of a variety of inflammatory dermatoses–with only 1/2 of 1% concentration. It can be effective where other topicals are unsatisfactory or inadequate.

NEO-MAGNACORT extends the same therapeutic advantages, along with those of neomycin, for therapy of primary skin infections or dermatitis complicated or threatened by infection.

dermatologic corticoid

GNACORT*

TOPICAL OINTMENT

INFECTION

GNACORT*

TOPICAL OINTMENT

SAFETY

MAGNACORT and NEO-MAGNACORT are apparently free of any risk of systemic reactions. Extensive initial and continuing clinical investigations report no evidence of systemic effects.

Supplied: MAGNACORT Topical Ointment, in 1/2-oz. and 1/6-oz. tubes, 0.5%. NEO-MAGNACORT Topical Ointment, in 1/2-oz. and 1/6-oz. tubes, containing 0.5% neomycin sulfate and 0.5% ethamicort (MAGNACORT).

EXCELLENT TOLERATION

Clinical trials also reveal that MAGNACORT and NEO-MAGNACORT are virtually nonsensitizing and rarely produce other undesirable local effects. No instances of rebound dermatitis have been reported.

Pfizer

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Division, Chas. Pfizer & Co., Inc.
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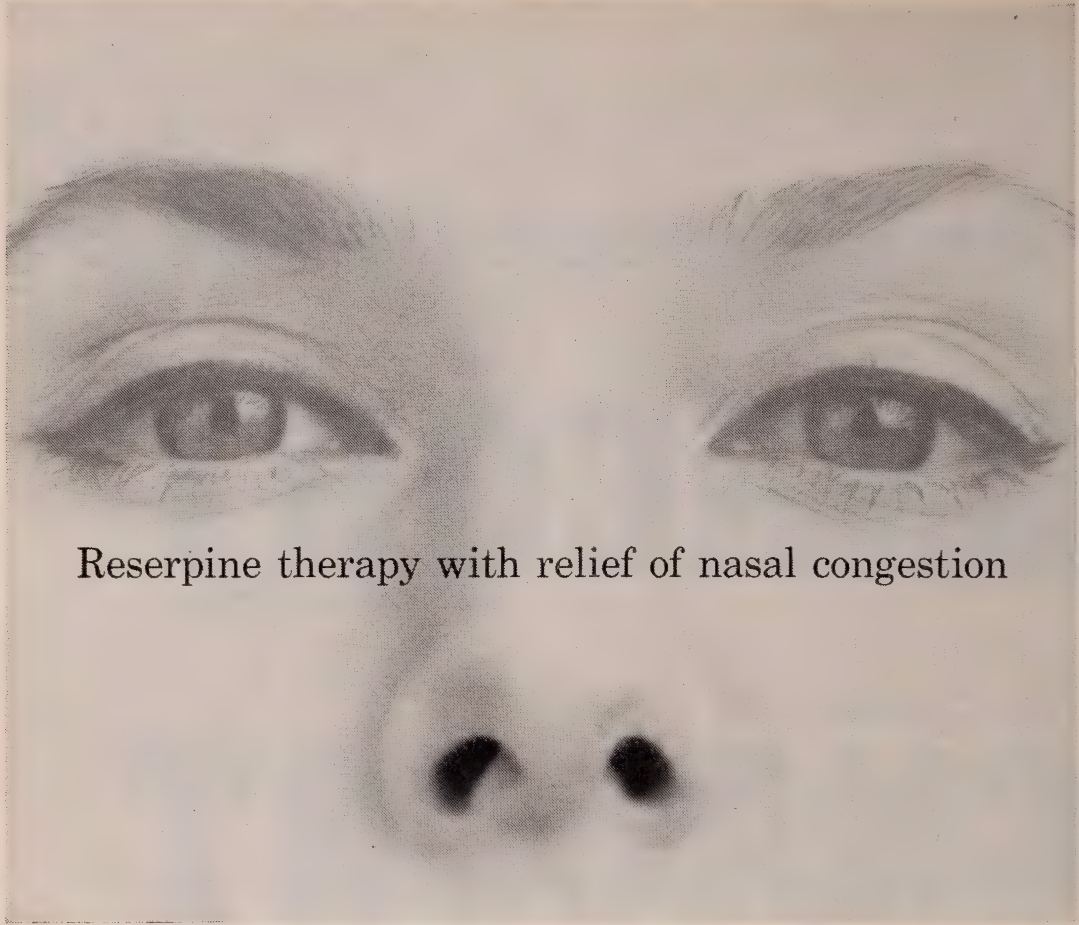
Reserpine therapy with relief of nasal congestion

'Sandril' $\bar{c}$ 'Pyronil'

(RESERPINE, LILLY) (PYRROBUTAMINE, LILLY)

Approximately half of all patients taking any *Rauwolfia* preparation experience the annoying side-effect of nasal stuffiness. Clinical studies have shown that 'Pyronil' usually relieves this condition.

For your convenience, 'Sandril' and 'Pyronil' have been combined in one small tablet. Its 'Pyronil' content will relieve nasal congestion in about 75 percent of your patients who experience this troublesome side-effect.

Each tablet combines:

'Sandril'	0.25 mg.
'Pyronil'	7.5 mg.

DOSE: Same as with 'Sandril' alone.

ALSO: Tablets 'Sandril,' 0.1, 0.25, and 1 mg.
Elixir, 0.25 mg. per 5-cc. teaspoonful.
Oral Drops, 2 mg. per cc.

Lilly

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Air Pollution—A Growing American Problem

Air pollution is belatedly being recognized as an important public health problem. It has long been recognized as a nuisance problem.

Past experiences during high levels of air pollution—in the Meuse Valley of Belgium, in Donora in Pennsylvania, in Poza Rica, Mexico, and in London—show that in each instance the number of deaths in the area increased sharply during the air pollution incident. In the London incident of 1952, for example, it has been estimated that 4,000 residents perished in five days because of the fog which enveloped the city.

Evidence is growing that air pollution has its effect on the health of our population, particularly in our urban areas. Some investigators believe that air pollution may be a source of material which gives rise to lung cancer. In England the British Empire Cancer Crusade attributes the rise in lung cancer cases to air pollution more than to cigaret smoking.

The pollution of the air over our cities is the result of the needs of our people. People need heat, and heating equipment is one of the major sources of air pollution. People must dispose of their refuse, and incineration of refuse and garbage in domestic and municipal incinerators poses another threat to clean air. People need transportation, and the exhaust gases and solids of automobiles, buses, and trucks contribute greatly to the pollution of our air. Industry needs heat and power for its production purposes, and here again air pollution often results.

Air pollution from these various sources, as well as from others, decreases the ultraviolet light which is so essential for the health of infants and growing children. A general decrease in physical and mental well-being is the usual result of exposure to smoke, fumes, and odors.

The effect of air pollution on vegetation has been studied for some time, particularly in California. The damage to crops from air pollution is estimated to be in the millions each year in just one county of that state.

It is clear, therefore, that air pollution in some form is everyone's concern. Control of the sources of air pollution is a necessity which can no longer be ignored.

Air pollution must be fought on many fronts. It is the duty of control officials to make sure that no new combustion equipment installed within their jurisdiction will smoke or emit odors. It is the day-by-day task of control officials to reduce and abate any smoke nuisance or other air pollution. Finally, it is vital that laboratories, well-equipped and well-staffed, be in constant operation to monitor our air, so that we have a continuing record of the amount and type of pollutants in the air we breathe and so that we may alert the population in the event of a dangerous level of pollution.

The individual has an important role in the fight against air pollution. In addition to reporting what may be a violation of air pollution control rules, he can see to it that he himself does not contribute to the pollution of our air. Proper maintenance and proper operation of any equipment capable of polluting the air are tasks which can be performed by all of us, whether we drive an automobile, operate fuel-burning equipment in our own homes, use the apartment house incinerator, or direct an industrial enterprise. All of these are sources of air pollution, and all can contribute to the fouling of the air we breathe. With proper use of this equipment we will not only materially reduce air pollution, we will be saving money in addition. Air pollution represents wasted fuel in many cases.

Only when every man, woman, and child realizes the danger to health and well-being which air pollution causes will we be on the road to controlling the problem, and only when every man, woman, and child takes steps to aid in that control will we be on the road to reducing the danger and the nuisance which faces all of us.

It will take time and work and money. But we cannot cease in our fight for cleaner air.

Every day we neglect this problem is a day which brings us closer to incidents of air pollution which may be tragic in their results. It has happened elsewhere, and it can happen here.

The cost of controlling air pollution may be great. But the results of dirty air carry a cost which no society can afford.—L. G.

The War Memorial Fund

In May of this year the House of Delegates of the Medical Society of the State of New York took two significant actions with respect to the War Memorial Fund.[1] The House voted (1) "to include children of members who died in service during the recent police action in Korea" and (2) "to increase the allowance to a maximum of $900 a year or an amount that will as completely exhaust the Fund as advisable at the end of the projected time for its use."

In discussing the actions of the House, Dr. Walter Mott, now director of the War Memorial Fund, said:

> Mr. Speaker and fellow delegates, when, in my annual report, I called attention to the rising costs of tuition and to the inadequacy of the original stipend of $600 per annum to beneficiaries of the fund and said that in some future year the House might decide to increase this allowance, I did not expect such a prompt and generous response as that contained in Dr. McCarthy's resolution and in the favorable report on it by the reference committee.
>
> If you adopt this report, as I hope you will, of course the War Memorial Committee will carry out your directions faithfully, although it might mean the exhaustion of the fund before 1974, when our last beneficiary will be twenty-five years old. However, if my suggestion meets with the favorable response that I believe it merits, namely, that those members who have joined the State Society since 1948 be urged to make a voluntary contribution of $12 apiece, this would help to secure the stability of the fund. I am sure if you adopt this report you will earn the gratitude of every beneficiary, and, anticipating your favorable action, I wish to thank you on their behalf.

Following Dr. Mott, Dr. John Rogers, chairman of the reference committee, remarked further:

> We believe that the allowance for tuition should be increased to $900 from $600, the new amount to be allocated as of September, 1956.
>
> Also, your reference committee suggests, as Dr. Mott has spoken to you, that any members of the Medical Society of the State of New York who have joined since the original assessment of $12 in 1948, and those who join in the future, voluntarily contribute in like amount to insure the War Memorial Committee against any unforeseen contingency.
>
> We further recommend that the above paragraph should be brought to the attention of the component county society secretaries.

For the information of the younger members of the Society, the War Memorial Fund was established in 1948 to provide funds to further the education of children of members of the Medical Society of the State of New York who gave their lives in service during World War II. In 1948 an original assessment of $12 per member started the Fund. Since that time the cost of tuition for a college student has risen, necessitating the increase in the allowance to a maximum of $900 a year per student from the original level of $600 which was adequate in 1948. The children of those members who died in the Korean police action were included by the action of the House this year. The last beneficiary of the Fund will reach the age of twenty-five in

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[1] Minutes of the House of Delegates, Sections 47 and 124. NEW YORK STATE J. MED. **56**: 52, 96 (Sept. 1, Part II) 1956.

1974, at which time the Fund will be terminated, it is hoped.

In order that the War Memorial Fund be truly representative of the whole membership of the Society, it was proposed, as above stated, and passed by the House that "any members who have joined the Society since the original assessment of $12 in 1948 and those who join in the future, *voluntarily contribute* in like amount to insure the War Memorial Committee against any unforeseen contingency. . . ."

This is assuredly a project of which the Society can well be proud. The War Memorial Fund certainly seems to be unique with the Medical Society of the State of New York. We are not aware of any similar action by any other state society, and we feel sure that those of our members who have not previously done so will be proud to contribute voluntarily through their several county societies in order to assure the education of the children of those who have given their all in the service of our country.

ANNOUNCEMENT

Editor's Note.—*The following release has been prepared by the Subcommittee on the Hard of Hearing and the Deaf of the Council Committee on Public Health and Education, Medical Society of the State of New York. It is designed for publication by health, religious, school, and civic organizations, and our readers are asked to note this and call it to the attention of any individuals in their communities who might be interested.*

The Subcommittee on the Hard of Hearing and Deaf of the Council Committee on Public Health and Education of the Medical Society of the State of New York at the beginning of every school year believes it is important that parents—especially mothers—should be alerted by their pediatrician or family doctor to notice whether or not their children are hearing perfectly. A mother should be the first to suspect a deafness in her little child; she is usually nearer the child than others and is more familiar with his reactions than anyone else.

The mother also is the best able to detect deafness in her baby. If her baby responds less readily to her speech or to familiar sounds than her other babies did at the same age, she will notice it. If sounds associated with baby's feeding are not noticed, deafness should be suspected and the hearing carefully tested. Test sounds should be made out of sight of the baby. Among such simple sounds are clapping of the hands, speaking the baby's name, tapping on the door, tinkling a spoon or anything metallic against the feeding bottle, etc. If the baby continues to pay no attention to such familiar sounds or to loud sounds—such as the barking of a dog, backfiring of an automobile, children's voices in the street, fire, police, or air raid sirens—something needs investigation, and frequently it is the hearing that is at fault.

If a hearing defect is suspected, see your doctor. He should direct you to a competent ear specialist who will determine whether or not your suspicions are correct and to what extent the child's hearing is affected.

Community resources are available to the physician and to the family needing financial assistance. These include departments of health and the better hospitals, leagues for the hard of hearing, and hearing and speech centers which are usually located in colleges and universities.

Edmund Prince Fowler, M.D., *Chairman*
Greydon G. Boyd, M.D.
Karl W. Gruppe, M.D.
Gordon D. Hoople, M.D.
C. Stewart Nash, M.D.
Samuel Zwerling, M.D.
Clarence D. O'Connor, Ph.D., *Consultant*
Mrs. Eleanor C. Ronnei, *Consultant*

History of the Society

The history of the Medical Society of the State of New York is now in the process of compilation for publication in the Sesquicentennial issue of the JOURNAL, February 1, 1957. This is a task of some magnitude requiring the collection from various sources of voluminous material which must then be condensed to its final form. While much valuable data are available from the Society's transactions, from the earlier issues of the JOURNAL, and from the libraries of the State, the histories of many of the component county medical societies do not seem to have been written or, if written, not published to date.

This year, 1956, many county medical societies are celebrating their sesquicentennials, and in the years to come others will do so. Some of the county societies now have bulletins; others are in the process of founding them, we are informed. Thus there are available many media for the publication of county society histories that some years ago did not exist.

Also this JOURNAL has for some years contained a section on the History of Medicine in New York State. For the information of putative county society historians in those locales where no county bulletin yet exists, this JOURNAL would be glad to consider for possible publication any submitted material dealing with the history of any of the 61 counties. There are surely interested physicians in many parts of the State who are historically minded. Records exist in the minutes of the several county societies of the founding and subsequent development of those societies. True, it takes time to dig out significant material and to write it down. But we hope some of our members will be moved to do so for publication in the JOURNAL.

Editorial Comment

New Blue Shield Contracts. New contracts with additional benefits and broadened eligibility for paid-in-full physician services are now offered to the public, it was announced September 24, by Dr. Louis H. Bauer, chairman of the board of United Medical Service, Inc., the Blue Shield Plan in the Greater New York area.[1]

All medical societies in the 17 counties served by New York's Blue Shield have approved the new program.

Under the new contracts individuals with income up to $4,000 and married persons with family income up to $6,000 will receive surgical care, medical care in the hospital, and radiation therapy for malignant conditions on a paid-in-full basis when treated by any of the 17,000 Blue Shield participating physicians in the New York area.

Members in higher income brackets will receive allowances averaging more than 50 per cent higher than now available under United Medical Service contracts.

Present contracts, which provide paid-in-full benefits to single subscribers with incomes up to $2,500 and married subscribers up to $4,000, will be retained in order to allow lower income members to continue their coverage without increased cost. Other members and new applicants have a choice of the two programs of income. The choice will be available to nongroup members as well as to the 48,000 groups which comprise the greater part of Blue Shield's 4,300,000 membership in the New York area.

In addition to higher allowances for benefits currently provided, the new contracts add general anesthesiology. This new benefit will be provided to income eligible patients on a paid-in-full basis and to others as an allowance toward the physician's fee.

Monthly group rates for the new surgical-medical plan will be $1.68 for an individual, $4.48 for husband and wife, and $5.88 for a family. Rates for the new general medical plan will be $3.20 for an individual and $13 for family. Both plans include allowances toward maternity care and specialist consultations. The general medical plan also provides allowances for home and office visits.

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[1] U.M.S. News Bulletin, Sept. 24, 1956.

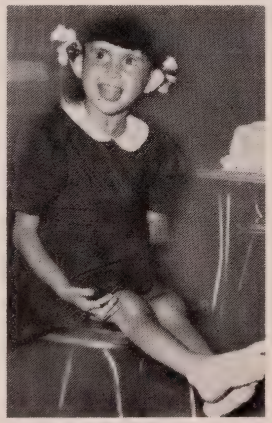
In announcing the new program, Dr. Bauer said, "The unanimous approval of this new program by the medical societies is further evidence of the desire of the medical profession to support the public service objectives of Blue Shield.

"As a nonprofit organization protecting almost 40 per cent of the population in the New York City area," he said, "Blue Shield has been concerned about changing economic conditions and their effect on subscribers eligible for the paid-in-full feature under present income ceilings. The new $4,000–$6,000 service contracts will make it possible for the majority of New Yorkers to obtain a greater degree of security and still be treated by a doctor of their choice."

This will be of interest to most of the practicing physicians of the State. The rates are moderate and the coverage materially broadened in the new contracts. This is indeed progress in the right direction.

ANNOUNCEMENT

Editor's Note.—*The* Journal *is pleased to cooperate with the New York City Police Department in their endeavor to identify the unknown white female described and pictured below. Our readers are requested to give this their special attention since it is possible that one of them may have delivered, treated, or examined the subject at some time and can assist in her identification.*



This unknown white female was found in the basement of Beth-El Hospital, Brooklyn, New York, on July 31, 1956, and removed to Bellevue Hospital, New York City, for treatment. Subject's medical description according to physicians at Bellevue Hospital is as follows: Makes symbolic gestures with hands; makes many rocking movements, keeping legs in a semifetal position. There is marked wasting of muscles in the legs. She has 24 teeth, bifid uvula; hypertension is present in all joints with no marked neurologic deficit or obvious nutritional deficiencies. Height is 41 inches, weight $28^1/_4$ pounds; head measures 46 cm., chest 55.5 cm. X-ray of teeth reveals a dental age of eight to nine years. The subject is thought to have microcephaly with mental retardation and regressing autism. She has a cleft palate and a pilonidal sinus, which may or may not have been present at birth.

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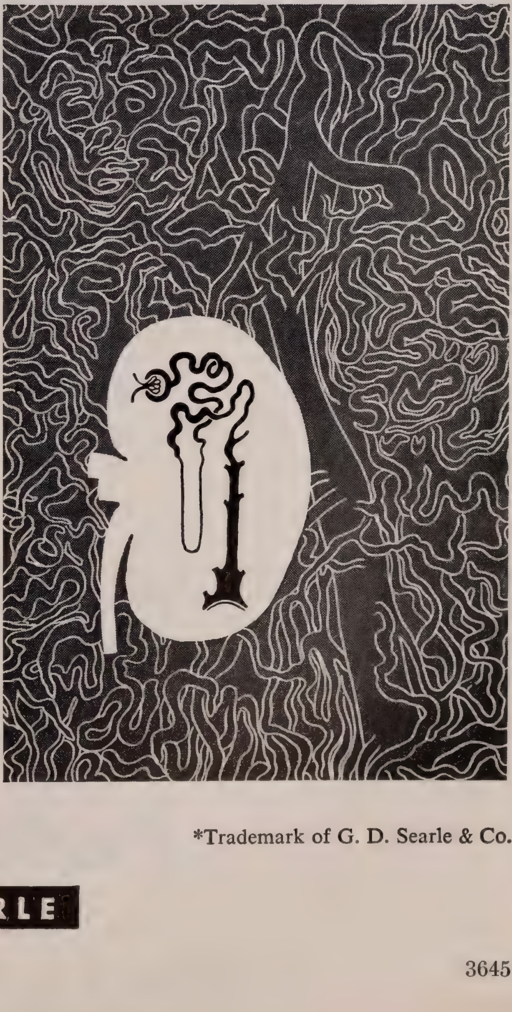
One tablet of Rolicton b.i.d., after meals, is usually adequate for maintenance therapy after the first day's dosage of four tablets. Some patients respond well to one tablet daily. G. D. Searle & Co., Chicago 80, Illinois. Research in the Service of Medicine.



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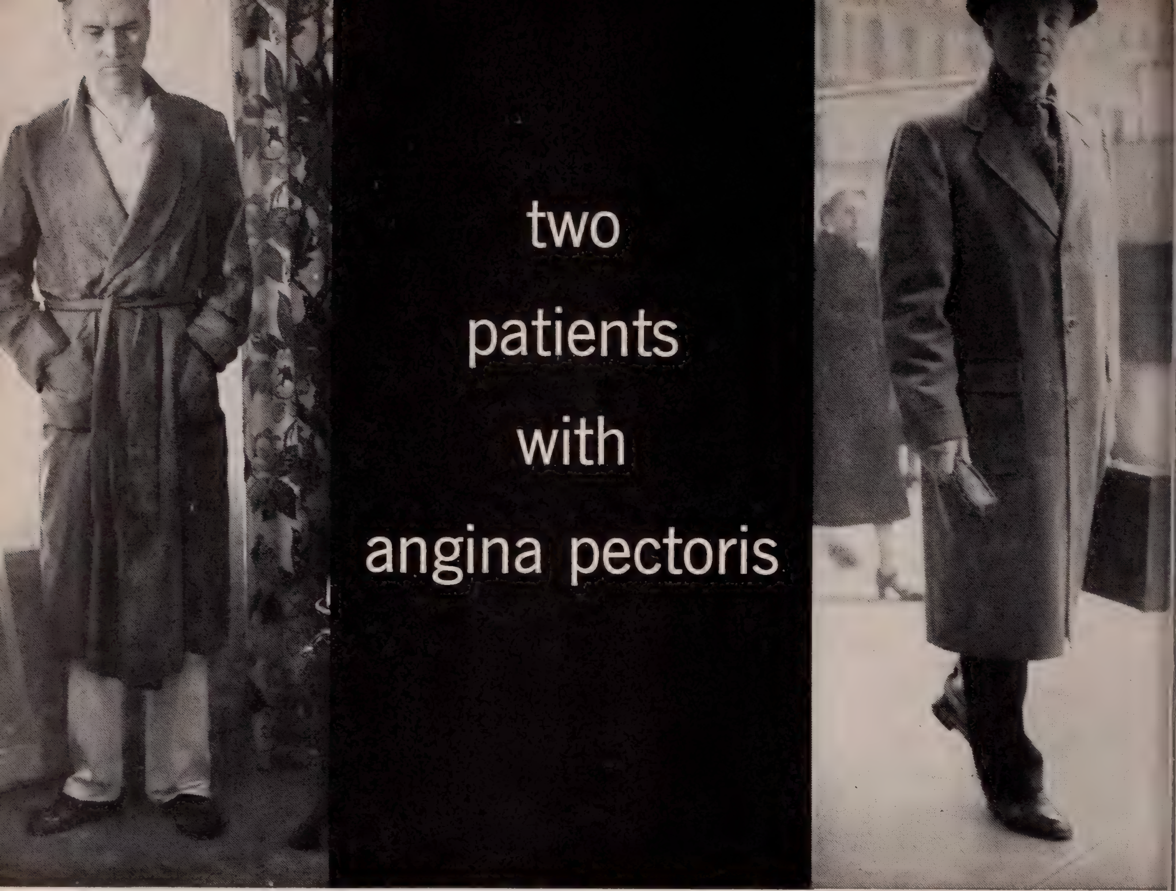
SEARLE



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In angina pectoris: ". . . the difference between complete, or almost complete, absence of symptoms, or a prolonged illness with much suffering" may lie in routine prophylaxis with Peritrate.[1]

New studies continue to confirm the effectiveness of this long-acting coronary vasodilator. "Impressive and sustained improvement" is observed in patients on Peritrate therapy.[2]

Simple prophylaxis: Peritrate is not indicated to abort the acute attack (nitroglycerin is still the drug of choice). However, you can reduce or eliminate nitroglycerin dependence and provide continuing protection against attacks of angina pectoris with Peritrate. Prophylaxis is simple: 10 or 20 mg. of Peritrate *before meals* and at bedtime. Maintenance of a continuous daily dosage schedule is important for successful therapy.

Peritrate has been demonstrated to prevent or reduce the number of attacks, lessen nitroglycerin dependence, improve abnormal EKG findings and increase exercise tolerance.[3,4,5]

The specific needs of most patients and regimens are met with Peritrate's five dosage forms: Peritrate 10 mg. and 20 mg. tablets; Peritrate Delayed Action (10 mg.) for continuous protection through the night; Peritrate with Phenobarbital (10 mg. with phenobarbital 15 mg.) where sedation is also required; Peritrate with Aminophylline (10 mg. with aminophylline 100 mg.) in cardiac and circulatory insufficiency.

Usual Dosage: 10 to 20 mg. *before meals* and at bedtime.

References: **1.** Rosenberg, H. N., and Michelson, A. L.: Am. J. M. Sc. *230*:254 (Sept.) 1955. **2.** Kory, R. C., *et al.*: Am. Heart J. *50*:308 (Aug.) 1955. **3.** Winsor, T., and Humphreys, P.: Angiology *3*:1 (Feb.) 1953. **4.** Plotz, M.: New York State J. Med. *52*:2012 (Aug. 15) 1952. **5.** Dailheu-Geoffroy, P.: L'Ouest-Médical, vol. 3 (July) 1950.

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WARNER-CHILCOTT

The Radiographic Appearance of Metastatic Bone Disease

ARNOLD L. BACHMAN, M.D., NEW YORK CITY

(From the Department of Diagnostic Radiology, Francis Delafield Hospital)

Metastatic bone disease is the most frequent malignant disease of bone, being found at autopsy in 15 to 30 per cent of all patients dying of cancer.[1,2] The incidence in any specific autopsy series depends in part on the number of bones routinely examined and the detail of the examination. Certain carcinomas show much greater tendencies for spread to bones than others; those most frequently metastasizing to bone arise in the breast and prostate. Bony metastases from each of these primary sites have been reported in from 50 to 75 per cent of the cases in several series.[2,3] Carcinomas of the lung, thyroid, and kidney also metastasize to the skeleton frequently, varying from 25 to 40 per cent in the reported groups. Less frequently, but not rarely, do carcinomas of the gastrointestinal tract, esophagus, stomach, colon, and pancreas metastasize to bone, such metastases being found in each group in about 10 per cent of the cases. Still less often, metastases from carcinomas of the ovary, malignant melanomas, and lymphoblastomas are found in the bones. The other malignancies are seen secondarily in the bones only rarely.[2,4]

Bony metastases usually result from hematogenous dissemination from the primary sites.[1,2] Occasionally the spread is along the lymphatic route.[5] The metastatic deposits are initially in the marrow spaces,[2] although rarely the metastases begin in a subperiosteal location. Following its deposition in the marrow spaces, the tumor growth may assume one of four rather distinct appearances:

1. Intertrabecular metastasis, where the proliferating cells are seen only in the marrow spaces between the trabeculae. The latter are in no manner affected by the neoplastic cells, and as a result the bony architecture remains entirely undisturbed. It is felt that all the medullary or cancellous metastatic deposits begin in this manner. However, only a small number of metastases remain intertrabecular in nature for any considerable time. In most instances lytic or blastic changes affect the bony trabeculae rather quickly.
2. Osteolytic metastasis, where the bony trabeculae adjacent to the growing neoplasm become increasingly demineralized and finally are entirely replaced by the growth and its soft tissue stroma. The cortex is invaded, demineralized, and destroyed as the medullary growth enlarges.
3. Osteoblastic metastasis, where the neoplastic cells in the marrow spaces and bone canals stimulate the deposition of calcium so that the bony trabeculae increase in thickness and number, become fused, and finally are seen as dense compact areas showing comparatively few tumor cells within them.
4. Mixed forms of the above three occur. Any arrangement and proportion of types may occur in a specific case.

A very voluminous literature indicates that almost any malignant tumor of almost any organ may metastasize to almost any bone and result in a rather common or most bizarre clin-

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Presented at the 150th Annual Meeting of the Medical Society of the State of New York, New York City, Section on Radiology, May 10, 1956.

This work was supported in part by an institutional grant from the American Cancer Society to the College of Physicians and Surgeons, Columbia University.

TABLE I.—Correlation of Radiographic and Autopsy Findings in Spines of Patients Dying of Carcinoma

Pathologic Findings in Spine	Number of Cases	Radiographic Findings		
		Correct X-ray Diagnosis	Metastases Not Visualized	False Positive
No spine metastases at autopsy	28	27	. .	1
Spine metastases at autopsy	31	15	16	. .
Osteoblastic	19	8	11	. .
Osteolytic	5	4	1	. .
Mixed	2	2	0	. .
Intertrabecular	5	1	4	. .
Total	59	42	16	1

TABLE II.—Visualization of Spine Metastases with Different Types of Radiographic Examination

X-ray Diagnosis	Conventional Anteroposterior View of Spine	Anteroposterior Tomogram of Spine	X-Ray of Spine Sections Removed at Autopsy
Correct diagnosis	42	41	39
Metastases not visualized	15	15	12
False positive	1	0	2
No examination	1	3	6
Total	59	59	59

ical and radiographic pattern. Indeed, practically every physician with any cancer experience has seen one or more examples of unusual bone metastases from unexpected sources and primary tumors. Nevertheless, certain bones are much more frequently involved than others. This may be explained at least in part by two assumptions: first, that the hematogenous metastases tend to occur in those bones in which red marrow is found in the adult and, second, that the nearer a bone is to the site of the primary malignancy, the greater its susceptibility to a metastatic deposit. The bones most frequently showing metastatic deposits are the vertebral bodies, pelvis, ribs, calvarium, upper femurs, upper humeri, and sternum. The bones of the distal halves of the extremities show involvement only infrequently.

The radiographic demonstration of a metastatic deposit depends on a number of factors. Among these are the effect of the metastasis on the bony trabeculae or cortex, the size of the deposit, its location in the involved bone, and the presence of associated phenomena easily recognized radiographically. It is a common experience, and so recorded, to find instances of proved metastatic deposits in bones which appear entirely normal on x-ray examination.[1,6,7] However, the very high incidence of such nondemonstrable metastases was appreciated by us only recently.

Dr. Edith Sproul and I[8] examined the spines postmortem in 59 cases dying from carcinoma. The radiographic examination of the spines included routine Bucky and tomographic studies of the cadavers, as well as x-ray studies of sections of the spine removed at autopsy. The roentgenographic appearances were correlated with the gross and microscopic pathologic findings ascertained at autopsy. We observed that in more than half the cases showing metastases pathologically, the roentgenograms failed to demonstrate the abnormalities (Table I). Of the 59 cases studied, metastases were found pathologically in 31 and not in the remaining 28. Of the 31 cases with documented metastatic deposits, the radiographs were positive in only 15 instances. The tomographic studies were no more effective than the routine Bucky studies in demonstrating the deposits. Indeed, in most of these cases the roentgenograms of the removed vertebral segments also appeared entirely normal (Table II).

As expected, there was a strong relationship between the type of metastasis and its radiographic visibility. The intertrabecular lesions did not affect the calcium trabeculae and were usually invisible, even though the entire vertebral body was involved. The osteoblastic lesions showed a varying effect on the trabeculae in the direction of increasing their width and density. These changes in the calcific bone were rather subtle at times, becoming marked comparatively late in the course of the local process. As a result the incidence of nondemonstrable lesions was high in these cases also. On the other hand, the purely osteolytic lesions affected the calcific trabeculae early and appreciably. Such lesions were demonstrated by x-ray much more frequently than the other types. The success in demonstrating the mixed types of metastases depended on the relative amount of bone destruction present, both examples in this series being visualized on the x-ray studies.

From the foregoing it is apparent that the size of a deposit necessary for demonstration is greatly dependent on the character of the lesion and, to a lesser extent, on its location. The intertrabecular process may be invisible despite involvement of the entire bone.[8,9] Osteoblastic lesions in the vertebrae may attain several centimeters in size without recognition if the deposits are only slightly condensing and not sharply circumscribed. If they occur in the cancellous center of a bone, they must be larger for visualization than if eccentrically placed. Small blastic lesions in the long bones can be identified with greater ease than when located in the vertebrae. Thus, some sclerotic lesions of 5 mm. diameter have been recognized with ease on the radiographs, while other osteoblastic lesions of several centimeters diameter have proved radiographically invisible. The osteolytic lesions are the most easily demonstrated, and generally, smaller lesions are demonstrable than with the other types. In addition, these lesions are most easily simulated for investigation of the relationship of size and location to radiographic visibility.

The size of osteolytic lesions necessary for radiographic visualization was investigated by drilling holes of different diameters into the bodies of vertebrae removed at autopsy. These vertebral bodies were then x-rayed in air and in water phantoms simulating the periosseous soft tissues found in vivo. It was observed that the radiation scattering effects of the water phantom surrounding the vertebrae resulted in a marked reduction of x-ray demonstrability of the "lytic lesions." Thus, a hole 0.6 cm. in diameter was well demonstrated on the film taken of the vertebrae in air but was invisible on the radiograph of the vertebrae in the water phantom. Our findings indicated that vertebral body osteolytic lesions usually had to attain a size of 1.0 to 1.5 cm. in diameter to be visible on the clinical radiographs. This conclusion corresponded well with that of Bokström[10] who performed similar experiments with holes drilled in vertebral bodies. In addition, while tomographic examination might occasionally reveal a lesion imperceptible on the routine x-ray film, this was not a usual occurrence and was found only infrequently. In the thinner bones of the extremities, where there was less secondary radiation, osteolytic lesions of smaller size were demonstrable. Lesions of 0.5 cm. diameter were clearly seen in the long bones about the elbows and knees.

The shape and margins of a metastasis also play roles in early recognition. Sharply circumscribed margins permit recognition of smaller lesions than ill-defined peripheries which gradually merge into the surrounding normal trabeculation. Round deposits are more easily discerned than irregularly shaped metastases.

The location of the metastatic deposit within the affected bone is of some importance for its demonstrability. Lesions located in the central portions of cancellous bone are more difficult to visualize radiographically than those eccentrically located. Marginal medullary metastases which cause sharply etched, crescentic erosions of the endosteal aspect of the cortex may be seen, even though they are less than 1 cm. in diameter. On the other hand, metastases situated in the cortex, particularly of a vertebral body, may be completely hidden by the marked density of the adjacent intact cortex seen "on end" in the film. Lesions situated within complex osseous configurations are often difficult to visualize and must attain considerable size before being recognized. Noteworthy among such regions of concealment are the base of the skull and dorsal laminae of the spine.

Finally, recognition of metastatic depositions may be aided by indirect evidence of their presence, such as changes in the shape and contour of the affected bone itself. Collapse of a vertebral body occasionally is the first evidence of a metastatic involvement, although the trabecular pattern of the narrowed body still appears essentially normal. In a similar manner pathologic fracture of a long bone may be the first manifestation of bony weakening due to metastases. At times a small subperiosteal lesion may incite a reactive irregular periosteal calcification, the latter being the only visible evidence of an osseous abnormality.

Metastatic osseous deposits may assume a variety of forms, and all the different appearances

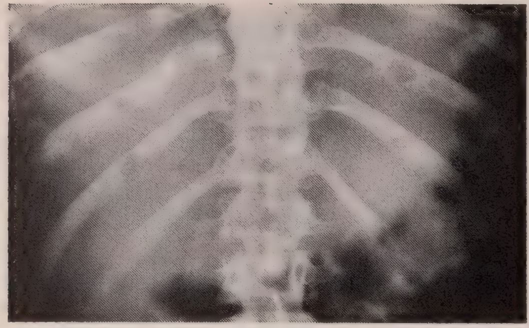

FIG. 1. Circumscribed osteolytic metastases, "holes in the bones," in ribs. Carcinoma of the breast.

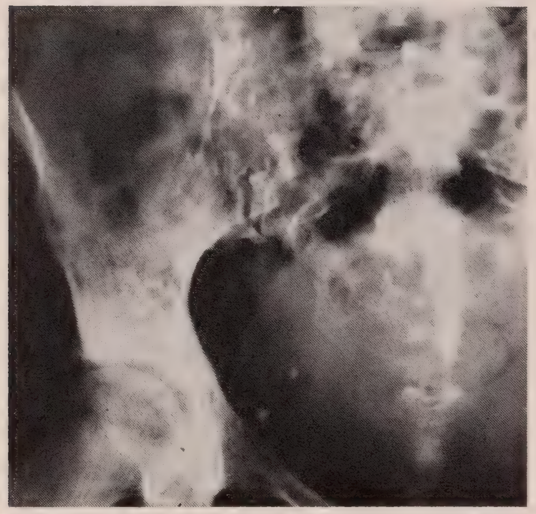

FIG. 2. Mottled, patchy, destructive osteolytic metastases in ilium and sacrum. Carcinoma of the breast.

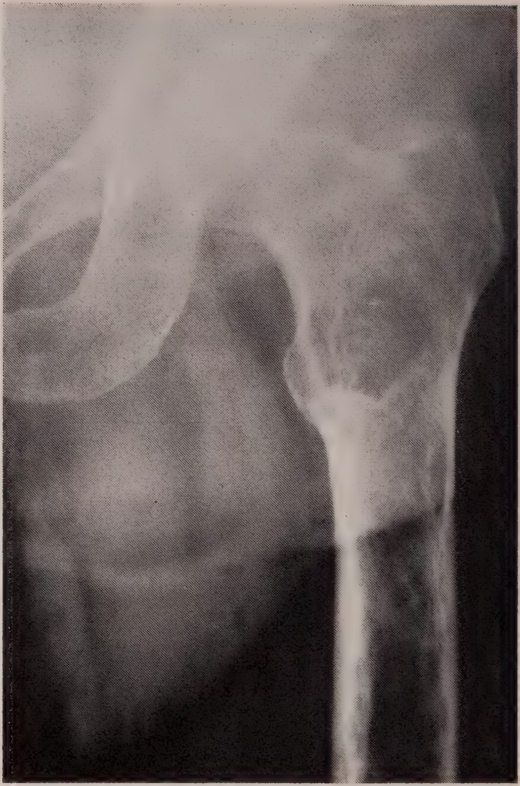

FIG. 3. Trabecular, osteolytic bone involvement. Note the lacy, septate pattern of the radiolucent areas. Multiple myeloma.

may be found in the patient. In addition, some metastases may show a coalescence or actual mixture of the various forms. As a result many unusual configurations occur. The reasons for the varying patterns of the different tumor metastases are not clear. Nevertheless, it is of some advantage to be familiar with the major types of metastatic deposits.

A useful classification of the metastases divides them into osteolytic, osteoblastic, and mixed types.

The osteolytic metastases may be subdivided into circumscribed, mottled, and trabeculated. The circumscribed lytic lesion results in the localized, marginated, complete dissolution of the osseous tissue in the involved area. The appearance is best described as looking like a "hole in the bone" (Fig 1). The "hole" may vary greatly in size and shape. In long bones it is often oval, while in flat bones or the calvarium it may be round to grossly irregular in shape. The margins of the radiolucency are usually moderately well defined but not sclerotic. Involvement of the medullary cavity of long bones is most frequent, but extension to and destruction of the cortex are common.

The mottled lesions show no clearly defined area of complete radiolucency in the bone. Instead, there are irregular patches of radiolucent destruction interspersed between residual irregular osseous tissue which gives the involved bone a "moth-eaten" appearance (Fig. 2). These metastases usually have no well-defined margins at all and tend to merge with the adjacent more normal bone in almost imperceptible fashion. They vary greatly in size and assume no specific shape. The cortex is rapidly involved in this mottled invasion and also gives an irregularly eroded appearance. Reactive periosteal new bone formation is not usual, although not rare.

In the trabeculated form of lytic deposit the

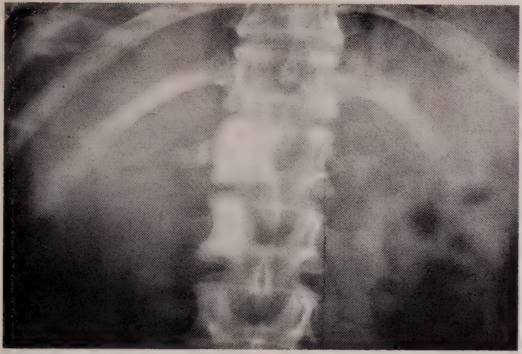

FIG. 4. Nodular osteoblastic metastases in vertebrae. Typical of carcinoma of the prostate.

resorption of bone is somewhat more regular, and various sized septa remain coursing through the "hole" of the osteolytic lesion. These abnormal trabeculae are often thin and somewhat lacy (Fig. 3). At times, particularly in large lesions, the septa appear thick and irregular. In such instances it is possible that some osteoblastic processes are also present. The three patterns described above may occur separately in the same patient in different bones or may coalesce and be intimately connected with each other in a single bone. The variations encountered are often very great.

The osteoblastic metastases also assume different forms, but the variations are somewhat fewer than those of the osteolytic lesions. The types observed are "nodular" deposits, large areas of osteosclerosis, and mottled osteoblastic lesions. The "nodular" deposits are discrete, moderately well-circumscribed zones of increased density in the involved bones. The areas are homogeneously opaque, often rounded in shape, and vary in size up to several centimeters. They may be eccentrically placed in the vertebrae or long bones and usually do not excite a periosteal reaction (Fig. 4).

The large zones of osteosclerosis may vary in degree of opacity and most often involve the pelvis and vertebrae. Essentially normal bony trabeculation may be seen in these areas, the trabeculae remaining thin and delicate, although some fusion may occur. The cortex of the bone may be somewhat denser than normal but is not thickened or laminated (Fig. 5). In other cases the osteoblastic changes are so marked that all cancellous and cortical structures are obliterated, being incorporated in a homogeneous, dense, white area of sclerosis.

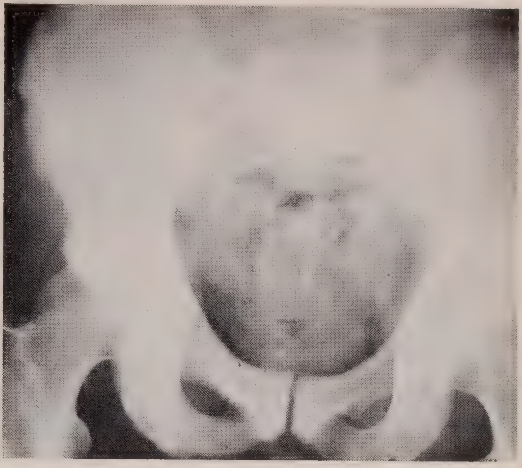

FIG. 5. Large area of homogeneous osteoblastic metastasis in innominate bone. Carcinoma of the prostate.

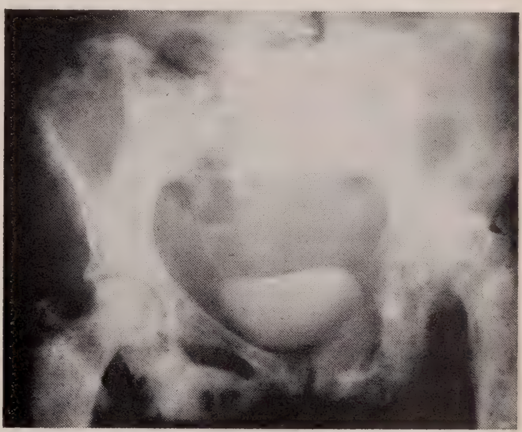

FIG. 6. Mixed osteoblastic and osteolytic metastases involving the pelvis and upper femurs. Carcinoma of the breast.

The mottled osteoblastic lesions appear as irregular zones of varying sclerosis, irregularly interspersed between areas of essentially normal appearing bone in patchy configurations. The various forms described may be found in the same patient and even in the same bone.

The mixed metastases combine any of the osteolytic and osteoblastic lesions in irregular patterns of bizarre configuration. Most often, however, the mottled osteolytic and mottled osteoblastic lesions are observed together (Fig. 6). The trabeculated lesions are much less frequent. Reactive periosteal new-bone deposition occurs somewhat more often in the osteoblastic lesions.

The positive identification of the organ of origin of a neoplasm from the appearance of a metastatic

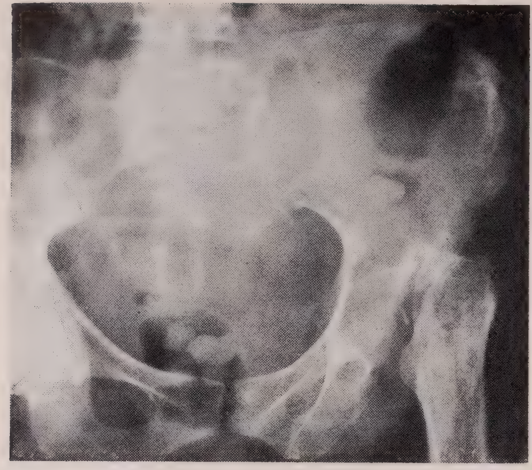

Fig. 7. Thyroid carcinoma metastasis. Note osteolytic lesion involving sacrum and adjacent ilium extending across the sacroiliac articulation. Fine septate pattern seen near margin of the lesion of the ilium.

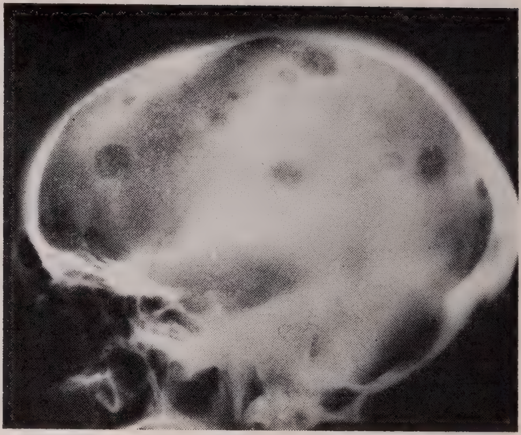

Fig. 8. Circumscribed osteolytic lesions in calvarium. Carcinoma of the breast.

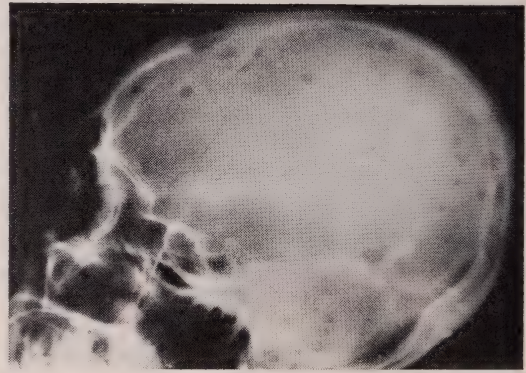

Fig. 9. Circumscribed osteolytic lesions in calvarium. Multiple myeloma.

deposit is usually not possible; most often the metastasis has a nonspecific pattern, and its origin remains completely uncertain. However, the metastases of several malignancies tend to present rather distinctive appearances. When these findings are observed, it may be possible to suggest the probable primary sources with some degree of accuracy. The osteoblastic metastases are considerably less frequent than the osteolytic types. In the male by far the most common cause of osteoblastic deposits is carcinoma of the prostate. This possibility is always mentioned first whenever such lesions are encountered. In the female osteoblastic metastases result most commonly from carcinoma of the breast. However, while these deposits occasionally are of pure osteosclerotic character, much more frequently they are of the mixed blastic-lytic variety. Other neoplasms causing osteoblastic deposits, but only occasionally, are malignant melanoma, carcinoma of the colon, stomach, or urinary bladder, and the malignant lymphomas, including Hodgkin's disease. Neuroblastoma metastases and leukemia not infrequently cause an irregular proliferative periosteal reaction, particularly in children.

In the great majority of cases the osteolytic metastases are not distinctive and give no significant clue as to the site of the primary tumor. However, occasionally certain features of a metastasis may give some aid in the identification of the primary neoplasm. A minority of the renal carcinoma metastases take the form of large osteolytic lesions containing dense, thick, abnormal trabeculae within them.[11] This picture is simulated by few others and suggests their renal origin. Thyroid carcinoma[12] may yield an osteolytic deposit which has been found in some cases to invade across a joint and involve the adjacent bone. The appearance is even more suggestive of thyroid origin when there is an associated, incomplete, fine septation pattern within the osteolytic area (Fig. 7). It must be stressed, however, that these appearances occur in only a small percentage of the cases. Most often renal and thyroid metastases are of an indeterminate osteolytic nature. "Punched-out" holes in the calvarium are most frequently the result of metastases from the breast or thyroid and in multiple myeloma, although other neoplasms may also cause identical pictures. The roentgen appearances of the calvaria with these lesions are indistinguishable from each other (Figs. 8 and 9). In children neuroblastoma metastases also commonly cause such an appearance in the skull, involvement of the orbits being not unusual.

Metastatic disease of bone must be differentiated from a number of other lesions. In most instances the differentiation is not difficult, because there is the knowledge of an associated primary malignant neoplasm. Generally, the metastatic lesions are multiple, may be found in the favored locations described above, assume a variety of appearances in the different bones, and do not excite proliferative osteoblastic responses, either in the form of a sclerotic margin about the lesion or periosteal new bone formation. The cortex is often irregularly destroyed, and an adjacent soft tissue mass develops as the periosseous tissue is invaded. On the other hand, there are occasions when definite differentiation is impossible, and biopsy becomes necessary for the diagnosis. It may be stated parenthetically that even biopsy may fail to be decisive, only the clinical progress of the lesion finally indicating the accurate diagnosis.

Among the common lesions to be differentiated are primary neoplasms of bone, certain metabolic diseases of bone, Paget's disease, and inflammatory bone disease. The primary malignant bone neoplasms are usually single, occur in an earlier age group, and frequently demonstrate suggestive osseous and periosteal reactive proliferative processes. The benign bone tumors such as chondroblastoma are found in characteristic locations in the epiphyseal areas, occur in the younger age periods, and show considerable sclerosing bony reaction about a central radiolucent area. The nonosteogenic fibromas do not destroy bone irregularly, show an intact cortex, have sharply defined sclerosed margins, and are often eccentrically placed. They too occur most often during the earlier age periods. Giant cell tumors are usually found in the epiphyses of the long bones, are single, have fine, delicate, lacy trabecular patterns, and flatten but do not destroy the overlying cortex. Certain metabolic bone conditions, i.e., lipoidoses and hyperparathyroidism, may simulate metastases occasionally. However, the generalized bone involvement, the absence of irregular patchy bone destruction, the intact condition of the periosteum no matter how thinned, and the absence of an associated soft tissue mass usually permit of accurate distinction. Paget's disease may occasionally offer a problem in differentiation from osteoblastic metastases, particularly in the pelvis. Usually, the characteristic features of Paget's disease are present and enable accurate distinction. These features are thickening, irregular reduplication and lamellation of the cortex, and coarsening, distortion, and disarray of the trabecular pattern (Fig. 10). Pyogenic and luetic osteomyelitis usually result in marked and extensive bony reaction, as well as periosteal proliferation, in association with varying amounts of sequestration. Differentiation from metastases is not ordinarily difficult. Tuberculous bone disease is usually near joints and shows varying amounts of calcification and periosteal reaction, and there is considerable associated simple osseous demineralization.

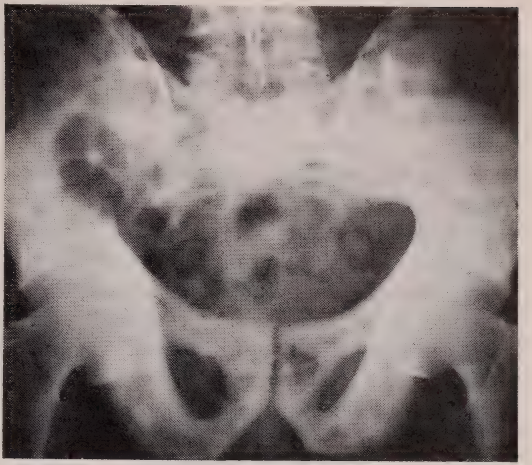

FIG. 10. Paget's disease in pelvis. Note lamellar thickening of cortex, especially along acetabulae, and coarse disarrangement of trabecular pattern. Circumscribed septate osteolytic metastasis in right ilium near sacroiliac joint from carcinoma of the kidney.

Summary

Metastatic bone disease is the most frequent malignant disease of the osseous system. The malignancies most often metastasizing to the bone are those of the prostate, breast, lung, thyroid, and kidney. Other neoplasms metastasize to bone less frequently but also in considerable numbers. The metastatic deposits grow in several, often coexisting pathologic patterns: intertrabecular, osteolytic, osteoblastic, subperiosteal, and mixed types.

Certain bones are most frequently involved. These are the spine, pelvis, ribs, skull, upper femurs, and proximal humeri. Radiographic visualization of a metastasis depends on its pathologic pattern, size, location, and the presence of such associated features as pathologic fracture, compression of the bone, or visible periosteal calcific reaction.

Absolute identification of the site of the primary tumor is usually not possible from the appearance of a metastasis. Occasionally, however, certain distinctive features of the metastatic deposit may suggest the site of origin. Osteoblastic lesions in the male suggest prostate carcinoma; in the female breast carcinoma is suspected. Heavy trabecular patterns in osteolytic lesions point to renal carcinoma. Metastases are to be differentiated from primary neoplasms of bone, metabolic diseases of bone, Paget's disease, and inflammatory bone disease.

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ANNOUNCEMENT

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Experience with Transplantation Operations in Loss of Opposition of the Thumb

C. L. JEANNOPOULOS, M.D., NEW YORK CITY

(From the Departments of Orthopedic Surgery of University Hospital, and New York University Post-Graduate Medical School, New York City, and the New York State Rehabilitation Hospital, West Haverstraw, New York)

OPPONENS transplant is a term commonly employed for transplantation operations in loss of thumb opposition. Although convenient because of its brevity, this term is both misleading and inaccurate. The abductor brevis, especially when aided by the flexor brevis and the abductor longus, can oppose the thumb very effectively, even when there is complete paralysis of the opponens pollicis. This fact is not infrequently observed in patients with poliomyelitis, a disease in which the opponens muscle is selectively involved (Fig. 1). Furthermore, in the operative procedures for restoring opposition the direction of pull, as well as the attachment of the transferred tendon to the thumb, simulates the combined action of the thenar muscles, least of all that of the opponens pollicis. Duchenne (1867)[1] demonstrated that the abductor brevis is the most important muscle of the thenar group. He pointed out that the short abductor of the thumb can abduct, flex, and pronate the first metacarpal; it can stabilize the metacarpophalangeal joint in flexion and abduction (radial angulation), and it assists in extension of the distal phalanx. In short, this muscle can perform all the essentials of opposition. Kaplan's excellent study[2] of the functional anatomy of the hand confirms the observations of Duchenne. Littler[3] accepted the conclusions of the French neurologist and reported that in transplant operations for opposition good results have been obtained by suturing the transferred tendon to the insertion of the paralyzed abductor brevis.

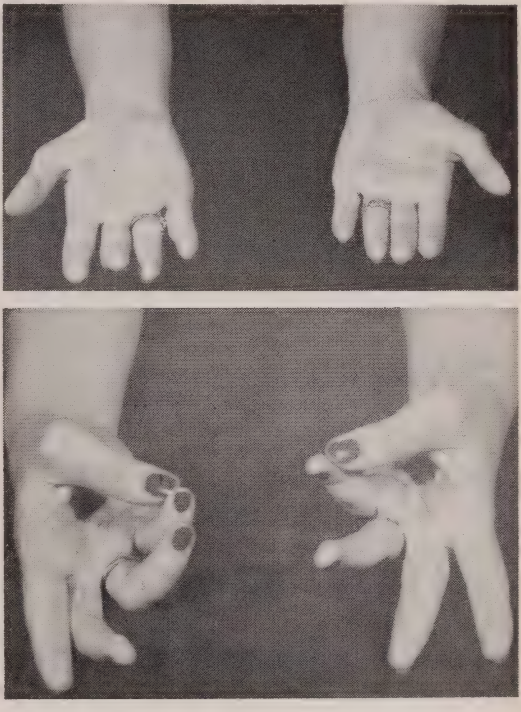

FIG. 1. There is complete paralysis of the opponens pollicis in both hands. Opposition of the thumb is performed by the abductor brevis aided by the abductor longus.

The purpose of this paper is to discuss some of the more important considerations in the surgical management of loss of opposition in poliomyelitis. During the past fourteen years 139 transplant operations were performed at the New York State Rehabilitation Hospital for varying degress of paralysis of the thenar muscles. The superficial flexor of the ring or of the middle finger was employed as a motor to the thumb in 112 of the cases. This muscle has been used in preference to the wrist flexors and extensors since it obviates the need for a free tendon graft and thereby simplifies the operation.

There are other reasons, however, for selecting the sublimis as the motor of choice in tendon transference procedures. In poliomyelitis with scattered paralytic involvement of the hand, there is often a delicate equilibrium in the wrist between the flexors and extensors or between the radial and ulnar abductors. The use of any of these muscles for transplantation may disturb

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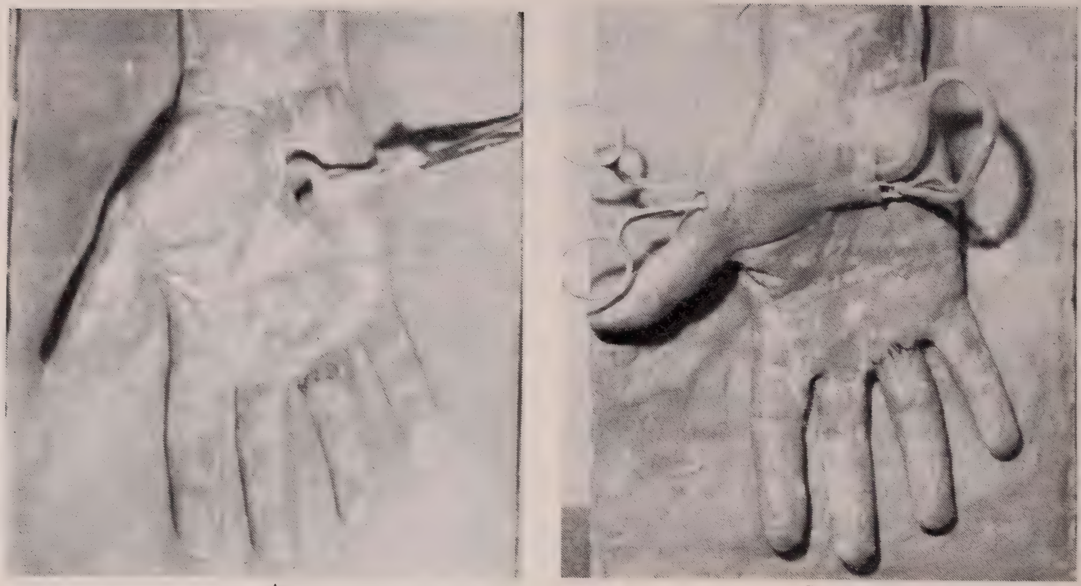

Fig. 2. Clay models of a hand illustrating the essential features of a Thompson operation for restoring thumb opposition:

(*A*) The sublimis tendon is detached through a transverse incision at the base of the ring finger; the tendon is then withdrawn through a small incision in the palm distal to the transverse carpal ligament.

(*B*) The sublimis tendon is derouted subcutaneously to the thumb.

the stability of the wrist. A sublimis tendon instead may be more readily spared without affecting the muscle balance of the hand and without any appreciable impairment of function of the donor finger. Furthermore, with a sublimis muscle for motor, re-education of the transplant is greatly simplified; this fact is particularly significant in younger children who can be taught to oppose the thumb following surgery by the simple expedient of flexing the fingers against resistance.

There is no justification for deferring surgery until the age of twelve to fourteen years, as advocated by Goldner and Irwin,[4] in order that "the child can actively participate in muscle re-education." In our experience with the sublimis muscle the operation for loss of opposition can be performed in patients six years of age with results comparable to those obtained in older subjects.

The superficial flexor of the ring or of the middle finger may be utilized effectively to restore opposition in one of two ways:

1. The tendon is withdrawn from the palm and then redirected subcutaneously to the thumb as described by Thompson[5] (Fig. 2). The transverse carpal ligament serves as a pulley.

2. The tendon is located on the volar aspect of the wrist proximal to the transverse carpal ligament; it is drawn through a pulley constructed by any of the methods described by Bunnell[6] and then passed subcutaneously to the thumb (Fig. 3). The purpose of the pulley is to redirect the pull of the transferred muscle toward the pisiform bone.

Various technics may be employed for anchoring the transplant to the thumb. Although the type of tendon anchorage per se does not affect the end result, many of the procedures listed in Table I have been largely discontinued. Some are too cumbersome (methods 2 and 6) and may occasionally result in fixed contracture of the metacarpophalangeal joint; others (methods 1 and 3) may be complicated by faulty insertion of the tendon to the immature bone of young children. These difficulties may be obviated by suturing the transplant to the tendinous attachment of the abductor brevis at the base of the proximal phalanx. As pointed out by Littler, the transfer is simplified, and the correct insertion is assured. This technic has been employed with increasing frequency in the past four years, and the results in 41 cases justify its continued use.

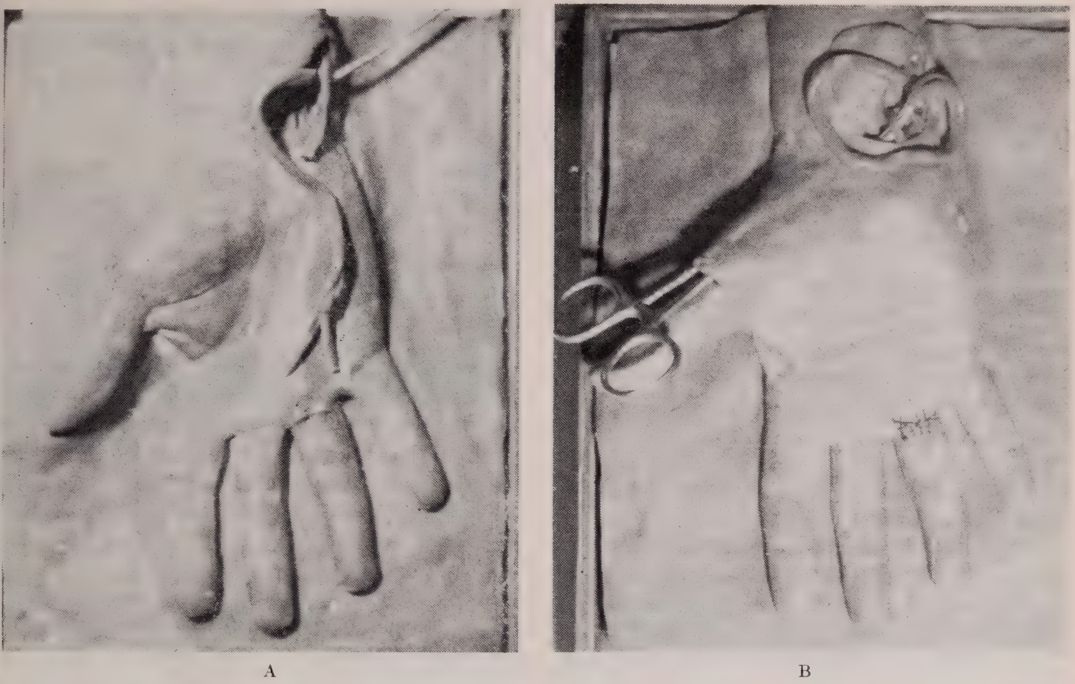

FIG. 3. These models demonstrate the important steps in the Bunnell modification of the sublimis transplant for opposition:

(*A*) The sublimis tendon of the ring finger is withdrawn through an L-shaped incision at the wrist. A probe is shown under the flexor carpi ulnaris; the distal 3 cm. of this tendon has been split lengthwise, and the radial half of the split tendon has been severed proximally. The free end of this slip will be sutured to the ligamentous tissues of the pisiform bone to form a loop or "pulley."

(*B*) The sublimis tendon is drawn through the loop, and then it is passed subcutaneously to the thumb.

TABLE I.—METHODS EMPLOYED FOR ATTACHING TRANSFERRED TENDON TO THE THUMB

1. The tendon is anchored with a pull-out wire to a drill hole at the base of the proximal phalanx.
2. One slip of the tendon is threaded through a drill hole in the neck of the metacarpal and then sutured to a second slip drawn through the fascia and periosteum overlying the base of the proximal phalanx.
3. The tendon is threaded through a drill hole in the neck of the metacarpal; it is then sutured to itself or anchored in position with a pull-out wire.
4. The tendon is sutured to the insertion of the abductor pollicis brevis.
5. One slip of the tendon is sutured to the insertion of the abductor pollicis brevis, the second slip to the extensor pollicis longus.
6. The two slips of the tendon are anchored respectively to drill holes in the neck of the metacarpal and at the base of the proximal phalanx.

Comparison of the Thompson and the Bunnell Modifications of the Sublimis Transplant

For the purpose of comparing the relative merits of the two procedures, one may consider the situations described below. These are based on the fact that abduction of the thumb is an important component of the complex action of opposition.

1. The abductor pollicis brevis and longus are completely paralyzed or their combined strength is at a subfunctional level. Following surgery the muscle transplant is called upon to perform all phases of opposition virtually unassisted.

In this group the Bunnell procedure is the operation of choice; the transplant, acting from the wrist, has a longer lever arm and is capable of wider abduction and circumduction. Although excellent pronation of the thumb can also be obtained with a Thompson procedure, the range of active abduction is often sufficiently restricted to interfere with the speed and efficiency of grasping a wide object. In the act of picking up a glass, for example, the patient may have to slide or "work" the thumb and fingers in an encircling motion around the sides before he can secure a firm grasp. It should be noted, however, that this limitation of the Thompson operation is not encountered in all cases; in some patients a strong extensor pollicis brevis can reinforce the action of the transplant

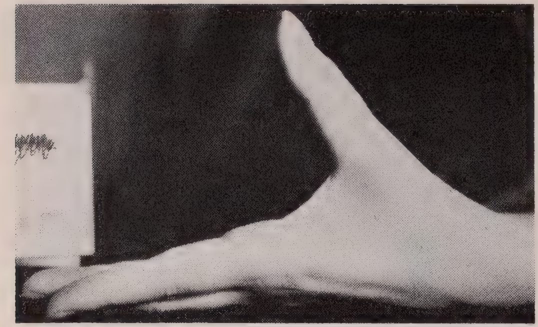

FIG. 4. Excellent abduction of the thumb following transplantation of the palmaris tendon to the abductor pollicis longus.

and produce adequate abduction of the thumb for a wide grasp.

When feasible, the palmaris muscle should be transplanted to the tendon of the abductor pollicis longus (Fig. 4). In such cases the hand is classified with the second group.

2. There is fair strength or better in the abductor pollicis brevis and/or in the abductor pollicis longus.

Equally good opposition can be obtained in this group with either the Thompson or the Bunnell modification of the sublimis transplant. The Thompson procedure may be preferred, particularly in women, because of better cosmetic results. The scar in the palm is barely discernible in contrast to that at the wrist which may spread or become keloid; furthermore, the transferred tendon does not stand out so conspicuously as when a Bunnell type of pulley is employed.

Occasionally, a sublimis muscle of good strength is not available for transplantation. One may then employ a wrist flexor or, as a last resource, a wrist extensor and prolong its tendon to the thumb with a free graft. Following the muscle transference operation it may be necessary in some of these cases to stabilize the wrist by arthrodesis.

Regardless of the choice of procedure for restoring opposition, it is essential that the transferred tendon be anchored to the thumb under adequate tension. For this purpose the wrist is flexed approximately 30 degrees, and the thumb is maintained in maximum pronation and abduction opposite the middle finger. "Adequate" tension is difficult to determine accurately, of course, and one has to depend largely on experience. A simple test which the author employs serves as a valuable guide in this respect and merits a brief description. On passive extension of the wrist to neutral (0 degrees), the thumb is drawn in full opposition to the fifth finger. As the wrist is again flexed to 30 degrees, the thumb returns opposite the middle finger with its nail parallel to the plane of the palm, and as flexion is continued well beyond this point, the thumb gradually assumes the position of rest.

Postoperative Care

The wrist is immobilized in 30 degrees of flexion with the thumb in maximum pronation and abduction opposite the middle finger. This position is maintained by means of a bulky dressing consisting of sheet wadding, mechanics waste, and elastic bandage, reinforced by several strips of adhesive tape. Two weeks after surgery a removable, molded plaster of paris "opponens cuff" is applied, and muscle re-education is begun. A week later the patient is started on gentle, resistive exercises which are gradually increased in intensity. The services of an occupational therapy department are of great value in guiding the patient through various activities which re-educate and strengthen the transplant for opposition.

In order to prevent stretching of the transferred tendon, the "opponens splint" is worn for at least six weeks postoperatively. An additional two to three weeks of protection may be indicated if the patient propels a wheelchair or if the transplant is not so strong as desired. In patients who depend on crutches for ambulation, gait training should not be resumed for eight to ten weeks following surgery and then only with the thumb well protected by means of a reinforced leather "opponens cuff."

Additional Procedures to Restore Functional Opposition

One cannot discuss the surgical management of thumb opposition without considering useful or functional opposition. The latter is dependent on the over-all strength of the hand and is judged by performance tests, not solely by the ability of the thumb to oppose effectively to the little finger. The following examples illustrate varying degrees of hand disability and some of the operative procedures, besides tendon transference to the thumb, which are often necessary to restore functional opposition.

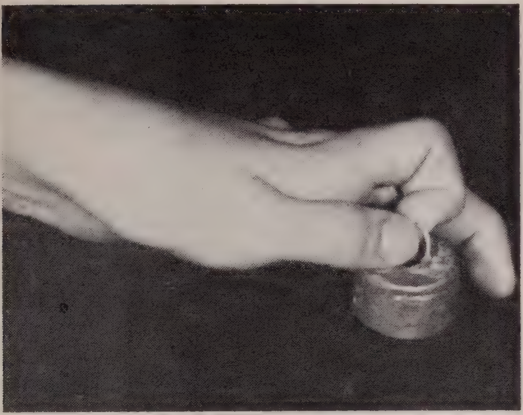

Fig. 5. There is paralysis of the intrinsic muscles of the fingers. In attempting a strong "pinch," the metacarpophalangeal joint of the index finger is forced into extension and adduction; functional opposition is thus impaired.

A. *In addition to paralysis of the thenar muscles, the intrinsic muscles of the fingers are also affected:* The interossei and lumbricals stabilize the metacarpophalangeal joints in flexion and, therefore, play an essential role in "pinch" between the thumb and the index or middle finger. In attempting a strong "pinch" following paralysis of the intrinsic muscles, the fingers are forced to extend and adduct at the proximal joint, while the thumb adducts and "derotates" in supination. The efficacy of a transplant for opposition is thus impaired (Fig. 5).

Stability of the metacarpophalangeal joints in flexion can be obtained by one of several procedures:

1. A sublimis muscle may be employed as a motor to activate the intrinsic muscles of the index finger and, if necessary, those of the middle

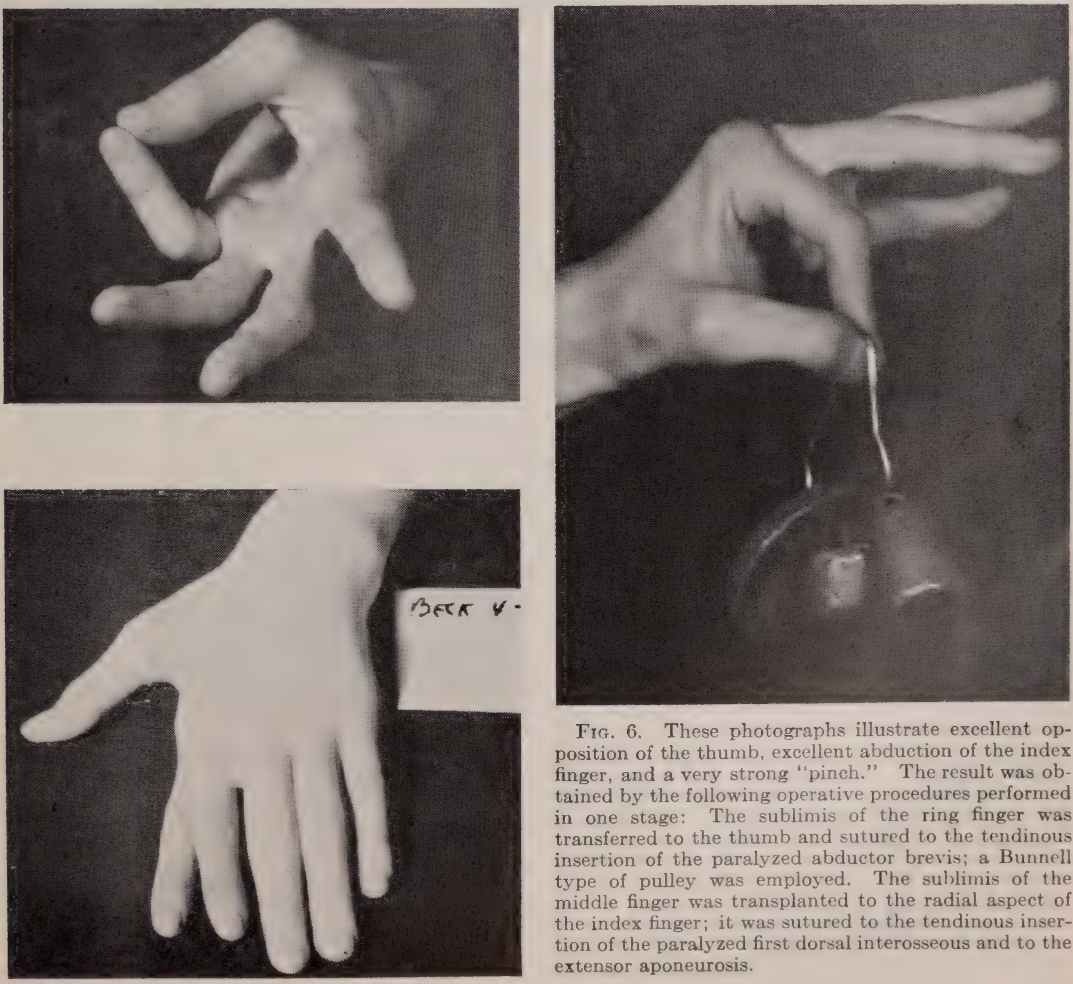

Fig. 6. These photographs illustrate excellent opposition of the thumb, excellent abduction of the index finger, and a very strong "pinch." The result was obtained by the following operative procedures performed in one stage: The sublimis of the ring finger was transferred to the thumb and sutured to the tendinous insertion of the paralyzed abductor brevis; a Bunnell type of pulley was employed. The sublimis of the middle finger was transplanted to the radial aspect of the index finger; it was sutured to the tendinous insertion of the paralyzed first dorsal interosseous and to the extensor aponeurosis.

finger. The sublimis tendon which is selected for the transfer is detached from its insertion and withdrawn from the palm or from the volar aspect of the wrist. The tendon is then passed subcutaneously to the radial aspect of the index finger where it is sutured to the tendinous attachment of the dorsal interosseous and to the extensor aponeurosis. When the operation is properly performed, the transplant can strongly abduct and flex the index finger at the metacarpophalangeal joint, and can extend the distal phalanges. This procedure may be performed in conjunction with a Bunnell or with a Thompson tenoplasty for thumb opposition (Fig. 6). If the intrinsic muscles of the middle finger are also affected, a single sublimis tendon may be split longitudinally into two slips extending proximally to the palm or to the wrist. Each slip is passed down to the radial aspect of the index and middle finger, respectively, and sutured as described above.

2. The tendon of the extensor indicis propius may be redirected subcutaneously and inserted to the dorsal interosseous and to the extensor aponeurosis of the index finger. Although this procedure can provide good abduction of the finger, it is not so satisfactory as the sublimis transplant in restoring strong flexion of the metacarpophalangeal joint.

3. In the absence of a suitable muscle for transference, one may arthrodese the metacarpophalangeal joint of the index and, if necessary, the middle finger in approximately 25 degrees of flexion. Ankylosis of this joint is more than compensated for by the stability obtained for a strong pinch and by the ability of the long extensor to extend the distal joints of the finger.

B. *There is claw hand deformity or fixed extension contractures in the metacarpophalangeal joints of the fingers:* Figure 7A illustrates the condition of the left hand in a forty-year-old quadriplegic patient. The thenar muscles were paralyzed, and adduction of the deformed thumb against the rigid, boardlike hand was the only function that could be performed. Before considering tendon transference for opposition in this type of case, it is necessary to restore sufficient flexion in the fingers to allow for grasp and pinch. The following operations were performed;

1. The metacarpophalangeal joints were mobilized by the method described by Howard. In this procedure the long extensor tendons are split longitudinally and retracted with aponeurotic hood, exposing the capsule and the collateral ligaments. A transverse incision is made across the dorsal capsule; the collateral ligaments are completely excised. With a blunt elevator the anterior capsule is then stripped of adhesions in order to allow the articular surface of the proximal phalanx to glide under the metacarpal head.

2 The adduction-external rotation deformity of the thumb was corrected by capsulotomy of the carpometacarpal joint, stripping of the first dorsal interosseous, and tenotomy of the adductor pollicis tendon. The contracture of the first web was overcome by a Z-plasty procedure.

3. Thumb opposition was restored by utilizing the flexor carpi radialis for motor. The tendon of this muscle, prolonged by a free graft, was looped around the flexor carpi ulnaris and redirected subcutaneously to the thumb; it was then sutured to the insertion of the abductor pollicis brevis at the base of the proximal phalanx.

Figures 7B and 7C demonstrate the final result obtained in this badly crippled hand. There is excellent opposition of the thumb to the finger, and more important, functional opposition has been satisfactorily restored. A leather gauntlet is worn because of complete paralysis of the wrist extensors; the use of this support can be obviated, of course, by arthrodesis of the wrist.

C. *There is no residual strength in the thumb except for the flexor pollicis longus, rated "good," and the abductor pollicis longus, rated "fair." The wrist is essentially flail, and there are no available tendons for transfer to any of the oblique muscles of the thumb. The superficial and the deep flexors of the fingers are rated "fair plus":* Experience with cases having similar paralytic involvement has taught us that one cannot be too categoric in setting up minimal requirements for transplant operations in loss of opposition. Very satisfactory function was restored in the hand of this patient by three operative procedures.

The sublimis muscle of the ring finger was transplanted to the insertion of the abductor pollicis brevis; a Bunnell type pulley was employed. The wrist was stabilized by arthrodesis. Following these operations the patient was able to demonstrate, *on order*, very effective opposition of the thumb to the little finger (Fig. 8A). On performance test, however, the unopposed action

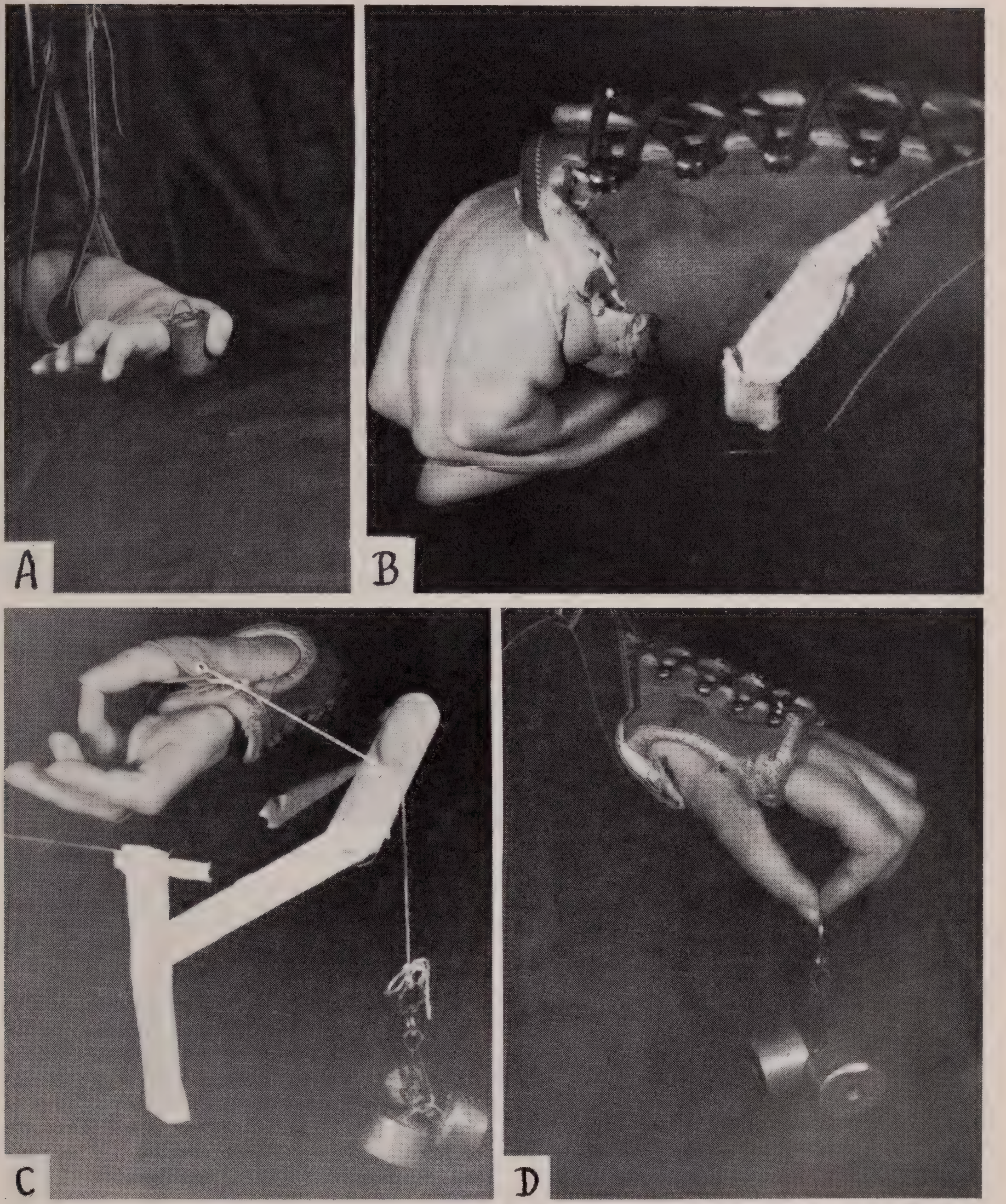

Fig. 7. (*A*) Condition of the hand prior to surgery. There is adduction contracture of the thumb and fixed extension contractures in the metacarpophalangeal joints of the fingers. The wrist is paralyzed, and the thenar muscles are completely atrophied.

(*B*, *C*, *and D*) Final result obtained following capsulotomies, release of all soft tissue contractures, and tendon transference for opposition. The flexor carpi radialis, prolonged with a free graft, was transplanted to the thumb where it was sutured to the insertion of the abductor pollicis brevis. Good grasp, opposition, and "pinch" were restored.

of the flexor pollicis longus resulted in acute flexion of the distal phalanx and interfered with functional opposition; this was remedied by arthrodesis of the interphalangeal joint of the thumb. It should be noted that the paralysis of the oblique muscles of the thumb is not a

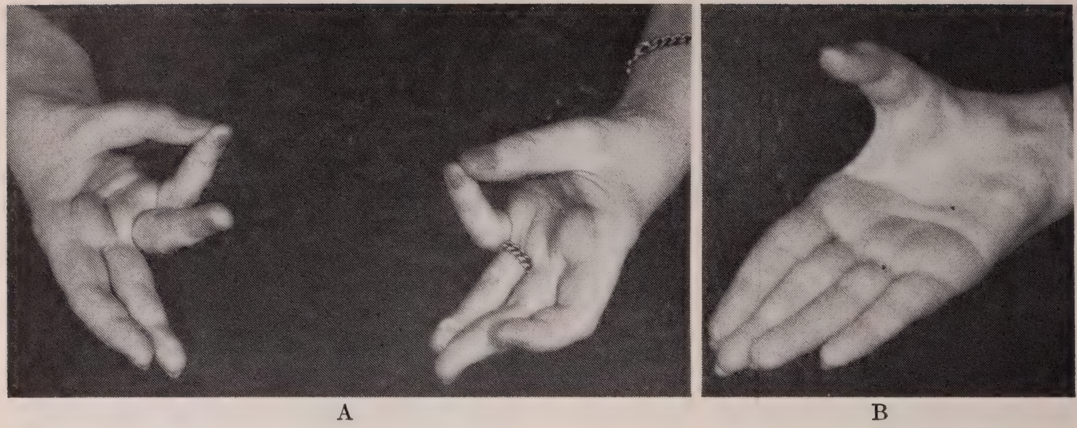

Fig. 8. In both hands good opposition was restored by transplantation of a sublimis tendon to the insertion of the abductor pollicis brevis; a Bunnell type of pulley was employed. Marked paralysis of the right hand necessitated arthrodesis of the wrist and of the interphalangeal joint of the thumb. Paralysis of the oblique muscles of the right thumb did not prove a serious handicap in this case; the patient is able to clear the palm by abducting the thumb in radial deviation (two years follow-up).

serious handicap in this patient. She is able to clear the palm by abducting the thumb in slight radial deviation (Fig. 8B).

Summary

The sublimis muscle is ideally suited for transplantation operations in loss of thumb opposition, and it has been employed for this purpose in 112 of 139 cases. The merits of the Thompson and of the Bunnell modifications of the sublimis transplant are discussed.

When a sublimis muscle of good strength is not available for motor, one can use a wrist flexor or, less preferably, a wrist extensor and prolong its tendon to the thumb with a free graft. If necessary, the wrist may be stabilized by arthrodesis.

There are several effective methods for anchoring the transferred tendon to the thumb. In 41 or 29.5 per cent of the cases the transplant was sutured to the tendinous attachment of the abductor pollicis brevis at the base of the proximal phalanx. This technic simplifies the operation and assures the surgeon of the correct insertion.

It is important to differentiate between thumb opposition and functional opposition; the latter is dependent on the over-all strength of the hand and not solely on the ability of the thumb to oppose to the little finger. Cases are presented to illustrate that in addition to tendon transference for thenar muscle paralysis, other operations may be needed before functional or useful opposition is satisfactorily restored.

44 West 77th Street

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Discussion

Robert E. Carroll, M.D., *New York City.*—The functional power of the thumb is restored by operations which seek to provide, as closely as possible, the opposing motion of the thumb. The surgeons of the New York State Rehabilitation Hospital have been able to study this procedure in the course of 139 transplants. This experience has been excellently presented by Dr. Jeannopoulos. In discussing opponens transplants, he has extended the scope of his paper to point out collateral deformities and operations for the correction of these other disabilities.

Certainly, the flexor sublimis tendon is the motor of choice in providing opposition. It was used in 112 of the 139 operations. Dr. Jeannopoulos might tell us if the results were uniformly excellent. What complications arose? Could they be corrected? In 27 cases another motor tendon was used. What was the motor tendon? Did it uniformly provide the desired function. It has been my experience that any long or extrinsic tendon of the hand and wrist can be made to serve as a motor to provide opposition. This selection can easily be made after evaluation of the problem in reconstructing the entire extremity.

There are two levels for the placing of the pulley in an opponens transplant, as Dr. Jeannopoulos has pointed out. In my opinion the selection hinges on the presence or absence of the abductor pollicis brevis power. This motion elevates the head of the thumb metacarpal out of the palm. If it is present, a palmar pulley provides a smooth, forceful range of functional opposition. If the abductor brevis power is absent, a pulley at the level of the pisiform must be used to provide both the elevation of the abductor brevis and the torque of opposition.

It may be necessary to carry out several procedures to restore use of the hand as a functional unit. However, I have not seen any hand which has not demonstrated marked benefit from restoration of opponens function in the thumb. The function in each case has been improved.

C. L. Jeannopoulos, M.D., *Closing Remarks.*—It should be emphasized, in order to avoid misunderstanding, that this study deals with the author's personal experience. Obviously, the results of "opponens" transplants were not "uniformly excellent"; Dr. Carroll is certainly aware that the results depend on the strength of the muscle used for transplantation and, in general, on the over-all strength of the hand. Complications encountered were few. In 12 cases there was flexion deformity of the proximal interphalangeal joint of the donor finger due to attachment of the remnants of the sublimis tendon to the flexor profundus. This condition was sufficiently marked in four cases to warrant operative correction with satisfactory results.

Dr. Carroll would like to know which motor tendon was used (besides the sublimis) in the 27 cases referred to in this study. Any of the wrist flexors or extensors can serve this purpose and were employed successfully as needed. There is no doubt, however, concerning the superiority of the wrist flexors.

I am very happy that Dr. Carroll agrees that the preference for the Thompson or the Bunnell procedure depends on the strength of the abductor pollicis brevis. In this respect, however, he fails to recognize the importance of the abductor pollicis longus (Fig. 4).

Reserve the Dates . . .

SESQUICENTENNIAL MEETING

Medical Society of the State of New York

FEBRUARY 18 TO 21, 1957

Hotel Statler **New York City**

The Postbulbar Duodenal Spasm Syndrome

I. Incidence, Diagnosis, and Treatment

Z. T. BERCOVITZ, M.D., NEW YORK CITY

(*From the Department of Medicine, New York University Post-Graduate Medical School*)

THE postbulbar duodenal spasm syndrome is characterized by abdominal pain and diarrhea. Either may be the presenting symptom, or both may occur simultaneously in the same patient. In addition to these cardinal symptoms there may be complaints suggestive of biliary tract involvement, alternating constipation and diarrhea, weakness, faintness, fatigue, indigestion, gas, distention, heartburn, nausea with or without vomiting, rectal pain and spasm with an occasional show of blood or mucus from the straining, and, in general, the picture of gastrointestinal invalidism without specificity. All of these symptoms may be of varying intensity and not definitely related to meals, the time of day or night, seasons, emotional disturbances, or any other obvious specific factors. Therapy with propantheline bromide* resulted in clinical improvement in 83 per cent of those observed for periods of time up to three years.

This report is based on an analysis of the records of 230 patients, all of whom had evidence on x-ray films of postbulbar spasm involving the descending or second portion of the duodenum. No cases are included who had evidence of duodenal ulcer crater, regional or generalized ileitis, sprue, ulcerative colitis in any form, other colon disease, or other known pathology of the gastrointestinal tract. The finding of x-ray film evidence of postbulbar spasm involving the descending limb of the duodenum is relatively common during a gastrointestinal x-ray survey, but its correlation with a clinical syndrome has not been reported up to this time.

There are in the literature a few references to the duodenum in which attention has been called to irritability of the organ[1] resulting in motor dysfunction and to some extent secretory dysfunction without demonstrable organic lesion. The original publication was not available for study, but in the abstract it appeared that the author has described symptoms of duodenal instability or duodenal irritability which have many features in common with the findings of the current study. Snow and Marks,[2] under the title "Duodenal Loop Triad Syndrome," indicated that symptoms may result from changes in the duodenal loop and suggested numerous etiologic factors. No series of cases was reported. Hale[3] suggested that the duodenal loop should be more carefully studied. He suggested at least four radiographs of the loop on all routine examinations and many additional ones if there were any suspicion of abnormality.

Abbot, Mack, and Wolf[4] studied the effects of sustained contractions of the duodenum (duodenal spasms) on 61 human subjects by means of simultaneous tracings made from balloons within the gastric antrum and the second or third portion of the duodenum, with reference to the problems of nausea and vomiting. In their discussion they stated: ". . . Although sustained contraction of the duodenum is characteristic of nausea, it is not necessarily associated with it. . . . The evidence indicates that the wave of sustained duodenal contraction originates in the proximal duodenum and then moves caudad over the small bowel. Its effect appears to be that of emptying the bowel by progressive occlusion. In the proximal duodenum, it prevents the entrance of gastric contents and the reversal of the gradient causes a reflux back into the stomach. Occurring as it frequently does with nausea, duodenal spasm may be a prelude to and perhaps part of the mechanism of vomiting. . . . A consistent phenomenon associated with duodenal 'spasm' was movement of the intestinal contents."

The work of Ingelfinger and Moss,[5] quoted by Wolf and his associates, "described transitory periods of sustained duodenal contraction which in most cases accompanied nausea and did not occur in the subjects who failed to develop nausea."

Presented at the 150th Annual Meeting of the Medical Society of the State of New York, Section on Gastroenterology and Proctology, New York City, May 10, 1956.

* Pro-Banthine.

TABLE I.—Age and Sex Distribution of 230 Patients with X-ray Evidence of Postbulbar Duodenal Spasm

Age (Years)	Male	Female	Total
Under 20	1	4	5
20 to 29	8	8	16
30 to 39	40	18	58
40 to 49	41	35	76
50 to 59	24	23	47
60 to 69	11	9	20
70 and over	3	5	8
Total	128	102	230

During the early days of Pro-Banthine therapy it was observed that in those patients whose x-ray films showed relaxation of spasm of the postbulbar duodenal area due to the medication, there was concurrent improvement in their clinical symptoms.

Incidence

The age and sex distribution of the 230 patients is shown in Table I. There is no striking difference in the incidence totals between male and female, but there is a peak for the total group in the fortieth to forty-ninth years of life. Of interest also is the large number of males thirty to thirty-nine, as well as in the forty to forty-nine-year age group.

Clinical Features

Abdominal pain occurred in 80 per cent of all patients and was more or less generalized across the upper abdomen above the umbilicus between and below both costal margins, usually without any specific localization (Table II). The pain picture could not be made to fit into any of the classic disease entities. Generally, the pain was relentless, varying only in degree but never absent, never relieved by any type of food nor aggravated by it, not related to the time of day or night, the seasons, or the usual emotional disturbances. The pain never seemed to travel to any specific area, and there were none of the so-called target areas. Sleep was interrupted, and as a rule there was a history of ingestion of many sedative and even narcotic drugs designed to give relief and sleep.

Diarrhea was the second cardinal symptom and occurred in 66 per cent of all patients. The characteristics of the diarrheal movements varied. At times the movements were only slightly discolored water without any specific odor but passed under great pressure and with explosiveness due to the accompanying gas. At these times and under these conditions the desire for evacuation would come almost without any warning and with practically no rectal sphincter control, resulting in frequent "accidents" which were devastating to morale. In many of the patients these profuse, uncontrollable watery movements were so frequent that there was great debilitation and wasting of the patient, with loss of proteins and electrolytes. This was especially true of the older age group. In some individuals the diarrheal movements consisted mainly of thick or mushy evacuations, at times with foul or sweetish odor although most often no odor was noted. The number would be under a dozen movements daily, with an average of eight or ten in twenty-four hours. Mucus was occasionally seen. The movements at times were grouped mainly in the morning, just before or after breakfast, and at bedtime. In some patients the defecation reflex was activated by starting to eat so that it became necessary to leave the table. Straining and tenesmus were observed infrequently in these patients, and even in those with violent, severe watery diarrhea there was a period of temporary satisfaction after the movement. In another group of patients the so-called diarrhea was in reality the more or less frequent passage of formed bowel movements. These patients often admitted that they went to the bathroom and forced themselves to have a bowel movement in the hope of relieving abdominal pain, cramps, or distress. In most instances there was temporary relief, but the straining at stool often became so severe as to cause a show of blood, and in 12 per cent of the cases there developed actual rectal spasm and pain which eventually became part of the symptoms that caused the patient to seek help.

TABLE II.—Clinical Features of Postbulbar Duodenal Spasm Syndrome in 230 Patients

	Number of Patients	Per Cent
Abdominal pain	184	80
Diarrhea	151	66
Abdominal pain and diarrhea in the same patient	121	53
Biliary tract type of symptoms (unexplained)	47	20
Fringe type of symptoms		
Rectal pain, spasm, blood, mucus	28	12
Indigestion, gas, distention	25	11
Weakness, fatigue, faintness	24	10
Constipation and/or alternating diarrhea and constipation	21	9
Nausea and/or vomiting	18	8
Duodenal ulcer type pain	16	7
Heartburn	7	3

TABLE III.—Clinical Features of 31 Previous Cholecystectomy Patients with X-ray Evidence of Postbulbar Duodenal Spasm

	Number of Patients
Abdominal pain	30
Diarrhea	22
Abdominal pain and diarrhea in the same patient	21
Weakness, faintness, fatigue	8
Biliary tract type of symptoms	7
Rectal spasm, pain, blood, or mucus	6
Gas, distention, swelling of abdomen	6
Constipation	3
Nausea and/or vomiting (not biliary)	2
Tightness, tenderness on left	2
Duodenal ulcer type of pain	1

TABLE IV.—Intravenous Cholangiogram Studies in 28 Patients with Previous Cholecystectomy and X-ray Evidence of Postbulbar Duodenal Spasm

	Total Patients	Abdominal Pain	Diarrhea	Biliary Tract Symptoms
Normal common duct (8 mm. or less)	13	13	7	2
Dilated common duct (more than 8 mm.)	11*	11*	9	3†
Other abnormalities				
Retained stump of cystic duct	3*	3*	2	1
Stone in stump of cystic duct	1	1	1	1
Total	28	28	19	7

* One patient had both dilated common duct and retained stump of cystic duct.

† One patient had dilated common duct and deformity at distal end which may be either stone or tumor.

In 53 per cent of the cases abdominal pain and diarrhea occurred simultaneously in the same patient as the primary complaints. In these individuals the pain or cramp was followed almost immediately by a bowel movement which occasionally gave some measure of temporary relief, but in many more instances the abdominal distress was in reality a definite pain and not the type of cramp which could be relieved by bowel movement. The abdominal pain and diarrhea were not relieved by food; many patients had the idea that foods might be causing the trouble and refused to eat so many things that they were almost in starvation but still had their pain and diarrhea.

Unexplained biliary tract type of symptoms occurred in 20 per cent of the patients in this report in addition to the other clinical features of the postbulbar spasm. In reviewing the 230 charts it was found that 18 patients had gallbladder surgery performed and that the gallbladder disease had no apparent causal relationship to the clinical picture associated with the postbulbar spasm.

Gallbladder x-ray studies were made in 166 of the patients included in this postbulbar duodenal spasm group. A total of 220 studies was made, and of these there was adequate filling in 85 per cent. Satisfactory emptying was found in only 38 per cent of the studies, while delayed or poor response to the fatty meals was observed in 62 per cent. The record is not clear as to whether there is causal relationship between delayed gallbladder emptying and the clinical features which seem to be related to postbulbar duodenal spasm.

Table II sets forth the details of so-called "fringe" symptoms which were secondary insofar as statistics are concerned but of such clinical importance that in most instances they materially contributed to the gastrointestinal invalidism of the patients. Rectal spasm, pain, and cramps, with or without a show of blood and mucus, occurred in 12 per cent of the group. Local pathology was excluded by rectal, sigmoidoscopic, and x-ray examinations of the bowel. In many instances these symptoms were almost intractable and relentless, making it impossible for the patient to eat or sleep or carry on his normal occupation. The second most important group of the "fringe" symptoms was the indigestion, gas, and distention found in 11 per cent of the patients. Fatigue, weakness, faintness, and complete enervation occurred in 10 per cent of the individuals. This part of the picture was invariably in addition to the other symptoms; it was often unexplained but at times was apparently on the basis of electrolyte imbalance, alterations in glucose metabolism such as a form of hyperinsulinism, more or less of a decrease in total proteins, or a secondary anemia. An almost equal number of patients gave a history of constipation or alternating constipation and diarrhea. Duodenal ulcer type of pain was present in only 7 per cent, while heartburn appeared in 3 per cent of the cases.

The clinical features of 31 patients who had undergone previous cholecystectomy are given in Table III. These individuals are part of the 230 who form the basis of this report but are also being evaluated as a separate group because of the possible relationship between the so-called postcholecystectomy syndrome and the postbulbar duodenal spasm picture. Abdominal pain and diarrhea were the main complaints in this group and occurred simultaneously in the same

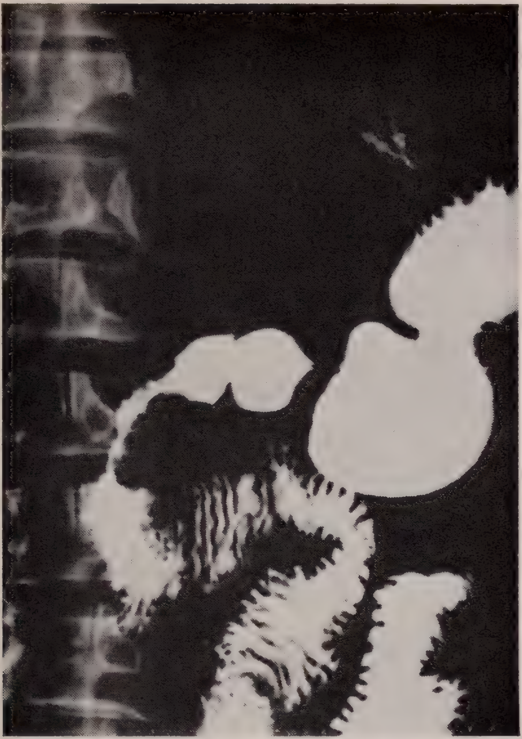


FIG. 1. Postbulbar duodenal spasm.

individual in about the same general proportions as in the group as a whole. The symptoms of fatigue, weakness, enervation, and faintness were quite frequent in this group (eight of 31 patients) and, when present, represented a major medical problem for the patient. Biliary tract type of symptoms were present in seven patients of the postcholecystectomy group. As shown in Table IV, intravenous cholangiograms revealed retained stump of cystic duct in three, stone in cystic duct in one, and a dilated common duct with deformity at the distal end in another, which would be adequate explanations for the biliary tract type of symptoms in five of the seven patients. Intravenous cholangiography in two other postcholecystectomy patients with biliary tract type of symptoms failed to reveal a cause for symptoms in the extrahepatic biliary duct system, although they had severe postbulbar duodenal spasm.

The postcholecystectomy patients fit into the same pattern of clinical symptomatology of the group as a whole, and the fact that they had cholecystectomy appears to have no essential bearing on the clinical syndrome of postbulbar duodenal spasm.

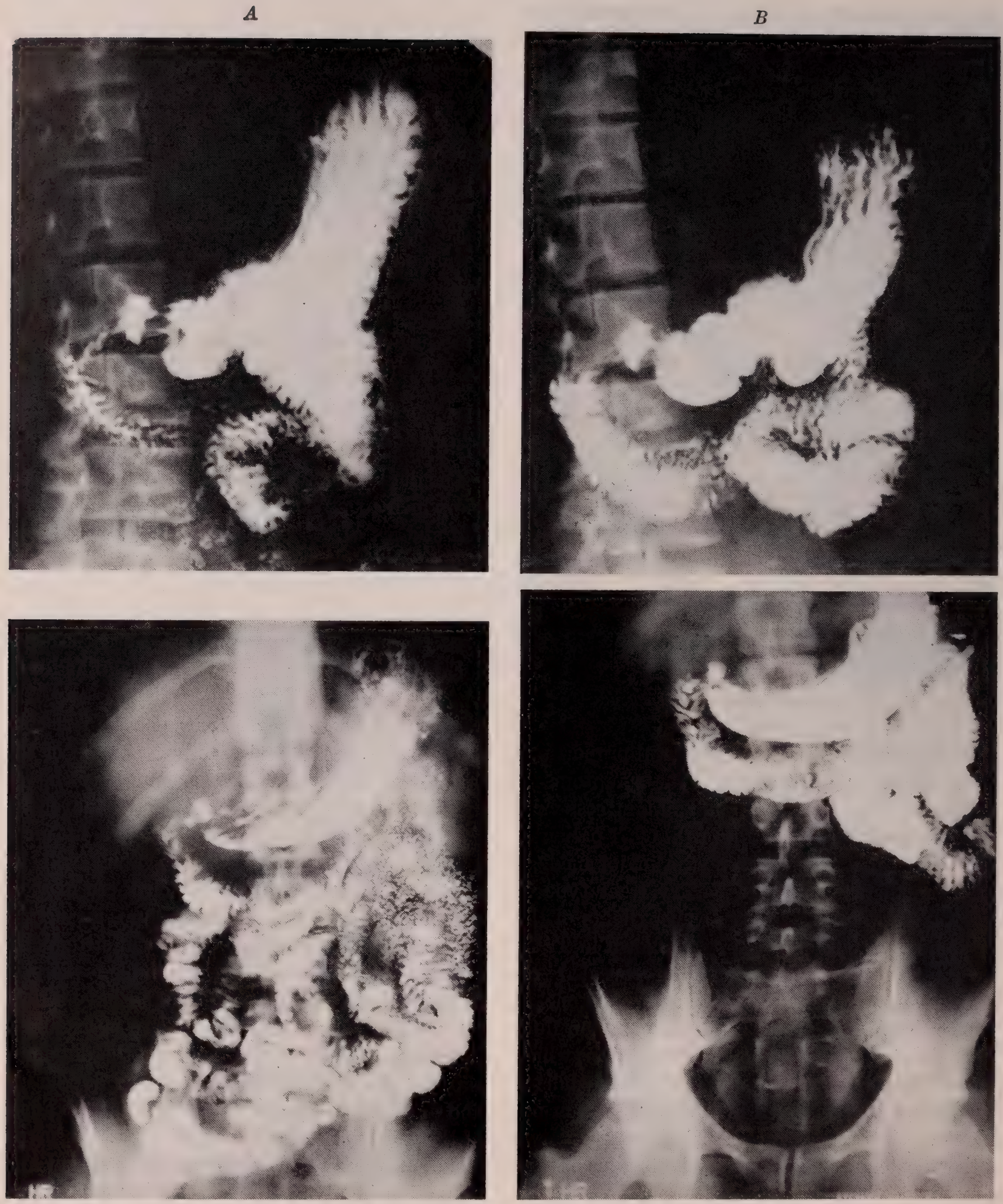
PHYSICAL EXAMINATION.—In the whole group of 230 patients the complaints were far out of proportion to the physical findings. The abdomen was usually soft and relaxed, with occasional areas of voluntary spasm but nothing suggestive of peritoneal irritation. In most instances there was some pain on deep pressure along the midline, either just below the xiphoid process or about an inch or two above the umbilicus. Occasionally there was slight tenderness below the costal margin on the right at about the edge of the right rectus muscle or just slightly to the right of the midline. In some instances it was possible to reproduce the abdominal pain by pressure with the examining hand.

Diagnosis

The diagnosis of postbulbar duodenal spasm is one which must be made on the basis of x-ray film studies of the upper gastrointestinal tract. Fluoroscopic observations are usually not adequate, and the condition may be missed unless numerous films are made in various positions.

In the simple, uncomplicated cases the duodenal cap is usually relaxed and well filled out, without deformity or spasm, and the x-ray film evidence of postbulbar duodenal spasm is confined to the second or descending portion of the duodenum (Fig. 1). The spasm may be so marked as to obliterate completely the entire postbulbar duodenal area, although in most instances at least one or two films will be obtained during a study in which there may be seen an irregular, fine line of barium, giving the appearance of a bit of coarse, frayed string. In other cases the barium may resemble a piece of hemp rope with irregular edges and have a definite suggestion of stiffness. There is usually a sharp line of demarcation between the duodenal cap and the spasm of the descending duodenum and also an equally distinct division at the angle of the third portion of the duodenum. In many instances there are variable areas of spasm and relaxation involving the descending duodenum, and in some of these cases there is the suggestion of edema and inflammation characteristic of duodenitis. One quite common finding is the relaxation and dilatation of the angle at the junction of the second and third portions of the duodenum. This appears as an irregular mass of barium, but in most instances the rugal pattern can be made out, and the relationship to the other portions of the duodenum is clearly defined.

Evidences of spasm of the postbulbar area of



BEFORE PRO-BANTHINE *AFTER PRO-BANTHINE*

FIG. 2. Postbulbar duodenal spasm and small bowel hypermotility in a patient with duodenal ulcer crater proved at operation. (*A*) Before Pro-Banthine. (*B*) During therapy with 30 mg. Pro-Banthine three times daily with meals and at bedtime. The usual 30-mg. dosage was taken one hour before x-ray examination.

the duodenum are also frequently seen in patients with acute or chronic duodenal ulcer, and in these instances it is often necessary to give a dose of an anticholinergic drug* and repeat the x-ray study for completely accurate differential diagnosis. Following drug therapy in duodenal ulcer patients (Fig. 2), the deformed duodenal cap often becomes more prominent due to the coincident relaxation of the postbulbar area, and it appears that the edema and inflammation in-

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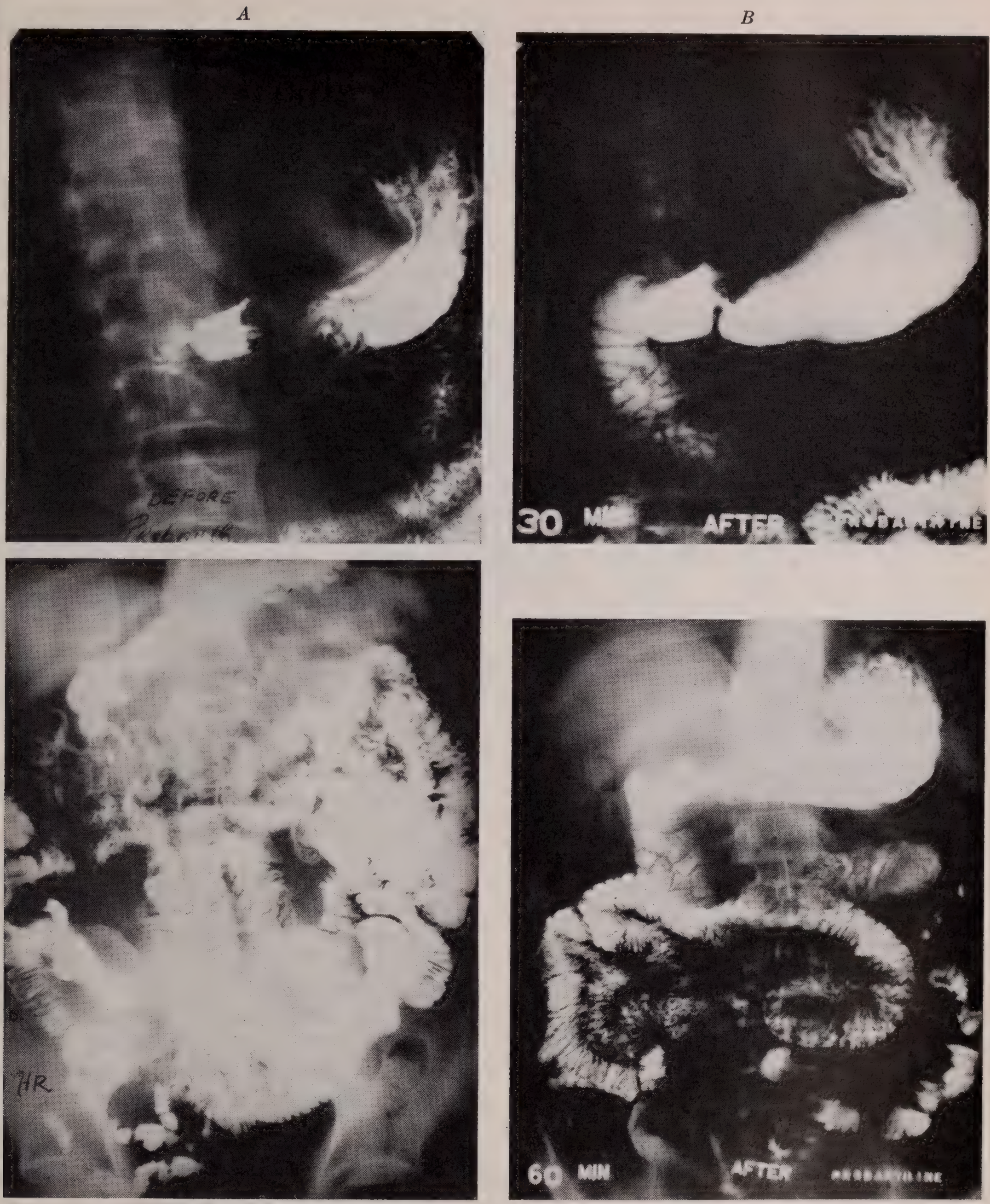
* The anticholinergic drug used in this study was Pro-Banthine.



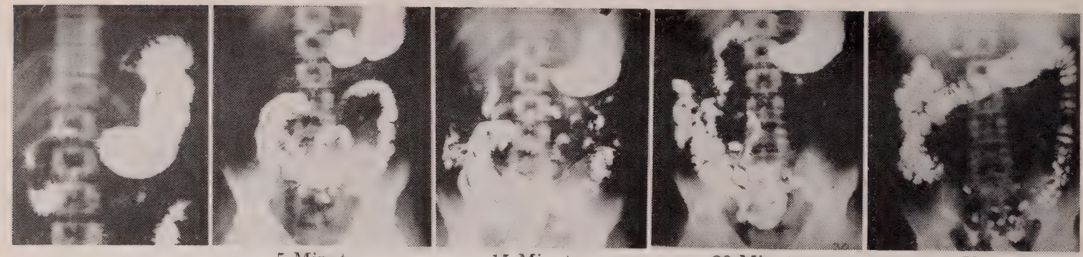
BEFORE PRO-BANTHINE *AFTER PRO-BANTHINE*

Fig. 3. (*A*) Postbulbar duodenal spasm and small bowel hypermotility before Pro-Banthine. (*B*) Same patient thirty and sixty minutes after 10 mg. of Pro-Banthine by intramuscular injection.

volve at least the entire descending duodenum, even though the ulcer crater in the duodenal cap may be relatively small.

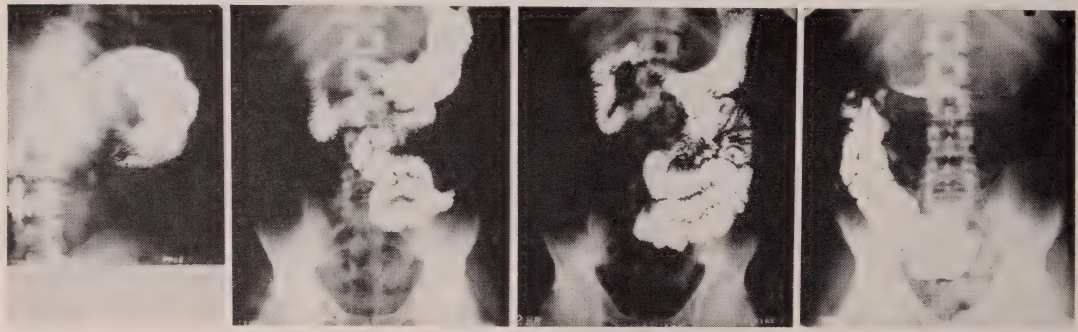
Following doses of propantheline bromide the x-ray picture of the descending duodenum is quite characteristic (Fig. 3). The previously seen evidences of rigidity, spasm, and stiffness are gone, and there is the look of relaxation. The appearance varies somewhat in different individuals but, in general, gives the impression of

A. BEFORE PRO-BANTHINE



5 Minutes 15 Minutes 30 Minutes 1 Hour

B. DURING PRO-BANTHINE



1 Hour 2 Hour 4 Hour

Fig. 4. Postbulbar spasm and small bowel hypermotility. (*A*) Before Pro-Banthine. (*B*) During Pro-Banthine therapy: 15 mg. with meals and 30 mg. at bedtime. The 15-mg. dosage was taken one hour before x-ray examination.

TABLE V.—X-ray Studies in 73 Patients with Postbulbar Duodenal Spasm with and Without Pro-Banthine

	Number	Per Cent
Duodenal spasm studies*		
Control	73	100
Pro-Banthine relaxation	69	95
No change after Pro-Banthine	4	5
Small bowel studies*		
Control	31	100
Pro-Banthine inhibition of motility and relaxation of spasm	28	90
No change after Pro-Banthine	3	10

* Does not include any patients with evidence of duodenal ulcer crater.

smoothly rounded ridges of varying height and breadth, in between which are the furrows running in the transverse axis of the duodenum.

In the relaxed condition there may be evidences of swelling and edema, in some instances almost pseudopolypoid formations with a hobnail appearance. This seems to be especially true in those patients with severe symptomatology and in whom the disease has been present for a long time. In addition to the postbulbar duodenal relaxation there is also inhibition of hypermotility and spasm of the small bowel (Fig. 4).

Controlled roentgenologic observations were made before and after propantheline bromide in 73 patients, and in 95 per cent there was evidence of relaxation of the postbulbar duodenal spasm (Table V).

There were three patterns of medication before the x-ray studies. One group of 24 patients had no preliminary anticholinergic therapy but received either 10 mg. by intramuscular injection or 45 mg. orally in tablets one hour before the x-ray study. The second group of 33 patients was under active therapy, receiving dosages three times daily and at bedtime; they continued in this manner, taking the regular morning amount with a small sip of water but no breakfast, one hour before x-ray. The other 16 patients were on active therapy but did not take any medication after the bedtime dosage. In these individuals there was an interval of from ten to fourteen hours between the last dosage of the drug and the time of starting the x-ray observations. A review of the records and films of the 73 patients shows that the method of administration of the anticholinergic made no essential difference in either the relaxation or the failure to demonstrate changes due to the drug.

Small bowel motility studies were possible in

31 of the patients, all of whose control films showed evidence not only of postbulbar duodenal spasm but also hypermotility and spasm involving the various portions of the small intestine. In 90 per cent there was x-ray evidence of inhibition of hypermotility and spasm (Table V).

Treatment

There was clinical improvement in 83 per cent of 114 patients who received Pro-Banthine therapy for long enough periods of time to make therapeutic evaluation possible. The initial dosage level was usually 30 mg. three times daily with meals and at bedtime. There were instances when larger amounts, such as 45 mg. at bedtime or even 45 mg. four times daily, were needed to control severe diarrhea and abdominal pain. Once the patient was relieved of the major symptomatology and his condition stabilized, the dosages could be reduced so that 15 mg. three times a day with meals and at bedtime or the same daytime dose but 30 mg. at bedtime were found to be adequate for the prolonged program of treatment. As the patient progressed and improved, a so-called maintenance program of 30 mg. at bedtime with one or two 15-mg. doses during the day was found to be entirely adequate in most cases.

Determination of the proper amount of propantheline bromide for each individual case had to be worked out on the basis of experience with the patient. There were a number of patients who gave a previous history of having had no benefit from 15 mg. three times a day but responded to the initial dosage program of 30 mg. with meals and at bedtime. Based on the results of the x-ray studies and clinical experience of the past three years, it could be expected that when an adequate amount of the medication was administered, the clinical relief of symptoms would come readily if the patient were one of that group of 80 to 85 per cent who would be improved. The major therapeutic problem was to determine clinically what dosage was needed for relief of symptoms and which would be accepted by the patient as a basis for therapy without serious inconvenience.

The secondary side-effects, such as blurring of vision, dryness of the mouth, and, rarely, difficulty in urination, came only with the larger dosages and usually were of short duration, even when the larger amounts of the drug had to be continued to effect relief of symptoms. They always disappeared when the drug was withdrawn for a few hours. In most instances administration of the drug with meals resulted in much less discomfort due to dryness of the mouth or blurring of vision. When the rationale of therapy was explained to the patient, as a rule he was glad to accept slight inconveniences in order to attain certain therapeutic objectives such as relaxation of spasm. In addition, most patients were quite positive that as time passed, there was definite diminution of the side-effects and, even if present, were worth while in order to have relief of symptoms.

Treatment has been continued for more than three years without any evidence of toxicity, loss of efficacy in relieving spasm, or cumulative side-effects. On the contrary Pro-Banthine has been found to be efficient at each individual dosage level over a prolonged period of time or when repeated from time to time if for some reason the patient discontinued taking the drug.

The principle of avoiding sedative drugs or other combinations of drugs was successfully followed during the daytime, but at night either Dramamine or Benadryl was often used for their sedative or relaxing action. Usually, 50 mg. of either one at night was adequate, but for those persons who were excitable and nervous smaller daytime dosages of these drugs were also administered. Many of these people gave histories of taking all sorts of sedatives and even opiates for long periods without any essential change in the clinical picture.

Dietary restrictions were essentially absent, except against the use of alcohol, which was absolutely forbidden in all cases. On the contrary the patients were urged to eat a full, liberal diet, including everything that tasted good but limiting spices and condiments. If patients liked their morning cup of coffee it was allowed, but tea was suggested for the balance of the day. In many instances it was a major problem to overcome the fear of food.

Adequate recreation and relaxation with appropriate physical exercise were suggested to all patients. Return to normal family life and doing things outside of the regular work with the family group were urged. Patients were also urged to go to the church of their choice with their families. In no single instance was psychotherapy indicated when relief of the cardinal symptoms of pain and diarrhea was accomplished.

Summary and Conclusions

1. The records of 230 patients with x-ray evidence of postbulbar duodenal spasm have been reviewed.

2. Generalized abdominal pain (80 per cent), diarrhea (66 per cent), generalized abdominal pain and diarrhea in the same patient (53 per cent), and unexplained biliary tract type of symptoms (20 per cent) formed a clinical syndrome of gastrointestinal invalidism without specificity which apparently results from postbulbar duodenal spasm.

3. Controlled x-ray studies showed evidence of relaxation of postbulbar duodenal spasm in 95 per cent of uncomplicated cases under adequate dosage of Pro-Banthine. In 90 per cent of these patients there was also inhibition of hypermotility of the small bowel and relaxation of spasm.

4. Clinical improvement was recorded in 83 per cent of 114 uncomplicated cases who received propantheline bromide long enough to make therapeutic evaluation of the drug possible. The major therapeutic problem was to determine clinically the dosage needed to give relief of symptoms without causing serious inconvenience to the patient. The main cause for failure of therapy was inadequacy of dosage. No evidences of toxicity, cumulative side-effects, or loss of efficacy were observed in spite of continuous medication for more than three years.

5. No sedatives or opiates were found necessary. Only Dramamine or Benadryl were used for their antispasmodic action.

6. Full, unrestricted diet, except for alcohol in any form, was urged in all cases.

7. Psychotherapy was not needed in any case.

121 East 60th Street

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Discussion

M. Luther Musselman, M.D., *Buffalo, New York.*—It is always difficult to discuss a paper of this type since there is little in the literature to aid one, and of course most of us have no personal experience with such a syndrome. One is immediately impressed by the careful preparation and documentation of the information just presented, but it also has a familiar ring. Of course the failure of the symptoms to fall into any known disease category is the very problem our neurasthenic patients have been presenting for these many years past, and at the same time the radiographic findings have also been ascribed to a similar cause by many experts such as Dr. Kellog and, more recently, Dr. F. J. Ingelfinger who has stated that, "The descending portion of the duodenum is particularly sensitive to neurogenic influences." Ingelfinger goes on to say that when a "neurasthenic patient is subjected to gastrointestinal fluoroscopy, barium may be seen to churn back and forth in this area." A few lines later he adds that "lower in the small bowel emotional stress may induce enough hypermotility to cause diarrhea."

I believe we must all make every effort in our practices to verify this syndrome as presented, and we must particularly alert the radiologists in order that they may give us the greatest assistance possible.

Only time will determine its niche in our diagnostic armamentarium.

Medical Society of the State of New York
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Toxic Effects of the Welch Bacillus in Postabortal Infections

GORDON WATKINS DOUGLAS, M.D., NEW YORK CITY

(*From the Obstetrical and Gynecological Service (Third Surgical Division), Bellevue Hospital, and the Department of Obstetrics and Gynecology, New York University College of Medicine*)

TRADITIONAL teaching regarding the septic complications of abortion has emphasized the hazards of peritonitis, parametritis, pelvic thrombophlebitis, and septic infarction of the lung. The advent of antibiotic therapy has sharply reduced the incidence of these complications, and fatalities from these causes are now quite rare. In the wake of this improvement there have emerged clinical pictures of great potential danger which are the result, not of classic inflammatory complications, but of toxic substances liberated by the invading bacteria. This is well illustrated in the infrequent but dramatic cases of postabortal infection due to Clostridium welchii. While such cases formerly succumbed rapidly of overwhelming sepsis, survival beyond the initial critical period is now common, and the clinical manifestations of toxins produced by this organism stand revealed.

The magnitude of this problem can be understood in terms of mortality in cases of abortion but is even more striking when the causes of these deaths are considered. Table I shows the mortality in cases of abortion on the gynecologic service of Bellevue Hospital in various periods since 1920. Two changes are evident over this span of time. Beginning in 1934 curettage was employed routinely in the treatment of incomplete abortion so long as infection had not spread beyond the uterus and the offending organism was not a hemolytic streptococcus. This had little effect on mortality but produced a reduction in morbidity and complications and a greatly shortened hospital stay. The use of antibiotics after 1942 brought about a sharp drop in mortality due to virtual elimination of many of the traditionally fatal forms of postabortal infection.

Table II shows the causes of death in fatal cases by five-year periods since 1940. All of these cases were autopsied by the Chief Medical Examiner of the City of New York. In the first two periods classic types of fatal postabortal sepsis are well represented. After 1950 these largely disappeared, and deaths during the last two years have been due in the majority of instances to toxic manifestations of infection. Three of these cases were Cl. welchii infections complicated by acute renal failure. In addition, three patients died in vascular collapse attributed to endoxtoins liberated in infections due to gram-negative bacteria. This latter group has been the subject of a recent report elsewhere.[1]

From these figures it is apparent that the occurrence of toxicity in cases of infected abortion

TABLE I.—MORTALITY IN ABORTION AT BELLEVUE HOSPITAL, 1920–1956

Period	Abortions	Deaths	Mortality (Per Cent)	Management	Comment
1920–1933	7,184	107	1.48	Conservative. Surgery only for serious indications	Long hospital stay, numerous nonfatal complications
1934–1937	1,248	17	1.2	Routine curettage except in extrauterine spread of infection. Limited use of sulfa drugs	Short hospital stay, fewer complications
1940–1949	4,129	17	0.4	Continued surgical treatment. Penicillin after 1942, newer drugs after 1948	Steady reduction in mortality, few complications
1950–1954	2,900	5	0.17	Continued surgical treatment. Routine antibiotics in febrile cases	Further reduction in mortality, survival of infected cases
1954–1956	1,040	6	0.58	Management unchanged	Fatal cases due to Cl. welchii infections and Escherichia coli septicemia

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TABLE II.—CAUSES OF DEATH IN ABORTION AT BELLEVUE HOSPITAL, 1940–1956

	Number of Cases
1940–1944	
Generalized peritonitis and parametritis	7
Cl. welchii sepsis with perforation of uterus	3
Perforation of uterus and intestine	1
Suppurative thrombophlebitis	1
1945–1949	
Generalized peritonitis and parametritis	2
Peritonitis following hysterectomy	1
Pelvic thrombophlebitis, septic infarction of lung, mitral valvulitis	1
Perforation of uterus and intestine	1
1950–1954	
Cl. welchii sepsis	3
Patients transferred to hospital late in renal failure, Cl. welchii infection suspected	2
Ingestion of turpentine, acute renal failure	1
1955–1956	
Cl. welchii sepsis with hemolysis and acute renal failure	3
Septicemia due to gram-negative bacilli with toxic manifestations	3

is a matter of paramount concern. It becomes important, therefore, to know the nature of these toxins, their mode of action, and the special considerations relating to the abortal state which may have a bearing on their appearance.

Laboratory investigations, as well as studies of gas gangrene in man, have shown that the clostridial organisms are capable of producing a wide variety of toxins. In 1941 Macfarlane and coworkers[2] identified the alpha-toxin of Cl. perfringens as a lecithinase which, acting on lecithin-protein complexes on the surface of the red blood cell, produces hydrolysis of this lecithin with consequent rupture of the cell membrane. Further studies have demonstrated that the Clostridia produce many different exoenzymes, not all of which have a clinical toxic effect.

However, marked discrepancies are found between the enzymatic activity of these substances in vitro and the toxicity produced in animals or seen in clinical infections. To explain this, the hypothesis has been advanced that many of the toxic effects are due not to direct action of the toxin itself, but to the products of tissue breakdown.[3] The situation is further complicated from the clinical point of view by the enormous variation in toxin-producing ability among different strains and species of clostridial organisms.

Certain anatomic and physiologic considerations in the abortal or postabortal state may have a bearing on the pathogenesis of clinical toxicity in a manner not encountered in other forms of clostridial infection. The fetus, if damaged by attempts at criminal abortion, forms an ideal culture medium for the growth of clostridial organisms. With death of the fetus these tissues are beyond the reach of effective antibiotic therapy, although they remain in contact with maternal tissues. In practice, culture of fetal tissues in cases of Cl. welchii infection has proved to be more reliable than cultures of the cervix or blood in the recovery of these organisms.

The relationship of the placenta to the maternal circulation of the uterus provides an enormous surface for the rapid absorption of large quantities of exotoxin into the maternal bloodstream. MacLennan[4] has stated that in clostridial muscle infections, intravascular hemolysis is never seen unless there is an associated septicemia, and then it is a constant feature. However, among nine cases of Cl. welchii postabortal infection associated with intravascular hemolysis at Bellevue Hospital, no positive blood cultures were obtained, while four cases with positive blood cultures failed to develop hemolysis. It is felt that the placental site provides an ideal portal for the entry of toxins not necessarily accompanied by bacteria and that clostridial organisms may produce profound toxicity with great rapidity for this reason.

While the Clostridia are known to produce a variety of substances with enzymatic activity, the correlation of these findings with clinical toxic states associated with Cl. welchii infections is far from exact. From the clinical point of view experience suggests that many of the features of gas bacillus infections may be due not to the effects of a single toxin in different areas of the body, but to a number of different toxins. This possibility is raised by the appearance of these toxic signs at varying intervals and in different combinations. Among the clinical features possibly due to toxins may be considered (1) the peculiarly alert, almost euphoric mental state sometimes noted in these patients when first seen, (2) hypotension, preceded by a widening pulse pressure, (3) tachycardia out of proportion to fever, (4) acute renal failure, (5) intravascular hemolysis, (6) progressive necrosis of local tissues, and (7) edema.

The identification of these toxic effects is of practical as well as academic interest. While Cl. welchii is a relatively common finding in cases of postabortal infection, the majority of

TABLE III.—Clinical Manifestations of Toxicity in 7 Cases of Postabortal Infection due to Clostridium Welchii

	Case						
Clinical Finding	1	2	3	4	5	6	7
Alert mental state	+	0	0	0	0	0	+
Hypotension	+	0	+	0	+	+	+
Tachycardia	+	+	+	0	+	0	+
Hemolysis	+	+	+	0	0	0	+
Renal failure	+	+	+	+	0	0	+
Local tissue necrosis	0	+	0	+	0	0	+
Edema	0	0	0	+	0	0	0

such cases show no signs of toxicity. When such manifestations do appear, a grave clinical state exists which demands prompt treatment.

Since a previous report in 1953,[5] seven cases of postabortal infection due to Cl. welchii have been seen in which toxic manifestations were evident. Positive cultures were obtained from the cervix or placental tissue in every instance. Three of these cases terminated fatally from the effects of acute renal failure. Since July 1, 1955, routine smears and cultures of the cervix have been carried out in cases of abortion. Among 327 cases cultures for Cl. welchii were positive in 17 instances (5.2 per cent). Two of these patients showed evidence of toxicity and are included in the seven mentioned above. In an additional six cases infection was present without toxic effects. In the remaining nine cases clostridial organisms were found in the absence of any signs of infection.

Clinical Manifestations of Toxicity

The clinical findings in seven cases are summarized in Table III. It is evident that four of these cases were of the classic type with hemolysis and acute renal failure. In the remaining cases other less dramatic manifestations were seen, some of which proved amenable to treatment.

Alert Mental State.—This was encountered in two cases, both of which were admitted before the appearance of toxic signs. This is a curious clinical feature, characterized by restlessness, an intense awareness of surroundings, and a tendency to become talkative. It is all the more striking because these patients are acutely ill by other standards. Mental alertness appears to be a transient feature which occurs early in the illness, preceding other toxic signs. Both of these cases went on to develop a full-blown picture of toxicity with hemolysis and acute renal failure.

Hypotension.—A fall in blood pressure not related to blood loss was noted in five cases. Careful observation in some instances revealed an initial fall in diastolic pressure, resulting in a widening pulse pressure. In two cases hypotension coincided with intravascular hemolysis and the appearance of jaundice, but in a third case it preceded hemolysis by nearly twelve hours. In two cases it was the only toxic sign noted. This finding suggests the presence of a toxin whose effects are hemodynamic, unrelated to hemolysis. In the two cases where this was the only sign of toxicity, prompt improvement occurred after curettage and removal of infected tissue from the uterus.

Tachycardia.—A pulse rate between 110 and 160 was noted initially in five of the seven cases. Tachycardia is common in severe infections characterized by high fever, but in these cases the pulse rate was greatly elevated despite a relatively low degree of fever and, in most instances, a normal blood pressure. This sign is most suggestive when noted early in the clinical course and is generally followed by the rapid appearance of other toxic signs.

Hemolysis. — Intravascular hemolysis occurred in four cases. In two of these, rapidly increasing jaundice was found on admission, while in the remaining two this was noted after entry to the hospital. Hemolysis was accompanied by a sharp drop in the hematocrit, as well as the appearance of a wine-colored urine. All of the patients with hemolysis developed the typical picture of acute renal failure. The occurrence of hemolysis appears to be confined to the early part of the clinical course in patients treated conservatively. One of these cases was curetted within the first thirty-six hours, but three retained infected tissue for a much longer time. There was no instance of hemolysis after the first seventy-two hours.

Acute Renal Failure.—The pathogenesis of acute renal failure associated with Cl. welchii sepsis has been the subject of clinical as well as experimental interest. While this feature was formerly regarded as the result of hemolysis in a manner somewhat analogous to anuria following transfusion of mismatched blood, there have been indications that this complication may develop as the result of the direct effect of a nephrotoxin. In an earlier report[5] it was noted that kidney sections from a case dying of shock before hemolysis occurred showed degenerative changes predominantly in the proximal convoluted tubule. Berg and his associates[6] injected Cl. perfringens toxin into dogs and produced experimental shock associated with reduced output of urine. Lesions in the kidneys of these animals showed cloudy swelling, vacuolation, and occasional necrosis of the tubules. They attributed this to circulatory changes, direct nephrotoxic effect, or to a combination of the two.

In this regard Case 4 is of unusual interest. This patient's blood pressure remained normal, and there was no evidence of hemolysis. However, she developed acute renal failure, which was successfully managed with the aid of the artificial kidney. This suggests that Clostridia may produce a toxin capable of direct nephrotoxic effect in the absence of shock and intravascular hemolysis.

Local Tissue Necrosis.—A characteristic of gas gangrene in wounds is the presence of progressive local tissue necrosis. In postabortal infections this feature has not been emphasized. Three of these cases are of particular interest in this regard.

In Case 2 pelvic examination on admission revealed a slightly enlarged uterus with negative adnexal and abdominal findings. Curettage two weeks later showed a large defect at the right cornu, and at autopsy a few days later this was found to represent a large area of necrosis with penetration of the uterine wall and formation of an abscess walled off by omentum and large bowel. In Case 4 curettage was performed on admission, and no uterine defect was noted. Four days later at laparotomy, a defect 2 cm. in diameter was found in the fundus, lined by necrotic tissue and communicating with a localized abscess. In Case 7 curettage was carried out on the second hospital day, and no defects in the cavity were found. At hysterectomy three weeks later the entire anterior wall of the uterus had virtually sloughed with production of a peritonitis.

These findings suggest that Cl. welchii in a postabortal uterus are capable of producing a progressive, necrotizing lesion quite different from other forms of infection in this location. Since the background in these cases arouses strong suspicion of criminal interference before admission, it is possible that a small perforation was present initially, with introduction of clostridial organisms into the muscular wall of the uterus. If this was the case, exploration of the uterine cavity early in the course of two patients failed to demonstrate this damage.

Edema.—Generalized edema, which is seldom noted in postabortal infections due to Cl. welchii, was a prominent finding in one instance (Case 4). This patient did not develop intravascular hemolysis but showed a striking facial edema for several days before the appearance of acute renal failure. At laparotomy there was a very marked local edema of the pelvic tissues in contrast to findings elsewhere in the abdomen. The cultural findings in this case are also of interest. No less than four strains of clostridia were found, three of which proved to be Cl. welchii. The fourth organism showed cultural characteristics similar to those of Cl. novyi, but this culture was lost before absolute identification could be made.

Diagnosis and Management

The recognition of multiple signs of toxicity in these cases and the realization that such toxic effects appear to be a major cause of fatality in abortion have brought renewed interest in early diagnosis and management.

At the present time routine cervical smears and cultures are done on cases of abortion when first seen. The use of cervical smears has proved to be a valuable clinical aid. Because of the variety of bacteria seen in many cases of infected abortion, "suspicious" smears are sometimes encountered when cultures fail to show clostridial organisms. However, the presence of large numbers of plump, encapsulated gram-positive bacilli is a strong indication of the presence of Cl. welchii, although not always associated with signs of infection or toxicity. When such smears are seen, cultures of the cervix, blood, and all tissue passed are taken, and the patient is carefully observed for signs of toxicity. Urinary output is recorded, and baseline blood chemical determinations are done in anticipation of acute renal failure. Frequent observations are made in regard to blood pressure, the presence of jaundice, or evidence of hemolysis in the serum and urine.

The treatment of cases of postabortal infection due to Cl. welchii continues to be a major problem, requiring critical judgment of the individual case. The use of antitoxin in cases where manifestations of toxicity are evident is of little value and is now regarded as an adjunct to therapy. Antibiotics, particularly penicillin, appear to be capable of halting the spread of infection but have little beneficial effect in the treatment of toxic effects beyond prolongation of life until spontaneous recovery can occur.

On theoretic grounds it would seem that prompt removal of infected tissue from the uterine cavity would be an essential in treatment. This should certainly be done in cases where a positive smear is obtained and where there is no evidence of toxicity or extrauterine spread of infection regardless of fever. Among nine such cases treated in this way by curettage, no complications referable to the surgical procedure occurred, and recovery was uneventful. Hysterectomy does not appear justified in cases of this kind.

The decision to proceed with surgical intervention becomes more difficult in cases where these organisms are associated with postabortal parametritis or pelvic peritonitis in the absence of toxic signs. Curettage in these circumstances carries an added risk, and one may reason that a toxin-producing strain of Clostridia, with this amount of tissue involvement, should have produced toxic effects much earlier if the organism had the ability to do so. Here, short observation may be the wisest course with curettage postponed until the process has stabilized and the beneficial effects of antibiotics are in force. Among six cases of this kind treated by delayed curettage, the postoperative course was satisfactory, and no toxicity developed. In this situation hysterectomy does not seem warranted unless there is clinical evidence of perforation of the uterus.

When one or more signs of toxicity develop in a patient with positive smears or cultures for Cl. welchii, a situation of extreme hazard is at hand. It would appear rational to take immediate steps to remove the source of these toxins, despite the fact that many of these patients are in precarious condition. Four of the seven patients in this series were subjected to curettage early in the clinical course. In two of these hypotension was the only clinical sign of toxicity, and in both dramatic improvement occurred. In two others hemolysis or renal failure or both appeared despite curettage, but in these instances there was strong suspicion that damage to the uterine wall had occurred prior to admission. Hysterectomy would appear to be a more effective means of removing the source of toxins, but its use in this type of case has been associated with high operative mortality. This procedure was employed twice in this study for indications of perforation of the uterus. In one case recovery from renal failure had already occurred before the operation was carried out, and in the other there was no dramatic improvement in the toxic state. In general, it seems desirable to carry out immediate curettage in the hope of alleviating toxic manifestations and because experience suggests that the clinical state of these patients deteriorates for a considerable time before improvement can be expected.

Summary

Recent experience indicates that toxic manifestations rather than the well-known inflammatory complications are now the principal source of danger to patients with postabortal infections. In Cl. welchii infections these toxic effects are multiple and appear in varying combinations, suggesting that these organisms elaborate a variety of toxins of clinical importance. Routine vaginal smears and careful observation for toxic manifestations are suggested. Immediate curettage may be employed to remove the source of toxins but is not effective in all cases, particularly those in which damage to the uterus has occurred. Hysterectomy under these circumstances imposes a serious operative risk on the established hazards of toxicity.

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No task's too steep for human wit.—HORACE

Newer Drugs for the Relief of Allergic Diseases

CARL E. ARBESMAN, M.D., BUFFALO, NEW YORK

(*From the Allergy Clinic of the Buffalo General Hospital and the Departments of Medicine and Bacteriology and Immunology of the University of Buffalo School of Medicine*)

THE best treatment for allergic disorders is the elimination of the etiologic agents. Unfortunately, either the discovery of the offending substance or its avoidance cannot always be accomplished. Therefore, various nonspecific symptomatic measures must be employed. Each year several "new cures" are proposed for allergic disorders, and attempts are constantly being made to improve therapy. It is the purpose of this presentation to evaluate these "newer" methods of treatment which have been developed within the past few years.

Undoubtedly the most important addition to the therapeutic armamentarium for the allergic individual is the steroids. The report of Kendall, Hench, and their coworkers opened a whole new phase of therapeutics in allergy and immunology. There have been many reports and reviews on this subject which need not be repeated here. At first corticotropins were used; then the various synthetic corticosteroids were developed, and in the past year prednisone and prednisolone have been studied in allergic diseases.[1-7] Other medications for the relief of asthma and allergic rhinitis besides the steroids have been developed and were subject to clinical trial. These are also reported in this presentation.

Prednisone and Prednisolone

These steroids* are analogs of cortisone and hydrocortisone, respectively, and are produced by the dehydrogenation of the carbon atoms in positions one and two of the nucleus of the parent steroids, resulting in a double bond between C_1 and C_2. It has been reported that these new compounds have all the advantages of their precursors but fewer of their undesirable side-effects as regards sodium retention and potassium depletion. Previous investigators[1,2] have demonstrated that these substances do not affect the blood pressure, weight, or the sodium and potassium in the dosage ordinarily employed. Prednisone and prednisolone have been found to be four to five times as effective as their analogs, milligram for milligram. The clinical effectiveness of these new steroids compared with each other and with cortisone, hydrocortisone, and ACTH in the same patients at different times will be reported.

METHOD.—All patients were from either the allergy clinics of the Buffalo General or Children's Hospitals or private practice. They had had complete medical and allergic workups and had not responded previously to the symptomatic forms of therapy usually employed. These patients were seen at least once weekly, and their weight, blood pressure, subjective complaints, and examination of the nose, throat, and chest were recorded. They were given just enough steroid to carry them through until the next visit.

Forty-two patients had had previous treatment with either cortisone, hydrocortisone, or ACTH or all three. Twenty-four of these 42 patients had both prednisone and prednisolone at different times. Nine were given prednisone alone, and the remaining nine patients received prednisolone. (Fifteen of these patients had been on either ACTH, cortisone, or hydrocortisone for more than four years.) In the transfer from these steroids to prednisone and prednisolone, a 5-mg. tablet was substituted for each 25-mg. tablet of cortisone and each 20-mg. tablet of hydrocortisone. The newer steroids were switched back and forth, milligram for milligram. The average daily maintenance dosage of either of these compounds in chronic intractable asthmatics was found to be 7.5 to 10 mg.[1]

COMPARATIVE EFFECTIVENESS.—Thirty-six patients with bronchial asthma received prednisone and prednisolone at different times. Twenty-six of them found these steroids to be equally effective, six were better on prednisone, and four believed that prednisolone gave more satisfactory

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* Supplied through the courtesy of the Schering Corporation, Bloomfield, New Jersey.

results. Six patients with perennial allergic rhinitis who were given both of these steroids at different times responded well.

Thirty-nine asthmatics had previously been on either cortisone, hydrocortisone, or ACTH and were switched over to these newer steroids. The therapeutic effectiveness was the same in 22 patients, but 11 had greater benefit from prednisone or prednisolone. Six patients, however, were much better on ACTH, cortisone, or hydrocortisone. Of six patients with perennial allergic rhinitis, all responded equally to the new and older steroids. An additional five patients with severe nasal polyps claimed better results and less side-effects with the new compounds. (Several of the above patients had more than one allergic manifestation; hence, there was a discrepancy in the total number.)

These compounds have also been used topically in the form of ointments and creams. It is interesting to note that prednisone ointment, like cortisone, is not effective locally. However, prednisolone creams give excellent symptomatic relief, like hydrocortisone, when applied to allergic skin disorders.[8]

Side-effects.—The side-effects of prednisone and prednisolone are similar to the hyperphysiologic effects of ACTH, cortisone, and hydrocortisone. Usually the larger the dosage, the greater is the incidence of these effects.

Although there is little or no edema due to sodium retention and potassium depletion with these new compounds, the most disturbing effects are those related to the gastrointestinal tract. Epigastric pain, nausea, cramps, diarrhea, and flareup of dormant ulcers have been reported. Boland[9] found that 37 per cent of his patients treated with prednisone and prednisolone had gastrointestinal complaints as compared to only 7 per cent on hydrocortisone. This is due to the fact that these new steroids provoke about 50 per cent more hydrochloric acid secretion than does hydrocortisone in comparable anti-inflammatory doses.[10]

In our series of 139 patients treated with prednisone and prednisolone, 19 had gastrointestinal complaints. Two of these 19 patients could tolerate one but not the other of these steroids. An additional four patients were given antacids concomitantly with definite relief. Several of these patients could continue the steroids without gastrointestinal disturbances when the dosage was lowered. X-rays of the upper gastrointestinal tract in ten of these patients were normal. Only four patients had to stop the steroids because of these complaints. One of these had a marked aggravation of a quiescent peptic ulcer with pain and bleeding.

Summary.—In summary, then, the chief advantage of prednisone and prednisolone over the other steroids is that there is less edema and sodium retention without sacrificing efficacy.

Spansules of Aminophylline

The xanthine drugs, particularly aminophylline, have been used successfully for many years in the relief of bronchospasm and bronchial asthma. The intravenous route is most effective, and satisfactory results are obtained with suppositories or rectal powders. However, the oral administration of aminophylline has not been as satisfactory. The larger oral dosages that are necessary for relief cause gastric irritation in a great percentage of patients. Hence, an oral product which would be beneficial without the ill effects would be a most welcome product. It was thought that the slow, regular absorption of aminophylline would produce this effect.

"Spansules" of aminophylline* were submitted for clinical trial. Each tablet contained $4^1/_2$ grains of aminophylline. Approximately one-third dissolves rapidly, releasing the initial therapeutic dose. The remainder is coated with a digestible material and imbedded in the matrix of the tablet. As this matrix disintegrates, small coated aminophylline granules are exposed to the gastrointestinal secretions which digest the coatings and release the active ingredients. Thus, the patient receives literally hundreds of small divided doses spread evenly over an eight to ten-hour period. (This type of tablet has been used successfully with an antihistamine, a stimulant, and a sedative.) Studies by the manufacturer have shown that a prolonged high blood level is present in human subjects after the injection of just one aminophylline Spansule.

Results.—One or two Spansules of aminophylline ($4^1/_2$ to 9 grains) were prescribed for 25 asthmatic patients to be taken two to three times daily as necessary. Of this group 14 claimed good or excellent relief, four had only mild benefit, six were unchanged, and one was made worse from this product. Of the 14 patients that were helped by the Spansules, two patients stated that the Spansules were better than the suppositories; four thought that they were equally effective, but eight felt that the suppositories worked more rapidly and gave better relief.

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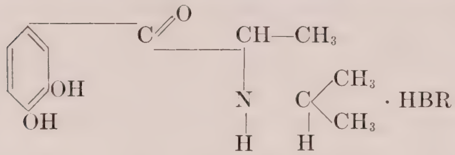
* Supplied through the courtesy of Smith, Kline and French Laboratories, Philadelphia, Pennsylvania.

Side-effects.—Side-effects were observed in nine (36 per cent) of these 25 patients. Gastrointestinal disturbances, such as nausea, gas, bloating, dysphagia, cardiospasm, retching, and constipation, were noted. Headaches, insomnia, jitteriness, and weakness were also reported by some of the subjects.

Summary.—This preparation of aminophylline, although it appears to be more effective than the regular aminophylline tablet, is not as beneficial as the suppository. This is probably due to the fact that only $1^1/_2$ to 3 grains (from one or two tablets) of aminophylline is released rapidly. However, if this dosage were increased, the same problem of increased gastric irritation would probably develop.

***Dapanone* (*Compound 1313*)**

Dapanone hydrochloride* is 3,4-dihydroxy-alpha-isopropylamine propiophenone hydrobromide whose chemical structure is as follows:



It is somewhat similar to other bronchodilators, such as Aludrine, epinephrine, ephedrine, etc. In the laboratory Dapanone was found to be a very effective bronchodilator without the central nervous system stimulation of the above-mentioned drugs. It was therefore a welcome substance to try clinically.

This drug was at first supplied in 50-mg. tablets which did not appear very effective. Our present study included the use of 250-mg. tablets. The dosage varied from patient to patient from 125 to 500 mg. one to four times daily.

Reports from 26 asthmatic patients who were on Dapanone for at least four weeks each were finally available for analysis. These patients were seen and examined at least once weekly and the subjective and objective findings recorded.

Results.—Fourteen of the 26 patients had very adequate relief of their asthmatic symptoms. Five additional patients had fair or slight relief.

This drug's effectiveness was compared to that of other known bronchodilators (Amesec, Amodine, ephedrine, etc.) in 11 of these patients. Four thought that the Dapanone was not as effective, and five claimed that the drugs were equally effective. Only two patients claimed that Dapanone was better than the other drugs used.

Unfortunately, the clinical data did not support the laboratory results regarding stimulation of the central nervous system since 16 of the 26 patients had symptoms of sympathomimetic stimulation, such as palpitation, jitteriness, nervousness, and insomnia. Two additional patients complained of dryness of the mouth and "drying up" of their bronchial secretions. Three of the 16 patients with these side-effects still had relief of symptoms without the side-effects when the dosage was reduced to one-half tablet or 125 mg. per dose.

Summary.—Dapanone, although an effective bronchodilator, has many side-effects and has no particular advantage over those products already available.

Isuprel-Franol Tablets

Each tablet consisted of an outer coating of Isuprel (isopropylanterenol hydrochloride, 5 or 10 mg.), which had a lemon taste added, and an inner tablet, Franol (benzylephrine hydrochloride 30 mg., phenobarbital 8 mg., and theophylline 120 mg.).* This material was presented for clinical trial with the anticipation that there would be both an immediate and prolonged effect on bronchospasm.

These tablets were given to 33 asthmatic patients who were observed at least once weekly. It was soon apparent that the 10-mg. dosage of Isuprel in this compound was too large since almost all of the patients complained of tachycardia and jitteriness. Our present data deal only with the 5-mg. dosage.

Of these 33 patients, 18 claimed immediate relief, six had fair results, and nine obtained no benefit. Side-effects were observed in nine of these patients. Palpitation and tachycardia were reported by four, drowsiness in two, urinary re-

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* Supplied through the courtesy of Sharpe and Dohme, West Point, Pennsylvania.

* Supplied through the courtesy of Winthrop-Stearns, Inc., New York City.

TABLE I.—Clinical Effectiveness of Plimasin

		Results		
Condition	Total Patients	None	Slightly Improved	Good
Allergic rhinitis				
Season	77	18	9	50
Perennial	25	7	8	10
Urticaria	6	4	. .	2

TABLE II.—Side-effects of Plimasin in 108 Patients

	Number
Total patients with any side-effects	18
Total patients with moderate to severe side-effects	8 (7.4%)
Side-effects	
Wakefulness	10
Jitteriness	7
Drowsiness	4
Dry mouth	3
Nausea	2
Diarrhea	2
Palpitation	1
Headache	1
Total	30

TABLE III.—Comparison of Plimasin with Pyribenzamine and Other Antihistamines

	Number
Side-effects less with Plimasin	38
Side-effects greater with Plimasin	3
Side-effects equal to Plimasin	3
Clinically more effective	3
Clinically less effective	11
Clinically equal effectiveness	2

tention in one, urticaria in one, and insomnia in the other.

Summary.—This combination of drugs in one tablet has the same usefulness as similar ephedrine compounds with the added benefit of the immediate action of the sublingual Isuprel.

Plimasin

The antihistamine drugs have been in clinical use for over ten years. Their usefulness in the relief of rhinorrhea, sneezing of allergic rhinitis, and in the relief of pruritis for urticaria has been well substantiated. However, the most distressing side-effect of most of these substances when given in adequate therapeutic dosages is the drowsiness that is produced. Pharmaceutical companies have done considerable research in attempting to overcome this disadvantage. One such substance was submitted for clinical trial.

Plimasin* is a tablet consisting of 25 mg. of pyribenzamine and 5 mg. of Ritalin. Ritalin is an analeptic compound whose central stimulating action is between that of caffeine and amphetamine.

This drug was given to 108 patients over a period of twelve months. The patients varied in age from six to eighty-three years. The conditions treated were primarily allergic rhinitis, urticaria, and pruritis. The results obtained were most gratifying. The sedative action was markedly decreased, but the antihistaminic activity was not decreased. As a matter of fact, occasionally the 25-mg. pyribenzamine combination with the Ritalin was more effective than 50 mg. of pyribenzamine alone without the sedation. Whether this combined action is a synergistic effect of the two drugs or merely the euphoric effect produced by the Ritalin must yet be evaluated.

A preliminary report with this substance was presented by the Committee on Drugs of the American Academy of Allergy in 1955,[11] and a more detailed report was given at the last meeting in February, 1956.[12]

Results.—Sixty-five per cent of 77 patients with seasonal allergic rhinitis were adequately relieved with Plimasin. Only 40 per cent of the 25 patients with perennial allergic rhinitis claimed benefit. Six patients with urticaria were given Plimasin, but just two obtained relief (Table I).

Seventeen out of 108 patients could not tolerate this combination because of wakefulness and irritability. The other side-effects encountered are listed in Table II. Thirty-eight patients in our study could not tolerate plain pyribenzamine or other antihistamines because of drowsiness, but all could take Plimasin without the sedative effect (Table III).

Summary.—This compound is certainly not the answer to the perfect antihistamine but is another step in the right direction toward more effective and less toxic antiallergic substances.

Summary and Conclusions

The clinical results with several new substances are presented in brief. There is no doubt that prednisone and prednisolone have a definite place in the therapy of both resistant and self-limited allergies. Perhaps in the future newer corticosteroids without gastrointestinal side-effects will be developed. Plimasin is a useful antihistamine combined with a stimulant without the undesirable feature of drowsiness. The bronchodilators described, Dapanone and Isuprel-Franol tablets, probably have limited, select value, but the Spansule of aminophylline was rather a disappointment as a satisfactory relief measure for the asthmatic, primarily because of its gastrointestinal effects.

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* Supplied through the courtesy of Ciba Pharmaceutical Products, Inc., Summit, New Jersey.

There should constantly be a search for new remedies which have fewer ill effects and more specific actions. Sometimes a combination of two well-recognized drugs becomes a very useful medication. At other times entire new series of chemicals are developed which open up new avenues of research. About ten years ago the groups of antihistamines were just started; about five years ago corticotropins and, more recently, the corticosteroids, prednisone and prednisolone, have given the physician much better tools to help our patients. However, we must make judicious use of these tools to obtain the best therapy.

At best all of these medications are only symptomatic measures, and our ultimate goal is still the determination and elimination of the etiologic agents.

40 West North Street

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See Special Historical and Scientific Exhibits

at the

SESQUICENTENNIAL CONVENTION

Medical Society of the State of New York

February 18 to 21, 1957

HOTEL STATLER **NEW YORK CITY**

Radiotherapy in Ophthalmology

GEORGE R. MERRIAM, JR., M.D., NEW YORK CITY

(*From the Institute of Ophthalmology, Columbia-Presbyterian Medical Center*)

RADIOTHERAPY has been employed in ophthalmology for many years. A knowledge of the possible harmful sequelae is essential to the proper utilization of this form of treatment.

Effects of Radiation on the Eye and Adnexa

GRENZ RAY (HALF VALUE LAYER 0.04 MM. ALUMINUM).—Doses in the order of 1,000 r can produce increased pigmentation of the skin. For this reason treatment to the lids is avoided. With doses over 5,000 r in air the only complication observed has been telangiectasis of the conjunctiva.

BETA RADIATION.—With doses ranging from 2,300 to 32,000 rep (roentgen equivalent physical) on the surface the following effects have been observed: telangiectasis and keratinization of the conjunctiva, atrophy of the sclera, punctate keratitis, corneal vascularization and scarring, iritis, iris atrophy, and radiation cataract.[1]

MORE PENETRATING RADIATION.—The harmful effects observed with ionizing rays of various qualities are atrophy, depigmentation, increased pigmentation and telangiectasis of the skin, atrophy of the tarsal plate, epilation of lashes, atrophy and fibrosis of the subepithelial tissues, keratinization of the conjunctival epithelium, atrophy and telangiectasis of the conjunctiva, and atrophy of the sclera with occasional perforation. The cornea may develop punctate keratitis, edema, keratinization, scarring, thinning with or without perforation, and vascularization. Other effects are iritis, iris atrophy, atrophic degeneration of the ciliary body, and radiation cataract. In the retina there may be occlusion of vessels; telangiectasis (new vessel formation); sheathing; hard, white deposits (edema residues); edema; retinal, preretinal, and vitreous hemorrhages; retinitis proliferans; retinal detachment, and secondary glaucoma. In children irradiation of growing bone may arrest its development.

Superficial Therapy

Either Grenz rays or beta radiation may be used, for the effect on tissues is essentially the same. Since most of the lesions treated are benign, the doses employed should be conservative.

Superficial therapy has been employed for the following:

1. *Vernal Catarrh:* Since this is a self-limiting disease in approximately 90 per cent of cases, the number requiring treatment is limited. In most instances other local measures are equally effective. A total dose of 3,000 to 5,000 r in air or rep on the surface in three to five weeks is suggested. Irradiation has not been utilized as the primary method of treatment.
2. *Corneal Vascularization:* The results in our experience have been extremely variable with conservative doses. Local measures should be utilized fully before employing radiation since in many instances the corneal vessels may regress spontaneously once the irritation is removed. Caution is suggested in the use of radiation before keratoplasty since it may result in nonunion of the graft.[2] Postoperative irradiation has been found to be more effective. A total dose of 3,000 to 5,000 r in air or rep on the surface in two to four weeks is recommended.
3. *Precancerous Melanosis of the Cornea and Conjunctiva:* This rare, pigmented lesion responds satisfactorily to a total dose of 3,000 to 5,000 r in air or rep on the surface in two to four weeks. A biopsy is necessary to establish the diagnosis.
4. *Recurrent Pterygia:* The original lesions or large recurrences should be excised and therapy started the first or second day after operation. Small, early recurrences may be treated without further surgery. A total dose of 3,000 r in air or rep on the surface in two to four weeks will suffice in most cases.
5. *Nodular Episcleritis:* Only those cases resistant to other therapeutic measures require radiation. Diffuse episcleritis has been refractory to treatment. A total dose of 1,000 to 1,500 r in air or rep on the surface in one to two

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Presented at the 150th Annual Meeting of the Medical Society of the State of New York, New York City, Section on Ophthalmology, May 11, 1956.

weeks is suggested, and a prompt, satisfactory response may be anticipated in most instances.

6. *Phlyctenular Keratitis:* Treatment is recommended only when other therapeutic measures have failed. A total dose of 1,000 to 2,000 r or rep on the surface in one to two weeks has been found to be sufficient.

7. *Bullous and Filamentary Keratitis:* Grenz rays have an analgesic effect on the cornea, but the mechanism is unknown. Treatment is designed to utilize this effect to relieve symptoms, but no change in the appearance of the cornea should be anticipated. The total dose suggested is 1,500 to 3,000 r or rep on the surface in one to two weeks.

8. *Resistant Corneal Ulcers:* Radiation may be beneficial when other treatment has not been successful. The method of action is thought to be due to the analgesic effect on the cornea. The dose usually employed is 1,000 to 3,000 r or rep on the surface in one to two weeks.

9. *Miscellaneous:* Radiation has not been necessary in our experience in the treatment of anterior ocular tuberculosis, papillomas, granulomas, or small hemangiomas.

Low-Voltage Therapy

Harder, more penetrating x-rays are employed with kilovoltages ranging from 60 to 120 kilovolts (half-value layer 0.7 to 0.9 mm. aluminum). Treatment is suggested for the following:

1. *Epithelization of the Anterior Chamber:* The downgrowing epithelium should be observed to be certain it is progressing, since in some instances it will stop or even regress spontaneously. When corneal edema is present, the prognosis must be guarded. The factors employed are 100 kilovolts, half-value layer 0.7 mm. aluminum, no added filtration, 15 cm. target-skin distance, 1.5 cm. port, 500 r twice a week for six treatments (3,000 r in air). A total dose of 5,000 r should not be exceeded since corneal edema may result.

Epithelial cysts have responded poorly to irradiation and in our experience are better treated by diathermy.

2. *Basal Cell Carcinoma of the Lids:* These respond satisfactorily to radiation, and the survivals and cosmetic results equal those obtained with surgery. The method of treatment must be decided individually for each case. In general, the older the patient and the larger the lesion, the more radiation is to be preferred. Adequate shielding of the globe is essential.

The factors suggested are 100 to 120 kilovolts, half-value layer 0.7 to 0.9 mm. aluminum, 15 to 20 cm. target-skin distance, field size variable, 500 r three times a week or 1,000 r twice a week for a total of about 4,000 to 5,000 r in air.

3. *Squamous Cell Carcinomas of the Lids:* The indications are the same as for basal cell carcinomas. The same factors and fractionation are employed, but the total air dose should be 5,000 to 7,000 r in air.

High-Voltage Therapy

The indications for this form of irradiation are as follows:

1. *Retinoblastoma:* Only bilateral cases have been irradiated. The more involved eye is enucleated and the fellow eye treated. The factors suggested are 220 kilovolts, 0.5 mm. copper plus 1.0 mm. aluminum filters, half-value layer 1.0 mm. copper, 50 cm. target-skin distance, 2.0 cm. nasal port and 2.5 cm. temporal port, 400 r three times a week to alternate fields for eight treatments (3,200 r in air) to each port. This will deliver a tissue dose of approximately 4,500 r in five weeks.

Recurrent disease may be palliated satisfactorily with smaller doses.

Recently a radiomimetic drug, triethylene melamine, has been given in conjunction with irradiation in an effort to enhance the ionizing effect.[3] It is too early to evaluate the results.

2. *Lymphosarcoma:* This may be the first or only manifestation of the disease, or it may be part of a generalized process. If the eye or orbit alone is involved and the disease does not become generalized within five years, the prognosis is good. The disease involves primarily the orbit but also may affect the lids, conjunctiva, lacrimal sac, or lacrimal gland.

The factors employed for the orbital lesions are 220 kilovolts, 0.5 mm. copper plus 1.0 mm. aluminum filters, half-value layer 1.0 mm. copper, 50 cm. target-skin distance, 4.0 to 5.0 cm. anterior orbital port, 4.5 cm. temporal field, 400 to 500 r three times a week to alternate ports for a total of 1,000 to 1,500 r in air to the anterior field and 2,000 to 2,500 r in air to the temple. The fields for other areas of involvement will vary depending on the location of the disease. Protection of the uninvolved structures is essential and is accomplished by special shielding.

3. *Hemangiomas:* Irradiation can be beneficial in the treatment of large, cavernous hemangiomas of the orbit and lids. It may be used alone or in conjunction with sclerosing solutions and carbon dioxide snow (dry ice). Minimal doses are employed, and the eye must be shielded. The quality of radiation and field size employed will depend on the depth and extent of the lesion. A tissue dose of 400 to 600 r in one to two weeks will usually be sufficient.

4. *Metastatic Carcinoma to the Choroid or Orbit:* When treatment is indicated, palliation can be achieved and useful vision maintained in about half the cases. The factors employed are 220 kilovolts, 0.5 mm. copper plus 1.0 mm. aluminum filtration, half-value layer 1.0 mm. copper, 50 cm. target-skin distance, 2.5 to 4.5 cm. temporal port, 500 r twice a week for eight treatments (4,000 r in air).

5. *Eales Disease and Diabetic Retinopathy:* These have not responded satisfactorily in our experience, and treatment is not recommended.

Summary

The use of radiotherapy in ophthalmology has been discussed. A knowledge of the possible late effects is essential to the proper utilization of this form of treatment.

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Discussion

James L. McGraw, M.D., *Syracuse, New York.*—Throughout his paper Dr. Merriam constantly warned of the injudicious use of radiotherapy of any type. The limited, specific beneficial effects of superficial radiation hardly warrant its widespread application. Enthusiastic reports of the miraculous effects of beta radiation and its easy availability are going to contribute a vast new source of surgery in the future. Because beta rays supposedly do not penetrate, the danger of cataract is lessened. True the penetration is limited, but the proximity of the vulnerable cells at the periphery of the lens to the limbus makes it very susceptible to damage from application at this point. Repeated animal experiments have shown harmful effects from relatively low doses. Beta radiation has been in use in ophthalmology only about fifteen years, and some of the radiation cataracts do not appear for fourteen to fifteen years. We probably have not begun to see the late effects.

The use of radiotherapy to prevent vascularization is very difficult to evaluate. The average ophthalmologist can hardly build up a worth-while series of treated and untreated cases to prove that radiation really limits the growth of blood vessels. The fact that vascularization can result from moderately small doses of radiation leaves a very small margin of safety.

Dr. Merriam's lack of enthusiasm in the treatment of corneal ulcers, recurrent pterygia, phlyctenular keratitis, etc., implies that radiation is not a panacea and is usually employed as a last resort.

I have never seen a seeing eye that can credit radiotherapy for the cure of epithelization of the anterior chamber. Yet I have seen what appears to be epithelization clinically recede spontaneously.

The main application of radiotherapy in ophthalmology appears to be in the treatment of malignant disease that cannot be satisfactorily removed surgically. As Dr. Merriam stated, the cosmetic results and survivals are about the same for surgery and radiotherapy. Therefore, we must consider the expected cosmetic result and the age of the patient in deciding the choice of therapy. Another intangible to be considered is the attending surgeon's and radiologist's ability.

Dr. Merriam is a medical rarity in that he is a practicing ophthalmologist who has vast experience and knowledge in the field of radiotherapy. We who are not so fortunate as to have him readily available to direct the radiotherapy of our patients must depend on the general radiologist who, while trying his best, does not fully understand the many intricate problems that arise from the use of radiation about the eye. If we constantly weigh the expected beneficial effects against the dangers of this form of therapy and judge our treatment accordingly, we will do our patients a much greater service.

Sesquicentennial Meeting — February 18 to 21, 1957

MERIT H CASH PRIZE ESSAY

1956

Dupuytren's Contracture

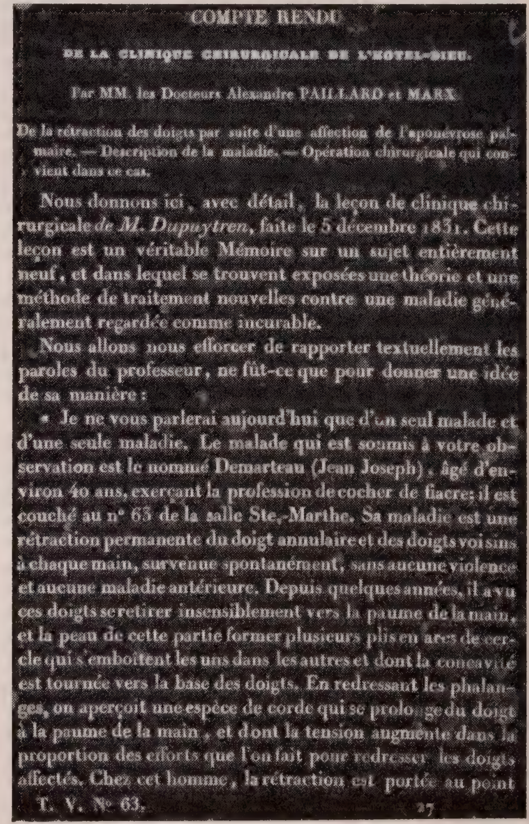
Review of the Disputed Etiology—1831–1956

JOHN J. MOORHEAD, M.D., MILLBROOK, NEW YORK

(*From the Department of Surgery, New York University and Post-Graduate Medical School, New York City*)

For one hundred and twenty-five years this curious affection of the hands has been an enigma despite an unusually extensive medical literature that has been almost world-wide. The racial, sex, age, and occupational selectivity and tendencies of this lesion have created great interest, and many clinicians and authors have presented many theories regarding these factors. However, the chief source of dispute applies to the etiology, and this has been the century and a quarter unsolved element and the basis for hundreds of alleged answers, theories, speculations, and surmises. The main object of this presentation is to review some of these alleged solutions, notably when they relate to trauma as the responsible agency.

The following biographic sketch serves the purpose of showing that this eighteenth-century surgeon began an etiologic controversy that still exists in this twentieth century. Guillaume Dupuytren, famous French surgeon, was born in Bouffiere (near Limoges) in 1777 and died in 1835, aged fifty-eight. He received his professorship of clinical surgery in the University of Paris in 1812, and three years later became chief surgeon at the famous Hôtel Dieu in Paris. He was the founder of the chair of pathologic anatomy at his university. A contribution of 200,000 francs was made by him to the Faculty of Medicine for the creation of a medical museum which still bears his name. His baronetcy was conferred in 1823. He was surgeon to King Louis XVIII and to King Charles X. His contemporaries regarded him as imperious (Napoleonic) with a love of glory and riches. He left a fortune estimated at four million francs. A large statue of him in academic costume was erected in his birthplace in 1869, thirty-four years after his death.



COMPTE RENDU

DE LA CLINIQUE CHIRURGICALE DE L'HOTEL-DIEU.

Par MM. les Docteurs Alexandre PAILLARD et MARX.

De la rétraction des doigts par suite d'une affection de l'aponévrose palmaire. — Description de la maladie. — Opération chirurgicale qui convient dans ce cas.

Nous donnons ici, avec détail, la leçon de clinique chirurgicale *de M. Dupuytren*, faite le 5 décembre 1831. Cette leçon est un véritable Mémoire sur un sujet entièrement neuf, et dans lequel se trouvent exposées une théorie et une méthode de traitement nouvelles contre une maladie généralement regardée comme incurable.

Nous allons nous efforcer de rapporter textuellement les paroles du professeur, ne fût-ce que pour donner une idée de sa manière :

« Je ne vous parlerai aujourd'hui que d'un seul malade et d'une seule maladie. Le malade qui est soumis à votre observation est le nommé Demarteau (Jean Joseph), âgé d'environ 40 ans, exerçant la profession de cocher de fiacre; il est couché au n° 63 de la salle Ste.-Marthe. Sa maladie est une rétraction permanente du doigt annulaire et des doigts voisins à chaque main, survenue spontanément, sans aucune violence et aucune maladie antérieure. Depuis quelques années, il a vu ces doigts se retirer insensiblement vers la paume de la main, et la peau de cette partie former plusieurs plis en arcs de cercle qui s'emboîtent les uns dans les autres et dont la concavité est tournée vers la base des doigts. En redressant les phalanges, on aperçoit une espèce de corde qui se prolonge du doigt à la paume de la main, et dont la tension augmente dans la proportion des efforts que l'on fait pour redresser les doigts affectés. Chez cet homme, la rétraction est portée au point

T. V. N° 63. 27

FIG. 1. A page from Dupuytren's historic 1831 lecture.

His name has not only been associated with this fascial process since 1831 but also with a fracture about the ankle ("Dupuytren's fracture") which, since 1779, we have identified with the English surgeon Sir Percival Pott (Pott's fracture), thus antedating Dupuytren. Each of these surgeons aimed to prove that what had been known hitherto as a dislocation of the ankle was in reality a fracture. Pott is said to have given unusual attention to this joint injury when he sustained a fracture of his own ankle while dancing.

In 1832 Dupuytren also classified burns into six degrees; our own listing is reduced to three. Another historical item dating from 1814 was the accepted pronouncement by Abraham Colles, the Dublin surgeon, who took the so-called dislocation of the wrist out of that category, and hence thereafter it was properly known as Colles' fracture.

Thus, we have a curiously similar dateline for three clinical demonstrations that have borne the names of their originators for a century and more (1779 Pott, 1814 Colles, 1832 Dupuytren). If we in our country wanted to appear in this historic company, we might refer to the period circa 1776!

I

As in other lesions of doubtful origin there are many diverse theories, speculations, guesses, and surmises as to the causation of Dupuytren's contracture. This is the more remarkable because the site, extent, frequency, symptoms, treatment, and general life history have been described in detail in a nearly world-wide group of publications. However, there is no uniformity as to the etiology, although as to other elements there is substantial agreement.

There is nothing essentially new in the various etiologic surmises, many of them concededly based on limited observation and experience. However, there is a remarkable consensus of opinion as to certain elements in these portrayals, some sparse and others abundant. Of these may be mentioned the sex, age, period of onset, race, and occupation of many of the cases cited. The majority opinion agrees that the age period of greatest frequency is the fourth and fifth decades and that males are affected far more than females. There is an occasional report of its occurrence in the very young or the aged; however, these accounts are not given substantial credence. It is significant that almost universally the patient is unaware of the ailment until the condition is branded by nodulation, ridges, or contractures. The discovery of these identifications or trademarks may be quite by chance on the part of the patient, observers, or physician. In many instances no heed is paid until nodulations or contractures prove to be noticeable, annoying, and possibly disabling. Probably the most prominent symptom at the time of discovery is the palpable lump or the bent finger that attracts attention and requires an explanation. It is surprising how complacent the individual may become owing to an acquired adaptability, although well aware of the defect. It is very rare to find a patient who is able to date the onset so insidious is the ailment and so prone it is to periods of accession and remission.

It is instructive and quite surprising to note the great number of accused etiologic factors related to this ailment. In respect to this array of suspected causes, the writer who reviewed this whole situation some years ago repeats the following observations:

> Dupuytren's contracture may be said to be a chronic, painless, self-progressive sclerosis of the palmar fascia assumed to be due to a variety of causes, none of which are actually responsible. Of all the alleged factors based on neoplastic, neurologic, endocrine, traumatic, occupational, infective, gouty, or rheumatic sources, the only speculation concededly related is heredity. It is a curious paradox that for one hundred twenty-five years no etiologic factors are agreed on and that Dupuytren's original uncorroborated observations continue to reflect a certain type of surgical thinking. Thus we are reminded that all of us are swayed by the repetition of what somebody else is said to have said.
>
> This reliance on Dupuytren's original report is the more remarkable because Felix Plater in 1614 and Sir Astley Cooper in 1818 antedated Dupuytren's initial publication. Of these Cooper alone accused the palmar fascia as the site of this lesion and affirmed that the adjacent joints, tendons, and soft parts were not implicated. It is noteworthy that competent writers on this subject refer to the relentless but painless, leisurely progression of the process; the tendency for remission and accession; the natural desire of the patient to name a traumatic incident as the source; and the added observation that little if any attention causes comment until ridges or contractures appear.

It is understandable that there should be a jungle of opinions, a veritable terra incognito, as to *causation* because of such factors as:

1. *Rarity:* Between 1 and 2 per cent of adults in the forty to fifty-year age bracket are reputedly affected.

2. *Males* are involved six times more often than females.

3. *Occupation:* Manual workers should be affected more often than nonmanual; yet statistics allot 45 per cent to the former and 55 per cent to the latter.

4. *Handedness:* If trauma was a constant factor, occupational or accidental, then the hand most often used should be affected. However, this does not prevail for the condition may appear in the nonused hand first and then in the other. If use of the hands was a factor, it should be an almost universal affliction, but such is not the case, especially as to manual workers.

5. *Cause should be known:* This ailment has been a source of etiologic disagreement, a puzzling problem for over a century and a quarter. It would have been solved decades ago if the source was less inscrutable.

6. *Heredity* is conceded by many of the best informed to be the essential causative factor. Corlette[11] and others have traced it in several generations. In identical twins Couch[12] of Toronto University reported that the same fingers were involved in each of these sixty-year-old farmers. His personal communication to this writer was sent March 6, 1952, in confirmation, adding certain unpublished items.

7. *Experienced observers lacking:* Many writers report only a few cases and often do so because on refreshing their memories of this ailment by reading, they find such a diversity of etiologic opinion in medical literature, including dictionaries and encyclopedias. They often then report their own experience of an unusual and bizarre character; for example, there are recorded instances in which fractures of the upper or lower extremities were allegedly followed by the contracture phase of palmar sclerosis. Also skull and vertebral fractures have been accused. Many cases of prior injury, wounds of the hand, upper extremity, pelvis, and elsewhere, are said to be associated. Obscure neurologic conditions, as well as cerebral hemorrhages, are also said to be related. Gout and rheumatism have their quota of accusers. Neoplasms, benign and malignant, are also suspects. Endocrine origin is allegedly responsible according to some publications. Syphilis and alcoholism are supposed culprits.

As to all of these speculations, notably regarding trauma, accidental or occupational, the following seems appropriate as my résumé of the theory that trauma is a basic element as to causation or aggravation:

Trauma is held to be a factor in a great many conditions wherein the actual origin is unknown or speculative. This recalls that in my student days we were taught to state that alcohol, syphilis, gout, and trauma were the factors in many diseases of unproved ancestry. The "and trauma" is still an uncorroborated culprit, just as if trauma had not responsibilities enough. Curiously this association is urged in the most diverse conditions clinically and pathologically, such as in neoplasms, benign and malignant. There is a refuge in this class of uncertainty that has helped me throughout the years, and it is the self-propounded question, "What usually and ordinarily happens under a given set of circumstances?" If we apply that precept to this topic, what is the answer in respect to the relationship of trauma? In trauma to the hand—single, multiple, repeated, superficial, deep, recent, or remote—do we find any sustained causative relationship with this process? If this sclerotic lesion is the result of an inflammatory agency, as is asserted in a few reported cases, there is a conflict in that line of reasoning because most of us are agreed that any inflammatory process in the hand, especially fascial, is exceedingly painful and registers unmistakably by the ancient signs of inflammation, such as redness, heat, pain, swelling, and interference with function. Further, let us never forget another clinical aphorism, namely, that there is no incubation period in trauma and no long delay in declaring itself. There is no accounting in these highly speculative opinions for the relative absence of this condition in women, in Negroes, and in many occupations demanding daily use of the palms. I am impressed by the observation that chauffeurs and motorists generally are singularly free from this lesion, even though by my own tests the ulnar borders of the hand are subjected to pressure each time the steering wheel is grasped or the hand brake operated. Likewise, drillers, road builders, laborers, farmers, or gardeners, and others using wooden or metal tools with cylindric handles should be affected. If it is due to trauma, single, repeated, or occupational, it is surprising that manifestations of the disease are so relatively rare, affecting only between 1 or 2 per cent of the population.

In some of the cases cited, little attention is given to such important factors as the duration of the process and the probability of coincidence. I daresay that Sterling Bunnell[9] of San Francisco reputedly would be regarded as one of our best authorities. In his exceptional book, *Surgery of the Hand*, and as the outgrowth of an immense experience, he concludes his article on the causation of Dupuytren's contraction by stating: "There is often a desire to claim that a Dupuytren's contracture is due to trauma from labor, and early writers held this view. Though it is the usual and natural assumption of a patient to ascribe the condition to the effect of a traumatism it is clear nevertheless that the cause of the condition is unrelated to trauma."

From another authoritative source may be cited Michael L. Mason,[36] of Chicago, who has had a vast experience in surgical conditions of the hand and who asserts: "As to the etiology and pathology of Dupuytren's contracture we are not much further along than we were fifty years ago. We know pretty well that trauma is not a factor, although this is not admitted by all (Skoog). We find some evidence of an heredity factor in some 25 or 30 per cent of cases. The great galaxy of conditions suggested from time to time as having a causal association are dismissed by practically all who have given serious study to the condition."

There is probably no greater need for manual usage and dexterity than in the transportation industry, as represented by steam and electric railways, as well as vehicles on the highways. I have recently corresponded with the chief surgeons of three large railroads traversing thousands of miles and having many thousands of employes. Each of them writes that they have not encountered this lesion in their railway experience, and all of them have been in their present responsible positions for more than ten years. One of the senior claim agents on a large city bus line writes that there have been only six claims by employes over a period of ten years.

The writer for many years was the chief surgeon of a railway system with approximately 30,000 employes. During this tenure one of his former clinical associates writes ". . .that for a twenty-year period from January 1, 1924, to January 1, 1944, the clinics treated 73,009 new service-connected accidents. . . .In all those years, I venture to guess we did not have more than ten employes who claimed that they developed Dupuytren's contracture as a result of or in the course of their employment." Here then is the observation of surgeons having factual knowledge of a large group of employes doing all sorts of manual work. Practically all such employes, men and women, report with considerable regularity in the event of any illness or accident that causes incapacity. These persons reach the retirement age at sixty-five, and some of them have been employed all their adult lives in the same organization.

The writer is familiar with the chiefs of the medical staff of a public service organization having about 35,000 employes with many women included. On occasion some of those injured in the course of their employment have been examined or treated personally by me over the span of several years. In that interval I have seen only one example of Dupuytren's contracture, and that employe was sent because of an unrelated knee injury and had been aware of his hand condition for many years.

Here then is an etiologic history of several hundred thousand employes who have been under the observation of experienced medical personnel. If this palmar sclerosis was a factor among manual workers, that would be well known to those respective chiefs in charge of the medical departments of these large organizations.

The writer during his professional activity has had the opportunity of examining and treating an unusually large number of manual workers. Further, his hospital appointments in a major city institution and in privately maintained hospitals have provided him an opportunity for association with many manual workers. He also has used this experience in medical articles and books relating to this ailment and others in which trauma and occupation were said to be associated. He has not found trauma to be related directly or as an accelerator and, as a matter of interest and importance, asserts that he has seen many examples of this lesion among his business friends and acquaintances, some of them physicians. The following was published by me in this connection:[62]

> As proof of this let me say that a surgeon, known to many and a former chief of mine with whom I have been associated for decades, re-

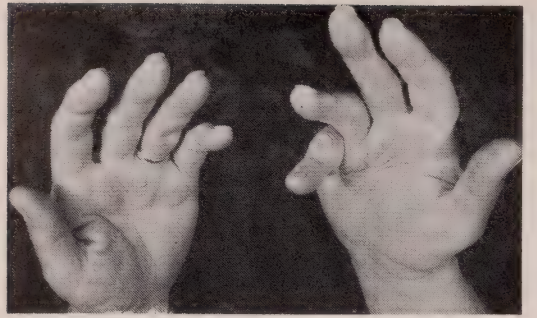


FIG. 2. Typical signs in a sixty-nine-year-old businessman. Duration "twenty years or more."

> cently showed me both nodulated palms and said he had known of this condition for years and that two of his brothers had the same process in a more advanced stage. The same experience was duplicated in a clergyman who had a bilateral second stage condition and hitherto believed for years that he was susceptible to callosities.

However, only two cases among women have ever been seen by me, both of them with second degree manifestations of unknown causation or exact duration.

Curiously, members of the Negro race are rarely affected, although a large proportion of them are manual workers. For over twenty years I was a surgeon at the Harlem Hospital Division of the Bellevue and Allied Hospital group. In that period, with an increasingly large Negro patient clientele, I cannot recall any patient of that racial origin with this lesion, and I operated there only once for this ailment, and that was in a member of the white race. This patient was used as an illustrative before-and-after demonstration many years ago. It has been stated that the American Indian, despite much manual work, was not prone to this affection. To determine this, I wrote to Dr. C. G. Salsbury who was formerly in charge of the Sage Memorial Hospital in Gonado, Arizona, and is now Commissioner of Health in that state. He has lived in the heart of the Navajo country and writes me (October 24, 1955) as to the incidence of this palmar sclerosis in that Indian population: "...I have never observed a case in the Navajos with whom we worked for over twenty years...."

Another personal narration seems pertinent, as follows: The writer by a curious coincidence has developed this sclerosis in both hands, more marked in the *left* than in the opposite hand, although he is right-handed. His own experience will be subsequently published under the title, "Dating the Onset in Dupuytren's Contracture."[63] This surgeon relates that he noticed the onset of his condition in June, 1953, and made a detailed note of his own surprised observation. He then had oval swellings in the palmar interspaces near the base of the fourth and fifth fingers and a narrow hard ridge running upward for about an inch at the fourth interspace. Also, there was the beginning of a band at the base of the thumb. There was no contracture or functional interference with any segment of the extremity. Within a few months in that same year the typical process was in an early stage near the base of the right fourth and fifth fingers but without any signs in the thumb. In this interval of approximately two and one-half years, there were unaccountable periods of advance, recession, and quiescence, but there has been no pain, tenderness, or stiffness. This process doubtless had been going on for probably five years or more inasmuch as in my experience that period of time at least is required for bands or ridges to develop. The only pertinent factor in the past history is that his right-handed doctor-father also had this ailment in his left hand in the band-contracture stage of development.

Here it may be asserted that the person in question has been interested in this problem for many years and in vain tried to solve the enigma of causation. Time and again, he has examined his own hands, noting that this process with inscrutable accuracy trademarked the fourth and fifth fingers on the least used portion of the palm. Further, that the onset was so subtle that the patient neither knew nor cared anything about it until nodules or contractures appeared. The almost infallible regularity of the target area at the base of these two inner fingers is rivaled by few processes which have a curious selectivity, for example, some skin diseases. It is as if this palmar sclerosis tries to rival the routine of placing a postage stamp on the upper right corner of an envelope. Instead, the pattern of using the distal ulnar segment of the palm is chosen as if by an imitative attempt to arouse our interest and attract attention in trying to solve this enigmatic puzzle.

There are two observations that I would announce that may prove of aid in the solution of this causation problem: The first is that the ring fingers are the only digits endowed with a double nerve supply, namely, the ulnar and median.

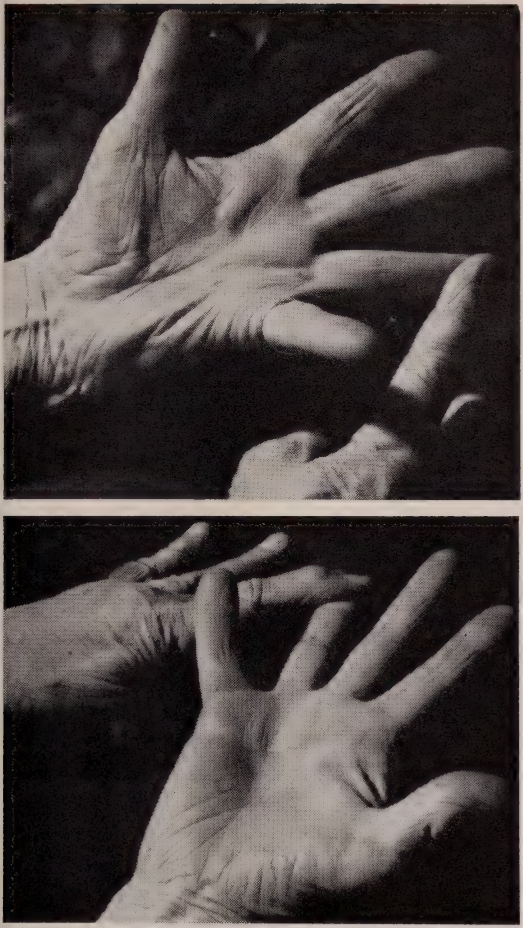


FIG. 3. Ridges at base of left ring finger and positive "wrinkling test." Note contrast on right.

The same pertains to the sole where the second toe is supplied by the internal and external plantar nerves. In passing, we may note that the sole as well as the dorsum of the penis (Peyronie's disease) and the middle knuckles (knuckle pads or cuppings) are occasionally affected by fascial changes resembling those of Dupuytren's contracture and usually only when the palm is coincidentally involved.

The second observation relates to a test of particular advantage in the early stages. If in a suspected or developed sclerosis the involved ring finger is forcibly extended, it will cause a wrinkling of (1) the ulnar border of the palm and (2) visible prominence of the palmaris longus tendon just above the wrist transverse creases. These findings indicate adherence of some of the tendrils of the palmar fascia. No such response occurs in the unaffected palm or fingers.

I have made some experiments to determine the segment of the palm most involved in working with machinery; the steering wheel or brake of an automobile; lifting, pushing, or rotation motions; the use of cylindric tools, and other purposes incidental to manual labor. Grasp, lifting, push and pull power, and rotatory motions singly or in combination are the usual components of manual pursuits in no-collar as well as in white-collar activities. There were two observations:

1. In one a cylindric, hard object (tool handle) was grabbed in the palm *from the radial across to the ulnar side,* and then an effort was made to pull it out of the grasp thus maintained. When this object was placed in the reverse direction, so that the ulnar side of the palm and the attached fingers did the pulling, a decided difference was at once apparent. When the thumb, index, and middle fingers were involved in the grip, it was difficult to pull the test tool free. When the gripping was mainly due to pressure from the ulnar border and the fifth and ring fingers, it was very easy to overcome the grab effect. In making these observations, it is suggestive that the skin of the distal part of the palm is raised transversely, as if a barrier was imposed to shield the parts beneath. All of this gives added verification to the previous statement that it is difficult to understand how the skin can remain relatively soft and unaffected when the protected underlying fascia becomes nodulated and contracted.

2. In the second observation modeling clay was shaped around the handle of cylindric tools which were then strongly grabbed in clenched fingers, the thumb overlapping the adjacent index digit. This is the attitude of manual effort in most employments and also in many recreational activities, golf excepted where the ulnar margin is so important. In this modeling clay experiment the depth of the impression was greatest from the middle and index finger and least on the other two. The thumb overlap was represented by the thenar eminence which is an outstanding feature of strength and facility. Here again is definite proof that the radial margin of the palm bears the brunt of manual activity and yet is less affected than the adjacent ulnar segment in this palmar sclerosis.

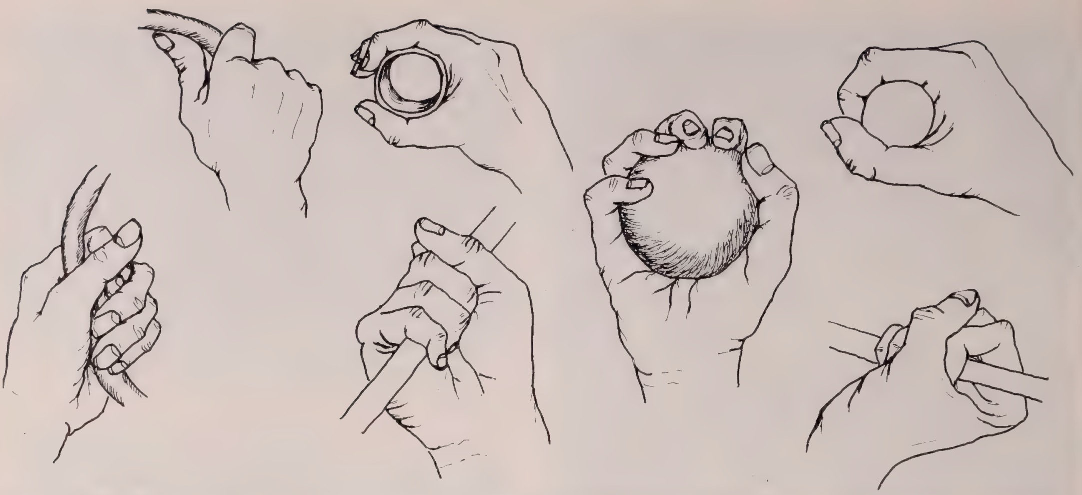


FIG. 4. Six types of grasp, showing typical less usage of ulnar than radial palmar surfaces, except on steering wheel.

II

Most observers of later generations have abandoned the factor of trauma as the sole causative agency, and thus the alleged relationship is now said to be one of aggravation or acceleration due to repeated traumatic impact on the palm or palms already affected. For a better understanding of this controversial problem it is informative to recall that the involved palmar fascia is anatomically a tough, fibrous, subcutaneous tissue overlapping the underlying tendon sheaths. It arises distal to the palmar creases of the wrist and is regarded by some anatomists as a prolongation of the palmaris longus tendon. This viewpoint, however, is disputed by those who assert that the palmaris longus is absent in many persons (10 to 15 per cent) who have a well-developed, normal palmar fascia.

The fanlike distribution of this fibrous apron proceeds from the point of origin at the summit of the palm to the region of the metacarpophalangeal junctions and thereafter is represented by filaments investing each digit. It is a connective tissue structure, and one main function is to prevent the tendon sheaths from displacement and also to provide a gliding surface for the various layers of the palm during the manifold activities of the hand. The apron or curtain-like, tight coverage provided by this fascia can be visibly indicated by noting how the tissues overlapping it become wrinkled and prominent when the palm is partially folded, as in grasping and allied motions. It is significant that nearly all the functional activities of the hand are performed with the fingers flexed, and even when in the so-called "position of rest," the digits are in flexion and the palmar skin is hollow and wrinkled. The essential vascular and neural supply follows that of the palm, and structurally this fascia does not differ from any others of connective tissue type endowed for a special purpose. The plantar fascia of the foot is a parallel structure, but strangely enough it is very rarely affected alone or is associated with contracture of the palmar fascia, although subjected to greater stress and strain.

To repeat, one great difficulty in the whole situation is that this disease is relatively so rare that very few clinicians have the opportunity of observing more than a few cases, and the asserted sources of origin given by the patient are so diverse. Further, when patients are seen for the first time, the process has generally been long in existence, and many of the subjects are unaware of the date of onset or even of its existence. Hence, the doctor usually accepts the statement of the patient as to the period of onset, the rate of progress, and the occurrence of accessions and remissions. The unreliability of a self-estimate in this and in many other chronic ailments is well known to all clinicians.

I have read many of the articles named in the subjoined references and find a wide variance of opinion as to the etiology or the duration of the process. In his informative article C. E. Corlette[11] says that he has this ailment himself but that it has been stationary for over two decades. He mentioned Couch's[12] cases of identical twins and also refers to his own list of 50 cases (three of them doctors) with a family history of 62.5 per cent in this group of 45 males and five females. He refers to the report of Kanavel, Koch, and Mason[28] which lists 29 cases (six doctors), including ten manual and 19 nonmanual workers. Also, he quotes Davis and Finesilver[14] with 40 subjects, 20 each among manual and nonmanual workers. Likewise, he refers to Keen's statistics of 123 cases, with 49 manual and 74 nonmanual employes. Of K. Black's group of 131, 63 were manual, and 68 were nonmanual workers. In Byford's report of 38 cases, 24 were manual and 14 nonmanual workers. The total of this history of 361 gives 166 manual and 195 nonmanual employes.

It is a remote conjecture to assume that the ulnar margin of the palmar fascia should be affected by friction, that the rest should be spared, and that the overlying skin should also escape without unusual adjacent callosities. Likewise, as stated, when the palm is flexed as in gripping and allied actions, the skin becomes puckered and thus acts as a further protective.

Further, the asserted aggravation of an existing condition by trauma is another inference not justified unless the clinical facts warrant, and these should correspond with the life history of the ailment in question and be based on the observation of a sufficient number of cases. This aggravation-by-trauma idea can be carried to the extreme unless checked by accredited sources whose opinion is based on sufficient clinical material. Notably will this be true unless the early history of the patient is known and there has been a medical survey prior to the alleged aggravation. *Obviously, in a chronic self-progressing ailment, it is clinically unreliable to assert that trauma became a factor in a disease of unknown origin at a given date from a given cause.* Strangely enough, with the frequency of hand injuries and infections, I am unaware of any reports of Dupuytren's fasciitis as a sequel. Practically, this reduces the opinion of the physician to the statement that he accepts the estimate of the patient as to the date and source of origin and the rate of progress.

Generally speaking, there are four stages in this process:

FIRST STAGE—*Nodulation* with irregular, soft or hard, fixed, painless lumps near the base of the palmar surface of the fingers (usually fourth and fifth) or in the palm. These may exist for years until they become distinctly palpable or visible.

SECOND STAGE—*Linear rigidity* or bands wherein thick strands of subcutaneous tissue are palpable and visible extending from above the base of the fingers and running obliquely or vertically on the palm toward the wrist. These strands, bands, or ridges may be single or multiple, and they vary in thickness, length, and tension and have been compared to the strings of a violin.

THIRD STAGE—*Contracture* with the involved finger or fingers folded toward the palm at the knuckle level. The extent of this flexion and the rigidity thereof vary.

FOURTH STAGE—Combinations of the above, thus indicating a process of intensity and long duration. In advanced cases all four manifestations exist and obviously denote very prolonged duration.

The grading or assessment of the extent of involvement has been attempted by many authors. For my own purposes four degrees of involvement are listed as follows:

1st Degree—1°—Nodulation with or without dimpling of the palm.
2nd Degree—2°—Bands or rugae with or without nodulation.
3rd Degree—3°—Contractures of finger with or without bands.
4th Degree—4°—Combinations of 1°, 2°, and 3°.

The duration of each degree or stage is difficult to estimate, but from a clinical standpoint a period of five years may be said to elapse between each phase. Thus a patient with nodulation (1°) and bands (2°) may be said to have had the process between five and ten years. Between the third and fourth degree there is usually a period between fifteen and twenty years.

There are periods in which the progression, as stated, is slower, faster, or stationary; however, the generally advancing nature of the lesion is one of the main features. It is exceedingly rare in my experience to find a person who knows when his ailment first appeared, and this "don't-know" or "take-it-for-granted" phase is another peculiarity. It is paradoxic to reflect that a visibly deforming and disabling disease can go unrecognized in irreplaceable segments of the body only less important than the eyes. It is also odd that manual workers and others will remain complacent for years with so apparent an ailment as this palmar fascia fibrosis. There is one other feature worth mentioning, namely, that the fascia is not as superficial or subcutaneous as many believe. The skin and a substantial layer of fatty tissue are superimposed to aid in promoting two main functions of this fascia: to keep the tendons from displacement and to provide a movable elastic structure permitting mobility of the palm. Incidentally, if repeated impacts on the palm caused or promoted this fibrositis, it must be a very selective action derived from an external source that does not first register at the site of friction or impact.

It is hard to understand how external irritation can evade the more superficial skin and yet affect the deeper and tougher fascia, a type of "contra-coup" it might be called. I am also impressed by the lack of callosities over the nodules and ridged bands in even advanced cases and am unable to understand how any external traumatic agency can exert so selective a role.

After the process appears in one hand, it often involves the opposite member also. Usually, in the bimanual group one palm is more affected than the other, but not infrequently the affection is almost symmetric. The thumbs and index fingers, as stated, are least often affected, even though they are the most subjected to daily use.

Some writers have attempted to show that this disease predominates in given occupations and cite a group of cases, usually in the age group beyond forty, to prove this surmise. It is probably true that the scrutiny of a selected group might show more cases than in an unselected group. Likewise, for example, in any purposeful sampling there might be more baldness or gray heads, just as there might be more with a blood pressure over 150. But this does not represent the average unless comparisons are made under the usual circumstances met with clinically or with controls.

Diagnosis is easily made by noting the nodules, bands, or contractures already mentioned. Tendon contracture due to birth deformity, prior injury, or infection is the only likely source of confusion, and here scarring or definite knowledge as to the source becomes part of the accredited history.

Treatment to be effective should be given in the early stages. Any number of remedies have been used in vain, as is the experience in other sclerotic disease of obscure origin, such as muscular dystrophy, for example. X-ray exposure was at one time favored, but it has been abandoned as unreliable and not without danger. Various forms of physiotherapy and splintage also have had their vogue. As stated, vitamin E and also the cortisones are being used now, and the occasional success reported therefrom may prove to be in cases in which the drug happens to be given during a period of remission. This also applies to physiotherapy and modalities using electricity.

Operation is the only positive remedy, and in the majority of cases this requires an adequate plastic procedure. The operative technic depends on the extent of the disease and varies from release of the constricting bands to a flap exposure and complete dissection of the fascia. In advanced cases the operation is extensive, and great care is needed to avoid vascular and neural injury. Skin grafting is often necessary because tendrils of the fascia may be so adherent that the circulation is compromised during the excision. Incidentally, at operation, virtually a biopsy, it is evident that we are dealing with a process that is general and not local, and thus is added an additional proof that Dupuytren's contracture is of unidentified systemic origin and development and that it is endogenous and not exogenous.

III

As stated, it has been claimed by some that a single or localized injury of the palm was an initiating factor. This is the more remarkable because Dupuytren appears to have believed that repeated or persistent occupational contact on the palm was the actuating element. The responsibility of an isolated or single injury to the palm was not mentioned by Dupuytren in his historic "lecture," and this alleged primary source is now rarely authoritatively proclaimed. I have translated and checked the original remarks of Dupuytren and would summarize them by stating that the presumed relationship of trauma to contracture of the palmar fascia has been in dispute since 1831 when the Baron Guillaume Dupuytren of Paris described the exact site of this sclerotic process. His first operative case was a wine merchant who gave a history of lifting a cask in 1811 and noted a crackling sensation in the palm of the hand. However, he paid no attention to this incident until contractures of his fingers became annoyingly noticeable and disabling. It is interesting to read Dupuytren's remarks during the operation he performed twenty years later (June, 1831) as recorded by Paillard and Marx,[42] and his anatomic description of this still unsolved pathologic process is as applicable today as it was more than a century and two and one-half decades ago. It is notable that this operation was performed without any inhalant anesthesia because ether was not used in France until 1848. Dupuytren's second operation (December, 1831) was the case of a coachman who was supposedly afflicted because his steeds required him to use both hands to control their antics. Hence, this is the essential historic basis for the alleged responsibility of trauma as the causative factor, and this viewpoint is still maintained by some proponents, although it is generally conceded by more experienced observers that traumatic origin is not the etiologic factor. The present authoritative trend is to agree that an initial or single trauma plays no part; however, others continue to assert that the relationship, if any, is due to repeated, persistent, or occupational causes incidental to use of the hand or hands. Here then, briefly, is the historical background of a process allegedly due to trauma which has assumed certain etiologic stature on the theory of aggravation or acceleration on the basis of occupation in which manual labor is an outstanding factor.

There are, as stated, numerous diverse opinions, some of them plausible but many of them casual rather than actually causal in narrating etiologic factors.

Among other writers, Tord Skoog[52] of Sweden is often mentioned, and he kindly sent me an autographed copy of his most instructive and extensive monograph entitled, *Dupuytren's Contraction. With special reference to Aetiology and Improved Surgical Treatment. Its Occurrence in Epileptics. Note on Knuckle-Pads.* He came from the university city of Upsala, Sweden, and served as a British Council Scholar in London with the well-known Sir Archibald McIndoe.* Sir Archibald has a special operative technic similar to Bunnell's,[9] and Skoog uses as his background 40 of his chief's operative cases and adds ten of his own. These 50 operations gave him the impetus to survey the recorded world-wide field in a monograph of 190 pages. Much of his investigation was done on his return to Sweden. His bibliography lists 377 references, and he discusses in detail the etiologic factors and finally arrives at a conclusion very similar to that stated by Robert Abbe,[1] then the well-known professor and surgeon of New York who wrote me his opinion in the article I published long ago. It is informative to learn from Skoog that of 207 epileptics examined in Sweden 42 per cent had palmar, 26 per cent knuckle pad, and 8 per cent plantar involvement. This association with epilepsy and knuckle pads had not hitherto been especially stressed in the publications in our own country.

Not having read or personally known that this palmar invasion and epilepsy had been more than a casual or incidental relationship, I sought the experienced opinion of two recognized authorities, namely, William G. Lennox (professor emeritus of neurology, Harvard University) and Wilder Penfield (professor of neurology, McGill University). It has also been suggested that the medication (barbiturates) used for epileptics may have had an influence in this large percentage reported from Sweden.

In reply to my inquiry, Lennox (chief of the Seizure Unit, Neurological Institute) recently wrote me ". . . last November when in Denmark, Dr. Stubbe-Teglbjaerg, head of the epileptic colony, showed me several elderly patients with this contracture, but he attributed the condition to prolonged phenobarbital medication rather than to epilepsy. I doubt connection either with epilepsy or phenobarbital medication. Certainly, among thousands of patients examined, I have encountered the contracture only rarely. . . ." Penfield (director of the Montreal Neurological Institute) replied to my inquiry as follows: ". . .Your quotation from Skoog is astonishing to say the least. I have never seen any relationship between Dupuytren's contraction and epilepsy that is any more than incidental, either in this country or any other country. I do not believe there is any such relationship. . . ."

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* I recently wrote Sir Archibald McIndoe, the well-known London surgeon, regarding his own opinion as to the etiology of this sclerosis. He was the chief of service when Skoog served with him for two years as a British Council Scholar, and he inspired the excellent review already mentioned and which began as a follow-up of some of his chief's postoperative cases.

Sir Archibald pays a deserved tribute to Skoog, and then writes:

"My views on Dupuytren's Contracture and its etiology are, I am afraid, somewhat mixed. . .Skoog felt that multiple ruptures of the palmar fascia with an effort at healing produced the condition, but only in those people who were constitutionally subject to it. In other words, he presupposed a familial tendency to this disease. I think there is no doubt about that, for in a high proportion of my cases there has been an hereditary background. While, therefore, one cannot eliminate trauma altogether, there is no doubt about it that it has some bearing on the condition. I am interested to hear that you have it, for oddly enough so do I and my left hand was operated on some ten years ago with a good result and the right done with x-rays. This is something I would not advocate for anybody but those with sufficient hardihood to experiment."

The above is added as a postscript because it did not arrive until my manuscript had been prepared.

The foregoing mention of the late Robert Abbe and the statement that Skoog's theory of origin are similar prompts me to add the following excerpt from a publication of my own:[58]

> In 1884, Abbe of this City read a paper at the New York Academy of Medicine in which he advanced a very ingenious reflex nervous theory of origin based on the following working hypothesis, which I quote in his own language:
>
> "First:—A slight traumatism to the palm often entirely forgotten.
>
> "Second:—A spinal impression produced by this peripheral irritation.
>
> "Third:—A reflex influence to the part originally hurt, producing insensible hyperemia, nutritive tissue disturbances and new growth, shown in the contracting bands of fascia and occasional joint lesions resembling subacute rheumatism.
>
> "Fourth:—Through the tense contraction a second series of reflex symptoms, neuralgias, general systemic disturbances and a reflection of the trouble to the corresponding part of the opposite hand."
>
> In 1886 he reaffirmed the same theory and again in 1894 in his "Carpenter Lectures" at the New York Academy of Medicine on the general subject of "Surgery of the Hand," and referring to this lesion said: "But what cause can be assigned for its commencement is yet a moot point. It comes with mysterious quickness, and never is spontaneously arrested. . . ." Abbe, the writer of this, had been Attending Surgeon at St. Luke's and Consulting Surgeon at Roosevelt Hospital and Professor of Surgery at New York Post-Graduate Medical School and Hospital. Under date of June 13, 1909, Dr. Abbe writes me that his original theory ". . . seems as plausible as any yet given. . . . The origin is still an unsolved puzzle. There are some cases traceable to traumatism, but not many. There are some which have marked neuroses, but most compel some research to elicit the connection between the neuralgia and the hand lesion. This remark applies to so many surgical conditions, that the absence of marked neuralgia in most, is no proof of its not being present. . . . It is more absurd to call it a rheumatic condition than a neurosis. If it be not the latter, I do not know what is the causative factor."
>
> This hypothesis does not seem to have been given much weight apparently because the pathology on which it is based seems so speculative that it is difficult to conceive of a "spinal impression" registered by an almost forgotten slight trauma to the palm. Keen (who has written much on the subject) quoted in agreement by Adams, says: "Abbe's theory of a nervous origin seems to me only probable insofar as gout or rheumatism are possibly nervous in their remoter origin."

Skoog's opinion regarding etiology is thus stated: "The writer's interpretation of the pathogenesis and aetiology of the disease makes it possible to regard Dupuytren's contraction as a result of general pathophysiological reactions in the connective tissue. The reason that these are chiefly localized to the palmar aponeurosis would depend on its specific anatomical structure and the often exceptional strain to which it is exposed. The writer's demonstration of the fact that the plantar aponeurosis is often similarly involved and also that patients suffering from Dupuytren's contraction showed knuckle-pads with identical changes in a high frequency support this view. Present knowledge does not permit us to state definitely whether other pathological phenomena in the connective tissue such as keloids, induratio penis plastica and desmoids should be placed in the same category."

Under the same caption, "Conclusions," he states: "Conclusive evidence demonstrates that hereditary factors play a role in the aetiology of the disease, i.e., the predisposition to Dupuytren's disease is confined to certain individuals. This does not nevertheless exclude the possibility that certain environmental factors are of significance. Although this question has been extensively discussed in the literature for more than a century, no definite conclusions regarding the influence of any particular factors have been reached. The observations by the present writer on a relatively large material appear to contradict the majority of the aetiological theories postulated. The writer has expressed fresh views on the pathogenesis of the disease and was able to bring forward strong arguments in favor of that partial ruptures in the aponeurotic tissue are the origin of the pathologic changes."

This theory of subcutaneous ruptures of aponeurotic tissue in such a sensitive area resembles Abbe's first hypothesis mentioned above. The validity of any such surmise is not supported by resort to the added statement by Skoog: ". . .*This does not exclude the possibility that trauma is the*

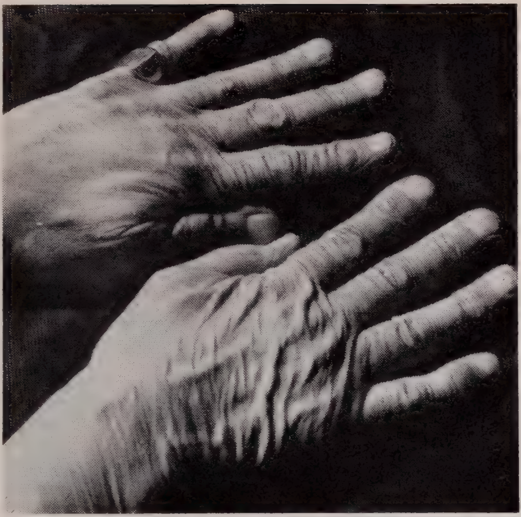


Fig. 5. "Pad" or "cupping" of middle joint of left third finger and absence on right.

causal factor in cases with a predisposition to the disease" (italics by Skoog). In a preceding paragraph he states "...Trauma alone cannot be the decisive factor, since the general frequency of the disease is too low in view of the fact that all individuals are exposed to traumatism to a greater or lesser extent." He also states that these hypothetic aponeurotic causative "ruptures" were probably multiple, and as a test he reproduced some of them before operations with the patient anesthetized. He is so confident that predisposition plays a part that he advises caution in the choice of a trade or profession liable to require great manual strain.

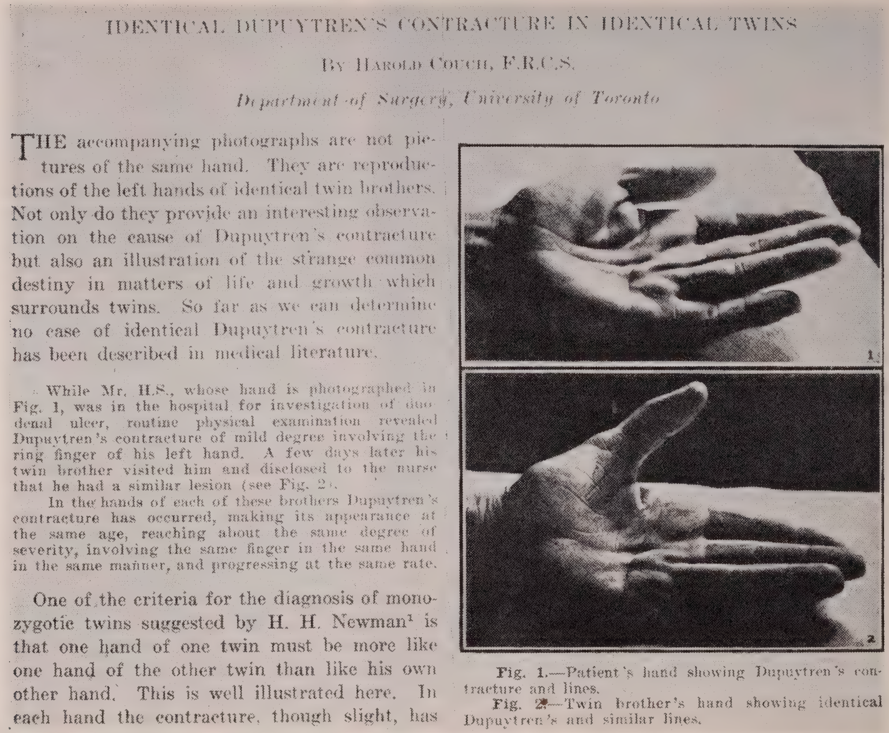
It is difficult to accept these speculative opinions and conclusions because they do not coincide with the experience and judgment of those who for decades have been active practitioners examining and treating patients of all ages from all over the world and with all sorts of occupations and from every social and economic level. This doctrine of "predisposition" assumes the stature of fatalism with or without the element of heredity. If believed, it becomes in this process and many others a very easy refuge from discussion but is certainly not a basis for general acceptance. Heredity is the source of this palmar condition in the opinion of many clinicians and writers who do not share in the belief that it is an inevitable endowment.

It is difficult to concede the theory of forgotten trauma (Abbe) or the similar assumption of multiple rupture of aponeurotic fibers (Skoog) as basic sources. As a practicing surgeon, I cannot give heed to any opinion that asserts that the palmar fascia remains silent or forgetful from any extrinsic source of irritation, traumatic, chemical, or otherwise. Further, I am doubtful regarding any external agency that can affect the fascia and evade the overlying skin. As previously indicated, that manifestation of "contra-coup" is beyond my knowledge or experience.

The coincidental knuckle-pad or cupping-pad involvement mentioned in several reports is very rare and, strangely enough, does not correspond to the usually affected fourth and fifth finger distribution of the palmar fascia. Its usual predilection is the middle knuckle of the third finger, occasionally involving the adjacent digits. Apparently, it never selects any of the other interphalangeal levels. As might be surmised, the pathology of these involved pads and the palmar fascia are identical (Skoog).

This is another hurdle to overcome for the proponents of local trauma as the source of this palmar contraction. It may be argued that the middle knuckle of the middle finger stands out most prominently when the fist is clenched. However, so far as I am aware, occupational or other trauma in that area is related to fistic encounters, professional, amateur, or argumentative. It is not to be forgotten that our profession years ago developed a knuckle callosity on the third digit known as "the doctor's knuckle" due to percussion from the opposite hand incidental to examination of the chest and elsewhere.

So far as is known, there is no alleged proof that involvement of the plantar fascia is traumatic, hereditary, occupational, or anything but an occasional associate of palmar contraction inasmuch as the physiologic, anatomic, and pathologic components are identical. Pressure or irritation on the sole, barefoot and in all of the many varieties and fashions of foot coverage, should give external irritation enough to cause fascial contraction. But the clinical fact is that flat feet, corns, calluses, and bunions are the main evidences and sources of podalic discomforts. This, despite the weight-carrying and uneven use of the feet in ordinary walking, climbing on stairs, ladders, or activating pedals in automobiles or machines. Peyronie's disease (induratio penis plastica) is another occasional associate (nontraumatic, I infer!) and ranks



IDENTICAL DUPUYTREN'S CONTRACTURE IN IDENTICAL TWINS

By Harold Couch, F.R.C.S.

Department of Surgery, University of Toronto

THE accompanying photographs are not pictures of the same hand. They are reproductions of the left hands of identical twin brothers. Not only do they provide an interesting observation on the cause of Dupuytren's contracture but also an illustration of the strange common destiny in matters of life and growth which surrounds twins. So far as we can determine no case of identical Dupuytren's contracture has been described in medical literature.

While Mr. H.S., whose hand is photographed in Fig. 1, was in the hospital for investigation of duodenal ulcer, routine physical examination revealed Dupuytren's contracture of mild degree involving the ring finger of his left hand. A few days later his twin brother visited him and disclosed to the nurse that he had a similar lesion (see Fig. 2).

In the hands of each of these brothers Dupuytren's contracture has occurred, making its appearance at the same age, reaching about the same degree of severity, involving the same finger in the same hand in the same manner, and progressing at the same rate.

One of the criteria for the diagnosis of monozygotic twins suggested by H. H. Newman[1] is that one hand of one twin must be more like one hand of the other twin than like his own other hand. This is well illustrated here. In each hand the contracture, though slight, has

Fig. 1.—Patient's hand showing Dupuytren's contracture and lines.

Fig. 2.—Twin brother's hand showing identical Dupuytren's and similar lines.

Fig. 6. Identical twins with identical markings. (*Courtesy of Dr. Couch*)

probably fourth in the category of allied fascial contraction sites consisting of (1) palmar, (2) plantar, (3) knuckle, and (4) penile.

There are other fascial areas associated with medical and surgical implications deserving of the term "contraction," and many of these are subjected to external irritation in varying degrees. Of these may be named the fascia lata and the dorsolumbar region as a source of backache and torticollis (wryneck). While not clinically or pathologically related, the enlargements typical of the xanthomatic groups of subcutaneous tumors of the hand resemble the knuckle-pad distribution described above. An excellent photographic representation and discussion of the xanthomas is found in Bunnell's[9] outstanding classic already mentioned.

As previously stated, one of the most instructive and complete articles of the many I have read is by C. E. Corlette,[11] of Sydney, Australia. He has had this contraction himself for twenty-five years, but there has been no systematic change for decades. From a large clinical and teaching experience he concludes that heredity is the outstanding factor, and he mentions eight families in his practice with a definite heritage; three of these subjects were medical practitioners. Corlette mentions J. Harold Couch,[12] of Toronto, who published the historical case of identical twins, and he quotes the following from Couch's unusual presentation: "In the hands of each of these brothers, Dupuytren's contracture has occurred, making its appearance at the same age, reaching to about the same degree of severity, involving the same finger in the same hand in the same manner, and progressing at the same rate. . . . In each hand the contracture, though slight, has involved the skin and produced a V-shaped depression with a fullness beyond. . . . Since identical twins are monovular, they must be absolutely identical, so far as all inherited characteristics are concerned. Such differences as gradually appear are produced by differences in environment. Galton said: 'Illness or accident is the only cause which is adequate to make similar twins dissimilar.' However, Dupuytren's contracture has rendered these two similar rather than dissimilar, which might suggest that Dupuytren's contracture is neither a disease nor an accident, but is, rather, a variation in growth of palmar fascia, the potentiality for which is inherited. In this connection it will be remembered that most textbooks contain a short and unconvincing suggestion that Dupuytren's contracture is caused by trauma. Elderly gentlemen who carry canes with crooks on the handles are thought to bruise their palmar fasciae and so to set up fibrosis. Why it should appear in both hands is not made clear. We do not recall having observed elderly gentlemen carrying two canes as they stroll through the park."

In response to my inquiry, Couch[13] kindly wrote me: "...The patients I described were identical twins, aged about sixty-three and were farmers. . . ." In a section of the above article he advises that in the case of identical twins each of them should undergo examination in the event of illness to one of them for clinical comparison.

J. H. Boyes, of Los Angeles, in his informative article concerning 154 patients states in his summary: "2. The etiology is unknown. There is no medical evidence to show that trauma has any relation to the cause or progress of the disease nor that it accelerates or aggravates it in any way."

These references to the experience of others again accent the differences of opinion as to the etiology of this ancient enigma. As previously mentioned, this diversity is not exceptional because in so many instances the clinical material is not abundant, and reliance is placed on the history given by the patient as to the source and time of onset. Recently, I was introduced to a very intelligent, hale, and hearty former gamekeeper, aged eighty-seven. When shaking hands, it was quite apparent that his inner two fingers were tightly folded into the palm. At my request he showed me the left hand which also had the same contractures but with more extensive nodulations. Questioned as to the duration, he replied, "Oh, about ten years." Further conversation, indicating my surprise, brought added information when he said: "I used to be a 'lefty' baseball pitcher but had to give it up on account of my left hand." The clinical appearance of his hands indicated a process that had been going on for decades and left little doubt that his baseball days were long pre-Babe Ruthian.

This narration is typical in my experience and indicates a combination of replies such as, "I don't know," "I think," or "I never noticed until. . . ." This last may refer to some palmar injury, an interference with manual dexterity, a necessary adaptive change in grasping, or a modified manual stance in golf, tennis, or other recreational activities. There is a truism in our profession that has been stated for generations to the effect that in treatment, "The more remedies, the less the knowledge, and the fewer the cures." That applies to answers as to the whys and wherefors of this process with equal precision. This etiologic dispute has passed through many phases in many lands, and that an extensive literature exists is shown by the listed references.

There are those who believe that there is a "predisposition" influence to account for this development, with or without any history of heredity. In our city and in many others a family history is impossible to obtain for many reasons. Among others is the deciding element that those questioned so often left their homeland and before this lesion in their forbears was prominent enough to be noticed or to become a family topic of conversation. Those who declare that *predisposition* or proneness or tendency or any other endowment or birthright stands in causal relationship further assume that there is a "trigger mechanism" that appears, awakens, or is created to activate this lesion when it is, so to speak, in a nascent state.

It is also asserted that certain occupations "trigger" the onset by external irritation. It is difficult to reconcile these speculative and diversified opinions with the hard facts of the usual clinical history. This "trigger" idea in the "predisposed" seems like the acme of slow motion and suggests a weapon of the ultra-atomic age. It also appears rather late to have such an event postponed until the patient is on the way to half a century of existence. Indeed, this "trigger" must be activated by a very keen marksman to bullseye on the region of the inner third of the palm and spare the adjacent larger and more important outer two thirds. Further, this "trigger mechanism" refuses to inflict any like damage except in this area, as if there was a purposeful selectivity to brand indelibly or trademark only this one site. Relentlessly, this "mechanism" becomes active at a later period and attacks the other hand in the same region as if that was the only available habitat or hunting territory.

However, there are many disbelievers who assert that this is but another theory, speculation, or surmise that belongs more to possibility than reality. A fantastic guess recorded by one writer is that the source is "a slight trauma" inflicted on the palm by the fingernails when the hand is clenched, thus leading to an infection by a "specific microorganism." The doctrine of coincidence or the law of averages has rarely been invoked in these varied opinions. Perhaps they should not be considered as important elements in a controversy regarding such an ancient problem. However, I have ventured to assert that what usually and ordinarily happens under like circumstances, coincidental or average, is a reliable clinical rule that has existed and been applied long enough to be a standard of thought and conduct. In accord with a seasoned viewpoint, Corlette has been previously named as having written ably and with experienced knowledge. He says, "...it must be admitted, beyond question, that in at least a large proportion of cases, the disease occurs as the result of an hereditary predisposition. Men are not born with it, but they are born to have it if they live long enough whatever their occupation or position in life. It can come without any other recognizable cause...." This may appear like inevitability or fatalism, but it has the merit of being a forthright, understandable attitude that has many adherents. It also negates the idea that some extrinsic factors are needed to alert the human organism, and thus the "trigger mechanism" or any other device is not necessary or applicable. In other words, the inherent tendency, the heredity or familial components in and of themselves without predisposing or any external agency, are the sources of origin.

Conway[10] of New York Hospital, in a splendid and inclusive presentation states, "...Many theories as to the cause of Dupuytren's contracture have been advanced over the years. There are studies by competent observers to substantiate most of these theories. The problem remains controversial and unsolved..." After naming certain authors and their diverse viewpoints and assertions, he adds, "...However, there is significant evidence of distinct association between Dupuytren's contracture and manual work so that it is reasonable to assume that trauma is a contributing etiologic factor in a large proportion of cases..." As to heredity, his opinion is summated in the statement: "...There is some evidence, therefore, that lineage may be a causative factor in Dupuytren's contracture. There has been discussion as to whether the inheritance is dominant or recessive, with no convincing evidence available..." As to operative treatment he is partisan to limited excision of the fascia rather than complete excision if the conditions permit. If the overlapping skin is blanched at the end of the operation, he advises skin grafting, even if an abdominal donor flap is required.

There is a topographic selectivity in certain ailments, but these are concededly nontraumatic. They are usually regarded as physiologic, familial, hereditary, or genetic signs when they occur. For example, the big toe area localization in gout is well known, and so far as I am aware, no one has successfully alibied a traumatic source, such as direct or indirect violence from tight shoes or some occupational local irritant. Not even pivoting in golf, tennis, or baseball is accused, and yet the plantar fascial strands are adjacent.

Gray hair and baldness have been mentioned as accepted but not always acceptable hereditary and familial trademarks. Tight hat bands were at one time more a reward to a diligent barber than to his customers. Dental defects, despite the "trauma" of mastication, have never had the accusation nor the sponsorship of the dental profession. Arcus senilis is never attributed to occupational overuse or disease, and yet it is an outstanding manifestation in men near the half century of life when vascular and other sclerotic signs appear. Strangely enough, women escape many of these birthrights, just as they rarely are ordained to have this contracture that seems almost to be a contractural heritage for men. However, the so-called "widow's peak," that curious V-shaped growth of hair from the scalp down across the center of the forehead, occurs in men despite the femininity suggested by the name. The method of speech, the mannerisms, the gait, and a host of other ancestry markings identify us. But trauma is not the accused in this grouping in which predisposition, heredity, and endogenous factors are concededly allied, irrespective of any asserted activating, accelerating, or exogenous elements.

It seems reasonable to ask why this "Maladie Dupuytren" recurs after complete surgical removal if it originates from external irritation? The preceding observations suggest that there is a responsible intrinsic rather than extrinsic source, this hereditary endowment, this ancestral transmission. Regarding my own long-maintained opinion that Dupuytren's contracture is not caused by injury nor aggravated nor accelerated by external irritation or occupation, the following summation is offered:

1. This is an ancient disease of unknown origin that has been ascribed to a wide variety of assumed sources, none of which, except heredity, is conceded by the best-informed, many of whom are quoted. Familial origin is traceable often in 40 per cent of the cases.

2. It is relatively rare, occurring in only 1 or 2 per cent of the population; if due to external sources, it should be very prevalent and occur frequently in hand workers. Statistics indicate that it appears somewhat more often in the white-collar than in the no-collar group. It is rare in women, even though many of them are manual workers and users of tools; it is also rare in Negroes, Indians, and some other races.

3. Usually it appears only at an age when sclerotic changes are manifest elsewhere. It is inevitably progressive, having stationary as well as varying periods of accession and remission.

4. It begins in one hand and often appears later in the other hand. Date of onset is rarely known because it is painless and not disabling until the nodulations and contractions appear.

5. With great regularity it registers first with a nodulation at the base of the ring or little finger. It practically never affects the thumb and index fingers which bear the brunt of manual activity.

6. It exists a long time unknown to or unobserved by the individual or associates because it is painless and usually slowly progressive with periods of accession and remission. This insensitivity is remarkable because the area affected is notoriously hypersensitive, notably to inflammatory irritants.

7. Operative exposure demonstrates a widespread sclerotic process, suggesting intrinsic rather than extrinsic origin. The skin is then seen to be affected by progression from the subjacent fascia and is not the site of the originating focus.

8. The plantar fascia and the palmar fascia have a similar structure and function, yet sclerosis in the sole is very rare despite repeated impact and friction. How to account for the pathologically identical knuckle involvement adds to the nontraumatic proof.

9. It occurs in either hand and may involve the right hand of the right-handed or vice versa, and often it is bilateral and quite symmetric.

10. In clinical experience it is very rare, considering the number of injuries, infections, and other lesions involving the hands, and it never occurs as a complication, even after fascial involvement.

11. The clinical observation that the site, symptoms, and treatment are agreed on by the experienced suggests that the etiology should also be uncontroverted if trauma or any other source was responsible.

12. Heredity alone is the factor that appears most reliably causative, and the "predisposition" theory is to me untenable.

In addition, the writer refers again to the onset of this lesion and the accidental finding of it in his own hands as stated in this survey. Supposedly, I knew something clinically about this lesion, and despite self-examination it evaded my observation until the manifestations I relate appeared. Further, for most of my professional life I have had the opportunity of caring for many employes in various industries and have related much of this experience in books and medical magazines, as well as in a teaching capacity. This leads me to the self-propounded question: "If this is the outcome of labor, steady or occasional, or results from nonlaborious business or recreational pursuits, or is the result of ordinary single or repeated injury, why have I not seen a greater incidence of it in my own daily experience? Further, why have my own professional associates, in and out of hospital contacts, failed to see more patients manifesting the observable and palpable characteristics of this curious disease?"

Here again is provided the answer to many problems, namely, the solution based on past experience of our own or that derived from others whose knowledge we respect.

Pathology is variably stated as to terminology, mainly as to the extent and duration of the process and the size of the specimen submitted. In general, sclerotic tissue is indicated with no typical or unusual findings. The following is a verbatim representative report made by Maurice N. Richter, professor of pathology, New York University Post-Graduate Medical School. It refers to an operating room specimen submitted to him from the University Hospital (formerly Post-Graduate).

> MACROSCOPIC EXAMINATION: The specimen represents tissue removed from the hand. It is an elongated mass of firm tissue which measures 4 by 1 by 1 cm. in maximum dimensions. It presents a shaggy external surface, and many

small lobules of light-colored fat may be seen. The core of the specimen is made up of firm, glistening, gray or grayish-brown colored tissue.

Microscopic Examination: Section shows several masses of collagenous connective tissue, with hyalinized fibers, and comparatively few nuclei. Around these are several groups of fat cells. In one of the collagen nodules and in the fatty connective tissue at the periphery are several sweat glands, a hair follicle, and a tactile corpuscle. No inflammatory cells are seen.

Diagnosis: Hyalinized collagenous connective tissue, consistent with Dupuytren's contracture.

Summary and Conclusions

1. Dupuytren's original presentation is reviewed to indicate that he made no mention of an isolated or single injury as the source of the lesion to which his name is attached.

2. He apparently relied on the history given by the two now historic episodes so often quoted: the "wine merchant" and the "coachman."

3. These episodes show that reliance was placed on the statements of the patients as to the alleged *source, duration*, and *progression* rather than on the extent of the findings or other probabilities.

4. This same assumption as to the reliability of the given history still exists, despite the well-known clinical facts that the onset is painless and almost never causes comment until the manifestations become noticeable (nodules, contractures) or cause discomfort.

5. It has been shown that this process is always inherently progressive and that it has stationary as well as retrogressive periods. The patient naturally enough assumes that this idiopathic condition arises from an external source and names this if he consults a doctor.

6. A single or isolated injury as the source has concededly been rejected with numerous other surmises offered for a century and more.

7. Heredity is the etiologic agency accepted by those most familiar with this situation that indelibly fingerprints itself on a chosen segment of the palm.

8. There is some dissent by those who concede heredity, but they assume that there is also a "trigger mechanism" that activates, revives, or sets in motion this latent birthright or ancestry.

9. This activator, aggravator, or accelerator is repeated or prolonged use of the hands, and thus this ailment is classified as occupational in origin.

10. It is asserted by this writer that this is but another of the hundreds of theories, speculations, and assumptions so often mentioned in this review.

11. Experiments are listed to show what parts of the palm are mainly involved in the use of the hands. These indicate greatest activity on the radial and not on the ulnar border.

12. A diagnostic test is described to denote the presence of the lesion, especially in early but also in late cases, namely, the wrinkling of the ulnar margin on forcible extension of the involved finger.

13. The opinions of many clinicians and writers are cited, and in some instances their pertinent written replies to my inquiries are quoted.

14. A timetable is presented to link the findings with the duration in terms of certain visible manifestations.

15. The precise dating of the onset and symptoms of an early case are related by the writer, who believes this to be the only instance in which a narrator describes and dates the discovery of this lesion in his own hands.

16. Based on personal experience with large groups of manual workers, familiarity with the literature, personal publications, and long interest in the problem, the writer reasserts his belief that *heredity* is the *sole* etiologic factor independent of any external "trigger" or other scores of assumed provocative elements.

17. Attention is directed to the fallacy of accepting the past history given by the patient because of the impossibility of recognizing the onset of this painless self-progressive ailment until it declares itself by the typical visible trademarks usually denoting long prior existence.

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Age appears to be best in four things,—old wood best to burn, old wine to drink, old friends to trust, and old authors to read.—FRANCIS BACON

Nontypical Patterns in Coronary Disease

SOL GLOTZER, M.D., F.C.C.P., BROOKLYN, NEW YORK

(*From the Williamsburgh General Hospital*)

THE terms coronary occlusion, coronary thrombosis, and myocardial infarction are used interchangeably to denote identically the same clinical picture, consisting of the sudden onset of pain in and around the heart with radiation to the left arm, accompanied by varying degrees of shock, arrhythmias, and/or cardiac failure.

Myocardial infarction is a pathologic diagnosis inferred clinically only by the appearance of specific changes in the electrocardiogram associated with ischemia or death of myocardial muscle. In autopsied cases of myocardial infarctions, coronary sclerosis and stenosis alone without occlusion was found in 33.5 per cent.[1]

Variation in extent and degree of impairment of circulation in the myocardium and the effect of this impairment, both on the general circulation and on the electrocardiogram, make many nontypical forms of coronary disease possible. This discussion will deal with these latter forms.

Ischemic pain is not always due to actual obstruction of the vessel but can be produced by any one of the following situations:

1. If there is an increase in the oxygen requirement of the heart, as in hyperthyroidism, valvular disease, physical exertion, and hypertrophy.
2. If the oxygen-carrying function of the blood is decreased, as in anemia, gas poisoning, rare atmosphere, and pulmonary disease.
3. If there is a decreased volume of coronary circulation, such as would occur in occlusion or narrowing of the coronary vessels, arrhythmias, or changes in the flow of coronary blood induced by changes in pressure, reflex, or hormonal disturbances.

Atheroma in the coronary artery accounts for coronary insufficiency in 95 per cent of cases. Since the coronary arteries are not truly end arteries, collateral circulation often develops in an area where the lumen of a vessel has gradually narrowed, so that infarction, when it does occur, may be relatively small. When massive infarction is seen, it is usually where, in addition to the occluded branch, other branches are also narrowed or occluded. In animals retrograde flow following coronary occlusion can reach sizable values in about one week,[2] suggesting that the longer a complete occlusion is delayed, the more likelihood there is for anastomosis to develop. It has also been shown that an occlusion may last for more than forty minutes before changes become irreversible.[3] One can then conceive that coronary flow may be obstructed or diminished for short periods of time without infarction, or that occlusion may occur in a heart with an adequate collateral circulation without infarction, or that without actual occlusion but with a marked decrease in blood flow through a coronary vessel for a sufficiently long time, a segment of myocardium supplied by this inadequate vessel can undergo ischemic necrosis.

With regard to the electrocardiographic diagnosis of infarction, the earliest changes in the ST segments and T waves are due to ischemia and are reversible. Large lesions which reach the epicardial surface will affect the tracing promptly, but those which are small, surrounded by normal muscle, or located in the "silent" endocardial part of the myocardium may cause little or no deflection. Areas of myocardial infarction could then exist with ischemic pain and yet not be registered graphically.

The electrocardiogram is typical in only two thirds of patients with clinical symptoms of infarction, and in many of these a prodromal period with transient precordial pain may be observed even for several weeks before the acute pain appears. The remainder show nontypical patterns, and we have attempted to divide these into groups. This classification is by no means complete and could doubtless be augmented by any clinician.

Group I—Previous Electrocardiograms Abnormal

Prior to the acute episode the electrocardiogram may have shown changes such as bundle branch block, atrioventricular block with idio-

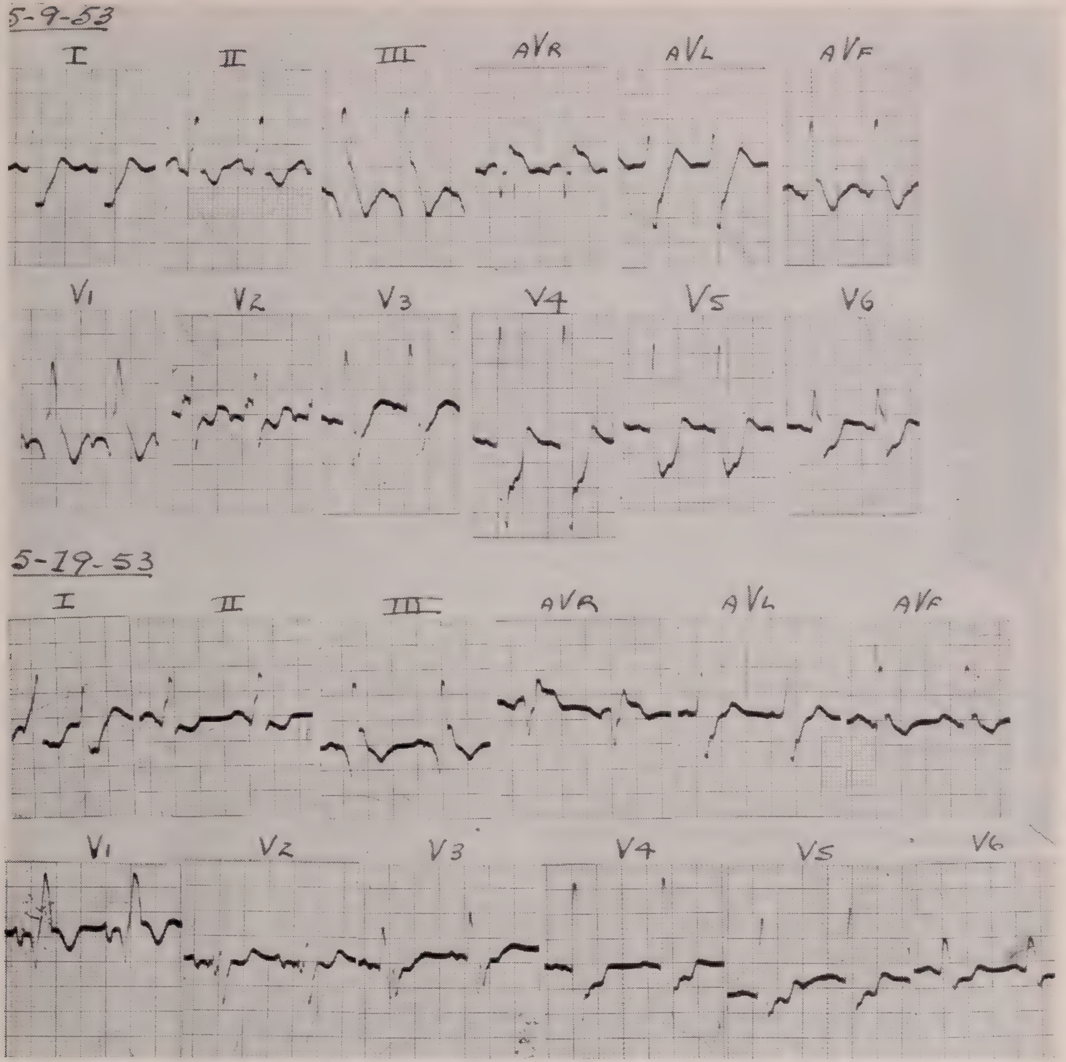

Fig. 1. *Case 1*—Acute infarction in the presence of right bundle branch block. Ten days later ST segments were seen returning to baseline.

ventricular pacemakers, left ventricular strain patterns, or residual changes of previous myocardial infarctions. In these instances the ST and T wave changes might be mistakenly considered to be recent and indicative of acute infarction until serial tracings fail to show the usual progression.

Most troublesome is the diagnosis of acute infarction in the presence of bundle branch block. In right bundle branch block acute infarction may be detected by the appearance of a Q wave and elevated ST segments in precordial leads facing the right ventricle with a deep, wide QS or QSR and elevated ST in precordial leads facing the left ventricle. If the infarction is situated posteriorly, no changes may appear in the precordial leads, but aVF may show an abnormal Q wave and elevated ST segments.

Case 1.—V. Z., male, age fifty-five, had a previous infarction some time ago. On May 8, 1953, severe precordial pain appeared. An electrocardiogram taken on the following day showed acute infarction in the presence of right bundle branch block, and ten days later the ST segments were seen returning to the base line (Fig. 1).

In left bundle branch block Cabrera and Friedland[4] report the appearance in acute anteroseptal infarction of a small notch, lasting 0.05 second or more, in the terminal part of the QRS

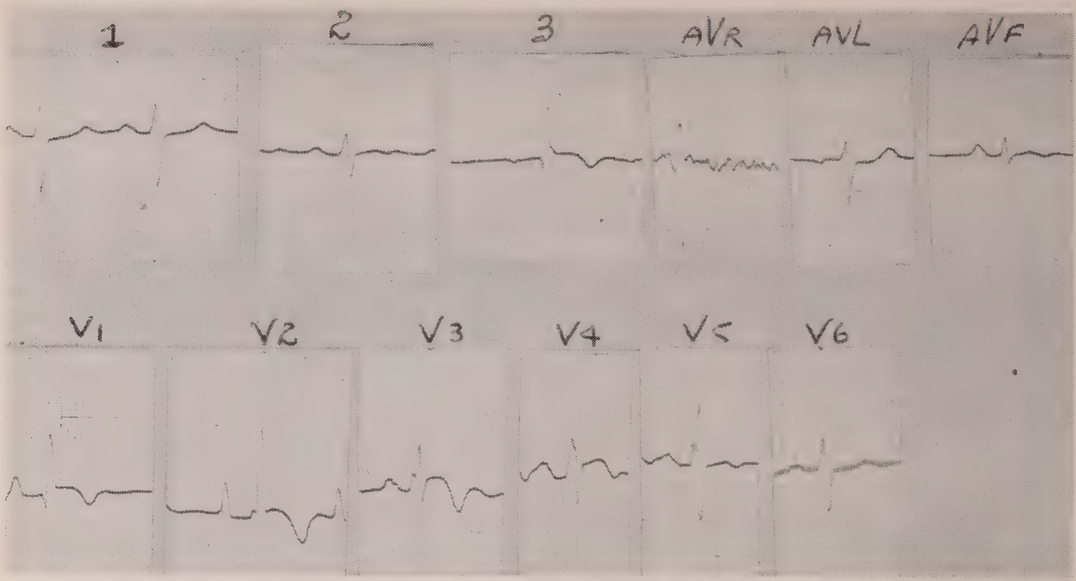

FIG. 2. *Case 3*—Typical cor pulmonale pattern with right ventricular strain.

segment of those chest leads with the RS or QS configuration (V_3, V_4). They suggest this may be due to a focal block in the septum.

Group II—Coronary Insufficiency

The clinical history is typical with severe lasting pain, but the electrocardiogram shows little or no change. The QRS changes may be insignificant or absent, particularly if the necrotic area does not involve the entire thickness of the wall. If the collateral circulation is good and the occluded vessel small, ST and T wave changes may be transient. In this group might fall some of those cases labeled coronary insufficiency or acute coronary failure by Master because of these transient changes and the absence of the characteristic alterations in the blood. The appearance of fever, leukocytosis, and a rapid sedimentation rate would suggest myocardial damage.

Case 2.—D. L., male, age forty-one, had a history of previous chest pain in February, 1953, with dyspnea and palpitation. Examination, including electrocardiograms and a two-step test, was negative. Chest pain recurred on July 9 and July 11, 1954. Examination was again negative; blood pressure was 140/80, white cell count 8,600, sedimentation rate 6 mm. in one hour.

Electrocardiograms taken on July 13, 1954, showed diphasic T waves in leads I and V_4, which had not been previously seen, with a return to normal in a subsequent tracing.

Group III—Pain Not Due to Myocardial Infarction

Pain in the precordium occurs often in the absence of coronary disease for a myriad of reasons, but of those which are pertinent to this discussion we include the following:

COR PULMONALE.—It is likely that in acute coronary insufficiency due to pulmonary embolism, in addition to mechanical obstruction from the embolus itself, there is sufficient reflex obstruction to pulmonary blood flow to reduce return flow to the left ventricle, lower the systemic output and arterial pressure, and often to induce shock. If hypertensive or arteriosclerotic heart disease is also present, coronary insufficiency may ensue. Hypoxemia also may induce hyperventilation, followed by lowered carbon dioxide tension and alkalosis with constriction of capillaries in the heart muscles.[5] The ST and T wave changes so produced may be prevented by correcting the alkalosis of hyperventilation through the addition of carbon dioxide to inspired air.

The characteristics of the cor pulmonale pattern include a deep S wave in lead I with depression of ST and a "staircase" ascent. A deep Q wave may appear in lead III with slight elevation of ST, but the changes in lead II resemble those in lead I rather than those in lead III, as would be expected in a posterior wall in-

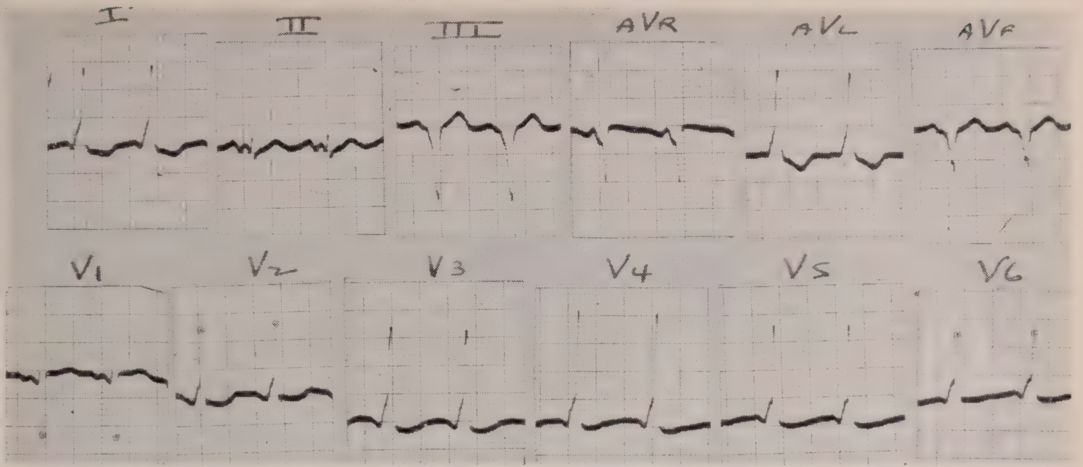

FIG. 3. *Case 5*—Electrocardiogram shows ventricular rate 120 with short P-R, wide QSR. and slurred initial upstroke of R typical of Wolff-Parkinson-White pattern.

farction. A right ventricular strain pattern in leads over the right ventricle are confirmatory.

Case 3.—J. R., male age sixty, had a hip-nailing operation performed for fracture of the surgical neck of the femur. Eight days later there was sudden pain in the chest with cough, hemoptysis, and pulmonary edema. An electrocardiogram taken on the same day showed a typical cor pulmonale pattern with right ventricular strain (Fig. 2).

ACUTE PERICARDITIS.—Pericarditis can cause confusion since pain, dyspnea, perspiration, fever, and changes in the blood may be seen. A friction rub and other evidence of acute infection are helpful in differentiation. The electrocardiogram shows ST and T wave changes due to subepicardial damage, but the diagnosis will depend on the wider distribution of these changes over the heart and on the typical serial progression. Q waves are never seen. A localized pericarditis could present a real problem.

Case 4.—M. M., female, age twenty-nine, developed pain in the chest, fever, and a pericardial friction rub. Electrocardiograms showed progressive inversion of T waves in the limb leads and the left precordial leads and the absence of Q waves.

PAROXYSMAL TACHYCARDIAS.—Vedoya[6] describes two different electrocardiographic patterns appearing after a paroxysm of tachycardia which may be confused with coronary insufficiency. In young people deeply inverted, symmetric T waves are seen in leads I and III and last for about one week, while in older people ST depressions may last for a few days, often with precordial pain. These changes are reversible and disappear completely. Episodes of tachycardia are common in the Wolff-Parkinson-White syndrome[7] where the abnormal complex of short P-R, wide QRS may confuse.

Case 5.—A. B., male, age thirty-eight, had frequent episodes of tachycardia, sudden in onset, with precordial oppression, perspiration, and pallor. His effort tolerance was normal between attacks, and examinations were negative. An electrocardiogram taken during one of these episodes showed a ventricular rate of 120 per minute with the short P-R, wide QSR, and slurred initial upstroke of R typical of the Wolff-Parkinson-White pattern (Fig. 3).

Group IV—Infarction Without Typical Pain

These cases demonstrate electrocardiographic evidences of myocardial infarction without any history of significant or typical attacks of pain. Fortunately, these patients are few, and it is likely that careful questioning would reveal some anginal symptoms which may have been considered of extracardiac origin by the patient and were promptly forgotten.

In a number of such cases seen by us, severe precordial pain of notable duration was absent, with pain appearing only on effort and subsiding quickly with rest. However, the electrocardiogram showed ischemic changes consistent with recent myocardial infarction. Caution dictates that one must consider angina of effort which appears suddenly or is suddenly intensified to be indicative of myocardial infarction.

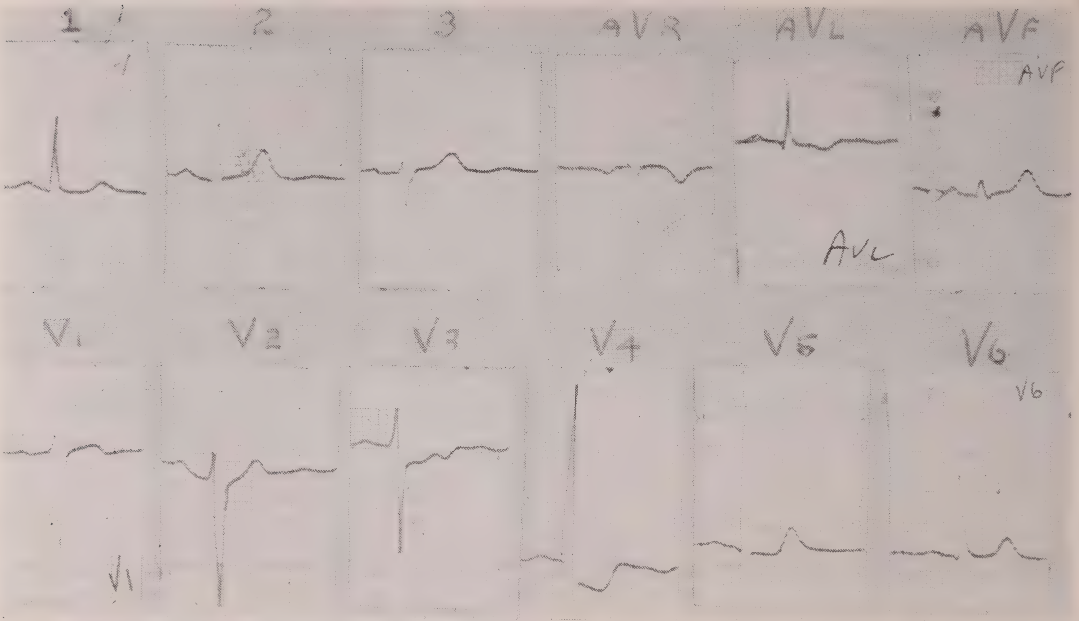

FIG. 4. *Case 7*—Electrocardiogram taken after recovery was completely normal.

Case 6.—R. K., male, age sixty, was found to have slight left ventricular enlargement in 1951 with a prominent aortic knob and a systolic murmur at the aortic area. Blood pressure was 150/80. He was asymptomatic until October 1, 1953, when he noted pain in the anterior chest with dyspnea and perspiration only while walking. This effort syndrome persisted, and examination on October 3 showed evidence of an acute posterior wall myocardial infarction.

In another type of case in this same group, evidence of infarction is not so distinct since the damage is subendocardial and only serial tracings will substantiate the diagnosis. This type of lesion usually is seen when hypoxia occurs rather acutely in a heart with severe sclerosis, leading to necrosis in the papillary muscles and central myocardium. The injury may be diffuse or focal and not involve the actual endocardial lining. Shock, fever, leukocytosis, and mural thrombosis may be absent, and the electrocardiogram may return completely to normal.

Case .7—H. H., male, veteran, age thirty-seven, suffered shell fragment wounds which resulted in amputation of the left arm above the elbow and partial paralysis of the left leg. He remained well until March 11, 1953, when, while he was walking, pain appeared in the chest with radiation to the back, both arms and jaws. It subsided with rest, to reappear, always while walking, on the next day and ten, fifteen, and seventeen days later.

Examination on March 29, 1953, showed minimal left ventricular enlargement with a blood pressure of 148/80. A tracing at this time showed depressions of ST segments in leads I and over the chest, suggestive of subendocardial ischemia. Pain appeared while the electrocardiogram was being taken and resulted in more marked depressions of the ST segments. Oxygen was administered, and the ST depressions became less marked. He was admitted to the Veteran's Administration hospital where serial tracings confirmed the diagnosis of subendocardial infarction.

Following recovery an electrocardiogram taken on December 17, 1954, was completely normal (Fig. 4).

Group V—Delayed Appearance of Changes in the Electrocardiogram

Although the clinical history may be typical of acute myocardial infarction with fever and leukocytosis, the electrocardiogram may remain normal for a time, and changes may not appear for as long as two weeks. The probable explanation is failure of the area of damage to extend to the epicardial surface of the heart immediately. It has been demonstrated that infarctions which are not completely transmural or which are surrounded by normal muscle tissue may not show the characteristic conduction defects and may only become apparent on the electrocardiogram when they extend to the surface. Clinical

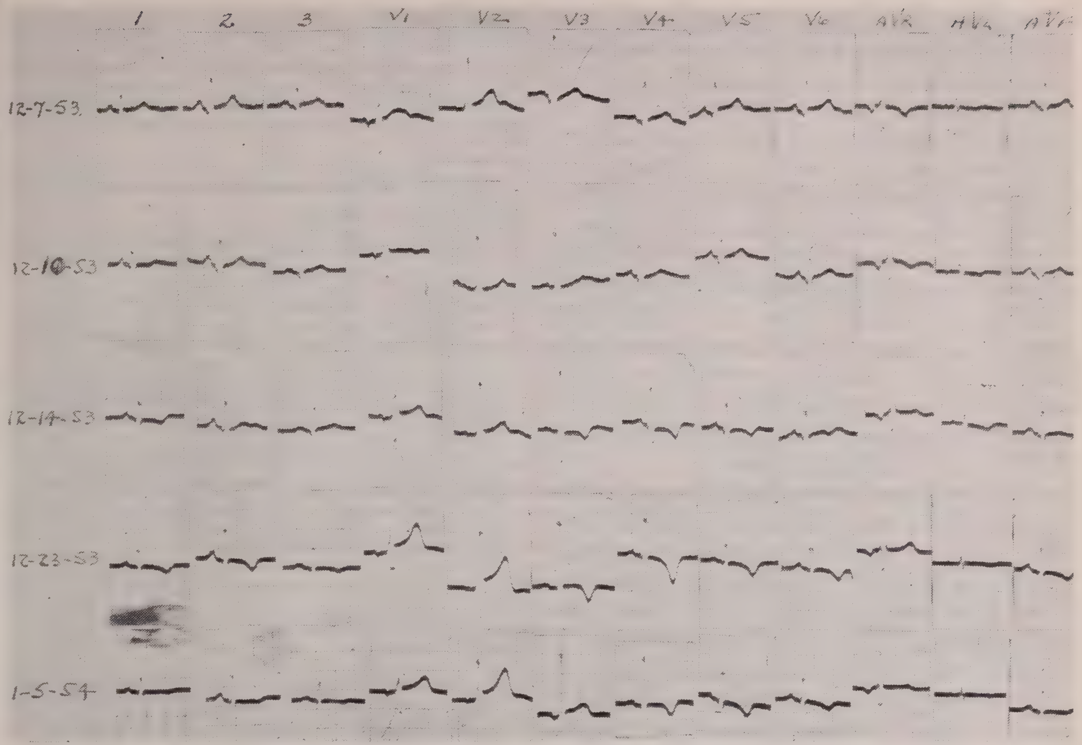

FIG. 5 *Case 8*—Electrocardiograms showed the slow evolution of the pattern of anteroseptal infarction.

diagnosis is most important with confirmation to be sought in serial tracings.

Case 8.—A. C., male, age fifty-three, experienced sudden pain in the precordium, radiating to both arms, with symptoms of shock. After twenty-four hours an electrocardiogram failed to show any definite changes of infarction. However, because of the suggestive clinical picture, he was kept at rest. Leukocytosis, fever, and a rapid sedimentation rate appeared, and tracings showed the slow evolution of the pattern of anteroseptal infarction (Fig. 5).

Group VI—Cerebral Symptoms Predominant

Acute myocardial infarction may present itself in the guise of a cerebral vascular accident. The brain normally utilizes about 14 per cent of the total cardiac output and about 22 per cent of the total oxygen consumed in the body, so that any reduction of cerebral blood flow by cardiac failure or shock may result in syncope, convulsions, or even transient hemiplegia, particularly in those individuals in whom cerebral vascular sclerosis already exists. These patients may be found in coma or collapse with no history of precordial pain. The high incidence of association of the two conditions is indicated by Wilson *et al.*[8] who reported finding acute myocardial infarction in 55 of 542 patients admitted for cerebral vascular lesions.

Case 9.—L. G., female, age seventy-three, was hypertensive for many years. On November 30, 1951, she complained of sudden pain in the left shoulder. Two hours later she was found unconscious with a left hemiplegia. She regained consciousness about fifteen hours later, and on the next day movements of the extremities returned with only mild residual signs of pyramidal tract involvement. By December 3, 1951, no residua were left, and the patient was clear and oriented.

The electrocardiogram showed posterolateral wall infarction. On December 9 precordial pain returned with a friction rub, and the patient expired five days later.

Comment

The anatomic and physiologic changes which may result in the symptom pattern associated with myocardial infarction are quite variable.

Pain, the most common symptom, is ascribed to ischemia and can be due to a decreased blood flow through a narrowed or obstructed vessel, to a decreased oxygen-carrying function of blood cells, to an interference with oxygenation of the red cells by impaired pulmonary function, or to an increased demand for oxygen by a heart which is otherwise normal.

Likewise, the electrocardiographic changes are related to the conductive capacity of the myocardium at any moment and can be temporarily affected by conditions unrelated to patency of the coronary artery. Since the pattern obtained on any precordial lead actually is a summation effect of those changes which involve the entire underlying myocardium, damage which is not transmural or which is focal may not alter the current to a sufficient degree.

The nontypical coronary patterns are the result of one or more of these variables in location, extent, or rate of appearance of myocardial damage, in the cause of ischemia, and in its duration. It has been possible to classify these nontypical patterns to a degree. Some of the groups include cases without myocardial infarction in which clinical findings and electrocardiographic changes suggest damage. Others are definite instances of infarction with indefinite or delayed corroborative signs, and still others show patterns which are difficult to distinguish from those of myocardial damage.

Many other smaller degrees of variation from normal have doubtless been seen by cardiologists and emphasize the importance of careful clinical as well as laboratory observations.

Summary

1. Approximately one third of patients suspected of having a myocardial infarction do not show a typical clinical or electrocardiographic picture.

2. We have divided these cases grossly into six groups as follows:

Group I— Previous electrocardiograms are abnormal.
Group II— Coronary insufficiency.
Group III—Pain not due to myocardial infarction.
Group IV— Infarction without typical pain.
Group V— Delayed appearance of changes in the electrocardiogram.
Group VI— Cerebral symptoms predominate.

3. The reason for these variations from the normal have been discussed.

87 WINTHROP STREET

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Lead Poisoning in Children in New York City, 1950–1954

An Epidemiologic Study

MARY CULHANE McLAUGHLIN, M.D., M.P.H., JAMAICA, NEW YORK

(*From the Jamaica Health Center, New York City Department of Health*)

IN RECENT years lead poisoning in young children as a result of eating paint containing lead has become increasingly more prevalent, so that now it has become an important cause of mortality from poisoning in children. For many years the problem has existed in New York, but because of poor morbidity reporting and lack of diagnosis, the size of the problem could never be ascertained. Many times the diagnosis was made on postmortem examination. With the development of improved laboratory service in the City Health Department and elsewhere, there has been an increase in accuracy of diagnosis.

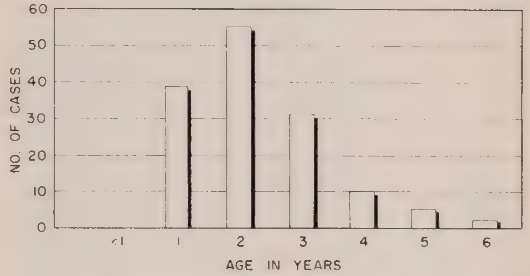

FIG. 1. Age distribution of cases of lead poisoning in New York City, 1950 to 1954.

TABLE I.—AGE AND SEX DISTRIBUTION OF 143 CASES OF LEAD POISONING

Year	Cases Reported	Age in Years 1	2	3	4	5	6	Males	Females
1950	1	1	..	..	..	..	..	..	1
1951	18	5	9	3	1	..	..	9	9
1952	20	6	6	5	2	..	1	5	15
1953	24	8	7	9	..	..	..	10	14
1954	80	19	34	14	7	5	1	39	41
Total	143	39	56	31	10	5	2	63	80

Diagnosis

Lead poisoning is manifested differently in children and in adults. In many cases the diagnosis is not suspected before severe and irreversible damage is done to the brain. Early symptoms may consist of pallor, lack of appetite, constipation, abdominal pain, and listlessness, while more advanced ones may be ataxia, tremor, loss of consciousness, and convulsions. Many cases are clinically recognized only when the child has convulsions as a result of increased intracranial pressure. Cases have been reported of emotional and behavior problems in children traced to lead encephalopathy. Children have been treated for schizophrenia who were later found to have lead poisoning.

A rapid diagnosis is stimulated many times on eliciting a history of pica in the child (pica is a craving for unnatural articles of food, e.g., paint, wood, etc.). This may be the only ready clue which can be used to start treatment before irreparable damage is done to the brain. Diagnosis can be helped by examinations of the blood for stippling and the urine for coproporphyrins, as well as x-ray examination of long bones. A quantitative determination of lead in the blood and urine is helpful and may give an index of lead absorbed. In addition, an x-ray of the chest might be done. Keefer and Mokrohisky[1] have shown that the x-ray shows a sharp line of demarcation between bone and cartilage at the costochondral junction with dense bands at the anterior costal end. This sign may appear earlier than other x-ray signs.

Recognizing early symptoms of lead poisoning may prevent permanent brain damage with consequent blindness, mental retardation, epilepsy, and spastic paralysis. Pediatricians are becoming increasingly aware of this problem, and this increase in the index of suspicion has helped in the diagnosis of obscure cases.

A review of the records of 143 children reported to the Department of Health as cases of lead poisoning in New York City 1950–1954 was made and several factors studied: (1) age, sex, and

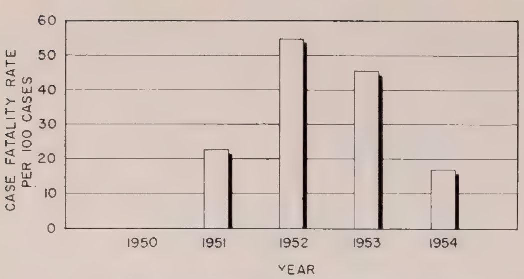

FIG. 2. Case fatality from lead poisoning in children, New York City, 1950 to 1954.

TABLE II.—CASE FATALITY IN CHILDREN FROM LEAD POISONING

Year	Number of Reported Cases	Number of Deaths	Case Fatality (Per Cent)
1950	1	. .	. .
1951	18	4	22.2
1952	20	11	55.0
1953	24	11	45.8
1954	80	13	16.3
Total	143	39	27.3

race, (2) case fatality, (3) seasonal incidence, (4) history of pica, (5) presence of encephalopathy, and (6) geographic distribution.

Age, Sex, and Race

Of 143 cases reported during the five-year period, 1950–1954, the age distribution can be seen in Table I and Fig. 1. No cases were reported in children under one year of age. It is well known that the toddler likes to wander around and seek new experiences and often puts foreign materials in his mouth—in fact, often ingests them. Parents seem to be keenly aware of this when the children are playing out of doors and warn the children not to put something in their mouths because it is "dirty." However, these same children are permitted to chew on window sills, tables, etc., to "cut their teeth." Many times children will pull off flaking paint and plaster and eat it. This seemed to be most frequent source according to the records. Parental ignorance of the danger of ingesting paint is quite apparent. In a recent study made by sanitarians in the Department of Health in which parents of children known to ingest paint were interviewed, one half of these did not know that eating paint was hazardous.

Eighty or 56 per cent of cases were reported in females, and 63 or 44 per cent were reported in males.

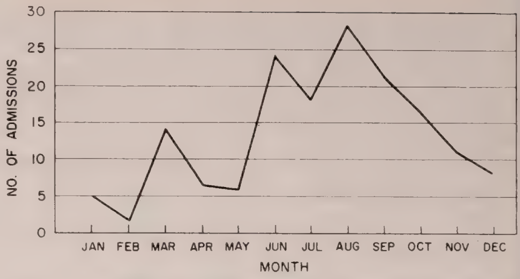

FIG. 3. Month of admission to hospital of children with lead poisoning.

A review of 134 of the 143 records of lead poisoning cases showed that 73 cases occurred in white children and 61 in Negro children. Twenty-eight of the white children were of Puerto Rican extraction. This number is lower than it actually should be because many cases had no record of place of birth or place of parent's birth. When an analysis of names was made, there were 64 children who were thought to be of Puerto Rican extraction on the basis of Puerto Rican names. Negro children and children of probable Puerto Rican extraction accounted for 89 per cent of the cases of lead poisoning.

Mortality

From 1950 to 1954 there were 36 deaths in children from lead poisoning in New York City or a reported case fatality of 27.3 per cent. From Table II and Fig. 2 it will be readily noted that with an increasing awareness by medical personnel of the symptomatology of lead poisoning, reporting has improved so that in 1954 the nonfatal cases reported were seven times greater than the fatal cases, and the case fatality dropped from 55 per cent in 1952 to 16.3 per cent in 1954.

Seasonal Incidence

It has long been recognized that there is an increase in severity of symptoms of cases of lead poisoning during the summer months. Rapoport and Rubin[2] in 1941 showed in their experiment with rats that it was the ultraviolet rays of the sun that caused symptoms to appear and not the heat.

A study was made of the hospital admission dates of the 143 children to ascertain when their symptomatology became so severe that it was clinically recognizable and admission to the hospital was made. Figure 3 shows that the greatest number of hospital admissions were in August, with June having the second highest. A total of 151 admissions of 143 children were listed. Several children were admitted two and three times, each time with recurrent encephalopathy. In one case in particular, repeated episodes of high blood lead with ensuing convulsions reduced the child to the status of a living vegetable with no motivation, drive, or ability to take even the remotest interest in things around him.

History of Pica

Eighty-two per cent of the children had a history of eating paint, plaster, etc., which was known to the parent. In nine families there were multiple known cases in the same family with six deaths and 13 clinically ill children. All children in these nine families had a history of pica.

Geographic Distribution

The 143 cases were distributed geographically as follows: Manhattan 37, Bronx 14, Brooklyn 86, Queens six, and Richmond none. Within the borough of Manhattan certain districts had a concentration of cases. For instance, in the lower east side and lower west side health districts many cases have been reported. It is interesting to speculate about the reason for the high incidence in these areas. It is true that in most of the cases in these areas children are of Puerto Rican extraction and living in rooming houses where an entire family occupies one room. Most apartments are in bad repair with paint peeling from walls and loosened plaster falling on floors. However, the same situation holds for parts of east Harlem where very little lead poisoning is reported.

When the lead poisoning cases in children are reviewed, it is found that over 60 per cent of the cases are being reported by only three hospitals. The concentration of cases in lower east and lower west side districts could be accounted for when the zoning of hospital cases is studied. Bellevue Hospital covers this area, and the pediatric staff has been doing special studies on lead poisoning. Likewise the areas in Brooklyn with large numbers of reported cases of lead poisoning are serviced by Cumberland and Kings County Hospitals which seem more acutely aware of the problem than some others. This must be substantiated when we consider the fact that only 33 per cent of the cases admitted to Bellevue and 41 per cent of those admitted to Kings County had encephalopathy, while 69.5 per cent of cases admitted to the other hospitals had encephalopathy.

The possibility of earlier diagnosis in Bellevue and Kings County may be entertained since fewer children in these institutions were recorded as having encephalopathy, an admittedly late sign. Hospitals whose staffs were aware of early symptomatology of lead poisoning presumably may have averted neurologic manifestations by prompt treatment.

The lower east side and west side in Manhattan and Fort Greene and Bedford in Brooklyn are the districts with most reported cases. These areas have substandard housing with few repairs being made, and most have peeling paint and fallen plaster. Many of the apartments have been turned into rooming houses, often with an entire family in one room. It is this combination of poor housing and alert hospital staff that could account for the concentrations found.

Sibling History

As stated before, 19 children from nine families were reported to have clinical lead poisoning. It is possible that many other cases were missed in siblings of known cases. Their symptoms may have been so mild or vague as to escape notice by the family.

To study this point, a city-wide study has been started wherein all siblings seven years and under of a known lead poisoning case will be examined to ascertain the presence of subclinical lead poisoning. In addition, a study is also being made of all known cases of pica that attend the child health stations to determine whether they have any symptoms of lead poisoning or have a high blood lead, so that they may be considered potential cases.

Summary

1. Lead poisoning has been reported in 143 children in New York City from 1950 to 1955 with 39 deaths. With better reporting and diagnosis the case fatality fell from 48 per cent in 1953 to 15.2 per cent in 1954. The five-year case fatality was 27.3 per cent.

2. All cases were in children six and under

with 67 per cent of children in their first and second year.

3. Seventy-three cases occurred in white children and 61 cases in Negro children. Nine cases had no race recorded. Twenty-eight of the children were on record as of Puerto Rican extraction. The more likely number is 64.

4. Eighty cases or 56 per cent were in females and 63 per cent in males.

5. Sixty per cent of the hospital admissions were in June, July, August, and September, the summer months of the year. There were 151 admissions of 143 children.

6. Eighty-two per cent of children had a history of pica known to the family. Nine families had multiple cases, all of which were known to have pica. Most cases were reported in areas where housing was substandard and where the hospitals were interested in the problem.

Conclusion

The necessity for further intensive study of certain epidemiologic aspects of lead poisoning in children is apparent. However, even more important is the fact that hospitals and medical personnel must be alerted to the possibility of missed cases. A campaign similar to the educational campaign on gas poisoning is to be instituted. The multiple cases in nine families leads us to question whether other cases in siblings are being missed. A study to examine all siblings age seven or under is being undertaken by the department, and it is hoped that some light may be shed on this topic.

A more intensive search must be made for children with known pica so that if lead poisoning is present, therapy can be initiated before symptoms occur. All child health stations in New York City will now include the question of pica in child health conferences with referral for blood analysis for lead if a positive history is obtained.

By these measures it is hoped that not only will more information on the epidemiology of lead poisoning be obtained but, more important, that early diagnosis will eliminate the more dire symptoms and resulting incapacities.

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SESQUICENTENNIAL MEETING

Medical Society of the State of New York

February 18 to 21, 1957

HOTEL STATLER **NEW YORK CITY**

A Study of the Soporific and Sedative Effectiveness of a Cycloheptenyl-Ethyl-Barbiturate (Heptabarbital)

HANS G. BAUER, M.D., AND HELMUTH K. RECKENDORF, M.D., NEW YORK CITY

(*From the Medical Clinic of the Welfare Island Dispensary and the Bird S. Coler Hospital, New York Medical College, Metropolitan Medical Center*)

MEDOMIN* is a cycloheptenyl-ethyl-barbiturate and the first hypnotic in which a seven-member ring is introduced into the barbituric acid molecule. It is closely related to the pentacyclic and hexacyclic barbituric acid derivatives.

The effectiveness of a sedative or soporific drug is gauged in terms of promptness of action, duration and depth of the effect, and incidence and severity of hangover. There is still room for improvement in these three qualities.

Medomin has been tested for these characteristics.

Procedure

In order to test Medomin, 142 patients were selected from the Medical Clinic of the Welfare Island Dispensary and the Bird S. Coler Hospital, both units of the New York Medical College, Metropolitan Medical Center.

These patients were then divided into two groups, one consisting of 107 patients to study Medomin as a soporific and another of 35 patients to examine the sedative effectiveness of this drug. Several patients served at different times in each of the two groups.

The first group, used to determine soporific effect, consisted of 36 men and 71 women whose ages ranged from twenty-seven to eighty-one years with an average age of fifty-two years. The menopausal syndrome or climacterium was present in 22 of the women. Other diagnoses with some bearing on sleeplessness were generalized arteriosclerosis, eight cases; hypertension and anxiety neurosis, seven cases each; osteoarthritis, five cases. In three cases lack of sleep was the only complaint. Conditions from which the remaining 55 patients complained were apparently unrelated to the insomnia. The period of observation of individuals in this study ranged from one to nineteen weeks with an average of four weeks.

The second group of eight men and 27 women, used to determine the sedative action of Medomin, ranged in age from twenty-five to sixty-three years with a mean of forty-seven years. In this group there were 14 menopausal women, nine subjects with some form of anxiety neurosis, nine with hypertension, two with chronic alcoholism, and one with asymptomatic latent lues. They were observed for periods of time varying from one to nineteen weeks with an average of two weeks.

The 107 patients of the first group received Medomin tablets in periodically increasing doses, beginning with 100 and ending with 800 mg. In all instances the tablets were taken just before going to bed. Patients were questioned every one or two weeks concerning the time at which Medomin was taken, how long it took to fall asleep, the time at which they first awakened and any subsequent periods of wakefulness, the depth of sleep, the hour of arising, and the general condition at that time, particularly as to "hangover" effects.

The patients of the second group received 50 to 600 mg. of Medomin daily, usually taken in three equally divided doses. These patients too were seen every one or two weeks. They were questioned as to the effectiveness of sedation, its onset and duration, and the incidence and severity of side-effects.

Placebos were given to both groups at irregular intervals to check on any psychologic factors involved in the results.

This work was done in conjunction with the New York Medical College, Metropolitan Medical Center Research Unit at Bird S. Coler Hospital, Welfare Island, New York City, Dr. Thomas H. McGavack, Director.

* Medomin, brand of Heptabarbital, was furnished to us by Geigy Pharmaceuticals, Division of Geigy Chemical Corporation, New York City.

TABLE I.—Soporific Effect of Medomin, Dosage, and Continuity of Sleep

Number of Observations	Dose (Mg.)	Awake During Night				
		Slept Through	Awake Once	More than Once	No Sleep	Slept Through or Awake Only Once
87	100	16 (18.3%)	9	19	43 (49%)	25 (28%)
81	200	45 (55%)	17	16	3 (3.7%)	62 (76.5%)
10	300	3 (30%)	3	3	1 (10%)	6 (60%)
18	400	9	2	4	3	11 (61.1%)
3	500	1	0	2	0	1
1	800	1	0	0	0	1
200		75 (37.5%)	31 (15.5%)	44	50 (25%)	106 (53%)

TABLE II.—Initial Number of Hours of Continuous Sleep with Different Doses of Medomin

Number of Observations	Dose (Mg.)	Hours of Continuous Sleep by Patients				
		1 to 3 Hours	4 to 6 Hours	7 to 9 Hours	10 to 12 Hours	4 to 12 Hours
51	100	19	17	10	5	
78	200	14	22 +	37 +	5 =	64 (84.7%)
10	300	..	8	2	..	
13	400	2	4	7	..	
2	500	..	1	1	..	
1	800	..	..	..	1	
155	100 to 800	35	52	57	11	

Soporific Action of Medomin

Incidence of Awakening While Under Medomin Therapy.—The minimal dose to induce sleep was 100 mg. With this amount one third of the patients slept through the whole night or at most awakened once. In 49 per cent of these cases no appreciable improvement of the insomnia was experienced. If 200 mg. of Medomin were taken, 76.5 per cent had a satisfactory sleep, and only 3.7 per cent could not sleep at all. Increasing this dose to 300 mg. did not, on the average, increase the soporific action of Medomin. Exceptionally nervous patients had to take 400 mg. of Medomin in order to sleep. A detailed analysis of the data is given in Table I.

In 109 observations on the soporific effect of Medomin within the usual range of therapeutic dosage (200 to 400 mg.), 57 patients (52.2 per cent) slept through, and 22 (20.1 per cent) awakened once. Thus, 79 (72.4 per cent) patients slept through or awoke once.

Hours of Continuous Sleep After Administration of Medomin.—One may also evaluate the sleep-inducing action of Medomin by comparing the first hours of continuous sleep in relation to the ingestion of increasing amounts of this drug. For instance, 64 or 84.7 per cent of the patients taking 200 mg. of Medomin slept for periods of time varying from four to twelve hours. More than half of these patients slept seven to twelve hours without interruption. A number of the patients waking up after the first four to six hours returned to sleep promptly. The details of this analysis are shown in Table II.

TABLE III.—Onset of Sleep After Various Doses of Medomin

Number of observations	Dose (Mg.)	Onset of Sleep			
		Within 1 Hour		In More than 1 Hour	
		Number	Per Cent	Number	Per Cent
28	100	22	79	6	21
67	200	60	89.5	7	10.5
8	300	8	100	..	...
9	400	7	78	2	22
2	500	2	...	..	...
1	800	1	...	..	...
115	100 to 800	100	88.8	15	13.1

Promptness of Induction of Sleep with Medomin.—The promptness of induction of sleep with Medomin is illustrated in Table III. Out of 115 observations 100 or 88.8 per cent of the patients fell asleep within the first hour. Of these 100 patients 53 were asleep within thirty minutes after they took Medomin. Beyond the minimal effective dose further increase in amount altered this factor very little.

Incidence of "Morning Hangover" and Other Side-reactions.—"Morning hangover" was noted by 13 per cent of the patients (Table IV). In more than half of these it was mild to moderate and was usually not increased by further increments in dosage above that at which this effect was first noted.

Side-reactions occurred in four patients. Fron-

TABLE IV.—MORNING HANGOVER CAUSED BY MEDOMIN

Number of Observations	Dose (Mg.)	Severity of Hangover* 1+	2+	3+	4+	Total Number	Per Cent
87	100	4	2	1	2	9	10.3
81	200	4	3	2	..	9	11.1
10	300	..	..	1	..	1	10
18	400	1	2	3	..	6	33.3
3	500	..	1	..	..	1	...
1	800	..	..	..	..	0	...
200	100 to 800	9	8	7	2	26	13

* Grading of severity of hangover: 1 plus—mild, gone after arising; 2 plus—moderate, gone in one hour after arising; 3 plus—marked, lasting two hours after arising; 4 plus—severe, lasting four hours after arising.

tal headaches and morning dizziness were reported by two patients, in each instance in conjunction with a dose of 100 mg. of Medomin. Morning headaches occurred in another patient who had taken 300 mg. of Medomin. The fourth subject complained of nervousness in the mornings while taking 400 mg. of Medomin at bedtime each night.

Many patients stated that they preferred Medomin to phenobarbital because of the "absence of normal hangover." None of the 142 patients tested with Medomin developed any dermal reactions. Some of these subjects took doses of between 300 and 800 mg. nightly for periods of time up to eight weeks. When compared to the incidence of skin rashes experienced with other barbiturates, Medomin appears to have a wide range of safety in this regard.

LONG-RANGE STUDY WITH MEDOMIN AS A SOPORIFIC.—For this study 15 patients were observed while taking Medomin daily for periods of time ranging from six to nineteen weeks. In this long-range study no increase of dosage was required in any of these patients to maintain the soporific action of Medomin; neither was any instance of habituation observed in these patients.

Placebos were employed in one half of the patients. They did not induce sleep by suggestion except in a few instances.

Sedative Action of Medomin

INCIDENCE AND DOSAGE.—Of 51 patients 37, or 72 per cent, experienced some relief of their nervousness while taking Medomin in "sedative" doses during the day. The optimal dose for this purpose was 50 mg. three times daily before meals.

Among 30 patients taking this dose, 20 reported varying degrees of improvement, while ten failed to show any relief of their restlessness. Doubling this dose, that is, 100 mg. three times daily, did not markedly improve this pattern of reaction (Table V).

Of the nine patients with hypertension the blood pressure went down to normal in four when Medomin alone was administered.

Five of the menopausal women could be fairly well controlled without the concomitant use of estrogens.

The onset of relief usually occurred thirty minutes after the administration of Medomin. The relief lasted for from three to four hours, so that three daily doses were usually adequate to control nervousness during the day.

INCIDENCE OF SIDE-REACTIONS.—Drowsiness occurred in 16 (13.1 per cent) of 51 subjects. The incidence was 26 per cent when 50 mg. of drug were given three times daily and 43 per cent when the dose was 100 mg. three times daily (Table VI).

Headaches occurred in one patient taking 100 mg. of Medomin three times daily and constipation in a patient taking 50 mg. three times daily.

Three patients voluntarily stated their preference for Medomin over phenobarbital. They stated that it was more relaxing.

TABLE V.—SEDATIVE EFFECT OF MEDOMIN ON GROUP OF 35 PATIENTS DURING 51 INDIVIDUAL OBSERVATIONS

Number of Observations	Weeks Observed Range	Average	Dose (Mg.)	Degree of Sedation* 0	1+	2+	3+	4+	Total
2	2	..	50 once daily	1	.	..	1	..	1
1	1	..	100 (50 twice daily)	..	..	..	1	..	1
30	1 to 8	2	150 (50 three times daily)	10	8	5	6	1	20
1	17	..	200 (100 twice daily)	..	..	..	..	1	1
16	1 to 8	4	300 (100 three times daily)	3	4	3	4	2	13
1	1	..	600 (200 three times daily)	..	1	..	..	..	1
51			50 to 600 daily	14 (27.5%)	13	8	12	4	37 (72.5%)

* Grading of degree of sedation: 0—no change in nervousness; 1 plus—slight improvement of nervousness; 2 plus—moderate improvement of nervousness; 4 plus—no nervousness, no drowsiness.

TABLE VI.—SIDE-REACTIONS WITH MEDOMIN USED AS SEDATIVE

Number of Observations	Daily Dose (Mg.)	Drowsiness	Constipation	Headaches	No Side-effects
2	50 once daily	..	..	..	2
1	100 (50 twice daily)	..	..	..	1
30	150 (50 three times daily)	8 (26%)	1	1	20
1	200 (100 twice daily)	..	..	..	1
16	300 (100 three times daily)	7 (43%)	..	..	9
1	600 (200 three times daily)	1	..	..	..
—	—	—	—	—	—
51	50 to 600	16	1	1	33

LONG-RANGE STUDY WITH MEDOMIN AS A SEDATIVE.—A long-range study of the sedative action of Medomin was made in six patients. Three were seen for from five to seven weeks, the other three for from nine to nineteen weeks. The continued use of 100 mg. twice daily in one patient over a period of nineteen weeks did not lead to a lessening of the sedative effect of Medomin. Neither did the other five cases ask for an increase in dosage or frequency of dose at any time. Patients discontinuing Medomin after four or more weeks of its uninterrupted use did not show any signs of habituation or withdrawal, either immediately or later.

Placebos were given in four of these cases. These patients complained bitterly of the recurrence of their nervous symptoms.

Summary

Medomin (heptabarbital), a cycloheptenyl-ethyl-barbituric acid, has been given to 142 patients to study its effectiveness as a soporific and sedative.

The optimal soporific dose of 200 mg. given before retiring induced sound sleep in 76.5 per cent of the patients. Of these patients 88.8 per cent fell asleep before or within one hour. Of the same patients 84.7 per cent had a continuous sleep for from four to twelve hours after they took the medicine. More than half of these patients slept seven to twelve hours.

Mild "morning hangover" occurred in 13 per cent of cases taking from 100 to 800 mg. of Medomin. Other side-reactions were negligible.

The optimal sedative dose was 50 mg. three times daily. Nervousness was relieved by this dose in 66 per cent of the cases. Mild drowsiness occurred in 26 per cent of patients taking that dose.

Long-range studies up to nineteen weeks in both groups did not show any lessening of the effects of Medomin. Neither were signs of habituation noted in these patients.

Medomin is a safe and reliable soporific and sedative.

Sesquicentennial Convention

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HOTEL STATLER NEW YORK CITY

Stuttering

Evaluation and Treatment

ISAAC W. KARLIN, M.D., BROOKLYN, NEW YORK

(From the Speech Clinic, Pediatric Department, Jewish Hospital of Brooklyn)

STUTTERING may be defined as a disorganization of the continuous rhythmic flow of speech characterized by intermittent or irregular tonic or clonic blocking or repetition of sounds and syllables.

There are a few definitive facts about stuttering:

1. Stuttering is a disorder of childhood. The onset of stuttering is between three and four years of age.
2. Stuttering occurs in about 1 to 2 per cent of the school population.
3. Stuttering is more common among boys than girls; the proportion is about 4:1.
4. Stuttering is no respecter of social stratum. Stutterers are found among rich, poor, kings, beggars, doctors, lawyers, statesmen, and illiterates.
5. Stuttering occurs at all levels of the scale of intelligence among average or above average in intellectual endowment as well as among the mentally retarded.
6. Stuttering occurs in a strikingly high incidence in particular families.
7. Some stutterers "outgrow" their difficulty so that there are fewer adult stutterers than child stutterers. The tendency for stuttering to persist is more common among boys.

Clinical History of Stuttering

Various age groups of stutterers have been investigated. Stuttering can only be understood, however, when seen in its totality.

ONSET.—The onset in the preschool child, age three to five years, includes (1) simple repetition, (2) hesitance or pause in speech, (3) mild tension of mouth and lips, and (4) mild anxiety.

Stuttering which begins in adult life has either a purely hysterical or a definitely organic basis. The usual type of stuttering described here is preeminently a disorder of early childhood.

The onset is during the period of speech development when the child ceases to use predominantly one-word sentences and begins to express his thought and desires in simple and later in more complex sentences. Oddly enough, stuttering begins during those years when the child's articulation as a whole tends to improve and become more distinct. The child may show only an occasional hesitance in speech or, while speaking, may stop suddenly as if groping for a word. Soon, however, a certain amount of tenseness will become apparent in his repetition of sounds and syllables. This is due to spasmodic contractions of the muscles concerned with speech, such as those of the lips, tongue, jaws, or larynx.

The stuttering child at this age does not realize consciously his speech difficulty. Sooner or later, however, he senses that something is not right with his speech. He begins to react to speech situations with a general subjective feeling of uneasiness and anxiety. The reason for his anxiety is essentially not clear to him.

The family physician or more likely the pediatrician is the one who sees the child at this stage of stuttering.

SCHOOL CHILD.—In the age group five to twelve years there is a latent period with the following symptoms: (1) tonic and clonic spasm of mouth and lips, (2) respiratory disturbances, (3) laryngeal spasms, (4) associated muscular tensions, (5) anxiety more pronounced, (6) fear of talking appears, and (7) mild personality adjustment difficulties.

During this period the stuttering symptoms are well established. The child becomes aware of his speech difficulties. A playmate may mimic him, or his mother becomes concerned and may try to correct him. Speech now becomes a conscious function and is identified with the fear of stuttering. The young child may

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put his hand to his mouth when he begins to stutter, or he may turn his head away from the person to whom he is talking. The older child may refuse to go on errands. At school he may hold himself back from asking questions. To save him embarrassment the teacher calls on him less frequently, and he is not given any part in plays. He may be required to attend a special speech class.

The symptomatology varies with each child. His stuttering has reached a certain plateau. He does not reveal any undue emotional or behavior problems different in degree or kind from those of the nonstutterer. He does not consider himself greatly handicapped. Some children may refrain from talking; others may talk too much.

This is the latent period. At this time the educator is the one most likely to be concerned with the problem of stuttering.

Adolescent and Young Adult.—In this period, the climax (1) stuttering is marked or severe, (2) anxiety and fear are pronounced, (3) there are marked personality problems, (4) invisible stuttering is present, and (5) stuttering becomes the dominant factor in life.

Stuttering at this period is pronounced. To escape the embarrassment of stuttering the stutterer will frequently refrain from speaking. He has invisible stuttering and anticipates that a certain word will give him difficulty. He becomes tense and emotionally disturbed. To avoid the feared word, he will try to recast the entire sentence and use words that have different shades or meaning. He becomes involved in awkward grammatic construction; his speech becomes jumbled and may resemble that of an aphasic.

Stuttering at this period becomes the dominant factor of his life. He feels himself seriously handicapped since he cannot hide or conceal his defect. He believes everybody watches him carefully and hangs on every word he utters. He may indulge in self-pity and uses his speech difficulty to rationalize all his shortcomings and failures. He may become less sociable and more introverted. He may acquire a tendency to shyness and develop a sense of inferiority, resentment, and embitterment. The development of the various attitudes and the degree of the psychologic components of stuttering will vary of course with different individuals, just as nonstutterers will adjust themselves differently to a disturbing situation.

At this period it is the psychiatrist who may see the unduly disturbed stutterer or the neurotic who happens to be a stutterer.

The Adult.—In the adult there is abatement of the stuttering so that (1) stuttering is markedly or moderately decreased, (2) a pattern of speech with minimum of stuttering develops, (3) the individual matures emotionally and physically, and (4) learns to live with his difficulty.

Some adult stutterers continue to stutter badly. By the time they reach adulthood some stutterers outgrow their difficulty completely. The majority of adult stutterers develop a pattern of speech by trial and error which has a minimum of stuttering. They have matured physically and emotionally, and they have learned to live with their difficulty. They may stutter occasionally when under stress or emotional excitement, but under normal conditions they speak well.

Laboratory Findings

In our biochemical studies[1] no significant differences were found between stutterers and nonstutterers. It is of interest, however, that we found stutterers had a lower serum potassium value than nonstutterers. This may be of significance since potassium ions play a part in transmission of nerve impulses in autonomic ganglia.

We also made electroencephalographic and laterality studies of stutterers and nonstutterers.[2] The results were not conclusive. It may be noted, however, that in our laterality studies there were differences sufficient to suggest that the stutterers had somewhat less unilaterality than did the nonstutterers. Also in the electroencephalographic studies it was noted that children with severe stuttering and/or no improvement in speech (83 per cent) showed a greater response to hyperventilation than those whose defect was less severe (50 per cent).

Etiology

Obviously so widespread, dramatic, and lifelong a disorder has provoked the interest of investigators in various professional fields, such as medicine, education, and psychology. The functional theories of stuttering regard it as a psychoneurosis, a personality disorder, or an index of social maladjustment. Coriat[3] regards stuttering as an oral neurosis in which the libido becomes fixed at the oral erotic stage of development.

English and Pearson[4] claim that stuttering is a fixation at and a regression to the anal sadistic stage of development. Glauber[5] and Barbara,[6] followers of the Horney school of psychiatry, believe that stuttering is due to disturbed parental and environmental factors. The stutterer's environment has lacked warmth, love, and respect. Johnson[7] refers to stuttering as a behavior that is learned, influenced by environmental factors. The basic factor is the mother's faulty diagnosis or evaluation of the child's speech.

The latter functional theories postulate that stuttering is no different from the occasional hesitations of the nonstuttering child or adult. Second, they say that stuttering develops as a result of the fears, threats, and apprehensions of anxious parents which tend to fix the child's attention on the speaking situation. In brief, according to these theories stuttering is due to disturbed parental and environmental factors.

Orton[8] has proposed an organic theory of stuttering. According to this theory stuttering is related to a conflict between the two cerebral hemispheres brought about by either a faulty development of a dominant gradient or a disturbance of dominance resulting from training of the nondominant hand.

My concept of stuttering is that while psychologic and environmental factors play an important role, basically it is an organic disorder.[9] The pattern of stuttering is not the same as the occasional repetition or hesitations of the nonstuttering child. One might just as well claim that stuttering is the same as the natural prevalence or reduplication or repetition of words common to all languages. Such words as "goody-goody" or "pooh-pooh" are accepted as part of the normal vocabulary, and no flight of imagination would equate them with stuttering. To use a similar analogy we might say that the athetoid movements of the cerebral palsy child are the same as the random movements of the normal infant.

Stuttering is a distinct pathologic entity and is not merely nonfluency of speech. I also do not believe that the mother's diagnosis or overt behavior toward the child's speech is the basic factor in the onset of stuttering. It is a fact that 1 per cent of the population are stutterers. Are the parents of this 1 per cent of children so different from the parents of the 99 per cent who do not start stuttering? It is well to remember that by the time the mother becomes concerned about the child's speech, he already has been stuttering a long time.

The acquisition of speech and language skills depends on the integration of somatic, intellectual, and psychologic factors. While it is true that a child is predestined to talk, he will learn to communicate ideas only according to the traditional system of a particular society. Walking is a purely organic and, one might say, an instinctive function; speech, however, has also an acquired, cultural function. The time of appearance of certain skills is fundamentally determined by maturation of the neural structures. Maturation and learning are both aspects of a developmental process and are closely interrelated.

Stuttering, according to my theory, is basically due to a delay or a slower progress of myelinization of the cortical association areas concerned with speech.

Myelinization is regarded as correlated with function.[10] The most precise and most completely coordinated reactions are those which involve mainly conduction pathways which become myelinated early. A nerve fiber that has not been completely myelinated may transmit impulses, but the resulting action will lack precision and fine coordination. In the spinal cord myelinization begins in the cervical region and progresses downward; in the brain it begins in the medulla and progresses upwards. It has been established[11] that (1) myelinization occurs earlier in the female than in the male; (2) myelinization does not proceed at a uniform rate; there are periods of acceleration and periods of decreased velocity; (3) myelinization may not be complete until the twentieth year of life. Myelinization proceeds in the following order: the sensory, the motor, and the association fibers. Figure 1[12] illustrates the order of myelinization of the various areas of the brain. As can be seen, cortical areas concerned with speech myelinate late.

The psychophysical aspect of language is a vast network of associated areas in the brain. Thus, if a child of three or four years of age has a delay in myelinization of the association areas in the brain concerned with speech, such a child will be handicapped in coordination of the fine and rapid movements of the various muscle structures concerned with speech. This may explain West's[13] findings on the slowness of diadochokinesis of the stutterer's articulatory muscles.

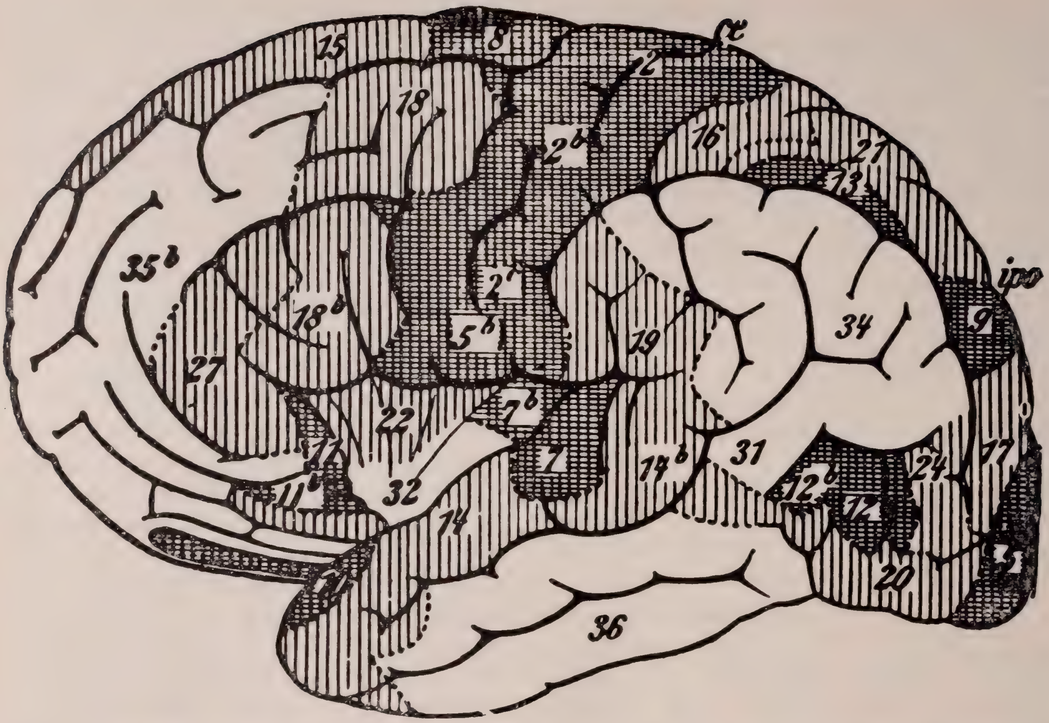

Fig. 1. Lateral view of the human cerebral hemisphere, showing the cortical areas as outlined by Flechsig on the basis of differences in the time of myelination of their nerve fibers. The primary areas (first to become well myelinated) are cross-hatched; the intermediate are indicated by vertical lines; the late areas are unshaded. (Lewandowsky)[12]

On the psychologic side of development it is recognized that at about the age of three years, that is, the age when speech becomes comprehensible, the child goes through a period of resistance and negativism. This type of behavior, succeeding a period of relative submissiveness, finds expression in disobedience, resentment, and anger. If the practice at home is meeting resistance with counterresistance or if the parents of a child who stutters become unduly preoccupied with his speech, the child will develop a feeling of anxiety, tension, and inner insecurity.

Speech does not move entirely in the ideational field.[14] Most words have an associated "feeling tone." This is not an inherited value but rather an emotional overgrowth on the word's conceptual core. This emotional overtone of words not only changes from age to age, but it varies remarkably from individual to individual and even from time to time in the same individual. Speech, if you can get someone to listen to you, is frequently used to unburden an accumulation of sensory and emotional impressions. Once a stutterer experiences difficulty with certain words or speech situations, these words or situations acquire an emotional value, and while emotions are proverbially inclined to speechlessness, they also may disturb the fluency of speech.

As time goes on, there is an added physiologic factor which, I believe, plays an important role in perpetuating stuttering. This is the development of the conditional reflex. For the formation of the conditional reflex it is necessary to have certain emotional tension.[15] When a stimulus arises in any of the sensitive units in definite time relationship with another activity, the two activities tend to recur together, and function may become dysfunction. The pathologic reactions become firmly fixed and more frequent. The stutterer, as he grows older, develops to a greater or lesser extent a conditioned neuromuscular response to speech situations which perpetuates his speech disorder.

To summarize, we have a disorder that throughout the centuries has followed the same pattern. It has its onset in early childhood. It has a lifelong history. During the early years it presents no undue emotional or behavior problems. It has a familial predisposition. It has always occurred in 1 to 2 per cent of the school population. It is sex-linked, four or five times more and some claim eight times more frequent in males than females. Finally, with no therapy some stutterers acquire fluent speech as they grow older and mature so that there are fewer adult stutterers than child stutterers.

At present there is no actual anatomic proof that stuttering is basically due to a delay in myelinization. It is a theory that requires further study and investigation. Perhaps the neuropathologists should be stimulated to take greater interest in the study of myelinization of the speech areas in individuals who were stutterers during their lifetime or had other serious speech disorders such as word deafness.[16]

The theory that stuttering is due to a retarded or delayed process of myelinization helps to explain the basic facts about stuttering. Stuttering occurs more often in boys because myelinization begins earlier in girls. By the time the girl is three or four years old the myelinization of her speech areas in the brain is apt to be more advanced than that of the boy. Since myelinization may not be complete until twenty years of age, this may be the reason why some stutterers outgrow their difficulty as they grow older and more mature.

Treatment

Perhaps no other human disorder has received so many types of treatment and claims of cure as stuttering. From Demosthenes who cured his handicap by filling his mouth with pebbles, while trying to declaim louder than the roar of the ocean waves, to walking upside down to increase blood flow in the brain, various cures of stuttering have been reported by professionals, quacks, and parlor amateurs. There are no follow-ups and no statistical tables, but each one has at least one stutterer whom he knows was cured, or perhaps years later he heard from someone else that the stutterer whom he treated practically stutters no more.

The time-honored advice given by the physician is "Ignore him. Every child repeats; he will outgrow it." It is true that some children begin to repeat and hesitate but in a relatively short period of time, in a month or two, with no therapy go on to normal speech. There are other children, however, who begin with the same mild symptoms as the previous group and yet go on to definite stuttering. The diagnosis of stuttering is based on the observation that the child stutters when he talks. There are no tests today by which one can tell which child who begins to hesitate unduly or repeat when he talks will go on to stuttering and which child will go on to normal speech.

The rule should be that every child of three or four years of age who begins to hesitate and repeats sounds or syllables sufficiently to be noticed should be treated as early as possible. The best time and the best results obtained in the treatment of stuttering are in its inception.

The basis for the treatment of stuttering of the preschool child is to lessen emotional tension and establish favorable speech conditions at home so that time is allowed for the normal progress of myelinization to proceed, if possible, to the point where the child achieves maximum stability and neuromuscular coordination in the function of speech.

The child should have a complete physical examination, his vision and hearing should be checked, and any defects should be corrected if possible. The parents, especially the mother, may be dominated by the feeling of guilt induced by reading or hearing some psychologic concepts about stuttering. She may not remember when the child began to stutter, and she is certain that no one paid attention to his speech. Yet she believes that something she did or said has produced the "emotional block" that causes the difficulty. The parents must be relieved of this sense of guilt. They should be told that the development of speech is subject to individual variations and that environmental influences will condition a child to certain types of behavior and performance.[17] A great deal has been said about the child's need for love, security, and a feeling of belonging. Important as these factors are, the child also needs positive guidance. The parents should have a feeling of certainty in handling the child, and they should not interfere with one another in their everyday dealings with him. There should be no fear that stuttering is "contagious" or imitative.

The child's attention should not be drawn to his speech difficulty, and the members of the family must avoid any outward emotional reactions when the child stutters. The speech environment should be the best possible. The parents should talk in the child's presence in a relaxed and distinct manner. They should observe under what conditions the child talks best, and these situations should be encouraged; situations under which the child stutters more should be discouraged. Undue fatigue is to be avoided since stuttering increases with fatigue.

The question is frequently posed about the relationship between handedness and stuttering. The consensus today is that there is no actual connection between handedness and stuttering. However, in a study that I made it was shown that there is a relationship between cortical development, language development, and handedness.[18] A child with a speech or language disorder, and that includes the stutterer, should be encouraged to use and develop his preferential hand, be it left or right. The significant factor is the method used in the enforcement of handedness.

The treatment of the older child, the adolescent, and the adult is a much more difficult problem. Since his social contacts are wider and more complex, individual problems and their adjustments have to be discussed. The problem of stuttering is discussed freely and openly. This will remove some of the aura of mystery that surrounds it. An effort is made to lessen the stutterer's fears and anxieties and to increase his self-confidence. School adjustments may have to be made. A pattern of speech is provided which is best for him. While many of these problems have to be worked out individually, group therapy has its values and should be used.

Drug therapy may be of value and should be tried. Such drugs as thiamine chloride, prostigmine bromide with atropine, Benadryl, and reserpine appear to be of real value at times. Meduna[19] advocates carbon dioxide therapy and reports good results with some stutterers.

Psychoanalysis should help the adjustment of the unduly emotionally disturbed stutterer or the psychoneurotic who happens to be a stutterer. Psychoanalysis, however, cannot be advocated as a cure for stuttering. Freud stated that psychoanalysis will not cure stuttering. Brill[20] states that only a few of those stutterers who receive psychoanalytic treatment are ultimately cured in any real sense. Those he helped were neurotics who developed stuttering later on in life.

Hypnosis is not a cure for stuttering. With some cases hypnosis may produce temporary improvement, while in others after the temporary improvement stuttering may be worse than before.

"Cast out the stuttering devil" has been the cry throughout the centuries. Some progress has been made, but the search is still going on. There are those who say, "Once a stutterer, always a stutterer," and there are those who contend that the therapeutic goal is achieved when the stutterer stops being concerned about his defect. The true therapeutic goal is to rid the stutterer of his difficulty.

Summary

Stuttering is a disorganization of the continuous, rhythmic flow of speech. Its onset is in early childhood, and it has a lifelong history. On the basis of clinical observations stuttering is viewed as fundamentally an organic disorder. The theory that stuttering is due primarily to a slower process of myelinization offers a satisfactory explanation of the known basic facts. Emotional and environmental factors play an important role in unfolding and perpetuating the disorder. Emphasis should be on immediate treatment of the preschool child who shows early signs of stuttering.

41 Eastern Parkway

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Community Resources for Patients With Chronic Disease

HELEN M. WALLACE, M.D., NEW YORK CITY

(*From the Department of Preventive Medicine and Public Health, New York Medical College*)

A REVIEW of the leading causes of death in New York City in 1953 reveals that of the 12 specific leading causes of death, those classifiable within the broad field of chronic disease constitute ten of the 12 causes (Table I). Within the broad classification of chronic disease all of the 12 leading causes, with the exception of pneumonia, influenza, and diseases of early infancy, may be included. If we adhere to a more limited classification of chronic disease, we might further exclude accidents, although accidents in many instances may be the cause of long-term disability in patients.

TABLE I.—LEADING CAUSES OF DEATH IN NEW YORK CITY, 1953

Cause of Death	Number of Deaths	Rate Per 100,000 Population
Diseases of the heart	36,325	450
Malignant neoplasms	16,554	205
Vascular lesions, central nervous system	5,772	71
Accidents	3,110	38
Pneumonias, influenza	2,884	36
Diseases of early infancy	2,552	32
Diabetes mellitus	1,654	20
Cirrhosis of liver	1,456	18
Diseases of arteries	1,405	17
Tuberculosis	1,294	16
Congenital malformations	857	11
Suicides	654	8
Other causes	7,522	93
TOTAL	82,039	1,015

Extent of the Problem of Chronic Disease

Before proceeding with the discussion of community resources for patients with chronic disease, it is logical to portray the size of the problem. At the outset it must be admitted that as of 1955 there are no accurate data to give us a picture of the size of the problem. At the present time community surveys are being done or being completed in Kansas City; Hunterdon County, New Jersey; Baltimore, and New York City. Results of these recent surveys should be available to us in the near future and will be a great help to us. In the meantime certain data are available, and these data will be briefly summarized.

Other evidence of the magnitude of the problem of chronic disease is available from the National Health Survey of 1935–1936. Even though these data may be somewhat out of date, nevertheless, they may be of assistance in laying the foundation for this two-day conference. The data in Table II indicate large numbers of patients with chronic diseases in this country.

TABLE II.—ESTIMATED EXTENT OF PHYSICAL DISABILITY IN THE UNITED STATES*

Type of Disability	Estimated Number of Patients
Orthopedic (total)	2,603,000
Incapacitating	341,000
Amputees (all types)	900,000
Major amputations	400,000
Epilepsy (total)	500,000 to 1,500,000
Institutionalized	50,000
Diseases of heart and arteries	9,000,000 to 10,000,000
Diabetes mellitus	725,000 to 1,000,000
Acoustically handicapped (all types)	7,000,000 to 14,000,000
Number wearing hearing aids	800,000
Visually handicapped, blind	230,000
Disorders of speech	1,000,000†

* Adapted from Rusk and Taylor.[1]
† Children between 5 and 19 years.

Recent releases from the Social Security Administration estimate that there were 4,100,000 people in the United States in 1954 with long-term disabilities in the civilian noninstitutional population and 1,210,000 in the institutional population (Tables III and IV).[2,3]

Estimates of the number of handicapped children in the United States are shown in Table V.[4] Numerically, children with speech, hearing, orthopedic, rheumatic fever, and heart disease conditions constitute the largest diagnostic groups.

It is likely that at this time medicine and public health are at the crossroads. In a sense

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TABLE III.—Persons With Long-Term Disabilities in Civilian Noninstitutional Population, 1954*

Age	Population Number	Population Per Cent	Long-Term Disabled Number	Long-Term Disabled Per Cent	Long-Term Disabled As Per Cent of Population
Under 25	66,280,000	42.1	370,000	9.0	0.56
25 to 44	45,450,000	28.9	560,000	13.7	1.23
45 to 64	32,400,000	20.6	1,410,000	34.4	4.35
65 and over	13,280,000	8.4	1,760,000	42.9	13.25
Totals	157,410,000	100.0	4,100,000	100.0	2.60

* Adapted from release from Social Security Administration.[2]

TABLE IV.—Prevalence of Long-Term Disability: Persons With Disabilities Lasting Over Six Months on Average Day in 1954*

Age	Non-institutional	Institutional	Total
Under 14	200,000	50,000	250,000
14 to 16	2,140,000	760,000	2,900,000
65 and over	1,760,000	400,000	2,160,000
Totals	4,100,000	1,200,000	5,310,000

* Adapted from release from the Social Security Administration.[3]

TABLE V.—Estimated Number of Handicapped Children in the United States in 1952

Disability	Estimated Number
Rheumatic fever and heart disease	675,000[a]
Cerebral palsy	285,000[a]
Epilepsy	275,000[a]
Cleft palate and lip	64,000[b]
Visual	
Blind	5,800[c]
Partially sighted	60,000[d]
Hearing	
In need of study	1,300,000[d]
With handicapping loss	250,000 to 500,000[a]
Speech	2,000,000[e]
Orthopedic (except foot defects)	1,000,000[e]

[a] Under 21 years of age.
[b] Under 18 years of age.
[c] Under 7 years of age.
[d] Of school age.
[e] 5 to 20 years of age.

the finishing touches are being pretty well placed on the problem of infectious diseases. This chapter is one of which medicine and public health can rightly be proud because of the tremendous progress made in the prevention, treatment, and control of the acute infectious diseases and of such chronic infectious diseases as syphilis and tuberculosis. While the final chapters have not yet been written, their end is at least in sight. Concomitant with the progress in this area there has emerged another type of problem in medicine and public health, that of the patient with chronic disease. It is probably not correct to state that patients with chronic disease constitute a new medical and health problem. Rather, it is more correct to state that patients with chronic illness have always been with us but to a certain extent were paid less attention for a variety of reasons. At any rate it is now clearly recognized that patients with chronic disease now constitute a medical and public health problem of major and significant magnitude.

Community Resources

A wide variety of community resources are needed and are available for patients with chronic disease in New York City. These resources may be separated into certain broad headings: (1) case-finding; (2) evaluation, diagnosis and treatment, and rehabilitation; (3) continuation of education; (4) vocational guidance and services; (5) care of the patient at home; (6) necessary ancillary services, such as transportation, foster home placement, and housing; (7) long-term residential or custodial care, and (8) prevention.

Case-Finding

Early case-finding of the patient with chronic disease is essential if treatment and rehabilitation measures are to have their maximum effect. Stated simply, the earlier the patient is found, the earlier treatment and rehabilitation may be instituted.

Case-finding in our community is carried on by a variety of agents and agencies. For those families known to a practicing physician, obviously it is he who is and should be the great source of case-finding. It is the practicing physician who cares for all members of a family and knows the family well—the children, the parents, and grandparents. In the care and rehabilitation of patients with chronic disease, the practicing physician then becomes the first line of defense. Other case-finding sources are also provided within the community. One of the other major sources is the public health nurse, both in the Health Department and in the voluntary public health nursing agencies. The public health nurse has contact with large numbers of our population via home visiting and by her role in certain organized services, such as the child health stations, the school health service, etc. Hospital outpatient departments constitute a third major source of case-finding, particularly if they are well run and sufficiently staffed, because of the fact that most outpatient departments see large numbers of patients annually. Other sources of case-finding include personnel who staff the various public welfare programs, the vocational counseling agencies, the community cancer detection and chest clinics, adult counseling services, etc.

How adequate is early case-finding of patients with chronic disease in our community? In the adult field I know of no community studies to evaluate the effectiveness of early case-finding. In the children's field there is evidence available to indicate a delay in case-finding. The specific evidence is the delay in reporting and referral to approved treatment agencies of children with congenital malformations or birth injuries. A simple example of this is the child with spina bifida and concomitant paraplegia or a child with brachial paralysis who does not come to the attention of a recognized treatment agency until he attains late preschool or early school age.

Evaluation, Diagnosis, Treatment, and Rehabilitation

Evaluation, diagnosis, treatment, and rehabilitation represent the nucleus of any successful and effective program in the care of patients with chronic illness. A complete evaluation and diagnosis represent the second initial step toward the rehabilitation of the patient. But because patients with chronic disease frequently require long-term care, the initial evaluation and diagnosis should not be looked on as the only evaluation necessary. Rather, periodic re-evaluation is of equal importance so that as the patient's condition changes, the plan of treatment and rehabilitation may be modified accordingly. The initial evaluation and the subsequent periodic re-evaluations both become essential in the management of patients with chronic disease, whether the patient is at home, on the job, or in an institution.

The principle of the timing of evaluation and diagnosis having been established, the other principle of importance is the character of the evaluation process. Evaluation of the patient with chronic disease should include not only the physical aspects of the disease process, but also the psychologic, social, education, and vocational aspects. To use an example, it is of limited value to rehabilitate an amputee and prescribe an artificial limb if the patient refuses to use it because of such reactions as fear, rejection of the artificial limb, shame, etc. Successful treatment and rehabilitation in the broadest sense, therefore, must include the consideration of the patient's total condition and needs. Frequently, therefore, the process of evaluation, diagnosis, treatment, and rehabilitation may require a team of experts in the fields of medicine, social service, vocational counseling, nursing, the various therapies (physical, occupational, and speech), psychology, and at times psychiatry. Of course laboratory and x-ray services also are needed.

The community's resources for evaluation, diagnosis, treatment, and rehabilitation include the practicing physician, the various diagnostic clinics operated by the Department of Health (the adult diagnostic clinics, the cardiac, eye, and orthopedic diagnostic clinics for children and youth), the special diagnostic clinic services operated by a few voluntary hospitals, the large number of general outpatient clinic services in hospitals, the small number of general rehabilitation services operated by a few voluntary and municipal hospitals, and the small number of specialized diagnostic, treatment, and rehabilitation services developed in hospitals in the last several years for patients with hearing disability, cleft palate, and convulsive disorders.

It has been mentioned previously that frequently the patient with chronic disease requires long-term care. Long-term care implies and requires long-term follow-up and supervision. For example, it is of little or no value to bring the best rehabilitation measures to a chronic disease patient on an inpatient basis, only to find that on discharge from the inpatient services back to his own home he has not been kept under close supervision and care and, therefore, has regressed. Continuity of care is essential. Here too the practicing physician and public health nurse can be most helpful in promoting and providing the necessary continuance of care and supervision.

How effective is the process of evaluation, diagnosis, treatment, and rehabilitation in our community at the present time? One of the most surprising facts is the relatively small number of hospitals in the city with well-developed and active rehabilitation programs in comparison with the large number of patients requiring such service. This represents one of our greatest needs. A corollary is the unevenness in quality of care. While New York City certainly has reason to be proud of its services of good and excellent quality, by no means are all of the hospital services at this same level. And there are understandable reasons for this finding, of which the two most important are lack of adequate financial support by the community as a whole and lack of a sufficient number of well-trained personnel. Certainly, too, one of the areas in need of further strengthening is that of careful, periodic reappraisal of the patient with chronic disease. A final area of further strengthening is that of providing the follow-up and supervision necessary for the care of the long-term patient.

Continuation of Education

For children and youth with chronic disease, continuation of their education during the period of school age is essential if they are to be able to keep up and compete with their peers in our society. Fortunately, most children with chronic disease will be able to continue their education in regular classes in public schools. This group of children represents the mildly handicapped. Educational service is usually provided or at least available to school-age children during their period of hospitalization and convalescence on an inpatient service. For the children who are moderately to severely disabled the community has provided certain other services, including special classes in public schools for the partially sighted and blind, the orthopedic, cardiac, and cerebral palsied, the special schools for deaf children, and home teachers for the homebound group. But of all these groups in all these places, it is only a small group of children with cerebral palsy who are fortunate enough to have the team of special medical, health, and educational services readily provided and available to them. The children in the special cerebral palsy classes have special medical supervision, therapy services, social service, psychologic service, and matrons and attendants in addition to the educational staff.

In contrast, other communities have provided comparable services for all or most of their children who are moderately to severely handicapped. Chicago is an excellent example of this latter type.

Vocational Guidance and Services

One of the ultimate objectives of any service or program for patients with chronic disease is to return the patient to the community as an independent, self-supporting, and productive member of society. In a sense, therefore, the vocational end result becomes a highly specific method of telling us how effective our services are. One can postulate that if we are doing an effective job by our disabled adults today, we should be able to decrease the number of disabled patients on public assistance within the next year or two, and if we are doing an effective job by our disabled children today, we should be able to decrease the number of disabled patients on public assistance ten to twenty years from now. In other words, while rehabilitation of the patient with chronic disease is certainly costly, in the final analysis perhaps it is less expensive than some alternate methods by which the community cares for some of its patients with chronic disease. Consideration of the vocational needs of the patients with chronic disease certainly represents the desirable approach of emphasizing the patient's abilities and de-emphasizing his disabilities.

New York City has two official vocational agencies and a small number of voluntary vocational agencies. Most of these agencies are prepared to give vocational testing guidance, training, and placement to patients with chronic disease. There is also a small number of sheltered workshops within New York City to provide employment under sheltered or protected conditions for patients with chronic illness.

How effective are we in fostering the patient's vocational rehabilitation? There seems to be little question that an excellent job is done for those patients who require vocational assistance and who receive it at the appropriate time. On the other hand, it is also true that some patients with chronic disease probably are referred to vocational agencies too late or not at all. For children with chronic disease the optimum time for beginning vocational counseling is prior to entrance into high school, and for adults it is during the period when the treatment and rehabilitation processes are beginning. What this means practically is that much more vocational counseling service is needed within the schools and within the medical rehabilitation agencies. One of the curious anomalies of our pattern of community services is the separation of the vocational agencies from the medical treatment agencies in our community. Thus, the patients under medical treatment usually do not receive simultaneous vocational assistance. Nor do patients receiving vocational assistance always have a complete medical evaluation to arrive at an accurate picture of the patient's true functional capacity.

Care of the Patient at Home

It is considered desirable for patients with chronic disease, as well as those with acute illness, to be discharged from inpatient services of institutions and to return home as soon as medically ready. This principle has been well accepted and applies to patients who are ambulatory and able to get around in the community as well as to patients who must necessarily be more restricted in their activities, the homebound group. The number of homebound adult and children patients in our community is unknown, although it is known that there are approximately 1,100 school-age children with orthopedic handicaps or rheumatic fever and heart disease who presumably are so severely handicapped that they must receive their education via a home teacher.

At the present time most of the responsibility for the care of patients at home is being carried by two groups, the practicing medical profession and the public health nurses on the staff of the Health Department and visiting nurse agencies. The contribution of these two groups to the care of the chronic disease patient at home is tremendous.

The City Health Department for the past several years has been preparing team evaluations of orthopedically handicapped homebound children and youth. Of the first 74 children evaluated in Manhattan,[5] 35 (47 per cent had unmet medical needs (medical care and supervision, rehabilitation measures, equipment such as wheelchairs or braces, surgery, etc.); 11 (15 per cent) had unmet social needs including housing; 11 (15 per cent) had unmet vocational needs; and 17 (23 per cent) had unmet recreational needs. It is clear from this experience that a wide variety of services are needed by some homebound patients. The provision of such services on an organized basis through a home-care program has proved to be an effective method. This method has already been applied to adult patients with chronic disease by one voluntary hospital and a small number of municipal hospitals in New York City. A comparable program for children is needed.

Other services are available in the city for homebound patients. These services include physical therapy from the voluntary public health nursing agencies, a recreational program for children, equipment which is provided and paid for by a small number of agencies, and housekeeping and homemaker services on a limited basis.

Ancillary Services

Included in ancillary services are transportation, foster home placement, and housing. Each of these represents an adjunct which may be vital in the broad rehabilitation of patients with chronic disease and their resumption of as normal community life as possible. Transportation is important in making it possible for the chronic disease patient to attend medical treatment agencies, vocational training and employment, recreational activities, and school. Transportation is provided for patients with chronic disease by a number of voluntary agencies and by a small number of governmental agencies. However, in our community at the present time some patients are unable to receive continuous periodic medical care and supervision because of transportation problems. Some children are unable to attend school because of inadequate transportation facilities. An excellent study of this problem was recently completed by Mr. Alfred Katz for the Welfare and Health Council.[6]

Housing represents an equally important ancillary service, similar to transportation. It has been facetiously stated that it is not infrequent in our community for patients with involvement of their lower extremities to reside on the top floor of a nonelevator building and for patients with upper extremity involvement to live on the ground floor! The provision of adequate housing for families having a member with chronic disease is essential in making it possible for some patients to be discharged promptly from institutions to their homes, in making it possible for some children to attend school, and in making it possible for some patients to receive vocational training and become employed. Recently, more interest and concerted efforts have been made to tackle this aspect of the chronic disease problem through the New York City Housing Authority, and it is hoped that more efforts will be successful.

Foster home placement is an important adjunct in any community program for chronic disease patients. A foster home placement program may make it possible to discharge back into community life some patients who are on inpatient services of institutions. Or, to state it another way, there are some patients in institutions who are medically ready for discharge from inpatient care but are unable to be discharged because of the lack of a home to which they may return. In the case of children some of them come from broken homes. In other instances the parents may have died or been seriously ill, etc. In any event, regardless of the specific family reason, the need for adequate social services within the individual institution and within the community and the need for a community foster home program are apparent if the patient with chronic illness is to be rehabilitated back into normal community life.

Long-Term Residential or Custodial Care

A recent review by Dasco *et al.*[6] of 95 patients with chronic disease at Goldwater Memorial Hospital here in New York City revealed that in this group 88 patients (93 per cent) did not require further hospitalization for medical reasons. Only 11 patients (12 per cent) of this same group required further hospitalization for rehabilitation purposes. While the report does not make clear the difference between medical care and rehabilitation, nevertheless, it is clear the the great majority of patients did not require further hospitalization. The study recommends that 69 patients of the 95 (73 per cent) will require nursing home or custodial care and that 13 patients (14 per cent) will require other nonmedical placement, excluding nursing homes.

The obvious implication of this study and the experience in other programs is that even with the best of rehabilitation services, some patients may not be able to be rehabilitated. For this residue of patients who are very severely disabled and who cannot be rehabilitated, at some point long-term residential care may be required for some of them at least. The pattern in New York City has been to utilize, at least for adults, both hospitals and nursing homes for this group of patients. In the children's field hospitals and convalescent homes have been utilized. It is obvious that this is not a sound use of hospital or convalescent home beds. On the question of nursing home care, Brightman[7] has recently completed a report on the nursing home picture within New York State. One of the great needs in the community is an adequate plan for long-term residential or custodial care for some adults and children with chronic disease.

Prevention

Opportunities for prevention in the field of chronic disease are unlimited. Prevention in this field may be subdivided into primary and secondary. Examples of primary prevention include (1) improved antepartum and intrapartum care of the pregnant woman to reduce the incidence of prematurity, birth injuries, cerebral palsy, etc., (2) adequate treatment of streptococcal infections to reduce the incidence of complications such as rheumatic fever, and (3) institution of prophylactic measures in a patient with a verified history of rheumatic fever to prevent future recurrences of rheumatic fever and possible cardiac damage. An example of secondary prevention is the provision of continuous adequate medical care and rehabilitation measures such as therapy services in the patient with an orthopedic, neuromuscular, or neurologic condition in an effort to prevent the occurrence of secondary muscle atrophy and contractures. Hence, one can say that much scientific knowledge is currently available to carry out the preventive concept. It is also true, however, that further research is necessary in many areas as, for example, the need for more knowledge regarding the etiology and prevention of congenital malformations.

Community Implications

Two recent pieces of Federal legislation should make it possible to improve the resources for patients with chronic illness. The first is the extension of the Hill-Burton or Federal Hospital Survey and Construction Act to provide funds for construction of chronic disease services, diagnostic services, and nursing homes. The second is the extension of the Vocational Rehabilitation Act to provide funds for strengthening of vocational rehabilitation programs, training of personnel, research, etc. Both of these extensions of Federal legislation should be a great assistance in extending and improving services for patients with chronic disease.

One important principle in the provision of community resources for patients with chronic disease is that a wide variety of services are needed, and there must be flexibility and coordination of them. Without flexibility and coordination some patients may become fixed in one service long beyond the period when they are ready to move to another service. Furthermore, lack of coordination leads to reduplication of diagnostic procedures and workup which is expensive to the community and discouraging to the patient.

Finally, the need for periodic review and reevaluation of the condition of the individual patient and of the various community services is basic if the best is to be provided for the most patients with the funds available. In the case of the patient his condition and needs will change from time to time, and it is only by periodic review that such changes will be ascertained. In the case of the community service it may be that some services as originally designed are meeting their objectives very effectively; other services may not be meeting their objectives as well, or the reason for the service may have vanished or diminished. A periodic self-look can be the essence of progress in the improvement of patient care.

It should be realized that with the multiplicity of community resources required for the patient with chronic disease and with the large number of diagnostic groups of patients with chronic disease, there are many official and voluntary health agencies engaged in services for patients with chronic disease. It is also reasonably clear that no one agency can do the total job alone for all patients or even for all patients with a single diagnosis. This makes it even more necessary for the many agencies to work and plan closely together if the public who support the services is to receive the maximum benefit in return.

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CASE REPORT

Priapism, An Unusual Complication of Sickle Cell Anemia

LOUIS ROSENBAUM, M.D., AND SAMUEL S. PALEY, M.D., NEW YORK CITY

(*From the Department of Medicine, Harlem Hospital*)

During the past ten years there were approximately 500 admissions to Harlem Hospital of Negro patients with sickle cell anemia. The diagnosis in each case was based on a careful hematologic study of the marrow and the peripheral blood. All these patients manifested the sickling phenomenon in addition to the anemia. Patients exhibiting the sickle cell trait (sicklemia) were not included in these figures. These patients presented a varied symptomatology of fever, jaundice, anemia, leg ulcers, convulsions, and abdominal and joint pains. It is readily seen how such variable manifestations could simulate such diseases as rheumatic fever, peptic ulcer, peripheral vascular disease, biliary colic, hepatorenal disease, and various neurologic disorders.

Despite the large number of patients with sickle cell anemia met with at this hospital, we have only recently observed for the first time a case of priapism complicating this disease. A perusal of the literature reveals only 21 cases of priapism in sickle cell disease reported to date. In view of the rarity of this complication and the unusual interest it engenders as to etiology and treatment, the following case is being reported.

Case Report

A twenty-three-year-old Negro patient, a photographer by profession, entered the hospital on December 24, 1955, complaining of a painful and persistent erection (Fig. 1). The present seizure of priapism had its onset suddenly while the patient was attending a movie on Christmas eve and continued for almost three days following his admission to the hospital despite the various measures employed to relieve him of his condition.

He related a history of sickle cell anemia which was diagnosed for the first time in 1947, when he was fourteen years old, at the Cooper Cardiac Clinic in New Jersey. As far as could be learned, there were no other members of his family who exhibited the sickling phenomenon. He stated that during the past year he had had several seizures of recurrent and painful erections. The duration of these seizures varied between eight hours and three days and were sufficiently painful to require hospitalization. He averaged six admissions to various city hospitals during the past year for this complication which had its onset for the first time on May 20, 1955. In October, 1955, during one hospital admission for priapism, he developed signs and symptoms of pulmonary infarction. The pulmonary symptoms consisted of sudden onset of excruciating chest pain associated with severe dyspnea. Following the subsidence of the acute symptoms the patient was given three blood transfusions for the severe anemia associated with his sickle cell disease. Several days subsequent to his last transfusion he developed severe abdominal pains and was suspected of having an acute appendicitis. The abdominal symptoms and signs eventually subsided on conservative therapy and were probably a manifestation of sickle cell crisis. In November, 1955, due to repeated and constant illness caused by sickle cell disease, the patient became despondent and, while confined to a city hospital, attempted suicide by jumping from the sixth floor of the hospital building.

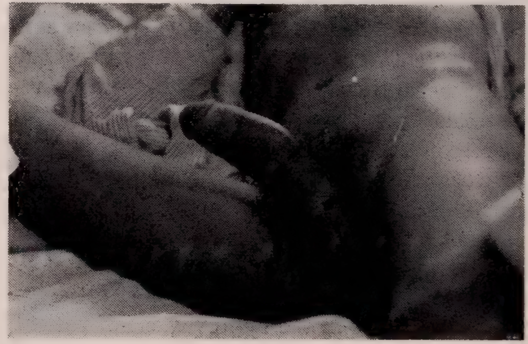

Fig. 1. Recent seizure of priapism (December 24, 1955), terminating three days after onset (December 27, 1955).

Physical examination revealed a poorly nourished, Negro, male adult displaying apprehension and obviously in acute distress. He groaned and appeared very restless and constantly complained of severe pain in his penis. The temperature ranged between 99 and 102 F. rectally, pulse between 90 and 110, blood pressure 140/80. Cardiovascular examination revealed a grade I systolic murmur at the apex of the heart. The cardiac outline appeared normal in size on percussion. The cervical nodes were bilaterally palpable, firm, and not tender. The spleen and the liver were not palpable. The penis appeared erected to an unusual size and tender.

Laboratory examination revealed the following: Urinalysis was negative for albumin and glucose with a specific gravity of 1.018 and with many white blood cells and occasional red blood cells. The urine also showed the presence of bile, and the urobilinogen was positive in dilution of 1:40. The serum proteins showed a total of 7.25 Gm. per cent with albumin 4.20 and globulin 3.05. Blood studies revealed red blood cells 2,680,000, white blood cells 16,500 with 64 per cent lymphocytes, 28 per cent neutrophils, 4 per cent segmented forms, and 4 per cent eosinophils. Hemoglobin measured 8 Gm. per cent. The peripheral blood also showed hypochromia, anisocytosis, poikilocytosis, and many sickled red blood cells. The blood chlorides measured 560 mg. per cent; cholesterol 170 mg. per cent; icterus index 50; cephalin flocculation negative in twenty-four and forty-eight hours; van den Bergh (direct) immediate; alkaline phosphatase 9.3 Bodansky units; blood urea nitrogen 8 mg. per cent; creatinine 1.3 mg. per cent; blood sugar 80 mg. per cent; prothrombin time twenty-two seconds (control fifteen seconds). Urine culture produced a growth of Escherichia coli and Proteus bacillus.

Comment

Recent surveys indicate a 9 per cent incidence of sickling in the Negro population of the United States.[1] To date priapism has been observed in 21 patients manifesting sickle cell anemia and the sickle cell trait (sicklemia). Campbell *et al.*[2] report five cases of priapism out of a total of 181 cases of sickle cell disease observed by them. In addition, 16 cases were observed by other authors.[2-4] The cases previously reported were found in patients between the ages of eight and twenty-nine. The condition is rarely seen in individuals over the age of forty years since patients with sickle cell anemia rarely survive beyond this age.

Priapism is known to occur infrequently in a host of other conditions. It is occasionally seen in such urologic conditions as vesicle calculus, prostatic hypertrophy, and gonorrheal urethritis. It has also been observed in neurologic conditions, such as myelitis, spinal meningitis, and traumatic injuries to the cervical and lumbar regions of the spinal cord. It is only occasionally seen in diseases of the hematopoietic system, of which leukemia and sickle cell anemia or sicklemia are examples. It is thus seen that a multiplicity of factors may be the basis of priapism, and the importance of excluding other causes before incriminating sickle cell disease as an etiologic factor is evident. A careful neurologic and urologic survey of our patient at this hospital and elsewhere has definitely eliminated other possible etiologic factors.

Priapism has been defined as a prolonged or abnormally frequent erection of the penis with or without sexual desire. On the basis of the nature of the hematologic disorder observed in sickle cell anemia and its tendency to produce injury to the endothelium of blood vessels through anoxemia, thrombosis of the corpus cavernosum has been suggested as the most likely factor. This possible mechanism was first advanced by McKay and Colston[5] who stated that if the erection persisted two days or more, thrombosis existed in the corpus cavernosum. The clot is not considered to be in the form of a true thrombus since the material aspirated from the corpus is of a thick and gummous consistency. Inasmuch as patients with sickle cell disease exhibit a tendency to thrombosis in such organs as the lungs, spleen, and central nervous system, a similar pathology in the corpus appears plausible. The marked increase in the sickling which occurs prior to sickle cell crisis, the thrombocytosis, and the anoxemia which these patients manifest, with possible injury to the endothelium of the blood vessels, point to blockage of the smaller sinuses in the corpora.

However, this mechanism is not accepted universally by all authors, and Finkler[6] has implicated the male hormone as a precipitating factor and states that an excess of androgenic hormone plays a role in priapism of sickle cell disease. Proof for this contention is lacking. Finkler's conclusion is apparently based on his observation of a case of priapism lasting seventeen days induced with testosterone propionate in a preadolescent eunuchoid male. The condition subsided after the withdrawal of the drug. If an excess of androgenic hormone is the basis of priapism in sickle cell disease, then the urinary 17-ketosteroids should show a substantial increase. In none of the cases reported were the urinary 17-ketosteroids determined, and we were not able to estimate their value in our case due to the fact that the patient was admitted to the hospital during the Christmas season when our laboratory personnel was reduced to a minimum.

The treatment of priapism in sickle cell anemia has not been very effective in alleviating the condition. The therapy employed by various authors has consisted of Demerol for the relief of pain, spinal anesthesia, local injections of Novocain, and irrigation of the corpora with saline. Campbell *et al.*[2] have used estrogenic hormones on the supposition that an excess of androgenic material was responsible for this complication. Smith[4] has employed Dicumarol to effect a reduction in the prothrombin activity of the blood, and on this basis he feels that the drug should be effective in the prophylaxis and treatment of intravascular thrombosis which these patients manifest.

Summary

A case of priapism with frequent and recurrent seizures in a young Negro patient with sickle cell anemia is described. To date a total of 21 cases have been reported in individuals manifesting sicklemia and sickle cell anemia. The nature of the hematologic disorder observed in patients manifesting the sickling phenomenon makes it appear that intravascular thrombosis of the sinuses in the corpus cavernosum is the most likely cause.

940 Grand Concourse
1100 Park Avenue

The authors are indebted to Dr. James T. W. Granady and Dr. Vivian McKinley Wiles of the Departments of Hematology and Urology, respectively, for their contributions to the diagnostic and therapeutic aspects of the case.

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The Medical Society of the State of New York has again arranged for the services of the Languild Convention Service during the Sesquicentennial Meeting, February 18 to 21, at the Hotel Statler, New York City. This service is available *without cost to our members* beginning now and continuing through the first three days of the meeting, February 18, 19, and 20, when representatives of Languild will be on hand near the registration desk on the mezzanine.

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Food Allergy

HARRY MARKOW, M.D., BROOKLYN, NEW YORK

(*From the Allergy Clinic of Beth-El Hospital*)

During the period in which allergy was emerging as a specialty from the realm of internal medicine, food allergy was associated with that group of gastrointestinal disorders which occurred in sensitive individuals following the ingestion of certain foods. Now, however, it is recognized that the ingestion of foods to which the patient is sensitive may produce a variety of functional disorders, including asthma, allergic rhinitis, urticaria, angioedema, eczema, migraine, gastrointestinal disorders, and other bizarre syndromes which are difficult to diagnose and which do not fit into the various disease categories. Any food may be the culprit and may be responsible for one or a combination of allergic manifestations.

While food allergy is considered relatively uncommon as compared to inhalant allergy, it is possible that more intensive studies of the relation of foods to symptoms in allergic patients will increase its incidence. There is often a tendency to rely solely on the results of skin tests for the determination of the etiologic agent or agents in allergy. Slight skin reactions to foods are often overlooked or ignored. Tuft[1] has justly claimed that since slight reactions to inhalants are not ignored, slight reactions to foods should not be ignored. However, this is not generally practiced. Another reason why food skin tests are held in low esteem is the fact that many positive reactions with foods cannot be confirmed by clinical trial. On the other hand, there are cases in which foods may cause symptoms, yet the skin tests with these foods are negative. These fallacies have led many allergists to disregard the results of skin tests with foods, and some have discontinued skin testing with foods entirely, depending rather on clinical trial-and-error diets, elimination diets, or intentional feeding diets.

In our previous study[2] it was shown that, by the intentional feeding test, only 4.5 per cent of positive food skin tests in older children and adults were of clinical significance. It may be argued that this finding invalidates the food skin test as a reliable diagnostic procedure. However, food allergy occurs in a limited number of allergic patients, and in those cases in which food skin tests prove to be of clinical significance, the positive tests are of importance in the etiologic diagnosis. It is also a fact that many positive food reactions that cannot be confirmed clinically represent past sensitivities which have been outgrown clinically without the loss of the cutaneous sensitivity. The accuracy of the food skin test is evidenced by the finding[2] that the negative test was confirmed clinically in 98.2 per cent of the clinical trials. Hence, food skin tests, although clinically significant in a limited number of patients, are a reliable diagnostic procedure for that group. Clinical trial with foods which are skin positive is often rendered difficult because such skin tests are made with foods which are extracted in the raw state but eaten in the cooked state, and it has been shown[3,4] that in some instances the cooking of some foods denaturizes them to the extent that they may be tolerated in limited amounts by sensitive individuals.

Tuft[5] found that the incidence of positive skin test reactions to commonly eaten foods is definitely and significantly higher in the allergic than in a control group, whereas with foods uncommonly eaten, the difference is not statistically significant. He maintained that skin tests with commonly eaten foods are of value and should not be omitted from routine skin tests. From my clinical observation skin tests with food allergens are of value in the study of all allergic patients, but the clinical study of the etiologic factors must not end with mere skin testing but must continue as long as the patient is under observation.

It is generally agreed that food allergy is more common in infants and young children. In adults foods alone are rarely the cause of allergic manifestations. The reason foods are often the sole cause of symptoms in infants is not clear. As the child grows older and comes in contact with more environmental allergens, there is a tendency to acquire sensitivities to inhalants. At the same time clinical sensitivity to foods tends to disappear, often spontaneously, without the loss of the cutaneous sensitivity in many such cases. Hence, in older individuals the presence of positive skin tests with food allergens may represent a past rather than a present sensitization. That is one reason why positive food tests in older patients often cannot be confirmed clinically, even in the presence of marked skin reactions. At the same time the growing child acquires inhalant sensitivities, which tend to remain throughout adult life, and these reactions to inhalants in adults are frequent and important clinically. However, attempts at clinical trials with foods in the presence of inhalant allergies will not give satisfactory results, especially if the clinical trials are made during pollen seasons in the presence of pollen sensitivity or if the inhalant sensitivities are not controlled.

The diagnosis of food allergy is not the simple procedure of skin testing with a great many food extracts and the mere elimination of positive reacting foods. Such a procedure, if carried to the extreme, will result in a monotonous and restrictive diet and in vitamin and mineral deficiencies. A thorough and complete history must first be recorded, beginning from infancy and extending to the onset of the present illness. The family history as well as the past personal history of allergic disorders will give support to the possibility that allergy is involved in the present illness. A blood eosinophilia will also give weight to such a possibility.

The diet of the patient should be adequately studied, especially for a history of likes and dislikes. In cases where symptoms develop rapidly after a meal, the causative food is not difficult to spot. Where the symptoms develop hours after a meal, especially with other meals intervening, the problem is difficult to analyze. In immediate clinical reactions following the ingestion of foods, one can expect a positive skin test to the offending food. In delayed clinical reactions positive skin tests with foods are usually absent, and tests are of little value in determining the offending food. Here elimination diets or intentional feeding diets are the method of choice to track down the offender. The main difficulty arises when the offending food is milk, egg, or wheat, each of which is a common ingredient of many other foods and the presence is not generally suspected by the patient. It is incumbent on the patient to study and know the ingredients of all foods which he consumes so that, if sensitive, he will be better able to avoid either or all of these three foods in the diet.

My favorite method of detecting food offenders is to instruct the patient to note on paper all foods eaten at each meal, with a statement after each meal as to whether or not any symptoms developed. Such a statement should also be noted for any symptoms arising between the early morning hours and breakfast since such symptoms may be traced to the dinner or after-dinner snacks of the previous day. By studying these reports daily for two to three weeks, one can often detect the onset of symptoms after a new food or after the repeated use of a certain food. The elimination of these foods from the diet should result in an asymptomatic state, and the intentional ingestion should be followed by symptoms. These trials, however, should be repeated at least three times before any conclusion is reached in order to avoid the error of attributing the relief of symptoms or incitement of symptoms to the manipulation of that food. Inhalant allergy or psychosomatic factors may be the reason either for the symptoms or for the relief of symptoms after a single trial.

Another method for incriminating foods is to allot to the patient a diversified list of 24 foods which failed to react on skin testing. If there is no improvement in symptoms on this diet after a trial period of two weeks, four foods (one vegetable, one fruit, one cereal, and one meat) are eliminated every two weeks from the diet. If the symptoms are unchanged after the elimination of each of the 24 foods and if the report of the patient is reliable, the conclusion may be drawn that foods do not play an important role in the case. While food trials are being studied, it is essential that all other therapy remain unchanged. On many occasions, however, the patient's dietetic report may be unreliable, the mother insisting that the child did not eat chocolate and the child reminding the mother of the time that she allowed him to eat a "tiny piece of chocolate."

Some remarks regarding skin testing with food allergens are in order in any discussion on food allergy. Skin tests are not a laboratory procedure. Patients should not be referred to a laboratory "to be tested for allergy." Only the experienced physician who has taken a complete history and has examined the patient is in a position to interpret the results of skin tests in the proper perspective. Skin tests with foods are notoriously changeable from time to time, and I believe that the diet of the patient plays a part in this. Many foods give marked reactions which cannot be confirmed by passive transfer or by clinical trial. Occasionally a food will give a positive clinical test in the absence of a positive skin test. Certain food extracts give positive reactions in a high percentage of patients tested; in reality these are irritative reactions and should be ignored. Such irritative reactions are common with banana, tea, sweet potato, spinach, and a few other foods. These reactions should be recognized as irritative reactions and ignored unless a positive clinical test is obtained. It is essential that food extracts be replenished at regular intervals since there is a tendency for many such extracts to deteriorate with time, becoming cloudy and precipitated. Care should be exercised in buying extracts for testing, for the extracts must be stable and the source reliable. In testing with foods it must be remembered that certain foods will give marked and often severe constitutional reactions. This is more common among the fish and nut extracts, but there are some extremely sensitive individuals who will give similar severe reactions to milk, eggs, and seeds such as mustard. It is best to try to obtain a history of clinical sensitivities before testing since most patients as a rule are aware of specific foods which give them severe reactions. A positive skin test with a food allergen may be of academic interest only; however, a positive skin test associated with a history of the development of symptoms after the ingestion of this food may be regarded as evidence of causal relationship, especially if the occurrence of symptoms can be repeatedly demonstrated. A food that causes symptoms on one occasion but not on other occasions should not be considered a truly causative factor unless eventually confirmed by repeated trials; there may be a quantitive as well as a qualitative factor in the sensitization. Symptoms due to the ingestion of food should be relieved by the avoidance of that food, and the repeated clinical demonstration of this food-symptom relationship is ample evidence of cause and effect. If this causal relationship is associated also with a positive skin test, that is added evidence that the specific food is a cause of symptoms and should be eliminated from the diet.

Results in the treatment of food allergy will depend entirely on the success in ferreting out the offending food or foods. Once this is accomplished, the next step is the complete elimination of offending foods from the diet, with proper substitution of other foods to maintain nutrition and to avoid monotony in feeding. In infants milk is the important factor in the diet. Proper substitution is often difficult. Modification is possible in some cases. Where sensitivity is to the whey fraction, human, goat, or boiled milk may be substituted. Where the casein fraction is involved, soybean milk may be used. Soybean milk has been used successfully as a substitute for mammalian milk in cases of allergy due to cow's milk. Homogenized meat milks, made up of individual types of meat, have been used where other types of milk failed to give relief of symptoms. In adults milk sensitivity is often of only moderate degree, and well-cooked milk is tolerated without difficulty. While milk is used in the preparation of many foods, it is the opinion of many that one does not have to go beyond the mere elimination of whole milk to maintain tolerance in the average case. Similarly, eggs and wheat are used extensively in the preparation of many food products, and the ingestion of these should be watched for and avoided. Desensitization to foods is seldom resorted to.

Where food allergy is suspected and the cause of the food allergy has not been determined by history or skin tests, extensive trials with elimination diets, intentional feeding diets, and other established diets should be tried. It is a long tedious procedure, but if the patient will cooperate and if the inhalants can be ruled out as a cause of symptoms, the ultimate success in the treatment of food allergy will be greatly appreciated by the cooperative patient and the painstaking allergist.

Summary

It is important to recognize that food allergy does occur and that it may cause any of the manifestations of allergy. Any food can cause an allergic reaction in a sensitive individual, but inhalant sensitivity may complicate food allergy.

The detection of the individual food in a given case is often difficult, and the skin test as a diagnostic procedure has been discussed. A thorough history together with the use of a food diary will often confirm positive skin tests to foods. When this fails, provocative diets may be helpful in the diagnosis of the etiologic food. When the etiologic food is discovered and completely avoided, prompt relief of symptoms may occur.

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(*Number twenty-six of a series on Fundamentals of Modern Allergy*)

Additives in Food

Bradshaw Mintner, retiring Assistant Secretary of Health, Education, and Welfare, believes the next Congress will pass legislation to control additives in food. Mr. Mintner outlined his views in an address before the food, drug, and cosmetic law division of the American Bar Association. "This matter of chemical ingredients in food in my opinion is one of the really serious and important public relations problems of the foods industry," he said. "It will never be solved satisfactorily as long as there is any question or doubt that all food ingredients are not as completely safe as it is humanly possible to make them. The only solution, in my opinion, is a law that requires adequate testing for safety before the food additive is put on the market—and there should be no loopholes in this requirement."

Mr. Mintner reviewed the long hearings on additives conducted by the House Interstate and Foreign Commerce Committee, noting that despite the clearly defined points of controversy the hearings showed there was a wide area of agreement as to the objectives of the proposed law. He said he believes there is every reason to expect a satisfactory law can be worked out by the next Congress. The Assistant Secretary disclosed that, although the last Congress increased appropriations for the Food and Drug Administration by a million dollars, most of this has been offset by increased costs of operations. The result is the addition of just five more budget positions in the FDA.

—*J.A.M.A., September 8, 1956*

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Prepared by the Anesthesia Study Committee of the
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MEREL H. HARMEL, M.D., *Chairman*

The Treatment of Anaphylactic Drug Reaction

WHENEVER potent drugs are used in patients, untoward reactions may be—indeed, should be—anticipated. Such reactions range from mild sensitivity or local irritation to anaphylactoid responses and true anaphylactic shock. The mild reactions are largely self-limited, required little treatment other than an antihistaminic drug. Anaphylactoid reactions, especially those associated with cardiovascular collapse, required prompt, vigorous therapy if serious consequences and death itself are to be prevented.

It is well known that the injection of contrast media intravascularly may initiate the whole range of reactions from local sensitivity to anaphylactic shock. The use of these materials, therefore, demands that the physician not only anticipate the possibility of reactions but that he be thoroughly prepared to carry out proper treatment. The case which is to be reported serves to illustrate the components of this type of problem.

Case Report

The patient, a thirty-five-year-old, Negro male, had been experiencing dysuria of increasing severity for three days. He presented himself at the outpatient clinic where preliminary examination was carried out. He was a normal, healthy, well-developed male. His temperature, pulse, and respirations were normal, and except for a mild degree of flank pain on the right, there were no other presenting symptoms. Examination of the urine showed a trace of albumin, and microscopic study revealed several "pus cells" to be present.

Two years previously the patient had been admitted to the hospital with a ruptured peptic ulcer. At this time he had been subjected to a closure of the ulcer, followed in several days by a partial gastrectomy. He had recovered completely from the operative procedures. At the time of his previous admission there was no evidence of cardiac or pulmonary disease, nor did the patient give any history of allergies. A routine electrocardiographic study performed on his first admission to the hospital was normal in all respects.

In order to rule out pyelonephritis the patient was sent to the urologic clinic for intravenous pyelograms. As was customary, the patient came to the clinic in the early morning, having fasted since midnight the night before. He received 30 cc. of contrast media which was injected slowly. During the injection of the contrast medium the patient became nauseated and vomited a small amount of bile-stained fluid. Since nausea and vomiting are not uncommon with this procedure, no attention was paid to it at the time. X-rays were taken and the patient then transferred to a stretcher, where he was to be observed, as was routine, for a period of half an hour. Approximately fifteen minutes after the completion of the injection of contrast media, the patient requested permission to go to the lavatory. When he sat up, it was noticed for the first time that his face was puffy and that his eyelids were quite edematous. On attempting to leave the stretcher, he suddenly collapsed. His breathing became labored and difficult. The pulse could hardly be palpated, and the blood pressure at this time could not be obtained. The patient was observed to be cold, clammy, and sweating profusely.

The urologic resident immediately started an intravenous infusion of 5 per cent dextrose in water. In spite of the unobtainable blood pressure the veins still filled sufficiently so that an infusion could be readily started. The patient, who at this time appeared not to be responding, was given 10 mg. of Chlor-Trimeton intravenously, followed immediately by 0.5 mg. of adrenalin. There was no immediately discernible improvement in the patient. However, within ten minutes he began to respond to questions, and a carotid pulse could be felt. Meanwhile, the anesthesiologist and radiologist in charge had been summoned. When they arrived, the patient was still cold, clammy, and sweaty. The pulse rate was approximately 50 beats per minute, and the blood pressure could now be obtained at 60/40. Auscultation of the chest revealed coarse rhonchi at the lung bases, and oxygen by mask was started.

The patient's legs were quickly elevated by placing a chair under the stretcher mattress, and 4 mg. of d-desoxy-ephedrine was injected intravenously. Within five minutes the blood pressure had risen to 76/50; with an additional 4 mg. of d-desoxy-ephedrine the blood pressure subsequently rose to 100/70, and the pulse rate was 60 beats per minute. When the pulse became readily palpable, it was noted that it was irregular. This irregularity persisted, and the patient's only complaint now was that he felt very tired. The edema of the face and eyelids had somewhat subsided, but itching of the skin was still present, although there were no urticarial wheals. The patient now stated that on injection of the contrast media he had almost immediately begun to feel "itchy."

In view of the severity of the response to the injection of contrast media, the persistent edema of the face and eyelids, and the now obvious cardiac irregularity, the patient was admitted to the hospital for observation and possible further treatment. As soon as he arrived on the ward, an electrocardiogram was taken. This showed an irregular irregularity, read as flutter fibrillation associated with a variable heart block. Except for a white blood count of 12,500, all other laboratory studies carried out at this time were within normal limits. There was no evidence on blood smear of eosinophilia. Frequent observations of the blood pressure and pulse were made during the next six hours. The blood pressure varied between 80/60 and 96/70 and suddenly began to fall at the sixth hour. At this time it was recorded at 70/60, pulse rate 72 per minute, respirations 20 per minute. A continuous infusion of 0.1 per cent Neo-Synephrine was begun. Within half an hour the blood pressure rose to 110/80. The pulse, however, was still slow and irregular. It was necessary to administer the 0.1 per cent Neo-Synephrine over the next six hours, at which time it was discontinued. In view of the continued irregularity of cardiac rate, it was decided that digitalization was in order in an effort to revert the rhythm to normal.

Twelve hours after the initial symptoms all signs of allergic manifestation were gone. Digitalization with Cedilanid was instituted. There was no immediate response to digitalization. Thirty-six hours later a normal sinus rhythm suddenly developed. The blood pressure was normal, and the patient, who had no complaints, was walking about the ward.

Comment

The anesthesiologist is frequently called on whenever unusual situations develop, such as occurred in the case which has just been presented. His familiarity with the emergency treatment of respiratory and cardiovascular collapse makes him a valuable person in the management of these situations. The success with which he pursues the art of resuscitation proceeds from a keen interest in and knowledge of the steps which are taken. The anesthesiologist develops a profound respect for the potency of drugs, and it is his obligation to impart this knowledge and information to his colleagues.

While it is not the purpose of this case report to discuss the etiologic factors involved in this anaphylactic reaction, it is of moment to suggest that these reactions are a result of the allergenic properties of the organic molecules contained in the contrast media. The sequence of events which occurred are more or less classic. Itching, the development of angioneurotic edema, and difficulty in breathing, followed by cardiovascular collapse, are all part of anaphylactic shock. The effects of hypotension became evident only after the patient changed his position and tried to get up. It was then, and only then, that attention was drawn to the production of the anaphylaxis. While the treatment was prompt and the proper kinds of drugs were used, it must be observed that the dosage was excessive and injudicious. What role the use of 0.5 mg. of adrenalin played in the persistent cardiac irregularity can only be speculated upon. That anaphylactic reactions can produce myocardial ischemia and necrosis is well known. Excessive adrenalin under these circumstances might further whatever pathologic process is going on. Excessive concentrations of any vasopressor under these circumstances is to be condemned. The rapid injection of 10 mg. of Chlor-Trimeton is also questionable. Whenever potent drugs are employed, for whatever purpose, it is necessary for their safe administration to dilute them sufficiently so that administration can proceed at a safe rate. In the excitement of cardiovascular emergencies the injection of an undiluted ampul of noradrenalin has been known to cause almost immediate death. While it is not of this order of potency, under other circumstances 0.5 mg. of adrenalin can have the same result. The vigor of this young patient was undoubtedly of considerable importance in his survival. Potent drugs must always be injected with great care and with full knowledge of concentrations, dosage, and route if fatalities are to be avoided.

Anaphylactic reactons associated with cardiovascular collapse may occur wherever allergenic drugs are used. Facilities for treatment, such as oxygen, antihistamine, and vasopressors, should always be available. Just as there are plans of action for the management of cardiac arrest, so there should be plans of action for resuscitation under these circumstances.

(*Number twenty-two of a series of Clinical Anesthesia Conferences*)

WORKMEN'S COMPENSATION ANNOUNCEMENT

Amendments to the Workmen's Compensation Law in 1956

The Longshoremen's and Harbor Workers' Compensation Act has been amended as follows:

"P.L. 803—Amends the Longshoremen's and Harbor Workers' Compensation Act as follows: The waiting period has been reduced from seven to three days and the forty-nine-day disability period has been reduced to twenty-eight days. The maximum compensation for injuries other than those resulting in death or permanent disability has been raised from $10,000 and $11,000 to $17,280. Minimum compensation for total disability was raised from $12 to $18, and the weekly maximum has been raised from $35 to $54. In the computation of death benefits, the maximum average weekly wages shall be considered to be $81 and the minimum $27; formerly, the maximum was $52.50 and the minimum $18. The number of weeks of scheduled compensation applicable to cases where disability results from the loss of an eye, hand, or other member was also increased (6003).

"Approved and effective July 26, 1956."

SPECIAL ARTICLE

The Library of the Non-University Hospital

JOHN J. BUTLER, M.D., ROCHESTER, NEW YORK

(*Director of Medical Education, St. Mary's Hospital*)

Our experiences in making St. Mary's Hospital, Rochester, New York, a graduate medical center have recently been reported.[1] The importance of the library in such a program cannot be overemphasized. Perhaps the single most important function of a program for continuing education is to provide the physician with the ability and help him to develop the knack of using the library. The first step is to provide a functional library unit. As in other areas of the teaching program in a non-university hospital, the financial outlay to the hospital is a matter of great practical importance and can easily become the limiting factor. The items of financial importance which must be reckoned within the library are the (1) librarian's salary, (2) the cost of journals and new books, and (3) storage space for journals and books. The purpose of this communication is to point out the remarkable improvement which was brought about in the library of this hospital by a rearrangement of existing facilities.

Before the educational program was instituted at this hospital, the library was used mainly for perusal of current monthly journals and monographs. It was housed in a room which served as a passageway between the staff cloakroom and the record room. Some of the journals were delivered to individual departments, i.e., radiology, anesthesia, pathology, and, after being read in these departments, were either kept there or later forwarded to the library. The other journals were received by the record room librarian who displayed them in a special rack of the library. Books were signed out on a sheet of paper which was kept on the wall of the library. For the most part new books were purchased by individual members of the library committee from book displays which were made available from time to time by publisher's representatives. The reference tools consisted of the *Quarterly Cumulative Index Medicus*.

The main difficulties with the library at that time arose from the lack of organization and supervision. Journals which were delivered to departments other than the library were seen by only a few; the journals which reached the library quickly disappeared. The system of purchasing books led to an unbalanced collection, and the more valuable the book, the faster it was lost. In addition, the reference tools were inadequate for library research, and material to which the library did not subscribe was not accessible.

At the same time the nursing school of this hospital maintained a library which was supervised by a full-time librarian. The library was poorly located in a separate building devoted to nursing education. Because of its out-of-the-way location the library was little used, a situation which was not satisfactory to either the nursing school educators or the librarian.

As a practical approach to the problems of both, the libraries were combined and assigned new quarters. Another room, inadequate in size to be sure but more centrally located in the hospital, was chosen. The books from the two libraries were combined, and all were classified under the Library of Congress system. A new active library committee was appointed with representatives from each department, including the nursing school. Books and journals were purchased after careful consideration by the committee at monthly meetings. *Current List of Medical Literature* was added as a reference tool.

In addition to the above changes, a loan system was arranged with the Rochester Academy of Medicine Library. Daily courier service was supplied by the hospital to take books and journals to and from the Academy Library. The chairman of the St. Mary's Hospital Library Committee was appointed to the committee of the Academy Library in order to establish better liaison between the two libraries.

The problem of storage space for the increased number of books was solved by the decision to keep back numbers of journals on hand for only five years. Journals older than five years were given to the Academy of Medicine Library and were used by the Academy as duplicate volumes or sold for a small profit. This scheme allowed the hospital to offer a token of appreciation in return for the loan system.

As a result of these changes the library has become an efficient adjunct to a hospital educational program. It is a functionally complete unit for adequate library research on clinical and, to some extent, research problems. The number of journals available has risen from 35 to 60. The loss of monographs has decreased to a moderate rate, and a great many more books are purchased in a more balanced fashion.

The arrangement with the Academy of Medicine Library has been successful enough so that it has been extended recently to the other Rochester hospitals. These improvements have been accomplished with no increase in the library budget.

The one change in library policy which made these changes possible was the better utilization of a librarian who was already employed by the hospital. The value of the other changes noted, such as combining the nurses' and doctors' library in the hospital,[2] arranging an affiliation with a larger library,[3] improving the number of reference tools available in the hospital,[4] and developing an active library committee,[5] has been well documented elsewhere. Indeed the immense change that was brought about in another library by the acquisition of a full-time librarian has been recorded.[6]

According to a survey of hospital libraries in Illinois in 1947 by the Patients and Medical Library Section of the Illinois Library Association, more nursing libraries were administered by professional librarians than either patient or medical libraries. The reason for this is not immediately apparent; the accrediting manuals for nursing schools,[7] hospitals,[8] and house staff training programs[9] have similar recommendations that a qualified librarian should be employed to supervise the library. One possible explanation for the greater tendency to conform on the part of the nursing school might be found in a study of inspection reports of the school of nursing in this hospital for the past few years. Prior to the accreditation of the school of nursing by the National Nursing School Accrediting Service, in 1950 two inspectors critically noted the absence of a librarian. Inspectors for the American College of Surgeons who conducted surveys in 1937, 1941, 1944, and 1951, however, did not mention this deficiency. This difference in emphasis is probably understandable when one considers that in the past many non-university hospitals have supported schools of nursing. The school of nursing represents the end-all of nursing education, and close supervision is mandatory. Until recently, house staff training in non-university hospitals has been of secondary importance. The problem of making a non-university hospital a graduate medical center brings to light certain deficiencies of this sort which must be remedied.

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Outstanding Guest Lecturers

at the

Sesquicentennial Meeting

Medical Society of the State of New York

February 18 to 21, 1957

HOTEL STATLER **NEW YORK CITY**

INFORMATION ON "MEDICARE" PROGRAM

Editor's Note.—*In view of the fact that the "Medical Plan" becomes effective under P.L. 569, December 7, 1956, we undertake to print so much of the joint directive for implementation of Dependents Medical Care Act (P.L. 569, 84th Congress), Dpeartment of Defense and Department of Health, Education and Welfare, as applies to such care as rendered in civilian hospitals by any doctor of medicine duly licensed, in New York State. There is also shown a reproduction of statement of services provided by civilian medical sources under P.L. 569, 84th Congress, and explanation of Dependents' Medical Care Act of 1956 on the back thereof (see pages 3748 and 3749).*

SECTION 5

Medical Care in Civilian Facilities

501. Eligibility for Civilian Medical Care

Under the provisions of this Section, wives, dependent husbands and children who are dependents of members of the uniformed services are eligible to receive at Government expense specified medical care in civilian hospitals and from civilian physicians and surgeons.

502. Medical and Hospital Care Authorized from Civilian Sources

Medical and surgical care from civilian sources is authorized for spouses and children who are dependents of members of the uniformed services for the following:

a. Treatment of acute medical conditions, including acute exacerbations or acute complications of chronic diseases only during hospitalization except as otherwise provided in this directive.

b. Treatment of surgical conditions only during hospitalization except as otherwise provided in this directive.

c. Treatment of contagious diseases during hospitalization.

d. Complete obstetrical and maternity care.

e. Three hundred sixty-five days' hospitalization in semi-private accommodations for each admission, including all necessary services and supplies furnished by the hospital during hospitalization.

f. Services required of a physician or surgeon prior to and following hospitalization for a bodily injury or surgical operation.

g. Treatment in hospital of acute emergencies of any nature which are a threat to the life, health, or well-being of the patient including acute emotional disorders. Hospitalization is authorized at Government expense for such emergencies only pending completion of arrangements for care elsewhere unless the illness or condition also qualifies for care under Section 5-502 *a.*, *b.*, *c.*, or *d.* above. With special exceptions, as authorized by the Surgeon General of a uniformed service, additional care in a hospital of the uniformed services on a space available basis may be provided in accordance with Section 4-404 b. In such cases, transfer to a uniformed service hospital at Government expense is authorized.

h. Diagnostic tests and procedures including laboratory tests and pathology and X-ray examinations, when ordered by the attending physician, only during hospitalization, except as otherwise provided in this directive.

i. Dental care which is a necessary adjunct to medical or surgical treatment rendered in a hospital to a dependent who is a hospital inpatient. Such dental care shall not include removable or fixed prosthodontic restorations.

503. Terms of Reference and Rules for the Provision of Authorized Medical Care from Civilian Sources

a. Applicable Terms.

(1) *Hospital.* The word "hospital" shall mean only an institution which is operated in accordance with the laws of the jurisdiction in which it is located pertaining to institutions identified as hospitals, is primarily engaged in providing diagnostic and therapeutic facilities for surgical and medical diagnosis, treatment and care of injured and sick persons by or under the supervision of staff physicians or surgeons, and continuously provides 24-hour nursing service by registered graduate nurses. It shall specifically exclude any institution which is primarily a place of rest, a place for the aged, a place for the treatment of drug addiction or alcoholism, a nursing home, a convalescent home, or a facility operated by the Federal Government or any agency thereof. If the experience

of the Executive Agent indicates that the care provided in a hospital is substandard, or charges of a hospital are excessive, Government approval of its use in the future may be withdrawn and payment of charges by the Government denied for patients admitted subsequent to the withdrawal of approval unless the case is certified as an emergency by the attending physician or surgeon.

(2) *Semi-private Accommodations.* The term "semi-private accommodations" signifies the presence of 2, 3, or 4 beds in a room in which a patient is hospitalized. "Private accommodations" means one bed in a room.

(3) *Necessary Services and Supplies.* Those services and supplies ordered by the attending physician which are customarily provided and charged for by the hospital.

(4) *Physician or Surgeon.* A person who is legally qualified to prescribe and administer all drugs and to perform all surgical procedures.

(5) *Local Schedule of Allowances.* Professional fees for payment of physicians' services applicable to a local area negotiated with the physicians' representatives and approved by the Executive Agent for the Department of Defense and Department of Health, Education, and Welfare.

b. HOSPITAL CARE.

(1) Hospital care under this section is defined as inpatient care for 18 consecutive hours or more, except for shorter periods of hospitalization for surgical procedures, treatment of fractures or other bodily injuries, or in instances in which death occurs in a lesser period of time.

(2) Hospital care shall include board and room and necessary services and supplies up to a maximum of 365 days for each admission.

c. NURSING CARE.

If, while receiving authorized hospital care, private-duty nursing care is required for proper care and treatment, and if the patient's attending physician certifies to such a requirement, a portion of the cost will be borne by the Government in accordance with Section 5-506 d.

d. PROFESSIONAL SERVICES.

(1) *Professional Services Related to Hospitalization.*

(a) The payment of physicians' fees according to the local schedules of allowances, including those of necessary consultants, for treatment of medical and surgical conditions during a period of hospitalization is authorized. The attending physician shall certify as to the requirement for a consultant's services.

(b) All diagnostic and therapeutic tests and procedures authorized by the attending physician and accomplished during a period of hospitalization are authorized for payment by the Government.

(c) The approved local schedules of allowances payable to a physician or surgeon for treatment in a hospital of a bodily injury or for a surgical procedure shall include pre-hospitalization care and normal after-care following a period of hospitalization.

(d) Although the Dependents' Medical Care Act provides primarily for professional services during hospitalization and does not permit medical care normally considered to be outpatient care at Government expense, certain limited benefits are authorized as indicated elsewhere in this Section, and below:

(i) Payment is authorized in an amount not to exceed $75 at Government expense for necessary diagnostic tests and procedures performed or authorized by the attending physician prior to hospitalization for the *same* bodily injury or surgical procedure for which hospitalized.

(ii) Payment is authorized in an amount not to exceed $50 at Government expense for necessary tests and procedures performed or authorized by the attending physician for proper after-care of the *same* bodily injury or surgical procedure for which hospitalized.

(iii) The monetary limitations in (i) and (ii) above are intended only to define the liability of the Government under the stated conditions and in no way modify, alter, or affect the fees for individual procedures contained in the local schedules of allowances, nor do they restrict the physician in the performance or authorization of necessary tests or procedures.

(iv) The monetary limitations (i) and (ii) above may be exceeded only in special and extraordinary cases provided that the physician authorizing the tests and procedures, the charges for which exceed the amounts specified above, submits a special report which shall be reviewed by a contractor's physician review board. This board will make appropriate recommendations to the Executive Agent who may authorize such additional payments.

(v) If the physician initially responsible for care of a patient for a condition for which the patient is hospitalized terminates his professional care prior to or upon hospitalization, and does not continue to provide professional care in the hospital because the care of the patient is transferred to another physician, he shall be authorized the fee for a single professional visit prior to hospitalization in accordance with the local schedule of allowances. This subparagraph does not apply to Section 5-503d. (2).

(*2*) *Obstetrical and Maternity Services.*

(a) Complete obstetrical and maternity services shall include prenatal care, delivery, and postnatal care in a hospital, office, or home. Payments for prenatal care, delivery, and postpartum care shall be made to the physician performing the respective service in accordance with the local schedule of allowances. Allowances are authorized for laboratory tests, pathology examinations, and other procedures performed or authorized by the attending physician in the management of the pregnancy. In instances of home or office confinement, payments are not authorized for the purchase or rental of beds, bassinets, or similar equipment, nor for services of private duty nurses. (See Section 5-506 f.).

(b) If the consultant's services are required for proper care and treatment of the patient and the attending physician certifies as to the requirement, such care is authorized.

(c) Necessary or required infant care shall be provided during the period of hospitalization following delivery. If the infant requires further hospitalization following delivery, such care is authorized as a continuation of the original admission. As a part of complete maternity service, newborn infant care outside of a hospital, including immunization, is also authorized at Government expense for a maximum period of 60 days following delivery but not to exceed a total of two (2) visits by a physician or to a physician after discharge from the hospital.

(3) *Other Professional Services.*

The authorized payments for the treatment of bodily injuries when a patient is not hospitalized, including diagnostic and therapeutic tests and procedures authorized by the attending physician, are limited to treatment of fractures, dislocations, lacerations and other wounds as prescribed in the local schedules of allowances. (See Section 5-506 e.).

504. Medical Care Not Authorized

Medical care specified in this section shall not be authorized for any of the following:

a. Chronic diseases. (See Section 1-103 j. (6) and 5-502 a.).
b. Nervous and mental disorders. (See Section 1-103 j. (7)).
c. Elective medical and surgical treatment. (See Section 1-103 j. (5)).
d. Domiciliary care. (See Section 1-103 j. (4)).
e. Treatments or procedures normally considered to be outpatient care.
f. Ambulance service.

505. Admission of Dependents for Medical Care to Civilian Sources

Dependents requesting medical care from civilian sources will be required to observe the following procedures:

a. Prior to 1 July 1957, identification will be established by the best available means including the DD Form 720, "Dependent's Identification Card," and such other means of identification currently provided by the uniformed services. In addition, dependents or their parent, sponsor or guardian, as appropriate, will be required to execute a certification form to be prescribed by the Executive Agent and made available to the source of medical care. This form will serve the purpose of assisting both in the identification of dependents and the ultimate billing made by civilian physicians, surgeons, and civilian medical facilities. In developing this form, the Executive Agent will insure that it will include appropriate provision for:

(1) Identification of patient.
(2) Identification of sponsor member of uniformed service on active duty.
(3) Certification of the dependent, ac-

companying parent, member or acting guardian as to the eligibility of the dependent for care under P.L. 569—84th Congress.

(4) Diagnoses, medical services furnished and charges.

(5) Certification by the source of medical care that services were provided in accordance with P.L. 569—84th Congress.

b. AFTER 30 JUNE 1957.

(1) Identification will be by means of the DD Form-1173 and, in addition, execution of the form described in Section 5-505 a. above will also be required.

(2) Under emergency conditions and similar circumstances, the admitting authority may waive the requirement of producing a DD Form-1173. However, in each instance of this nature, the form prescribed by the Executive Agent and referred to in Section 5-505 a. above will be executed.

c. In cases of spouses and children receiving treatment in a civilian medical facility at Government expense at the time of release of a member from active duty, the Government's responsibility ceases as of the date of notification of the hospital that the dependent's eligibility for medical care has terminated or the normal expiration date on the DD Form 1173, whichever is earlier.

d. Spouses and children of members of the uniformed services receiving treatment in a civilian medical facility at Government expense at the time of death of the member, or such spouses and children requiring care in a civilian facility as a result of being in the same accident which proved fatal to the member, if continued hospitalization is required, shall be transferred to a uniformed services medical facility as soon as the physical condition of the patient permits. If such a transfer is made, it will be accomplished at Government expense. The cost of medical care for the dependent during the period of hospitalization in the civilian facility shall be borne by the Government subject to the charges provided in Section 5-506, but not after the date on which feasible arrangements for transfer have been made.

506. **Charges**

a. When the entire period of hospitalization has been in other than private accommodations, the patient shall pay to the hospital the greater of (1) or (2) below:

(1) The first twenty-five dollars ($25.00) of the expense incurred.

(2) An amount determined by multiplying the number of days of hospitalization by the per diem rate established in Section 4-408 a.

b. If hospital care in a private room is obtained by the patient because it is required for the proper care and treatment, and if the patient's attending physician so certifies, the amount of private room charges less the patient's payment set forth below will be paid by the Government. The patient will be required to pay to the hospital the greater of (1) or (2) in addition to (3) below:

(1) The first twenty-five dollars ($25.00) of the expense incurred.

(2) An amount determined by multiplying the number of days of hospitalization by the diem rate established in Section 4-408 a.

(3) 25% of the difference between private room charges and weighted average cost of semi-private room charges.

c. If hospital care in a private room is provided at the specific request or desire of the patient or of the sponsor, the patient will be required to pay at the hospital the greater of (1) or (2), and in addition (3) below:

(1) The first twenty-five dollars ($25.00) of the expense incurred.

(2) An amount determined by multiplying the number of days of hospitalization by the established per diem rate.

(3) The difference between private room charges and weighted average cost of semi-private room charges.

d. If, while receiving authorized hospital care, private-duty nursing care is required for proper care and treatment, and if the patient's attending physician so certifies, 75 per cent of the charges in excess of $100.00 for such private-duty nursing care will be paid by the Government.

e. When a patient is treated for injury other than as an inpatient in a hospital in accordance with Section 5-503 d. (3), the payments made shall be in accordance with the local schedules of allowances. Payments not to exceed a maximum of $75.00, except as provided for under Section 5-503 d. (1)(d)(iv), are also authorized for laboratory tests, pathology and radiology examinations provided they are procedures performed by or authorized by the attending physician or surgeon. Payment of charges are also authorized for use of hospital outpatient facilities required for the treatment of the injury, e.g., a cast room. The patient shall pay the first $15.00 of the total charges for each different cause or accident for which treatment and services are rendered, except that multiple injuries to the same person resulting from a single accident shall be considered as one injury for payment of the maximum re-

STATEMENT OF SERVICES PROVIDED BY CIVILIAN MEDICAL SOURCES - P. L. 569 - 84TH CONGRESS

I. IDENTIFICATION OF PATIENT *(Spouse or child)*

1. LAST NAME - FIRST NAME - MIDDLE NAME

2. AGE

3. ADDRESS *(Complete mailing address)*

4. RESIDING APART FROM SPONSOR DUE TO EXIGENCIES OF SERVICE ☐ YES ☐ NO

5. RELATIONSHIP TO MEMBER OF UNIFORMED SERVICES

☐ WIFE ☐ DAUGHTER
☐ HUSBAND ☐ SON

6. MEDICAL AUTHORIZATION CARD NUMBER

7. EXPIRATION DATE

8. IF CHILD IS OVER 21, DEPENDENCY CAUSED BY

II. IDENTIFICATION OF SPONSOR MEMBER OF UNIFORMED SERVICES ON ACTIVE DUTY

9. LAST NAME - FIRST NAME - MIDDLE NAME

10. MEMBER'S BRANCH OF SERVICE

☐ ARMY ☐ AIR FORCE
☐ MARINE CORPS ☐ NAVY
☐ COAST GUARD ☐ PUBLIC HEALTH
☐ COAST AND GEODETIC SURVEY

11. RANK OR GRADE

12. SERVICE NUMBER

13. OFFICIAL DUTY STATION

III. CERTIFICATION OF DEPENDENT, ACCOMPANYING PARENT, OR ACTING GUARDIAN

14. I CERTIFY THAT THE INDIVIDUAL NAMED IN PART I AND FOR WHOM MEDICAL CARE IS REQUESTED IS THE SPOUSE OR CHILD OF THE ACTIVE MEMBER OF THE UNIFORMED SERVICES DESIGNATED AS SPONSOR IN PART II, AND IS AUTHORIZED MEDICAL CARE IN ACCORDANCE WITH THE PROVISIONS OF PUBLIC LAW 569 - 84TH CONGRESS. *(See reverse side)* I HEREBY AUTHORIZE THE CIVILIAN MEDICAL FACILITY AND/OR PHYSICIAN TO FURNISH ALL PERTINENT MEDICAL RECORDS AND DATA TO THE UNIFORMED SERVICES OR TO THE CONTRACTING AGENT ACTING ON THEIR BEHALF. I AM AWARE THAT THE WILFUL MAKING OF A FALSE OR FRAUDULENT STATEMENT HEREIN RENDERS ME LIABLE TO PROSECUTION UNDER APPLICABLE FEDERAL LAWS. *(18 U. S. C. 1001)*

DATE

SIGNATURE

ADDITIONAL CERTIFICATION REQUIRED OF DEPENDENT RECEIVING OBSTETRICAL AND MATERNITY CARE

I FUTHER CERTIFY THAT THERE WAS NO CHANGE IN PHYSICIAN DURING ANY ONE TRIMESTER OF MATERNITY CARE OR FOR POST PARTUM CARE EXCEPT FOR REASONS STATED BELOW: *(See reverse side, para. IIIc)*

Signature ______________________

IV. MEDICAL CARE FURNISHED, DIAGNOSES, SERVICES RENDERED, AND CHARGES

15. THIS STATEMENT COVERS ONLY SERVICES AUTHORIZED UNDER PL 569 AND PROVIDED BY

☐ HOSPITAL; PATIENT WAS HOSPITALIZED ☐ ATTENDING PHYSICIAN; PATIENT WAS HOSPITALIZED ☐ PRIVATE DUTY NURSE ☐ PATHOLOGIST
☐ HOSPITAL; PATIENT NOT HOSPITALIZED ☐ ATTENDING PHYSICIAN; PATIENT NOT HOSPITALIZED ☐ RADIOLOGIST ☐ ANESTHESIOLOGIST
☐ DENTIST ☐ OTHER CONSULTANT ☐ ASSISTANT TO SURGEON

16. NAME AND ADDRESS OF HOSPITAL, PHYSICIAN, DENTIST OR NURSE SUBMITTING STATEMENT

17. THIS STATEMENT COVERS THE FOLLOWING PERIOD OF CARE BY ABOVE NAMED HOSPITAL, PHYSICIAN, DENTIST, OR NURSE

☐ ENTIRE PERIOD ☐ PARTIAL PERIOD FIRST STATEMENT ☐ PARTIAL PERIOD INTERIM STATEMENT ☐ PARTIAL PERIOD FINAL STATEMENT

18. PERIOD COVERED BY STATEMENT		19. ENTER NUMBER(S) OF DAYS OR VISITS APPROPRIATE TO STATEMENT				
FROM *(Month, Day, Year)*	TO *(Month, Day, Year)*	HOSPITAL DAYS	PRIVATE ACCOMMODATION DAYS	HOSPITAL VISITS	OTHER VISITS	PRIVATE NURSING CARE DAYS

20. DIAGNOSES *(Record important diagnoses using terminology of Standard Nomenclature. For secondary diagnosis, indicate if it is an infection or complication)*

21. 3-DIGIT CODE INT. STAT. CLASS.

22. SERVICES RENDERED *(List each surgical operation and each other service for which separate charge is made)*

23. CODE

24. CHARGE $

25. TOTAL CHARGES THIS STATEMENT $

26. PAID BY OR DUE FROM PATIENT UNDER P.L. 569 $

27. DUE UNDER P.L. 569 $

28. DATE OF STATEMENT

V. CERTIFICATION(S) OF HOSPITAL, PHYSICIAN, DENTIST, OR PRIVATE DUTY NURSE

29. I CERTIFY THAT I AM NOT AN INTERN OR RESIDENT AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, SERVICES PROVIDED WERE IN ACCORDANCE WITH P.L. 569, AUTHORIZED BY THE ATTENDING PHYSICIAN AND THAT CHARGES THEREFOR ARE CORRECT, AND JUST AND THAT PAYMENT OF THE PORTION DUE UNDER P.L. 569 HAS NOT BEEN RECEIVED.

Signature ______________________

30. I FURTHER CERTIFY THAT *(Enter one of the following as appropriate to this statement: care in private accommodations, private-duty nursing care, or consultants' services)*

AS SHOWN ABOVE WERE REQUIRED FOR PROPER CARE AND TREATMENT

Signature of attending physician ______________________

INSTRUCTIONS

Items 1-14. Identification information is to be obtained from patient and/or accompanying individual in conjunction with information available on "Dependents Authorization for Medical Care" card. This portion may be filled in by patient and certificate must be signed. Items 9 thru 10 need not be completed on statements submitted by Consultants, Radiologist, Pathologist or an Anesthesiologist.

Item 15. Check appropriate block indicating type of services provided for which this billing is being submitted, irrespective of statements that have been or may be submitted by others.

Item 17. Check block to reflect appropriate type of statement being submitted by the billing individual only, regardless of knowledge of other statements that have been or may be submitted by others for different type services rendered. (i.e.)

Entire Period: Reflects total billing for entire services rendered, no previous statement made nor subsequent statement contemplated for this particular patient during this illness.

Partial Period First Statement: Reflects the first *(initial)* billing submitted for this particular patient during this illness and it is anticipated additional statement(s) will be submitted.

Partial Period Interim Statement: Reflects this billing is in addition to others that have been submitted for this particular patient during this illness and that other statements will follow.

Partial Period Final Statement: Reflects that other statements have been submitted for this particular patient during this illness and that this billing is final.

Item 19. Enter only information relative to type of service for which this statement is being rendered. (i.e.)

Physicians and Dentists: Will indicate only number of visits, hospital or office as appropriate, and billed separately from those included in an operations fee.

Hospitals: Will indicate only number of Hospital Days and Private Accommodations Days which have been Certified as necessary by the physician.
Nurses: Will indicate only the number of Private Nursing Care Days.

Items 21-22. Classification codes need not be completed by individual physician.

EXPLANATION OF DEPENDENTS' MEDICAL CARE ACT OF 1956 *(P.L. 569 - 84th Congress)*

I. UNDER THE PROVISIONS OF THE DEPENDENTS' MEDICAL CARE ACT, dependent spouses and children of members of the Uniformed Services *(Army, Navy, Air Force, Marine Corps, Coast Guard, and the Commissioned Corps of the Public Health Service and Coast and Geodetic Survey)* on active duty or active duty for training under orders not specifying a period of thirty days or less are eligible to receive certain medical care from civilian sources at Government expense.

II. DETAILED INFORMATION concerning the kinds of medical care and the circumstances under which this medical care is authorized to be obtained and paid for at Government expense is available at activities of the Uniformed Services and through the local county medical societies.

III. MEDICAL SERVICES AUTHORIZED to be provided eligible spouses and children may include:

a. Hospitalization in semi-private accommodations up to 365 days for each admission, including all necessary services and supplies furnished by the hospital during hospitalization.

b. Medical and surgical care during a period of hospitalization.

c. Complete obstetrical and maternity care. Normally the government restricts payment to one physician within any one trimester of maternity care or for post partum care. Exceptions may be granted in cases wherein a change of physician was necessited by circumstances beyond the control of the patient. i.e. Permanent change of sponsors duty station; change of patients residence involving a considerable distance; death or disability of physician.

d. Services required of a physician prior to and following hospitalization for a bodily injury or surgical operation. Patient will normally pay charges for diagnostic test in excess of $75 prior to hospitalization and in excess of $50 following hospitalization.

e. Diagnostic test and procedures including laboratory, pathology, and x-ray examination during hospitalization when ordered by the attending physician.

f. Treatment of fractures, dislocations, lacerations and other wounds when patient is NOT hospitalized. Patient will normally pay the first $15 of such physician fee plus cost of diagnostic test in excess of $75.

g. Treatment in a hospital of acute emergencies of any nature which are a threat to the life, health, or well-being, of the patient including acute emotional disorders pending arrangement for care elsewhere.

h. Dental care which is a necessary adjunct to medical or surgical treatment rendered in a hospital to a dependent who is a hospital inpatient and concurred in by the attending physician.

IV. MEDICAL SERVICES NOT AUTHORIZED from civilian sources include:

a. Chronic diseases, except for acute exacerbations or acute complications.

b. Nervous and mental disorders, i.e., neuroses, psychoneurosis, psychopathosis or psychoses *(except in III g above)*.

c. Elective medical and surgical treatment desired by the patient which in the opinion of cognizant medical authority is not medically indicated.

d. Domiciliary type care, e.g. personal care contradistinct to active and definitive treatment.

e. Outpatient care except for the payment of one visit to a physician initially responsible who transfers full care to another physician upon patient's hospitalization and as indicated in III above.

f. Ambulance service.

V. PAYMENT FOR CIVILIAN MEDICAL CARE BY PATIENT OR SPONSOR: The patient, or sponsor, will pay directly to the civilian medical facility such portion of the medical expenses as prescribed jointly by the Secretary of Defense and the Secretary of Health, Education and Welfare. This includes generally that the patient or sponsor will pay directly to the civilian medical facility the sum of $25 or an amount determined by multiplying the number of days hospitalized by $1.75, whichever sum is greater.

REMARKS

quired fee ($15.00) by the patient. The Government shall pay for all costs in excess of $15.00 as authorized in the local schedules of allowances or as provided for in normal hospital rates for use of their outpatient facilities. However, payment by the Government for laboratory tests and pathology and radiology examinations shall not exceed the $75.00 maximum, except as provided for under Section 5-503 d. (1)(d)(iv).

f. All admissions to a hospital of an obstetrical patient as an inpatient for care required in direct connection with the pregnancy, including direct complications thereof, rendered during the period of pregnancy up to and including delivery and postpartum inpatient care following delivery, or immediate postpartum inpatient care for patients delivered outside the hospital shall be considered as one admission for the purpose of determining charges to the dependent. Admission for a non-obstetrical diagnosis in the course of a pregnancy would require the patient to pay the charges for a separate admission. Patients who are delivered in a home or office shall pay the first $15.00 of charges in connection with the delivery, if not subsequently hospitalized.

g. When a patient who is in an inpatient status is transferred to another hospital to obtain as an inpatient necessary treatment not available in the first hospital and no break in hospitalization occurs except for time in transit, it shall be considered one admission for the purpose of payment of charges by the patient in accordance with this section.

ANNOUNCEMENT

PRIZE ESSAYS

The Lucien Howe Prize and the Merit H. Cash Prize will be awarded at the Sesquicentennial Meeting of the House of Delegates of the Medical Society of the State of New York, May 13 to 15, 1957, in New York City.

The *Lucien Howe Prize* of $100 will be presented for the best original contribution on some branch of surgery, preferably ophthalmology. The author need not be a member of the Medical Society of the State of New York.

The *Merit H. Cash Prize* of $100 will be given to the author of the best original essay on some medical or surgical subject. Competition is limited to the members of the Medical Society of the State of New York who at the time of the competition are residents of New York State.

The following conditions must be observed:

Essays shall be typewritten or printed with the name of the prize for which the essay is submitted, and the only means of identification of the author shall be a motto or other device. The essay shall be accompanied by a sealed envelope having on the outside the same motto or device and containing the name and address of the writer.

If the committee considers that no essay or contribution is worthy of a prize, it will not be awarded.

Any essay that may win a prize automatically becomes the property of the Medical Society of the State of New York, "to be published as it may direct."

All essays must be presented not later than *February 1, 1957*, and sent to the Chairman of the Committee on Prize Essays of the Medical Society of the State of New York, 386 Fourth Avenue, New York 16, New York.

R. Townley Paton, M.D., *Chairman*
Committee on Prize Essays

NECROLOGY

Frederic William Bruell, M.D., of Margaretville, died on June 14 at the age of fifty-eight. Dr. Bruell received his medical degree from the University of Munich in 1923. He was an attending physician and obstetrician at the Margaretville Hospital. Dr. Bruell was a member of the Delaware County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Van Alstyne H. Cornell, M.D., of New York City, died on October 24 at the age of seventy-nine. Dr. Cornell graduated in 1900 from New York Homeopathic Medical College and Flower Hospital. He was director of dermatology and syphilology in the Department of Correction Hospital, an attending dermatologist and syphilologist at the Flower and Fifth Avenue Hospitals, and a consultant in dermatology and syphilology at the University and Metropolitan Hospitals. Dr. Cornell was a Diplomate of the American Board of Dermatology and Syphilology and a member of the American Academy of Dermatology and Syphilology, the New York Academy of Medicine, the Bronx Dermatological Society, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Nathan Diamond, M.D., of Freeport, died on October 28 at the age of fifty-three. Dr. Diamond graduated from the University of Texas School of Medicine in 1928. He was a member of the American Academy of General Practice, the Nassau County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Carl Eggers, M.D., of New York City, died on October 24 at the age of seventy-seven. Dr. Eggers graduated from Columbia University College of Physicians and Surgeons in 1907 and interned at Lenox Hill Hospital. He was a consultant in surgery at the University, St. Vincent's, Lenox Hill, and Lawrence (Bronxville) Hospitals. He was a former professor of surgery at Columbia and New York Universities, and in 1946 received the Alumni Medal of the College of Physicians and Surgeons. During World War I Dr. Eggers served on the Empyema Commission and was a lieutenant colonel and consultant on the staff of the Surgeon General at the end of the war. The author of many articles on surgery, he was a Diplomate of the American Board of Surgery, a Fellow of the American College of Surgeons, and a member of the American Surgical Association, the American Association for Thoracic Surgery of which he was a former president, the New York Academy of Medicine, the New York Surgical Society, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

William Henry Ferrier, M.D., of Watkins Glen, died on October 2 at the age of seventy-five. Dr. Ferrier graduated in 1905 from Jefferson Medical College of Philadelphia. He had practiced medicine for more than fifty years and was a member of the Schuyler County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Kenneth A. Firman, M.D., of Geneseo, died on October 6 at the age of twenty-nine. Dr. Firman graduated from the University of Toronto Faculty of Medicine in 1951. He was a member of the staff of the Wyoming County Community Hospital and the Highland Hospital of Rochester. Dr. Firman was a member of the Livingston County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Milton Tacitus Gaillard, M.D., of Baldwin, died on October 9 at the age of fifty-two. Dr. Gaillard graduated from McGill University Faculty of Medicine in 1932. He was director of ophthalmology at Meadowbrook Hospital, Hempstead, chief of the ophthalmologic service at South Nassau Communities Hospital, Oceanside, and attending in ophthalmology at the Nassau Hospital, Mineola. Dr. Gaillard was a Diplomate of the American Board of Ophthalmology, a Fellow of the American College of Surgeons, and a member of the American Academy of Ophthalmology and Otolaryngology, the Nassau Ophthalmological Society of which he had served as first president, the Brooklyn Ophthalmological Society, the Nassau Surgical Society, the Nassau County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Lois L. Eastman Gannett, M.D., of Adams, retired, died on October 26 at the age of eighty-eight. Dr. Gannett graduated from Syracuse University College of Medicine in 1904. Before her retirement in 1935 she was a member of the radiography service department of the House of the Good Samaritan, Watertown, and at one time had served as chief of the physiotherapy department there. She was a member of the Jefferson County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Nils Bror Hersloff, M.D., of Claverack, died on October 25 at the age of fifty-five. Dr. Hersloff graduated in 1930 from Columbia University College of Physicians and Surgeons. From 1947 to 1948 he was chief of the Neuropsychiatric Division of the Veterans Administration's medical service in New York, and from 1948 to 1951, director of the Canandaigua Veterans Hospital. In 1951 he organized and directed a mental hygiene department at the Rip Van Winkle Clinic, Hudson, and before his retirement, served as consultant to the New York State Vocational Institution, Coxsackie. Dr. Hersloff was a member of the staff of the Columbia Memorial Hospital, Hudson, and a consultant at the Veterans Administration Hospital.

A former instructor in clinical psychiatry at Columbia University, from 1934 to 1940 he was an attending psychiatrist at the New York Psychiatric Institute and from 1934 to 1940 chief of the psychiatric clinic at Lenox Hill Hospital, New York City. He was in the Army Medical Corps during World War II and was discharged in 1946 as a major. Dr. Hersloff was a Fellow of the American Psychiatric Association and a member of the Association for the Advancement of Psychotherapy, the New York Society for Clinical Psychiatry, the Society for Psychopathology and Psychotherapy—"Schilder Society," the Columbia County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Sidney Lechner, M.D., of the Bronx, died on October 23 at the age of fifty. Dr. Lechner graduated in 1932 from the University of Maryland School of Medicine. He was an associate attending physician in gastroenterology at the Jewish Memorial Hospital and an assistant attending physician in gastroenterology at Fordham Hospital. Dr. Lechner was a Diplomate of the American Board of Internal Medicine, a Fellow of the American College of Gastroenterology, and a member of the New York Academy of Medicine, the Bronx County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

John James Madden, M.D., of Brooklyn, died on October 31 at the age of sixty-six. Dr. Madden graduated from Tufts College Medical School in 1913. He was a consultant in obstetrics and gynecology at the Brooklyn Hospital. Dr. Madden was a Diplomate of the American Board of Obstetrics and Gynecology and a member of the New York Obstetrical Society, the Brooklyn Gynecological Society, the Kings County Medical Society, and the Medical Society of the State of New York.

Sidney Herbert Margulis, M.D., of Buffalo, died on September 19 at the age of forty-four. Dr. Margulis graduated from the University of Buffalo School of Medicine in 1938. He was an associate attending physician at the Millard Fillmore Hospital and an assistant attending physician in internal medicine at the Edward J. Meyer Memorial Hospital, chief of the peripheral vascular dispensary at the Edward J. Meyer Memorial Hospital Outpatient Department, and an attending physician in internal medicine at the Veterans Administration Hospital. Dr. Margulis was a Diplomate of the American Board of Internal Medicine, a Fellow of the American College of Angiology, and a member of the Buffalo Academy of Medicine, the Erie County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Max Messing, M.D., of Brooklyn, died on September 10 at the age of seventy-three. Dr. Messing graduated from the Medico-Chirurgical College of Philadelphia in 1909. He was an attending rhinolaryngologist in the New York Polyclinic Hospital Outpatient Department and an assistant in rhinolaryngology at Maimonides Hospital, Brooklyn. Dr. Messing was a member of the Kings County Medical Society and the Medical Society of the State of New York.

Charles Aloysius Nolan, M.D., of Brooklyn, died on September 29 at the age of fifty-nine. Dr. Nolan graduated in 1924 from Long Island College Hospital Medical School. He was a member of the Kings County Medical Society and the Medical Society of the State of New York.

Herman Pomeranz, M.D., of New York City, died on October 28 at the age of seventy-two. Dr. Pomeranz graduated in 1904 from New York University and Bellevue Hospital Medical College. Dr. Pomeranz was a student of medical history and folklore and the author of numerous books including a study of the physicians in the works of Dickens and Shakespeare.

Benjamin Posinka, M.D., of the Bronx, died on November 1 at the age of seventy-five. Dr. Posinka graduated from New York University and Bellevue Hospital Medical College in 1915. Retired, he was a member of the Bronx County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Thomas A. Ryan, M.D., of Albany, died on August 1 at the age of ninety-two. Dr. Ryan graduated from Albany Medical College in 1893. He was a member of the Albany County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Rudolph J. Shafer, M.D., of Corning, died on October 29 at the age of sixty-three. Dr. Shafer graduated from Tufts College Medical School in 1916. He was an attending pathologist at Corning Hospital, Bath Memorial Hospital, Bethesda Hospital (Hornell), Veterans Administration Hospital (Bath), and Jones Memorial Hospital, Wellsville, and director of laboratories at St. James Mercy Hospital, Hornell. Dr. Shafer had been president of the New York State Society of Pathologists of which he was a member, and a member of the American Society of Clinical Pathologists and the New York State Society of Pathologists. He was a past president of the New York State Association of Public Health Laboratories and a director of the American Cancer Society. Dr. Shafer was a member of the Steuben County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Arthur B. Sullivan, M.D., of the Bronx, died on October 22 at the age of sixty-one. Dr. Sullivan graduated from Fordham University School of Medicine in 1917 and interned at Fordham Hospital. He was director of surgery at Fordham Hospital and past president of the medical board there, and an attending in surgery at Union Hospital of the Bronx. Dr. Sullivan was a Fellow of the American College of Surgeons and a member of the Bronx Surgical Society, the Bronx County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Henry Clarke Thacher, M.D., of New York City, died on October 30 at the age of seventy-five. Dr. Thacher graduated from Johns Hopkins University School of Medicine in 1906 and interned at Bellevue and Roosevelt Hospitals. He was a consulting physician at Lincoln, Roosevelt, and Vassar Brothers (Poughkeepsie) Hospitals. Dr. Thacher was a member of the New York Academy of Medicine, the New York County Medical Society, and the Medical Society of the State of New York.

James F. Vavasour, M.D., of Northport, died on November 4 at the age of seventy-two. Dr. Vavasour graduated in 1911 from Cornell University Medical College. He was senior attending physician at the Northport Veterans Administration Hospital. Dr. Vavasour was a Diplomate of the American Board of Psychiatry and Neurology, a life member of the American Psychiatric Association, and a member of the Long Island Psychiatric Society.

Bert Grant Voorhees, M.D., of Elmira, died on September 29 at the age of seventy. Dr. Voorhees graduated from Jefferson Medical College in 1914. He was consultant in ophthalmology and otolaryngology at St. Joseph's and Arnot-Ogden Memorial Hospitals, and a consultant in eye, ear, nose, and throat at Schuyler Hospital, Montour Falls. Dr. Voorhees was a member of the Central New York Eye, Ear, Nose and Throat Society, the Chemung County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Jacob Mark Wallfield, M.D., of Bayside and formerly of Brooklyn, died on October 26 at the age of eighty-four. Dr. Wallfield graduated in 1899 from New York University and Bellevue Hospital Medical College. He was a consulting physician at the Kingston Avenue Hospital, Brooklyn, and a consultant in pediatrics at the Maimonides Hospital, Brooklyn. He was formerly the head of the pediatric staff and interns committee of United Israel Zion Hospital, Brooklyn, which later became Maimonides. Dr. Wallfield was a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

WORKMEN'S COMPENSATION ANNOUNCEMENT

Fee for Transcription of Minutes of Hearings or Other Proceedings of the Workmen's Compensation Board

The following statement has been received from Edward I. Goldberg, Supervising Referee, the Referees Bureau of the Workmen's Compensation Board of the State of New York:

Effective June 1, 1956, Hearing Reporters employed by the Workmen's Compensation Board may charge a standard fee of 20 cents for each folio of transcription or 50 cents for each page consisting of $2^1/_2$ folios of transcription of any Workmen's Compensation Board proceeding, furnished upon request to a party in interest in such proceeding or to his attorney or licensed representative in accordance with Section 122 of the Workmen's Compensation Law.

MEDICAL NEWS

American Medical Education Foundation—New York State contributors to the American Medical Education Foundation for the month of September were: *Ardsley*—Dr. Samuel Glassman; *Bronx*—Drs. Milton H. Alexander, Paul Angelillis, Renato J. Azzari, Jacob Berkman, Henry H. Blum, William M. Bronson, George Brown, Sidney B. Burke, Arthur Buscemi, A. H. Bussell, Arthur Butts, Thomas G. Caceci, Sidney Canter, Julius J. Carucci, Paul W. Casson, Alex Charlton, Owen Cheevers, William Chorba, Morris Cohen, Harold X. Connolly, John W. Conroy, John D'Esopo, Mark Daniel, Frank de Luca, Edward Delogi, E. J. Dolan, Sol Dresner, Dante V. Durante, M. M. Eckert, Max Eisenstat, Sidney Elpern, Charles Engelsher, William J. Farrell, Maney B. Feiner, Frank Ferrante, Hans Field, Joseph O. Fisher, Henry Fleck, Edward Flood, William N. Fosco, Seymour L. Frank, and Leo Frankel.

Also: Drs. Henry Friedland, Samuel Friedland, Harry Friedman, J. T. Friedman, Jacob Friedman, Eugene Furst, Frank Garofalo, James T. Giddis, Reuben Gilbert, Freda Gillis, Solomon Ginsburg, Israel Gitlitz, Joseph Giuffre, Alan Goldberg, Harry Goldberg, S. N. Goldberg, J. W. Goldenkranz, Joseph Golomb, Milton J. Goodfriend, Irving Gottesman, Milton Greenberg, David Greene, Irving Greene, Leon Greenspan, Richard B. Gross, William Grote, Jr., Charles J. Gubitose, Janet A. Heller, Harry Herscher, Jacob Juskowitz, E. B. Kaplan, Charles Kapp, Abraham Karger, A. Kleinman, Edward J. Komora, Irwin I. Koslin, M. H. Krakow, A. J. Lauritano, Tiffany Lawyer, Jr., Sidney Lechner, Anthony J. Lentine, David Levine, Herman M. Levine, Jack Levine, S. C. Levine, William Levine, Edward Levy, Leon Linder, John LoCascio, Bernard J. Locicero, Ruth Lubliner, James A. Lynch, Herbert R. Marcus, Mark Markham, Alfred Marra, Daniel Martoccio, Daniel McAuliffe, Edward J. McDermott, Martin F. McGowan, Aaron Merker, Louis H. Merker, Ambrose P. Merrill, Jr., Judah Minkin, Joseph C. Mucci, Jr., Leo Nadvorney, Michael A. Nocero, Adrian P. O'Flaherty, Louis J. Padula, George Pelebecky, Edward A. Pfeiffer, Jacob B. Pincus, John Pugliese, Milton Robbins, Samuel S. Rosenfeld, Leonard Rosett, J. J. Roth, Arthur Rubin, M. I. Salomon, Charles Sandler, William Savedoff, Samuel B. Schechter, Sol S. Schifrin, Arthur Schmorr, Samuel J. Schneierson, I. H. Schotter, Morris B. Schwartzfarb, Michael A. Senikowich, Abraham Sherman, Irving Shey, Milton Shields, Raanan Smelin, David Spotkov, Sidney Steckel, and Emery Szanto.

Also: Drs. Leopold Tabatzkik, Joseph A. Taferner, Abraham Tamis, Louis Tannenbaum, N. J. Totero, J. A. Von Tischler, Samuel Wagreich, Abraham Wainston, William J. Walker, Max J. Weinstein, Marcus Widmann, Mark Youmans, and Jack K. Zydney; *Bronxville*—Dr. Henry W. Doyle; *Brooklyn*—Drs. Albert F. Andresen, Ralph Blumberg, John B. D'Albora, Harry Gruber, David Levine, Harry S. Lichtman, Abbie A. Royce, and Bernard A. Weisl; *Buffalo*—Drs. C. L. Benjamin, John Burke, E. D. Cook, L. J. Doll, Jr., F. J. Gustina, Clara A. March, F. D. Mooney, S. T. Urban, and J. G. Zoll; *Elmira*—Dr. C. E. Erway; *Forest Hills*—Dr. Ezra A. Wolff; *Geneva*—Dr. H. J. Knickerbocker; *Great Neck*—Dr. J. C. Greenwald; *Hempstead*—Dr. Wendell L. Hughes; *Kingston*—Drs. N. A. Gnazzo and Saul Ritchie; *Mamaroneck*—Dr. M. L. Solkow; *Massena*—Drs. A. J. Levine, T. E. Perdue, and G. W. Sandiford; *Mount Vernon*—Dr. Louis Schneider; *Newburgh*—Dr. W. J. Hutchins; *New York City*—Drs. Alice I. Bernheim, Paul V. Breitenberger, Irving J. Estrin, M. L. Freundlich, Jechiel M. Friedmann, Francis G. Geer, C. Howe, Shepard Krech, Thomas E. Lee, Charles W. Lester, Norman J. Levy, Dorothy Loynes, Y. I. Makarushka, Eli Moschcowitz, Carl C. Nussbaum, Henry Robbins, George Simon, and William Turano.

Also: *Pleasantville*—Dr. John W. Ferree; *Port Chester*—Dr. Saul Freedman; *Poughkeepsie*—Drs. G. A. Price and T. Rimai; *Richmondville*—Dr. Franz Konta; *Rochester*—Drs. Paul W. Beaven, F. A. Dobryznski, Alfred G. Ebel, Martin A. Sander, G. H. Whipple, and L. E. Young; *Rye*—Dr. E. J. Murphy; *Swan Lake*—Dr. M. A. Baker; *Syracuse*—Drs. Wesley H. Bradley, David W. Brewer, Gordon D. Hoople, L. K. Pickett, and Lee R. Stoner; *Valhalla*—Dr. Horacio E. Perez; *Walden*—Dr. G. Kersten, and *Yonkers*—Drs. S. Alexander and B. J. Ciliberti.

Rudolf Virchow Medical Society—The annual meeting of the Rudolf Virchow Medical Society was held on November 5 at Hosack Hall of the Academy of Medicine, New York City. Professor H. J. Muller of Indiana University, Nobel Laureate, spoke on "Genetic Background of Diseases" and was presented with the Rudolf Virchow Medal.

A.M.E.F. Sets Goal—As of October 1, the American Medical Education Foundation has received donations of $587,285 since January 1. This does not include $130,000 from the California Medical Association which has been voted but will not be transferred until December. The Foundation's goal for 1956 is $1,000,000. State contributors are asked to add two dollars more to their donation to the Foundation in order to reach this mark.

Hill-Burton Grants—The Department of Health, Education, and Welfare reports the status of all Hill-Burton grants for the State of New York as of September 30. Projects approved during the past month include Montefiore Hospital, New York City, at an estimated total cost of $1,009,000 with an approved Federal share of $100,000 and 114 additional beds.

Approved, but not yet under construction (including the above) are 80 projects at a total cost of $88,385,620, including $23,260,911 Federal contribution and designed to supply 4,528 additional beds.

Under construction are 20 projects at a total cost of $57,662,698, including Federal contribution of $9,244,347 and designed to supply 1,754 additional beds.

Completed and in operation are 13 projects at a total cost of $8,889,065, including Federal contribution of $2,520,105 and supplying 362 additional beds.

American Congress of Physical Medicine and Rehabilitation—The American Congress of Physical Medicine and Rehabilitation will award annually a prize for an essay on any subject relating to physical medicine and rehabilitation. The contest is primarily directed to medical students, interns, residents, graduate students in the preclinical sciences, and graduate students in physical medicine and rehabilitation.

Further information may be obtained from the Congress at 30 North Michigan Avenue, Chicago 2, Illinois.

Expansion of Mental Hospital—The expansion of the Research Department of Hillside Hospital, Glen Oaks, Long Island, has been announced by Dr. Joseph S. A. Miller, medical director. Hillside is a nonprofit mental hospital, an affiliate of the Federation of Jewish Philanthropies.

The Research Department will be divided into four sections: experimental psychiatry under the direction of Dr. Maximilian Fink; biochemistry under the direction of Harry Goldenberg, Ph.D.; internal medicine under the direction of Dr. Lester Cohen, and analytical clinical psychiatry, a new section.

Postgraduate Courses Offered—New York University Post-Graduate Medical School is offering a course designed to give the practicing physician in the New York City area an opportunity to see selected cases and participate in the staff discussions of these cases. This course will be given from 11:15 A.M. to 4 P.M. each Thursday during the trimester beginning January 3, 1957, and will use for instructional purposes clinical material from the Fourth (NYU) Division of Bellevue Hospital Center and University Hospital. The course is given under the supervision of Dr. Charles F. Wilkinson, Jr.

Other courses offered in January by the Post-Graduate Medical School of interest to the general practitioner, the internist, and the pediatrician include a full-time seminar in dermatology and syphilology for nondermatologists, under the direction of Dr. Marion B. Sulzberger, from January 14 through 18; a full-time pediatric refresher course from January 14 through 25, under the direction of Dr. Adolph G. DeSanctis, and a full-time course in modern concepts in the etiology, diagnosis, and treatment of heart disease, from January 7 through 11, under the direction of Dr. Charles A. Poindexter.

For further information write to the dean, NYU Post-Graduate Medical School, 550 First Avenue, New York 16, New York.

Doctors' Orchestras—Physicians, dentists, and others engaged in allied professions are invited to become members of the Doctors' Orchestral Society of New York or the Brooklyn Doctors' Symphony Orchestra.

The Doctors' Orchestral Society of New York rehearses every Thursday evening at 8:30 P.M. in the auditorium of Stuyvesant High School, 1st Avenue and 15th Street, New York City.

The Brooklyn Doctors' Symphony Orchestra meets on Wednesday evenings at 8:30 P.M. in the auditorium of the Brooklyn High School for Home Making, 901 Classon Avenue, Brooklyn.

For details concerning either group call Dr. Benjamin A. Rosenberg at NEvins 8-2370.

Society of Medical Jurisprudence—The 700th regular meeting of the Society of Medical Jurisprudence was held at the New York Academy of Medicine Building, 2 East 103rd Street, New York City, on November 13 at 8:30 P.M. William F. Martin, Esquire, counsel for the Medical Society of the State of New York, spoke on "Legal Problems Involving the Physician, With Special Reference to Malpractice Actions."

Courses on Diseases of the Chest—The Council on Postgraduate Medical Education of the American College of Chest Physicians will present the following postgraduate courses on diseases of the chest during the period January to April, 1957: Vanderbilt University, Nashville, Tennessee, January 14 through 18; Mark Hopkins Hotel, San Francisco, California, February 25 through March 1, and Bellevue-Stratford Hotel, Philadelphia, Pennsylvania, April 1 through 5.

Further information may be obtained by writing the Executive Director, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois.

Mount Sinai Awarded Fellowship Fund—A $280,000 fellowship fund in memory of Dr. Emanuel Libman, bacteriologist and pathologist, has been presented to Mount Sinai Hospital. The fund represents the assets of the dissolved Emanuel Libman Fellowship Fund, Inc., established in 1924, and more recent contributions from associates and friends of Dr. Libman.

International Academy of Proctology—The International Academy of Proctology has announced its annual cash prize and certificate of merit award contest for 1956–1957. The best unpublished contribution on proctology or allied subjects will be awarded $100 and a certificate of merit. Certificates will be awarded also to physicians whose entries are deemed of unusual merit. Physicians need not be affiliated with the International Academy of Proctology.

The formal award of the first prize and presentation of other certificates will be made at the annual convention dinner dance of the International Academy of Proctology, May 2, 1957, at the Plaza Hotel, New York City.

The Academy reserves the right to publish all contributions in its official publication, *The American Journal of Proctology.* All entries are limited to 5,000 words, must be typewritten in English, and submitted in five copies. All entries must be received no later than February 1, 1957. Entries should be addressed to the International Academy of Proctology, 147–41 Sanford Avenue, Flushing, New York.

Personalities

Elected

Dr. Seymour Fiske, New York City, as president-elect of the State Academy of General Practice . . . Dr. Morton Orlov, Geneva, as president of the Seventh District Chapter of the American College of Surgeons . . . Dr. Michael A. Rogers, Greenwich, as president of the new Mary McClellan Hospital medical staff in Cambridge . . . Dr. E. Stein, president; Dr. L. Merkin, vice-president; Dr. Z. Turyn, secretary, and Dr. E. Fox, treasurer, of the American-Polish Medical Alliance . . . Dr. Alfred J. Vignec, president; Dr. Richard J. Kennedy, vice-president, and Dr. John A. Lawler, secretary, of the medical staff of St. Vincent's Hospital, New York City.

Appointed

Dr. Leon Grey Berman, Syracuse, and Dr. Donald A. Covalt, New York City, reappointed as members of the State Board of Medical Examiners by the Board of Regents in September . . . Dr. William T. Boland, Elmira, to the Medical Committee on Grievances to fill the unexpired term of Dr. Frank Mallon, Brooklyn, until December 31, 1958 . . . Dr. William A. Brumfield, Jr., Westchester County Commissioner of Health, as associate professor of public health practice at the School of Public Health, Columbia University . . . Dr. Clarence Dennis, chief of surgery at Kings County Hospital, Brooklyn, as director of surgery at St. John's Episcopal Hospital, Brooklyn . . . Dr. Alvin I. Goldfarb, Bayside, as consultant on psychiatric services for the aged to the State Mental Hygiene Department . . . Dr. Frank R. Henne, assistant director at Harlem Valley State Hospital, Wingdale, as director of Newark State School . . . Dr. E. Hugh Luckey, former dean of the Cornell Medical College, as physician-in-chief of New York Hospital and head of the Department of Medicine at Cornell Medical College.

Honored

Dr. Harry S. de Brun, New York City, decorated as Knight of Nordstjernan (North Polar Star) by His Majesty King Gustaf of Sweden through the Consul General Erik Kronvall . . . Dr. Paul H. Hoch, State commissioner of mental hygiene, with a plaque in recognition of his work for retarded children at a dinner of the Benevolent Society for Retarded Children in the Waldorf-Astoria Hotel, New York City . . . Dr. Philip Levine, New York City, discoverer of the Rh blood factor, with the City College of New York 1956 Townsend Harris Medal for distinguished postgraduate achievement, on November 14 at the C.C.N.Y. Alumni Association's 76th annual dinner in the Sheraton-Astor Hotel.

New Offices

Dr. Robert H. Baysinger, formerly of Syracuse, associated with Dr. Lawrence F. Withington of Watertown in the practice of general medicine . . . Dr. Guido J. Borsinger, a native of Switzerland, practice of surgery in Stony Point . . . Dr. Seymour Cohen, practice of pediatrics in association with Dr. Lester H. Schiff, Niagara Falls . . . Dr. Frederick M. Mitchell, Ithaca, practice of general and thoracic surgery in association with Dr. Orrin J. Van Dyk . . . Dr. Eric Stern, Corning, practice of medicine in association with Drs. Steven Pieri and James J. Foster . . . Dr. John W. Unger, Lockport, practice of internal medicine in that city.

Awarded

Dr. Cornelius P. Rhoads, scientific director of the Sloan-Kettering Institute for Cancer Research in New York City, the Walker Prize for Cancer Research on October 11, for the "best work in advancing the knowledge of the pathology and therapeutics of cancer."

Speakers

Dr. Charles F. McCarty, Brooklyn, before the American Academy of Ophthalmology and Otolaryngology on October 15 on "The Surgical Management of Complete and Incomplete Bony Atresia of the Posterior Nares" . . . Dr. Robert Blum, instructor in medicine, University of Buffalo School of Medicine, before the Cattaraugus County Medical Society on October 11 in Olean on "Diabetes and the New Oral Drugs" . . . Dr. Hollis Clow, director of laboratories at New York Hospital, Westchester Division, before the Rensselaer County Medical Society on November 13 in Troy, on "'Psychiatric Problems of the Aging" . . . Dr. Henry O. Heinemann, associate in medicine, Columbia University College of Physicians and Surgeons, before the Schoharie County Medical Society in Cobleskill on

October 23, on "Renal Insufficiency: Prognosis and Therapy" . . . Dr. Abram Kardiner, clinical professor of psychiatry and associate director of the clinic at Columbia University, New York City, before the Long Island Psychiatric Society at the Veterans Hospital in Northport on October 16, on "Social Conditions Under Which Psychiatry Arose and Can Survive" . . . Dr. Robert A. Senescu, associate psychiatrist at Columbia University Presbyterian Medical Center, before the Schoharie County Medical Society on October 30 in Cobleskill, on "The Recognition and Management of Psychiatric Problems in General Practice" . . . Dr. Richard N. Terry, clinical professor of anesthesiology, University of Buffalo School of Medicine, before the Steuben County Medical Society in Bath on November 8, on "Anesthesia for General Practitioners."

Dr. Louis H. Bauer, secretary general of the World Medical Association, before the Columbia County Medical Society's sesquicentennial meeting on December 5 in the high school auditorium in Hudson, on "The Medical Profession and Voluntary Health Insurance" . . . Dr. John Clemmer, associate professor of pathology at Albany Medical College, before the Schoharie County Medical Society on November 13 in Cobleskill on "The Use of the Laboratory in Clinical Medicine" . . . Dr. Joseph J. Eller, director of dermatology at New York City Hospital, before the Medical-Surgical Conference on November 14 at the Medical Arts Center Hospital, New York City, on "Surgical Planing of Acne, Acne Scars, and Other Blemishes" and Dr. William D. Eller, assistant attending dermatologist, skin and cancer, at New York University-Bellevue Medical Center, before the same conference, on "Improved Apparatus and Technics" . . . Dr. William W. Faloon, associate professor of medicine at the State University of New York College of Medicine at Syracuse, before the Jefferson County Medical Society on December 18 in Watertown, on "Therapeutic Management of Hepatic Cirrhosis" . . . Dr. Jack Harnes, clinical instructor in medicine at the New York University College of Medicine, before the Schoharie County Medical Society in Cobleskill on November 6, on "The Diagnosis and Treatment of Hypertension and Hypertensive Heart Disease" . . . Dr. Lawrence Hinkle, professor of clinical medicine at Cornell University Medical College, before the Suffolk County Medical Society at the Central Islip State Hospital on November 28, on "Life Situations, Emotions, and Diabetes" . . . Dr. Aaron Kottler, presidential inaugural address before the Medical Society of the County of Kings and Academy of Medicine of Brooklyn, on October 17 . . . Dr. John M. McLean of New York City, before the ninth annual clinical conference of the staff and society of exresidents of Wills Eye Hospital in Philadelphia, on February 8 and 9, 1957, on "Management of the Primary Glaucomas" . . . Drs. George T. Pack, Theodore R. Miller, Irving Ariel, and Richard D. Brasfield, before the Ocean Medical Society of Brooklyn on November 19, in a symposium on cancer . . . Dr. Samuel J. Prigal, New York City, before the Section of Allergy and Infectious Diseases of the National Institute of Health in Bethesda, Maryland, on "Interrelationship of Allergy and Infection" . . . Dr. Donald C. Samson, associate professor of medicine at the State University of New York College of Medicine at Syracuse, before the Franklin County Medical Society in Malone, on November 14, on "Syncope" . . . Dr. Alvin Turken, orthopedic surgeon in Tarrytown, before the hospital staff of the Veterans Administration Hospital at Northport on October 30, on "Application of Orthopedic Measures in Some Neuropsychiatric Problems" . . . Dr. Jack Wolf, associate professor of clinical dermatology at New York University College of Medicine, before the Sullivan County Medical Society in Liberty on November 14, on "The Diagnosis and Treatment of Cutaneous Cancer and Precancerous Lesions."

Retired

Dr. James P. Kelleher, Oneida, as senior director of the Rome State School after forty-six years in the State service, effective November 1.

Have YOU Made Your Contribution to the War Memorial Fund?

THE MONTH IN WASHINGTON

In addition to helping states make monthly public assistance payments to certain indigent persons, the Federal government for a number of years also has contributed to the cost of their medical care. Because the grants formula is somewhat complicated and the amount of medical care varies with the states, this U.S. contribution cannot be fixed definitely. It is estimated at about 90 million dollars a year.

About a third of the states now deposit these Federal grants, which must be matched 50:50, in a separate fund, from which the medical care costs are paid directly to the vendors, such as physicians, dentists, hospitals, nursing homes, and druggists. The remaining two-thirds include medical care costs in monthly checks to the indigent and expect these people to pay their own medical bills.

But beginning next July 1, this U.S.-state medical care arrangement is going to be drastically altered. For one thing the U.S. will increase its payments from the current 90 million dollars a year to between 200 million and 300 million dollars. For another, *all* medical care money under the new program will be put into a separate fund, from which the indigents' medical bills will be paid, in one way or another, by the state itself.

It is true that in some states the new program will not have much effect. This will be the case with those states that already have a substantial medical care program and see no reason for increasing it and with those unable to raise the matching money.

But the amount of money potentially available to each state is significant, and in most states the changeover from the old to the new systems will have an important effect on physicians and other vendors of medical care. For example, eight states will have "new" medical care funds in excess of 10 million dollars if they put up half the money. California's potential fund is 27 million dollars and New York's and Texas' more than 18 million dollars each.

Before state welfare directors can start operating under the new program they will have to decide (*a*) whether they will require doctors to agree to a fee schedule, if one is not already in operation in their indigent care program, and (*b*) how the doctors will be reimbursed (whether through their societies or other mechanisms or directly by the government). Some state welfare officials already have approached state medical societies to talk over the situation. (U.S. contributes to indigents in only four categories—the aged, dependent children, the blind, and the disabled. For their medical care it will offer states $3.00 per month for each adult and $1.50 for each child, money which the state must match. It is out of these funds that payments will be made for medical care.)

Notes

Because most applicants did not supply enough information, the council in charge of grants for medical research facilities approved only a handful of projects at its first meeting. Although 30 million dollars was available, only $764,159 was allocated. Money went to seven institutions. However, the expectation is that the fund will be just about exhausted at the December meeting of the council since more than 250 hospitals, schools, and laboratories have asked for money.

First head of the new National Library of Medicine is the man who steered the Armed Forces Medical Library through the last seven troubled years—Col. Frank B. Rogers. He is on loan to PHS, which is in charge of the new institution to be built up around AFML.

Hearings will be held, probably in December, by the House Interstate and Foreign Commerce committee on Federal aid to medical education. The expert panel system will be used instead of lone witnesses. Currently the committee staff is analyzing information received in response to questionnaires sent out to about 60 organizations interested in medical education.

A six-man advisory committee, named by Secretary Folsom, is attempting to work up suggestions that will help hospitals improve care and reduce costs. Some possibilities include central cafeterias for ambulatory patients and light housekeeping work done by some patients themselves.

Regional Small Business Administration offices now are taking applications for loans to three types of health facilities—hospitals, nursing homes, and medical and dental laboratories. Institutions must be "small" and must be run for private profit.

Prepared by the Washington Office of the American Medical Association, Washington, D.C.

If natur' has gifted a man with powers of argeyment, a man has a right to make the best of 'em—
Barnaby Rudge, Charles Dickens

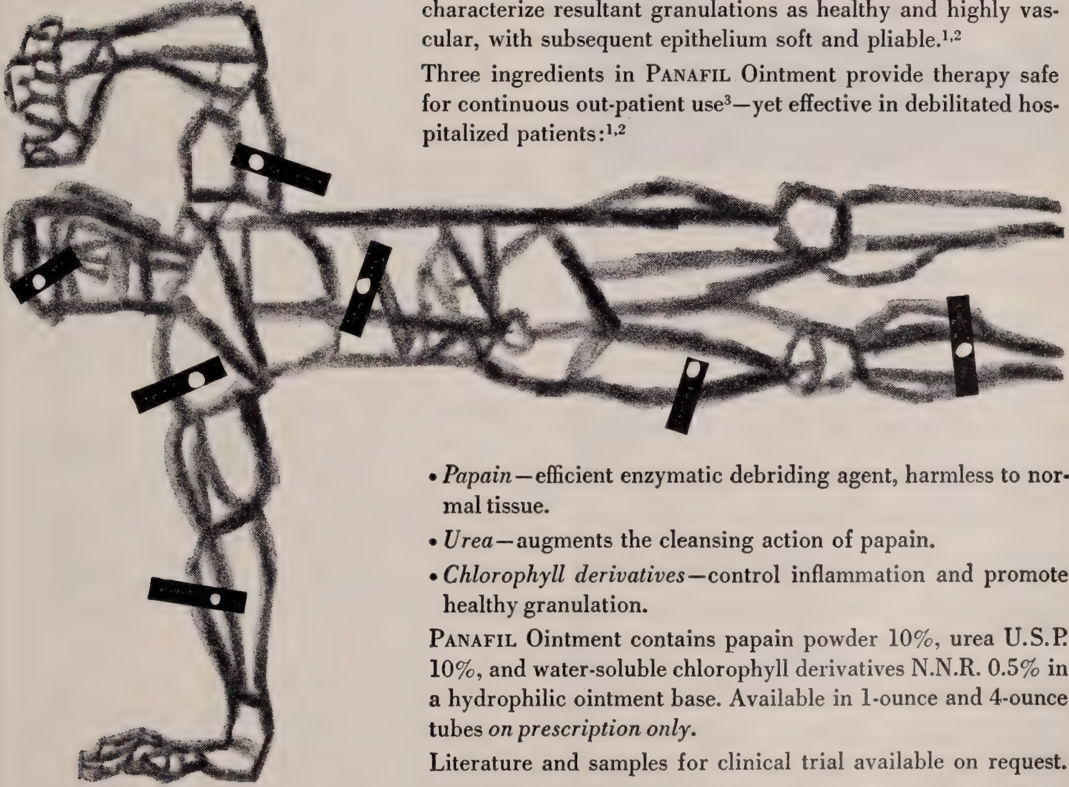
"...a new approach to wound healing..."[1]

Panafil® ointment

debrides necrotic tissue
keeps wound clean
promotes normal healing

PANAFIL Ointment meets the need, in stubborn, slow-healing wounds, for a "...topical preparation which...can both clean out the resistant lesion and foster the natural healing process."[1] Confirming this dual action of PANAFIL therapy, investigators characterize resultant granulations as healthy and highly vascular, with subsequent epithelium soft and pliable.[1,2]

Three ingredients in PANAFIL Ointment provide therapy safe for continuous out-patient use[3]—yet effective in debilitated hospitalized patients:[1,2]



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PANAFIL Ointment contains papain powder 10%, urea U.S.P. 10%, and water-soluble chlorophyll derivatives N.N.R. 0.5% in a hydrophilic ointment base. Available in 1-ounce and 4-ounce tubes *on prescription only.*

Literature and samples for clinical trial available on request.

(1) Miller, E. W.: New York State J. Med. *56*:1446, 1956. (2) Morrison, J. E., and Casali, J. L.: Am. J. Surg., to be published. (3) Garnes, A. L., and Barnard, R. D.: Angiology, in press.

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MEDICAL MEETINGS

Montefiore Hospital Lectures

Lectures are currently being given and will continue through June, 1957, sponsored by the division of neoplastic disease, Montefiore Hospital, 210th Street and Bainbridge Avenue, Bronx 67, New York. Conferences are held at 3:00 P.M. in the west basement of the conference hall.

Lectures will be held on December 21, 1956, January 4 and 18, 1957, February 1 and 15, March 1 and 15, April 5 and 19, May 3 and 17, and June 7 and 21.

Information on subjects and speakers may be secured from the hospital.

American Group Psychotherapy Association

The first annual training institute of the American Group Psychotherapy Association will be held on January 9, 1957 at the Henry Hudson Hotel, New York City. On January 10, 11, and 12 the 14th annual conference will follow at the same location. For further information contact AGPA, Room 300, 345 East 46th Street, New York City, by December 20.

Lectures to the Laity

A series of lectures to the laity is currently being sponsored by the New York Academy of Medicine, 2 East 103rd Street, New York 29, New York. Future lectures on medicine in the contemporary scene will be held at 8:30 P.M. on January 9, January 23, and February 6. Programs may be obtained gratis by addressing the Medical Information Bureau of the Academy.

New York Heart Association

Cardiologists and notables in the field of public health will participate in a one–day conference on artherosclerosis and coronary heart disease at the Waldorf-Astoria in New York City on January 15, 1957. The conference is being sponsored by the New York Heart Association.

Speakers will include Dr. Paul Dudley White, Boston heart specialist; Dr. E. Cowles Andrus, associate professor of medicine, Johns Hopkins University; Dr. Ancel Keys, director of the Laboratory of Physiological Hygiene and professor in the School of Public Health, University of Minnesota; Dr. Howard B. Burchess, professor of medicine, Mayo Foundation Graduate School, University of Minnesota; Dr. Howard A. Rusk, professor and chairman, Department of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center; Dr. Herman E. Hilleboe, commissioner of health, State of New York, and Dr. William H. Stewart, assistant director, National Heart Institute.

Dr. A. Wilbur Duryee, president of the New York Heart Association, will preside at the luncheon session; Dr. Robert L. Levy, chairman of the steering committee, will preside at the morning session, and Dr. Wilson G. Smillie at the afternoon session.

Brooklyn Psychiatric Society

The regular scientific meeting of the Brooklyn Psychiatric Society will be held on January 17, 1957 at 8:30 P.M. at the Brooklyn State Hospital Auditorium, Clarkson and Albany Avenues, Brooklyn. Dr. Iago Galdston, executive secretary of the Committee on Medical Information, New York Academy of Medicine, will be the speaker.

International Cancer Congress

The seventh International Cancer Congress will be held in London, England, July 6 through 12, 1958, sponsored by the International Union Against Cancer. Special emphasis will be placed on hormones and cancer, chemotherapy, carcinogenesis, and cancer of the lung. Papers will only be considered if submitted with an accompanying abstract (not over 200 words) before October, 1957, and if dealing with new and unpublished work.

Registration forms and a preliminary program will be available early in 1957 on application to the Secretary General, Seventh International Cancer Congress, 45 Lincoln's Inn Fields, London, W.C. 2, England.

American Academy of Allergy

The American Academy of Allergy's annual meeting will be held February 4 through 6, 1957 in Los Angeles, California, and will feature a "Hawaiian Session" at its conclusion, February 7 through 19.

Further information may be obtained from the executive office of the American Academy of Allergy, 208 East Wisconsin Avenue, Milwaukee 2, Wisconsin.

We are not hypocrites in our sleep.—WILLIAM HAZLITT

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NEWS FROM THE MEDICAL SCHOOLS

Albany Medical College

Appointed—Dr. James Dougherty, a 1951 graduate of the College, as instructor in orthopedic surgery for a one-year period, joining Dr. Crawford Campbell, head, Sub-department of Orthopedic Surgery; Dr. Robert E. L. Nesbitt, assistant professor of obstetrics, Johns Hopkins Medical School, as professor of obstetrics and gynecology.

New Chairman—Dr. Charles M. Landmesser, Loudonville, succeeds Dr. J. Gerard Converse as chairman, Department of Anesthesiology at the College, and anesthesiologist-in-chief, Albany Hospital. Dr. Converse accepted a similar position at the University of Miami, Coral Gables, Florida.

Two-way Radio Medical Conference Series—The second series of two-way radio conferences was opened on November 5 with "Cardiac Emergencies" the first topic of discussion. The Hudson Valley and 19 capital district hospitals participated.

New York University College of Medicine

Promoted—Dr. Louis L. Bergmann and Dr. Joseph Pick, to full professors in the Department of Anatomy at the College.

Appointed—Dr. Johannes Bartel, Groenlo, The Netherlands, associate professor of anesthesiology, New York University Post-Graduate Medical School.

State University of New York College of Medicine at Syracuse

Exhibited—Dr. Gordon K. Moe, professor and chairman, Department of Physiology; Dr. James B. Preston, assistant professor of physiology, and Dr. Harold Burling, former instructor of physiology at the College and now assistant professor, University of Cincinnati College of Medicine, displayed an electronic model which simulates the impulses which cause the heart to beat and which was designed and constructed in the bio-electronic laboratory at the College, at the annual meeting of the American Heart Association in Cincinnati, Ohio, in October.

Appointed—Dr. Francis S. Caliva, assistant professor of medicine, as the new medical director of the Syracuse Dispensary to succeed Dr. Richardson K. Noback who resigned to become affiliated with the new University of Kentucky College of Medicine in Louisville.

Leave of Absence—Dr. Margaret Shetland, director, Department of Public Health Nursing, left November 14 for an extended public health mission in the Philippines. She will be a member of a joint project sponsored by the U.S International Cooperation Administration, Johns Hopkins School of Public Health, and the University of the Philippines. She will be one of a team of public health specialists who will develop programs for the training of public health workers and in the development of rural health centers throughout the country.

University of Rochester School of Medicine and Dentistry

Honored—Dr. Lawrence A. Kohn, associate professor of medicine at the University for thirty years, was honored by his former students on October 6 when he was awarded the gold medal of the UR Medical School Alumni Association at the twelfth annual meeting.

Dr. Kohn was the first chief resident physician appointed to the Strong Memorial Hospital staff in 1926 and was appointed instructor in medicine in 1926, assistant professor in 1929, and associate professor in 1941. Last May Dr. Kohn received the Award of Merit of the Rochester Academy of Medicine which cited him as "a model of the teacher-practitioner."

The soul of man is immortal and imperishable.—PLATO

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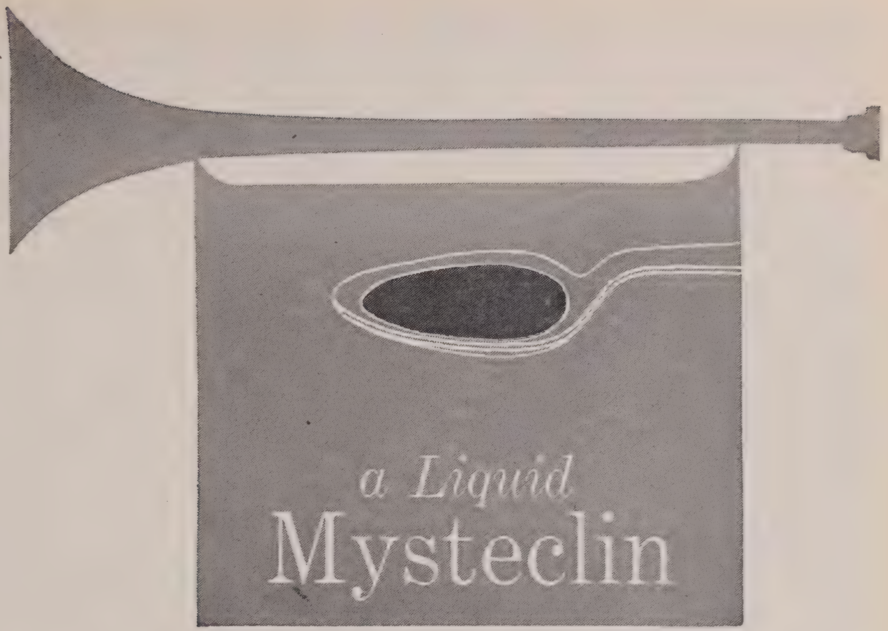

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Steclin-Mycostatin (Squibb Tetracycline-Nystatin)

Another form of the only broad spectrum antibiotic preparation with added protection against monilial superinfection

PLEASANT TASTING — Mysteclin Suspension is pleasantly fruit-flavored and will appeal to taste-conscious youngsters as well as to adults who prefer liquid medication.

BROADLY EFFECTIVE — Mysteclin Suspension provides well tolerated therapy for the many common infections which respond to tetracycline—and also acts to prevent monilial overgrowth.

READY-TO-TAKE — Mysteclin Suspension requires no reconstitution and can be given by simple teaspoon dosage to patients of all ages.

MYSTECLIN SUSPENSION: a fruit-flavored oil suspension containing the equivalent of 125 mg. Steclin (Squibb Tetracycline) Hydrochloride and 125,000 units Mycostatin (Squibb Nystatin) per 5 cc. teaspoonful. Supplied in two-ounce bottles.

Also available as Capsules (250 mg. Steclin Hydrochloride and 250,000 units Mycostatin) and Half Strength Capsules (125 mg. Steclin Hydrochloride and 125,000 units Mycostatin).

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CORRESPONDENCE

Treatment of Angina Pectoris with Mercurial Diuretics

To the Editor:

In their contribution in the May 15, 1956, issue of this JOURNAL,[1] the authors omit reference to a publication which deals with the same subject.[2]

In this article I presented findings according to which a series of weekly intramuscular injections of 1 cc. of Mercuhydrin alone or in combination with oral administration of aminophylline was followed by significant relief in the symptoms of angina pectoris in 19 out of 21 therapeutic trials. The relief consisted of an increased tolerance to exercise and of a reduction of the need for nitroglycerin. In this group of patients severe coronary insufficiency or an occlusion occurred only if the mercurial diuretic was either never given or, if administered, was discontinued more than four weeks before the coronary episode. These findings were confirmed by subsequent observations, which also showed that in some of the patients the clinical improvement was accompanied by a return of the electrocardiogram from the coronary pattern to normal.

Furthermore, in one of the patients a left bundle branch block disappeared after 12 mercuhydrin injections. (It reappeared a year later.) In another patient, following a series of 12 injections, a right bundle branch block gave place to a left bundle branch block. Apparently, the changes which occur in the electrocardiogram following Mercuhydrin therapy indicate something more than a symptomatic relief.

EUGENE FOLDES, M.D.

898 Park Avenue
New York City

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[1] Rubin, I. L., and Frieden, J.: NEW YORK STATE J. MED. **56**: 1640 (May 15) 1956.

[2] Foldes, E.: *ibid.* **53**: 1322 (June 1) 1953.

Suggestions for Industrial Medical Practice

To the Editor:

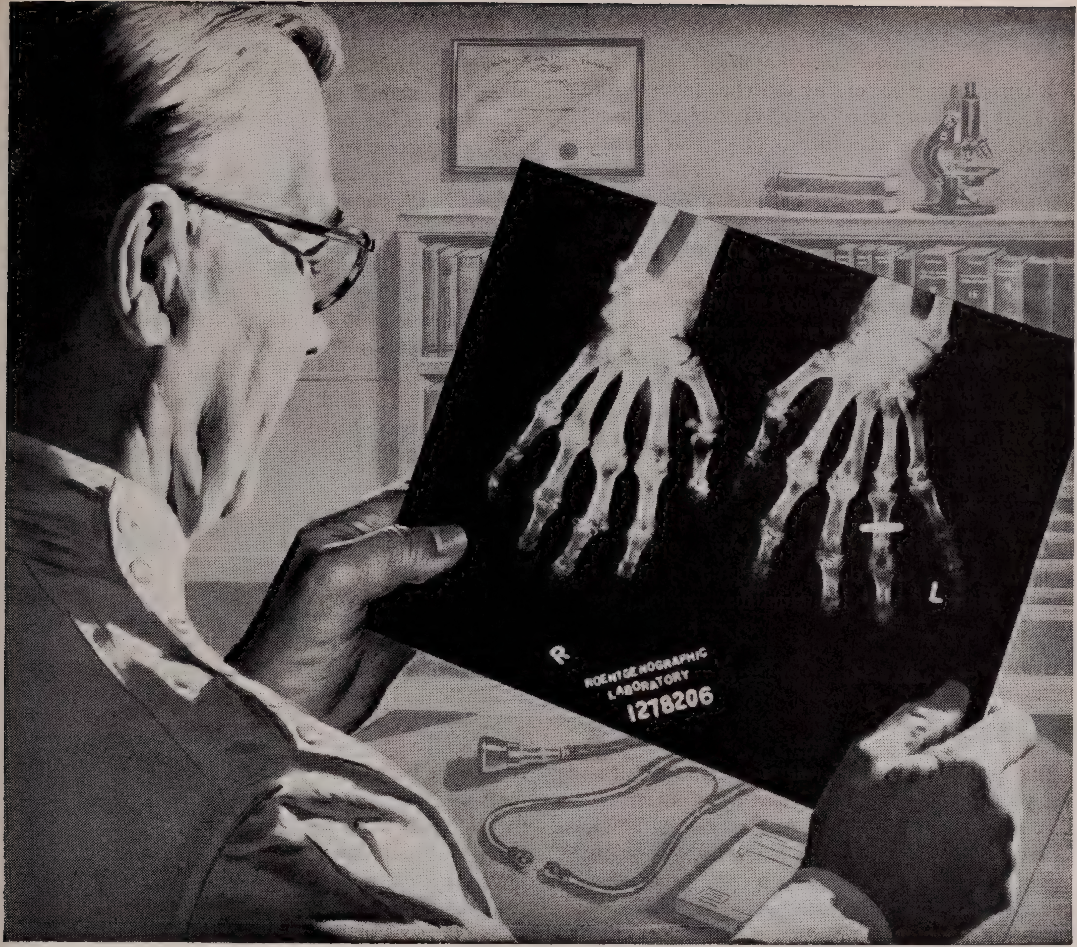
The industrial physician is expected to keep abreast of modern medicine and the present-day teachings of medical schools. The medical schools are emphasizing industrial medicine, and in return the industrial medical program of a plant should match these teachings. The quality of medicine in industry should equal medicine in private practice. Industrial medicine is still criticized in many ways. To combat this criticism, the industrial physician should be abreast of the present medical trends and practices. Industrial medicine should not be permitted to lag behind the present medical teachings.

Equipment should be modern and adequate. Proper sterile technic should be used. Autoclaves should be used to sterilize instruments and bandages, and the autoclave should be checked to see if sterilization is adequate. The square sponge container and top should be autoclaved with the sponges. The sponges should be picked up with forceps and not with the bare hands to avoid contaminating the jar. An antiseptic solution should be placed on the wound by a proper sterile applicator and not with a medicine dropper since the surface tension of the drop prevents adequate coverage of the wound. Instruments should be kept in a sterile container and not exposed to the open air. The instruments should not be permitted to tarnish, rust, or dull. Syringes and needles should not be boiled but autoclaved. Boiling is considered inadequate to kill spores and the viruses of infectious hepatitis. The sterile drapes should be kept new. Those that show evidence of wear should be discarded.

Prophylactic immunization against tetanus should be carried out, not overlooking the fact that tetanus can occur from an improperly cleaned wound as well as a dirty one or that tetanus bacteria can occur on a dirty body when the wound was obtained by a clean object. Tetanus prophylaxis is a must from the standpoint of carrying out public health recommendations, medical legal protection, and for national defense protection. Many states will give tetanus toxoid free to industry for protection for national defense purposes.

The practice of permitting employes to wear a truss for hernias is to be discouraged. The wearing

[Continued on page 3766]



Flexible Arthritis Therapy with BUFFERIN®

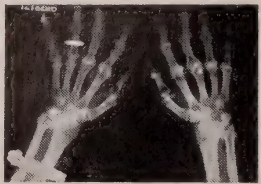
Exploit fully the use of salicylates in arthritis—give steroids in minimal doses—combine salicylates with corticosteroids for additive antiarthritic effect — this is the program Spies[1] advocates in a recent article in the Journal of the American Medical Association.

Treatment of rheumatoid arthritis demands a "highly individualized program," Spies[1] writes. The additive action of salicylates permits use of smaller amounts of hormones, thus lessening or eliminating their well-known side effects. "A proper mixture of salicylates and corticosteroids produces an effective antirheumatic agent in many cases."[1]

Suit your treatment to your individual arthritic patient. Use the hormone you prefer, in the dosage you think best, but for better results combine it with Bufferin, the salicylate proved to be better tolerated by arthritics.[2]

BUFFERIN contains no sodium, a marked advantage when cardiorenal complications make a salt-restricted diet necessary.

Each Bufferin tablet contains 5 grains of acetylsalicylic acid and the antacids magnesium carbonate and aluminum glycinate.



REFERENCES:

1. J.A.M.A. 159:645 (Oct. 15) 1955.
2. J.A.M.A. 158:386 (June 4) 1955.

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[Continued from page 3764]

of a truss is like dispensing crutches for a working man. It can cause atony of the abdominal musculature and interfere with intestinal mobility, causing stasis, constipation, and colitis. Eventually the hernia enlarges, the truss no longer supports the hernia, and operation is imperative, perhaps at an older age when operation is not so desirable. The possibility of strangulation of the bowel, resulting in incarcerated hernia, is always to be considered.

The question arises as to how many people in industry have their truss on properly and how many are wearing them. A truss check was made in one plant, and of the 18 people checked in one day, five were using trusses. It can be concluded that a truss is an inferior treatment to operation, and operation should be encouraged.

The industrial physician should be permitted to keep up with academic interest by working in a hospital clinic a half day a week and by attending weekly conferences and medical conventions.

In many periodic programs clinical and laboratory procedures should be carried out to aid in making a diagnosis. The ophthalmoscope, audiogram, sigmoidoscope, electrocardiograph, and x-ray should be available. The industrial physician should train himself in the use of these clinical aids in order to be a credit to his plant.

These fundamental requirements seem obvious, yet are shocking when not observed. Every effort should be made to bring an industrial medical program abreast of modern medicine. Industrial medicine should be a leader in initiating new and sound medical technics and practices. One way to correct poor medical industrial practices is to have more rigid standards for approval of industrial medical programs.

Robert S. Mutch, M.D.

7 Euclid Avenue
Lockport, New York

Payment Authorization for Emergency Treatment of AWOL Soldiers

To the Editor:

In a number of cases physicians and hospitals have accepted for emergency treatment members of the U.S. Army who were in an Absent Without Official Leave (AWOL) status. On subsequent submission of vouchers for payment, the physician or hospital has had to be informed that current regulations preclude the payment from public funds for medical treatment rendered military personnel in an AWOL status.

In an effort to inform interested persons of the means whereby payment may be authorized for emergency treatment of an individual who is first seen in an AWOL status, it is believed that your association might wish to publicize the proper procedure through your Journal.

On the acceptance by a hospital or physician of an individual in the military service (Army, Navy, or Air Force), immediate report should be made to the nearest military facility of the illness or injury. This procedure should be accomplished whether the individual is absent with or without official leave in order that his parent organization may be informed of his continued absence by reason of illness or injury. If the individual is in an AWOL status, the report of his location and illness or injury constitutes a return to military control and in effect terminates his AWOL status. The government subsequently becomes responsible for payment of his medical care by civilian agencies. These statements apply to practically every situation except those unusual cases in which an individual is engaged in a criminal act or when unauthorized medical care is furnished for a condition that is not an emergency. Also the assumption must be made that one service will act for the other in the matter of relaying the information to the parent organization.

Statements of account for payment may be forwarded to the individual's commanding officer who will transmit them to their proper destination. The processing of an account involves a matter of weeks, but payment is certain when emergency medical care is rendered a bona fide member of the military service who is not AWOL and who is not engaged in a criminal act.

If further inquiry is desired, you are invited to address correspondence to Surgeon, First Army, Governors Island, New York.

H. W. Glattly
Brigadier General, MC

Office of the Surgeon
Headquarters First Army
Governors Island
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to the MEDICAL SOCIETY OF THE STATE OF NEW YORK

Philanthropies

THREE objectives of the Woman's Auxiliary are outlined in Article II of the Constitution of the Woman's Auxiliary to the Medical Society of the State of New York. These are: To assist the Medical Society of the State of New York in its program for the advancement of medicine and public health, to coordinate and advise concerning the activities of the constituent auxiliaries, to encourage friendly relations and promote mutual understanding among physicians' families. To these ends the Auxiliary's efforts have been expended successfully.

Philanthropy is a fourth service within the 47 individual county auxiliaries, a service which aids in making the Auxiliary a cohesive group while presenting the doctor's family as a part of the community. Beneficence in time, service, or money will always play a role in women's work and the Auxiliary bears this in mind in planning its program since its activities are so closely identified with the medical profession.

Doctors' wives traditionally and factually know how much is expected of the medical profession and they, too, promote the aims and purposes of the State Medical Society. Furthermore, as mothers and members of the community agencies, they are expected to render services other than those outlined in the Auxiliary constitution.

A questionnaire was sent to each of the 47 county auxiliaries in the State and the results based on a 65 per cent response indicate that: 39 auxiliaries gave nurse training scholarships; 32 contributed to the Physicians' Home; 29 contributed to the A.M.E.F.; six provided *Today's Health* for schools, etc.; six contributed equipment or funds to local hospitals; one contributed to its local medical school. The monies used for these projects were raised by dues in eight county auxiliaries; assessments in nine; voluntary assessment in three; a dance in 18; a card party in 12; a raffle in nine; fashion show in ten; and rummage, antique, bake, etc. sales in 12.

These programs stimulated much interest and originality throughout the State. One small auxiliary with only 17 members had a novel fund-raising program. Each member assumed responsibility for one meeting which was planned and financed by her and each member paid $1.00 to attend. The social party of the meetings varied—a luncheon, musicale, card party, picnic, etc. Even amateur shows which used the talents of the doctors and auxiliary members have been presented, and these have invariably been a success since they not only raised money but through their varied talents brought the doctors closer to their communities.

The above information is given to inform the members of the Medical Society of the State of New York of the efforts made by their wives to support the causes in which they believe.

The Auxiliary would also like to point out that even more is done by its members, as a group and as individuals, in the nature of personal service to their respective communities. These consist of such services as the Christmas packages and parties for the guests at county old folks' homes; the provision of food baskets for needy families at the holiday season; Christmas gifts for foster children of the county; the visiting of senior citizens who might otherwise be lonely; provision of a television set for one group of the aged; the staffing and supervision of a play-hour for children in one of the hospitals, and one county auxiliary is planning on the establishment of a much-needed homemaker service as a pilot project. Many auxiliary members have staffed booths as individuals and members of the health agencies in every county.

Much emphasis has been placed on scholarship and nurse recruitment because of the nursing shortage. The program is now so well established that the Auxiliary plans to widen the base of its educational and recruitment program and is currently exploring some of the ancillary fields where it may offer scholarships in order to encourage more young people to enter a wider range of health work.

This philanthropic facet of the Auxiliary has been a source of much pleasure and satisfaction. The size of the county auxiliary or the population of the area is not important, and each group makes its own program and contributions. The members are proud of their work and of being doctors' wives, and even though these personal services are not a written part of the Constitution they are a vital part of the Auxiliary's program. These are not confined merely to the Christmas season but are presented throughout the whole year, for the spirit of giving and doing are the greatest of joys for the members of the Woman's Auxiliary to the Medical Society of the State of New York.

Mrs. Isadore Zadek, *Member*
Board of Directors

8 Richmond Lane
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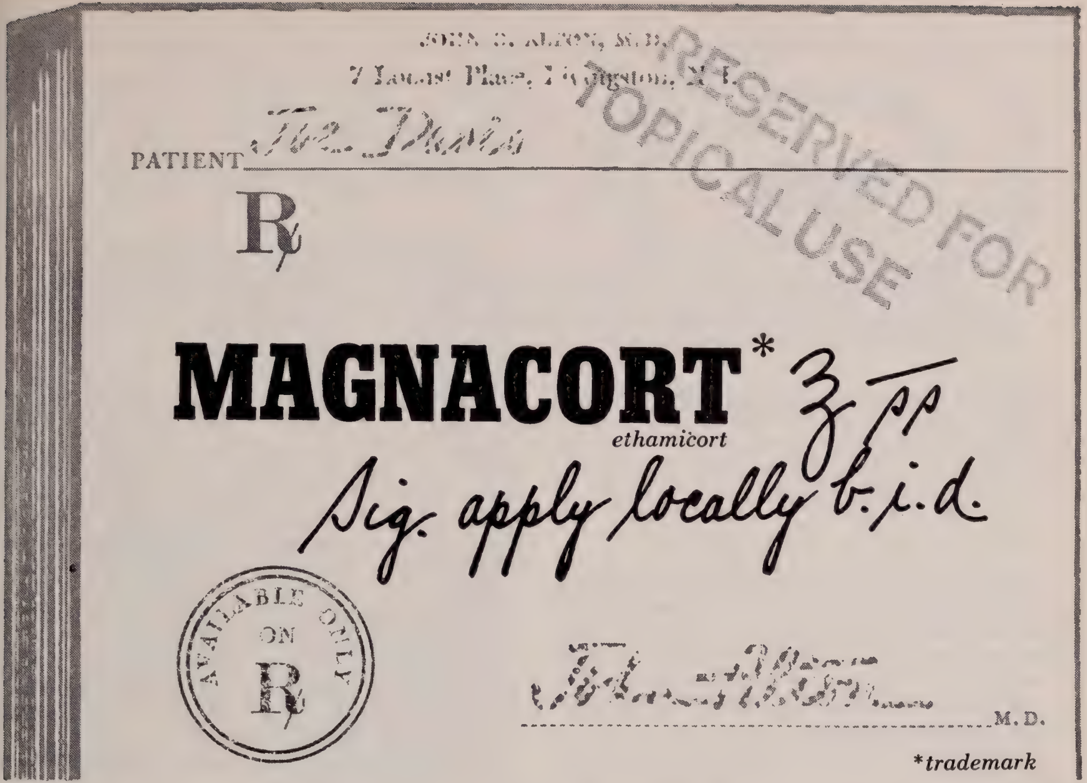

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BOOK REVIEW

EDITOR'S NOTE.—*The following review by Dr. S. Louis Hornstein of a report of the New York City Bar Association is a concise discussion of the contents of the report. Because of the increasing interest of physicians in medicolegal problems, we are publishing this review in its entirety for the information of our readers.*

Impartial Medical Testimony. A Report by a Special Committee of the Association of the Bar of the City of New York on the Medical Expert Testimony Project. Octavo of 188 pages. New York, The Macmillan Company, 1956. Cloth, $3.95.

This book is not recommended for the busy general practitioner who is not called on frequently to testify in negligence cases in the courts of this city. However, should he be called on to give testimony in such cases, it might be to his advantage to spend an hour or two in our medical library reading this volume before he testifies.

For the specialist and for those physicians who are called on at frequent intervals for testimony in negligence cases, this book is highly recommended; in fact, it should be included in their "must" readings.

This book is really a report on the use of independent medical experts in personal injury cases in New York City Courts. It is an account of a "pilot" project under which the services of independent and impartial medical experts have been enlisted to aid the courts in the better and quicker disposition of personal injury cases. It was designed to test a remedy for the deficiencies and abuses prevailing in the presentation of medical proof in judicial proceedings. It might be of interest to note that about 80 per cent of the cases in the trial courts of the country are personal injury cases, and these involve medical testimony. The Project was prompted by the uncertainty, confusion, and waste of time resulting from the presentation of widely conflicting medical opinion evidence by partisan doctors retained by the respective parties. This evidence occupies a large part of the trial time in any personal injury action, and it is too often colored and calculated to persuade a judge or jury to a partisan point of view rather than presenting an objective medical analysis and appraisal. The judge and jury would be left confounded and confused without real guidance in choosing between opposing medical testimony.

The Project was based on the idea that such confusion could be eliminated by setting up panels of neutral, outstanding physicians in various specialized branches of medicine, these experts to be available at the call of the court to make medical examinations of plaintiffs in personal injury actions, report their findings, and, if necessary, be ready to testify in those cases in which the medical testimony was controversial and substantial.

The whole idea was conceived by the justices of the Supreme Court of New York County who were concerned about the problems inherent in the presentation of medical evidence through partisan experts. Both local bar associations and medical societies equally interested in this problem cooperated in the joint action involving the judiciary and professional bodies, resulting in setting up the Medical Expert Testimony Project.

It is unnecessary to include in this review how the initial cost was met. Suffice it to say that no party to a case was permitted to pay the experts' fees. The Project has now been in operation since December 1, 1952, and the committee feels that it has accomplished the following objectives:

1. It has improved the process of finding medical facts in litigated cases.
2. It has helped to relieve court congestion.
3. It has had a wholesome prophylactic effect on the formulation and presentation of medical testimony in court.
4. It has proved that the modest expenditure involved effects a large saving and economy in court operations.
5. It has pointed the way to better diagnosis in the field of traumatic medicine. This has been considered an unexpected dividend not contemplated when the Project was initiated.

It has proved an excellent example of successful interprofessional cooperation. Doctors and lawyers, instead of bickering, have worked together effectively in solving a common problem. Judges have participated fully in the enterprise, resulting in better understanding among judges, lawyers, and doctors.

All personal injury cases involve (*a*) liability and (*b*) damages. The question of liability falls naturally within the province of judge and jury who are generally capable of arriving at a decision without the help of experts. The question of damages, however, is not so easily decided because they lack essential knowledge. If the plaintiff is successful, he must be awarded an amount of money sufficient to compensate him for the cost of medical care, loss of earnings, and pain and suffering occasioned by the defendant's wrongful act. To compute these items, past, present, and future, the court must know the real nature and extent of the plaintiff's injury, its causal connection with the defendant's act, its probable duration, and its cure.

[Continued on page 3772]

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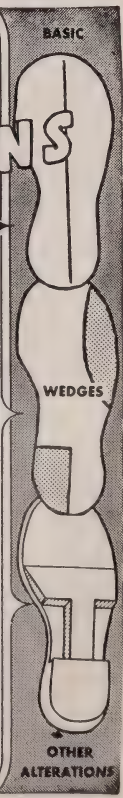

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Diagnosis and prognosis are necessary. Thus medical testimony becomes essential. This medical assistance is traditionally provided through witnesses called by the parties to the action. The court must screen, appraise, and weigh the evidence so presented. The plaintiff calls at least one doctor to testify in his behalf as to the injuries he sustained. The defendant, if he disputes the plaintiff's medical claims, may call other doctors or specialists to oppose the plaintiff's claim. This results in a "battle of experts." The judge and jury, instead of being helped, are most likely to be confused and misled and are forced by the circumstances to make a choice between conflicting views in a subject in which they may not be too well informed.

If all doctors were equally competent and if all testified impartially, the Project would be unnecessary, but since all doctors who testify are not equally competent and since not all doctors are equally impartial, one can readily understand why the Project was brought into existence. Doctors are usually found on one side or the other, partisans, subjected to hostile cross-examination, paid by one side, and their testimony is usually favorable to the side which pays them. In fact, they may express their opinions a little more strongly than the facts or the state of medical knowledge warrants. The decision to believe one doctor over another may be based on nothing more substantial than courtroom manner, personality, or forensic ability. An ignorant doctor may be more impressive on the witness stand than a learned doctor.

The Project attempted to overcome all of the above difficulties by finding impartial medical experts and establishing a procedure for selecting cases in which the Project might be helpful. The problem of finding the experts was solved by local medical societies. Originally the doctors came exclusively from Manhattan. It was extended to Bronx County on October 21, 1953. There are presently in existence in New York County 15 panels ranging from as many as 14 men on a panel to a panel consisting of a single doctor. A Medical Report Office was established in the Supreme Court for the County of New York. In any personal injury case in which, prior to the trial thereof, a justice shall be of the opinion that an examination of the injured person and a report thereon by an impartial medical expert would be of material aid to the just determination of the case, he may, after consultation with counsel for the respective parties, order such examination and report, without cost to the parties, through the Medical Report Office of the Supreme Court, New York County. The examination will be made by a member of a panel of examining physicians designated for their particular qualifications by the New York Academy of Medicine and the New York County Medical Society. Copies of the report of the examining physician will be made available by the clerk of the Medical Report Office to all parties concerned, including the judge.

If the case proceeds to trial after such examination and report, either party may call the examining physician as a witness, or the trial justice may, if he deems it desirable to do so, call the examining physician as a witness for the court, subject to questioning by any party but without cost to any party.

The judge in conducting a pretrial conference explores with the lawyers for both sides the issues involved and the possibilities of settlement. If there is a sharp dispute about the injuries sustained by the plaintiff and if it appears to the judge that a report by an impartial expert would be helpful, he makes an order referring the case to such an expert. Consent by the lawyers for both sides is not necessary. Although some lawyers have requested the use of impartial experts, none have registered any sharp objection. The judge does not know the names of available experts, only what specialties are available. He will describe the nature of the medical dispute and indicate in his order the type of specialist required to examine the plaintiff. He also fixes the date for a resumed pretrial conference when the case will again be discussed in the light of the findings by the impartial expert. Occasionally multiple examinations are necessary, either because there are several plaintiffs or because the plaintiff's injuries require the examination by two or more experts.

The impartial expert will receive all available records including hospital records far in advance of his examination in order to familiarize himself with the case before his examination. On completion of his examination he forwards this report to the Medical Report Office which in turn furnishes copies to the judge and to the opposing lawyers.

If the case is not settled and goes to trial, the impartial expert may be called on to testify. He may be cross-examined by the opposing attorney, and further questions may be put to him by the judge.

As a result of this Project it is interesting to note that about 80 per cent of all references to medical experts have resulted from the pretrial conferences. About 40 per cent of all cases referred to impartial experts involve claims of postconcussion syndromes; about 7 per cent involve claims of back injuries. Next in volume are fracture claims which constitute about 29 per cent. The specialties most in demand reflect the nature of the claims made. They have been neuropsychiatry, orthopedics, and roentgenology. Some cases, about 5 per cent, require the services of more than one specialist.

It may be interesting to note also that in a number of cases impartial experts have found the medical claims of plaintiffs to be thoroughly justified, even understated, and as a result of such findings cases have been settled at figures much higher than defendants were willing to offer before impartial examinations had been made.

The Medical Expert Testimony Project disclosed a lack of skill on the part of many partisan doctors and a disregard by some of them of readily available diagnostic technics. In about one fourth of all cases referred to impartial experts, there was trouble with x-rays. Either no x-rays were taken, or they were taken at the wrong time, or they were taken badly, or they were misread. Suture lines were mistaken for

[Continued on page 3774]

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fractures in an alarmingly large portion of cases. In the area of skull and brain injuries, spinal taps and electroencephalograms done at the right time might have provided valuable evidence, but they were rarely used. Other laboratory technics were likewise neglected, and finally some reports by partisan physicians were so sketchy, careless, and casual as to suggest that the examinations on which they were based were of a similar nature.

The remainder of the report is devoted to a discussion of the fees paid the impartial experts and dispositions without trial and concludes with a statement by the committee that the success of the Project was attributable less to its mechanics than to the quality of the men who participated, particularly those doctors and judges who were engaged in its day-to-day operations. The committee approved the continuation of the Project as an integral part of court operation and recommended continued co-operation of the judiciary, bar associations, and medical societies in the use of the machinery and in securing the services of highly qualified doctors as medical experts. The committee is convinced that the Project will succeed and recommends it for consideration by courts, bar associations, and medical societies in other communities.

The report includes in its second part a study by the medical consultant, relates his function, and follows up with case presentations of the various problems with which the consultant has been confronted, his reactions, and the disposition of the various cases in which the medical expert has played an important part.

The volume should be read by all specialists. It will give them a clearer understanding of the problems which face the court and the part which they will be expected to play in relieving congestion and assisting the court in arriving at impartial and just decisions.—S. Louis Hornstein

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Dr. Murray Speaks at A.A.G.P. Dedication

A.M.A. President Dwight H. Murray was one of seven speakers at the dedication of the new $650,000 national headquarters building of the American Academy of General Practice at Kansas City on Saturday, September 1. Dr. Murray, who was paid eloquent tribute in his introduction by Academy President John S. DeTar, of Milan, Michigan, outlined the tremendous progress that medicine is making in the building of modern facilities in every state and community of the nation.

"If the cost of all new medical and health facilities—hospitals, medical schools, medical society buildings, doctors' offices, and other structures—during 1955 is added up, we would probably get a figure near one and a half billion dollars," Dr. Murray said.

A reception and banquet in the evening was attended by more than 400 persons, including leaders from many state chapters of the Academy. President-elect Malcolm E. Phelps, El Reno, Oklahoma, who served as toastmaster, introduced officers and distinguished guests.

Dr. Murray again addressed this group as did H. Roe Bartle, who was hailed as "The Colossal Mayor of Kansas City" in a special article in the *Saturday Evening Post* last January 28. At both the afternoon and evening ceremony, Mayor Bartle praised the family doctor for his unselfish service to humanity. Tribute also was paid to Dr. James R. McVay, a member of the A.M.A. Board of Trustees, for his long and distinguished service to medicine and the profession in the Kansas City area.

Within an hour after Dr. Murray's arrival in Kansas City, he was invited to a press conference in the Academy building. He discussed the Harrison narcotics law and how effective it has been since its enactment in 1914.

"Almost forty-two years of experience show that the law's prohibitory method has failed," Dr. Murray said, adding that the battle against addiction rests at the doorstep of medicine, embracing also the fields of psychology and sociology. Dr. Murray told reporters that the medical and social fight to cure and rehabilitate users of narcotic drugs is a major problem today, and that the A.M.A. House of Delegates has been acting on various phases of the problem since 1906, which was eight years before Congress passed the Harrison law.

Dr. Murray's remarks were given wide play in newspapers, including a 15-inch story on the front page of the *Kansas City Times*. Dr. Murray was unaware that while he was meeting with the Kansas City press the Congress of Correction, which is made up of 800 of the nation's leading prison authorities, was concluding its annual five-day meeting in Los Angeles. The Congress' final action was adoption of a resolution which termed "narcotics a medical problem," and opposed "harmful and harsh punitive measures" against the addict.—*Secretary's letter, September 11, 1956*

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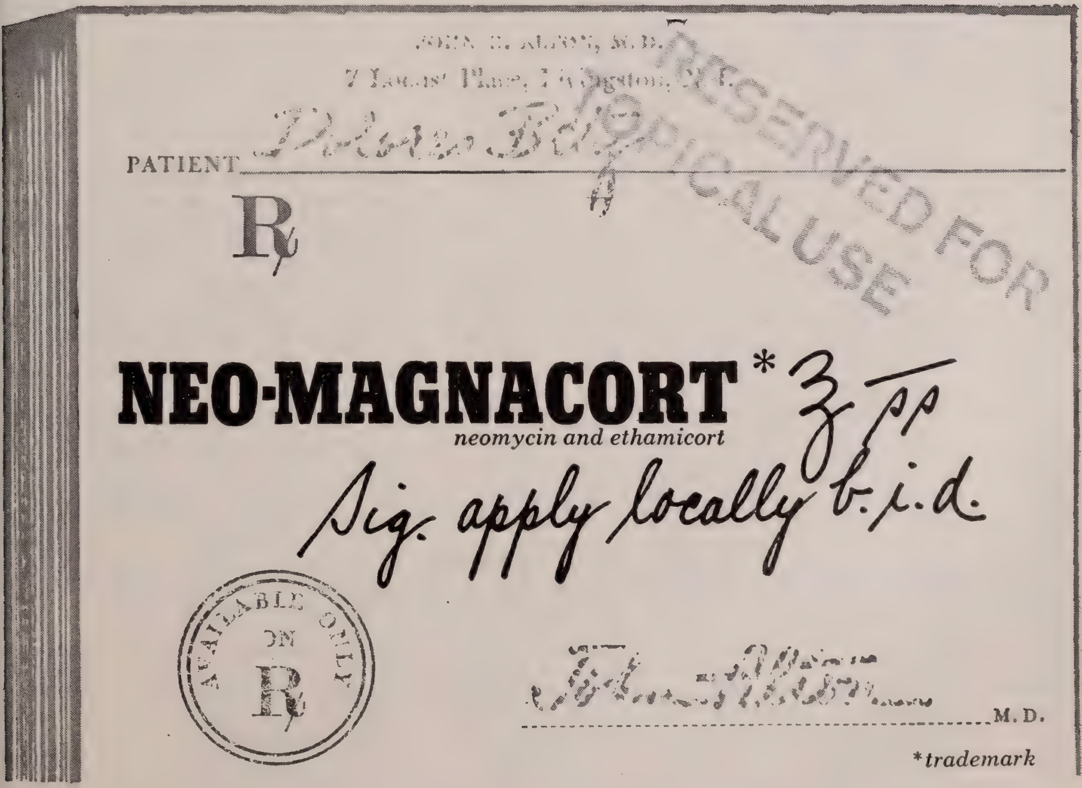

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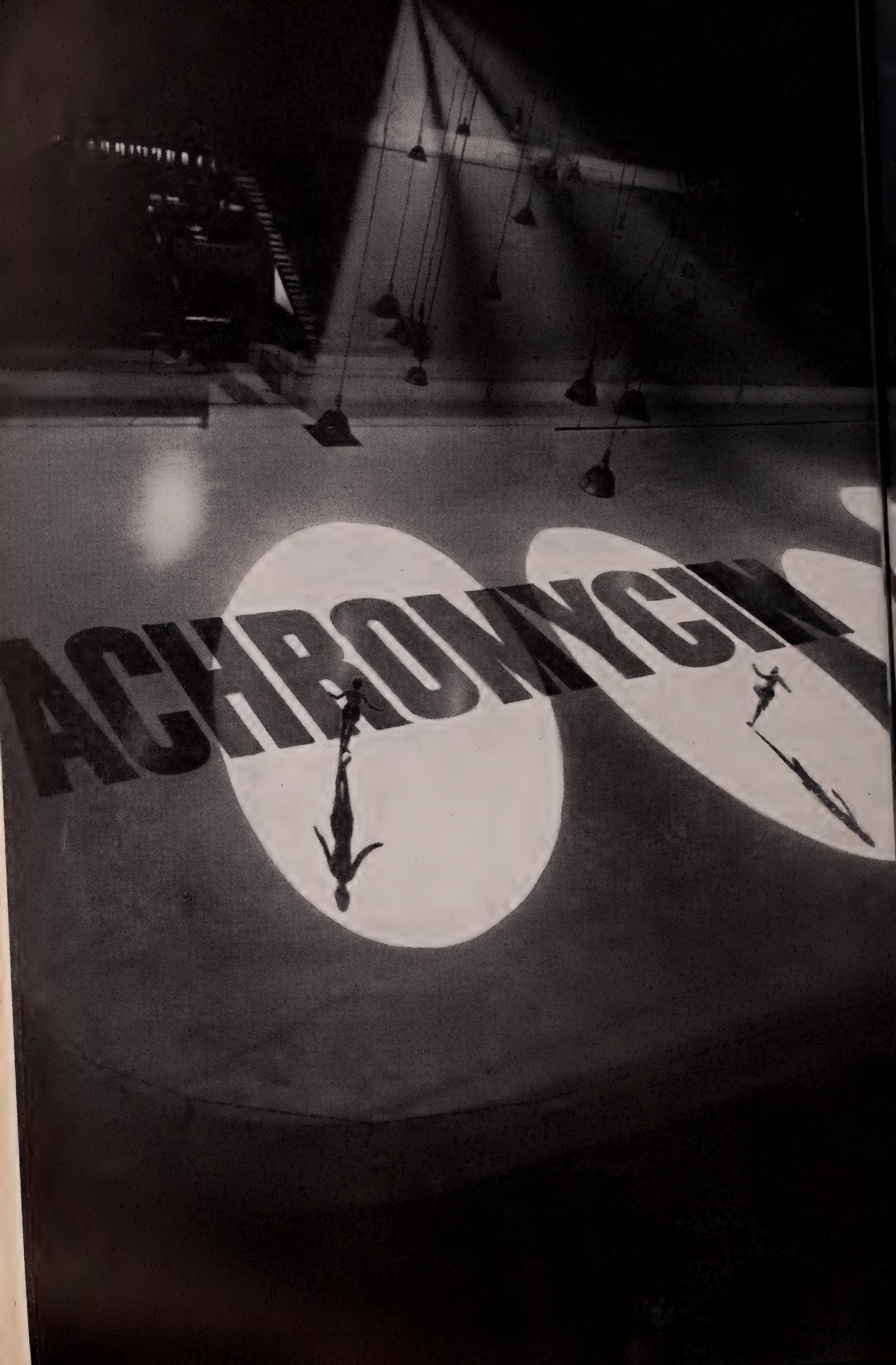
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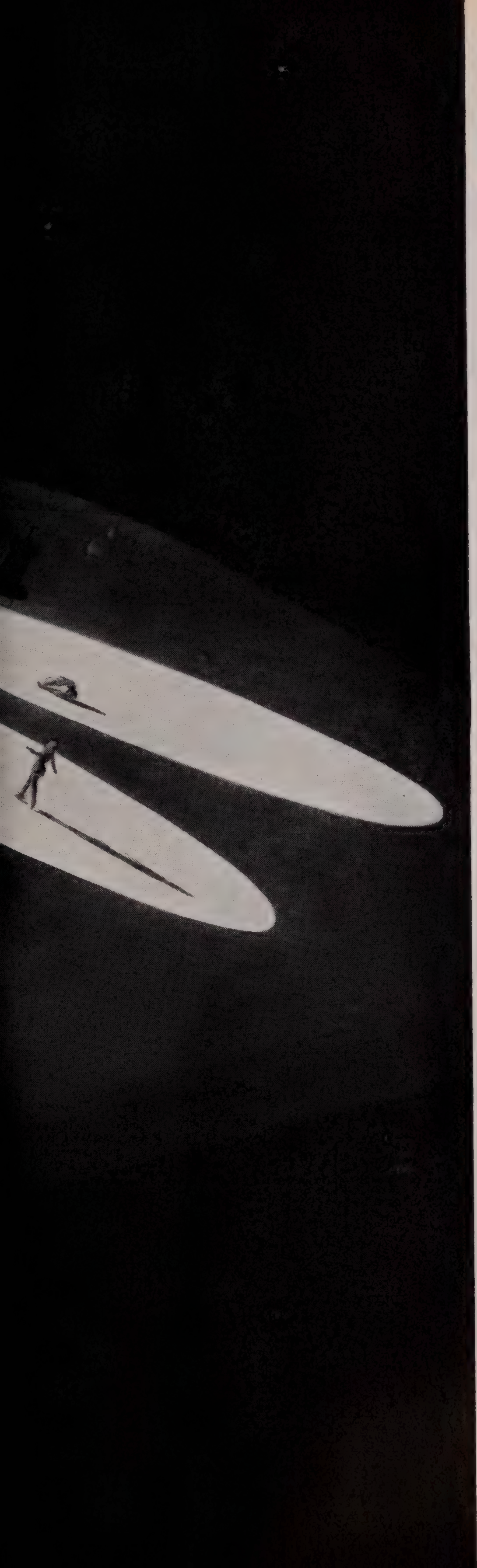

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1. Finland, M., *et al.: J.A.M.A.* 154:561 (Feb. 13) 1954.
2. Prigot, A. and Marmell, M. *Antibiotics and Chemotherapy* 4:1117 (Oct.) 1954.
3. Trafton, H. and Lind, H.: *idem* 4:697 (June) 1954.
4. English, A., *et al.: idem* 4:441 (April) 1954.

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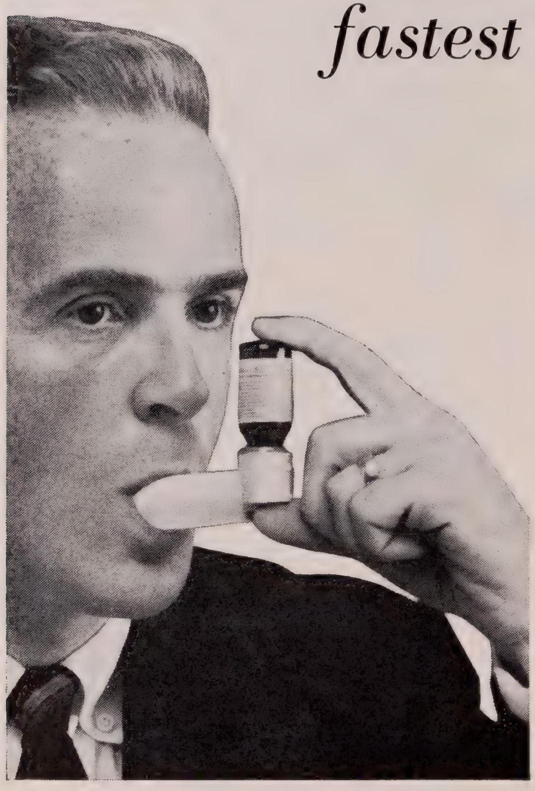

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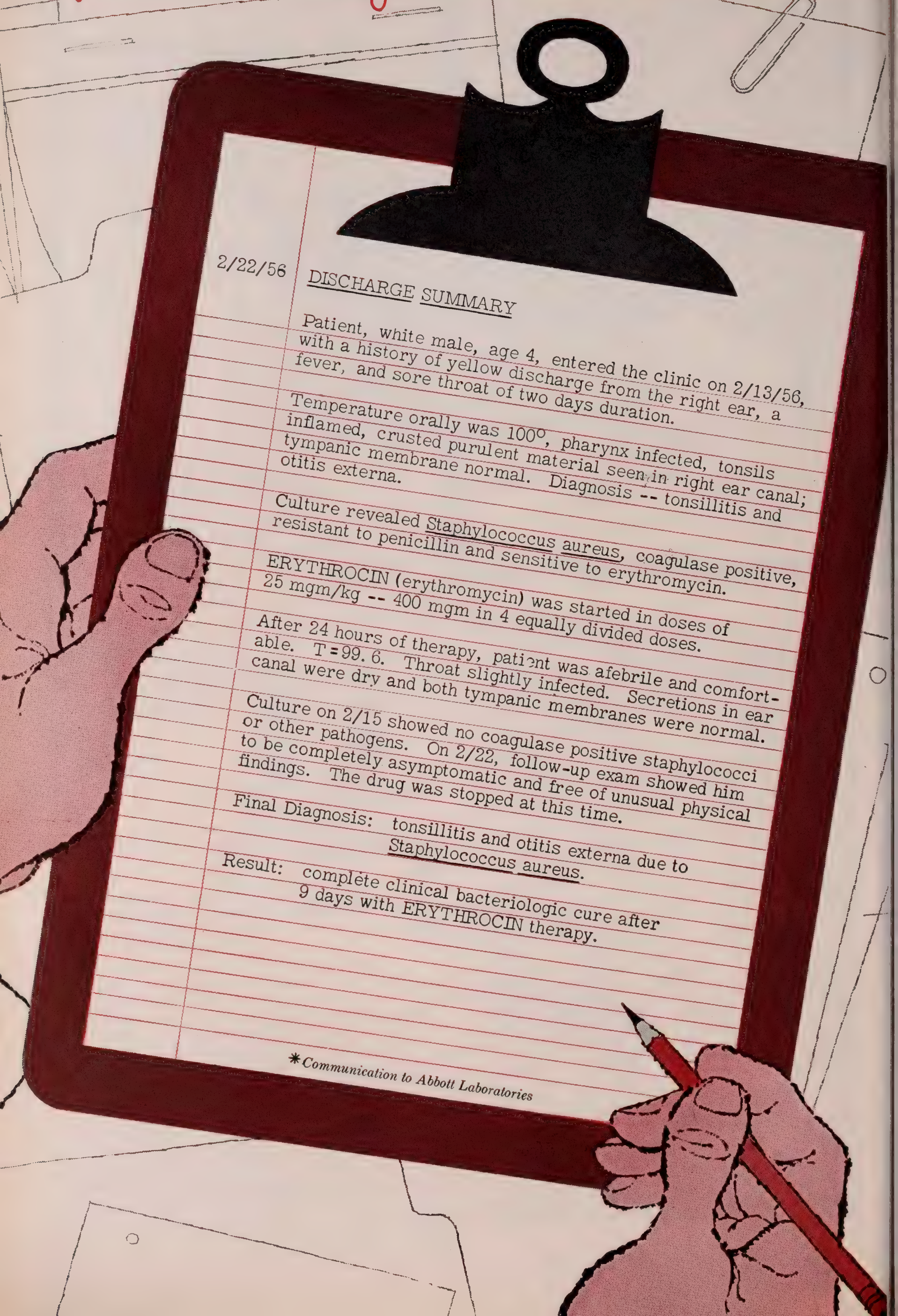

2/22/56

DISCHARGE SUMMARY

Patient, white male, age 4, entered the clinic on 2/13/56, with a history of yellow discharge from the right ear, a fever, and sore throat of two days duration.

Temperature orally was 100°, pharynx infected, tonsils inflamed, crusted purulent material seen in right ear canal; tympanic membrane normal. Diagnosis -- tonsillitis and otitis externa.

Culture revealed Staphylococcus aureus, coagulase positive, resistant to penicillin and sensitive to erythromycin.

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After 24 hours of therapy, patient was afebrile and comfortable. T = 99.6. Throat slightly infected. Secretions in ear canal were dry and both tympanic membranes were normal.

Culture on 2/15 showed no coagulase positive staphylococci or other pathogens. On 2/22, follow-up exam showed him to be completely asymptomatic and free of unusual physical findings. The drug was stopped at this time.

Final Diagnosis: tonsillitis and otitis externa due to Staphylococcus aureus.

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1. Herrell, W. E., Erythromycin, Antibiotics Monographs, No. 1, p. 29, New York, Medical Encyclopedia, Inc., 1955. *Idem* p. 30.

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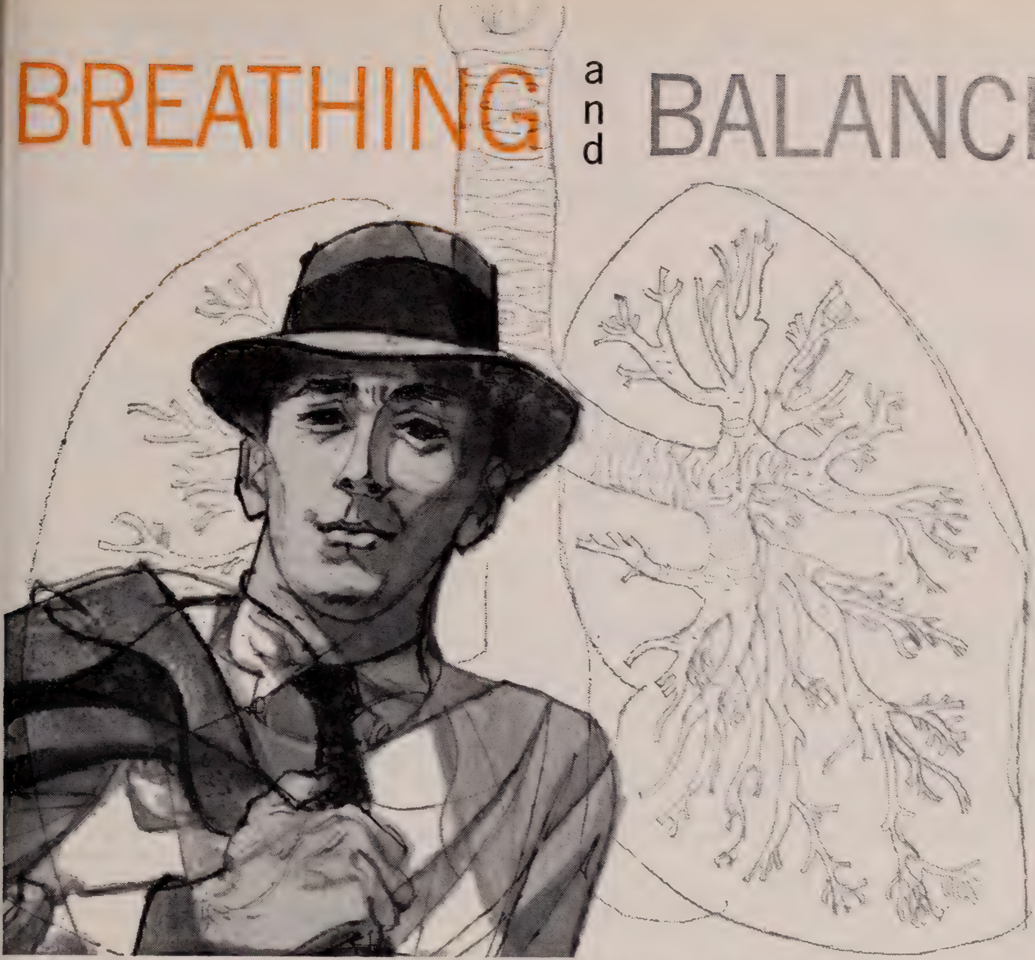

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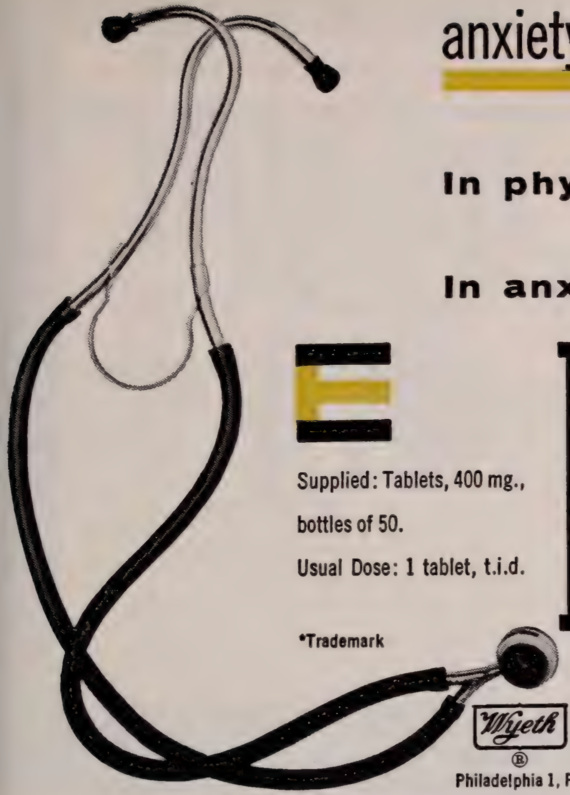

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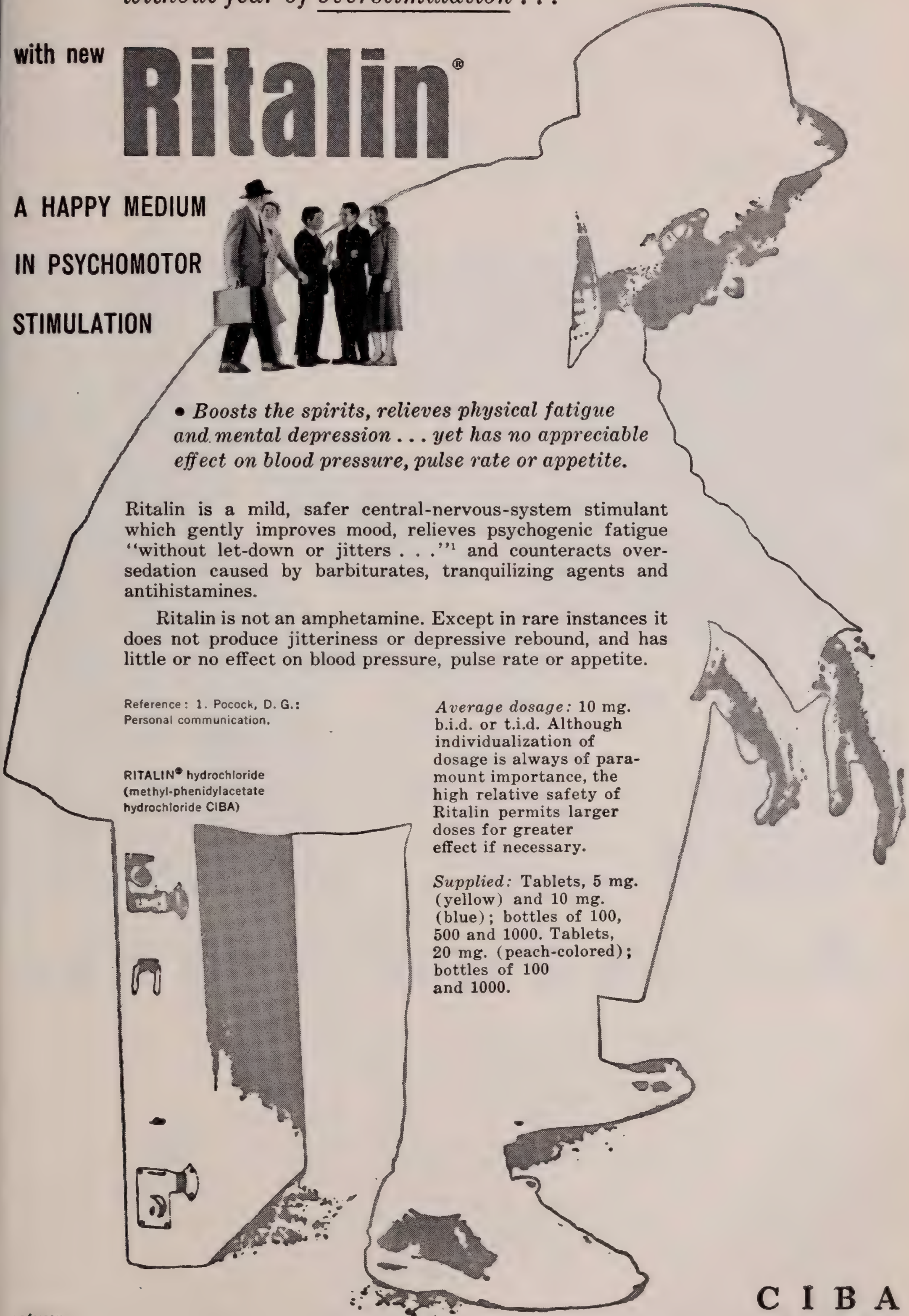

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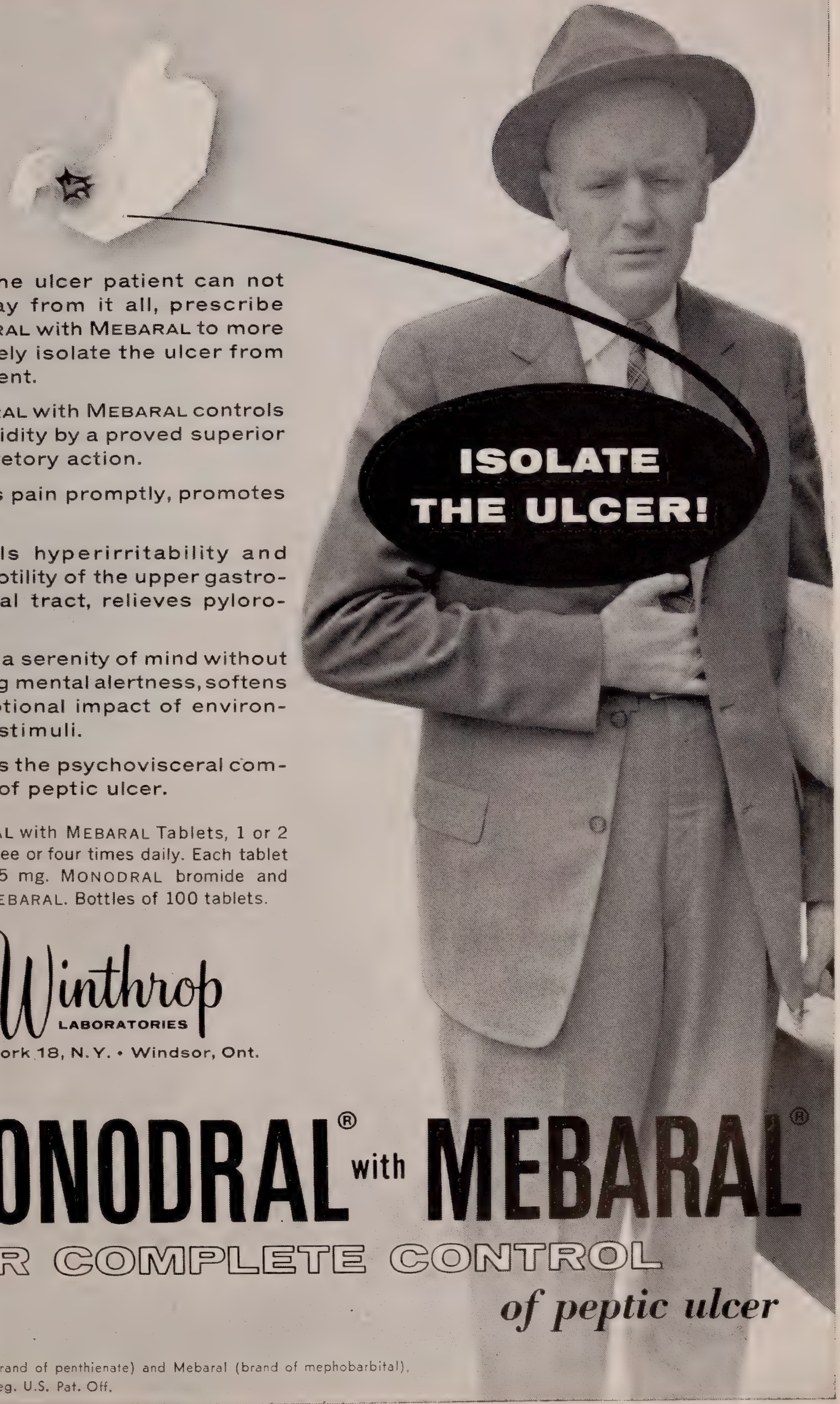

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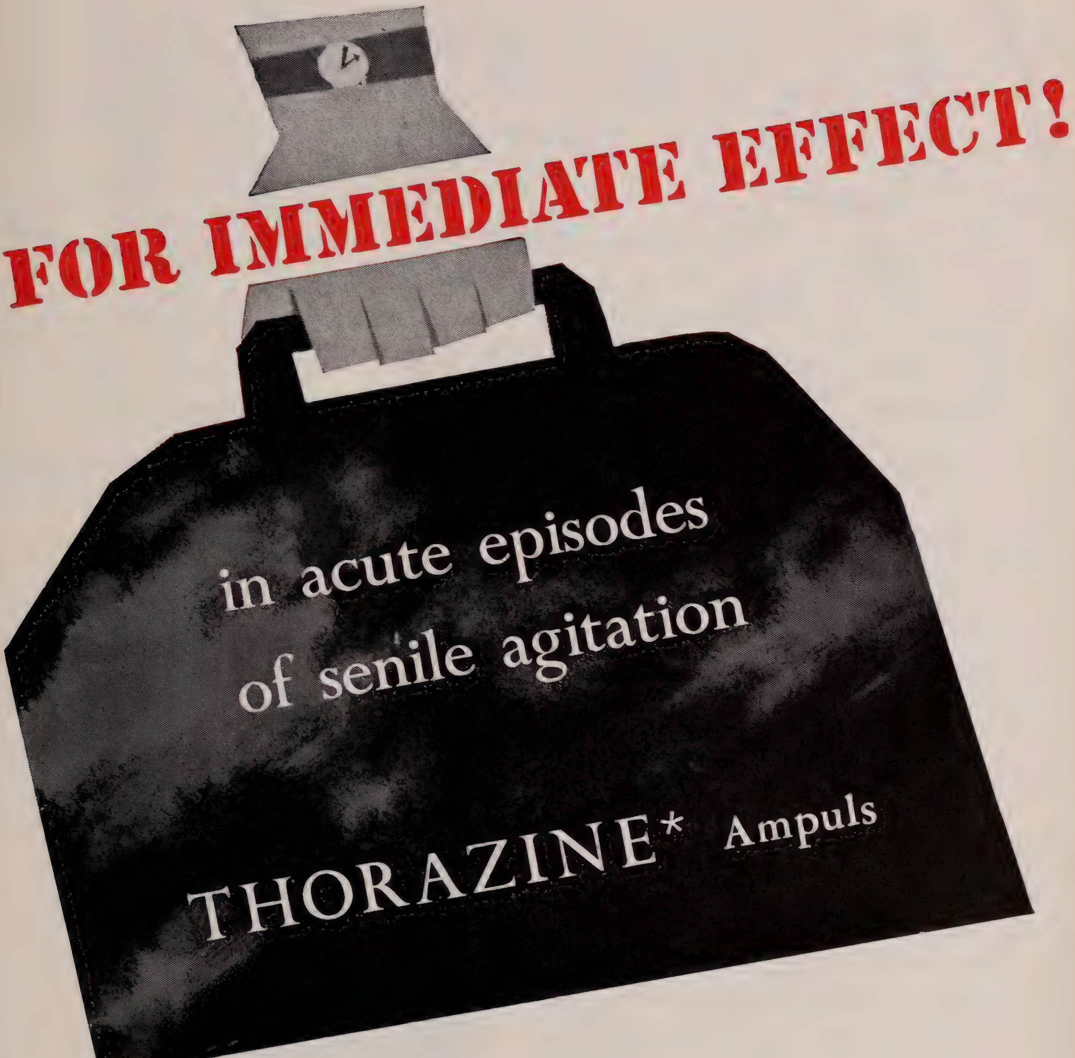
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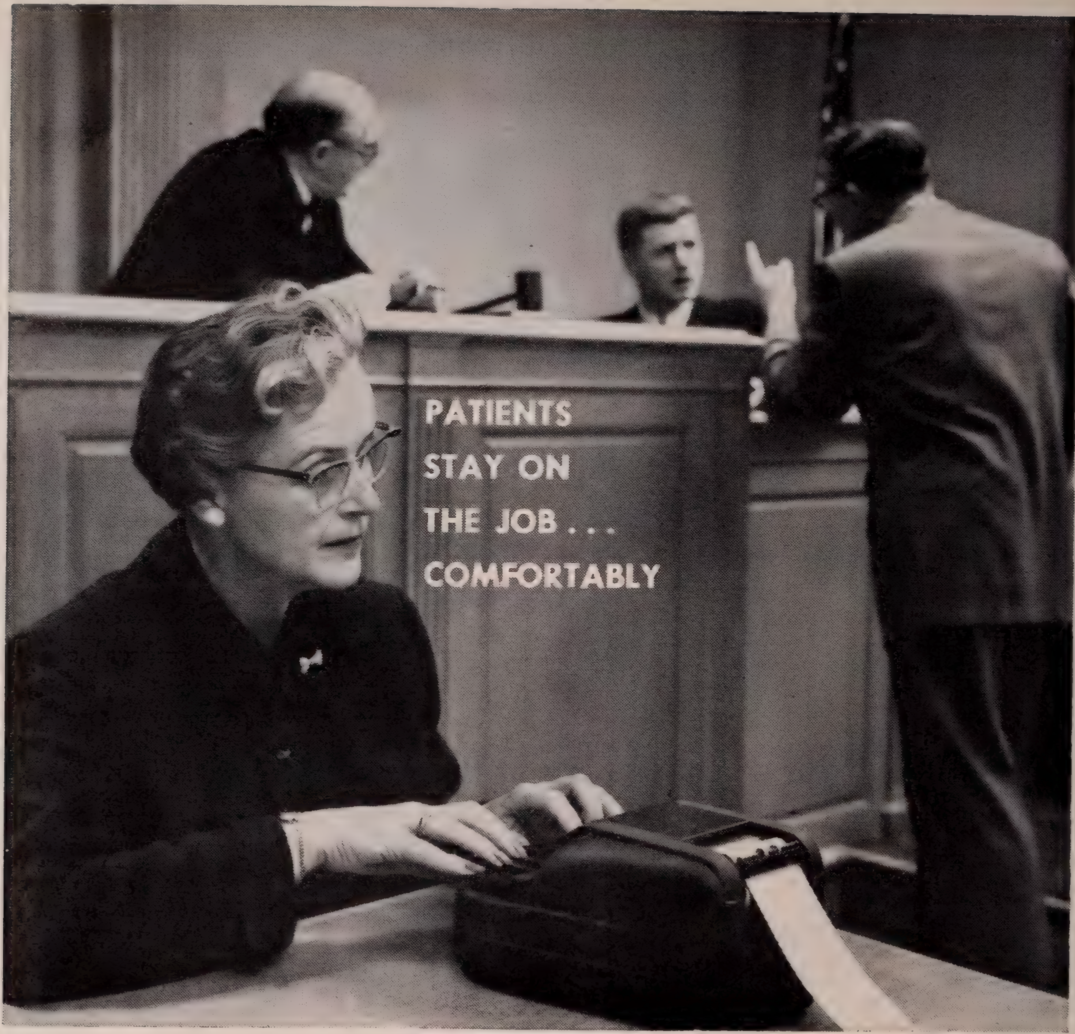
In addition to its gentle antihypertensive action, Rauwiloid provides psychic tranquility and overcomes tachycardia. Thus Rauwiloid participates in *both* the somatic and psychic phases of therapy for hypertension.

Treatment in *all* types of hypertension may begin with Rauwiloid. 80% of mild labile hypertensives require no additional therapy.

Dosage is definite and easy: two 2 mg. tablets at bedtime.

Riker
LOS ANGELES



in URINARY DISTRESS

Pyridium®

(Brand of Phenylazo-diamino-pyridine HCl)

provides gratifying relief in a matter of minutes

Painful symptoms impel the patient with acute or chronic pyelonephritis, cystitis, urethritis or prostatitis to seek your aid. In the interval before antibiotics, sulfonamides or other antibacterial measures can become effective, the nontoxic, compatible, analgesic action of PYRIDIUM brings prompt relief from urgency, frequency, dysuria, nocturia or spasm. At the same time, PYRIDIUM imparts an orange-red color to the urine which reassures the patient. Used alone or in combination with antibacterial agents, PYRIDIUM may be readily adjusted to each patient by individualized dosage of the total therapy.

SUPPLIED: In 0.1 Gm. (1½ gr.) tablets in vials of 12 and bottles of 50, 500, and 1,000.

PYRIDIUM is the registered trade-mark of Nepera Chemical Co., Inc., for its brand of phenylazo-diamino-pyridine HCl. Sharp & Dohme, Division of Merck & Co., Inc., sole distributor in the United States.

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Philadelphia 1, Pa.
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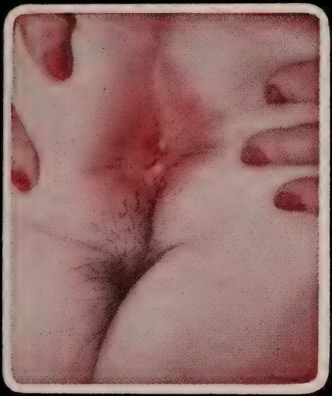
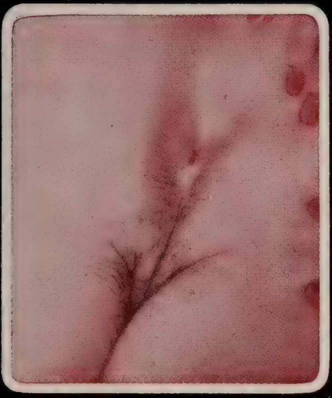


BEFORE: Female, 61 years. Severe itch in anorectal and vulval areas for 7 years. Area about rectum and vulva reddened and fissured, sensitive, painful. Itching continuous. Moderate crythema.



AFTER: Hydrolamins applied 2 or 3 times daily. Itch and pain relieved first week. Within 3 weeks no irritation, erythema or itch.

STOPS

the silent agony

# of PRURITUS ANI

in 98% of cases*

Breaking the itch-scratch-itch cycle is essential to control of pruritus ani. Topically applied Hydrolamins Amino Acid Ointment relieves itch *with anesthetic speed*—but without danger of tissue reaction.

In a series of 100 unselected sufferers from pruritus ani, the author* reported "Relief... experienced immediately in 98 cases." Moreover, in 88% of cases, "Within a few weeks' time there is every appearance of normal skin."

HYDROLAMINS®

AMINO ACID OINTMENT

Hydrolamins offers an isotonic, specially selected combination of amino acids derived from lactalbumin in a vehicle of polyethylene glycol 1500. Hydrolamins buffers against local (bowel) irritants. It does *not* contain local anesthetics ("caines") or astringents.

SUPPLIED in 1 oz. (28 Gm.) tubes.

Lewal *PHARMACEUTICAL COMPANY* *CHICAGO 14, ILLINOIS*

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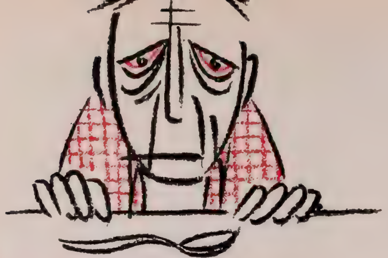
*Bodkin, L.G., and Ferguson, E.A., Jr.: Successful Ointment Therapy for Pruritus Ani, Am. J. Digest. Dis. 18:59 (Feb.) 1951.



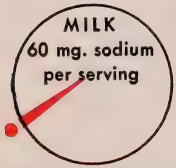
desserts for cardiac patients?

certainly!

If they're low sodium

"Junket" rennet desserts are excellent for the cardiac patient who is permitted milk, as they average about 62 mg. per ½-cup serving...of which "Junket" Rennet Powder contributes only 2.0 mg.⁽¹⁾ The balance of about 60 mg. sodium per serving is in the whole milk from which "Junket" rennet desserts are made. They're relatively low in caloric content too . . . 128 calories for an average ½-cup serving . . . and high in nutritional value.

Whenever milk is permitted on the sodium restricted diet, refreshing, delicately flavored "Junket" rennet desserts may be safely advocated.



'Junket" Rennet Powder
2.0 mg. per serving

(1) Based on average of 7 flavors. Analysis of sodium content made by Foster D. Snell, Inc., New York City.

junket®

RENNET POWDER

Makes *Fresh* Milk into Rennet Desserts

"Junket" Rennet Powder — Vanilla, Chocolate, Lemon, Orange, Raspberry, Maple, Strawberry.

"JUNKET" (Reg. U.S. Pat. Off.) is the trade-mark of Chr: Hansen's Laboratory, Inc., Little Falls, N.Y., for its rennet and other food products

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"...there is no diseased state in which the capillaries are not detrimentally modified..."[1]

Hesper-C

(HESPERIDIN COMPLEX AND ASCORBIC ACID)

to restore and maintain capillary integrity

A basic need in diverse disorders. Numerous studies have disclosed that capillary fragility is a basic pathological finding in many disease states.[2-8] The capillary-protective factors in Hesper-C act synergistically to *restore* and *maintain* capillary integrity.[3,9,10,11]

Normal capillary permeability helps limit or prevent hemorrhage and enhances utilization of essential tissue nutrients.

Indications: Capillary fragility associated with cardiovascular and cerebrovascular diseases, diabetes, hypertension, habitual abortion, arthritis, allergies, asthma, hematuria, inflammatory and edematous disorders.

Dosage: Initially, not less than 6 capsules or teaspoonsful daily. Maintenance dose, 4 capsules or teaspoonsful daily. Each capsule or teaspoonful (5 ml.) contains hesperidin complex 100 mg. and ascorbic acid 100 mg.

Supplied: *Capsules:* in bottles of 100 and 1000. *Liquid:* in bottles of 4 oz. and 12 oz.

References: **1.** Martin, G. J., et al.: Exper. Med. & Surg. *12*:535, 1954. **2.** Griffith, J. Q., Jr., and Lindauer, M. A.: Am. Heart J. *28*:758, 1944. **3.** Barishaw, S. B.: Exper. Med. & Surg.: *7*:358, 1949. **4.** Epstein, E. Z., and Greenspan, E. B.: Arch. Int. Med. *68*:1074, 1941. **5.** Warter, P. J., et al.: Delaware M. J. *20*:41, 1948. **6.** Beaser, S. B., et al.: Arch. Int. Med. *73*:18, 1944. **7.** Greenblatt, R. B.: Office Endocrinology, ed. 4, Springfield, Ill., Charles C Thomas, 1952. **8.** Gale, E. T., and Thewles, M. W.: Geriatrics *8*:80, 1953. **9.** Drezner, H. L., et al.: Am. Pract. & Digest. Treat. *6*:912, 1955. **10.** Selsman, G. J. V., and Horoschak, S.: Am. J. Digest Dis. *17*:92, 1950. **11.** Loughlin, W. C.: New York J. Med. *49*:1823, 1949.

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recognized

as a potent, specific anti-arthritic

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by over 100 million patient days

substantiated

in more than 700 published reports

BUTAZOLIDIN

(phenylbutazone GEIGY)

potent, specific anti-arthritic

Based on an impressive background of achievement attained over a period of four years involving both long-term and short-term therapy in all the major forms of arthritis, BUTAZOLIDIN is recognized as one of the most effective anti-arthritic agents currently available.

relieves pain
improves function
resolves inflammation

BUTAZOLIDIN being a potent therapeutic agent, physicians unfamiliar with its use are urged to send for literature before prescribing it.

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burdened heart
edematous tissues
distressed lungs

dubin aminophyllin

active diuretic
myocardial stimulant
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in bronchial asthma
paroxysmal dyspnea
Cheyne-Stokes respiration

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"FOR ANTI-FLATULENT EFFECTS IN FERMENTATION AND GASTRO-INTESTINAL DYSFUNCTION"

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Each tablet contains: Extract of Rhubarb, Senna, Precipitated Sulfur, Peppermint Oil and Fennel Oil, in a high activated willow charcoal base.

Action and uses: Mild laxative, adsorbent and carminative. For use in indigestion, hyperacidity, bloating and flatulence.

1 or 2 tablets daily ½ hour after meals.
Bottles of 100

"FOR MAKING A BUROW'S SOLUTION U.S.P. XIV WET DRESSING"

POWDER IN ENVELOPES OR IN TABLETS

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PRINCIPAL INGREDIENT OF ALUMINUM ACETATE

For wet dressings with astringent and antiphlogistic properties in the symptomatic treatment of inflammations, sprains, insect bites. For rapid healing by their antipruritic, decongestive action. Accurate dosage. Antiseptic. Stable.

Widely used by Civilians and Armed Forces.

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AN EXPERIMENT IN MEDICAL NOMENCLATURE INTRODUCING THE TERM:

"cell examination for uterine cancer"

The exfoliative cytological examination is called by some doctors the *cytologic cervical test*—by others the *"Pap" smear test*. In urging all women to have this test annually, we are calling it the *cell examination for uterine cancer*.

Here are our reasons:

Cytologic cervical test is a term which seems complicated to many women.

"Pap" smear test is simple, but women we have talked to find the word "smear" unpleasant and disturbing, and it may add to their anxieties about pelvic examinations.

Public relations advisors say that broadcasters and editors will dislike "smear"—and TV, radio and the press will be essential to the success of this educational project.

We have considered other terms but have at last agreed on *cell examination for uterine cancer* as the term which simply and accurately describes the keystone of this vitally important program.

This test can help save thousands of women each year. In many parts of the country it is becoming widely accepted as a part of a routine checkup. As fast as county medical societies approve, our local Units will urge women to go to their physicians annually for a *cell examination for uterine cancer*.

AMERICAN
CANCER
SOCIETY
®

quicker relief
and shortened disability
in Herpes Zoster and Neuritis

Protamide®

. . . Five Year Clinical Evaluation

With only one to four injections of Protamide® prompt and complete recovery was obtained in 84% of all herpes zoster patients and in 96% of all neuritis patients treated during a five-year period by Drs. Henry W., Henry G., and David R. Lehrer (Northwest Med. 75:1249, 1955).

The investigators report on a total of 109 cases of herpes zoster and 313 cases of neuritis, all of whom were seen in private practice. All but one patient in each category responded with complete recovery.

This significant response is attributed to the fact that Protamide therapy was started promptly at the patient's first visit.

The shortening of the period of disability by this method of management is described as "a very gratifying experience for both the physician and the patient."

Protamide® is a sterile colloidal solution prepared from animal gastric mucosa . . . free from protein reaction . . . virtually painless on administration . . . used intramuscularly only. Available from supply houses and pharmacies in boxes of ten 1.3 cc. ampuls.

Protamide®

. . . a product of *Sherman Laboratories*
Detroit 11, Michigan

Start **Protamide®** *Promptly*

When an unbidden guest brings diarrhea

CREMOSUXIDINE

SULFASUXIDINE® SUSPENSION WITH PECTIN AND KAOLIN

During warmer months the sharp increase in diarrhea brings you many patients. Confidently prescribe CREMOSUXIDINE, a reliable antidiarrheal and antibacterial. It detoxifies intestinal irritants and soothes inflamed mucosa. Pleasant tasting, chocolate-mint flavored.

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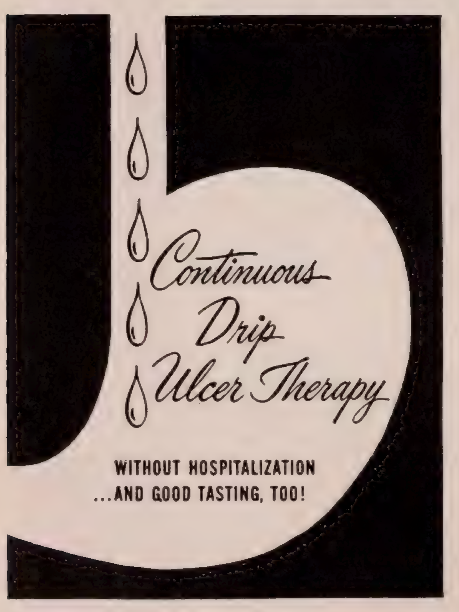

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CORPORATION
Pharmaceutical Division
RACINE, WISCONSIN

Nulacin

A recent clinical study* of 46 ambulatory nonhospital patients treated with Nulacin† and followed up to 15 months describes the value of ambulatory continuous drip therapy by this method. Total relief of symptoms was afforded to 44 of 46 patients with duodenal ulcer, gastric ulcer and hypertrophic gastritis.

The delicately flavored tablets dissolve slowly in the mouth (not to be chewed or swallowed). They are not noticeable and do not interfere with speech.

Nulacin tablets are supplied in tubes of 25 at all pharmacies. Physicians are invited to send for reprints and clinical sample.

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*Steigmann, F., and Goldberg, E.: Ambulatory Continuous Drip Method in the Treatment of Peptic Ulcer, Am. J. Digest. Dis. 22:67 (Mar.) 1955.

†Mg trisilicate 3.5 gr.; Ca carbonate 2.0 gr.; Mg oxide 2.0 gr.; Mg carbonate 0.5 gr.

Medihaler

Means self-powered, uniform, measured-dose inhalation therapy...

Medihaler

Means true nebulization. Each measured dose provides 5 to 8 times as many particles in the ideal size range as conventional nebulizers...

Medihaler

Means an unbreakable Oral Adapter—no movable parts—no glass to break—no rubber to deteriorate...

Medihaler

Means effective medications in an inert aerosol vehicle, in leakproof, spillproof, plastic-coated bottles...

Medihaler

Means utmost patient convenience—medication and Adapter together in plastic case, convenient for pocket or purse...

Medihaler

Means greater economy—no costly glass nebulizers to replace, and one inhalation usually suffices for prompt relief.

Medihaler®

THE UNIQUE MEASURED-DOSE INHALATION METHOD

In Asthma

For Rapid Relief of Acute or
Continuing Bronchospasm

℞ Medihaler-Epi™

Riker brand of epinephrine 0.5% solution in inert, nontoxic aerosol vehicle. Each ejection delivers 0.125 mg. epinephrine. In 10 cc. vial with metered-dose valve, sufficient for 200 inhalations.

℞ Medihaler-Iso™

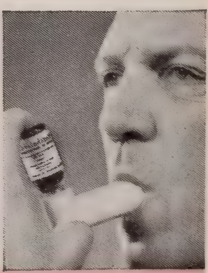
Riker brand of isoproterenol HCl 0.25% solution in inert, nontoxic aerosol vehicle. Each ejection delivers 0.06 mg. isoproterenol. In 10 cc. vial with metered-dose valve, sufficient for 200 inhalations.

Medihaler-Epi replaces injected epinephrine in emergency situations in which respirations have not ceased. It provides rapid relief in acute food, drug, or pollen reactions (including urticaria, bronchospasm, angioneurotic edema, edema of glottis, etc.). In most instances only one inhalation is necessary.

℞ Medihaler Oral Adapter

Note: First prescription for Medihaler medications should include the desired medication and Medihaler Oral Adapter.

Oral Adapter made of hard plastic with no movable parts...foolproof...unbreakable and easily cared for by rapid rinsing...entire set, including medication, fits into neat plastic case small enough to be carried inconspicuously in pocket or purse...the smallest package for nebulization ever produced.



In Angina Pectoris

NEW Medihaler-Nitro™

Medihaler-Nitro is 1% octyl nitrite in nebulization form. Outstanding for the emergency relief of acute anginal pain. Each inhalation delivers precisely 0.25 mg. of octyl nitrite. By using the lungs as the most direct portal of entry, faster relief than from orally administered drugs is assured because of proximity of pulmonary and coronary circulations. Faster-acting than nitroglycerin. Fewer side effects than from nitroglycerin or amyl nitrite.

Only one or two inhalations necessary. One full minute should elapse between inhalations. In 10 cc. Medihaler bottle with metered-dose valve.

Riker
LOS ANGELES

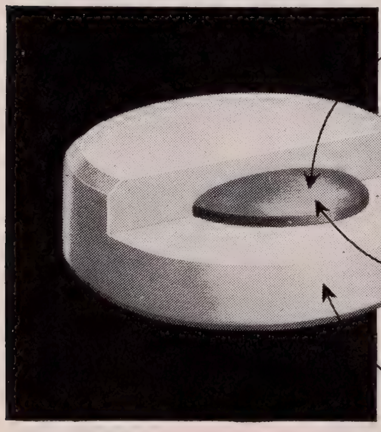
NEW

For Pain-Free
of everyday
In "Rheumatism"*

Multiple
TEMP

combine:

THE PROPER FORMULA
PROPERLY FORMULATED



Physical separation of the steroid component from the aluminum hydroxide as provided by the Multiple Compressed Tablet construction assures full potency and stability of prednisolone.

PREDNISOLONE *(1 mg.)*.

+

ASPIRIN *(0.3 Gm.)*. . . . .

+

ASCORBIC ACID *(50 mg.)*

+

ANTACID *(0.2 Gm.)*. . . . .

*Early rheumatoid arthritis
Rheumatoid spondylitis
Osteoarthritis
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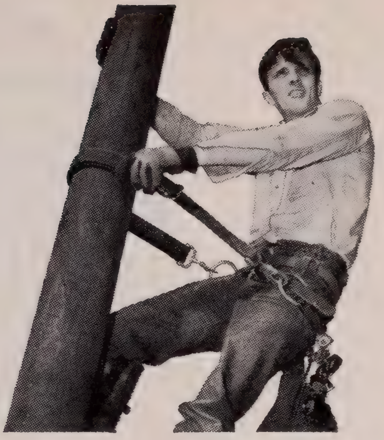
Psoriatic arthritis
Bursitis
Synovitis
Tenosynovitis
Myositis
Fibrositis
Neuritis

Performance

activities

Patients



C*ompressed* **T***ablets*

OGEN®

.... for anti-inflammatory, anti-rheumatic benefits *at effective low dosage.*

.... for analgesia plus additional anti-rheumatic activity.

.... for anti-stress support that guards against adrenal ascorbic acid depletion.
(Ascorbic Acid present as 60 mg. Sodium Ascorbate.)

.... dried aluminum hydroxide gel minimizes the possibility of gastric distress.

DOSAGE: *1-4 TEMPOGEN Tablets t.i.d. or q.i.d. (TEMPOGEN Forte, 1 or 2 tablets t.i.d. or q.i.d.) for one or two weeks. Then lower by 1 tablet every four or five days to maintenance level.*

SUPPLIED: *TEMPOGEN and TEMPOGEN Forte —in bottles of 100 Multiple Compressed Tablets. (TEMPOGEN Forte provides 2 mg. of prednisolone.)*

MSD

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new

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B_6

Striking relief from nausea of pregnancy

'MAREDOX'

brand Cyclizine Hydrochloride and
Pyridoxine Hydrochloride

Just one tablet a day, on rising or at night, restores the nausea-free status to most pregnant women.

Each tablet of 'Maredox' contains:
'Marezine'® brand
Cyclizine Hydrochloride . . . . 50 mg.
Pyridoxine Hydrochloride . . . . . . 50 mg.

BURROUGHS WELLCOME & CO. (U. S. A.) INC., Tuckahoe, New York

1957

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This is when the Sesquicentennial Convention of the Medical Society of the State of New York will be held at the Hotel Statler in New York City.

The Banquet will be held in the Grand Ballroom of the Waldorf-Astoria, Tuesday, February 19.

Your Society has planned some very special events to celebrate this anniversary. You will not want to miss any of it!

BE SURE TO COME!

FEBRUARY 18 to 21

1957

Upjohn

Ulcer protection that lasts all night:

Pamine* BROMIDE

Tablets

Each tablet contains:
Methscopolamine bromide .... 2.5 mg.

Average dosage (ulcer):
One tablet one-half hour before meals, and 1 to 2 tablets at bedtime.

Supplied: Bottles of 100 and 500 tablets

Syrup

Each 5 cc. (approx. 1 tsp.) contains:
Methscopolamine bromide .... 1.25 mg.

Dosage:
1 to 2 teaspoonfuls three or four times daily.

Supplied: Bottles of 4 fluidounces

Sterile Solution

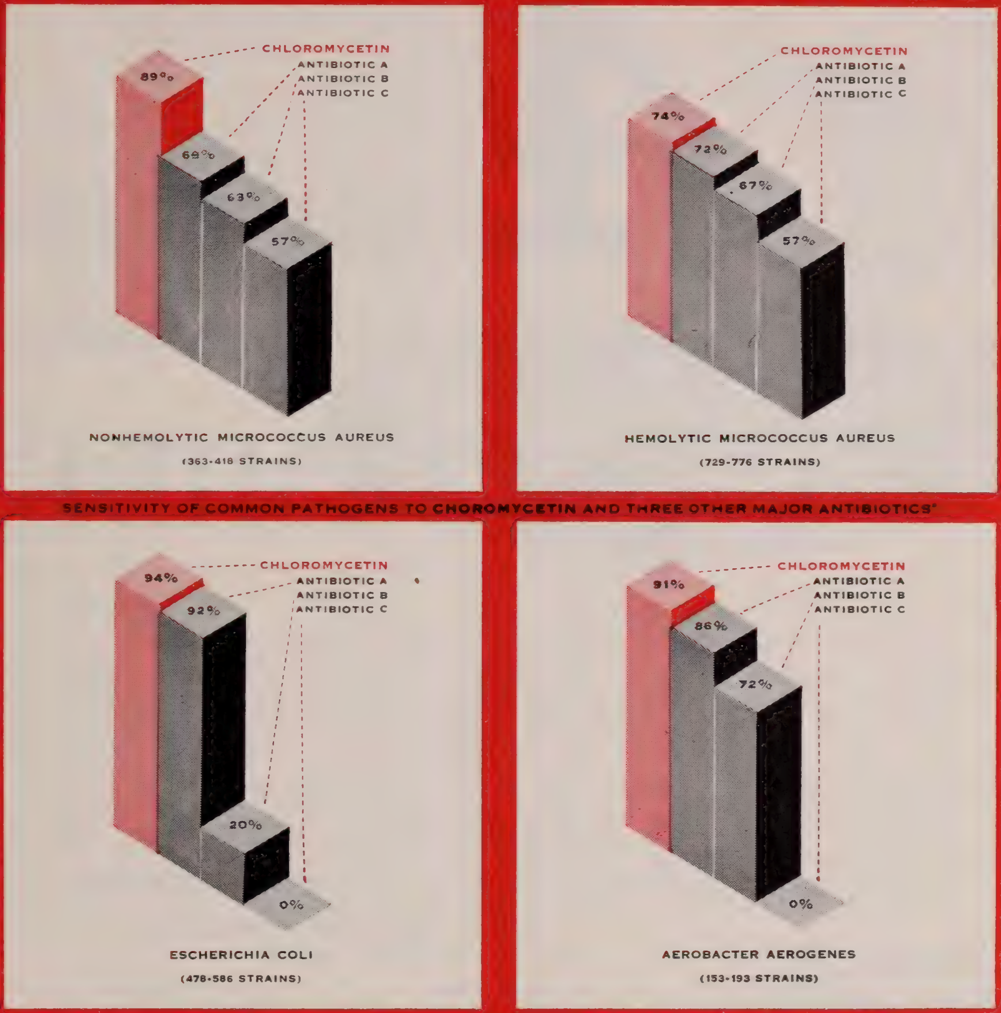
Each cc. contains:
Methscopolamine bromide .... 1 mg.

Dosage:
0.25 to 1.0 mg. (¼ to 1 cc.), at intervals of 6 to 8 hours, subcutaneously or intramuscularly.

Supplied: Vials of 1 cc.

*TRADEMARK, REG. U. S. PAT. OFF.—THE UPJOHN BRAND OF METHSCOPOLAMINE

The Upjohn Company, Kalamazoo, Michigan



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*This graph is adapted from Altemeier, W. A.; Culbertson, W. R.; Sherman, R.; Cole, W.; Elstun, W., & Fultz, C. T.: *J.A.M.A.* 157:305 (Jan. 22) 1955.

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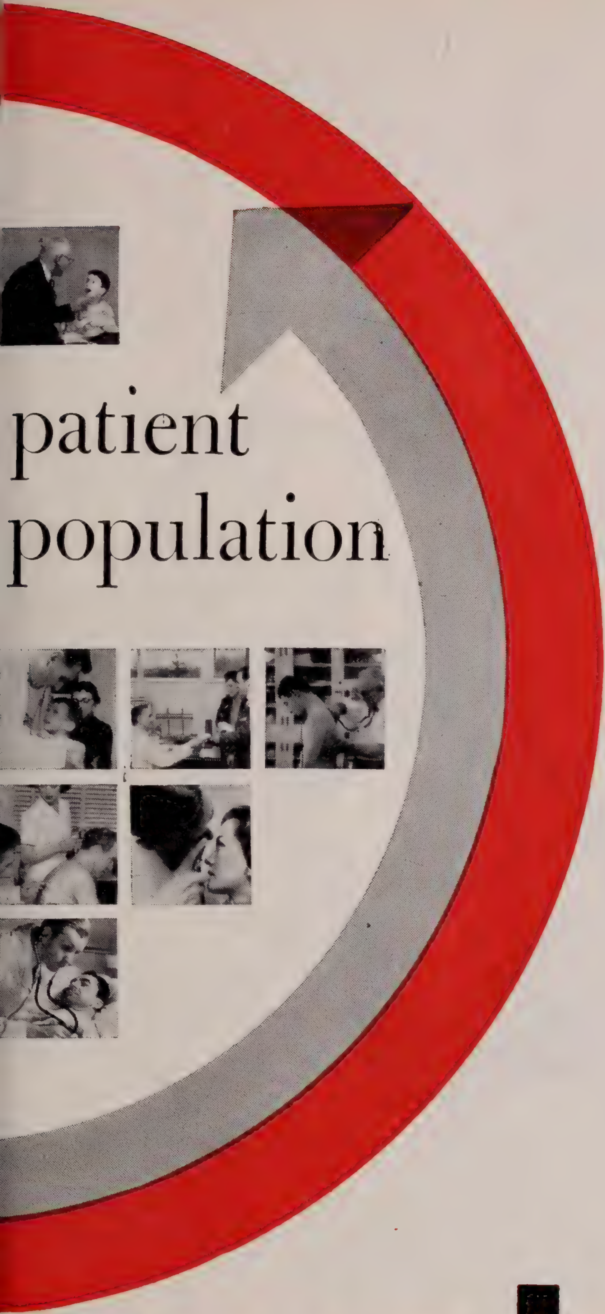

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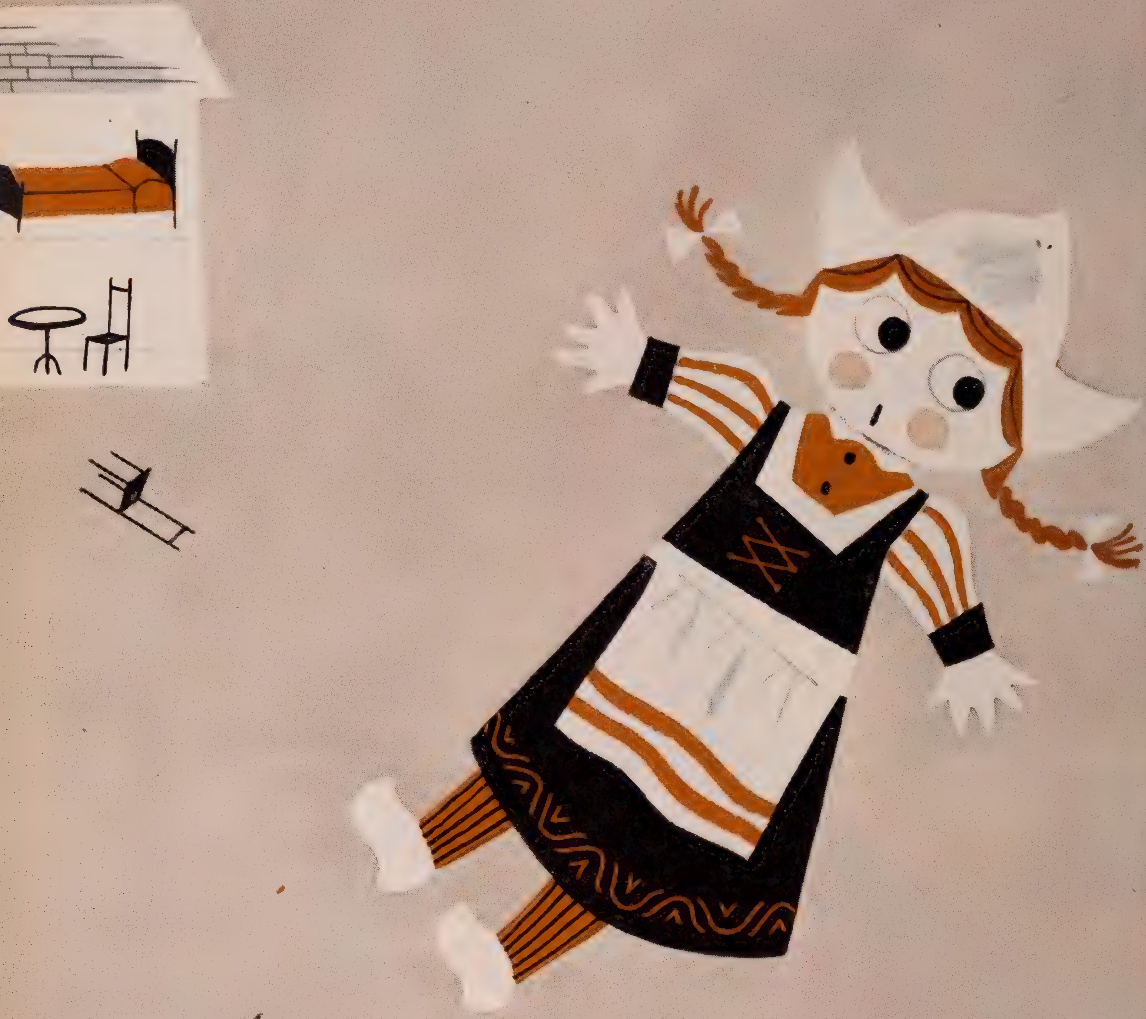

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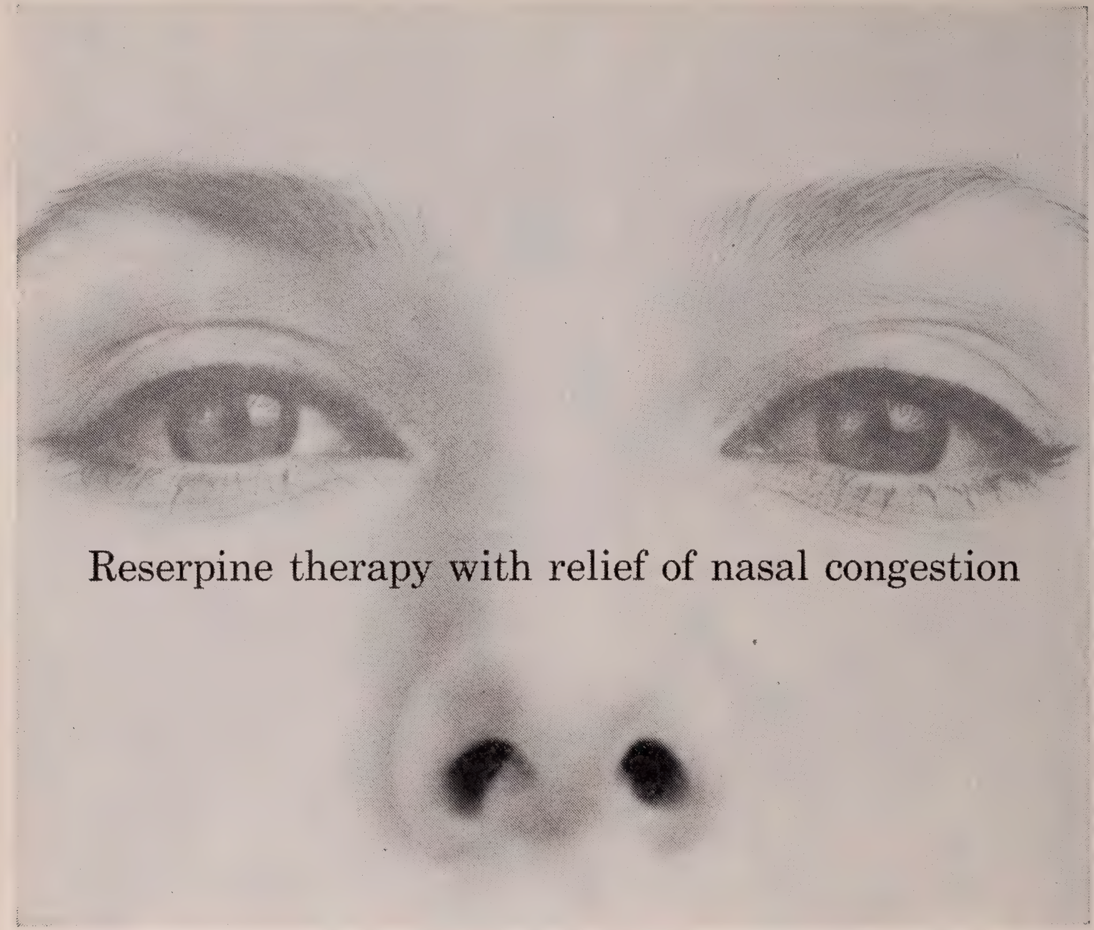
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EDITORIALS

Christmas, 1956

Once again the Publication Committee, the editors, and the staff of the Journal convey to our readers and those who advertise in our columns, to our authors, and those who print the Journal the season's greetings; peace on earth, good will toward men!

The Journal is a collective enterprise now in its fifty-sixth year of continuous publication. It is the product of men's minds and hearts, of their toil and ingenuity throughout those years. To what end? That knowledge and scientific truth shall flow continuously from its sources to our readers. In its small way the Journal seeks to aid the great advance of learning, to present the picture, in vignettes, of the procession of medical history of the State, to further the peaceful arts of healing to the comfort of mankind.

Surely there is here in our privilege to write and publish freely much to be thankful for, much to gladden the heart and uplift the spirit. To have a part, however small, in the great purpose of the Creator is a joyful thing. So to you all wherever you may be, season's greetings.

The Hush of Retirement*

In no other of life's professions or occupations is the preparatory period so exacting, so rigorous, so expensive or so prolonged as in medicine. The young physician in the full hybrid vigor of early practice may, it is true, look forward to retirement as something remote which will take care of itself, if he is a provident type and if proper financial dividends accrue. The simple fact, that mental training and preparation for the peace of an unoccupied mind is equally necessary, is but ill understood. For medicine is an anxious pursuit and the concerns of the moment are too engrossing to leave much leisure for the contemplation of the remote future, except perhaps in a materialistic sense. Medical men receive no training whatever in preparation for voluntary retirement or a forced detour on the road to fame.

Retirement must come. For those to whom it comes as a result of a well worked out plan, a competency suitable to the individual is usually well foreseen, but to those to whom it comes as a result of a devastating episode such as a coronary or unexpected stroke, too often the specter of the fear of dependency is riding pillion, and a needy environment, or the fear of it, is not conducive to mental peace.

The hobbies of medical men are too often of a type which are too strenuous to be projected into the years of retirement—golf, hunting, and other physical pleasures may be enjoyed for a time and, while these may have been anticipated with the keenest delight, yet they do not fill the evening hours, and ultimately satiety dogs the heels of pleasure. For those whose leisure hours were of the vigorous type and who have suddenly been arrested on the tide of life, the suspension of both work and physical pleasures leads to a frustrated, hopeless existence which is only accepted with more than a dash of angostura.

We are no longer educated in a way that permits us to develop sedentary cultural hobbies. We are becoming a nation of skilled artisans. There is in every man a skill hunger, a desire to do something better than his fellow man and our whole system of education is leading to the training which develops skill—a mere cultivation of aptitudes which we may or may not possess. This is a fine preparation for the utilitarian breakfast of life but an indigestible supper in the cultural evening. Skills are not enough! It is not enough merely to be wise in one's own work; the view is too short. The laborer is not remembered for his work, but the designers of our great churches, the preachers of our great sermons, the founders of new biological principles, the writers of our great essays—their memorials shall not depart away. Their minds are fully occupied in retirement!

---

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There is a great economic pincers movement slowly encircling our profession and, unknowingly we are entering a great medical climacteric. With it is coming a great need for reassessment of our plans for retirement, both for those whose hopes encompass nothing more than carefree hours on the municipal golf course on the one hand, and the stately caperings of those who follow the spoor of the red carpet on the other.

While prophecy is a gratuitous folly, I believe that we of more senior years today are among the last of this era's confirmed, unblushing sybarites. In these days of the upsurging proletariat, vanishing cellars, mounting taxes, egalitarianism, our savings surtaxed into the limbo, there is no longer a possibility of wealth and but little of unharried retirement. Chilled as we are by the first frosts of our coming austerity, encumbered as we are by the prospect of our ultimate regimentation, we can no longer look forward to yachts, country estates and racing stables, but we can and we must prepare for our intellectual entertainment during the years of our physical decrepitude. Nor can we escape these confiscatory governmental encroachments, dragooned as we are willy-nilly into the strictest financial probity.

On their retirement most men fulfill a natural bent to return to the vineyards of their youth, frequently with a desire to settle there; but the specter of aging kindred, outstretched palms, and strangers in the old chapel assuages such a yearning at an early date. The desire to retire to salubrious climates is a natural one and the establishment of a new home for a time is all engaging. But you do not make new friends readily after seventy and, in those that you do make, the roots are less deeply thrust. When the flood of home town letters slows as it will do to the merest trickle, an all encompassing ennui develops and the transplanted physician sells out and goes back home.

A man should retire amongst his friends. Sedentary hobbies are like friends: it is true they can be developed to a satisfying degree after retirement but they are not likely to be. Hobbies like friends should be developed as a slow process of growth through the years and something to which one can look forward as an ultimate metamorphosis from an exacting to a relaxing change of occupation. You should develop your hobbies before retirement. New friends and new hobbies developed in senior years tend ultimately to cloy. There is wisdom in the old Chinese proverb, "Dig your well before you are thirsty." There can be nothing more pitiful than to watch the tired quest of a beleaguered soul searching for intellectual entertainment. It is then that one appreciates the Latin inscription on the old clock over the fireplace: *Amicitia Vincit Horas*—"Friendship Conquers the Hours."

To those in the full vigor of life, cultural preparation for such a remote contingency as retirement may seem like dribbling tears into your champagne. Yet, retirement should be prepared for and not left until it is something thrust upon you. Every man should have a hobby which should be developed in his youth, and nurtured through his years of activity. It should encompass both physical and mental attributes; it should be something cultural and productive in type; it should be shared with friends; it should be independent of wealth and physical decrepitude and should be eagerly available:

"When his youthful morn,
Hath travell'd on to ages steepy night . . ."
Shakespeare—Sonnet lxiii

Prepare for and do not resent the advent of old age. It is a privilege denied to so many.—Lyon H. Appleby, M.D., F.A.C.S., Vancouver, British Columbia

Editorial Comment

The General Practitioner and Public Health. A recent editorial in *Health News*[1] by Herman E. Hilleboe, Commissioner of Health of New York State, discusses how the continuing partnership of general practice and public health is prepared to meet the challenges of the chronic diseases and disabilities of an aging population. Says Dr. Hilleboe, in part:

> The general practitioner plays a major role in protecting and improving the public health by his application of advanced medical science. He has contributed greatly to the marked reduction of maternal and infant mortality, while his participation in vaccination and immunization against acute communicable diseases has given longer life expectancy to our younger generation. These things did not just happen but resulted from the organized community effort of private medical practitioners and public health physicians.
>
> The general practitioner is continually on the alert for opportunities to prevent disease and disability among his individual patients; the public health physician's primary concern is with the group. The public health physician, accordingly, utilizes his staff and facilities to supplement and enhance the efforts of the general practitioner but not to replace his activities. From these combined efforts the maximum number of families enjoy the lasting benefits of preventive medicine applied to the individual and public health measures applied in the community.
>
> Therefore, the public health physician and the family doctor have learned by working together on common problems that preventive medicine and curative medicine are inseparable in the protection of the public health. The practice of medicine is changing rapidly because of the giant strides made in the discovery and use of new drugs, chemicals, and antibiotics; new diagnostic skills and therapeutic technics are forging ahead at the same pace. It is fortunate that the physician can use new weapons in his battle against disease and disability, because now he is challenged anew by the aging of the population and the concomitant increase in chronic illnesses among these older people.

Discussing the probable growth of population in the State and the proportion of older people whose particular problems the physicians must attempt to solve, Dr. Hilleboe said further:

> For example, in New York State, the population as a whole is expected to increase from 15 million in 1950 to 19 million in 1975; during this same interval the proportion of persons sixty-five and over in the population will rise from 8 to nearly 13 per cent. Clearly the public health problems of the future will be concentrated among older persons with multiple forms of chronic disease and disability. We cannot cure many of the chronic ailments of older persons, but we can treat and rehabilitate many of these individuals so that they can avoid the disablement that makes them a burden to themselves, their relatives, and friends.
>
> Public health includes the broad spectrum of prevention, the occurrence, and progression of diseases, disabilities, and defects. Every phase of medical science contributes to modern public health practice.
>
> The greatest potential source of preventive medical services is the general practitioner. In spite of the heavy demands of his never-ending labors, he finds time to serve on medical committees of voluntary health agencies, to donate his services for worthy charities, to act as a part-time health officer, and to participate in screening and immunization campaigns in cooperation with local health departments.

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[1] Health News 33: 1 (June) 1956.

The magnificent job he did in 1955 in the mass vaccination program against paralytic poliomyelitis is ample testimony of his importance to community health.

The partnership of general practice and public health began and grew in the control of acute communicable diseases and maternal and infant mortality. In the full vigor of its maturity this continuing partnership is prepared to meet the challenges of the chronic diseases and disabilities of an aging population to give our people a full measure of health and happiness, even in an atomic age.

Tax Reductions for Postgraduate Refresher Courses. The Internal Revenue Service, we are informed, has finally issued a regulation to become effective some time after August 9 this year "allowing physicians to deduct their expenditures in taking postgraduate 'refresher' courses . . ."[1] under certain circumstances.

Commenting on this innovation the J.A.M.A. says, editorially, in part,

> The regulation provides that expenditures for education are deductible if they are for a "refresher" or similar type of course taken to maintain the skills directly and immediately required by the physician in his employment or business. An educational course, to be covered, should be designed for established medical practitioners to help them keep abreast of current developments in the profession; it should be of short duration; it should not be taken on a continuing basis, and it will not carry academic credit. Education designed to prepare the practitioner to enter a specialty will not be acceptable. This example is given in the regulation: A, a general practitioner of medicine, takes a course of study to become a pediatrician. B, a general practitioner of medicine, takes a two-week "refresher" type of course reviewing pediatrics, for the purpose of carrying on his general practice. A's expenses are not deductible. B's expenses, including any transportation expenses and living expenses while away from home, are deductible.
>
> When a taxpayer travels away from home primarily to obtain "refresher" education, his expenditures for travel, meals, and lodging while away from home are deductible. However, expenses for personal activities, such as sightseeing, social visiting or entertaining, or other recreation, will not be allowed. When the purpose of the travel is primarily personal, expenditures for travel, meals, and lodging will be disallowed, although presumably tuition for a bona fide refresher course will be allowed. In determining whether the primary purpose of the travel is personal, the relative amount of time devoted to personal activity as compared with the time devoted to educational purposes will be considered.

This change in the regulations is gratifying in that it allows, under certain circumstances, what has always seemed to us to be a legitimate cost incurred in maintaining a physician's professional familiarity with the advances in medicine, by which not only he but his patients benefit. It marks a step forward in easing the mounting burden of rising costs and will undoubtedly be an added inducement to many physicians to maintain and augment their professional competence.

Control of Infectious Diseases. According to the *Statistical Bulletin*,[1] "The prolongation of life in the United States has resulted in large measure from the downward trend in the death rate from the infectious diseases." It is noted, however, that since 1900–1902 the death rate has declined by more than three-fourths at the ages prior to mid-life, but by less than one third after age sixty-five. Some further reductions in mortality, it is said, will undoubtedly be effected by continuing advances in the control of infections and of accidents. What is the status of this control at the present time?

Among persons insured,[1] the mortality from tuberculosis and from pneumonia and influenza fell nearly 90 per cent between 1933–1935 and 1953–1955. Almost as rapid has been the decline from syphilis and acute rheumatic fever. Measles, scarlet fever, whooping cough, and diphtheria together recorded an average death rate of only 0.2 per 100,000 policy holders in 1953–1955 and typhoid and paratyphoid fever a rate of less than 0.05. Puerperal septicemia and erysipelas, among a number of other infectious diseases, have likewise been reduced to vanishing proportions, the *Bulletin* says, as causes of death in this insurance experience. Smallpox and malaria have been controlled also. About 8,000 cases of smallpox were reported in this country during 1935; in 1955 there was not a single one.

---

[1] J.A.M.A. **161**: 1255 (July 28) 1956.

[1] Statistical Bulletin, Metropolitan Life Insurance Company **37**: 4 (June) 1956.

However, this favorable aspect of the control of infectious disease should be no cause for complacency.

Despite the outstanding gains made against the infectious diseases, they continue to be major causes of sickness and death in the United States. In 1955 tuberculosis still accounted for more than 15,000 deaths, and pneumonia and influenza for about three times as many. The common cold and other respiratory conditions, year after year, impose an enormous amount of disability. The infectious diseases take an additional toll in less obvious ways. For example, not a few children annually are born with congenital malformations because their mothers had German measles during the early months of pregnancy. Then, too, infectious disease often hastens the death of people with serious chronic diseases.

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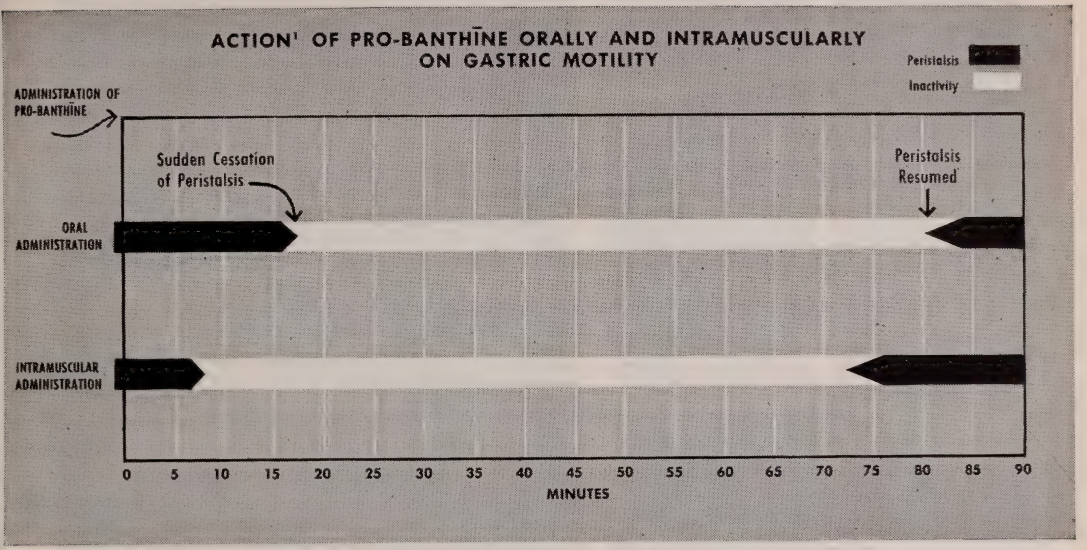
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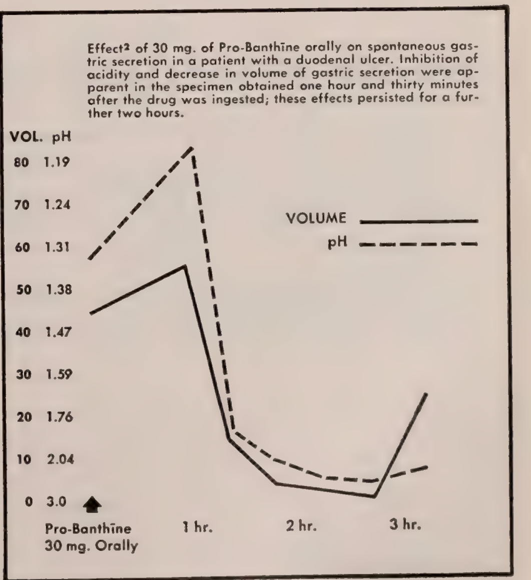
Effect[2] of 30 mg. of Pro-Banthīne orally on spontaneous gastric secretion in a patient with a duodenal ulcer. Inhibition of acidity and decrease in volume of gastric secretion were apparent in the specimen obtained one hour and thirty minutes after the drug was ingested; these effects persisted for a further two hours.

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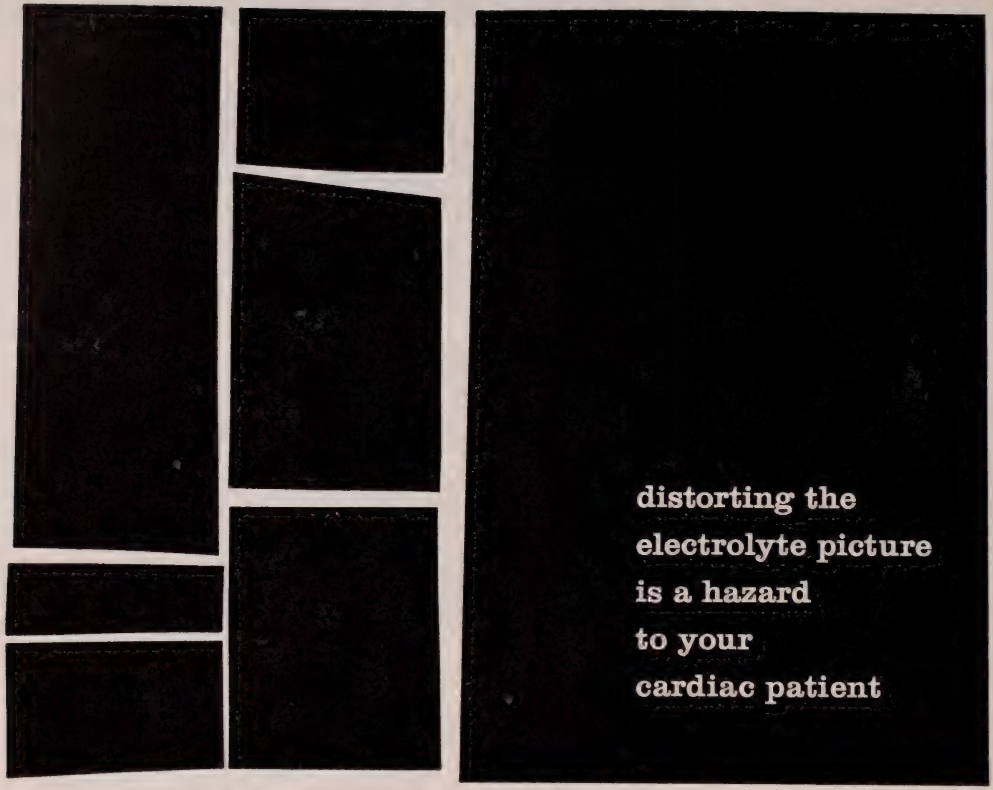
1. Barowsky, H.: Am. J. Gastroenterol. *23*:557 (June) 1955.
2. Roback, R. A., and Beal, J. M.: Gastroenterology *25*:24 (Sept.) 1953.

SEARLE



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Surgical Fixation of Dislocation of the First Cervical Vertebra in Children

JESSE T. NICHOLSON, M.D., PHILADELPHIA, PENNSYLVANIA

(*From the Department of Orthopedic Surgery, Graduate School of Medicine, University of Pennsylvania*)

OPEN surgical fixation of dislocation of the first cervical vertebra in children has been done rather infrequently. In 1910 Mixter and Osgood[1] reported such an operation. Their subject, a fifteen-year-old boy, had sustained his dislocation from a fall out of a tree. The dislocation was reduced twice by manipulation. After the second recurrence an ununited fracture of the odontoid was determined. The operation was described: "A linear 4-inch incision was made in the median line of the neck and carried down until the hooked spine of the axis was defined. Next, the posterior arch of the atlas forwardly displaced was sought and exposed. With an aneurysm needle, a stout braided silk, soaked in compound tincture of benzoin, was passed about this posterior arch between it and the spinal cord. While forward pressure on the anterior arch was exerted through the pharynx, traction was made on the posterior arch. There was firm resistance to replacement and only a slight amount of reposition was accomplished. This was maintained, however, and the atlas firmly anchored by tying the silk band about the hooked spinous process of the axis." This patient wore a leather Minerva jacket for two months. He was well, leading an active life, with "only slight stiffness of his neck" two years later.

Five additional reported cases bring out four other indications for open fixation: congenital absence of the dens,[2] an old unreducible unilateral dislocation,[3] two spread fractures of the atlas[4,5] and posterior dislocation of the dens.[5]

At the Philadelphia Children's Hospital over a seventeen-year period there have been 39 admissions for dislocations of the cervical spine. Twenty-one were dislocations of the second cervical vertebra, two of the third, and one of the fourth. Dislocation of the atlantoepistrophica joint occurred but 15 times.

Closed reduction was successful in all but three dislocations. Two of these were of the second cervical vertebra, and one, a Still's disease, was the first cervical.

Classification

The dislocation of the first cervical vertebra is classified by the position of the articulating surfaces of the lateral masses to those of the second cervical vertebra. An incomplete dislocation is a subluxation. The dislocation may be anterior, right or left rotary, posterior, or right or left lateral. The latter two are associated with a fracture or congenital absence of the dens epistrophei or a fracture of the atlas.

Etiology

A dislocation of the first cervical vertebra may result from trauma, infection, paralysis, static position, or a congenital defect (Table I). The traumatic causes are associated with automobile accidents, falls on stairs, falls from bed, sudden turns of the head, and postoperative overcorrection of torticollis. One of our three-year-old patients received a fractured dens while sleeping on the floor when her neck was stepped on by an adult. A seven and one-half-year-old received a fractured dens as a result of a wres-

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TABLE I.—TYPES OF ATLANTOEPISTROPHICA DISLOCATIONS AND ETIOLOGY

Anterior	
Undetermined	1
Still's disease	2
Upper respiratory infection—pharyngitis	1
Cervical adenitis	1
Fracture of dens epistrophei	1
Congenital absence of posterior arch	2
Right rotary	
Static position	1
Still's disease	1
Upper respiratory infection—pharyngitis	1
Left rotary	
Cervical adenitis	2
Posterior	
Fracture of base of dens epistrophei	1
Right lateral	0
Left lateral	
Fractured atlas	1

tling companion's headlock. Adjacent cervical infection, such as sinusitis, pharyngitis, tonsillitis, mastoiditis, adenitis, or dental abscess, has been accused as a cause of bone destruction, bone decalcification, or joint involvement, either through direct extension or associated circulatory changes. The dislocation has been observed a number of times in generalized arthritis. Three of our patients had Still's disease. Paralysis, either central or peripheral, has been a reported cause. None of the cases in this report had paralysis. One dislocation we recorded as static. This girl's head was held for a long period of time in a torticollis position while plastic surgeons were tailoring a tube graft to resemble an ear. When the graft was finally detached, the head remained in torticollis due to a right rotary dislocation of the first cervical vertebra.

Congenital defects in previous reports have favored the absent dens. The two congenital defects in this series were in the posterior arch. It is not possible to cast the entire blame for these dislocations on the lack of a posterior arch. Neither child had had a life exempt from trauma. One had fractured his clavicle a few days before his torticollis was noticed.

Diagnosis

The recognition of a dislocation of the first cervical vertebra is not difficult. The head is held in a torticollis position. This is less marked in bilateral subluxations than in unilateral dislocations. The complaint is of pain in the occipital region. The neck is held rigidly in the bilateral dislocations. In the unilateral dislocations motion in rotation is not possible to the side of the dislocation, but motion in lateral flexion is increased to the side of the dislocation. In all first cervical dislocations there is an inability to extend the neck. Attempts to do so meet with resistance and complaint of pain in back of the head. At times mastication of food is impossible. It is always difficult for the child to open his mouth widely. An open-mouth roentgen study of the odontoid generally is not possible.

The roentgen diagnosis is dependent on anteroposterior and lateral films. If the lateral films are taken in maximum extension and maximum flexion of the cervical spine, the dislocation is found exaggerated by flexion. There is a lordosis of the lower cervical spine. The anterior arch of the atlas appears more than 3 mm. anterior to the odontoid[6] unless the latter is fractured. The posterior arch of the atlas appears broader in unilateral dislocations since it is tilted. If lines are drawn through the inferior surface of the first cervical and the base of spine of the second, they will be found to converge rather than to parallel one and the other. If fractured, the odontoid fails to appear as a continuation of the body of the second cervical.

The anteroposterior view is difficult to obtain, as previously discussed, since the head frequently cannot be extended nor the mouth opened. If an x-ray is obtained, the second cervical spine appears as an inverted V and is deviated to the side to which the chin is rotated. The successive cervical spinous processes gradually return to midline. Accompanying the rotation deformity is a widening of one and a narrowing of the other lateral facet between the first and second vertebrae. In anteroposterior displacements there is a loss of space between both lateral masses. When the odontoid is fractured, it may appear nearer to one lateral mass than the other.

The vertex-mental view is advocated by Pendergrass and Chamberlain[7] as an aid in the roentgen diagnosis of first cervical vertebra dislocation. The anterior arch of the atlas projects away from the odontoid process.

One lateral mass of the atlas is more closely approximated to the odontoid. This lateral mass fails to superimpose with the superior facet of the epistropheus. A transverse process and the spinous process of the epistropheus both project from either half of the posterior arch of the atlas.

Treatment

The dislocations should be reduced as soon as possible. The method employed was to utilize the dependent head as traction to overcome the dislocation.[8] This is accomplished by placing three short mattresses toward the foot of the bed. The patient is held in place by elevating the head end of the bed or, in the case of small children, by placing Buck's extension on the legs with sufficient weight to prevent their sliding off the head end of the mattress. The reduction generally occurs in forty-eight hours. It is readily apparent when the child has full rotation and lateral flexion of the head in the dependent position. Roentgen films in both anteroposterior and lateral planes are taken without changing the child's position.

If the dislocation was not accompanied by fracture and was of a few days duration, a Thomas collar was adequate immobilization. This collar was worn for a period of six weeks. For dislocations of longer duration or those accompanied by fracture, a Minerva jacket was applied. The jacket was worn up to three months and followed by a Thomas collar for six weeks.

One child had a fractured odontoid with posterior displacement. The dependent head position was not believed advisable, and a Sayer sling followed by a Minerva jacket was used.

Four children had a recurrence of dislocation. These were atlantoepistropheal dislocations. They will be presented in more detail since their management is the subject of this report.

Case Reports

CASE 1.—D. S., a three-year-old girl, was admitted to the Children's Hospital in Philadelphia on June 2, 1936. Six weeks previously she had had measles, followed by a cervical adenitis and bilateral otitis media. Her neck had been held stiffly with the head turned to the right for a week. Roentgen examination showed anterodislocation of the first cervical vertebra. Head traction with a Sayer collar was tried for four weeks without success. On transfer to the Orthopaedic Service the dislocation reduced in twenty-four hours with dependent head traction. A Minerva jacket was applied. This was worn for four months. A Thomas collar was then worn for six additional weeks. Two weeks later the dislocation recurred. Reduction was again effected and a Minerva jacket worn for five months. Redislocation was apparent on resuming the Thomas collar.

On July 29, 1937, open fixation of the posterior processes of the first and second vertebrae was done by lifting the posterior arch of the first vertebra with a towel clip and clamping this lamina to the second with another towel clip. A strip of fascia lata was removed from the thigh. A loop of fascia was passed under the first lamina. The ends of the fascia were drawn through the loop and sutured beneath the second spinous process. A Minerva jacket was worn for four weeks and a Thomas collar applied.

The dislocation promptly recurred. On September 27, 1937, a second operation was performed. Two wire sutures were passed around the opposing lamina. Pedicle flaps were created to overlap from each lamina. The Minerva jacket was worn for four months and the Thomas collar for three additional months.

On June 1, 1939, twenty-one months after the second operation, the head had a slight tilt to the left. The neck motions were as follows: extension 30 degrees, flexion 45 degrees, rotation left 25 degrees, right 45 degrees, lateral flexion bilaterally 45 degrees. The x-rays showed the first cervical vertebra to be subluxated, the wire sutures broken, and the second vertebra fused to the third. There was no shift of the position of the first cervical vertebra when comparing the lateral views taken in maximum flexion and maximum extension.

CASE 2.—D. G., a four and one-half-year-old boy, had fallen and fractured his clavicle. About four weeks later his family requested a consultation since he held his head in a torticollis position. Clinically and by x-ray he had a forward dislocation of his first cervical vertebra. The dislocation reduced in the dependent head position, and a Minerva jacket was applied, but the dislocation recurred.

On August 5, 1954, a surgical incision was made from the occipital tubercle to the fifth spinous process. The posterior arch of the first cervical vertebra was found to be absent on the left side. The ligamentum flavum continued from the lamina of the second cervical vertebra to the foramen magnum. On the right side an attenuated posterior arch of the atlas was found within the margin of the foramen magnum. This was removed since it could not be used for support and since it offered potential encroachment on the foraminal space. Small pedicle grafts were created from the laminae and spinous process of the second cervical vertebra. The outer table of the occiput for a $1\frac{1}{2}$-inch square was elevated to hinge at the foramen magnum. It was divided in the midline to permit it to fold on either side of the second spinous process. Two osteoperiosteal grafts from the tibia were placed on either side of the midline to bridge from the lamina of the second vertebra to the prepared occipital bone. Additional cancellous bone was packed about the grafts. The deep layers of the wound were closed with interrupted cotton sutures. The skin was closed with plain catgut suture. A previously prepared Minerva jacket was used for immobilization.

The Minerva jacket was removed at twelve weeks. Roentgen films taken in the lateral plane, with the head in maximum flexion and maximum extension, proved the bony fixation to be solid. A Thomas collar was utilized for two weeks and just during the day for an additional two weeks.

This boy was last seen April 8, 1956. He has no flexion of his head and no rotation, but by combining extension and lateral flexion of his cervical spine, he appears to rotate his chin 20 degrees or better.

Case 3.—J. G. M., a two and one-half-year-old boy, the son of a missionary recently returned from Argentina, was admitted April 29, 1954, to the medical service because of an upper respiratory infection of six months duration. For some months prior to admission he had had a recurrent torticollis deformity, which had responded to head traction. The recurrent torticollis was associated with numerous attacks of an acute tonsillitis. Roentgen studies had always been inconclusive. The diagnoses of poliomyelitis and tuberculosis had been suggested.

The child was a thin, frail subject. The neck extension was limited. There was also limitation of rotation to the right and of lateral flexion to the left. The laboratory reports of blood count, serology, and spinal fluid were normal. The tuberculin test was negative. Roentgen examination revealed a presumably normal position of the anterior arch of the atlas and an absence of the posterior elements of this vertebra. He was fitted with a celluloid cuirass.

On November 17, 1954, a tonsillectomy was done. A severe torticollis deformity followed the operation. The child was treated with dependent head traction; a reduction was obtained and the celluloid cuirass reapplied.

Because of this recent dislocation and the probable assignment of the parent missionaries to foreign lands, a surgical fixation of the skull to the second vertebral lamina was believed advisable. At operation the exposure was carried out from the tubercle of the occiput to the third cervical spinous process. The posterior arch of the first cervical was not identified. A $1^1/_2$-inch square flap was raised from the occiput above the foramen magnum. On reflection of this flap it was realized that what was considered to be a thin layer of outer cortex was in reality the full thickness of the skull of this child. The dura was not damaged while exposed because this flap had been reflected downward; there was no hemorrhage or spinal fluid leak. The flap was replaced. Short, $^1/_4$-inch pedicles of bone were turned down from above the foramen magnum. Pedicles were turned up from the laminae, and the spinous process of the second cervical and an osteoperiosteal graft from the tibia were used as an onlay on either side. The child was placed in a previously prepared Minerva jacket.

The jacket was removed in three months. While the roentgen films did not show a solidity, they did show a continuity of new bone growth, and they proved that no motion occurred between the first and second cervical vertebrae on comparison with the lateral views taken in extension and flexion. During the summer the father was transferred to Basel, Switzerland. The recently requested roentgenograms have just been received and show solid bone fixation.

Case 4.—B. L., a six-year-old girl, was first seen in July, 1954, because of a stiff neck of three months duration. The onset apparently was traumatic, coincident with an upper respiratory infection. A diagnosis of a dislocation of the first cervical vertebra was made and a plaster cast applied for six weeks. The day after removal of the cast, the stiffness returned, and she was referred to the Children's Hospital.

Examination revealed marked spasm of the posterior neck muscles with no extension of the head and less than 5 degrees of motion in any direction. Following roentgen examination, which showed a forward dislocation of the first cervical vertebra, she was placed in dependent head traction. The following day the dislocation was found to be reduced, as evidenced by free neck motion and roentgen examination. One week later she was placed in a Minerva jacket. Roentgen check showed position maintained. A significant finding had been a sedimentation rate of 22 mm.

She was readmitted on July 29, 1954, for removal of her jacket. She had lost weight; she had generalized adenopathy, an effusion of the right knee, and slight elevation of temperature. An eye examination revealed posterior synechiae complicated by a cataract. Her blood sedimentation rate was 57 mm. A diagnosis of Still's disease was made. She was treated with acetylsalicylic acid, and Hydrocortone was injected into the right knee joint. She was discharged improved on November 13, 1954.

She was readmitted on February 2, 1955, for an iridectomy of the left eye. On February 14 her Minerva jacket was bivalved. Although roentgen films showed the dislocation had recurred, the patient was sent to a convalescent home and was to wear a Thomas collar until the next admission.

On June 2, 1955, an open fixation of the lamina of the first and second vertebrae was done. A number 30 stainless steel wire loop was passed from above, anterior to the posterior arch of the first vertebra. This loop was fastened about the spinous process of the second vertebra. The two free ends of the wire were drawn posteriorly, tightened, and tied beneath the second cervical spinous process. A thin cortical graft was obtained from the proximal left tibia. This was divided so as to lie on and parallel to the prepared lamina of the first and second vertebrae. After wound closure a prepared Minerva jacket was applied.

In August, 1955, roentgen films were taken after removal of the jacket. The fusion of the first and second vertebrae laminae was complete. Roentgen examination on January 20, 1956, showed that reduction had been maintained and the first cervical posterior processes were fused to those of the second cervical.

Comment

In this series of dislocations of the atlantoepistrophica joint, about one-fourth recurred after successful reduction. Surgical fixation was attempted by producing a bony ankylosis between the laminae of the adjacent vertebrae. When the posterior arch of the first cervical vertebra was missing, an ankylosis of the occiput to the laminae of the second cervical vertebra was encouraged. This method involved turning a bone flap down from the occipital bone, pedicle grafts from the lamina of the second vertebra, and overlaying the flap and pedicles with a tibial osteoperiosteal graft. Caution is advised in obtaining the flap from the occiput in children under four years of age since it is possible that the inner and outer tables of the skull cannot be separated.

In securing fixation of the laminae of the first and second vertebrae, it is recommended that a wire loop be brought from the anterior side of the posterior arch of the first vertebra over the superior margin of the arch and hooked distally beneath the second cervical spinous process. When the two wire ends are drawn taut and tied under the same second spinous process, the laminae of the two vertebrae are held closely approximated, and no forward luxation is possible unless there is a break in the restraining wire.

Summary

1. In a series of cervical spine subluxations and dislocations in children, about 38 per cent occurred at the atlantoepistrophica joint.
2. From limited experience with recurrent dislocations or unreducible dislocations that remained unstable, open fixation with stainless steel wire about the lamina and an overlay bone graft appeared to be a satisfactory method of stabilization.
3. In two cases in which the posterior arch of the atlas was entirely or partially missing, the area of fixation was extended from the lamina of the epistropheus to the occiput.
4. Experience with one subject in which the fixation was not directed toward producing an arthrodesis was not satisfactory.

330 South Ninth Street

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Change in Pathology of Pulmonary Tuberculosis Under the Influence of the Newer Antibiotics

OSCAR AUERBACH, M.D., EAST ORANGE, NEW JERSEY

(*From the Laboratory Service, Veterans Administration Hospital*)

We have been greatly impressed by the fact that the pathology of pulmonary tuberculosis has been radically altered under the influence of the newer antibiotics. In cases of long-term chemotherapy and in cases in which the treatment was begun soon after the onset of the disease, the findings are so different that they can be differentiated pathologically from cases in which the disease had run a successful course without the benefit of the drugs.

It has been the writer's impression that the striking changes in the tuberculous lesions in the lung brought about by the newer antibiotics have been the following: (1) rapid and extensive clearing of the perifocal reaction, (2) greatly decreased width of fibrous capsules around encapsulated necrotic foci, (3) decreased thickness of the cavity wall and of the overlying pleura, (4) decrease in pulmonary fibrosis and emphysema, (5) greatly decreased incidence in the development of pulmonary arterial aneurysm and consequent decrease in massive pulmonary hemorrhages, (6) more rapid healing of the tuberculous process, and (7) differences in the mode of cavity healing.

Perifocal Reaction

Perifocal reaction is an alveolar filling process which develops around the tuberculous lesion. It is believed that this is a reaction to the abnormal metabolic products which extend into the surrounding tissue from the necrotic focus. Since there is a different response peripheral to the central core of inflammation, the writer prefers the term perifocal reaction rather than perifocal inflammation.

The width of the perifocal reaction is usually proportional to the extent of the disease which it surrounds. Occasionally, small tuberculous foci may produce wide areas of perifocal reaction, while large necrotic zones may sometimes result in a small perifocal reaction.

The area of perifocal reaction occurs at the same time as the original area of tuberculous pneumonia. The pneumonic zone is firm, red, and granular in the early stage; later it is gray. Still later, yellow areas of necrosis develop within the pneumonic zone. The perifocal reaction which merges with it is distinguishable by being less firm and not granular. At times the perifocal reaction has a gelatinous red or gray appearance and has been termed gelatinous pneumonia.

The microscopic appearance of the perifocal reaction consists of an alveolar filling process composed of serum, red blood cells, and alveolar phagocytes. Near the tuberculous focus there is a preponderance of cells, while at the periphery serum occupies most of the alveolar spaces. No fibrin or neutrophils are present, an important point of differentiation from the zone of acute inflammation which it surrounds.

What happens to the perifocal reaction in cases which have not had the benefit of the newer antibiotics depends on several factors. The clearing of the alveolar filling process is partially by the emptying of the contents through the draining bronchi and chiefly by drainage through the lymphatic channels. Evacuation is mainly in the peripheral portions where the serum predominates. The clearing is greatest where there is an isolated focus. Thus, even under the most favorable conditions, part of the alveolar filling process, generally the cellular portion near the focus, remains in the alveoli and is replaced by connective tissue.

Any interference with the routes of drainage will result in more of the perifocal reaction being trapped in the alveoli, and larger areas of fibrosis will develop. The two main factors which interfere with the elimination of the perifocal reaction are the development of tuberculous foci in the neighboring zones and the institution of collapse therapy. The presence of adjoining tuberculous

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foci will result in necrosis of neighboring alveoli, bronchi, and lymphatics. Thus, the efferent bronchi and lymphatic channels, through which the perifocal reaction might escape, are blocked. Collapse therapy will also interfere with the avenues of escape by compression of the efferent bronchi and lymphatic channels. Thus, it may be seen that compression of the lung containing many tuberculous foci with surrounding perifocal reaction will result in the development of wide areas of fibrosis and a reduction in the lung volume.

It is our impression that the most striking and beneficial effect of the newer antibiotics is the rapid and extensive evacuation of the perifocal reaction. This quick response is seen roentgenographically in the disappearance of much of the shadow. It is particularly striking in cases in which the process is acute and extensive. After the clearing of the perifocal reaction the roentgenograms show a well-delimited tuberculous focus.

Fibrous Capsules Around Encapsulated Necrotic Foci

When there is no blocking of neighboring bronchi or lymphatic channels, either by other tuberculous foci or collapse therapy, in cases not having the benefit of the drugs, clearing of the perifocal reaction occurs in the peripheral aspects, while there is organization in the area immediately surrounding the tuberculous focus. The resulting zone of loose connective tissue is directly continuous with the area of dense hyaline connective tissue which develops from the organization of the tuberculous granulation tissue that surrounds the solid necrotic focus. The inner zone of dense hyalinized connective tissue has been designated as the specific portion of the capsule because of its origin from the specific tuberculous granulation tissue. The outer zone of loose connective tissue has been called the nonspecific portion of the capsule because it arose from the organized perifocal reaction.

The perifocal reaction clears to a much greater extent around a primary focus than around a postprimary focus. A distinguishing feature between these is the thinness of the nonspecific capsule in the primary focus. The areas of fibrosis around the necrotic zones are wider where the foci lie in groups, and often the areas of connective tissue form a common border to one another.

Under the influence of the antibiotics there is an emptying of the alveolar contents in the perifocal reaction. This takes place immediately and is almost all-inclusive. Thus, the areas of tuberculous pneumonia are surrounded only by the zone of tuberculous granulation tissue. As a result of the early clearing of the perifocal reaction, when healing is complete, the capsules around the necrotic foci are thin and are composed of a narrow layer of hyalinized connective tissue. Often, however, the antibiotics are begun after the tuberculous process has been present for some time so that some of the alveolar filling process of the perifocal reaction has been converted into loose connective tissue. The administration of the drugs will not cause any resolution of the organizing or organized perifocal reaction. The extent of this zone will depend on the time elapsed before the treatment with drugs was begun.

The changes which result from the favorable effects of the antibiotics are permanent, and these healed foci are much different from similar foci which heal without the benefit of drugs.

Decreased Thickness of the Cavity Wall and Overlying Pleura

The organization of the perifocal reaction around the cavity forms the outer layer of the wall and in great part determines its thickness. The lining is composed in part of a narrow rim of necrotic material and in part of a network of fibrin in which cells are enmeshed. Beyond this is a zone of tuberculous granulation tissue. The third layer results from the organization of the perifocal reaction.

Thus a newly formed cavity in which there has been only a small amount of organization of the perifocal reaction will have a thin wall, and with its progressive conversion into a connective tissue its thickness increases. Where there is progression of a cavity, either because of progression from within or extension of necrotic foci from without, new areas of perifocal reaction develop around these new zones of activity. With the conversion of these new alveolar filling processes into connective tissue, the thickness of the cavity wall increases.

The pleural thickening is also a result of the perifocal reaction. Tuberculous foci usually develop in a subpleural area several millimeters beneath the pleura. The perifocal reaction often extends to involve the pleura and results in a localized collection of fluid and cells in this area. This is soon invaded by the elements of repair and is converted into connective tissue with a resultant obliteration of the pleural space. When the pleura overlies a cavity which has been present and actively progressive for a number of years, the combined thickness of the pleurae may be 1.5 to 2 cm., and the pleurae are densely adherent to the chest wall.

The clearing of the perifocal reaction around the tuberculous cavity after the institution of antibiotics results in a different thickness of the wall of the cavity and of the overlying pleura. The amount of fibrosis will depend on the age of the cavity at the time chemotherapy was begun. Thus, if treatment were begun soon after its development, as a result of the clearing of the perifocal reaction and control of the organisms, the cavity wall would remain thin. If healing continues under chemotherapy with closure and inspissation of the cavity contents, the wall will be thinner than one of similar age which closed without the benefit of drugs. The former cavity wall will be composed of a fairly narrow zone of hyalinized connective tissue with little or no loose connective tissue beyond, while the latter will have a similar layer of hyalinized connective tissue but will be surrounded by a wider area of loose connective tissue. The latter zone often fuses with the overlying thickened pleura.

Pulmonary Fibrosis and Emphysema

Pulmonary fibrosis and emphysema are frequent sequelae of healing and healed pulmonary tuberculosis. Fibrosis results in one of two ways, either from organization of a tuberculous pneumonia or organization of a perifocal reaction. By far the larger amount of connective tissue results from the organization of the perifocal reaction. Wide areas of fibrosis result in a great contraction of the lung parenchyma and thus a great decrease in the lung volume.

Emphysema accompanies and generally parallels the extent of the pulmonary fibrosis. As the process of organization in the areas of tuberculous pneumonia and perifocal reaction continues, the plugs within the alveolar spaces, which are adherent to the alveolar septa, are converted into connective tissue, resulting in a contraction of the lung parenchyma. As the lung tissue contracts, there is stretching, thinning, and tearing of the alveolar septa in the regions immediately around the fibrosis. In cases of healed pulmonary tuberculosis of wide extent, the wide zones of fibrosis are often surrounded by emphysematous blebs.

An important effect of the antibiotics is the greatly decreased pulmonary fibrosis and emphysema resulting from the cleared perifocal reaction, especially in those cases in which, in addition to the cavities, there are many necrotic foci of varying size. As a result of the greatly decreased pulmonary fibrosis and contraction of the lung parenchyma, there is much less emphysema. Another feature of the greatly diminished fibrosis is that the lung volume is nowhere decreased to the extent which occurs in the absence of antibiotics.

Lungs which have had the benefit of chemotherapy show a great diminution of pulmonary fibrosis and emphysema. This is much more evident when therapy has been instituted soon after the onset of pulmonary tuberculosis. When the disease has been present for months or years before the start of chemotherapy, the areas of pulmonary fibrosis and emphysema are unaffected by the drugs.

Decrease in Incidence of Pulmonary Arterial Aneurysms and Hemorrhage

One of the most dramatic effects of chemotherapy on pulmonary tuberculosis is the greatly reduced incidence of pulmonary arterial aneurysms. An aneurysm generally develops during the process of repair and is rarely observed in the more acute and rapidly progressive forms of pulmonary tuberculosis, since branches of the pulmonary artery engulfed in the necrotic zones respond immediately by a fibrous thickening of the intima and obliteration of the lumen. Pulmonary arterial aneurysms generally result from vessels outside of the cavity lumen.

It is not unusual to observe massive pulmonary hemorrhage in so-called "good chronics" with a cavity present for a long time. If a cavity has been present for a long period of time, the process of progression and repair keep pace with one another. Thus, new areas of perifocal reaction develop in different regions around the periphery of the cavity. For an aneurysm to develop, new areas of perifocal reaction must develop in the region of a moderate-sized branch of the pulmonary artery lying tangential to the cavity wall. The outer wall of the cavity encroaches on the wall of the artery in a localized zone. The granulation tissue progressively destroys the elastic fibers of the pulmonary artery, and it is this weakened area that becomes the site of an aneurysmic dilatation which bulges into the lumen of the cavity. When the aneurysm can no longer withstand the pressure in the lumen of the vessel, a rupture will occur.

There are several reasons for the greatly decreased number of pulmonary hemorrhages resulting from prolonged chemotherapy. As long as the organism remains sensitive to the drugs, the favorable effects are evident, even in the presence of open cavities from which viable organisms are expectorated. Thus, in spite of the continued presence of an open cavity, the resolution of the perifocal reaction prevents the progressive development of pulmonary fibrosis in the outer rim of the cavity, and at the same time there is cessation of further cavity enlargement. As a result the opportunity for encroachment by a cavity wall on the wall of a neighboring pulmonary artery is lessened considerably.

More Rapid Healing of the Tuberculous Process

This finding of necessity must be a relative one since the rate of healing without antibiotics is not constant. The comparison must be made in cases in which the age of tuberculous cavities and foci is approximately the same. This is seen particularly when drug therapy is instituted soon after the development of the tuberculous process. Evidence of more rapid healing is seen in the accelerated development of collagen fibrils and the corresponding decrease in cells and capillaries of the granulation tissue around the solid necrotic foci and the walls of tuberculous cavities.

Another important difference lies in the fact that healed tuberculous cavities with inspissation and other necrotic foci contain calcium salts to a greater extent and earlier in their course of development than similar cases without drug therapy.

Differences in the Mode of Cavity Healing

The healing of a tuberculous cavity may take place by the obliteration of the space, with either inspissation of its contents or replacement by a radial scar (closed healing). The other form is open healing in which the cavity remains open and the wall is composed of dense connective tissue from which all elements of specificity have disappeared. Occasionally, a layer of squamous epithelium lines the cavity.

Closure of the cavity without antibiotics occurs as a result of the apposition of the granulating surface of the ulcerated bronchus at the bronchocavitary junction. Following this closure air is absorbed from the lumen of the cavity, and the cavity wall contracts rapidly. Since most cavities contain large necrotic masses within the lumen and along the cavity wall, at the time of closure these become inspissated and form the center of the closed cavity. Sometimes only small necrotic particles are present in the cavity at the time of closure. The end result in these cases is a radial scar, within which a small necrotic focus may be found occasionally.

"Open" healing in patients who have received no antibiotic chemotherapy is extremely rare. The necrotic contents are evacuated, and the wall is converted into connective tissue.

The two most important changes following chemotherapy are the difference in cavity closure and the increased number of cases of "open" healing. Cavity inspissation under chemotherapy occurs with re-epithelization of the bronchus at the bronchocavitary junction. Re-epithelization disrupts the check valve mechanism which existed at the bronchocavitary junction as a result of the ulcerated bronchus. Consequently there is no longer distention of the cavity. Contraction of the granulation tissue of the cavity is now possible with a decrease in the size of the lumen and inspissation of the necrotic contents. The epithelium extends around the inner wall of the cavity for variable distances. Re-epithelization prevents the obliteration of the bronchial lumen at this site and prevents permanent closure of the cavity.

Comparing the inspissated cavity after chemotherapy with that healed without the benefit of drugs, it is found that in the former the bronchus is patent, while in the latter no bronchial communication can be demonstrated. Hence, greater drainage of the necrotic fragments from the lumen of the cavity is possible.

We have observed an increased number of instances of "open" healing since prolonged chemotherapy, and we believe that this is chiefly due to widened bronchial outlet as a result of re-epithelization of the bronchus at the bronchocavitary junction.

Conclusions

1. Pulmonary tuberculosis is greatly altered under the influence of newer antibiotics. The changes are permanent and different from those of untreated cases. The extent of the alterations is dependent on proximity of treatment to the onset of the disease and on the duration of therapy.

2. The prolonged use of antibiotics results in a rapid clearing of the perifocal reaction. As a result the following differences are observed after chemotherapy: (*a*) the capsules around necrotic foci are thinner; (*b*) the walls of tuberculous cavities are thinner, and the pleura overlying these is thinner than those of similar anatomic age; (*c*) there is a decrease in pulmonary fibrosis and pulmonary emphysema, resulting in less destruction of pulmonary tissue, and (*d*) the incidence of aneurysms within the cavity and of fatal pulmonary hemorrhages has been greatly reduced.

3. Re-epithelization of the ulcerated bronchus at the bronchocavitary junction has resulted in the following: cavity closure as a result of the disruption of the check valve mechanism of the bronchus as it enters the cavity, and evacuation of the necrotic contents and open healing of the cavity when the re-epithelization results in a wide outlet. The latter is now being observed with increased frequency.

See Special Historical and Scientific Exhibits

at the

SESQUICENTENNIAL CONVENTION

Medical Society of the State of New York

February 18 to 21, 1957

HOTEL STATLER **NEW YORK CITY**

Experimental Investigations in Expressive Aphasia

HERBERT G. BIRCH, PH.D., NEW YORK CITY

(*From the New York University-Bellevue Medical Center Institute of Physical Medicine and Rehabilitation*)

LANGUAGE and thought as the highest manifestations of human behavior pose many unsolved problems for both psychology and physiology. As is the case in many other areas of human functioning, investigators have sought to gain an increased understanding of the mechanisms involved in language and thought by the study of their pathologic manifestations, the aphasias. Two lines of independent analysis have tended to dominate inquiry. The first of these represents the attempt to correlate disturbances in language and thinking with the anatomic findings in cases of cerebral damage. This approach, which has contributed so much to our understanding of simple sensory and motor functions, has been forced to retreat step by step before the complexities of higher psychologic functioning. From Marie's[1] reanalysis and rejection of Broca's[2] materials to Dandy's surgical demonstration[3] of the retention of expressive speech in a right-handed patient whose left third frontal convolution was removed, a whole series of investigators have failed to confirm the "new phrenology"[4] advanced by Bastian[5] and the mapmakers.

The second line of inquiry into the mechanics of language and thought was begun by Hughlings-Jackson[6] almost simultaneously with Broca's effort. In the main the direction of investigation proposed by Hughlings-Jackson was psychologic. He conceptualized behavior in terms of a hierarchical organization of functional levels, the highest of which involved the ability to propositionalize or to function abstractly. Jackson's approach, long dormant, was revitalized by Henry Head[7] who in a long series of penetrating studies contributed much to our understanding of the schemata of language and thought. Other workers too, most notably Pick[8] and Goldstein,[9] have expanded and clarified our understanding of the complex organization of psychologic functions involved in language and thought through the investigation of their pathologic manifestations.

However, these investigations, valuable though they are for our understanding of the psychic complexities and psychic mechanics found in the aphasias, give us little understanding of the physiologic mechanisms, of the cerebral processes underlying normal and pathologic organizations of language function. As Kinnier Wilson[10] has put it, "A given aphasia symptom-complex may be looked at in three ways: What is the anatomic site of the lesion producing the defect? What are the physiologic mechanisms involved? What is the nature of the psychologic disorder?" Anatomic correlations with symptoms and the psychologic characterization of symptoms are the initial and terminal poles of analyzing the aphasia process. The intermediate events, the physiologic mechanisms, must be delineated if these extremes are to be meaningfully interrelated. It is precisely this area of physiology which has received the least systematic attention in the study of the aphasias. The object of this paper is to describe an approach to the exploration of the physiologic processes that are involved in the aphasias. At present the research is confined to the study of patients with expressive aphasias, and my report will restrict itself to a consideration of this aspect of the problem.

Expressive aphasia has most generally been considered to be a loss in expressive language function as the consequence of destruction or damage of the cerebral cortex. While there has been considerable agreement concerning the facts of brain damage, substantial disagreement has attended attempts to define the mechanisms by means of which cortical destruction results in a disruption of speech and language. Explanations of mechanism have ranged from extreme localization theories, in which specific cytoarchitectonic areas have been identified as the loci of various expressive language functions,

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Presented, by invitation, at the 150th Annual Meeting of the Medical Society of the State of New York, Section on Neurology and Psychiatry, New York City, May 9, 1956.

to general functional theories, such as that of Goldstein who argues in terms of the general reorganization of cortical properties and the modification of general psychologic attributes.

In the course of working with expressive aphasia over a period of years, it appeared increasingly that too much attention had been devoted to the negative symptoms (i.e., *loss* of expressive language) in the elaboration of theories and that an adequate theory could only be approached through a more careful analysis of positive symptoms (i.e., the nature of expressive functions that were retained by the patient). When attention is so directed, it becomes clear that the arrest of expressive language function in patients with expressive aphasia is rarely absolute. On the contrary, such patients often exhibit the ability to express themselves orally in limited and specific ways and under certain explicit circumstances. Thus one patient may be able to enunciate repetitively "I don't know!" but not to speak other words or sentences. Another patient may be able to speak *words* as such but not to select and use the word or words which are appropriate to the situation. Yet another individual may not be able to name an object when it is presented but is capable of repeating the name after the therapist has said it. On other occasions a patient who is almost mute does shout out an expletive when in pain or on other occasions shows interjectional speech. Such phenomena suggest strongly that expressive aphasia cannot always be considered as a loss of motor speech function but must rather be viewed as an omnibus disorder in which traumatic alteration in cortical circumstances has modified the normal patterning of excitation. It suggests further that in many cases the disruption of expressive language functioning is a consequence of an altered relationship between the motor-speech projection region and the remainder of the cerebral cortex and not a subtractive loss in motor-speech projection as such.

Since in these patients there is no indication that the motor organs of speech are affected and, in fact, are used successfully in other than language functions, it is most probable that expressive aphasia represents some disturbance of a transcortical character rather than being the result of disturbance produced by a local subtractive lesion. Convincing evidence for the transcortical nature of the disturbance has been advanced by Goldstein,[9] Kinnier Wilson,[10] and von Monakow.[11] However, no clear conception of the physiologic mechanism involved in the transcortical dysfunction has been advanced. Von Monakow's "diaschisis" is more properly considered as a descriptive term than as a functional mechanism, and Goldstein's[9] concept of dedifferentiation is more an illuminating analysis of changes in psychologic organization than it is a consideration of physiologic process. A useful clue for the exploration of the physiologic mechanisms in expressive aphasia is provided by the recognition of the similarities between many of the phenomena of language and speech in expressive aphasia and the events noted in the study of conditioned reflexes.

One is particularly struck by the similarity between the phenomena of blocking, mutism, and expletive speech in expressive aphasics and the phenomena of inhibition and disinhibition described by Pavlov[12] in his classic studies of the conditioned reflexes. This similarity suggests that the inadequacies of verbalization found in expressive aphasia may be due at least in part to the existence of inhibitory cortical activities which have developed as a consequence of cerebral damage. Support of this hypothesis is provided by the recent demonstration by Louis Linn and his associates[13] that verbal production may be significantly increased in patients with expressive aphasia by the administration of Sodium Amytal.

An analysis of the sensory modalities involved in the development of language indicate, as do the symptoms of the aphasias, that inhibitory influences on verbal expression may originate from the auditory, kinesthetic, or visual systems. However, the anatomic and physiologic evidence points to the frontotemporal complex and, therefore, the auditory-motor speech relationship as the primary area of vulnerability for expressive language. The evidence of neuropathology, when considered together with the facts (1) that delayed auditory feedback of oral reading markedly blocks verbal production and (2) that binaural intense auditory stimulation reduces stammering and stuttering, suggests that exploration of the auditory system as the source for verbal inhibition would provide the most profitable direction for initial inquiry. These considerations suggest further that if an inhibitory process underlies certain aspects of expressive aphasia, the likelihood is high that it is the activity of the cerebral auditory system which is inhibiting motor speech production. If this is indeed the case, it follows that expressive language function should be significantly improved by eliminating such inhibition. This can be most easily accomplished by inhibiting the inhibitor, i.e., by dominating and overwhelming the activity of the auditory apparatus through the application of a prolonged, continuous, intense stimulus.

In our first investigation 14 patients suffering from severe forms of expressive aphasia were selected to participate in the study. All of them suffered cerebral vascular accidents and were left with residual right hemiplegia and expressive aphasia. The duration of illness ranged from a minimum of two years to a maximum of five years. The patients were asked to (1) name objects, (2) name objects from pictures, (3) read single words aloud, and (4) read connected sentences aloud under two conditions. In condition A no extraordinary stimulation was presented. Patients sat in the quiet therapy room and were presented with the tasks listed above. In condition B the same tasks were presented, but thirty seconds before the presentation and throughout the entire series of presentations a tone of 256 cycles per second at an intensity of 60 to 80 decibels was binaurally administered. This intensity of auditory stimulation is sufficient to make a loud shout inaudible but is below the pain threshold for almost all patients. In all cases auditory stimulation was delivered through a pair of headphones that were activated by the masking tone of an audiometer.

In subsequent experiments an additional 21 patients with expressive aphasia were studied. They ranged in the severity of their symptoms from mild word block and word-finding difficulties to complete mutism.

The results of our studies serve to provide strong evidence in support of our hypothesis. When the patients were asked to perform *without* added auditory stimulation, they all showed marked difficulty in one or more of the tasks. Some individuals could name objects but not name the pictures of objects. Others could not name objects or the pictures of objects but could read single words aloud and even short sentences. In all cases the latency of verbal responses was long, and the response made was frequently inappropriate to the stimulus presented.

When the same tasks were presented *with* accompanying binaural auditory stimulation, a marked change in performance could be observed. In approximately 75 per cent of the patients tested, performance was decisively improved. In the patients who exhibited an improvement under the "noise" condition, the following changes were noted: Patients who could not name a single object in the room under the "quiet" testing condition quickly and readily named such objects as "chair," "table," "man," "sink," "door," or "wall." Test pictures, such as an apple, a train, a saw, a chicken, and a boy, which could not be named under the "quiet" condition, were consistently and correctly identified with binaural "noise" stimulation. Patients who could not read single words aloud when tested in the "quiet" circumstance exhibited such an ability when they were auditorily stimulated. Patients who could read aloud only short, three to four-word sentences in "quiet" could readily read double this amount aloud with "noise." The latency of verbal response to presented stimuli was more than halved when they were auditorily stimulated. Further, enunciation under "noise" stimulation was decidedly improved. Such results do not occur if auditory air conduction is blocked.

It is of interest to note there was some residual after-effect when the auditory stimulation was discontinued. This after-effect persisted for from five to ten minutes after the first administration of auditory stimulation and resulted in the continuation of improved function. After an average period of ten minutes the patients returned to their original status. However, in some patients, on repeated trials, the length of the after-effect period tended to be prolonged for several hours, and a cumulative residuum of improved expressive language functioning developed.

Independent confirmation of our findings has recently been reported. Cherry[14] in London, starting from a quite different theoretic bias in communications theory, has reported similar results on two patients with expressive aphasia who were binaurally stimulated.

It is felt that the results of the investigation affirm the fruitfulness of the theoretic analysis which conceptualized expressive aphasia as the consequence of an inhibitory rather than as a subtractive defect. However, since all patients did not show improvement as the result of auditory stimulation, the possibility of subtractive defects most certainly is not excluded by the results obtained. Still another possibility not excluded by the data is that in the patients whose speech is not positively affected by auditory stimulation, an inhibitory relationship may exist but may not involve the auditory projection system. This possibility is supported by some fragmentary evidence obtained by introducing either strong kinesthetic stimulation or intense visual stimuli. However, much work is in progress and must be completed before any definitive conclusion is possible.

The results in the present study have certain practical, diagnostic, and therapeutic implications in addition to their theoretic significance. It can be tentatively suggested that binaural auditory stimulation can be utilized as a valuable adjunctive procedure in the re-education of motor aphasic patients. The possibility exists that by conditioning the auditory stimulation to a clenched hand or to some other self-applied stimulus, the auditory effect may be carried over on a conditioned basis to circumstances in which the auditory stimulation is not present. Further, the data reported lay the basis for a new and more process-oriented, diagnostic procedure in the expressive aphasias. These, as well as many other implications of the present study, are currently being investigated and will be presented in subsequent reports.

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SESQUICENTENNIAL MEETING

Medical Society of the State of New York

FEBRUARY 18 TO 21, 1957

Hotel Statler **New York City**

MEDICAL ASPECTS OF MOTOR VEHICLE ACCIDENT PREVENTION

New York University-Bellevue Medical Center
and the
Center for Safety Education, New York University

May 23, 1956

Conference Chairman
GEORGE E. ARMSTRONG, M.D.

Coordinator
HERBERT J. STACK, PH.D.

Program Chairmen
HAROLD BRANDALEONE, M.D.
LEON BRODY, PH.D.

Cooperating Agencies
COMMITTEE ON PUBLIC HEALTH, NEW YORK ACADEMY OF MEDICINE
NEW YORK STATE INDUSTTIAL MEDICAL SOCIETY
LOCAL MEDICAL SOCIETIES

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ESSO SAFETY FOUNDATION
and BARTLETT ARKELL FUND

Preface

The symposium described in the following pages represents a pioneer effort in accident prevention in this country. Its objectives and program are set forth in the introductory presentations. However, there is need to point out that months of planning and arranging preceded the one-day meeting.

Outstanding specialists and administrators participated—a truly notable contribution of their invaluable time. But it should be noted that in advance of the one-day meeting, each participant received not only a list of fundamental discussion questions but also a number of items of medical and nonmedical literature on the subject (see page 3880), to make sure that they were acquainted with previous work and the present situation in regard to motor vehicle accident prevention. This was done in order to make the most efficient use of the symposium time in terms of the objectives that had been set for this one-day meeting.

This publication highlights the recommendations of eight workshop groups of specialists. Each report is the recommendation of the specific group, not the symposium as a whole. *Each report was prepared following free discussion. Where considerable difference of opinion arose, a minority report was prepared and is included herein.*

As was to be expected, the need for further research was emphasized throughout the separate group meetings. It was deemed advisable to bring these recommendations together in a special section of this publication (page 3879). Judging from these research needs as well as from the more immediate positive recommendations of the various groups, much remains to be done, and much can be done now—*by the medical profession and others—in the interest of motor vehicle accident prevention.*—Herbert J. Stack, Ph.D.

Address of Welcome

GEORGE E. ARMSTRONG, M.D., NEW YORK CITY

(*Vice-President for Medical Affairs, New York University*)

During our initial meeting to plan for this particular symposium, we had discussed whether or not it should last more than one day. Obviously we would like to have had it last longer because we felt there would be sufficient material for three or four days discussion, but we also knew that the individuals who were to be invited to attend and participate might spare one day but not two or three. And I should like to say at this point that we have been not only surprised but extremely gratified by the response. Not only was the reaction enthusiastic from those whom we asked to participate, but as word got around about this conference, we had any number of volunteers as additional participants. As a matter of fact, although we were unable to accept all who offered their services, the group has grown to approximately twice the size that we had initially intended.

All this is an indication of the significance of the problem of motor vehicle accident prevention. The highway safety record in this country certainly is not an enviable one. As a result the President of the United States has taken personal cognizance of the increasing seriousness of this problem and has urged all interested and appropriate parties to focus their attention upon this crisis.

It is well known that safety is affected by the nature and condition of our roads and by the characteristics and maintenance of the motor vehicle. The latter has been referred as "the misguided missile," which clearly implies the importance of the role of the motor vehicle operator insofar as safety is concerned. Unfortunately, despite increasing evidence that he is the major factor in accident causation, the driver has been more or less neglected from the point of view of preventive measures.

The present symposium is not the first indication of interest on the part of the medical profession. Certainly a great deal of work has been done in the area of crash injury effects and controls.

However, relatively little consideration has been given to medical aspects of motor vehicle accident *prevention* with particular reference to driver fitness. The medical profession for the most part has not been concerned with this matter, and only recently has it been considered an important problem in public health which requires the participation of physicians to achieve any solution.

Naturally, the role of the physician has medicolegal aspects, and we felt that it would be worth while at this time to have this phase of the subject discussed. It is evidence of this deep interest in the entire problem that the highest officer of our State, Governor Averell Harriman, has asked his Counsel, Honorable Daniel Gutman, to represent his office and the State's concern in this symposium. Judge Gutman will now take up the matter of medicolegal questions, and I am very happy to introduce to you a very distinguished citizen of our State, the Honorable Daniel Gutman.

Legal Aspects

HON. DANIEL GUTMAN, ALBANY, NEW YORK

(Counsel to the Governor of the State of New York)

May I first bring you the greetings of the Governor of the State of New York, the Honorable Averell Harriman, who has asked me to extend to you his compliments for having arranged to meet here today to discuss these very serious problems.

I do not know how much legal opinion we can offer in relation to some of the matters with which you are concerned, particularly impairments of consciousness or other disabilities that may affect motor vehicle operation. What you are primarily anxious to establish is how to decide when an individual may be permitted to drive a motor vehicle and when he should be denied a license. Whatever I shall say on this point reflects, of course, only my own personal opinion. In general, such matters must be given careful thought and extensive study before recommendations are made that can be enacted into law. It is difficult to change laws, and the utmost care must be taken in seeking changes or new provisions.

In New York State the discretion to grant a license to an operator of a vehicle rests with the Commissioner of Motor Vehicles. If in his opinion it is an improper thing to do, he denies the application. If in his opinion it is safe to permit someone to drive, then he grants it, and with the exercise of sound discretion his opinions and his rulings have been upheld by the courts.

Now, what about individuals suffering from epilepsy or other organic and functional conditions that may affect the ability to drive? Even with affidavits and certifications from doctors, it is simple enough to understand the reluctance of an administrative official to assume the responsibility of determining whether the facts in a given case warrant issuance of a license. You may say, "Well, that's the Commissioner's job; that's his responsibility." That's right! But when his responsibility in one field must be coupled with an understanding of a science that is completely foreign—entirely foreign to his own administrative duties—then responsibility must be shared by others. The sharing must be done by the medical profession.

The problem is this: If the Commissioner grants a license in a borderline case and the subsequent driving record of this individual is clear, no questions are raised. However, should there be one serious accident caused by the driving of an individual where condition has been certified to be under control for purposes of motor vehicle operation, you can very well imagine the criticism that would be heaped on the Commissioner and on the physician.

From the physician's point of view, in certain cases it is difficult for him to determine with a reasonable degree of certainty whether he should certify as to the patient's ability to drive a motor vehicle safely. In any event, under the laws that apply today, he would be liable unless he were reasonably sure of his ground. That is perhaps the simplest way to put it from the point of view of a layman. Underlying the laws relating to liability of individuals for their doings is the principle of reasonable action, reasonable conduct, reasonable understanding. The same principle applies to a lawyer in his practice of the law, to a physician in the practice of medicine, and to practically every other area of activity. But reasonable standards may not be sufficient when dealing with a condition which may act to the subsequent danger of other people. In such a case reasonable care might be interpreted by the lay jury as meaning, perhaps, extraordinary care in spite of anything the judge might tell the jury in following the dictates of the law.

This situation, insofar as driver licensing is concerned, may be remedied by setting up minimum standards and by providing in the law that certain procedures are to be followed and certification made by the physician as to the condition of a license applicant. In such case he would be relieved from liability since he would be conforming to legal requirements. It all depends on the extent to which you can work out minimum standards to which you can certify with reasonable certainty and which, in the opinion of the profession, should satisfy requirements under present-day conditions.

Another remedial measure is to provide for administrative procedure as is done in some states.

This entails granting a license to doubtful or borderline cases for a period of six months or less than a year, with the requirement of periodic examination or with a board passing on the capacity of an individual. Such a board should consist of the Motor Vehicle Commissioner or his representative and representatives of the medical profession, including psychiatrists and any other specialists that you feel should sit on a board of this kind.

Toward such ends as these, I believe it is of the utmost importance that leading members of the medical profession, motor vehicle commissioners, and specialists in traffic safety are meeting in this symposium to work out standards and procedures that are sound and fair to all concerned.

The Mission of This Symposium

HAROLD BRANDALEONE, M.D., NEW YORK CITY

(*Medical Director, Third Avenue Transit System and United Parcel Service, and Assistant Clinical Professor of Medicine, New York University College of Medicine*)

THE record of motor vehicle accidents in this country is appalling. In 1955 there were almost 40,000 people killed on our streets and highways, almost a million and a half injured, and more than four billion dollars worth of property damage.[1]

It is the mission of this symposium to help prevent these motor vehicle accidents by formulating physical and mental standards for the licensing of drivers. Today we have made an effort to bring together persons best qualified to accomplish our purpose. Attending this meeting are physicians, safety experts, engineers, licensing commissioners, highway commissioners, members of law enforcement agencies, members of the legal profession and the judiciary, representatives of industry, officials of the Interstate Commerce Commission, the armed forces, and other Federal agencies, and others interested in motor vehicle accident prevention. It is our hope that this group will work together and establish a set of standards and recommendations to prevent accidents and recommend research for future studies.

We realize the great need for basic research in establishing the relationship between driver fitness and accident prevention. However, until such data are obtained, there is need for an interim guide of physical and mental criteria in an effort to curb the great loss of life and tremendous number of injuries that occur on the highway.

Accordingly, the present symposium was arranged with the following objectives:

1. To review present knowledge concerning medical and psychologic factors in traffic accident causation.
2. To consider this knowledge and the opinion of medical specialists in relation to driver licensing, *with particular reference to the feasibility of establishing physical and mental standards for motor vehicle operators.*
3. To present these facts and opinions to all concerned with traffic safety, emphasizing the importance of preventive measures and the need for careful research into all relevant aspects.

The first two objectives, and particularly the second, will be considered today by workshop groups of specialists organized as follows:

Group 1. Psychiatric-Psychologic Aspects (accident-disposing factors or behavior patterns; methods of detection or screening)—Herbert S. Gaskill, M.D., *Chairman,* Director of Psychiatric Services, University of Colorado Medical Center.

Group 2. Organic Medical Aspects (including cardiovascular, neurologic, ophthalmologic, diabetic, geriatric, orthopedic, and medicolegal aspects considered by subgroups)—Irving Graef, M.D., *Chairman,* Associate Professor of Clinical Medicine, New York University Post-Graduate Medical School.

Group 3. Drug and Chemical Aspects (alcohol, stimulants, depressants, and antihistamines)—David B. Dill, Ph.D., *Chairman,* Scientific Director, Chemical Corps Medical Laboratories, Army Chemical Center.

The recommendations of these groups will be presented at a general evening session intended primarily to contribute to the third stated objective.

In the workshop sessions emphasis should be placed on the feasibility of establishing physical and mental standards for licensing private vehicle operations. It is also considered desirable to attempt to formulate more rigid standards for public vehicle operators, who have responsibility for safe transportation of passengers, and for commercial vehicle operators or truck drivers. Obviously, there can be no intention to deprive any individual of the privilege to drive or to earn a livelihood by driving unless lack of proper qualifications render him a threat to life and limb.

Of necessity, recommendations cannot be too lenient or too rigid or unrealistic. Furthermore, the commercial vehicle operator has other duties besides driving which must be taken into account (e.g., lifting heavy objects).

A note of optimism for motor vehicle accident prevention is to be found in industrial reports[2,3] indicating that a conscientious medical evaluation of driver fitness can reduce motor vehicle accident rates as much as 50 per cent. There is reason to believe that this record can be improved and, furthermore, that successful application of medical standards and other driver selection procedures can be made so as to reduce substantially the accident rate of the general driving public. It is hoped that the recommendations of this symposium may be a contribution in this direction.

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Committee Reports

Group I: Psychiatric-Psychologic Aspects

HERBERT S. GASKILL, M.D., *Chairman,* Director of Psychiatric Services, University of Colorado Medical Center

WILLIAM G. BEADENKOPF, M.D., Director, Bureau of Epidemiology and Communicable Disease Control, Department of Health, State of New York

THOMAS N. BOATE, Manager, Accident Prevention Department, Association of Casualty and Surety Companies

JOSEPH M. BOBBITT, M.D., Chief, Professional Services Branch, National Institute of Mental Health, U.S. Public Health Service

WALTER BOEK, M.D., Assistant to the Commissioner of Health, State of New York

HENRY BRILL, M.D., Assistant Commissioner, Department of Mental Hygiene, State of New York

LEON BRODY, PH.D., Director of Research, Center for Safety Education, Division of General Education, New York University

BASIL R. CREIGHTON, Assistant Executive Director, American Association of Motor Vehicle Administrators

HOWARD ENNES, M.P.H., Director, Bureau of Public Health, Medical Department, The Equitable Life Assurance Society

T. W. FORBES, PH.D., Program Director-Highway, American Institute for Research

FREDERICK J. GASSERT, JR., Director, New Jersey Division of Motor Vehicles

MAXWELL HALSEY, Safety and Traffic Advisor, Eno Foundation for Highway Traffic Control

VERNE K. HARVEY, M.D., Medical Director, Bureau of Departmental Operations, United States Civil Service Commission

WILLIAM J. HILLIARD, Acting Deputy Commissioner, Department of Motor Vehicles, State of Connecticut

JOSEPH P. KELLY, Commissioner of Motor Vehicles, State of New York

BARRY G. KING, PH.D., Deputy Director, Commission on Accidental Trauma, Armed Forces Epidemiological Board

Robert F. Korns, M.D., Assistant Commissioner of Health, State of New York
Merwyn A. Kraft, Director, Department of Personnel and Accident Prevention, American Transit Association
Ross A. McFarland, Ph.D., Associate Professor of Industrial Hygiene, School of Public Health, Harvard University
John MacIver, M.D., Health and Welfare Division, Metropolitan Life Insurance Company
John O. Moore, Director, Automotive Crash Injury Research Project, Cornell University Medical College
John M. Murtagh, Chief Magistrate, City of New York
Herbert J. Stack, Ph.D., Director, Center for Safety Education, New York University
W. A. Tillman, M.D., Department of Psychiatry, University of Western Ontario
James Wall, M.D., Director, Westchester Division, New York Hospital
G. R. Wendt, Ph.D., Chairman, Department of Psychology, University of Rochester
Walter D. Woodward, M.D., Psychiatrist, American Cyanamid Company
Lt. Col. Willis H. Wood, Executive Officer, Office, Assistant for Ground Safety, DCS/P, Department of the Air Force

The group held an extensive discussion of the progress made in psychiatric and psychologic fields as they relate to the licensing and improvement of the motor vehicle driver. General agreement was reached that driver attitudes and personality characteristics have a major role in the causation of traffic accidents and that research in this area should be continued and intensified.

It was recognized, however, that knowledge in the psychiatric and psychologic fields has not yet reached the point where it can be effectively applied in the form of specific requirements or standards for licensing private motorists. Nevertheless, psychologic examinations should be employed as much as possible in driver research programs of motor vehicle departments. The findings of such research could be used to advantage in driver education and driver-improvement activities. Simultaneously, such research facilities might help to identify individuals with extreme conditions, and as a result the motor vehicle administrator would have a basis for referring such individuals to professional facilities where more intensive and more objective evaluation could be made of their fitness to drive.

It is therefore recommended by this conference group that:

I. In considering license applications, motor vehicle administrators should be as selective as is feasible and defensible, in order to increase the possible contribution of the license-granting procedure toward the elimination of unsafe drivers.

II. Motor vehicle administrators should consider giving a longer and more comprehensive examination to a random sample of license applicants, the data to be coded on their basic driving record and studied with respect to the subsequent performance of these drivers.

III. It be affirmed that the only acceptable kind of psychologic and psychiatric evaluation of drivers is that which involves a "whole" personality assessment as distinguished from single test measurements.

IV. Educational efforts be promoted that will help to bring public opinion to support appropriate and defensible limitations of the driving privilege.

V. State governments provide competent manpower and adequate facilities for the proper upgrading of the whole field of driver licensing, including the implementation of the results of research into the psychiatric-psychologic aspects of the accident problem. This would require, among other things, the employment of qualified examiners in sufficient numbers to carry out an adequate prelicense and postlicense examination of drivers.

VI. States and cities establish research centers for the psychiatric and psychologic examination of drivers whose records of accidents and/or violations bring them before the courts and/or the motor vehicle commissioner and who may then be referred to such centers for intensive examination of their fitness to drive. This is proposed to the end that the courts and the licensing authority may have additional information regarding the qualifications of such people based on scientific evidence of their mental and physical abilities.

VII. Since from a psychologic point of view the physician exercises a great influence over the mind and therefore the conduct of the average individual, the physician be urged to give more attention to cautioning patients against driving a motor vehicle when suffering from disease apparently impairing mental or physical ability to drive or when such ability is likely to be impaired by reason of treatment.

Although the above report indicates that few specific recommendations can be made at this time regarding the detection and rehabilitation of problem drivers, it should be noted, as was brought out during the group discussion, that there has already been a substantial amount of research on particular aspects of the problem. Much of this research has been on the significance of isolated characteristics, such as reaction time and visual acuity. The findings have been largely negative—that is to say, no significant difference has been found between good drivers and problem drivers in these respects. A sampling of these and other research studies is included in the list of references below.

In the light of such findings several members of the group emphasized again the need for objective-type tests of driver attitudes, which would help to identify aggressiveness, irresponsibility, resentment against authority, and other undesirable characteristics that may be evidenced on the road as well as in other areas of everyday activity.

One of the important questions that was discussed without agreement as to its disposition had to do with possible restrictions on the licensing of individuals with histories of mental illness. Some states, including New York, require a license applicant to indicate if he has ever been confined to a hospital or institution for mental illness. However, doubt was entertained as to the reliability of the responses, and in any case there was disagreement as to the conditions under which such a history would warrant a limited licensing or rejection of license application. This is undoubtedly an important area for further study. Consideration must be given also to the administrative and professional procedures for the information of the motor vehicle authority if and when disqualifying or limiting criteria are set up in connection with mental illness.

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Group II: Organic Medical Aspects

Irving Graef, M.D., *Chairman,* Associate Professor of Clinical Medicine, New York University Post-Graduate Medical School

General Medicine Committee

Perrin H. Long, M.D., *Chairman,* Department of Medicine, State University of New York College of Medicine at New York City

Joseph T. Beardwood, Jr., M.D., Chairman, Committee on Employment of Diabetics, American Diabetes Association

Harold Brandaleone, M.D.,* Medical Director, Third Avenue Transit System and United Parcel Service, New York City
James L. Goddard, M.D., M.P.H., Surgeon, U.S. Public Health Service
Irving Graef, M.D.,* Associate Professor of Clinical Medicine, New York University Post-Graduate Medical School
Robert H. Hamlin, M.D., Assistant Professor of Legal Medicine, Harvard Law School
Arthur E. O'Dea, M.D., Chief Medical Examiner, State of Rhode Island
Elaine P. Ralli, M.D., Associate Professor of Medicine, New York University College of Medicine
Edward Tolstoi, M.D., Associate Professor of Clinical Medicine, Cornell University Medical College
Frederick W. Williams, M.D., President, American Diabetes Association
Herman Wing, M.D., Medical-Legal Director, Transit Casualty Company
Frederic D. Zeman, M.D., Chief of Medical Services, Home for Aged and Infirm Hebrews, New York City

I. This group recommends that the model Motor Vehicle Code proposals relating to minimum age for licensing private motor vehicle operators be accepted—this age is sixteen; also, Interstate Commerce Commission's regulations relating to minimum age for licensing commercial motor vehicle operators be maintained. This varies from eighteen to twenty-one years, depending on the type of license.

II. The group believes that comprehensive data based on exposure and risk, relative to the effects of the organic aging process on the production of motor vehicle accidents, do not exist. In light of present information it is not known what effect organic disease or the aging process actually has on the motor vehicle accident rate because existing data do not take into account alcoholism, mechanical difficulties, road conditions, or the mental status of private drivers who have accidents. The group feels that detailed, objective studies in this area are badly needed.

III. The group is in agreement that periodic screening and other types of examinations are desirable for older people and believes that studies should be made to determine the types of examination, periodicity of examination, and ages at which such examination should be mandatory.

IV. The group believes that the motor vehicle operator who is responsible for a police-investigated accident should have his license suspended. It should not be renewed until the motor vehicle commissioner is satisfied that the individual's physical and mental status is satisfactory for operating a motor vehicle.

V. The problem of evaluating physical and mental standards needed for motor vehicle licensure varies somewhat according to whether one is considering commercial or private operators.

VI. The group accepts with reservations the outline[1] of disease entities preliminarily presented to it as possible bars to the employment of *commercial motor vehicle operators*. The reservations of the group arise from a belief that there should be more study and definition of the effects of the proposed disease entities on employment and in relation to accidents.

VII. The group wishes to emphasize that there are a number of disabling organic physical defects which should restrict the issuing of *private motor vehicle licenses,* such as conditions which produce a sudden loss of consciousness or other inability to operate a motor vehicle safely. However, the group believes that it is not in a position to bring in specific recommendations relative to organic physical deviations from the average because of the lack of comprehensive data on the effects of many organic physical defects in the causation of accidents. The group recommends that the American Association of Motor Vehicle Administrators, the Interstate Commerce Commission, and other interested groups, in association with representative members of the medical profession, undertake studies to determine specific disabilities which would limit the ability of an individual to operate safely an automobile.

VIII. The group recommends that state motor vehicle administrators be authorized to appoint specialist panels to advise them relative to those disabilities which would restrict the issuance of motor vehicle operator licenses.

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* *Ex officio* members.

IX. The group recommends that qualifying medical examinations be mandatory prior to the first issuance of a license to an individual and that a periodic qualifying medical examination be given prior to each renewal of the license.

X. The group recommends that when a condition which precludes the safe operation of a motor vehicle develops in an individual, his physician should inform the patient about the danger of his operating a motor vehicle.

Minority Report

A minority of the General Medicine Committee agrees with the scientific approach of the group's report, recommending more study to ascertain the relationship between specific organic disease of the driver and the etiology of motor vehicle accidents. However, this minority disagrees with the remainder of the committee who recommend delaying the establishment of criteria for driver fitness until adequate research is completed.

The minority, consisting of the industrial physicians on the committee, believe that a list of interim criteria for driver fitness can be established immediately on the basis of available knowledge and experience, without waiting for the results of further research in areas of insufficient knowledge.

Industrial physicians have shown[2,3] the value of establishing medical criteria in driver selection in industry. The application of such criteria to the selection of all drivers would be beneficial in reducing the accident rate and would assist the licensing authorities in granting licenses.

The Massachusetts Registry of Motor Vehicles already has an extensive program for licensing "special risk drivers." Licenses are granted for short periods (three months) after examination by qualified specialists. Periodic examinations are required for renewal of such licenses. Rigid criteria are maintained for subjects with epileptiform disorder, diabetes mellitus, known mental illness, and neurologic diseases.

Careful selection and licensing of drivers may be important means of controlling accidents. The license bureau, by establishing rigid criteria, can exert mandatory and discretionary control. Insurance companies, by refusing to insure cars driven by unsafe drivers, can also aid in reducing accidents.

Rigid standards for granting licenses might impose a hardship on some individuals but would help reduce the large number of injuries and deaths that occur on the road. This is an obligation we owe the public for their safety.

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Committee on Cardiovascular Diseases

Robert L. Levy, M.D., *Chairman,* Professor Emeritus of Clinical Medicine, College of Physicians and Surgeons, Columbia University

William Goldring, M.D., *Cochairman,* Associate Professor of Medicine, New York University

Gerald J. Friedman, M.D., *Secretary,* Assistant Professor, Department of Physical Medicine and Rehabilitation, New York University

Lamson Blaney, M.D., Medical Director, Sun Oil Company

S. Charles Franco, M.D., Associate Medical Director, Consolidated Edison Company of New York, Inc.

David H. Goldstein, M.D., Professor of Industrial Medicine, New York University Post-Graduate Medical School

Milton Helpern, M.D., Chief Medical Examiner, City of New York

Walter Ludlum, M.D., Medical Director, New York City Transit Authority

Seward E. Miller, M.D., Chief, Division of Special Health Services, Bureau of State Services, U.S. Public Health Service

M. N. Newquist, M.D., Medical Director, The Texas Company
J. Murray Steele, M.D., Research Director, Third New York University Medical Division, Goldwater Memorial Hospital
Meyer Texon, M.D., Lecturer in Forensic Medicine, New York University Post-Graduate Medical School
B. L. Vosburgh, M.D., Consultant, Health Services, Employee Benefits Service, General Electric Company
Sidney B. Weinberg, M.D., Assistant Medical Examiner, City of New York

The committee realizes the lack of conclusive statistical data concerning the role of each cardiac condition as a potential driving hazard. However, based on our knowledge of pathologic physiology and the clinical course of certain cardiac conditions, we feel that a medical opinion can be formulated as to their potential danger. We have listed as disqualifying those conditions which we consider possible sources of danger due to sudden loss of consciousness, inability to continue normal function, or death. There can be little argument that such categories as aortic stenosis, congestive heart failure, and Adams-Stokes syndrome are disqualifying. Where there is doubt as to whether a condition mitigates against driving, we have used the term "to be evaluated" to show that the ultimate decision may depend on other limiting factors or further study of the patient.

Realizing the needs of those in licensing bureaus, industry, and transit associations, we feel that it is a responsibility of the medical profession to offer its help by suggesting, where possible, specific conditions they consider disqualifying.

The disqualifying conditions differ for the three categories of vehicle operation: public transportation, commercial, and private. Since transportation vehicle operators are responsible for passenger safety, the physical requirements are more stringent. As for commercial vehicle operators the nature of their work has to be considered in the evaluation of limiting cardiac factors. For instance, a person with slight diminution of his cardiac reserve might be able to drive a vehicle without danger. If, however, his job as a commercial vehicle operator imposed such physical demands on him, e.g., climbing in and out of trucks or lifting heavy objects, that his cardiac reserve would be strained after a few hours of work, the operator could become a driving hazard.

The Committee on Cardiovascular Diseases suggest the following conditions as disqualifying for operators of vehicles in each of the indicated categories:

Private Operators

1. Severe diminished cardiac reserve.
2. Congenital heart disease—to be evaluated.
3. Aortic stenosis.
4. Organic valvular disease—to be evaluated.
5. Coronary artery disease with complications—to be evaluated.
6. Aneurysm of any centrally located or major vessel.
7. Adams-Stokes syndrome.
8. Complete auriculoventricular heart block or incomplete auriculoventricular heart block, with dropped beats.
9. Hypertension, with complications.
10. *Fixed* hypertension above 180/100.
11. Uncontrolled paroxysmal auricular fibrillation or flutter, or tachycardia.
12. Orthostatic hypotension, if symptomatic.
13. Carotid sinus syndrome with vertigo or syncope.
14. Cerebrovascular disease with or without paralysis.

Commercial Vehicle Operators

1. Active rheumatic fever.
2. Diminished cardiac reserve with organic heart disease.
3. Congenital heart disease—to be evaluated.
4. Aortic stenosis.
5. Organic valvular disease—to be evaluated.
6. Coronary artery disease with complications—to be evaluated.
7. Aneurysm of any vessel.
8. Uncontrolled paroxysmal auricular fibrillation or flutter or tachycardia. Ventricular arrhythmia other than premature contractions.
9. Adams-Stokes syndrome.
10. Complete auriculoventricular heart block or incomplete auriculoventricular heart block, with dropped beats.
11. Hypertension, with complications.

12. *Fixed* hypertension above 180/100.
13. Thrombophlebitis, with evidence of circulatory obstruction or recurrence.
14. Orthostatic hypotension, if symptomatic.
15. Carotid sinus syndrome with vertigo or syncope.
16. Cerebrovascular disease, with or without paralysis.

Transportation Operators

1. Active rheumatic fever.
2. Diminished cardiac reserve with organic heart disease.
3. Congenital heart disease—to be evaluated.
4. Hypertrophy and dilatation of the heart, confirmed by x-ray—to be evaluated.
5. Aortic stenosis.
6. Organic valvular disease—to be evaluated.
7. Coronary artery disease with coronary insufficiency and/or myocardial infarction.
8. Pericarditis, myocarditis, and endocarditis—to be evaluated.
9. Aneurysm of any vessel.
10. Adams-Stokes syndrome.
11. Uncontrolled paroxysmal auricular fibrillation or flutter or tachycardia. Ventricular arrhythmia other than premature contractions.
12. Complete auriculoventricular heart block or incomplete auriculoventricular heart block, with dropped beats.
13. Hypertension, with complications.
14. Fixed hypertension above 180/100.
15. Thrombophlebitis, with evidence of circalatory obstruction or recurrence.
16. Orthostatic hypotension, if symptomatic.
17. Carotid sinus syndrome with vertigo or syncope.
18. Cerebrovascular disease, with or without paralysis.

The only minority disagreement occurred in the setting of a specific level of blood pressure for disqualification. It was the opinion of the minority group that there was no medical basis for the adoption of any definitive disqualifying blood pressure level in the absence of vascular complications.

The committee as a whole recommended that the safety records of cardiac drivers be compared with the records of noncardiac drivers.

The committee also recommended the evaluation of specific detailed medical data relating to etiologic, anatomic, and physiologic cardiac defects in drivers involved in accidents.

Committee on Neurologic Disorders

Harold G. Wolff, M.D., *Chairman,* Professor of Medicine (Neurology), Cornell University Medical College
William G. Lennox, M.D., Associate Professor Emeritus of Neurology, Harvard University Medical School
William F. Bench, Supervisor, Veteran's Facilities and Handicapped, Massachusetts Registry of Motor Vehicles
Morton Nathanson, M.D., Assistant Professor of Neurology, New York University College of Medicine
S. Bernard Wortis, M.D., Chairman, Departments of Psychiatry and Neurology, New York University College of Medicine
Melvin D. Yahr, M.D., Associate Professor of Neurology, Neurological Institute, College of Physicians and Surgeons, Columbia University

This committee considered neurologic disorders and their relationship to the ability of the individual to operate a motor vehicle with safety. It became immediately obvious that research into the short-term and long-term liability of many of these disorders is urgently needed. We believe that state and Federal governments should provide funds for research, so that more exact information will be available and, hence, clearer recommendations can be made.

In order to judge the ability of an individual with a neurologic condition to drive with safety, the applicant should submit through his physician a complete history of the applicant's condition and report of pertinent neurologic and laboratory findings.

With respect to epilepsy the committee believes it wiser to use the term "epileptiform type of seizures," these being defined as any condition which brings about transient lapse of consciousness and/or loss of motor control and which may become chronic. In states which have adopted machinery for careful screening of individuals suffering from these disorders, the frequency of traffic accidents has been sharply reduced. In addition, accidents from these causes are minimal as compared with certain other medical conditions, such as alcoholism and impulsive behavior. (For example, in Massachusetts in the last three years epileptiform seizures have not been responsible for a single fatality, whereas alcohol has caused 265.)

The committee does not believe that seizures should be made reportable to health authorities. This would lead to subterfuge and increased secrecy. Judgment of persons with a history of seizures should be based on the evaluation of various conditions. These include the person's age when seizures began, the type and frequency of past seizures, the elapsed time since the last attack, presence or absence of an invariable and sufficiently prolonged aura, or of attacks limited to sleep; the person's sense of social responsibility, his sobriety, and his veracity; the adequacy of his medical treatment and his faithfulness in following such therapy; the presence or absence of physical, neurologic, or mental disability; the degree of abnormality of the electroencephalogram; and the type and extent of his proposed driving. The question to be faced is whether, considering the sum of these conditions, there is likelihood that the applicant will experience a seizure while driving. Of these various conditions absence of any seizure for a period of from eighteen to twenty-four months is basic.

As regards all neurologic conditions and particularly those involving disturbances of alertness in consciousness, the commissioner should have the assistance of a panel of physicians who are experienced in the diagnosis, treatment, and management of such disorders and neurologic diseases. These specialists would evaluate the report submitted by the applicant's physician, examining the applicant if necessary, and advise the commissioner whether in their opinion it is safe for the person to operate a motor vehicle.

The procedure, as outlined, would accomplish the following:

1. It would serve as a screening device to protect the public, to protect the applicant's physician from possible threat of suit, and to protect the applicant himself.

2. It would permit special restrictions (such as a lengthened period free of attacks) for cases with undue exposure to risk. Drivers of private cars have less exposure than those who operate vehicles for commercial use or for public transportation under adverse working conditions and fixed schedules.

3. The aim of this evaluation is to determine the capacity of the individual to drive safely rather than to limit individuals solely on the basis of a diagnostic category. The diagnostic label would merely alert the motor vehicle bureau. It should not be grounds for refusal of a license because it does not indicate the degree of the physical or mental disability of the individual.

Periodic re-examinations and re-evaluations of the functional capacity of the individual are necessary to determine his continuing ability to drive safely.

The medical advisory group to the commissioner would recommend either approval, approval subject to periodic re-examinations, or else disapproval of a license. The commissioner could then accept or reject the advice at his discretion.

. . .

The above report was prepared by Dr. William G. Lennox for the Committee on Neurologic Disorders. Dr. Harold G. Wolff, chairman of the committee, who had to leave before the meeting was ended, subsequently reviewed the report and made the following observations:

> The report expresses the consensus except on certain issues, which are as follows:
>
> 1. Several of the committee (including Dr. Wolff) strongly adhere to the view that persons who have had epileptiform type of seizures, whether due to known causes, such as brain injury or brain tumor, or unknown causes, should be excluded from the privilege of driving public transport vehicles. In exceptionally rare and special instances individuals who have had such seizures *in infancy only* should be considered as candidates for licenses to drive such vehicles.
>
> 2. The committee was divided concerning whether the foregoing restriction should include drivers of commercial motor vehicles, but most felt that a stringent surveillance and repeated examinations by an expert should be

required, the nature of the details of the control remaining to be worked out. Certainly a patient should have been free of seizures for a period of five years before his application could be seriously considered, and should be encouraged, if possible, to pursue another occupation. (Dr. Wolff adds that he is of the personal opinion that drivers of commercial vehicles should be subject to the same restrictions as in number 1.)

3. Several of the committee (including Dr. Wolff) feel that acceptance of eighteen to twenty-four months of freedom from seizures as a basic requirement for licensing for private car driving is too short. It should be at least three to five years.

Committee on Visual Standards

Conrad Berens, M.D., *Chairman,* Professor of Ophthalmology, New York University Post-Graduate Medical School

J. Gordon Cole, M.D., Chief, Eye Service and Eye Plastic Service, New York Eye and Ear Infirmary

P. N. DeVere, O.D., Chairman, Motorists Vision and Highway Safety Committee, American Optometric Association

Hedwig S. Kuhn, M.D., Secretary, Joint Committee on Industrial Ophthalmology, American Medical Association and American Academy of Ophthalmology and Otolaryngology

Brittain F. Payne, M.D., Clinical Professor of Ophthalmology, New York University Post-Graduate Medical School

A. Russell Sherman, M.D., Member, Board of Managers, New Jersey State Commission for the Blind

Byron Smith, M.D., Assistant Clinical Professor of Ophthalmology, New York University Post-Graduate Medical School

Lester H. Sugarman, O.D., Second Vice-President, American Optometric Association

George N. Wise, M.D., Assistant Professor of Ophthalmology, New York University Post-Graduate Medical School

Observers

Clark D. Bridges, Acting Secretary, Council on Industrial Health, American Medical Association

E. G. Cox, Chief, Section of Safety, Bureau of Motor Carriers, Interstate Commerce Commission

We recommend that the usual three main categories of public transportation, interstate commerce, and private car operators be changed so as to combine public transportation and interstate commerce personnel into one group.

I. The following are our recommendations for the minimal visual standards for the first group (public transportation and commercial operators):

A. A correctable visual acuity to 20/30 Snellen in each eye. If corrective glasses are required for obtaining visual acuity of 20/30, unbreakable glasses or an extra pair of glasses should be mandatory.

B. Form fields of 70 degrees in the horizontal meridian with each eye and 140 degrees in the horizontal meridian with both eyes.

C. No requirement for color vision indicated. However, it is recommended that the shape, size, position, and color of traffic lights be standardized.

D. No requirement for stereopsis (depth perception) indicated or recommended.

E. No test for light sense recommended but the presence of night blindness should be excluded by direct question.

F. Mandatory yearly examinations under the supervision of a qualified eye examiner.

II. The following are recommended as the minimal requirements for private car operators:

A. A correctable visual acuity to 20/40 Snellen in one (the better) eye.

B. Form field of 70 degrees in the horizontal meridian in each eye or 140 degrees in the horizontal meridian in one eye.

C. Re-examination of eyes every three years.

III. The following recommendations are considered pertinent to the broad role of vision in safe motor vehicle operation:

A. There is need for greater recognition and correction of present inequalities in related state laws.

B. Further consideration must be given to such mechanical factors as the following:

1. Vehicle design (windshield bars, wipers, blind spots, etc.).
2. Lowered visibility in use of tinted windshield and/or use of tinted glasses for night driving.
3. Reflections inside the car (chrome, etc.).
4. Rear window and mirrors.
5. Visibility of moving objects on road or roadside.

C. Consideration should be given to the advisability of requiring parties involved in a serious accident to undergo more extensive medical (including visual) and mental examinations under duly qualified examiners to evaluate their fitness to continue to drive.

D. No specific recommendations are made at the present time in regard to color vision, stereopsis, and light-sense because of the lack of uniformly acceptable tests.

E. Consideration should be given to further research concerning the relation between the causes of accidents and depth perception (stereoscopic vision), muscle balance, and particularly visual and mental reaction time.

F. It is recommended that every commissioner of motor vehicles have available qualified eye consultants for consideration of all visual problems, including limited license and hardship cases.

G. It is recommended that the licenses of all individuals receiving aid for the blind be revoked.

Great emphasis must be placed on further evaluation of total environmental factors in accidents and on scientific determination of the perception and proficiency of drivers.

Committee on Auditory Standards

Fletcher D. Woodward, M.D., *Chairman,* A.M.A. Committee on Medical Aspects of Automobile Injuries and Deaths

Franz Altmann, M.D., Clinical Professor of Otolaryngology, College of Physicians and Surgeons, Columbia University

John F. Daly, M.D., Professor and Chairman, Department of Otolaryngology, New York University Post-Graduate Medical School

It was the feeling of the committee that the observance of stricter criteria of fitness to drive would result in the reduction of the appalling rate of motor vehicle accidents. Toward this end certain recommendations were made regarding standards and test procedures pertaining to hearing qualifications of driver license applicants.

A simple test easily applied by laymen, the object of which would be to screen out those individuals with severe hearing loss, should be utilized.

1. Spoken voice test using recommended standard test words should be employed.

2. Minimum requirements for passing would be 50 per cent of the words correctly repeated at a 5-foot distance in the better ear.

3. On failure to pass this test, the applicant would be required to undergo an audiometer evaluation test by a safety clinical committee of physicians established by licensing authorities. It would be the responsibility of this committee to determine the applicant's physical fitness for safe driving.

The standards which would guide this committee would be determined after further study by national organizations directly concerned. It is recommended that:

1. Applicants be given hearing tests as outlined above.

2. Those over sixty-five years of age be reexamined at each license renewal period by the committee.

3. Repeat offenders and those with known

physical defects be evaluated by the committee as to their fitness to drive.

Vertigo is recognized as a potential cause of accident. However, in the experience of members of the group, no single incident is known in which vertigo was a contributing factor. Warning symptoms are usually present sufficiently in advance to give the operator an opportunity to pull over to the curb or off the highway. It is important for physicians caring for patients subject to sudden attacks of vertigo to warn them of the danger of operating a motor vehicle.

In the licensing of *operators of passenger vehicles*, audiometric tests should be mandatory. It is recommended that a hearing loss for the speech frequency in the better ear, aided or unaided, should not exceed 30 decibels. Periodic examination of hearing is recommended for this group.

1. If an operator's hearing is corrected by the use of a hearing aid, the individual should be required to wear it at all times during the operation of a motor vehicle.
2. Total loss of hearing in one ear is considered disqualifying for employment.
3. Aphonia and severe speech defect are considered disqualifying.
4. An individual subject to sudden unpredictable attacks of vertigo (Ménière's disease or other vestibular disturbance) should not be employed for the operation of any passenger transportation vehicle. When the disease develops during employment, the employe should be disqualified from operating a vehicle. However, if the disease is subsequently considered to be cured or under control, the final decision as to fitness to return to work should be determined after evaluation by the safety clinical committee.

Insofar as *operators of commercial vehicles* are concerned, the same recommendations should apply as for the operator of a passenger transportation vehicle, with the following exceptions: (1) the maximum acceptable hearing loss for the speech frequency in the better ear, aided or unaided, should not exceed 50 decibels, and (2) there should be no restriction for voice or speech defects.

Committee on Orthopedic Standards

Donald A. Covalt, M.D., *Cochairman*, Associate Director, Institute of Physical Medicine and Rehabilitation, Bellevue Medical Center, New York University
Walter A. Thompson, M.D., *Cochairman*, Professor of Orthopedic Surgery, New York University Post-Graduate Medical School
Paul W. Braunstein, M.D., Surgical Consultant, Automotive Crash Injury Research Project, Cornell University
Ernest Stich, M.D., Orthopedic Consultant, United Parcel Service
Tobias Wagner, Ph.D., Research Associate, Center for Safety Education, New York University
Philip Wilson, Jr., M.D., Assistant Professor of Clinical Surgery, Cornell University Medical College

It was the considered opinion of this group that the following recommendations should constitute minimum orthopedic standards for the licensing of drivers of motor vehicles.

I. *Conditions of the Head and Neck:* Conditions of the head and neck, such as torticollis, cervical rib, scalenus anticus syndrome, osteoarthritis, Marie-Strümpell arthritis, and cervical disk degeneration, which through pain or associated neuromuscular deficit, cause limitation of motion of the head and neck, such as to result in a loss of rotation to either side of 75 per cent or more, are likely to interfere with proper operation of all types of vehicles. If the rotation to either side is limited to between 50 and 75 per cent of normal rotation, passenger car operation should be permitted. If between 75 and 100 per cent, commercial vehicle operation is permissible. To operate public transportation vehicles properly and safely, normal rotation to either side should be required.

II. *Diseases of the Thoracic Cage:* Active infection of the thoracic cage, such as active osteomyelitis with draining sinuses, should preclude the operation of commercial or public transportation vehicles. These conditions as such are no contraindication to the operation of private passenger cars, providing the individual's general physical condition is satisfactory. It is also felt that scoliosis, kyphosis, lordosis, and combinations of these conditions, if of mild to moderate severity, are no contraindication to the operation of all three types of vehicles. Severe conditions preclude the operation of commercial and public transportation vehicles. However, there is no objection to the operation of private passenger vehicles under these circumstances.

III. *Upper and Lower Extremities:* It is felt that the upper extremities must be essentially normal in order to operate commercial or public transportation vehicles. A one-armed person with normal lower extremities may drive a passenger vehicle, provided the one arm has normal function and suitable auxiliary operational devices are available.

It was felt that complete normal function of the lower extremities was necessary for the safe operation of commercial and public transportation vehicles. Persons with one lower extremity entirely normal should be able to operate a standard passenger motor vehicle. However, individuals with one lower extremity totally disabled either through loss or paralysis, plus significant impairment of function of either hip, knee, or ankle on the opposite side, should have hand controls plus two good upper extremities. Persons with one normal upper and one normal lower extremity are considered capable of operating modified passenger cars, as are persons with two good upper and no lower extremities.

A minority of the committee was of the opinion that a greater percentage of total upper extremity function should be required than of total lower extremity function.

IV. *Spine:* Painful conditions of the low back plus infections of the spinal column should preclude the operation of commercial and public transportation vehicles. However, these conditions do not preclude the operation of private passenger vehicles, providing no significant neurologic deficit exists bilaterally.

Miscellaneous conditions which, by virtue of their pain-producing mechanisms, interfere with function should be considered as precluding the operation of motor vehicles. Included are conditions such as osteoarthritis and rheumatoid arthritis.

V. *Additional Recommendations:* Over a period of years the Veterans Administration has provided thousands of automobiles equipped with special controls to amputees, paraplegics, and veterans with other orthopedic disabilities. But little is known regarding the accident experience of these drivers.

It is recommended that in cooperation with state motor vehicle administrators, the Veterans Administration conduct a study of the driving record of these individuals. It is further recommended that state license authorities, whenever possible, maintain separate files of all drivers who use special controls on vehicles.

Group III: Drug and Chemical Aspects

David B. Dill, Ph.D., *Chairman*, Deputy Director of Medical Research, Chemical Warfare Laboratories, Army Chemical Center

Roy Alexander, Director of Safety, Eastern Greyhound Lines

Mark S. Blumberg, M.D., Acting Chief, Health Conservation Section, Occupational Health Program, U.S. Public Health Service

Theodore J. Curphey, M.D., Chief Medical Examiner, Nassau County, New York

Walter A. Cutter, Ph.D., Assistant Director, Center for Safety Education, New York University

Russell S. Fisher, M.D., Chief Medical Examiner, State of Maryland

A. W. Freireich, M.D., Assistant Professor of Clinical Medicine, New York University Post-Graduate Medical School

Leon A. Greenberg, Ph.D., Director, Laboratory of Applied Physiology, Yale University

Lt. Col. James F. Hammill, M.D., Assistant Chief Consultant in Psychiatry and Neurology, Office of the Surgeon General, Department of the Army

E. J. Henry, Commissioner, Pennsylvania State Police
Herbert S. Kupperman, M.D., Adjunct Assistant Professor of Therapeutics, New York University College of Medicine
Giorgio Lolli, M.D., Director, Silkworth Memorial Service, Knickerbocker Hospital, New York City
G. H. W. Lucas, M.D., Professor of Pharmacology, University of Toronto; Alcoholism Research Foundation (Toronto)
W. J. McNamara, M.D., Associate Medical Director, Industrial Health Service, The Equitable Life Assurance Society
Arnold Z. Pfeffer, M.D., Assistant Clinical Professor of Psychiatry, New York University College of Medicine
Capt. George B. Ribble, M.D., Bureau of Medicine and Surgery, Department of the Navy
Charles J. Umberger, Ph.D., Assistant Professor of Forensic Medicine (Toxicology), New York University Post-Graduate Medical School

I. *Recommendations Concerning the Use of Chemical Tests for Alcohol**

Since adequate research facilities are not available to study the changes in human behavior brought about by brain alcohol in various concentrations, this committee recommends that when a driver has become involved in a motor car accident or traffic violation, his blood, urine, saliva, or breath be tested for alcohol. On refusal by the driver or if alcohol is detected, a demerit mark should be placed on his driving record. In case of a second accident, if alcohol is again detected or if he again refuses, the driver's license should be indefinitely suspended while the driver's drinking habits are investigated by a clinician appointed by the authorities. The driver may be reinstated at the discretion of the licensing authorities.

II. Recommendations for Further Research on Alcohol†

A. Studies to relate objective measures of driver performance to levels of alcohol in the individual. For example, driver performance may be graded in the following categories:

1. Not apprehended by authorities.
2. Apprehended for traffic violations only.
3. Apprehended for nonfatal accidents.
4. Apprehended for fatal accidents.

The last three items can be analyzed from data already available from jurisdictions where such studies have been and are being conducted. The first would involve a carefully controlled study of drivers not apprehended or involved in any accident.

B. Studies to distinguish the differences in driver performance which are related to (1) the pharmacologic actions of alcohol and (2) the inherent behavioral tendencies of individuals who choose to use alcohol in varying degrees.

C. Chemical and pharmacologic studies to determine the metabolic products formed in a person who has had a quantity of alcohol in his body which might impair his driving ability. In other words, is the significance of a specific concentration of alcohol in the blood, such as 0.15 per cent, the same in an individual who has recently imbibed enough alcohol to bring him up to that level as in one who may have had a larger concentration of alcohol some time previously but is in the downward portion of the curve of alcohol concentration?

III. *Recommendations Covering Drugs and Automobile Operation*

The relation of drugs (other than alcohol) to automobile driver behavior is too little understood to justify specific recommendations at this time. It seems clear, however, that many commonly used drugs, including antihistamines, antisoporifics, and sedatives, when used in normal doses, may harmfully affect automobile driving. Enough evidence *is* available to give guidance to the medical profession and to the public. In consideration of this it is recommended:

A. That Federal, state, and private agencies, industry, and universities support research on the psychologic and physiologic effects of commonly used drugs and on their relationships to automobile driver behavior.

B. That the medical profession be educated in adapting their prescriptions of such drugs to the occupation of the patient and in giving patients proper warning of possible effects on driving.

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* Prepared by Dr. Lucas, Dr. Dill, and Mr. Alexander.
† Prepared by Dr. Freireich.

C. That the public be educated to the fact that many medicines, not just a few, have effects on automobile driving.

D. That research be conducted on the possibility of legal control of use of drugs in relation to driving.

IV. *Recommendations Concerning Education of the Medical Profession and the Lay Public on How Alcohol and Commonly Used Drugs Affect the Automobile Driver*

A. Medical profession:

1. The profession needs to be informed concerning the existing law and the meaning and significance of chemical test evidence in order to aid the physician in making diagnoses and testifying effectively in court.

2. The profession needs to be informed concerning the functions involved in operating a motor vehicle and the effects of alcohol and drugs on these functions, so that the physician can better operate as an educational force both with the individual patient and in his public relations with the community.

3. It is recommended that efforts in this direction be activated initially in national, state, and county medical societies, encouraging them to direct effective propaganda to constituent members.

B. Public (nonmedical):

1. Law enforcement agencies (police, judges, prosecutors, etc.), industrial groups (including the drug and liquor manufacturers), and insurance companies need to be informed concerning the effects of drugs and alcohol on motor vehicle operation. Some framework or agency should be established through which these needs can be satisfied.

2. There is a basic need for knowledge and understanding by the layman on how small or moderate amounts of drugs or alcohol specifically affect driving functions. Only such understanding will justify existing laws in the mind of the layman; he will continue to support and obey only the laws he understands. Such education can be propagated through textbooks, better informed school teachers, popular newspaper and magazine articles, and the other media of public information. In the long run such education can change existing attitudes with regard to the use of alcohol and drugs in relation to driving. Ultimately there will have to be a change from the present lack of social stigma attached to such practice.

The Importance of Accident Prevention

HOWARD A. RUSK, M.D., NEW YORK CITY

(*Director, Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center*)

When we were setting up the early veteran and civilian rehabilitation programs here in New York and then generally throughout the country, I was astounded by one statistic that I have never been able to get out of my mind. The bloodiest fighting that we had in the war and the days of our highest casualties were the first ten days after D-day. We lost, killed and wounded, on the beachheads of Normandy 11,000 men. During those same ten days we lost 26,000 civilians, killed and wounded, on the highways and in the industry of this country, and those were the days of gas rationing!

The same accidental losses still occur every day. There is no real fuss about them, no excitement. But if on a Saturday night in some community an ambulance screamed to the door of a hospital and, instead of four victims of an automobile accident, there were four cases of plague or typhoid fever or any one of the exotic diseases that we fear, the whole state and the adjacent states would be in general alarm for days, and everybody would want something done about stopping this epidemic.

I think that we have come to take this accident problem as a matter of course—an unpreventable problem because we don't have a vaccine or a serum or medicine or something specific that we can give to stop it. We do have engineering tools and psychiatric tools and social tools with which to work, but we haven't learned to use them together. Nevertheless, I think that we have enough knowledge in our hands to attack this problem properly, and we in medicine should take a certain amount of leadership in this attack. We can make substantial progress even with our present knowledge, although I certainly agree with Drs. Hilleboe and Shepard that we need more and continuing research.

We must also encourage and assist in educational programs attacking the problem. In this connection one of the questions that needs to be considered is this: "What does an automobile do to the average individual to change his whole concept of manners?" It is a question that has to be considered at home, at meetings of parent teacher associations, and by other groups, as well as in driver education classes in school. With regard to the latter it might be well for the parents of the students to sit in occasionally because it doesn't do much good to teach the proprieties to our youngsters and then have them violated by the example set when they are riding with their parents.

When it comes to learning by example, there may be much to be gained from the driving record of disabled people. We see in the Institute now between 300 and 400 paraplegics and quadraplegics each year. We have a number of quadraplegics who are driving with no triceps, with only partial fingers left, but with certain changes in their car and a glove that keeps their hand to the wheel. They seem to make excellent drivers. We have a paraplegic girl, now in her eighth year of driving, who thinks nothing of getting in a car and driving down to her home in North Carolina and back. In riding with her, I am amazed at her skill and care and sensitivity in driving.

Perhaps one reason that disabled people have such a sensitivity is that they recognize driving as a great privilege. They have lost the power of basic locomotion, but to be given the privileges of locomotion in this way makes them appreciate the opportunity. This shows up in their safety record. For example, Abilities, Incorporated, which hires only severely disabled people (polio cases, blind and deaf, cardiacs, hemiplegics, and paraplegics) had this safety and attendance record in 1955, as compared to national norms:

Days absent per 100 scheduled working days: 0.021, normal 3.3.

Days paid sick leave: 0.019, normal 1.3.

Average days lost per injury per 100 scheduled working days: 0.033, normal 0.13.

Days of disability per injury: 1.8, normal 14.3.

This suggests what can be accomplished through proper preventive measures. It also makes us wonder whether it might not be well worth while to employ some of the disabled as driving instructors and examiners who could teach both by precept and example, impressing many by their sensitivity and sound judgment.

Today accidents rank high as the cause of death and injury among all age groups. The head of a large western clinic recently indicated that they did not have a single death in their entire pediatric practice during the preceding year; those that came to their attention resulted from home and traffic accidents. This is a problem that the medical profession alone cannot solve. However, the doctor can be the prime educator in the accident prevention program. If he is given the proper material and if he is willing to carry the message to individuals and to groups, we can make real progress, educationally speaking. The physician must also do what he can to help identify those who are unfit to drive. He can also contribute a great deal to research in accident prevention. Of course, this is not his problem alone, and so it is most heartening that this symposium has brought together representatives of different disciplines and different interests to discuss this great common problem. Only through such teamwork can we come to sound and practical solutions.

Human Factors in Accidents

JOHN MacIVER, M.D., NEW YORK CITY,* AND WILLIAM P. SHEPARD, M.D., NEW YORK CITY†

THE one thing heard most frequently in this symposium has been our lack of knowledge concerning safety. This is especially true of the human factors involved. It is indeed a basic difficulty. Our nonmedical colleagues sometimes tend to believe that the examining physician has some magic for identifying and remedying the numerous human factors involved in accidents. Performance characteristics can readily be drawn up for machines but not so easily for men.

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* Health and Welfare Division, Metropolitan Life Insurance Company.

† Second Vice-President, Metropolitan Life Insurance Company; Chairman, Council on Industrial Health, American Medical Association.

We know far too little about variations in human performance both in health and disease; indeed, even the demarcation between health and disease is often blurred.

At today's conference some progress was made in delineating medical conditions that are meaningful in relation to driving performance. Fairly precise measures can be made in some areas of human function, notably in the special senses of the eye and the ear. However, most areas of human function are not yet susceptible to precise measure, at least by present-day methods.

A great amount of basic research is a necessity of the first order if we are to learn more about humans as drivers of 2-ton machines. Sound and effective administrative and educational programs depend on such research being carried out.

For present purposes an accident may be defined as an event that culminates a series of events and which in varying degrees is unlooked for and unpleasant. If an event is described as unpleasant, it must somehow involve a human being, and by definition, therefore, no accident is without so-called "human factors." A difficulty arises, however, when we attempt to isolate or define what we mean by "human factors" in an accident. To us the justification for using the phrase is that it serves to emphasize the great importance of individual and group behavior in the production of accidents. The concept is weakened if it leads to the dichotomy of "human factors" versus "nonhuman" factors. By and large such a division has little meaning.

The schema which we are about to present is only one of many that might be devised. We might add parenthetically that any schema is only as good as the fruitful communication it promotes among investigators and, of course, the validated accomplishment that results from its use.

The four categories of human factors, each of which I shall discuss briefly in turn, are physical, psychologic, social, and cultural. The first pair—physical and psychologic—involve mainly individuals. The second pair—social and cultural—involve mainly groups, both large and small.

Individual physical differences are generally quite obvious. The agile three-year-old, the strapping young male, the presbyopic oldster—all have physical characteristics that carry different types of accident potential. Comparisons may be made on many bases: age and sex variations, variations under physical stress, variations determined by organic impairment or drugs or climate. The list is virtually endless, and it will take all the ingenuity of many investigators to choose the right leads and to come up with applicable answers.

What of psychologic—or emotional or personal—characteristics? Regretfully, we must lay to rest any oversimplified concept of the accident-prone individual and, indeed, mix hope with skepticism that the more neutral term of "accident-repeater" will lead to usable conclusions. This does not imply that the accident-prone individual does not exist. He probably does. Unfortunately, however, we have not been able to isolate him with any consistency. Neither are there usable yardsticks of accident-proneness nor measures of the degree of stability of this quality. Accidents have the characteristics of being relatively infrequent phenomena; of being determined by multiple, not single, factors and in the main determined by more than one person—all this in a constantly shifting environment. The fact is that accident-proneness has not hurdled the barriers that these characteristics symbolize.

This should not suggest that the investigation of transient and permanent emotional patterns is not warranted. There is wide agreement among psychiatrists that *Homo sapiens* comes equipped with aggressive drives, mostly benign—indeed helpful—but also frequently destructive to the individual and those around him. To understand both the healthy and the malignant emotional patterns, how they operate, in whom, when, and to incorporate the findings within a logical over-all theory of accident phenomena will be a great accomplishment indeed. It is hardly necessary to add that such an accomplishment will not come about overnight. The answers, as most of the answers involving human behavior, will come slowly and piecemeal.

Now to the third category—that of social factors. There can be found in human society a great many identifiable groups. We may define a group simply and broadly as being made up of people who have something in common. Particular groups may have homogeneous or heterogeneous memberships; individual roles and status may vary; in many groups the individual has superiors, peers, and subordinates. This concept of the societal group has importance in accident research because intergroup and intragroup relations undoubtedly affect the frequency and type of accidents. For example, what of the position of the adolescent in our society and the accidents he incurs? Likewise, what of the group of sixty-five years of age and older? What societal characteristics of the American family have relevance to accidents within and without the home?

Last, we come to the influence of our culture. Not only is a man a social animal, he is a culture-bearing animal as well. He shapes and is shaped by his institutions, customs, beliefs, and attitudes. Here is an almost entirely unexplored field for accident investigation. Two examples: Can the American's attitude toward his automobile be modified in such a way as to reduce the accident toll on the road? What part does the contemporary male's mode of expressing his masculinity play in the production of home accidents?

These are suggestive and illustrative only. Such questions should be advanced, worked over, and refined; then research should be set up to secure meaningful answers.

Before closing it seems appropriate to say a few words on the very human subject of safety education. It seems to us that educational measures should be based on up-to-date learning theory, which is to say that the psychology of the individual and the psychology of the group should be taken into consideration at every turn. What motivates the individual? How is group behavior modified, and how permanent are the effects that can be achieved? Do scare tactics work and, if so, for how long? What is the role of preaching, imploring, and enforcing?

We realize that we are asking no more and no less than the following questions: What makes human beings tick? Why do they behave the way they do? Indeed, we have come to the conclusion that those who are in accident research must face questions as large as this. We can assure them that the search for answers will be as exciting as any in the entire world of scientific endeavor.

The Conclusions and Recommendations of the Conference Workshop Groups

HERMAN E. HILLEBOE, M.D., ALBANY, NEW YORK

(*Commissioner of Health, State of New York*)

One of the speakers at the symposium very aptly said that the important accomplishment of this meeting was the presentation of ideas for subsequent testing and proving. The symposium served, therefore, as a sounding board.

The subject is so complex that it is not possible to provide all the substantiating data in one day or to present all the material that is available. What we did have was the opinion of many experts and some recommendations that need to be tested by further research.

The main points made by the three groups—Psychiatric-Psychologic, Organic Medical, and Drug and Chemical—could be collected under five headings: general opinions, specific information, educational factors, suggested action, and the need for research. The details of the recommendations of each section, however, are not contained in this brief summary since they may be found in the sectional reports.

One of the objectives of this symposium was to review the present knowledge concerning medical and psychologic factors in traffic accident causation. A second objective was to consider the knowledge and the opinions of medical specialists in relation to driver licensing, with particular reference to establishment of physical and mental standards for motor vehicle operators.

With these objectives in mind, it was agreed that no single screening method could be used in determining human behavior characteristics relating to automobile accidents. Unfortunately, there has been a tendency on the part of many people to use laboratory technics or single devices, which can be applied to an individual or to groups of individuals in a short period of time at little cost, to determine whether a person should be allowed to drive.

Yet, it was also suggested that an eye test be given at each renewal application for the driver's license. In addition to the fact that this only treats a small segment of the problem, the magnitude of the operation would not make such a recommendation feasible. Commissioner Joseph Kelly of the New York State Bureau of Motor Vehicles emphasized this by pointing out that there are 4,800,000 persons with licenses in New York State.

We must be very careful in dealing with isolated disabilities. For instance, it was brought out that there is some evidence that deaf mutes, on the basis of miles driven in a particular state in recent years, actually had better accident experience than a similar group of people who were not deaf or mute. Care must be used to guard against penalizing some people too severely simply because they have disabilities. This point was raised too when restrictions were suggested for sufferers of various forms of heart disease and other organic diseases and for the aged. Although we are attempting to protect the public by restrictive measures, we should also be concerned with the protection of the rights of disabled individuals.

In line with this thinking a recommendation was made that individuals involved in accidents should have their licenses suspended pending special and physical examination before their licenses are renewed. This recommendation also suggested examinations be given at the time a license is renewed. Again, Commissioner Kelly cited the 4,800,000 drivers in New York State to stress the magnitude of the problem. Under present conditions with the funds and facilities available, examinations of all applicants for new licenses and renewals would be an impossible task.

A similar recommendation, however, might prove practical and an aid in research. It was suggested that for a reasonable amount of funds more adequate records could be kept on those individuals involved in accidents. With these records competent investigators could do research which could be fruitful. This recommendation could be put into effect in many places with very little change in present administrative practices.

It is important, however, when doing research, that proper groups be used for comparison and more exact interpretation. For instance, we cannot take a sample of hospital patients and draw conclusions which are typical of the population as a whole. Therefore, we cannot do research simply on those who have accidents. We must compare them with those who have not had accidents. We need this comparison for a clear understanding of the problem.

When we fully analyze this subject of research, we must agree that there just is not enough money being spent in this field. It was pointed out that of the hundreds of millions of dollars being spent for road building, only 2 per cent was being spent for road research. And, to take this one step further, only a small portion of that 2 per cent was being spent for medical research. The members of the symposium were cognizant of this lack of enough money for medical research in motor vehicle accident problems and were of the opinion that the government should gather together representatives of engineering, medicine, and licensing agencies with enough funds to accumulate and to analyze meaningful data. It certainly is a realistic proposal and one which merits consideration.

As one more step in this direction, it would seem that instead of the testing centers now run by nonprofessional people in many states, centers conducted by a group of specialists in the various fields of medicine combined with social scientists and biostatisticians would be more effective. The motor vehicle bureaus, health departments, local medical societies, and medical schools could combine to determine the proper organization of such centers. The problems are so complex that no one group can supply all the answers.

Motor vehicle agencies must begin to spend more money to buy not only consultation services for individual cases but also expert advice on setting up standards for licensing. These services can be obtained from the medical schools, schools of public health, and medical societies. Among other sources is the health department, which invariably has personnel who are skilled in epidemiologic research and with whom the motor vehicle agencies can work. In New York State, for instance, the Health Department and the Bureau of Motor Vehicles are combining resources on several projects not only to determine driving habits of individuals, but also to set up a center where those drivers who have had accidents and new applicants for licenses can be examined and interviewed.

One recommendation of the symposium touched on this phase of the problem. It stipulated that a network of the American

Association of Motor Vehicle Administrators, the Interstate Commerce Commission, and other related groups in cooperation with the medical advisory groups of our national, state, and local medical societies accept the responsibility of stimulating research and establishing standards which are to be used for licensing of individuals. Research stimulated by such a group would be meaningful, for the findings could be readily tested for reliability and validity within the limits of cost, results, and acceptability to the people who must support these tests and to the people who must undergo these tests.

This last point is important for it brings us to the third objective of this symposium—to present facts and opinions to the general practitioner and others interested in traffic safety. A recommendation was offered to create additional informational services for the medical profession and the public. Granted that this recommendation has merit, it would seem that information directed towards physicians should be provided through postgraduate courses. This would be more acceptable to the physician and more fruitful. Many state health departments and medical societies offer postgraduate courses. There is no reason why the subject of automobile safety could not be included.

With the advent of the era of miracle drugs we face an additional problem in traffic safety. Many times, ordinary dosages of these drugs will affect temporarily but adversely the driving ability of the patient. The physician who is informed of this can do a valuable service to his patient by telling him of the possible effects the drugs may have on his driving skills.

Perhaps, in a more indirect manner the physician can assist in another, more complex problem. This is the influence of alcohol in automobile accidents. It was pointed out that one research project, with the use of 900 postmortems, found samples of alcohol in the brain and blood in approximately 50 per cent of these accident deaths. Certainly, a physician who knows the background of the patient can do some individual education on this point.

The education of the general driving public is an important part of traffic accident prevention. It is a complex task and one which will tax the resources of every group concerned with traffic safety. There is one important thing which all these groups must remember. All their research will be of no avail if the public cannot understand the results. The findings of these research projects must be expressed in simple, ordinary terms so that the general driving public can understand them, accept the findings, and do something about reducing traffic accidents.

The highway men of olden days were novices compared to the reckless drivers of today who pounce upon the unwary and rob him of his health and, too often, of his life. Government has a responsibility and private groups a great opportunity to support fundamental research into the human aspects of traffic accidents. New scientific knowledge can help us to rescue dangerous drivers from their own careless and destructive actions.

Physicians and Automobile Accidents

IRVING GRAEF, M.D., NEW YORK CITY

(*Associate Professor of Clinical Medicine, New York University Post-Graduate Medical School; Attending Physician, Fourth (New York University) Medical Division, Bellevue Hospital*)

PHYSICIANS, like other troubled citizens, must ponder in growing awe and fear the appalling death rate from motor vehicle accidents. But they, even more than other citizens, must play a key role in reducing this preventable form of mortality, for they are vitally concerned with the many more thousands who are injured, maimed, and often disabled as survivors of accidents.

Physicians ride the highways daily, and few groups exceed them in the frequency of use of motor vehicles. Therefore, they know at first hand that physiologic and psychologic factors determine the fitness of drivers, their reflex movements, the adequacy of their training, and, perhaps most important, their awareness of their own health limitations, including factors relating to mental health.

We, as medical men who are taught and teach our patients the value of preventive medicine, cannot deny the imperative need to help state licensing authorities set up tests of qualification for all drivers. Under modern road conditions with higher tolerated speeds on many highways drivers operate vehicles with a lethal potential that is growing ever greater. At high speeds the responsiveness of the operator to sudden dangerous situations determines whether or not an accident will occur. May it not be timely for us to designate the automobile a dangerous vehicle just as certain weapons are classified as dangerous?

Readers of the reports of the workshops held during this symposium may be surprised at the diversity of opinion on many specific questions of health. For example, participants in one of the workshops hesitated to apply strict requirements for driver fitness related to age on the ground that insufficient data exist to adopt a strict rule. However, most insurance companies will not insure persons over sixty-five against accident, health, or life. If the risk is too great for the insurance companies because of the manifest decline in health and increase in morbidity related to age, is it wise for the state licensing authorities to permit persons over sixty-five to operate dangerous vehicles without requiring periodic certificates of health, including road tests at high speeds? Should the period not be short enough to anticipate or make possible the early detection of changes in body function which might influence driver fitness? Would it not be desirable to require an annual certificate of persons over sixty-five? Many may object to a mandatory examination, but how else is the rest of the driving public to be protected from the weaknesses or faults of drivers whose fitness is not what it used to be or is not equal to the demands of new driver conditions? Must we wait until more accidents precipitate more deaths?

There are many controversial aspects to the problems that nonhealthy drivers present. Most physicians, aware that diabetics taking insulin must be cautioned about insulin-induced reactions, probably caution their patients about the need for care in the operation of a motor vehicle if they are sensitive to insulin or irregular in their responsiveness to it. Licensing authorities need assistance in evaluating such subjects. Dr. Joslin in Boston has been instrumental in influencing the Bureau of Motor Vehicles in Massachusetts to adopt a reasonable attitude concerning the issuance of licenses to known diabetics. He has pointed out that carefully instructed diabetic subjects, aware of their special state, are proving to be safer drivers than many so-called normal subjects. Similarly, Dr. William G. Lennox has argued urgently and favorably for a liberal treatment of the epileptic who has been free of seizure for a long enough period, provided he is under strict control. In the hypertensive subject the problems are especially difficult in evaluating driver fitness. It is one thing to permit him to drive his own vehicle provided he has no vascular complications, but it is manifestly not in the interest of public safety to risk permitting him to operate a passenger vehicle, nor is it in his own interest to permit him to drive any vehicle as his principal occupation.

The role of alcohol in accidents may be subtle or obvious. Hard and fixed rules like those prevailing in Sweden, where licenses are revoked permanently if a driver involved in an accident is found to be under the influence of alcohol, might be a necessary solution to the problem of curbing persons who do not realize that "alcohol and gasoline do not mix." In these days of free access to alcoholic beverages it would seem imperative to determine whether any quantity of alcohol in the blood of an adequate sample of drivers is compatible with safe driving.

In this connection it is interesting to note the experience of Nassau County, New York, in which (according to Dr. T. J. Curphey, Chief Medical Examiner) nearly 52 per cent of 269 drivers killed in automobile accidents were found to have brain alcohol in excess of 0.1 per cent (0.1 cc. per 100 Gm. of brain tissue), generally considered an excessive concentration. It would seem desirable then for comparative purposes to determine the quantity of alcohol in a random sample of drivers, taking into account the gradient relationship between blood and brain alcohol. As yet there are no substantial data on the basis of which one can determine whether or not a given level of blood alcohol or brain alcohol bears a definite relationship to driver fitness. Incidentally, there is hardly need to note the probable higher incidence of alcoholic "intoxication" on weekends and holidays and at night.

In addition to the need for warning drivers about alcohol, physicians must educate the public about other drugs. Free access to sedatives and hypnotics creates another source of danger to automobile drivers. The medical profession may have to add to its many burdens the duty of informing and warning patients about hangover effects induced by various drugs of this sort. Most physicians are aware that the antihistamines may cause drowsiness, and in hay fever season they should warn their allergic patients who depend on antihistaminic drugs about the effects on the cerebral cortex and possible effect on their driving. The new vogue in the wide use of tranquilizing drugs, antipressor drugs, and their counterparts, the stimulants, especially amphetamine compounds, has added another set of sources for driver unfitness. Persons determined to travel great distances and driving for excessively long periods have learned that some stimulant may help. But are they always safe? How long is it safe to drive without stimulants? What are the effects of stimulants on drivers who have been at the wheel for six, eight, ten, or more hours?

What of other physical states and functions and their effects on driver fitness? Only medical evaluation can determine whether or not a driver may be licensed who has a disorder of bodily function. The workshops on visual standards and otolaryngologic aspects of motor vehicle accident prevention found it easy to set up certain arbitrary standards concerning visual acuity and sound perception. The group concerned with orthopedic aspects had relatively little controversy over the setting up of criteria for free bodily movements and the use of extremities. But it is manifestly unreasonable to generalize about the effects of various bodily disorders on all drivers. The paraplegic, specially trained and provided with a specially equipped vehicle, may excel all "normal drivers" in safety records.

The workshop on neurologic aspects had considerable difficulty in setting up criteria for certain types of individuals with neurologic disorders. The individual with epileptiform seizures has been in the limelight of the discussions concerning the responsibility of the licensing authorities in determining his fitness to drive. Recognizing the lethal dangers in motor vehicle operation, some would bar epileptics from driving unless they are free of convulsions and certified to be under rigid control for at least five years. Others, take a more liberal view along the lines expressed by Dr. Lennox.

Psychologic and psychiatric aspects of driver operation represent an area of considerable importance and controversy. The emotional stability of the driver with a powerful 2-ton passenger vehicle or 10-ton trailer truck, with a momentum of terrific force at speeds of 40 to 70 miles per hour, is as important as any single factor in maintaining traffic safety. The stakes in human life and suffering are greater on the highways because the damage done by the neurotic, irresponsible driver is so devastating. In the face of the dangers, how can responsible automobile manufacturers tempt the users of new vehicles with invitations to "step on it and go?" Why does the advertising profession tempt the driver with billboard posters, television pictures, and other advertising examples of speed on the highways? How, in good conscience, can all of us ask for safety and moderation and sensible driving when speed records are made newsworthy, when the amount of horsepower is equated with dynamic achievement? The juvenile driver under the forces of growth, with an expanding ego and broadening social horizon, demands and usually obtains free access to motor vehicle transportation; he is in a hurry, impatient, burning his candle brightly and rapidly, and enjoying the feeling of power and freedom of movement. He is often unaware of the status of other drivers and the wisdom of heeding signs of danger or speed restriction. He is not mature enough to be especially concerned with the rights of others or with their limitations. To educate him in safe operation of a motor vehicle is a social and public health problem of tremendous magnitude. He has the quick reflexes, the responsiveness, that make him a nervy and often reckless driver who may squeeze through dangerous situations by a hair's breadth. But statistics bear tragic witness to the performance in this juvenile group.

Unfortunately, emotional stability is not always attained with passing time, and there are plenty of adults who, sensing the force of 250 horsepower at the tips of their toes, act with the same reckless abandon. The nervous tension of any driver at any age is a factor that he alone must evaluate in determining the mode in which he operates his vehicle and whether or not he can protect himself as well as others from possible accidents. The psychiatric and psychologic workshop dealt with these problems and delineated for the thoughtful student of this subject a good deal that needs to be done in measuring the role of psychologic and psychiatric factors in driver fitness.

Perhaps more difficult to define is the matter of applying criteria to commercial vehicle operators as compared with private car operators. Employers of commercial and public vehicle operators have become sensitive to the problem of motor accidents because they are deeply involved in legal, economic, and licensing responsibilities. Casualty insurance companies and compensation agencies have an enormous stake in the safe operation of vehicles by such drivers. Readers are referred to recent favorable experience with the application of some criteria to the choice of such drivers. In New York City a large surface transportation system has been able to reduce its accident rate by 50 per cent since the introduction of improved medical selection of drivers and related safety measures.[1]

Here, as with the general public, much care must be exercised in the application of criteria. The seasoned truck driver with hypertension of 220/110 mm. Hg may be a much better driver than a young, inexperienced, normotensive man, but is the risk of vascular accident great enough to disqualify the older man? The cardiovascular group disagreed about the application of level of blood pressure to the selection of motor vehicle drivers. There can be little argument that passenger vehicle drivers (bus drivers) should meet health standards no less rigid than the Army and Navy now requires for servicemen, and hypertension is a bar to admission to the armed forces. The lives of passengers will not brook medical indecision. Employers for their part should be prepared to provide alternative occupations for veteran drivers whose health category changes from safe to one of risk requiring relief from duty.

Similar questions can be asked about many medical disorders that have various effects on driver fitness. In an area where life, death, or crippling injury is contingent on the human factors determining driver fitness, it is urgent that the medical profession recognize the need for systematic investigation of the various disorders of mind or body that may be disqualifying for automobile operation.

While present knowledge is inadequate, public health authorities, the state licensing authorities, and the medical profession should systematically warn disabled persons about the risks of driving. The physician must warn his convalescent or chronically ill patient who is about to resume driving. One wonders whether or not certain categories of illness might be made reportable to the insurance companies before they renew accident insurance policies. Should not the commissioner of motor vehicles inquire every year instead of at longer intervals, concerning the fitness of reregistrants for drivers' licenses? Should persons over a given age be required to pass tests of hearing, vision, reflex responsiveness, and to provide certificates of good health annually? If involved in accidents, should not such persons be required to take driving tests before reissuance of license? In this connection note the recommendation by the general medicine workshop that an individual involved in a police-investigated accident should have his license suspended and not renewed until the commissioner of motor vehicles considers that the individual's physical and mental status is satisfactory to operate a motor vehicle.

The casualty insurance companies, with their economic stake in safe driving, have a great potential role in promoting programs to improve driver fitness and to demand better evaluation of driver health in order to reduce automobile accidents.

These are matters arising from contemplation of the many problems confronting the workshops that met to consider medical aspects of safety in motor vehicle operation. Readers are referred to the excellent summary of Doctor Herman E. Hilleboe at the close of the symposium, showing that much was considered, and a great deal more remains to be done before reasonable safety in motor vehicle operation is attained in our society.

Reference

1. Brandaleone, H., and Friedman, G. J.: Medical Care in a Surface Transportation Company. Indust. Med. & Surg. 21: 174 (Apr.) 1952.

Recommendations for Research Consolidated from the Symposium Proceedings

Throughout the symposium there was frequent recognition of the need for definitive, scientific investigation relating to the various medical aspects of motor vehicle accident prevention. Although it was not possible to note all of the research needs mentioned from time to time in the several discussion groups, the formal reports of these groups contained a number of important recommendations which are herewith itemized:

1. More adequate accident records need to be devised to provide significant information for research purposes.
2. The characteristics of accident-involved drivers need to be more carefully compared with those of accident-free drivers.
3. The driving habits and attitudes of new applicants for the license to drive should be analyzed through examination and interview.
4. Studies should be undertaken of the duration and extent of disability in various psychiatric and neurologic diseases.
5. Psychiatric-psychologic research centers should be set up to develop technics that would assist licensing authorities in the assessment of the mental and emotional fitness of driver license applicants.
6. There is need for comprehensive data, based on exposure and risk of the effects of organic disease and the aging process on the motor vehicle accident rate. Among the important variables that need to be controlled in such research are alcoholism, mechanical difficulties, and road conditions.
7. Studies should be made to determine specific organic disabilities that limit the ability of individuals to drive safely. The American Association of Motor Vehicle Administrators, the Interstate Commerce Commission, and other interested groups might combine to support such research.
8. There is need for adequate collection of medical data in accident cases in order to determine the relationship of physical condition to accident causation.
9. The traffic safety records of cardiac patients should be compared with those of noncardiac individuals and evaluation made of all data related to specific cardiac defects.
10. Research should be undertaken to establish the role of depth perception, muscle balance, and visual and perceptual reaction time in the causation of motor vehicle accidents.
11. A study should be made, possibly by the Veterans Administration, of the driving record of veterans who are amputees or have other orthopedic disabilities and operate automobiles with special equipment. Collection of data would be facilitated if state licensing authorities maintained separate files for all drivers using special controls on motor vehicles.
12. Studies are needed to relate objective measures of driver performance to levels of alcohol in the body, comparisons to be made of individuals involved in accidents, individuals apprehended for traffic violations only, and a third or control group of drivers involved in neither accidents nor violations.
13. A comparative study should be made of the driving performance of individuals who drink alcohol and those who do not.
14. Chemical and pharmacologic research is needed to determine whether metabolic products other than alcohol impair the driving ability of individuals who have consumed alcohol.
15. Federal, state, and private agencies should combine forces to support research on the pharmacologic effects of commonly used drugs, including stimulants,

sedatives, antihistamines, antihypertensives, and tranquilizers, as they relate to or influence driving behavior.

These recommendations are only suggestive of the many needs for research in this field. There is already a substantial body of knowledge on the subject. But, comparatively speaking, this constitutes merely the first chapter of a volume that remains to be written by medical and allied professions.

Appendix

Reference Materials Made Available in Advance to Symposium Participants

1. American Optical Company: 1956 Survey of State Requirements for Motor Vehicle Operators, Southbridge, Massachusetts, American Optical Company, 1956.
2. Brandaleone, H., and Friedman, G. J.: Physical Standards for Vehicle Operators. Indust. Med. & Surg. **25:** 17 (Jan.) 1956.
3. Brody, L.: The Man Behind the Wheel. Public Safety, June, July, 1954.
4. Center for Safety Education, New York University: Medical Literature on Accidents and Accident Prevention: A Bibliography, New York, Center for Safety Education, 1955.
5. McFarland, R. A., Moore, R. C., and Warren, A. B.: Human Variables in Motor Vehicle Accidents: A Review of the Literature, Boston, Harvard School of Public Health, 1955.
6. National Conference on Street and Highway Safety: Uniform Vehicle Code (Section 6-103: What persons shall not be licensed; section 6-110: Examination of applicants), Washington, D.C., U.S. Government Printing Office, 1945.
7. Report of Committee on Standards for Motor Vehicle Operators, Apr., 1956: Reference List of Conditions Which May be Non-acceptable for Driving. Indust. Med. & Surg. In press.

Extract from Uniform Vehicle Code*

Sec. 6-103—What persons shall not be licensed

The department shall not issue any license hereunder:

4. To any person, as an operator or chauffeur, who is an habitual drunkard, or is an habitual user of narcotic drugs, or is an habitual user of any other drug to a degree which renders him incapable of safely driving a motor vehicle;

5. To any person, as an operator or chauffeur, who has previously been adjudged to be afflicted with or suffering from any mental disability or disease and who has not at the time of application been restored to competency by the methods provided by law;

8. To any person when the commissioner has good cause to believe that such person by reason of physical or mental disability would not be able to operate a motor vehicle with safety upon the highways.

Alternate 8. To any person when the commissioner has good cause to believe that the operation of a motor vehicle on the highways by such person would be inimical to public safety or welfare.

Sec. 6-110—Examination of applicants

(a) The department shall examine every applicant for an operator's or chauffeur's license, except as otherwise provided in this section. Such examination shall include a test of the applicant's eyesight, his ability to read and understand highway signs regulating, warning and directing traffic, his knowledge of the traffic laws of this State, and shall include an actual demonstration of ability to exercise ordinary and reasonable control in the operation of a motor vehicle.

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* National Committee on Uniform Traffic Laws and Ordinances, Washington, D.C., 1954.

1956 SURVEY OF STATE REQUIREMENTS FOR MOTOR VEHICLE OPERATORS

Operators of Private Cars

(Not Chauffeurs)

COMPILED BY AMERICAN OPTICAL COMPANY

		ALA.	ARIZ.	ARK.	CAL.	COLO.	CONN.	DEL.	D. C.	FLA.	GA.	IDA.	ILL.	IND.	IOWA	KAN.	KY.	LA.
LICENSE:	Minimum age — yrs./mos.	16	16	16	16	16	16	16	16	16	16	16	16	16/1	16	16	16	15
	Cost of license	$2.25	$2	$1	$3	$2	$6	$4	$3	$1	$1	$2	$1	$1.50	$1.50	$1	$2	$2
	Duration in years	2	3	1	4	3	2	2	3	1	1 or 5	2	3	2	2	2	2	2
	Restricted or Instruction permit at age — yrs/mos	16	15/1	14	14	16		16	16	14	15	14	14	16	14	14	16	15
DISQUALIFIED:	Mentally or physically unfit	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Drug addict or habitual drunkard	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Improper Person — Bad Behavior Record	●	●		●		●	●	●	●		●	●	●	●	●	●	●
EXAMINATION:	Required for new drivers	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Fee for examination		$2				$2											
	Signs, laws, driving ability	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Minimum visual acuity — without glasses 2 eyes	20/40	20/40	20/40	20/40	20/40	20/40	20/40	20/40	20/30	20/40	20/50	20/40	20/40	20/40	20/30	20/45	20/40
	— 1 blind eye	20/25	20/30	20/30	20/40	20/40	20/30	20/40	20/40	20/25	20/40	20/50	20/40	20/30	20/30	20/20	20/33	20/40
	— with glasses 2 eyes	20/60	20/40	20/50	20/40	20/40	20/40	20/40	20/45	20/60	20/40	20/70	20/40	20/40	20/40	20/50	20/60	20/40
	— 1 blind eye	20/40	20/30	20/40	20/40	20/40	20/30	20/40	20/45	20/40	20/40	20/70	20/40	20/40	20/30	20/30	20/45	20/40
	Depth perception		●				●	●							●		●	
	Color blindness	●	●	●		●	●	●	●		●	●	●		●	●	●	●
	Visual field						120°	100°										
	Hearing standards	●	●	●	●	●	●	●	●	●		●	●	●	●		●	
	Psychophysical test (reaction, eye-foot)																	
LIMITED LICENSE:	Wearing glasses	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Mirrors	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Daytime only	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Periodic vision test	●	●		●	●	●	●		●	●	●	●	over 75	●	●		●
	Speed restricted	●			●	●		●		●	●	●	●		●	●	●	●
	Certain roads	●	●		●	●	●	●		●	●	●	●		●	●	●	●
	Hearing device		●		●		●				●	●			●	●		
	Height (raised seat, etc.)	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●
	Special mechanical devices	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Type vehicle (automatic clutch, etc.)	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●
RE-EXAMINATION:	For renewal — on or before expiration		VL		VL	V						VSL			V			
	— after certain age								over 65				over 70	over 75				
	— if physical limitation		●			●	●		●		●		●	●		●		●
	After conviction of negligence		●	●			●	●		●	●				●	●	●	
	After complaint	●	●	●			●	●	●	●	●			●	●	●	●	
	After suspension						●	●	●	●	●				●	●	●	
	After revocation	●	●			●	●	●	●	●	●				●	●	●	1 Yr.
	Accident repeaters		●			●	●	●	●	●	●			●	●	●	●	●

		ME.	MD.	MASS.	MICH.	MINN.	MISS.	MO.	MONT.	NEB.	NEV.	N. H.	N. J.	N. M.	N. Y.	N. C.	N. D.	OHIO
LICENSE:	Minimum age — yrs./mos.	15	16	16	16	15	15	16	15	20	16	16	17	16	18	16	16	16
	Cost of license	$2	$3.50	$5	$1.50	$2	$2	$1	$3	$2	$2	$4	$3	$1	$5	$2	$1.50 $2.50	75¢
	Duration in years	1	Ind.	2	3	4	2	3	2	2	2	2	1	2	3	4	2	3
	Restricted or Instruction permit at age — yrs/mos	15	16		14	15	15	16	13	16	14	15	16	15	16	16	13	16
DISQUALIFIED:	Mentally or physically unfit	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Drug addict or habitual drunkard	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Improper Person — Bad Behavior Record	●	●	●	●	●	●	●	●	●	●		●	●		●	●	
EXAMINATION:	Required for new drivers	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Fee for examination	$1		$3	$3							$1	$1		$2	$2		
	Signs, laws, driving ability	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Minimum visual acuity — without glasses 2 eyes	20/40	20/70	20/70	20/40	20/40	20/30	20/50	20/40	20/40	20/50	20/40	20/50	20/40	20/40	20/40	20/40	20/40
	— 1 blind eye	20/40	20/40	20/70	20/40	20/30	20/20	20/40	20/40	20/40	20/20	20/30	20/50	20/40	20/40	20/30	20/40	20/30
	— with glasses 2 eyes	20/40	20/70	20/70	20/40	20/40	20/30	20/50	20/40	20/40	20/50	20/40	20/50	20/40	20/40	20/60	20/40	20/70
	— 1 blind eye	20/40	20/40	20/70	20/40	20/20	20/30	20/40	20/40	20/40	20/30	20/30	20/50	20/40	20/40	20/40	20/40	20/50
	Depth perception	●	●				●	●	●	●		●				●		●
	Color blindness	●	●	●	●		●	●	●	●	●	●	●	●	●	●		●
	Visual field		140°	120°			150°	140°	140°			120°						
	Hearing standards	●	●		●	●	●			●	●	●	●	●	●	●		●
	Psychophysical test (reaction, eye-foot)															●		
LIMITED LICENSE:	Wearing glasses	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Mirrors	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Daytime only	●	●		●	●	●	●	●		●		●	●	●	●	●	●
	Periodic vision test	●			●	●				●	●	●	●		●	●		●
	Speed restricted	●			●	●	●	●	●		●		●	●	●	●	●	●
	Certain roads	●			●	●	●	●	●		●		●	●	●	●	●	●
	Hearing device		●		●	●				●	●	●	●	●	●	●		●
	Height (raised seat, etc.)	●	●	●	●	●	●	●		●	●		●	●	●	●		●
	Special mechanical devices	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Type vehicle (automatic clutch, etc.)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
RE-EXAMINATION:	For renewal — on or before expiration				V											VSL		
	— after certain age	over 80										over 80				●	over 70	
	— if physical limitation	●		●	●			●	●		●	●	●	●	●	●	●	
	After conviction of negligence	●					●				●		●	●	●	●	●	●
	After complaint	●	●		●		●	●			●	●	●	●	●	●	●	●
	After suspension	●	●				●		●	●	●		●	●	●	●	●	●
	After revocation	●	●		●		●	●	●	●	●		●	●	●	●	●	●
	Accident repeaters	●			●	●	●	●	●		●	●	●	●	●	●	●	

		OKLA.	ORE.	PA.	R. I.	S. C.	S. D.	TENN.	TEX.	UTAH	VT.	VA.	WASH.	W. VA.	WISC.	WYO.	ALASKA	HAWAII
LICENSE:	Minimum age — yrs./mos.	16	16	16	16	14	15	16	14	16	16	15	16	16	16	15	16	15
	Cost of license	$4	$1.50	$1	$4	50¢	50¢	$2	$2	$2	$2.50	50¢	$3	$1	$2	$1	$2	$3
	Duration in years	2	2	1	2	4	2	2	2	5	1	3	2	4	4	3	2	Ind.
	Restricted or Instruction permit at age — yrs/mos	15/6	15	16	16	13/10	13	16	14	15/6		15	16	16	14	15	14	15
DISQUALIFIED:	Mentally or physically unfit	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Drug addict or habitual drunkard	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Improper Person — Bad Behavior Record	●	●	●	●	●	●		●		●	●	●	●	●	●	●	
EXAMINATION:	Required for new drivers	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●
	Fee for examination									$2	$2		$2					
	Signs, laws, driving ability	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●
	Minimum visual acuity — without glasses 2 eyes	20/40	20/60	20/30	20/40	20/40		20/50	20/40	20/40	20/50	20/70	20/50	20/40	20/40	20/40	20/40	20/40
	— 1 blind eye	20/30	20/60	20/30	20/40	20/20		20/30	20/25	20/40	20/25	20/40	20/50	20/40	20/40	20/40		20/40
	— with glasses 2 eyes	20/40	20/60	20/40	20/40	20/40		20/40	20/70	20/40	20/50	20/70	20/50	30/40	20/40	20/40	20/40	20/40
	— 1 blind eye	20/30	20/60	20/40	20/40	20/30		20/40	20/70	20/40	20/25	20/40	20/50	20/40	20/40	20/40		20/40
	Depth perception	●	●								●		●					●
	Color blindness	●	●	●	●	●			●		●	●	●	●	●		●	●
	Visual field		100°								90°							
	Hearing standards	●	●	●	●	●		●	●		●	●	●		●		●	
	Psychophysical test (reaction, eye-foot)												●					
LIMITED LICENSE:	Wearing glasses	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●
	Mirrors	●	●	●	●	●		●	●	●	●	●	●		●	●	●	●
	Daytime only	●	●	●				●	●	●	●	●	●		●	●	●	
	Periodic vision test	●	●	●	●	●			●	●	●	●	●		●	●	●	
	Speed restricted	●							●	●			●		●	●		
	Certain roads	●	●				●		●	●		●	●		●	●	●	
	Hearing device	●		●		●			●	●	●		●		●	●	●	●
	Height (raised seat, etc.)	●	●		●	●			●	●	●	●			●	●	●	●
	Special mechanical devices	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●
	Type vehicle (automatic clutch, etc.)	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●
RE-EXAMINATION:	For renewal — on or before expiration									●			V				●	
	— after certain age				over 75												over 70	
	— if physical limitation	●	●									●		●	●	●	●	●
	After conviction of negligence	●				●						●			●		●	●
	After complaint	●						●				●		●	●		●	●
	After suspension	●						●				●			●		●	●
	After revocation	●	●			●		●	●	●		●	●		●		●	●
	Accident repeaters	●			●	●				●		●	●	●		●	●	●

LEGEND

● — standard practice governing all licensees

IND. — indefinite

V — vision test

VL — vision and law test

VSL — vision, signs and law test

THE ABOVE DATA TAKEN FROM STATISTICS, REGULATIONS AND PROCEDURES AND VERIFIED BY EACH STATE MOTOR VEHICLE ADMINISTRATOR

CONSULT STATE LAW FOR MORE DETAILED PROCEDURES

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Donal Sheehan, M.D., Dean, New York University College of Medicine; Dean, New York University Post-Graduate Medical School

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RECENT ADVANCES IN MEDICINE AND SURGERY

A series of review articles dealing with medical progress

ROBERT TURELL, M.D., *Editor*

A Review of Headache, 1950–1955

ARNOLD P. FRIEDMAN, M.D., NEW YORK CITY,* AND THEODORE J. C. VON STORCH, M.D., MIAMI, FLORIDA †

HEADACHE is possibly the most frequent complaint of modern man. During the past five years there have appeared in the literature numerous articles dealing with the subject of headache. The great majority have dealt with migraine and tension. It is the purpose of this paper to present a résumé and analysis of those articles of outstanding importance. The earlier comprehensive and informative works of Wolff, Ray, and their associates on pain mechanisms associated with many different types of headache are so well known that they will not be re-evaluated in this article.

Mechanisms

PHYSIOLOGY.—Observations over a number of years have indicated that the great majority of headaches have a strong vascular component. Studies on patients with migraine have shown that an initial phase of vasoconstriction is responsible for the prodromal symptoms, while the pain follows a marked distention of the cranial vessels which are temporarily hypotonic. However, further work indicated that although alterations in tone and in lumen of the arteries must always be present, they alone cannot explain the pain since they may exist independently of any headache.

By studying the extracranial arterial pulse wave, using recording devices with amplification, certain conclusions were drawn by Tunis and Wolff[1] which indicated that after an initial nonpainful vasoconstrictive phase early in the course of the headache, there is a progressive dilatation in the relevant vascular bed. In prolonged severe headaches the walls of the dilated vessels become edematous, and clinically manifest edema develops in these painful areas. Brazil and Friedman,[2] utilizing similar technics, agreed in part with the findings of Tunis and Wolff. However, they did not believe that there was any volume-pulse curve which was typical of migraine or of any other type of vascular headache. Certain errors in technic using the pellotte method were also pointed out by these authors. However, they did agree in principle with the basic work.

Studies on patients with migraine and other types of vascular headache indicate that major alterations in electrolyte balance may occur in association with headache. Wolff and his associates[3] presented evidence that the fluid present in the edematous tissue contains a substance of low molecular weight, which is responsible for lowering the pain threshold. They theorize that during an attack of vascular headache, there exists not only a loss of tone and marked distention of the large extracranial arteries but also a dilatation and increase in permeability of the

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* Division of Neuropsychiatry and the Headache Unit, Montefiore Hospital; Neurological Institute, Presbyterian Hospital, and Department of Neurology, Columbia University College of Physicians and Surgeons.

† Department of Neurology, University of Miami, School of Medicine.

arterioles and capillaries in the same region. This increased permeability enables a substance capable of lowering the pain threshold to diffuse into the periarterial tissues. They assume that the presence of this substance renders the distention of the large arteries painful, so that headache ultimately results from a combination of the two factors. Another fundamental observation reported by several observers is that ergotamine tartrate produces a vasoconstrictor action on the branches of the external carotid artery, and it is this constrictor action which is responsible for interrupting the mechanism of headache. This topic was re-explored using noradrenalin because of its almost pure vasoconstrictor action.[4] Its effect on migraine headaches and craniovascular function tends to support the inference made from earlier studies of ergotamine. The reduction in the intensity of the headache parallels the reduction in the lumen of the large cranial arteries. It was also shown that when the headache is terminated by noradrenalin, the pain threshold is raised to preheadache levels concurrently with termination of headache. If the headache is allowed to terminate spontaneously, the threshold remains lowered for several hours or even days. It is suggested that vasoconstrictors act not only by raising the tone of the distended vessels, but also by restoring the normal permeability of the arterioles and capillaries, thus preventing the diffusion of the unknown substance (p) presumably responsible for lowering the pain threshold.

In a series of experiments using extracts which were prepared from the urine of patients with migraine on the Staub's heart preparation and Leech muscle, Jimenez Diaz and his associates[5] concluded that a release of an excess of substances of the type of acetylcholine occurred in migraine patients during stress. They postulated that the normal choline acetylase system is different in these patients.

HEREDITY.—All observers have emphasized heredity as an important factor in migraine. About 65 per cent of our patients reported that migraine occurred in members of the immediate family. However, there is no evidence in regard to the exact mode of this inheritance, nor is there any evidence as to what specific abnormality may be inherited. In some instances, and perhaps to a certain degree in all cases, there may be an inherent functional instability of the autonomic, endocrine, vascular, or enzyme systems. There is also a real possibility that migraine occurs on a familial basis and is related to environmental rather than hereditary factors.

Graham,[6] in a study of 46 patients with migraine headaches, reported that in 80 per cent of them one or more of the relatives had migraine. Goodell, Lewontin, and Wolff[7] analyzed the family pedigrees of 119 patients and offered significant evidence to demonstrate the hereditary character of migraine. They assumed that the inheritance of the migraine trait is through a recessive gene with a penetrance of approximately 70 per cent.

Ogden[8] noted that the incidence of headaches of all types was 64.8 per cent of 4,634 individuals to whom he sent questionnaires. He noted that only 18 per cent of the headache sufferers seek medical aid specifically for this complaint. Headache incidence was greater among females, younger adults, single people, educated individuals, executives, and professional groups.

WATER ELECTROLYTE METABOLISM.—It has been recognized that many patients with the migraine type of vascular headache undergo changes in fluid balance and fluid distribution during the headache. These changes are both local and general. The local changes include puffiness of the face, periorbital edema, and local patches of edema about the temple and frontal region. More widespread fluctuations in fluid balance are evidenced by swelling of the fingers, weight gain prior to headache, particularly in certain women, often coupled with a state of hydration and diuresis at the peak of the attack as the headache subsides. Schottstaedt and Wolff,[9] after studying eight patients subject to vascular headaches of the migrainous type, demonstrated that the excretion of water, sodium, potassium, and creatinine was significantly decreased prior to and during the early phase of the migraine attack. Increased rates of excretion of these substances were usual as the headache attack subsided. Weight gain prior to the headache was common but not invariable, occurring seven to ten days before onset in some cases. After the headache disappeared, the weight loss might be delayed from twenty-four to forty-eight hours. They concluded that the fluid and electrolyte and renal changes are not causally or mechanistically related to the onset, intensity, or duration of the migraine attacks but are manifestations of bodily changes accompanying adaptation reactions during stressful periods.

Water balance studies were performed on ten of our patients to determine whether there is any relationship between fluid retention per se and the development of headaches.[10] The patients were hydrated by rapid intravenous infusions of 5 per cent glucose in water, after which we studied their responses to an exogenous and endogenous antidiuretic hormone (endogenous, aqueous Pitressin; exogenous, nicotine). No abnormal findings were obtained in any of these patients, and none developed headaches during or subsequent to the tests. Campbell and her coworkers[11] and Lusk and his associates[12] noted a rise in sodium before and during headache, while the latter reported striking decrease in sodium excretion and decrease in urine volume in association with the headache. This work needs to be substantiated.

Endocrinopathy.—Because of the relationship of the onset of the headache to stress, it has been postulated that disturbance of the hypophyseal-adrenal mechanism occurs during attacks of migraine. Therefore, in order to evaluate the pituitary-adrenal function, eosinophil counts were performed on 30 patients with migraine, using a Spiers Chamber.[13] In none of the patients were we able to demonstrate a basal eosinopenia (less than 70 cells per cu. mm.) or a basal eosinophilia (more than 450 cells per cu. mm.) either before or during a headache. The eosinopenic response test was performed, using corticotropin as the stimulus in eight patients and epinephrine in another eight patients. In all patients the circulating eosinophils fell at least 50 per cent four hours after the stimulus.

On the basis of these tests, therefore, we are not able to relate migraine to a dysfunction of the pituitary-adrenal system. However, the sensitivity and validity of these tests are yet to be substantiated.

It has been emphasized that the frequent association of migraine with puberty, menstruation, and menopause indicates a gonadal etiology, especially in women. There are not, however, any valid physiologic or biochemical data to support this hypothesis.

Allergy.—A relationship between migraine and allergy has been suggested for over a hundred years. There is no doubt that headaches may occasionally be precipitated by allergens in certain susceptible individuals, but investigations of the last few years have indicated that the role of allergy in the causation of migraine has been overestimated. Unger and Unger,[14] who investigated allergy as a cause, are firmly convinced that in at least 80 per cent of migrainous patients food allergy is culpable. They did not agree with Glaser,[15] who found inhalants to be the cause in a few patients. The authors state that psychic trauma may precipitate the attack, as in such other allergic diseases as hives and asthma. Ogden[16] in a statistical study indicated that there was a significantly higher familial history of allergy in patients with headache than in those who were headache-free. (It should be pointed out that the incidence of allergy in the general population is high, and any statistical analysis must be based on this fact.)

Schwartz[17] states that migraine is only rarely of an allergic nature. In a review of the problem, he states that the claim that migraine is an allergic disease has been based on the following: It is found in many patients with hay fever or asthma and in patients with positive skin reactions to some allergens; the disturbance has been cured by prescribing a restricted diet; periodic attacks are typical of other manifestations of allergy, and some observers have found eosinophilia in some patients with migraine. In a detailed analysis of a series of 191 asthmatics and 50 controls, the author found no significant evidence that would link migraine with any form of allergy. Kallos and his coworkers[18] reported that in 28 of 185 patients who had both migraine and asthma, hay fever, and/or angioedema, the exposure to the specific allergen always produced a typical migrainous attack and at the same time asthma, hay fever, and/or angioedema. The migrainous attack could be prevented by proper prophylactic treatment with ergotamine and the other allergic manifestations by treatment with sympathomimetic and antihistaminic drugs. The migrainous attacks in these cases and under the conditions mentioned were produced by an allergic mechanism.

Theoretically, allergy offers many hopeful and suggestive possibilities as an etiologic agent in migraine, but substantial proofs are yet too few and inconclusive to warrant complete acceptance.

Muscular.—It has long been known that sustained contraction of the skeletal muscles about the head and neck is a frequent source of headache. Such headaches occur in association with a wide variety of other sources of head pain, including migraine headache and hypertensive headache, and with inflammatory, degenerative, traumatic, and neoplastic diseases about the face, head, neck, and cervical vertebrae. However, the most common cause of muscle spasm headache is tension headache or those headaches which develop in relation to emotional tension. It has been shown that sustained contraction of skeletal muscles of the head and neck cause pain and dysesthesia in the neck and scalp.[19,20] Ischemia may be associated with these muscle spasms and could be a contributory or primary factor in the induction of pain. It has also been hypothecated that excessive concentration of potassium in muscle from ischemia or sustained contraction stimulates the chemoreceptors in the tissues. Another factor responsible for the head pain may be a central spread of the excitatory effects of noxious stimulation of the soft tissues of the neck. This spread of pain is carried by the upper cervical nerves and may produce painful sensations in the face and forehead.

It has been noted that painful spasms of the muscles of the neck and scalp may be referred to the head and face. Two possibilities have been suggested to explain the mechanism of the pain projection from the cervical spine to the head and face. One involves irritation of the descending or spinal root of the trigeminal nerve with transmission of pain to the head and face, and the other pertains to pain which is sympathetic, caused by reflex stimulation.[21]

PSYCHOLOGIC.—Our own clinical studies and those of others have demonstrated the importance of psychologic factors in patients with chronic headache.[22] Although it is difficult to verify that in many of these patients the primary etiology is psychogenic, the importance of psychologic factors in the headache problem cannot be minimized.

Furmanski,[23] reporting on 100 patients, of whom 65 were females and 35 males, stated that the patients consistently possessed pronounced narcissistic traits as well as strongly developed aggressive feelings.

Melitta Sperling,[24] reporting on 23 patients who had been psychoanalyzed, stated that migraine sufferers are orally fixated individuals, and this accounts for the depressions and other oral character manifestations. Anal sadism was strongly developed in the patients and was coped with by reaction formations rather than sublimations. Injury to the patient's narcissism produced rage which was frustrated and led to the production of the headache. Attack on the head is regarded as an expedient and primitive way of killing. There is, however, no guilt feeling, the punishment having been inflicted by the patient on himself in the nature of physical pain and suffering. In reading her reported cases it is not at all clear whether all of them were suffering from migraine.

In our experience there was not too much evidence of specificity of the precipitating psychodynamic factors.[25] Not all patients with migraine are compulsive, perfectionistic, or rigid. A recent objective psychologic evaluation of our patients confirmed this point of view. Repressed hostility is an extremely common factor among many persons who do not have migraine and may have hypertension, ulcers, etc. In a recent study Krupp and Friedman[26] observed that psychodynamic mechanisms play an important role even in migraine of young children. The types of neurotic symptoms observed in children were varied and dramatic: temper tantrums, phobias, nightmares, hair-pulling, enuresis, anxiety, hyperactivity, thumb-sucking, nail-biting, and feeding difficulties. Nevertheless, there is no specific "migraine type" in children or adults.

In the past few years two reports dealing with the experimental production of headache were interesting. In one study Lustman[27] described the precipitation of headaches by hypnotically regressing patients to incidents which produce rage. He postulated that chronic headaches involved internalized feelings of rage. Marcussen and Wolff[28] reported the experimental induction of a headache attack in two individuals when confronted with situations producing anger and frustration.

Psychologic factors are associated with the vast majority of tension (muscular) headaches. Studying 1,000 cases of tension headache, Friedman and von Storch[29] found the fundamental psychic factors were largely unconscious, although most patients were aware of their anxiety. As in migraine the most frequently observed conflicts in cases of tension headache were those over hostile impulses. These patients demonstrated aggression, hostility, and an intense resentment against members of their families or persons who represent family figures. However, there was little evidence of specificity of the precipitating psychodynamic factors, and as noted in migraine, they may include identification, a wish to remain in a position of dependency, a means of gaining attention, etc. Why the same psychogenic factors may initiate headaches through physiologic mechanisms and also produce them on a purely psychologic level, such as in conversion mechanisms, is unknown.

Kaldegg[30] submitted a series of 20 patients suffering from migraine to a battery of tests. The two intelligence tests were the Matrices and the Wechsler-Bellevue. The I.Q. distribution showed that migraine was not confined to people who are intellectually above average but that its incidence might increase in the higher I.Q. ranges. The results of the Wechsler-Bellevue test were compared with those of a control group, and it appeared that on the whole the migraine group functioned well intellectually. The Rorschach group was compared with a group of duodenal ulcer patients. The migraine group showed itself better adjusted. No uniform personality pattern was found for the whole group. Four patients showed features which might be termed hysterical. Rorschach signs which denoted an obsessional personality makeup were not greatly in evidence. The main inferences were that there was a striving to remain in command of a situation and that loss of command and interference with rhythm resulted in tension which might be resolved in a migraine attack.

Cooper and Friedman[31] analyzed psychologic test data for 100 patients with diagnoses of migraine and tension headache. Rorschach test protocols were utilized primarily to evaluate personality patterns. The quantitative data failed to reveal any significant differences in personality patterns between the entire group and groups studied. There is little evidence of specificity of the precipitative psychodynamic factors in tension and migraine headache patients.

HEADACHES ASSOCIATED WITH NASAL, PARANASAL, AND AURAL STRUCTURES.—The relationship of the sinuses, eyes, ears, nose, and throat to headache has been recognized and accepted for many years. However, more recent work would indicate that the headaches arising from these structures are not so frequent as reported in the earlier literature. McAuliffe, Mueller, and Wolff[32] in an excellent study stated that the mucosa covering the approaches to the paranasal sinuses was found to be the most pain-sensitive of the nasal and paranasal structures and cavities, whereas the mucosal lining of the sinuses was of relatively low sensitivity. Most of the pain arising from faradic, mechanical, and other stimulation of the mucosa of the nasal and paranasal cavities was pain referred to a site other than that stimulated. Pain induced experimentally was referred chiefly to those regions of the head supplied by the first division of the fifth cranial nerve. It was concluded that inflammation and engorgement of the turbinates, ostia, nasofrontal ducts, and superior nasal spaces are responsible for most of the pain emanating from the nasal and paranasal structures. They emphasized that if headache is not associated with turbinate engorgement and inflammation, it is not the result of disease of the nasal or paranasal structure.

The authors further point out that venous pressure is not a factor of primary importance in "sinus headache," which is usually of greatest intensity when the subject is in the erect position and the cranial venous pressure is lowest. They note that the presence of purulent secretion in the sinuses is not in itself a basis for headache.

POSTSPINAL PUNCTURE HEADACHE.—Pickering,[33] in a review of some of his earlier work, reports that lumbar puncture headache seems to be due to loss of between 30 and 50 ml. of cerebrospinal fluid. He states that the headache is due to traction on the structures attaching the brain to the dura. He emphasizes that the spinal fluid pressure is zero when the patient is lying down and has no headache but that the headache occurs when the patient sits up. Injection of 20 to 50 ml. of normal saline into the theca will restore the pressure to a normal level, and the patient may sit up without any headache.

Sciarra and Carter[34] state that the amount of cerebrospinal fluid removed up to 12 cc. has no effect on the frequency of postlumbar puncture headache.

Haroldson[35] states that reduced cerebrospinal fluid pressure is the cause of lumbar puncture headaches because patients who have a suboccipital puncture do not have as many headaches as those persons in whom lumbar puncture is employed. This of course does not follow since the point of puncture has *no* bearing on the cerebrospinal fluid pressure after removal of a given volume of cerebrospinal fluid. There is still a good deal to learn about the etiology of postspinal puncture headache. (A review of this subject by one of us is under way.)

Diagnosis

In any investigation of headache a careful history is usually the physician's most valuable diagnostic aid. A thorough study of the patient, both physically and psychologically, with the use of selected ancillary tests is of course also necessary. Routine laboratory studies include x-ray of the skull (electroencephalogram); blood count and urinalysis may be helpful. Special studies, when indicated, include blood chemistry, visual fields, basal metabolism, x-ray of the cervical spine, and spinal fluid examination. Pneumoencephalography and arteriography should only be used for those patients in whom an intracranial lesion may be suspected.

For diagnostic purposes at Montefiore Hospital we have classified our headaches in the following categories: (1) migraine (migraine variants, vascular headache, atypical facial neuralgias and histamine headache), (2) tension headache, (3) headache due to intracranial disturbances (arteriosclerotic brain diseases, vascular anomalies and aneurysms, tumor, infections), (4) headache due to extracranial disturbances (eye, ear, nose, bones of the skull and neck), (5) post-traumatic, (6) headaches due to systemic disease, including hypertension, fevers, infection, and (7) psychogenic headaches.

A number of authors have published general articles on headache, including classification and diagnosis, which are reviews of present-day concepts. Among these are the works of De Jong,[36] Brown,[37] Tunis and Wolff,[38] Friedman,[39] Peters,[40] Huttner,[41] Emblem,[42] and Friedman and von Storch.[43] Many of the articles stress the importance of distinguishing migraine from other types of recurrent headaches, especially vascular malformation, aneurysm, and other expanding intracranial lesions which may give rise to attacks of headache resembling those of migraine.

Chambers[44] stressed the importance of headache as often the first, most constant, and outstanding symptom of *subdural hematoma.* It may also be the only symptom long before neurologic signs appear. He states that the headache may appear rapidly, over a twenty-four-hour period, and is seldom of more than a few weeks duration. It frequently starts in the occipital area but may occur in any other portion of the head. Impairment of mentation and nausea frequently accompany the headache.

Chambers[45] also reported on five cases of basilar impression (*platybasia*), proved by roentgenogram and operation, in which the only symptom was severe, intractable, occipital headache. Following surgery in three cases there was relief from pain. In the two patients in which no surgery was done, no relief was secured.

Edwards and his associates[46] studied 157 patients with unilateral *acoustic tumors.* Headache occurred in 84 per cent and constituted an initial complaint in 25 per cent. Frontal and occipital site of headache was most frequent, while 20 per cent of the patients complained of pain in the suboccipital region or in the back of the neck.

Neuwirth[47] reports that many varied and complex neurologic and neurovascular syndromes may result from involvement of the neural structures in the *cervical region* by degenerative changes implicating the uncovertebral or the apophyseal joints or both at the same time. Osteophytic spurs from these joints may cause compression and chronic irritation of nervous structures in the spinal canal and the intervertebral and the transverse foramina, as a consequence of which a variety of neurologic syndromes may develop. He describes the posterior cervical sympathetic syndrome of Barre-Lieou,[48,49] which is a syndrome consisting mainly of atypical headaches and cervical pains which are most acutely felt in the occipital or occipitonuchal region. Other characteristic features of the syndrome are vertigo, tinnitus, parasthesias, aphasia, ocular symptoms, and vasomotor disturbances. Another type of syndrome may occur from stimulation of the autonomic nerve fibers contained in the fifth to eighth cervical ventral roots, which causes vasomotor disturbances in the distribution of the vascular trees of the head and neck, the upper extremities, and the chest. The resultant syndrome includes a variety of symptoms in which headache and facial pain may play a prominent part. These syndromes must be differentiated from trigeminal, glossopharyngeal, and occipital neuralgias, migraine, and pain due to temporal arteritis. In our experience these clinical manifestations are in need of further evaluation by physiologic and clinical studies.

Vance and Klingman[50] report that the *variants or equivalents of migraine* are almost as common as the conventional type. They state that the common type of migraine is that in which there is vasospasm or vasodilating phenomena progressing from the occipital lobe. If this same type of disturbance arises in other areas of the brain (vasospasm or dilation), for example, the parietal lobe, the prodroma would consist of sensory disturbances, frequently about the face, cheek, or fingers, followed by typical hemicrania, etc. In other instances a motor area may be involved with transient paralysis of the arm, face, etc. In some patients areas for specialized functions are involved, such as consciousness, speech, hearing, etc. When ophthalmoplegia occurs as the preliminary phenomenon, the disturbance implicates the midbrain. Temporal lobe localization is suggested by auditory or gustatory aura or at times by a receptive type of aphasia. When vasomotor disturbances arise in the region of the angular gyrus, the patient may have an aura of spatial disorientation. Attention is called to the possible relationship between abdominal migraine and abdominal epilepsy. A close relationship was observed between cyclic vomiting in infancy and periodic headache later in childhood. The authors also report cerebellar symptoms preceding typical attacks of migraine. They note a number of disturbances of the autonomic nervous system, including nasal discharge, erythema, salivation, hyperhidrosis, etc.

Briggs and Bellomo[51] describe *precordial migraine* as a migraine equivalent. They state that 159 of 684 patients with migraine had symptoms suggesting the presence of precordial types of migraine. Palpitation occurred in 83, simple tachycardia in 14, and paroxysmal tachycardia in three. Nondescript types of chest pain occurred in 92 and a definite type of anginal pain in 37. Failure to recognize this migraine equivalent often leads to the erroneous diagnosis of organic heart disease. In order to avoid this, they suggest that the patient's history should be investigated for attacks of precordial symptoms occurring simultaneously with cephalalgia.

Walsh,[52] in a review of *ocular symptoms of migraine*, discusses ophthalmic and ophthalmoplegic migraine. He describes ophthalmic migraine as being the classic migraine, whereas in ophthalmoplegic migraine ophthalmoplegia is essential to the diagnosis. He points out that there is no relationship between the degree of visual loss and severity of headache. Loss of vision is exceedingly variable, and since the ability to read is retained, the scotoma must be either of a slight density or just off the fixation point.

Symptomatology of migraine headaches in children closely followed that of adults according to Michael and Williams.[53] The attacks were usually not as prolonged, but frequency was commonly two to three a week in children. They noted that in 14 out of the 20 cases in which electroencephalographic tracings were done, only one patient was normal. No definite etiology was assigned to any one of their cases, although allergy and heredity were marked in their group.

De Wit[54] reported on 74 children who had periodic attacks of headache and a history of several of the following factors: concussion of the brain, adenoids, sinusitis, visual defects, and allergic manifestations. Fifteen of these children had family histories of migraine. The author also discussed his observations on 60 children belonging to 26 families with a history of migraine. Fifteen of these children had attacks of migraine before the age of puberty, but only five of these 15 retained their migraine attacks during puberty. Eight of the 45 children who had been free of migraine during childhood had their first attacks of migraine during puberty. In his study all children who had migraine attacks before puberty had a family history of migraine. Allergy does not play an important part in prepubertal migraine; the attacks differ from those in adults only by their greater frequency.

Vahlquist[55] presented a study of the frequency of migraine among Swedish children and noted that in the age group ten to twelve years 4.5 per cent had manifested typical attacks, while for those sixteen to nineteen years old the figure was 7.4 per cent. There was a linkage between migraine and cyclic vomiting, and attacks of cyclic vomiting would interchange with attacks of migraine in the same children. The symptom-complex of childhood migraine was said to be similar to the adult except that the attack was usually of shorter duration and the symptom spectrum was less varied with respect to neurologic manifestations. Nausea was found to be more regular and intense in the young patient.

Krupp and Friedman,[56] reporting on 100 children with migraine, noted that the attacks were usually less severe than in adults but that nausea was frequently present. Psychologic factors were associated with the onset of most of the attacks.

In a general review article Mackay[57] discussed the problem of headache in childhood. These conclusions were essentially concerned with previous findings in the literature.

Williams[58] states that *pain associated with the nasal pharynx or ear* is hard to interpret. It can be relieved by simple measures, once the cause is recognized. He states that the differential diagnosis can be simplified when the type of pain is considered. Superficial pain arises from stimulation of exposed mucous membranes, has a burning quality, and is well localized. Such pain varies in intensity but not in quality. Deep pain comes from stimulation of deeper structures, such as blood vessels and muscles, and is continuous. The sensation is usually referred to a deeper structure at a distance from the stimulating source.

With acute sinusitis and rhinitis, pain is burning and localized; when deeper structures are engorged and purulent secretions appear, pain is deep and may be referred to the forehead, temple, or zygoma homolaterally. Anesthetized shrinking of the nasal mucosa ordinarily relieves the pain of sinusitis.

Pressure of the nasal septum against the middle turbinate bone produces deep aching pain in the mid-forehead or eye. Anesthetization of contact area relieves the discomfort, but recurrence may necessitate removal of the compression.

A deep unilateral head pain, the lower half headache of Sluder's syndrome, is apparently a vasodilator pain involving branches of the sphenopalatine artery and is produced by a reflex mechanism transmitted through pain fibers from the basal mucosa in the sphenopalatine region. The pain is relieved by anesthetization of the ganglia or the nasal mucosa posterior to the middle turbinate bone on the same side as the pain.

Another type of so-called sinus headache is a deep referred pain arising from the head or neck muscles when infection is superimposed on primary allergic rhinitis.

King[59] reports on 460 consecutive patients whose chief complaint was headache, and in those in whom sinus trouble was either suspected or assumed, only one out of every 14 patients actually had sinusitis, in other words, 7 per cent.

Pain of vacuum frontal headache is superficial and burning. Pharyngeal myalgia is caused by a tender superior constrictor muscle on the involved side of the pharynx. When patient swallows, a deep unilateral pain is referred to the vertex of the head. Cocainization of the affected mucosa gives relief as long as the anesthetic effect lasts.

An elongated styloid process in the tonsillar mucosa may cause a sharp, stabbing unilateral pain referred to the ear when swallowing. Periarthritis of the temporal mandibular joint often produces a tender joint with pain extending deep into the ear.

An impacted third molar, usually in the upper jaw, may produce pain in the ear of an adolescent or young adult. Pain felt in the temporal area of the ear may result from cancer in the pharyngeal fossa or recess of Rosenmüller.

Unilateral pain in the ear at night may occur after mastoiditis apparently cured by antibiotics. This means the infection has broken through the bony walls of the mastoid process, and an epidural abscess is being produced. X-rays at this time will reveal mastoid destruction; usually a "choked disk" on the affected side or on both sides is noticed.

It is well known that patients with migraine frequently have a completely normal electroencephalogram. However, anomalies may be found not only during attacks, but also in the symptom-free interval. It should be noted that in migraine there is no characteristic electroencephalographic change in wave form.[60]

According to Dow and Whitty[61] and Engel, Hamburger, Reiser, and Plunkett,[62] focal changes are found during the prodromal period, but during the headache phase no additional changes are found.

Bartschi-Rochaix[63] report that migraine patients quite often have a completely normal electroencephalogram. Anomalies are found not only during attacks, but also in the symptom-free interval, to a greater degree than in normal individuals. In the case of migraine, activation with cardiazol, flickering light, and barbiturates generally does not produce epilepsy patterns, whereas a great majority of epileptics do react positively to activation. They believe the migraine attack represents a specific stereotyped class of reaction, not of the neuronal system (epilepsy), but of the vascular apparatus which is limited both anatomically and physiologically to a stereotyped response.

Weil[64] in 1951 found abnormal electroencephalograms in 26 per cent of the typical migraine cases. In reviewing the literature he discloses minimal to maximal abnormal electroencephalograms in 26 to 58 per cent of the migraine patients. This group showed characteristic neuropsychiatric and therapeutic correlates, so that it could be considered as a migraine subtype. This he labelled *dysrhythmic migraine*. His present report deals with additional electroencephalographic-clinical observations and follow-up. Included in this are 42 cases of migraine, ten (24 per cent) of which fulfill the electroencephalographic clinical requirements for dysrhythmic migraine. In this group of ten family history was positive in only two patients. The electroencephalograms in the dysrhythmic migraines showed activation, usually paroxysmal during marked hyperventilation. During an attack dysrhythmic migraine shows electroencephalographic changes similar to hyperventilation electroencephalograms during free interval. All the patients displayed profound psychoneurotic traits. The attacks were most usually precipitated by acute stress. The patients were *not* relieved by ergotamine tartrate but benefited by anticonvulsants. The author feels justified in calling this group dysrhythmic migraine.

Treatment

In the treatment of headache it is important to consider that we are dealing with a symptom and not a disease. The symptom may be present for many years and may be found in a great variety of conditions, either of intracranial or extracranial origin. Many headaches are secondary to a specific, acute illness. Such headaches are treated through control of the primary pain and correction of the underlying disorder. However, a great number of headaches fall into the group which occurs intermittently with exacerbations and periods of discomfort over a period of months or years. In a vast majority of these patients the symptoms are due to migraine or are primarily associated with an emotional disturbance (tension headache). These two types of headaches occupy most of the literature on therapy of headache.

MIGRAINE.—As in the past ergotamine tartrate continues to be reported by a number of investigators as the most useful drug in the treatment of a migraine attack.[65–67] Clinical evidence of its beneficial effect has been supported by experimental observations in the laboratory. Treatment is most practical by oral or rectal use of ergotamine and caffeine. The rectal route has proved empirically to be most efficacious, especially when oral medication cannot be retained.[68–72] In our experience a combination of caffeine and ergotamine (Cafergot) has proved to be the most successful method in treating an attack of migraine.

Ryan,[73] using a suppository containing pentobarbital and hyoscyamine sulfate, reports 86 excellent results with this type of suppository, as compared to 73 with Cafergot. However, he does state that sleepiness occurs when this type of medication is given, and the patients usually sleep from one to three hours following taking of the medication.

Peters and Horton,[74] Silverskiold,[75] and Friedman, Brazil, and von Storch[76] pointed out that frequent doses of ergot relieve the headache for which it is administered but at the same time may lead to an increased frequency of these headaches. This increased frequency must be related to the development of a tolerance to ergotamine.

Peters recommends the use of vasodilators such as nicotinic acid in the early phase of migraine, whereas in the attack itself Cafergot or D.H.E.-45 (intravenously) is recommended. Supportive psychotherapy is advised.

Vaisberg[77] stated that relief from acute attacks was secured by the use of Dramamine intravenously or intramuscularly in 50 to 100-mg. doses in 50 patients with migraine. When given by vein, each cubic centimeter of Dramamine must be diluted with at least 9 cc. of normal saline solution. In our experience Dramamine has not been of much help in treating an attack of true migraine.

Moehlig[78] reported that of 60 women with migraine, 49 received relief from a course of treatment with methyltestosterone. He stated that treatment with methyltestosterone must be carefully supervised because of undesirable side-effects, such as hirsutism, acne, menstrual disturbances, and increase in weight and libido. Blumenthal and Fuchs[79] and others have found a repetitive system, using estrogens for twenty days followed by progesterone for ten days, to be well tolerated and definitely beneficial in treating certain migraine patients. Leyton[80] has advised the use of gonadotropic-stimulating hormones in migraine. The reasons for his success with this type of therapy remain unclear. Cortisone and ACTH have not proved successful in the treatment of migraine, although occasionally cortisone or prednisone will interrupt a cluster (histamine) headache before its clinical termination.

Alvarez[81] reported that of 100 cases of migraine in which menopause was induced with the idea of stopping the headache, 50 patients became decidedly worse, and in perhaps half a dozen cases the patients were better. He further reported that although psychic strain increases the migraine attacks of many patients, in certain instances a patient will be apparently cured by something which might be expected to provoke headache, such as head injury or service in action during war.

Klingman[82] suggests the use of ion exchange resins in the treatment of migraine. The patient is given a diet restricted to 1,000 mg. of sodium for a period of ten days. For the same period a daily dose of 45 Gm. of ammonium and potassium form of carboxylic ion exchange resin is recommended.

Kajtor[83] reported effective results in treatment of vascular headaches by infusions of histamine. Horton[84] again recommends histamine in the treatment of tension headaches, migraine, and cluster, and seasonal headaches.

Winchell[85] recommends a Cafergot and tuamine inhaler for treatment of an attack of histamine cephalalgia. Histamine is given to prevent the attack.

Allergenic properties of the diet and the use of elimination diets have again been stressed by some authors. This method of treatment was given considerable attention some twenty-five years ago. Unger and Unger[86] report that in at least 80 per cent of migrainous patients, food allergy is the cause. Schwartz,[87] in a detailed analysis of two large series of patients, found no significant evidence that would link migraine with any form of allergy (Hartford). This bears out the experience of Wolff and von Storch and our own clinical observations.

It is well known that suitable psychotherapy may be of great value in reducing the intensity and number of migraine attacks in most patients and may even result in the disappearance of the headache for a considerable time. Graham[88] has stressed the correction of errors in living and adequate personal, physical, and emotional hygiene as important aspects of any therapy in migraine patients. Friedman, von Storch, and Merritt,[89] reporting on 1,000 patients with migraine, have found psychotherapy to be the best method of preventing an attack. The importance of the doctor-patient relationship was re-emphasized. Sperling[90] reported marked success in eliminating the headache with 23 patients whom she analyzed. Others have reported success with smaller numbers of patients. Marcussen and Wolff[91] and others stressed the need of modifying stress in the relationship of the patient to his environment. The importance of the doctor-patient relationship and environmental manipulation and ventilation was emphasized.

Sweet[92] reports that in two cases of migraine trigeminal rhizotomy has been carried out with gratifying results. Bronson[93] states that in selected migraine cases it may be justifiable to try the effects of interruption of the various extracranial and the middle meningeal artery but cautions that expected results will fall short of what is usually hoped for, and the initial good result is often temporary. He also notes that the application in various forms of head pain of thalamotomy by stereoencephalotomy should only be undertaken by those who have had considerable experience with the technic. He warns against expecting prolonged and lasting results with procaine in controlling head pain and against the complications of alcohol blocks of the trigeminal nerve. Injection of the stellate ganglion has caused numerous deaths, and he believes this procedure should be done with caution and care. He concludes by saying that the treatment of headaches through surgical means has not proved too effective except in selective cases.

Other measures recommended for the treatment of migraine include the use of sympatholytic drugs, such as Hydergine, amphetamine compounds, vitamins, potassium, calcium, urea, hypnosis, neck traction, and physiotherapy. The list is too long to cite here and is only a replay of regimens used in the past two decades. Since a similar review of headaches five years ago,[94] the author has been surprised that so little has been added to our knowledge of specific treatment of migraine. Of importance is the reemphasis on evaluation of the patient as a whole, the patient-physician relationship in treatment, and the continued use of ergotamine compounds for treatment of an acute attack of migraine.

TENSION HEADACHE.—The value of psychotherapy in treatment of tension headache has been emphasized in the literature.[95–98] Friedman and von Storch,[99] reporting on 1,000 cases of tension headache, indicate that the best symptomatic relief is obtained by psychotherapy.

Weisman[100] reports on the treatment of 30 patients with tension headache for one year with Fiorinal. Fifty-six per cent of the patients received complete relief and 26 per cent partial relief. Freed[101] suggests Fiorinal for treatment of tension headache. He also suggests the use of hypnosis.

Archibald[102] reported relief with Chlorpromazine in 23 patients suffering from headache. Friedman[103] reported that in patients given reserpine those with tension headache showed moderate improvement and those with migraine obtained little relief. The results with placebos were equal to the results obtained in patients with tension and migraine headache.

Selling[104] reported that 23 of the 27 patients given Miltown (2-methyl-2-n-propyl-1, 3-propanediol dicarbonate) recovered or showed marked improvement. In a study on Miltown Friedman found that it was satisfactory in the treatment of patients with tension headache. However, the treatment time is yet too short to draw final conclusions.

Zacharia Morgan[105] reported that of 50 patients with tension headache the use of nicotinic acid, administered by the intravenous route and followed by oral administration, proved satisfactory in 44 of the cases.

HYPERTENSIVE HEADACHES.—Moyer and his coworkers[106] state that aminophylline and caffeine give relief from hypertensive headaches but that aminophylline seems to be the most effective agent in this respect. They suggest that caffeine and aminophylline decrease arterial and postarterial vascular distention of the cerebral vessels and thus relieve the headache.

Friedman[107] reported that 66 per cent of the hypertensive patients showed improvement with reserpine. However, the placebo response to treatment was not significantly different.

Stewart[108] reported that 87 out of 104 patients who were unaware of hypertension did not have headaches, while of the 96 patients who were aware of their increased blood pressure, 71 did have headaches. He did not find any relation between headache and the height of the diastolic pressure, nor was relief of headache well correlated with lowering of hypertension due to therapy.

POSTLUMBAR PUNCTURE HEADACHE.—Eversole and Rokowski[109] show that relief of spinal puncture headache can be obtained by the horizontal position, injection of physiologic saline into the subarachnoid or epidural space, and intravenous injection of hypotonic solution. Sadove and Levin[110] suggest a tight abdominal binder or extradural injection after spinal anesthesia to give relief from headaches following spinal anesthesia. To date no effective medical treatment, including the use of analgesics, has been found to combat postspinal headache. However, Kushner[111] relates his observations of the proportionate decrease in postspinal tap headaches to reduction in bore of the needle used to introduce the anesthetic. His results in a group of 100 unselected patients were encouraging since none of these patients developed headache after spinal anesthesia was administered with a 26-gauge, 2.5-inch spinal needle. He believes that provided proper precaution against needle breakage in situ is taken, this method should be considered for the routine use of spinal anesthesia.

POST-TRAUMATIC HEADACHE.—The treatment of post-traumatic headache is in most cases mainly a psychotherapeutic problem. Early ambulation following head injury has been found to be beneficial in the treatment of the post-traumatic syndrome in which headache plays an important part. Results with general therapy indicate that there is little to choose from in the way of drugs. However, this fact must be tempered with the well-known fact that following head injury patients do secure relief from analgesics and sedatives. The use of tranquilizers has not been evaluated in this problem but is most promising.

Manual stretching of the neck and occipital muscles, the use of extension apparatus, or moderately strong countertraction with weights and pulleys have been recommended by some as a method of choice.[112-114] Hunter and Mayfield[115] reported relief from headache following injury to the neck by posterior rhizotomy of the second and third cervical posterior roots.

HEADACHES ASSOCIATED WITH DISTURBANCES OF EAR, NOSE, AND THROAT.—Williams[116] recommends shrinkage of the nasal mucosa for relief of the pain of sinusitis referred to the head. In his article he further recommends well-known methods of treatment for nasal, sinus, and other types of headaches due to pathology from the ears, nose, and throat.

HEADACHES ASSOCIATED WITH DISTURBANCES OF THE EYES.—Walsh[117] points out the importance of correcting errors in refraction and muscle balance as the ophthalmologist's role in the treatment of headache.

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Office Rehabilitation of the Alcoholic

JOHN W. TINTERA, M.D., YONKERS, NEW YORK

(*From the Endocrine Clinic, St. John's Riverside Hospital*)

In order of frequency alcoholism is the fourth most common condition facing the general practitioner in the United States today, taking its place after heart disease, cancer, and tuberculosis.

No longer is alcoholism considered to be a purely psychic phenomenon since psychiatry has fallen far short in its percentage of recoveries, nor has internal medicine been able to treat the disturbances of organic function and attain any appreciable degree of improvement in the over-all picture of alcoholism. Since endocrinology is the connecting link between psychiatry and internal medicine and since alcoholism is now rightly placed in the realm of psychosomatic disorders, a working knowledge of both these phases of medicine is a requisite for the consummate treatment of this disorder.

The social stigma being gradually removed from alcoholism, some hospitals are admitting these patients, but at a remarkably slow rate. Local, city, county, or state-sponsored treatment centers are being established in the larger communities, but there are absolutely no facilities in the sparsely populated areas. As a result many "alcoholic sanitaria" or "farms" are operating with lay management, and the alcoholic continues to be mistreated or misguided according to the administrator (who may himself be an alcoholic and thus feel he has the understanding and knowledge to treat his unfortunate brethren). With this unsatisfactory situation it behooves the general practitioner to do as much as possible for this sick individual on an ambulatory basis.

In office practice we are not usually confronted with patients expressing underlying mental defects, such as epilepsy, mental deficiency, or psychopathic personality, but rather with the business or professional men who may incidentally exhibit neuroses or manifestations of their glandular deficiencies as predisposing to or resulting from their alcoholism. In actuality we are confronted with (1) the alcoholic in an acute exacerbation of chronic alcoholism, (2) the chronic alcoholic with a short period of sobriety, or (3) the so-called "recovered" alcoholic. Each of these types of alcoholic patients naturally requires a slightly altered method of approach and treatment. Since it is a known fact that the last person to recognize an alcoholic problem is the alcoholic himself, the patient presenting himself at the office is usually amenable to treatment.

Occasionally some individuals, either through family pressure, injury, or brushes with the law, seek help while intoxicated and may admit a drinking problem, but they very often do not consider themselves alcoholics. Detoxication is the immediate problem. Hospitalization may be required of course, and the treatment for the acute stage, as outlined previously in other reports, should be instituted.[1] This consists of intensive treatment with intravenous adrenal cortical extract* injections, etc. Others may simply seek relief from the symptoms of their hangovers with no intention of continuing treatment, and still others may plead for assistance to abolish their craving.

The latter individual in an acute exacerbation of alcoholism is most readily benefited by an intravenous injection of 10 cc. of adrenal cortical extract and 5 cc. of Benadryl solution. Ordinarily this is sufficient to cause a cessation of the bout by inducing a restful sleep. From this point on he may be treated the same as the patient who during a long period of abstinence is desirous of attaining permanent sobriety. A cursory history and physical examination is made at this time, the treatment with adrenal cortical extract continued, and other evident findings treated symptomatically. As treatment progresses, detailed history and more complete physical examination with particular reference to endocrinologic findings are made. There is usually involvement of the liver from fatty infiltration to hepatic fibrosis or cirrhosis. Fatty infiltration is always reversible with endocrine therapy, and fibrosis or cirrhosis is not considered hopeless.†

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* Eschatin, Parke, Davis & Company, Detroit, Michigan.

† An adjunct to adrenocortical therapy in patients with severely damaged livers, as manifested by diabetic-like glucose tolerance curves, is Methischol, U.S. Vitamin Corporation, New York City. An indication of improvement is a gradual decrease in the amount of insulin required.

To prevent progressive liver damage, rehabilitation is necessary. Before continuing treatment a firm resolve on the part of the patient to stop drinking is an absolute prerequisite. Experience indicates that nothing will be accomplished if he states that he will limit his drinking even to one or two cocktails before dinner. For the physician this patient will consume time and energy, and unmitigated failure is inevitable until such time as the patient finally concedes that absolute alcohol restriction is necessary.

Generally the *recovered alcoholic* consults his physician because he is dissatisfied with his way of life, even though he has maintained sobriety for many years. His symptoms are usually an aggravation of those which initiated his drinking.

In our experience chronic alcoholism has been closely associated with an evident adrenal cortical insufficiency and may be considered a symptom of hypoadrenocorticism. General observations reveal that these patients are of the asthenic, linear, constitutionally inferior type with little or no chest hair. Gynecomastia and testicular atrophy are frequently found. From the history is obtained familial longevity and evidences of endocrinopathies in either or both of the parents. The patient encountered in general practice has a personality makeup which is rather characteristic. He has, in general, an average-to-superior intelligence; he is very meticulous and perfectionistic. He constantly drives himself in his work and does not know the meaning of the word relaxation. He may have periods of vague fears, apprehensions, and frustrations. During the dry periods he has an almost insatiable desire for sweets or carbohydrates in some form or other. Most of these findings are based on a hypoglycemia resulting from adrenal cortical deficiency. Because of the loss of sodium chloride in the urine of hypoadrenocortical patients, there is an absence of perspiration and an unusual desire for salt.

Alcoholic intoxication represents a stressful influence associated with a sudden increase of secretion of adrenocortical hormones through tropic pituitary stimulation, followed by a decrease to subnormal levels. Repeated depletions in cortical reserve result in adrenal insufficiency with subsequent hepatic, pancreatic, and other glandular involvements.[2,3] In a patient with preexisting hypoadrenocorticism the progression through the alarm reaction, stage of resistance, and, finally, exhaustion rapidly ensues.[4] However, in an individual with apparently intact adrenals, alcoholic tolerance may persist for many years before sensitivity is manifest, thus explaining the differences in the physiognomy of various individuals.

TABLE I.—AVERAGE COMPOSITE OF GLUCOSE TOLERANCE TESTS OF 150 PATIENTS

	Blood Sugar (Mg. per 100 Cc.)	Urinary Sugar
Fasting	82	0
1/2 hour	225	0
1 hour	256	2+
2 hours	156	4+
3 hours	69	3+

Generally the patient is of the linear, asthenic type, although age and liver involvement, which induce obesity, may have altered his general appearance.[5] Other findings on physical examination reveal an orthostatic hypotension; generalized cervical lymphadenopathy; allergic manifestations including urticaria, hay fever, asthma, eczema, or other dermatitides, and occasionally a thyroid enlargement which compensates for the adrenal cortical deficiency. Usually the heart is droplet-shaped and the stomach J-shaped, and there is a general visceroptosis, especially in women. Rogoff's sign is positive (definite tenderness when pressure is applied over the area between the junction of the lower rib with the erector spinae muscles). The liver is usually enlarged and tender as a result of depletion of the glycogen stores and consequent fatty infiltration. Autonomic nervous system instability is manifest by pupillary dilatation, tremors of varying degrees, and gastrointestinal and genitourinary complaints.

The chief complaints listed for patients with hypoadrenocorticism, which include the alcoholics, are similar to those found in the hypoglycemic state. Thus there are reported feelings of weakness, fatigue and faintness, mental depression, apprehension, and insomnia, all of which may occur during periods of hypoglycemia and may be exacerbated by and follow bouts of emotional stress after the initial hyperglycemia. Symptoms involving the digestive tract are gnawing sensation or pain in the epigastrium, belching, regurgitation, etc., often due to gastric spasms, particularly of the pylorus, with upset of carbohydrate metabolism. Pain or distress referred from the liver may also occur in the epigastrium. Periods of alternate mild diarrhea and constipation, as well scybala or mucous colitis, are also reported.

Table I is an average composite of glucose tolerance tests of 150 apparently uncomplicated alcoholic patients. It will be noted that the physiologic mechanism shows an extreme response during this test, indicating an erratic blood sugar regulation. This factor is perhaps most important of all in the regulation of the sensorium of the individual. The feeling of well-being which goes with nourishment and the consequent increase in blood sugar level is obvious. We are all familiar with our ability to think more clearly and to approach better physical and mental activity when our blood sugar level is substantial. The sudden fall in blood sugar level at the third hour initiates the onset of the symptoms of hypoglycemia, such as nervousness, irritability, weakness, faintness, and, in the majority of cases, the feeling of a need of such physiologic support as alcohol might give. It is the suddenness of the fall of blood sugar which produces these reactions and not the level from which or to which it may have fallen. Since it is our desire not to upset the balance in blood sugar attained after adequate therapy, in most instances we have not repeated the glucose tolerance test. However, in the several cases in which the test was repeated, the curve approached normal, and in practically every case the glycosuria was corrected.

It is well known that alcohol is almost the only foodstuff that is absorbed immediately from the gastrointestinal tract and utilized as energy. It is easy to estimate, therefore, the physiologic stimulation that anyone undergoing any degree of hypoglycemia may experience on the ingestion of a single ounce of alcohol. It is also obvious from Table I that anyone experiencing the excessive response to a carbohydrate test meal must necessarily experience the opposite diminution and letdown after a limited interval.

As a general rule, aside from the information gained through the history and physical examination, only three laboratory tests are required to corroborate the alcoholic state: urinalysis, complete blood count, and four-hour glucose tolerance test. The urinalysis may reveal little save the presence of red blood cells and albumin with kidney damage and a high specific gravity with dehydration. The blood count usually reveals a relative lymphocytosis and eosinophilia in chronic alcoholism, indicating a poor adrenal response.

The most valuable information is obtained from the glucose tolerance test. A low fasting blood sugar is found *postprandially* in all untreated recovered alcoholics, averaging, as previously reported,[1] 60.9 mg. per 100 cc. As is our policy at present, this test is deferred for a short time until treatment is under way; therefore, slightly higher fasting levels are obtained. The curve is generally one starting at a low-normal level rising to hyperglycemic levels in one-half to one hour with subsequent fall to hypoglycemic levels two to three hours after the ingestion of glucose. This response is the result of hepatic involvement with erratic adrenocortical and pancreatic function.

Further evidence of adrenal cortical involvement may often be obtained through electrocardiographic observations revealing a widening of the QRS intervals and lowering or inversion of the T waves as a result of a hyperkalemia. These findings are usually corrected after a short period of treatment. Other endocrinologic tests have been performed but are generally unnecessary, such as titration of the urinary 17-ketosteroids, Robinson-Kepler-Power water test or its modification by Oleesky,[6] the Thorn eosinophil test, etc.

Chronic alcoholism is not a disease entity in itself but simply a symptom of a functional disturbance, particularly of the cortex of the adrenal gland with the consequent mental aberrations found in hypoglycemic states. Hypoadrenocorticism may occur either as a subclinical antecedent or pathologic sequel of alcoholism. The nutritional status of the individual is of little consequence except for its connection with liver and adrenocortical pathology, all of which respond favorably to endocrine therapy. Recently, many investigators have been reporting increased percentages of adrenocortical insufficiency in alcoholics. Others, including Diethelm,[7] state that "endocrinologic pathology of a varied nature was found in a majority of patients." Bleuler[7] states that "the facts revealed only emphasize that there do exist some causal relationships between alcoholism and somatic endocrine derangements in a certain number of alcoholics." However, none of these authors specifically mentioned adrenal involvement. In endocrine practice we are aware of the unlikelihood of a pure thyroid, pituitary, pancreatic, or gonadal disease entity without the adrenals also being incriminated.

Moreover, it has been demonstrated that alcohol acts as any other stressor agent on the adrenal to produce first an oversecretion of its steroids and later a diminution to subnormal levels. Consequently, repeated abuses will inevitably lead to some degree of adrenal exhaustion. Alcoholism in the younger individuals then apparently develops as a result of a constitutional insufficiency, while others with intact adrenals at the onset of their drinking history eventually develop a secondary hypoadrenocorticism by prolonged or repeated depletions in cortical reserve. Our interest in this condition has been of sufficient duration to have diagnosed hypoadrenocorticism in young individuals long before the symptoms of alcoholism became manifest.

Because of an apparent hypoadrenocorticism ACTH and cortisone have been used in an attempt to correct this deficiency. Since ACTH is the tropic hormone for cortisone-like steroids, an imbalance between the mineralosteroids and glucosteroids is to be expected. On the other hand, cortisone is only one of the numerous steroids produced by the adrenal gland and has a tendency to upset further the balance between the different groups. Selye[8] has recently proved this antagonistic effect of cortisone-like compounds on aldosterone. In the treatment of liver disease, including cases involving alcoholism, Webster[9] concludes that "unlike the reported experience with ACTH and cortisone, adrenal cortical extract may be discontinued when recovery is noted. It is believed that this is evidence of a true physiologic effect, possibly in balancing an adaptive homeostatic regulating mechanism or in the actual regeneration or repair of damaged liver cells."

ACTH, while effective in delirium tremens, falls short in contrast to whole adrenal cortical extract therapy. Again, ACTH is the tropic hormone for cortisone and produces an imbalance among the groups of adrenal steroids (the glucosteroids, mineralosteroids, and sexogens and 17-ketosteroids), providing the adrenal is capable of response. In a severely damaged adrenal the ACTH effect on the gland has been likened to the whipping of a tired horse. Cortisone, on the other hand, shuts off all tropic influences so that a normal pituitary stimulation is defeated. Perez-Tamayo *et al.*[10] have shown that cortisone inhibits the regeneration of the liver while maintaining liver weight by increasing the size of the hepatic cells. However, supplying adequate amounts of adrenal cortical extract, which is a mixture of physiologically balanced steroids, allows the depleted cells to return to normal function, and if there is an overactivity of any of the groups of hormones, the antagonistic effect tends to produce homeostasis. Thus, it is conceivable that the glucosteroids in adrenal cortical extract are capable of neutralizing the mineralosteroids in a hypertensive alcoholic. At the same time, if there is a deficiency of the mineralosteroids, this deficiency is alleviated.

The first consideration in the treatment of the acute alcoholic state is the abolition of the physical craving for alcohol. Eschatin, given intravenously in dosages of 10 cc., immediately produces a sensation of warmth and relaxation. The quieting effect on the central nervous system and gastrointestinal tract may be enhanced by the addition of 2 to 5 cc. of Benadryl solution (10 mg. per cc.) to the intravenous injection. In severe agitation or persistent nausea and vomiting, chlorpromazine (Thorazine) also has a tranquilizing effect, but care must be exerted because of its intensifying action of alcohol and barbiturates.

Insulin in small doses (10 to 20 units protamine zinc insulin) may be sufficient to stimulate appetite and at the same time more rapidly metabolize the residual alcohol.

Pyridoxine (B_6) in doses of 1 to 2 cc. (50 to 100 mg.), together with the intravenous adrenal cortical extract and Benadryl, has been a useful adjunct, particularly if any hallucinosis or convulsions exist. Subsequently pyridoxine serves as an adrenal-saving drug in its role of building body proteins and synthesis of fatty acids through specific enzymatic-controlled reactions.

Barbiturates, paraldehyde, and morphine are contraindicated because of the danger of intensifying the depression of the respiratory system and also because of the danger of substitution of these addictive drugs for alcohol. The amphetamines are to be avoided because the patient is already in a hypermetabolic state, and they will intensify the epigastric distress, increase the irritability of the entire central and peripheral nervous systems, and prolong the insomnia.

After the initial acute phase has subsided, attention must be directed toward the control of the nervous and nutritional state. Ordinarily tremors are controlled by mephenesin (tolserol, 0.5 to 1 Gm. every four hours or after meals). With the exception of ascorbic acid the vitamins seem to be of little value because with the institution of a prescribed diet normal metabolism is restored through the use of the adrenocortical extract. Despite inadequate food intake vitamin deficiencies are rarely encountered. Figueroa *et al.*[11] reported a doubtful 2.2 per cent of avitaminosis among a large group of alcoholics at the House of Correction of the City of Chicago.

Chlorpromazine (Thorazine), an antihistaminic, should be used with caution because of its drug-potentiating action.[12] Acute hypotension develops if it is given too soon after the withdrawal of alcohol or barbiturates. When it has been prescribed even for short periods of time, an aggravation of the postalcoholic depression has been frequently observed with the development of suicidal tendencies. Doses of 100 mg. in combination with 500 mg. of Antabuse have been administered to hospitalized alcoholics, and because of its antihistaminic and anticholinergic activity the expected toxic effects of Antabuse have not appeared. Chlorpromazine has also been used effectively in combating the nausea and vomiting resulting from Antabuse-alcohol reactions.

As soon as food is tolerated, the dietary regime should be instituted. A careful explanation of what has taken place in the blood sugar of these patients is valuable in pointing out to them the need for rigid restriction of readily absorbable carbohydrates. A low-carbohydrate, high-protein, and high-fat intake has been devised to prevent hypoglycemic episodes and to aid the anabolic restoration afforded by the hormonal injections. All cereals, potatoes, corn, macaroni, candies, cakes and pastries, colas, and other sweet soft drinks are prohibited. Coffee and strong tea are to be avoided because of the hyperinsulin effect. All meats, fish, dairy products, other vegetables, and fruits are permitted. Sucaryl is advised as a substitute for sugar and protein bread instead of white bread. Beverages allowed are milk, Sanka, weak tea, and sugar-free sodas. Salt is recommended in unlimited amounts because of the tendency to sodium depletion, especially during the acute phase. This diet is maintained indefinitely, and its importance cannot be overemphasized. Between-meal and before-retiring snacks may eventually be eliminated.

The restoration of the recovered but introverted and antisocial alcoholic to a useful and purposeful life is the responsibility of the general practitioner. It is most gratifying to perceive the changes taking place from an entirely dependent individual to one restored to full productivity and usefulness. But how is he to remain sober? Naturally, rapport must be established between the patient and the physician. Regular consultations of a psychiatric nature must be continued indefinitely. Psychotherapy in general practice is essentially an understanding of human relations being put to practical use. The physician's attitude should be one of reassurance while educating and redirecting the patient to a more fruitful outlook on life. A rational medical explanation of the emotional, psychologic, hormonal, and dietetic ramifications of the illness must be fully discussed. By the elimination of hypoglycemic episodes the patient's tensions are relieved, changing his entire outlook with a lessening of his negativism and, in general, a reversal of personality. Alcoholics Anonymous offers a form of group therapy which appeals to selected patients who can live only on a day-to-day program. However, some patients do not care to be constantly reminded that they are alcoholics but prefer to live a normal life as a nondrinking person and actually do find that they can face a new day without any thought of alcohol. They soon find that they can associate with their nonalcoholic friends without any fear of being judged.

In the treatment of the recovered alcoholic, intravenous injections of 10 cc. of adrenal cortical extract are given daily for a few days, then twice weekly for one or two weeks, then once a week indefinitely, with intervals increasing as the patient improves. As treatment progresses, we perform the laboratory tests that are necessary. Of greatest interest to the patient is the knowledge that if he allows his blood sugar to reach hypoglycemic levels, he will have a return of many of his original emotional and physical problems and a craving for carbohydrates or, more specifically, alcohol. It is explained that normally every individual goes through cyclic depressions and elevations in moods with corresponding elevations and depressions in blood sugar. In women these cycles correspond to the menstrual periods. In men they usually occur at five to six-week intervals. If the patient has an existing hypoadrenocorticism with its accompanying hypoglycemia, this low blood sugar during the depression in the cycle will be found at an even lower level. This explains adequately to the periodic drinker the reason for his periodicity. Therefore, the importance of maintaining a low-carbohydrate diet to preclude any sudden rises or falls in blood sugar and of the elevating effect of adrenal cortical extract on the blood sugar is readily appreciated.

In all male patients regardless of age, 50 mg. of testosterone proprionate are given immediately on institution of treatment and henceforth regulated according to the needs of the patient as determined by examination, specifically gynecomastia, gonadal atrophy, or muscular involvement. With this combination of testosterone and adrenal cortical extract, the negative nitrogen balance encountered in chronic alcoholism reverts to a positive balance. There is generally a gain in weight as a result of this anabolic effect. Probably the greatest period of stress in a woman's life is at the time of the menopause as a result of the estrogenic deficiency with vasomotor instability and increase in hypoadrenocorticism. Women in this age group are given testosterone (50 mg.) combined with estrone (5 mg.) initially, and dosages are adjusted thereafter to keep the menopausal symptoms under control. In all recovered alcoholics over sixty years of age a combination of methyltestosterone and estrone is given orally in the form of a capsule (ratio 20:1).

Within the first few months of treatment endocrine balances are well established. Adrenal cortical extract affords both replacement and regenerational therapy so that the adrenocortical deficiencies resulting from alcoholic stresses are returned to normal. Imbalances between any of the groups of adrenal steroids are stabilized through antagonistic effects; liver repair and regeneration ensues immediately as shown by liver function tests. Muscular and liver glycogen deposits are normal within relatively short periods, as evidenced by repeat glucose tolerance tests and by gain in weight without increased fatty deposits. Appetite quickly becomes ravenous, and the well-balanced diet rectifies any vitamin deficiency. Through the stressful period of alcohol imbibition, thyroid activity is increased in an attempt to compensate for the adrenal deficiency. However, with adequate adrenocortical therapy a reversal to the extreme is very frequently noted which may or may not require thyroid medication. Of necessity this must be at a very low dosage ($^1/_4$ to $^1/_2$ grain). Capillary fragility resulting from disturbances in the adrenal-thyroid relationship are corrected, the patient noting that he no longer bruises easily, and there are no further bleeding episodes from the gums or nose or from eosophageal or hemorrhoidal varices.

In male patients, as a result of correction of the liver dysfunction, the estrogens produced by the adrenals are metabolized with a subsidence of any mammary changes and frequently with a return of libido. Eventually, when his physiologic, endocrinologic, and mental balance have been achieved, the patient becomes more aware of his social obligations. He has been shorn of his compulsions, apprehensions, and inhibitions. Instead of the negativistic, critical, fearful introvert, we now have a calm, clear-thinking, outgoing, and energetic individual.

The advisability of a "chemical fence" in the guarding against further slips must first be discussed and literature on Antabuse given to the patient to study. Except in occasional cases we do not insist that the patient *has* to take Antabuse but rather would prefer to have him volunteer that he *wants* to take it. By summoning the aid of a close family member to dispense this medication a sense of security for all parties involved is re-established, and family relations are thereby strengthened. Of much greater importance is the recipient's freedom from entertaining thoughts of imbibing, for even though the physiologic craving for alcohol has been removed through the adrenal cortical extract treatment and diet, there still remains the fact that he can take it or leave it. The dosage of disulfuram is kept as low as possible—0.5 Gm. daily for one week, then 0.25 Gm. daily thereafter—and may be continued over an extended period. Mild toxic reactions generally disappear within ten days of therapy. We no longer believe that an alcohol reaction test is essential for effective use of Antabuse. Most patients are able to appreciate the nature and consequences of an alcohol-Antabuse reaction.

Conclusion

Alcoholism has been described as a symptom of a glandular disorder. Experience has taught that alcohol will temporarily relieve this deficiency, but unfortunately it increases the stress and aggravates the condition so that uncontrollable drinking results.

Originally adrenal cortical extract therapy was described for the treatment of the acute and chronic alcoholic. However, because of its dramatic results in the acute phase and its failure to produce immediately a controlled drinker from an alcoholic, its greatest value in chronic alcoholism has been neglected. Normal thinking is established by correcting the endocrine and chemical balances in the body. Habit patterns established through physiologic compulsions are abolished or minimized. This change in personality transforms the alcoholic individual with an inherent but heretofore stifled and confused intellect into what he himself can recognize as a worth-while, uninhibited, productive, and useful individual.

30 South Broadway

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Postradiation Inflammation Reduced by Prednisone

JOSEPH B. MATHEWSON, M.D., ITHACA, NEW YORK

During the past few years there have been innumerable reports attesting to the value of cortical steroids in the treatment of rheumatoid arthritis and other so-called collagen diseases. Prednisone,* a newer compound, is reported to have three to five times the therapeutic effectiveness of oral hydrocortisone or cortisone and to have fewer side-actions; sodium retention and excessive potassium depletion are less frequent.

In the field of general dermatology this drug has been most efficacious and is a valuable addition to the armamentarium of the dermatologist. Recent experiences with prednisone and its effect on the postradiation reaction of the skin will be described in this report.

Jarvinen[1] in 1951 observed that oral cortisone caused a decrease in skin reaction to ultraviolet light. Cortisone had been administered for at least five days before exposure. In 14 patients there was uniform reduction in redness of the skin.

Ellinger[2] and Mirand, Reinhard, and Goltz[3] in 1952 noted that the administration of cortisone or desoxycorticosterone to mice afforded some degree of protection from lethal effects of ionizing radiation. Marshall,[4] also experimenting with mice, noted that cortisone considerably delays the onset of acute radiodermatitis and restricts the area of damage produced. He believed that this action may be the consequence of either a true protection of the cells in the radiated area with a consequent lower cellular mortality, or it may result from the spreading of the total damage over a considerably longer period, possibly permitting a certain amount of healing to occur during that period.

If these postulates are valid, then two possibilities exist: (1) Corticosteroids might be useful in preventing and alleviating the severe radiation dermatitis sometimes observed, and (2) corticosteroids might allow more intensive courses of radiation therapy, resulting in greater patient salvage. In any event the possible clinical value of corticosteroids used as adjuncts to radiation treatment of malignancies is dependent on the absence of a protective action on tumors by the corticosteroid employed.

In June, 1955, Scott and Kalz[5] reported that hydrocortisone and, to a lesser extent, corticotropin, when locally applied to the skin, inhibit the cutaneous inflammatory response to such stimuli as ultraviolet radiation and to such primary irritants as mustard oil. The inhibition was demonstrable only if the hormones had been applied several hours before the inflammatory stimulus was introduced. It consisted either of complete suppression or a delayed and partially inhibited reaction. Later these investigators[6] found the same inhibitory or delaying effect of topical hydrocortisone ointment on the erythema cycles of Grenz rays on the skin.

In the October, 1955, Schoch Letter,[7] the editor wrote as follows: "We have used hydrocortisone ointment and lotion with consistent satisfactory effect in radiation dermatitis, both in limited form that resulted from the treatment of skin cancer, and also in a few instances of a more widespread radiation dermatitis, secondary to deep x-ray therapy, following radical operation of carcinoma of the breast."

Thus, there seems to be a definite relationship between radiation reaction and corticosteroids. Topical application of hydrocortisone ointment and lotion prevented in part the acute radiation dermatitis usually seen in the skin of patients being treated for cancer.

Traenkle[8] in 1955 emphasized the importance and frequency of late radiation necrosis following therapy of skin cancer. All physicians working with cancerocidal doses of x-ray are familiar with the resulting scarring of the skin which may occur. In our experience prednisone with its anti-inflammatory action seems to diminish both the radiation reaction and subsequent scarring.

This present report describes the effect of the

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* Prednisone, in the form of Meticorten Tablets, was supplied through the courtesy of the Clinical Research Division, Schering Corp., Bloomfield, New Jersey.

TABLE I.—Location of Lesion

Case	Age	Sex	Duration of Lesion	Location	Size	Pathologic Diagnosis
1	67	F	6 months	Left side of nose	1 cm. diameter	Basal cell carcinoma
2	62	F	1 month	Right side of nose	1 by 1.2 cm.	Basal cell carcinoma
3	79	F	3 months	Right cheek	1.5 cm. diameter	Basal cell carcinoma
4	58	F	6 months	Left temple	1.5 cm. diameter	Basal cell carcinoma
5	81	F	6 months	Right chin	1.1 by 1.5 cm.	Squamous cell carcinoma
6	47	F	1 year (began as mole)	Lumbar region	1.5 cm. diameter	Basal cell carcinoma
7	67	M	3 months (began as mole 12 years ago)	Right temple	1 cm. diameter	Basal cell carcinoma
8	41	F	3 weeks	Right side of nose	1 cm. diameter by 0.5 cm. thick	Inverting papilloma, rapidly growing, precancerous
9	55	F	3 months	Left jawline	8 mm. diameter	Squamous cell
10	45	F	4 years	Above left clavicle	1.8 by 1.4 cm.	Basal cell
11	80	M	4 years	Left side of neck	1.2 by 1.4 cm.	Squamous cell
12	77	F	$1^1/_2$ years	Top of scalp	1.2 cm. diameter	Basal cell
13	45	F	4 years	Tip of left side of nose	0.5 cm. diameter	Basal cell
14	73	F	1 year	Below right eye	8 mm. diameter	
15	56	M	1 year	Neck behind right ear	8 mm. diameter	Basal cell
16	62	F	1 year	Left chin	0.5 cm. diameter	Basal cell

TABLE II.—Radiation Chart

Case	Total Roentgens	Quality Half-value Layer Mm. (Aluminum)	Number of Treatments	Number of Days	Size of Port	Roentgens per Treatment
1	5,400	1.5	7	8	1.2 by 1.4 cm.	771
2	4,865	1.5	7	8	1.5 cm. diameter	695
3	5,000	1.5	4	7	1.6 by 1.5 cm.	1,250
4	5,000	1.5	7	8	1.7 cm. diameter	714
5	5,320	0.75	7	9	1.3 by 1.7 cm.	760
6	4,998	0.75	6	6	1.8 cm. diameter	833
7	5,000	0.75	6	6	1.2 cm. diameter	833
8	4,500	1.5	10	14	1.4 cm. diameter	450
9	4,870	0.75	10	14	1.4 mm. diameter	484
10	4,473	0.75	7	7	2.2 by 1.8 cm.	639
11	4,963	0.75	7	8	1.4 by 1.6 cm.	709
12	4,840	0.75	8	16	2 cm. diameter	605
13	4,356	0.75	3	6	8 mm. diameter	1,452
14	3,993	0.75	6	11	1 cm. diameter	605 (3 days) 726 (3 days)
15	4,356	0.75	6	14	1 cm. diameter	726
16	4,356	0.75	6	13	1 cm. diameter	726

oral administration of prednisone in 16 cases of skin cancer or precancer during the course of x-ray therapy (Tables I, II, and III). The diagnosis of skin cancer was confirmed pathologically in 14 patients. One lesion was precancerous; one was a basal cell lesion clinically. Among the 15 lesions, 13 were basal cell, and two were squamous cell epitheliomas.

Case 1 had been receiving 15 mg. of prednisone daily for two weeks prior to and during radiation treatment of a lesion on the nose. The postradiation reaction was extremely mild. After 5,400 r of radiation in divided doses to the lesion, there was only a faint erythema, followed by very slight vesiculation and central crust formation of ten days duration. Nearly all reaction had subsided in six weeks, leaving almost no visible scar. This comparatively mild reaction was most unusual. The marked degree of inflammation usually seen was not present at any time. The mild reaction which did develop lasted less than six weeks. The final cosmetic result was excellent, and the cancer was apparently cured. Although prednisone seemed to lessen radiation damage, it had not interfered with cancerocidal action against the tumor. Last, the scarring effect usually seen after such radiation was almost eliminated.

Since then 15 additional patients have received prednisone in varying dosages during radiation therapy for skin cancer. The results presented below confirm the impressions gained from the first case.

The lesions treated varied in size from 0.5 to 2 cm. in diameter and, except for one in the lumbar region, were all on the head and neck.

TABLE III.—Results of Prednisone (5 Mg.) Administration

Case	Medication Started	Frequency of Daily Dose and Duration	Reaction	End Result
1	14 days before radiation	3 times, 14 days 2 times, 7 days 1½ tablets, 7 days	2 weeks after last x-ray slight redness 4 weeks after last x-ray small crust with minimal weeping 6 weeks after last x-ray no redness, almost no scar	No recurrence one year faint scar
2	4 days after first x-ray	2 times, 11 days 1 time, 14 days	1 week after last x-ray slight redness 3 weeks after last x-ray small bloody crust, minimal scarring 6 months after last x-ray almost no scar, change in color, or atrophy	Almost no scar
3	3 days after first x-ray	3 times, 14 days 2 times, 14 days	10 days after last x-ray slight redness, dry 21 days after last x-ray no redness, no scar 2 months after last x-ray no redness, no scar	No scar
4	4 days after first x-ray	2 times, 5 days 3 times, 12 days	14 days after last x-ray slight redness 19 days after last x-ray minimal discharge, adherent crust 30 days after last x-ray no redness, no scar 5 months after last x-ray no scar	No scar
5	1 day after first x-ray	3 times, 9 days 2 times, 10 days	1 week after last x-ray slight redness 3 weeks after last x-ray faint redness, itchy 2 months after last x-ray almost no scar, some scaling above the upper border	Almost no scar
6	1 day after first x-ray	3 times, 11 days 2 times, 7 days 1 time, 7 days	1 week after last x-ray no reaction 2 weeks after last x-ray no reaction 3 weeks after last x-ray slight redness 2 months after last x-ray lesion healed, no scar	No scar
7	2 days after first x-ray	3 times, 11 days	1 week after last x-ray no reaction 2 weeks after last x-ray slight redness 3 weeks after last x-ray redness and tiny ulcer in center 2 months after last x-ray lesion healed, no scar	No scar
8	2 days after first x-ray	3 times, 12 days 2 times, 10 days	1 week after last x-ray marked redness 2 weeks after last x-ray redness 3 weeks after last x-ray slight redness 2 months after last x-ray no redness; dime-sized, light scar with some atrophy	Light scar
9	7 days after first x-ray	3 times, 7 days 2 times, 14 days	1 week after last x-ray slight redness 2 weeks after last x-ray slight redness 3 weeks after last x-ray brown pigmentation 2 months after last x-ray normal color, no scar	Normal color, no scar
10	2 days after first x-ray	3 times, 3 days 4 times, 4 days 2 times, 7 days 1 time, 5 days	3 days after last x-ray redness 1 week after last x-ray subsiding redness 2 weeks after last x-ray faint redness remains 3 weeks after last x-ray small crust on spot 2 months after last x-ray no scar, no atrophy, color normal	No scar
11	9 days after first x-ray	3 times, 3 days 2 times, 14 days	1 week after last x-ray slight redness 2 weeks after last x-ray slight redness 3 weeks after last x-ray red-brown color with bloody crust in center 4 weeks after last x-ray brown pigment 2 months after last x-ray no scar or discoloration	No scar
12	12 days after first x-ray	3 times, 12 days 2 times, 7 days	Redness appeared at sixth treatment Redness present at eighth (last) treatment 14 days after last x-ray weeping 21 days after last x-ray adherent crust present 26 days after last x-ray dry, red scar 35 days after last x-ray healed, atrophic scar	Slight atrophy, depigmentation, alopecia, localized
13	3 days after first x-ray	6 tablets, 2 days 5 tablets, 2 days 4 tablets, 2 days 3 times, 14 days 2 times, 7 days 1 time, 7 days	1 week after last x-ray slight redness 2 weeks after last x-ray subsiding redness 3 weeks after last x-ray redness subsiding outside, crust on nasal mucosa 2 months after last x-ray very tiny scar	Slight atrophy
14	9 days after first x-ray	3 times, 4 days 4 times, 4 days 3 times, 3 days	Redness noted at fourth treatment Redness present at fifth treatment 1 day after last x-ray redness 3 days after last x-ray very red, black scab in center 10 days after last x-ray dull red, no bleeding, tiny crust in center 1 month after last x-ray no redness 2 months after last x-ray no scar	No scar

[*Continued on next page*]

TABLE III (*Continued*).—RESULTS OF PREDNISONE (5 MG.) ADMINISTRATION

Case	Medication Started	Frequency of Daily Dose and Duration	Reaction	End Result
15	17 days after first x-ray	3 times, 7 days	1 day after last x-ray slight redness	No scar
		2 times, 7 days	1 week after last x-ray faint redness	
		3 times, 7 days	15 days after last x-ray more redness with tiny vesicles on surface	
		1 time, 7 days	22 days after last x-ray redness fading	
			28 days after last x-ray light brown color	
			2 months after last x-ray no scar	
16	17 days after first x-ray	3 times, 7 days	4 days after last x-ray redness began	No scar
		2 times, 7 days	8 days after last x-ray redness present, no symptoms	
			20 days after last x-ray redness fading	
			2 months after last x-ray no redness, no scar	

Radiation used had a half-value layer of either 0.75 or 1.5 mm. of aluminum, depending on location, depth, and consistency of the tumor. Total r units given each tumor varied from 3,993 r for Case 14 to 5,400 r for Case 1.

In each of the cases treated, the skin reaction to radiation was much milder than usual. Instead of the acute redness two weeks after x-ray, there was only faint redness. In Case 6 there was no redness at all. Only Cases 12 and 15 showed any vesiculation. At three weeks Cases 2, 4, 7, 10, 11, 12, and 13 showed small adherent crusts in the center of the lesion. Case 1 still had a slight crust at four weeks. Otherwise all others had only subsiding redness or pigmentation. Healing was complete in all cases after six to eight weeks. No scar remained at two months except in Cases 1, 2, 5, 8, and 13, in which minimal scarring occurred. One year after treatment, examination of Case 1 showed no scar and no sign of recurrence. Observations on the other cases are being continued.

Prednisone was administered early in the first cases treated. Dosage was usually two or three tablets (5 mg.) daily. Beginning with Case 9, prednisone was started when the patient first noticed redness from x-ray. In Cases 15 and 16 this occurred on the seventeenth day after first x-ray. Where the prednisone was given before redness appeared and continued in adequate dosage during the course of x-ray, the period of inflammation was shorter than in the cases where it was withheld until redness started. Optimum dosage of prednisone in this study has not been determined. It is possible that with larger dosage even better results might be observed. Certainly the results in this small series indicate that further investigation is warranted.

Summary

Prednisone in dosage of 10 to 20 mg. daily has been employed concomitantly with radiation therapy in treatment of basal and squamous cell epitheliomas.

In a series of 16 patients radiation dermatitis was minimized, and the degree of scarring seemed to be reduced with this regimen. Prednisone did not interfere with the normal tumor response to radiation.

On the basis of benefits observed, further study is warranted.

110 NORTH TIOGA STREET

I wish to express my deep appreciation to Drs. Henry W. Ferris and Murray P. George, pathologist and radiologist, respectively, at Tompkins County Memorial Hospital for their valuable assistance.

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I hope that real love and truth are stronger in the end than any evil or misfortune in the world.—David Copperfield, CHARLES DICKENS

The Role of Allergy in Nephrosis

VINCENT J. FONTANA, M.D., W. C. SPAIN, M.D., AND ADOLPH G. DESANCTIS, M.D.,
NEW YORK CITY

(From the Departments of Medicine and Pediatrics, New York University Post-Graduate Medical School, and the Allergy Section, Pediatrics Service, University Hospital)

THE suggestion that glomerulonephritis clinically is a manifestation of an antigen-antibody reaction was first made by Schick[1] in 1907. Since that time Sarre and Wirtz[2] and other investigators[3-5] have succeeded in demonstrating in animals a specific selective absorption of nephrotoxic serum in the kidney and have put forth the opinion that this initiates the immunologic mechanism probably responsible for the syndrome of glomerulonephritis. With respect to this point Lange and his associates[6] presented data which led them to conclude that glomerulonephritis is caused by a continuous organ-specific antigen-antibody reaction. More recently, Lange *et al.*[7] showed a definite decrease in serum complement in patients with glomerulonephritis and nephrosis, indicating again the possible basic mechanism of an antigen-antibody reaction in these diseases.

A search of the literature did not reveal any thorough clinical study on the correlation of nephrosis and the patient's allergic background. Barness, Moll, and Janeway[8] attempted to find a common hereditary background in nephrotic children. They found a family history of allergy in 43 (26 per cent) of 161 nephrotics. The authors drew no conclusions from these figures since they felt that the estimates of allergy in the general population were not clearly defined. No data were given on the type of history taken or of any allergic skin tests done. Positive allergic history on the children themselves was not mentioned. Therefore, a clinical investigation of nephrotic cases was undertaken to answer the question whether this disease should be considered as a possible allergic manifestation.

The material for this study consisted of a series of 18 children attending the Nephrosis Clinic at the University Hospital. More cases are being studied, and further evaluation will follow. As controls a similar group of 20 children in the General Pediatrics Clinic received identical questionnaires concerning familial and personal allergic history. The selection of nephrotic patients included children between the ages of twenty months and twelve years, both in the edematous and nonedematous stages of the disease. In all these children at some time generalized edema, hypoalbuminemia, and heavy proteinuria were noted. Hypercholesterolemia and lipidemia were usually present. The absence of hypertension, nitrogen retention, and severe anemia was noted in most instances. In these nephrotic patients the age of onset of symptoms averaged three and one-half years.

TABLE I.—INCIDENCE OF ALLERGIC MANIFESTATIONS IN ONE OR MORE RELATIVES OF 18 NEPHROTIC PATIENTS

Condition	Number of Cases
Bronchial asthma	4
Hay fever	7
Urticaria	7
Allergic coryza due to cat epithelium	1
Dermatitis due to dog epithelium	1
Eczema	2

A complete familial allergic history including questions concerning the presence of allergic manifestations, such as bronchial asthma, eczema, seasonal and nonseasonal allergic coryza, and urticaria, was secured from both parents. An allergic history of the patient was also correlated with intradermal skin testing to the inhalants and foods.

In eight (44 per cent) of the 18 nephrotic children a positive personal history of clinical allergy was obtained, as compared with the control group of children where three (15 per cent) were found to have a positive personal allergic history. Three of the eight nephrotic patients manifested urticarial eruptions following the ingestion of various foods, another following contact with wool, and two others developed "hives" after taking a drug. The remaining three children developed an itching rash after eating certain foods. Two (11 per cent) of the nephrotic patients gave questionable evidence of personal allergies, leaving 45 per cent with no personal allergies.

In 12 (66 per cent) of the 18 children, the

TABLE II.—Relationship of Family Allergy, Personal Allergy, and "Wheezing" in Nephrotic Children

Patient	Nephrotic Status	Skin Tests	Allergic History		
			Family	Personal	"Wheezing"
M. G.	Inactive	Positive	Positive	Positive	Negative
J. B.	Inactive	Positive	Positive	Positive	Negative
D. K.	Inactive	Positive	Questionable	Negative	Positive
C. L.	Inactive	Positive	Negative	Positive	Positive
R. P.	Inactive	Positive	Positive	Negative	Positive
J. C.	Inactive	Positive	Positive	Positive	Positive
J. T.	Inactive	Positive	Questionable	Positive	Negative
E. E.	Inactive	Positive	Questionable	Questionable	Negative
J. O.	Inactive	None	Positive	Negative	Negative
C. C.	Active	None	Positive	Positive	Positive
D. F.	Active	Negative	Positive	Negative	Negative
J. C.	Active	None	Positive	Negative	Positive
M. S.	Active	Negative	Questionable	Positive	Negative
A. G.	Active	Negative	Positive	Positive	Positive
J. H.	Active	Negative	Negative	Negative	Positive
S. C.	Active	Negative	Positive	Questionable	Positive
P. C.	Active	None	Positive	Negative	Negative
P. C.	Active	None	Positive	Negative	Negative

family history revealed presence of allergy or of possible allergy in one or more relatives. Eight (40 per cent) of the "control" children showed positive evidence of familial allergy. Four (23 per cent) gave questionable evidence of allergy in one or more relatives of the nephrotic patient, and two (11 per cent) gave no history of any allergic manifestations in any member of the family. Even though the percentage of controls with positive familial history was very much greater than generally accepted for the general population, this control series is important in this study because identical questions were asked and relevant allergic disturbances were identified in the same way as in the nephrotic group.

In spite of the high incidence of the familial allergy in this control group, a significant increase of 26 per cent in familial history was observed in the nephrotic group. This high incidence of positive familial allergic history in nephrotics is highly significant since this relationship between family allergy and the nephrotic condition was much greater than could be expected had there been no relationship between allergy and nephrosis. The incidence of the various allergic manifestations in one or more relatives of the nephrotic patient is shown in Table I.

There were, in addition, four cases of migraine, one of periarteritis nodosa, and two cases of vernal catarrh, conditions which are considered at this time to be of possible allergic etiology. They were found in association with the other better recognized allergic manifestations, but their presence was not considered in evaluating a positive family history unless it was associated with the more obvious allergic conditions.

It is realized that these statistics deal with a very small group of nephrotic children. The percentage figures are therefore less significant, but they would seem to indicate a definite trend worthy of further study.

The presence of "wheezing" in these children during an acute respiratory infection or during what the parents have termed a "cold" also encourages the impression that the nephrotic condition may be related to the allergic constitution of the individual. Evidence of definite wheezing was noted in nine (50 per cent) of the nephrotic children either during a hospital admission or by the parents at home. Only two (10 per cent) of the controls gave a history of wheezing. This symptom of "wheezing" was not considered as part of the allergic personal history but was listed separately to show the large incidence in this series. In view of the positive familial and personal allergic history in many of these cases and in spite of the fact that wheezing may be caused by conditions other than allergy, we feel that this symptom in these nephrotic children is probably allergic in origin. The relationship of wheezing to the familial and personal allergic background is shown in Table II.

Complete intradermal skin tests to the inhalants and to a total of 37 foods considered most important in diagnosis were done on 13 nephrotic patients. Eight of the 13 children reacted in a positive manner to the intradermal testing with extracts. The remaining five children who did not give positive skin tests were all in the acute edematous phase of a "nephrotic" episode. These negative skin tests in all the edematous children would seem to indicate that the tissue

TABLE III.—RESULTS OF SKIN TESTS TO INHALANTS IN 13 NEPHROTIC CHILDREN*

Patient	Status of Nephrosis	Timothy and Orchard†	Ragweed†	Dust Concentrate†	Feathers†	Cat Epithelium†	Horse Serum†	Cottonseed†	Alternaria†	Aspergillus†	Hormodendron†	Penicillin†
M. G.	No edema	0	Marked	Marked	Moderate	0	Marked	Moderate	Marked	0	Moderate	0
C. L.	No edema	0	0	0	0	Moderate	Moderate	0	Moderate	0	0	0
R. P.	No edema	0	Moderate	Moderate	Moderate	0	Marked	0	Moderate	0	0	0
J. T.	No edema	0	0	0	0	0	Marked	0	0	0	0	0
J. B.	No edema	0	0	Moderate	Moderate	0	Moderate	Moderate	Moderate	0	0	0
E. E.	No edema	0	0	Marked	Moderate	Moderate	Moderate	0	0	0	0	0
D. K.	No edema	Moderate	0	Moderate	0	0	Moderate	0	0	Moderate	Moderate	0 0
J. C.	No edema	0	0	Marked	Moderate	0	0	0	Moderate	Moderate	Moderate	Moderate
M. S.	Edematous	0	0	0	0	0	0	0	0	0	0	0
A. G.	Edematous	0	0	0	0	0	0	0	0	0	0	0
J. H.	Edematous	0	0	0	0	0	0	0	0	0	0	0
D. F.	Edematous	0	0	0	0	0	0	0	0	0	0	0
S. C.	Edematous	0	0	0	0	0	0	0	0	0	0	0

* Plantain, rabbit epithelium, orris, dog epithelium, pyrethum, kapok, and goat epithelium were also tested but found negative in all instances.

† Concentrations of timothy and ragweed were 500 units; horse serum 1:10; all other inhalants 1,000 units (mg. of protein nitrogen per ml.).

edema in the acute stage of nephrosis in some way inhibited the typical positive skin response to intradermal testing. This phenomenon has been described by other investigators.[9] In the nonedematous, inactive group of nephrotic children, positive responses were obtained to intradermal testing with the inhalants and foods. The more important positive skin tests, those obtained by intradermal testing with the strong inhalants, are indicated in Table III. All slight reactions were considered negative in this study.

The importance of these positive reactions to the inhalants in the nephrotic children is questionable since they were not correlated with any clinical responses in the patient. They are not considered to be the cause of the nephrosis. However, in view of the positive familial and personal allergic history in these children, there exists the possibility of a future development of clinical allergic manifestations that may be correlated with the positive skin tests.

Evidence by Cavelti[3] that streptococci are able to confer antigenicity on renal material which ordinarily is not antigenic in the same species leads one to question the possible role that infection may play in these nephrotic patients. It is well known that infection in an inactive nephrotic will bring on the edematous phase of the disease. Thus, it seems possible that the kidney in these children is the "shock organ," and the bacteria or their products initiate an antigen-antibody reaction which results in the clinical picture of nephrosis. We are contemplating work along these lines, and the results will be presented in a future paper.

An underlying allergic reaction in the kidney, clinically manifest by an increased capillary permeability throughout the body, must be considered possible in view of the significant allergic component found in these nephrotic children.

Five of the children in the acute phase of nephrosis were started on antihistamine therapy. The drug used was Chlor-Trimeton (Schering). In all cases it was found that when the antihistaminic drug was administered in adequate dosage, as much as 24 mg. per day, a progressive loss of weight or a maintenance of weight was noted, even in the presence of infection. No ill effects were reported in any of the children receiving Chlor-Trimeton. No other diuretic drugs were administered to these patients during antihistamine therapy.

The mothers of all the children treated were impressed with the improved attitude and "well-being" of the patient. A more complete report will follow since preliminary studies on this small group of patients show results that are encouraging.

Summary

In the study of 18 children with nephrosis a positive familial history of allergy was elicited in approximately 66 per cent. In 44 per cent of the children a positive history of personal allergy was also obtained. Evidence of "wheezing" was noted in 50 per cent of the children, either during a hospital admission or by the parents at home.

Treatment of five cases with an antihistaminic drug resulted in the loss of weight in all patients or a maintenance of weight while on therapy.

These preliminary observations would seem to suggest an important relationship between allergy and the nephrotic syndrome.

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ANNOUNCEMENT

PRIZE ESSAYS

The Lucien Howe Prize and the Merit H. Cash Prize will be awarded at the Sesquicentennial Meeting of the House of Delegates of the Medical Society of the State of New York, May 13 to 15, 1957, in New York City.

The *Lucien Howe Prize* of $100 will be presented for the best original contribution on some branch of surgery, preferably ophthalmology. The author need not be a member of the Medical Society of the State of New York.

The *Merit H. Cash Prize* of $100 will be given to the author of the best original essay on some medical or surgical subject. Competition is limited to the members of the Medical Society of the State of New York who at the time of the competition are residents of New York State.

The following conditions must be observed:

Essays shall be typewritten or printed with the name of the prize for which the essay is submitted, and the only means of identification of the author shall be a motto or other device. The essay shall be accompanied by a sealed envelope having on the outside the same motto or device and containing the name and address of the writer.

If the committee considers that no essay or contribution is worthy of a prize, it will not be awarded.

Any essay that may win a prize automatically becomes the property of the Medical Society of the State of New York, "to be published as it may direct."

All essays must be presented not later than *February 1, 1957*, and sent to the Chairman of the Committee on Prize Essays of the Medical Society of the State of New York, 386 Fourth Avenue, New York 16, New York.

R. Townley Paton, M.D., *Chairman*
Committee on Prize Essays

CLINICOPATHOLOGIC CONFERENCE

ST. JOSEPH'S HOSPITAL
ELMIRA, NEW YORK

Conducted by F. S. HASSETT, M.D. DECEMBER 14, 1955

Discussed by JULIA M. JONES, M.D.*

Case History

First Admission.—The patient was a twenty-two-year-old, white housewife who was admitted in her seventh month of pregnancy complaining of diarrhea. This was the patient's third pregnancy, and she had two living children. Her previous pregnancies had been uneventful except that she had received three transfusions in the last trimester of her second pregnancy. Four days before admission she had developed diarrhea. Two days before admission a cough, which had been present for a month or two, became more pronounced. This was a nonproductive cough. Her left chest had become painful on coughing or deep breathing during the preceding two days.

Patient had always been thin and underweight, weighing 106 pounds at the age of twenty when she was married. She worked as a spray painter in a plastic factory for three years before marriage. She had never had any contact with broken fluorescent tubing. She had never been outside the northeastern United States.

Her father had been treated for a chest disease which she thought was not tuberculosis. One brother had asthma. Her husband was discharged from the Army because of "sarcoidosis," a diagnosis evidently made from biopsy at the time of thoracotomy.

The patient was a thin, well-developed woman who did not appear acutely ill. The head and special senses were negative except for marked dental caries. The lungs showed scattered rhonchi throughout. The abdomen showed an enlarged uterus, corresponding to the period of amenorrhea. The remainder of the examination was negative. The temperature, pulse, and respirations were normal. The blood pressure was 92/50.

The urine and Wassermann were negative. The red blood count was 2,900,000 with 8.8 Gm. of hemoglobin (56 per cent). The white blood count was 4,200, with polymorphonuclears 66 per cent and lymphocytes 34 per cent. Stool cultures showed no bacillary incitants of enteric disease, and stool examinations were negative for ova and parasites. The x-ray of the chest showed "scattered traces of infiltration indicative of infection" throughout both lung fields.

The temperature remained normal. The patient was treated symptomatically for her diarrhea which stopped. She had a constant nonproductive cough which was relieved by elixir of terpin hydrate. She was given two whole blood transfusions. Gastric washings on three occasions revealed no acid-fast bacilli by smear or culture. PPD first and second strength skin tests were negative.

Twelve days after admission there was a spontaneous delivery of a live male infant, and the patient was discharged five days later.

Second Admission.—Two and one-half months later the patient was readmitted because her cough had continued and had become more troublesome. It was still nonproductive. She now complained of some shortness of breath on exertion. Three days before admission pain had developed in the chest which was made worse by coughing.

Examination again showed carious teeth and

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* From the Chest Service, Bellevue Hospital, New York City.

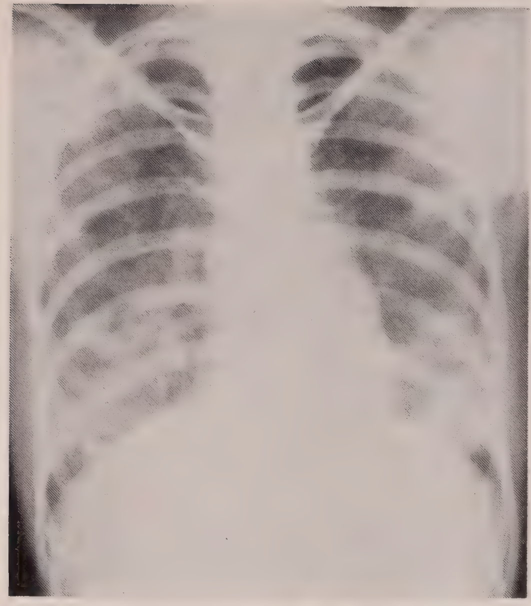

FIG. 1. Bilateral pulmonary infiltrative changes at the time of the second admission.

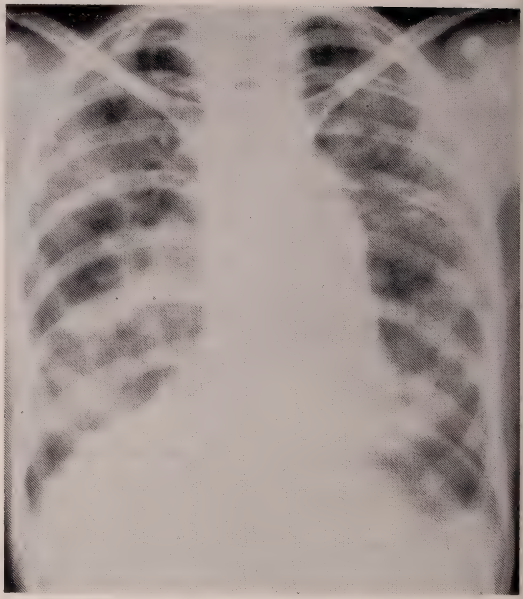

FIG. 2. Extensive bilateral pulmonary involvement consisting mostly of fibrosis.

clear lung fields. The temperature, pulse, and respirations were again normal. Her red blood count was 4,700,000 with 14 Gm. of hemoglobin (94 per cent). The white count was 5,800 with polymorphonuclears 78 per cent, lymphocytes 18 per cent, and eosinophils 4 per cent. The sedimentation rate was 26. An x-ray of the chest showed "the infiltrative changes to be slightly greater bilaterally and generally" (Fig. 1).

Bronchoscopy revealed no endobronchial disease. Bronchoscopic washings showed a mixed growth of organisms with no acid-fast bacilli. Examination of the bronchial washings showed no atypical cells. A sputum culture grew Candida albicans. The patient was discharged on the fifth hospital day to return to the care of her physician.

THIRD ADMISSION.—Ten months later the patient was readmitted for pain in the right chest aggravated by coughing. She had lost about 15 pounds in the interval. Her cough and shortness of breath had progressed to the point where she could climb only two or three steps without stopping to rest and usually to cough. Two or three times a week she was able to produce a small amount of thick mucus, but usually the cough was nonproductive. She never had any hemoptysis.

The patient appeared emaciated and weighed 65 pounds. The lungs showed no findings on physical examination. Temperature, pulse, and respirations were normal.

The red count was 3,800,000 with 11.7 Gm. of hemoglobin (75 per cent). The white blood count was 8,600 with polymorphonuclears 74 per cent, lymphocytes 23 per cent, monocytes, eosinophils, and basophils each 1 per cent. Sedimentation rate was 35. Total proteins were 7.7 with albumin 4.0 and globulin 3.7. Carbon dioxide combining power was 45 volumes per cent. The basal metabolism was plus 32. Vital capacity varied from 20 to 40 per cent of the expected value. The electrocardiogram was negative. X-rays showed "the extensive bilateral pulmonary involvement described on previous films. This consists mostly of fibrosis" (Fig. 2).

Repeat bronchoscopy was again negative. Culture of the bronchial washings showed a scanty growth of nonhemolytic staphylococci. The patient was treated with triple sulfonamides and potassium iodide. The patient and her chest x-ray showed no change on this therapy after one month, and she was referred elsewhere for an opinion. The pertinent findings, as reported from the other institution, are as follows: "Old tuberculin skin test 1:100 was negative. Histoplasmosis and coccidioidomycosis skin tests were negative. Sputum cultures grew Streptococcus viridans, Neisseria catarrhalis, and a few

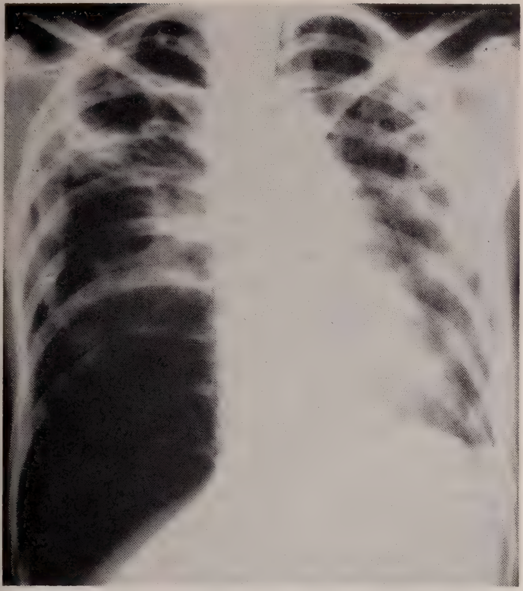

FIG. 3. Cavities in the upper lung fields and right-sided pneumothorax with the heart displaced to the left.

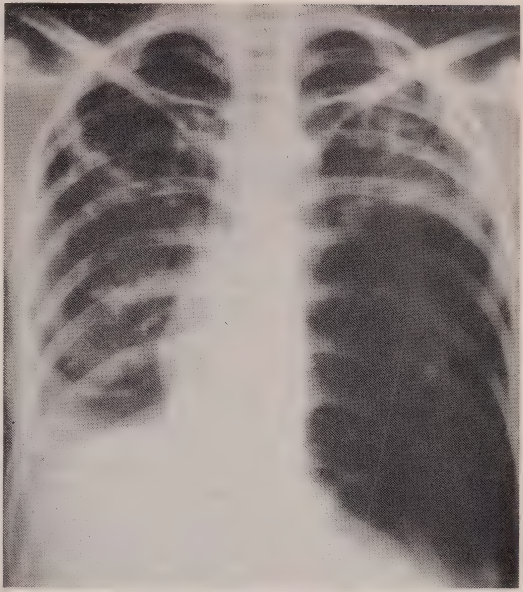

FIG. 4. Left-sided pneumothorax five days before death.

Staphylococcus aureus. Twenty-four-hour beryllium urine determination test was negative. Chest x-ray and fluoroscopy revealed diffuse pulmonary fibrosis with compensatory areas of emphysema. Pulmonary function tests and cardiac catheterization revealed decreased vital capacity and pulmonary efficiency, but a normal right ventricle and pulmonary artery pressure."

FINAL ADMISSION.—Three months later the patient's condition had remained unchanged until the day before admission when suddenly she experienced a severe, sharp pain in the right chest and became very short of breath.

On examination she showed cyanosis of the lips and was breathing rapidly and with difficulty. The trachea was deviated to the left. There was hyperresonance to percussion over the right chest with decreased breath sounds. Left chest showed increased breath sounds with no rales. The heart was displaced to the left and showed tachycardia. Her temperature was 101 F., pulse 120, and respirations 40.

The blood count showed no essential change. The sedimentation rate was 50. The carbon dioxide combining power was 37 with a serum sodium chloride of 590 mg. The nonprotein nitrogen was normal. A sputum culture showed Aspergillus niger. X-ray of the chest showed "a chronic generalized low-grade pulmonary infection with probable small cavities in the upper lung fields. There was penumothorax in the right lower chest. The heart was displaced toward the left" (Fig. 3).

Intercostal catheter drainage of the right chest was instituted, and the lung re-expanded. The patient had to remain almost constantly in an oxygen tent. Five days before death she had a sudden, severe pain in the left chest, and an x-ray revealed a left pneumothorax (Fig. 4). This was treated with intercostal catheter drainage. However, the patient rapidly went downhill and expired on the twenty-eighth day of her admission.

Discussion

DR. JULIA M. JONES: There are some general observations which can be made about this case before details are discussed. It is striking that this young woman's whole illness occurred within a two-year period. Her general health prior to that time probably had not been good. She had been underweight and had been anemic with her pregnancies. A cough began shortly before the first admission, and from that time on her disease was progressive with no real remission. It is also rather striking that throughout this rapidly progressing fatal illness, there was no evidence of reaction to infection. She was never febrile. She never had leukocytosis. Nothing consistent or specific was ever found in her sputum.

The general course seems apparent. Whatever the etiology, she had a progressive, fibrosing type of lesion, and with it she developed emphysema. The terminal event may be related only to the fact that she had bullous emphysema; in other words, emphysematous areas ruptured, first on one side and then on the other. A patient who reaches that point is in pretty precarious balance, and anything which happens to her may precipitate respiratory failure. Another point of interest is that she never developed cardiac failure. Her heart, if anything, was small, and there was no other clinical evidence of failure.

Why did a woman of her age develop this marked, progressive pulmonary fibrosis? What clues have we to the underlying cause? At the time of the first admission you will recall that she complained of diarrhea. I see no way to relate that to the pulmonary situation; no etiology was demonstrated, and it did not recur. She was anemic but, after receiving treatment, seemed to maintain her blood level. We had then a woman without respiratory symptoms but with demonstrated diffuse pulmonary infiltration without evidence of cavitation.

When you encounter lesions which are uniformly distributed throughout both lungs and there is no cavity from which spreading disease might occur, you ask yourself how this uniform distribution occurred. It may have been bloodborne or extending through lymphatics. It may also be uniformly distributed by inhalation of an irritant from above the bifurcation of the trachea. If the irritant were inhaled from within one lung, it would be apt to spread in a less symmetric pattern. To illustrate this point, dust inhalation or various infections, of which some of the fungous infections are typical, have a rather uniform distribution. Also there is a group of diseases in which the lung participates in a generalized disease, such as leukemia. I don't know exactly where to group such things as sarcoid and the other granulomatous diseases because we often do not demonstrate what causes them. But they are bilateral pulmonary lesions which are often associated with lesions in other parts of the body, a fact which is diagnostically helpful.

The possibilities in this case were multiple at the time of the first admission. Again, I refer to the fact that she had no evidence of the infection at that time. Several possibilities were considered. You would wonder about tuberculosis, but that was pretty well excluded. Since she had no bacterial confirmation of tuberculous infection and had a diffuse radiologic pattern, you might say that it was bloodborne and, therefore, might not yield organisms in sputum or gastric contents. But on two occasions she had adequate study of her skin reaction to tuberculin and failed to react to second strength PPD or to a milligram of old tuberculin. I do not believe she could have had progressive tuberculosis with a persistently negative tuberculin reaction. Furthermore, considering the whole x-ray series, I don't think that tuberculosis behaves in this manner. For a woman of this age to develop emphysema because of tuberculosis would be unusual. I am inclined to exclude tuberculosis.

Various other things might occur to you. You might reasonably ask whether this could be histoplasmosis. The histoplasmin test was done and was negative. I am inclined to think that that pretty well rules it out. Also, had this been histoplasmosis, she would have had more symptoms and been more ill initially. The usual course would have been organization of the lesions, with them appearing later as diffuse calcifications.

The question obviously arose as to whether some irritant had been inhaled, and beryllium was focused on. There is nothing in her story to pinpoint any specific irritant. Her occupation, unless it involved some unidentified ingredients, seemed fairly safe. New materials are introduced in industry all the time, and every now and then we are amazed to have somebody turn up inhaling something unexpected in his environment. But I doubt that anyone would be misguided enough to put anything with beryllium in a spray gun and hand it to an employe. Later, she had a negative urine test for beryllium. I do not know that that completely excludes it since there are some qualifications regarding the performance of that test.

We have excluded some things, but we still have the problem of a diffuse pulmonary lesion which did not clear and which the x-rays told us became chronic. I would like to point out that you can seldom make etiologic diagnoses from x-rays. You make the etiologic diagnosis because you get a story from the patient about an irritant which he has inhaled, which tells you that he has pneumoconiosis for instance, or you confirm the diagnosis by some other study. Fortunately, the most difficult group of lung diseases often involve other structures so that you can biopsy a lymph node or the scalenus fat pad or you can do a liver puncture or a bone marrow puncture. You get your etiologic information from one of those sources rather than from the x-ray. Unhappily from a diagnostic point of view, this woman apparently had no peripheral lymphadenopathy, and no one ever felt her spleen or her liver. So there were no studies outside of the lungs which were clearly indicated.

Having exhausted indirect measures, you might next ask whether the lung should be biopsied. Lung biopsy in the hands of an experienced person is not necessarily a dangerous procedure. We are reluctant to perform them because we have found that if we were not able to make the diagnosis before we did the biopsy, we were seldom able to make it afterward, and there were too few times when it really helped the patient. In this case the question would come up as to whether there was some specific form of treatment indicated, so that one might at least consider doing a biopsy of the lung.

Between the first and second admissions, which was a period of two and one-half months, she had become dyspneic. From that point on the pressing things about her case were the decreasing pulmonary function and the increasing disability. The emphysematous changes were beginning at that time (Fig. 2). Bronchoscopy revealed nothing, which I think is not too surprising. I would not expect to get much more than some secretions for study. I am not much helped by the results of the sputum study because I doubt very much that the specific organism was C. albicans.

She was next seen ten months later or about eighteen months from her first symptom. She had lost a great deal of ground. She was quite symptomatic, dyspnea had increased, and she was now troubled by a cough which was only occasionally productive. On that third admission a study of her blood proteins was only suggestive in that the globulin was a little high. I am thinking of sarcoid disease, in which you might anticipate a reversal in the albumin-globulin ratio. Such a reversal would not prove that she had sarcoid disease. She obviously had a diffuse lesion of her lung, and this diffuse process may very well have involved other structures, including the liver. There may be, as has been demonstrated in tuberculosis, changes in the serum proteins which are not specific. Physiologic studies were done, and they were not reported in detail. She obviously had a reduction in lung volume which had been demonstrated before. It was of interest to me to note that there was no evidence of pulmonary artery hypertension. With this much fibrosis I rather expected her to have pulmonary hypertension. The terminal episodes were fairly obviously a rupture of emphysematous areas, first in one lung and then in the other. When the left collapsed (Fig. 4) after a similar episode on the right (Fig. 3), it was apparently more than she could tolerate.

There is one other point about her last admission—the one culture of Aspergillus which was obtained. I think you have to raise the question of whether that had anything to do with this disease process. I am inclined to think not. The more chronic form of this infection usually is a matter of a localized lesion rather than disseminated lesions. It may invade areas of lung previously diseased by something else, so that it may come from a bronchiectatic sputum or from a lung abscess. I don't know whether or not that explains the presence of Aspergillus in this patient.

That brings us to the question of what I think. I do not think that she had any acute infection at any time. I would not be overwhelmed if somebody told me that she had beryllium disease, but I do not think we have any evidence on which to make such a diagnosis. Nor is there sufficient evidence to make a diagnosis of histoplasmosis. The only question that might be left in your mind is this aspergillosis possibility.

To my mind, this case falls into the group of granulomatous lesions of the lung. I am using the general term because I do not think we always make an exact diagnosis in this group of diseases. Sarcoid falls into this group, and beryllium disease does too. We have seen this form of developing bullous emphysema and pneumothorax with sarcoid more often than we have with any other diffuse lesion with which we deal. But we see other granuloma and granulomatous lesions in which we have not been able to make the etiologic diagnosis, even when we had the lung to examine. The general impression is that there are probably more exciting agents for this picture than we have yet discovered.

Question: Have you had any cases in which tonsillectomy was done as a biopsy procedure in a search for sarcoidosis?

Dr. Jones: We have had a couple of cases of that kind. I think that right now, if I had to fall back on something to do routinely, I probably would do a scalenus fat pad biopsy. Your results will depend on what you have to biopsy. If you have a palpable node, that is probably the best thing to biopsy. We have had very good results from liver biopsies. If the tonsils looked as if they might offer me some help in diagnosis, I would do a tonsillectomy.

Question: How frequently are these two organisms, C. albicans and A. Niger, found in the sputum?

Dr. Jones: C. albicans we turn up fairly frequently. I am not at all sure that we have ever grown Aspergillus.

Question: Since this protocol was made up, it has been learned that during the three-year period when she was spray-painting, the patient was supposed to wear a mask and refused. Do you attach any significance to that?

Dr. Jones: I have the impression that although employes are required to wear a mask, that in itself does not mean that they are using some offensive substance in the spray.

Question: On several of the admissions here and also in the other institution, the question of lung biopsy was long and seriously considered. It was always decided not to do it. Do you find this question of lung biopsy a difficult one to decide?

Dr. Jones: You can argue it both ways. We had a great wave of enthusiasm for lung biopsy about the time we first thought that cortisone might offer these people more than it has. We felt that if we were going to treat them, we ought to know what they had. At least we might be sure that they did not have some strange form of tuberculosis, among other things. We did a series of biopsies with little trouble, but when we reviewed the series, we saw that we really had not helped many patients. Since then we have performed the procedure infrequently.

Question: What has been your experience with the use of cortisone in these cases, and do you think that this patient should have been tried on cortisone?

Dr. Jones: Our experience with cortisone in this group of cases can be summarized as follows. The results seem to depend on how much fibrosis is present. In some of the cases lung biopsy before and after cortisone showed no change, even though some subjective improvement had occurred. In other cases the patients have actually been made worse because the process seemed to be speeded up. They had irreversible damage which seemed to be increased. I was surprised that someone had not tried cortisone on this patient. But when you see the entire series of her x-rays, you have the distinct impression that you are dealing with a progressive and probably irreversible process.

Diagnoses

Clinical.—*Pulmonary fibrosis, cause undetermined.*

Dr. Jones.—*Granulomatous disease of the lungs, cause undetermined.*

Anatomic.—*Granulomatous disease of the lungs, possibly due to Aspergillus infection.*

Pathologic Report

Dr. James A. Mitchell: This was the body of a young adult female showing marked emaciation. There were marked dental caries. There was no external lymphadenopathy. Both pleural cavities were almost empty, and the lungs were collapsed against the mediastinum. There were many fibrous bands between the parietal and visceral pleurae of both lungs. The right lower lobe was densely adherent to the diaphragmatic surface, and on separating it, yellowish purulent material exuded from the surface of the lobe. A thick yellow pleural exudate was present over the inferior and lateral surfaces of the right lower lobe. The surfaces of the rest of the lungs were a reddish-gray color, and on section there was noted an abscess in the mid-portion of the right upper lobe, measuring approximately 3 cm. in diameter, which contained thick, grayish, purulent material. The interlobar fissures were obliterated. The right middle and lower lobes were firm, rubbery, and resilient on palpation. There was also noted an abscess cavity in the anterior portion of the left upper lobe 3 cm. beneath the apex, measuring approximately 2.5 cm. in diameter, which contained yellowish and black mucoid-like material. The wall of the abscess was bluish black in color, and the surrounding lung tissue was a reddish-gray color, collapsed, and rubbery in consistency. Many of the small bronchioles throughout all the lung fields appeared dilated. The hilus glands were not enlarged and on section were not remarkable. There were no definite bullae noted, although she may have had some clinical emphysema during life.

The heart was small in size and weighed 220 Gm. There was slight dilatation of the right ventricular cavity, but the ventricular wall appeared normal in thickness. The spleen was approximately normal size. On section the pulp was brick red in color and soft in consistency, and there were noted scattered, small, circumscribed, slightly raised, bluish-red nodules 2 to 3 mm. in diameter on the cut surface. The liver was normal in size. On the inferior surface of the left lobe there were noted a few small, sessile, grayish, circumscribed nodules measuring approximately 3 to 4 mm. in diameter. On section the parenchyma appeared normal in color and consistency and showed no evidence of any nodules in the parenchyma.

Microscopic sections of the lungs showed a granulomatous lesion with pulmonary fibrosis. There was practically complete loss of all alveolar structure and quite a bit of inflammatory reaction, mostly round cell infiltration. There were giant cells of a foreign body type. The pleural exudate was necrotic, more like a liquefaction necrosis than the caseous necrosis of tuberculosis.

Certainly Hamman-Rich disease can be ruled out; it is not the classic picture of interstitial fibrosis. I think sarcoidosis of the lung can be ruled out because you don't see the typical epithelioid tubercles characteristic of sarcoid. I studied these giant cells for inclusions which are often found in sarcoid, the so-called Schaumann's inclusions. I couldn't find any. The spleen sections showed nodules. These were very similar histologically to sarcoid. The sections of the liver showed nodules similar to the nodules in the spleen with giant cells and fibrosis.

Fungous stains were done on these lesions with the Hotchkiss-McManus stain, which is said to be specific for fungus. With this stain the tissue has a green background, and if a fungus is present, the mycelia stand out a purple color. Hotchkiss and McManus state that if you get this purple stain, the lesion or granuloma is due to a fungus, although it does not identify the particular fungus. This stain was positive on the granulomatous lesions of the lung and liver in this case.

Material from the abscess in the right upper lobe was completely filled with hyphae and spores, which were identified as Aspergillus.

The pathologist puts himself in a precarious position when he states that this lesion may be primary aspergillosis. If it is not primary aspergillosis, I do not know what other underlying granulomatous disease it is. I do not believe it is berylliosis, and I definitely do not believe that it is sarcoid of the lung. If there is some other kind of material, other than beryllium, that she might have inhaled which could have caused this same type of granulomatous lesion, I do not know what the material is. Possibly, she has been inhaling Aspergillus for several years from whatever this material was that she had been using in the spray-painting. Aspergillus can affect visceral organs, such as the liver and spleen; by lymphatic spread.

Summary

Dr. Jones: This is very interesting. To me a granulomatous lesion of the lung with no proved etiology is not startling because we have seen a lot of them. I must admit to having been baffled many a time after we had the tissues to study. I am not too startled in having a diffuse granuloma which was not quite sarcoid. Recently I heard some interesting comments from a doctor who has been working at Walter Reed Hospital. He said that they had a group of sarcoid cases and that in one of them they found a histoplasmin organism. They became interested and went back through some more of their sarcoids and found that a number of them, which they had been labeling as chronic sarcoidosis, were histoplasmosis.

As to the question of whether this complete picture could have been caused by aspergillosis, I just do not know. I would not have expected it to be so. There were two small abscesses, one in each upper lobe, which contained the organisms, and there were organisms in her sputum, so there seems to be no question that at least terminally she had it. I understand from what little I could find out about the general picture of the disease that it is found as a secondary invader in debilitated people with pulmonary disease. I simply throw that out as another possibility. I cannot comment on how reliable the Hotchkiss-McManus stain is because I do not know anything about it. That is a pathologic technic.

I am curious about her husband. I think there is enough of a coincidence here to excite interest. He had something which looked enough like sarcoid for the Army to discharge him. Then she had something which looked like it, and the question is raised about the possible inhalation of Aspergillus. I think it would be very interesting to know exactly what he had since there are reports of cases occurring in family groups. Hamil[1] reported five and possibly six members of a family group infected with A. niger and Monilia pinayi. The clinical picture was similar to this case in many respects except that these patients recovered slowly and were in good health when reported ten years later. It is possible that both husband and wife acquired similar infections prior to his entry into military service.

The evidence favors mycotic infection as the etiologic agent in this patient's disease. Whatever the cause of her diffuse granulomatous lesions, progressive pulmonary insufficiency resulted, and, although this fact could not be confirmed at autopsy, rupture of emphysematous bullae seems the most likely cause of her terminal bilateral bronchopleural fistulas.

Reference

1. Hamil, B. M.: Am. J. Dis. Child. **79**: 223 (Feb.) 1950.

Sesquicentennial Convention Announcement

The Medical Society of the State of New York has again arranged for the services of the Languild Convention Service during the Sesquicentennial Meeting, February 18 to 21, at the Hotel Statler, New York City. This service is available *without cost to our members* beginning now and continuing through the first three days of the meeting, February 18, 19, and 20, when representatives of Languild will be on hand near the registration desk on the mezzanine.

The services offered are:

Tickets—Information about Broadway shows, concerts, radio and television programs, movies, sporting events—*and will help you secure tickets.* If you wish to make reservations in advance, write the Languild Convention Service indicating that you are planning to attend the February 18 to 21 Sesquicentennial meeting.

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Restaurants—Information about type of food, atmosphere, cost, directions—*and make arrangements for you.*

Transportation—Assistance in making train and plane reservations.

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Sightseeing—Arrange for trips around the city, the United Nations, to the Statue of Liberty, to Hyde Park and West Point.

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If you wish to make arrangements, you may write:

LANGUILD CONVENTION SERVICE
545 Fifth Avenue
New York 17, New York

Mention that you are a member of the Medical Society of the State of New York and expect to attend the February 18 to 21 Sesquicentennial meeting.

DETECTION OF BREAST CANCER

EDITOR'S NOTE.—*The following material is reprinted by permission from the August, 1956, issue of* Health News, *published by the New York State Department of Health, Albany, New York. We appreciate the opportunity to present this valuable material to our readers.*

Cancer of the Breast

HERMAN E. HILLEBOE, M.D, ALBANY, NEW YORK

(*Commissioner, New York State Department of Health*)

FROM their epidemiologic studies on cancer in New York State, Levin and coworkers have predicted that 5 per cent of all women may be expected to develop breast cancer. Cancer of the breast in these studies was almost twice as frequent as any other type. Both the morbidity and mortality rates for cancer of the breast continue to rise as women grow older, slowing up somewhat only beyond fifty years of age.

Because the reporting of cancer has been mandatory in Upstate New York since 1940, we have records covering a number of years on the occurrence of cancer in our population. To evaluate correctly the trends in breast cancer incidence and mortality, one must allow for the changing age distribution in the population. Mortality trends, adjusted for age, from 1931 to 1954 have remained practically stationary at 33 to 34 deaths per 100,000 females per year. One cannot fairly measure accomplishments in cancer control without considering also the age-adjusted incidence rates which show an upward trend from 58 newly-reported cases annually per 100,000 females in 1942–1944 to 62 in 1951–1953.

With no change in reporting procedures and in the absence of preventive measures, it may be reasonable to assume that the observed rise in incidence is true. A level mortality rate coupled with a rising incidence rate suggests an increased survival rate during the period of observation. However, when given their most favorable interpretation, the figures indicate relatively little improvement in the case-fatality rate for breast cancer.

Let us face the fact that there are no known methods of preventing the occurrence of breast cancer. This means that further increase in survival of breast cancer patients must come from the prevention of progression of the disease once it has been detected.

One must also acknowledge that there is lack of precise evidence of the relative effectiveness of the various therapeutic approaches to cancer of the female breast. Convincing statistical evidence of the superiority of one combination of therapies over another has not been produced. Difference of opinion continues to be prominent in the highest surgical and medical circles.

For the future we need additional scientific studies of unselected groups of women with cancer of the breast. The medical literature is loaded with studies showing favorable "five-year survival rates" on highly-selected series of patients that exclude poor risks; in fact, poor risk groups are sometimes incorrectly used for comparative purposes.

What we need are more studies of representative samples of breast cancer patients who present themselves to physicians for diagnosis and treatment at their offices and hospitals. Such studies would enable the research clinician to treat representative subgroups of his patient populations by various methods and compare true survivorship results. The statistical technics needed are not necessarily complicated ones; assistance in their use should be secured from an epidemiologist or biostatistician conversant with the application of statistical methods to clinical problems. More scientific studies of this sort are sorely needed for cancer control. For example, studies of this type are now under way at Roswell Park Memorial Institute in Buffalo. They can be a source of professional satisfaction to the clinicians who engage in them.

Greater progress in breast cancer control depends on using existing and new methods to gain further insight into the natural history of the disease. Greater knowledge, greater skill, and more widespread use of knowledge and skill offer the best hope of permanent relief to the increasing number of women with breast cancer.

Detection of Breast Cancer

Doctor-Patient Cooperation

VINCENT H. HANDY, M.D., ALBANY, NEW YORK

(*Assistant Director, Bureau of Cancer Control, New York State Department of Health*)

CANCER of the breast presents a greater challenge today than ever before because the disease can be discovered while still early, since the breast is an accessible organ, and because new therapeutic methods have given better control. But little can be accomplished if women are not alerted to the symptoms of breast cancer and to the fact that they hold the key to their own health by learning to examine their own breasts. As Haagensen has stated, "at least 98 per cent of the women who develop breast carcinoma discover their tumors themselves."[1] Unfortunately, such discoveries are usually accidental, during bathing or dressing, and not part of a planned program of systematic breast examination. With the correct procedure and a habit of regular breast self-examination, we can reasonably expect a great improvement in finding early cases. It seems important, therefore, to review the problem of breast cancer and to present some evidence that the development of a health habit such as breast self-examination is practical and feasible.

Cancer has been a reportable disease in New York State since 1940. As a result of the excellent cooperation of the medical profession, the completeness of cancer reporting compares favorably with that of other reportable diseases. In 1953 there were 2,387 cases of cancer of the breast in women reported for the upstate area, accounting for 22.2 per cent of all the cancer cases in women; cancer of the breast occurred almost twice as frequently as any other type of cancer in women.[2] Probability figures for New York State, exclusive of New York City, indicate that 5.5 per cent of all women may be expected to develop breast cancer at some time during their lives.[3] It has been estimated that 20,000 women die each year in this country from breast cancer,[4] not to mention the broader aspects of defect and disability which accompany the disease.

However, we must allow for the changing age distribution of the population if we are to evaluate properly the trends in breast cancer incidence and mortality. Age-adjusted mortality rates for female breast cancer have been calculated for Upstate New York for each year, 1930 through 1953; incidence rates similarly adjusted are available for each year since 1942—the first year for

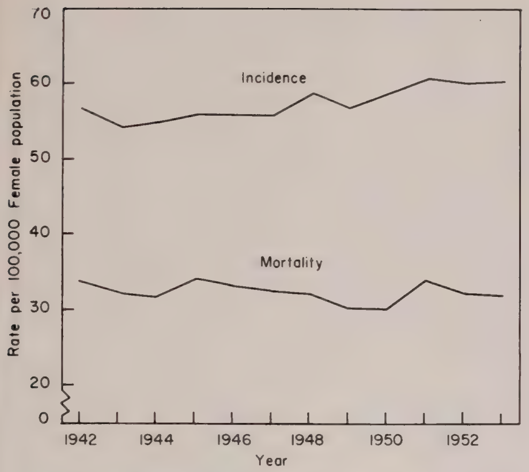


FIG. 1. Age-standardized female breast cancer incidence and mortality rates per 100,000 female population in New York State, exclusive of New York City, 1942–1953. Age is adjusted to the 1940 census population of females in New York State, exclusive of New York City.

which comparable data are available. These trends are shown in Fig. 1 and Table I.[5]

Figure 1 and Table I show that aside from annual fluctuations the mortality rate from breast cancer has maintained virtually the same level over the twenty-four-year span 1930 through 1953. While this might imply that recent emphasis on early treatment of breast cancer has not proved to be effective, such a conclusion is unwarranted without some consideration of the incidence of the disease. Certainly a rising incidence rate coupled with a level or decreasing mortality suggests an increased survivorship.

The age-adjusted incidence rates for breast cancer have risen gradually from a three-year average rate of 55 per 100,000 females in the 1942–1944 period to more than 60 per 100,000 females for the period of 1951–1953. Although morbidity reporting is subject to some limitations, no special efforts have been made since the beginning of reporting in 1940 to stimulate the reporting of cancer cases to the New York State Department of Health. It is reasonable, therefore, to assume that there has not been a growing tendency towards more complete reporting. In addition, in the absence of any known methods directed toward the prevention of breast cancer, it is reasonable to assume that at least part of the observed rise in the incidence of the disease is real. If this is true, one may conclude that survivorship among breast cancer cases has increased.

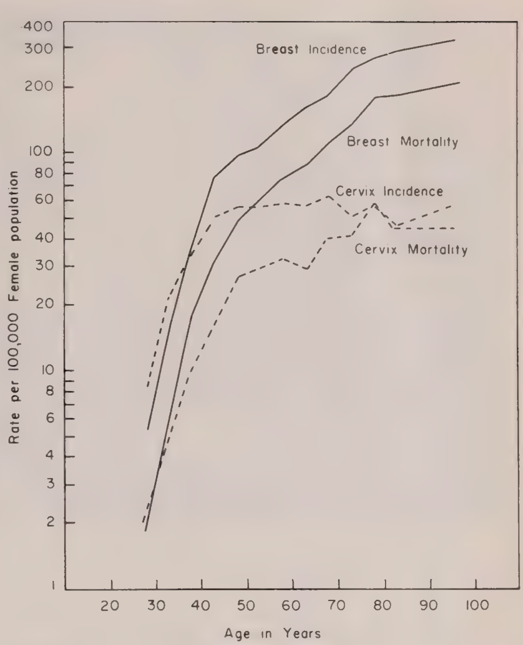


FIG. 2. Annual average age-specific incidence and mortality rates from female cancer of the breast and cervix in New York State, exclusive of New York City, 1949–1951.

The effect of age in female breast cancer morbidity and mortality is evident in Table II and Fig. 2 which depict the annual average age-specific incidence and mortality rates for the three-year period 1949–1951 in Upstate New York.[5]

Table II and Fig. 2 show that both the morbidity and mortality rates increase with age, although the rate of increase after fifty years is somewhat less than before that age. In contrast to breast cancer the maximum rate in the incidence of cervical cancer appears by age seventy, after which the rate declines. The peak in the mortality rate from cancer of the cervix is apparently reached about ten years later.

As mentioned above, 2,387 cases of cancer of the breast were reported in 1953 in women in Upstate New York; in 1,821 cases the stage of the disease was designated on the report card by the physician. Of the 1,821 only 509 or 28 per cent were "early" cases at the time of diagnosis. "Early" means that in the opinion of the private physician, the cancer was localized at the time of diagnosis and had not spread either by direct extension or metastases. It is difficult to decide clinically whether a breast cancer is early, and surgery may sometimes reveal metastatic nodes not expected; it is felt, nevertheless, that the

TABLE I.—AGE-ADJUSTED* BREAST CANCER INCIDENCE AND MORTALITY RATES FOR NEW YORK STATE, EXCLUSIVE OF NEW YORK CITY, 1930–1953

	Rate* per 100,000 Female Population	
Year	Incidence	Mortality
1930	Not available	32.9
1931	Not available	32.9
1932	Not available	31.6
1933	Not available	31.6
1934	Not available	32.4
1935	Not available	34.9
1936	Not available	34.6
1937	Not available	33.0
1938	Not available	33.4
1939	Not available	32.7
1940	Not available	35.0
1941	Not available	32.9
1942	56.5	33.8
1943	54.3	32.6
1944	54.9	31.9
1945	55.9	34.3
1946	56.0	33.3
1947	55.9	32.7
1948	58.9	32.5
1949	57.0	30.6
1950	58.7	30.4
1951	60.9	34.1
1952	60.4	32.7
1953	60.6	32.4

* Adjusted to the 1940 census population of females in New York State, exclusive of New York City.

TABLE II.—ANNUAL AVERAGE AGE-SPECIFIC INCIDENCE* AND MORTALITY RATES FOR FEMALE CANCER OF THE BREAST AND CERVIX FOR NEW YORK STATE, EXCLUSIVE OF NEW YORK CITY, 1949–1951

	Female Breast Cancer Annual Average Rates†		Cervix Cancer Annual Average Rates†	
Age Group	Incidence	Mortality	Incidence	Mortality
All ages	62.2	33.8	27.5	13.7
Under 15	. . .**	. . .	. . .	. . .
15 to 19	0.2	. . .	. . .	. . .
20 to 24	1.1	0.4	2.2	0.4
25 to 29	5.3	1.9	8.5	2.1
30 to 34	15.5	5.3	21.2	5.0
35 to 39	38.4	17.5	36.2	10.0
40 to 44	77.3	32.0	50.3	16.2
45 to 49	96.8	48.2	56.6	26.9
50 to 54	108.4	62.5	56.6	29.4
55 to 59	135.3	77.1	58.8	32.9
60 to 64	161.2	88.5	57.9	29.8
65 to 69	188.5	110.1	62.9	40.5
70 to 74	245.5	137.3	50.5	42.0
75 to 79	278.7	181.6	57.5	58.5
80 to 84	299.0	184.7	46.9	45.9
85 and over	337.5	212.3	58.6	46.0

* Newly reported cases including those reported by death certificate only.

† Rates per 100,000 female population based on 1950 census.

** Less than 0.05.

percentage of early cases is a valuable index for measuring patient and physician response to breast cancer education from year to year. This percentage indicates that in spite of increased survivorship now being achieved by modern technics, there is still much to be done in the field of public education so that more cases may be diagnosed in the early stage of the disease.

Because most patients with breast cancer discover the lump themselves accidentally, we believe that if the method of breast self-examination were taught to women and practiced regularly by them, deaths from this disease would be reduced. One wonders how much sooner each lump discovered accidentally would have been detected if the woman had been in the habit of examining her breasts regularly and systematically.

Breast Self-Examination Programs in Other Areas

Several studies have been carried out which demonstrate that a public education program designed to establish breast self-examination as a health practice among women is worth while.

In Iowa[6] in 1951 the film, *Breast Self-Examination*, was shown before audiences of women totaling 289,000. In addition, a physician or nurse spoke at each session. Most of these women were thirty-five years of age or older. About a year after the film showings a sample of 1,300 women was canvassed by questionnaire. Among this group seven malignant tumors had been found; 91 per cent stated that as a result of the film, they had examined their breasts, and 47 per cent were making such examinations regularly each month.

In New Haven the Yale School of Public Health[7] in cooperation with the local cancer society in 1952 showed the film *Breast Self-Examination* before 600 women. Later, 225 of these women filled out an evaluation questionnaire. Of this group 77 per cent had practiced breast self-examination at least once since seeing the film, and 60 per cent reported that they made such examinations a regular health habit. Still later, a physician interviewed personally 177 women of the original group. The interviews revealed that 29 per cent had been practicing breast self-examination monthly for a period of fifteen to eighteen months since the original film showing.

In Baltimore[7] interviews were held with 2,400 women who had seen the film, *Breast Self-Examination*, and who had participated in the ensuing discussion with the attending physician. Nineteen hundred of these women had examined

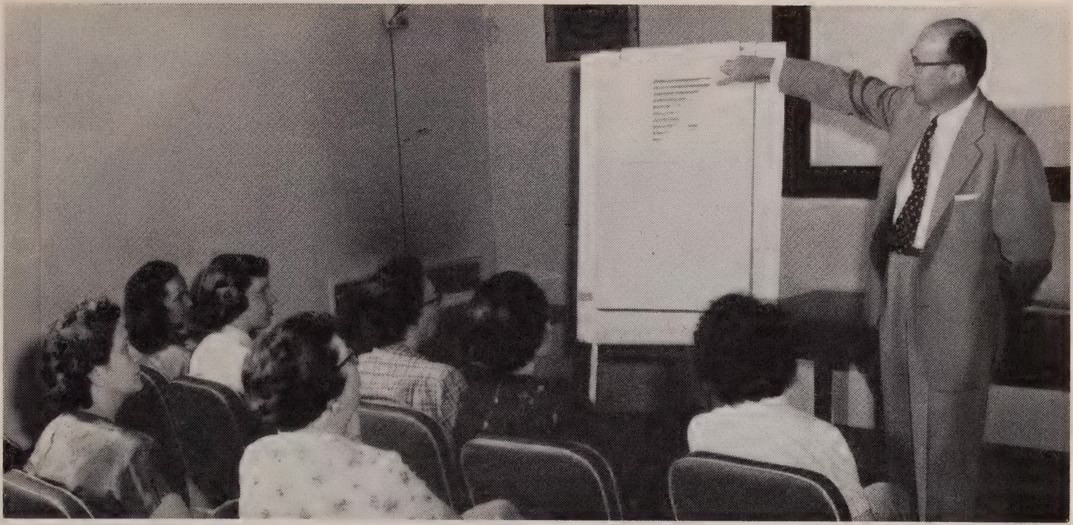


FIG. 3. As the first step in the educational program conducted by the State Health Department's Bureau of Cancer Control, a doctor gives information on the incidence of breast cancer and the importance of early detection.

their breasts either occasionally or frequently since seeing the film, and 33 per cent of the 1,900 were doing so regularly each month.

These studies indicate that by use of the excellent film, *Breast Self-Examination*, a large percentage of women can be motivated to examine their breasts at least once and that many will continue to do so regularly.

New York State Program of Breast Self-Examination

The Bureau of Cancer Control of the New York State Health Department decided in the summer of 1955 to conduct an educational program for all female employees of the department working in the Albany area, stressing the problem of breast cancer and explaining the technic of breast self-examination. In an attempt to improve on other educational programs of this nature carried out elsewhere, the following program was presented:

1. The program was voluntary and was held during working hours.
2. Of 578 employees eligible for the program, 501 or 87 per cent volunteered for participation in it.
3. Preliminary meetings were held with representatives of each bureau involved; the program was explained by a public health educator.
4. Arrangements for the program presentation and scheduling were handled by a public health educator.
5. The total participating audience of 501 was scheduled in small groups, never more than 25 to a session, in order to stimulate discussion and questions.
6. The program was presented as a "package deal," taking approximately one hour and conducted by a physician and public health nurse from the Bureau of Cancer Control.
7. The physician spoke first, explained the project, and presented information about the incidence of breast cancer and the importance of early detection (Fig. 3).
8. Then the film, *Breast Self-Examination*, was shown.
9. After the film the physician again spoke to the group, emphasizing a few important points from the film, and answered questions from the group. At practically every meeting there were questions from the audience.
10. The meeting then was turned over to the public health nurse who used a flannel board with illustrations to describe each step involved in the technic of breast self-examination. Opportunity was provided for questions from the group.
11. Each woman was given a copy of the leaflet, *A Monthly Check Pays Dividends*, which was prepared by the New York State Health Department. This leaflet, which shows the

technic in pen and ink drawings, is useful when the woman first tries breast self-examination. It contains a page with a small space for each month of the year so that the date may be checked off as the procedure is performed each month. The leaflet serves as a refresher in the steps of the technic and as a reminder to perform the examination regularly.

12. An opportunity was offered to each participant to have a private interview with the public health nurse. However, the nurse did not perform the technic on any particular individual nor did she palpate any areas that were questionable. Seventeen individuals, or 3 per cent, had individual interviews with the nurse to clarify points on the technic. In addition, many women asked later for pamphlets and additional reading material.

13. Each woman was told that if any abnormality was discovered she should see her own physician without delay.

The Technic of Breast Self-Examination

Breast self-examination is a simple procedure divided into two parts. First, the woman looks at her breasts in the mirror; second, she feels the breasts with the flat part of her fingers.

Part I

1. The woman sits before a mirror with her arms relaxed at her sides. She studies her breasts in the mirror for changes in size or shape and looks for puckering or dimpling of the skin or discharge from the nipples.
2. Then she raises her arms high above her head and looks at the breasts in the mirror again for the same signs. Has there been any change since the last examination?

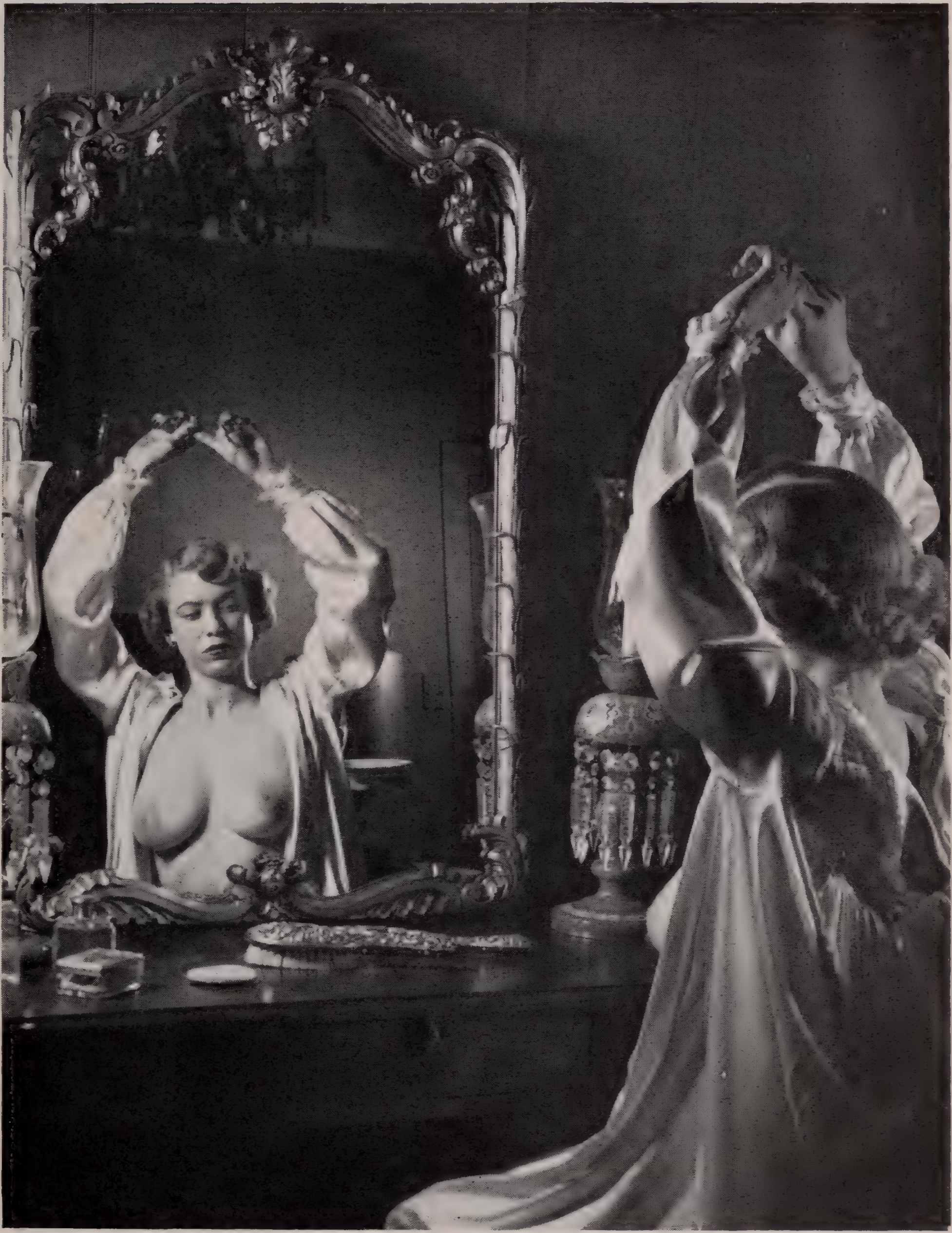
Part II

1. She now lies down on her back on the bed and places a flat pillow, about 13 inches by 16 inches, or a folded bath towel, under her left shoulder.
2. Then she raises her left arm over her head and rests it on the bed. The examination begins with the right hand, keeping the fingers together and straight. She uses a gentle patting motion, feeling with the flat part of the fingers throughout the examination.
3. She starts at the breast bone and presses carefully the inner, upper quarter of the breast, going toward the nipple. Still with the flat of the fingers, the area around the nipple is felt.
4. Next she feels the lower, inner part of the breast. Along this lower, inner section she will find a ridge of firm tissue or flesh which is normal.
5. Now she brings the left arm down to her side and, still using the flat part of the fingers, feels under the armpit.
6. She continues to use a gentle patting motion with fingers straight out and feels the upper outer quarter of the breast.
7. She finishes the examination of this breast by feeling the lower outer section of the breast, going from the outer part to the nipple.
8. The woman now shifts the pillow or towel to the right side and repeats this procedure on the right breast.
9. On completion of the examination, the woman can realize that she is establishing a monthly habit which will pay dividends in health and happiness. She should check off on the leaflet, *A Monthly Check Pays Dividends*, the month and date of the examination, so that she has a record of the last time the procedure was done.

The succeeding four pages are taken from the brochure, "Self Examination of the Female Breast," Copyright 1951 by The Cancer Bulletin. *Copies of the brochure may be obtained from The Medical Arts Publishing Foundation, 1603 Oakdale Street, Houston 4, Texas. Price, $2.00 per dozen.*

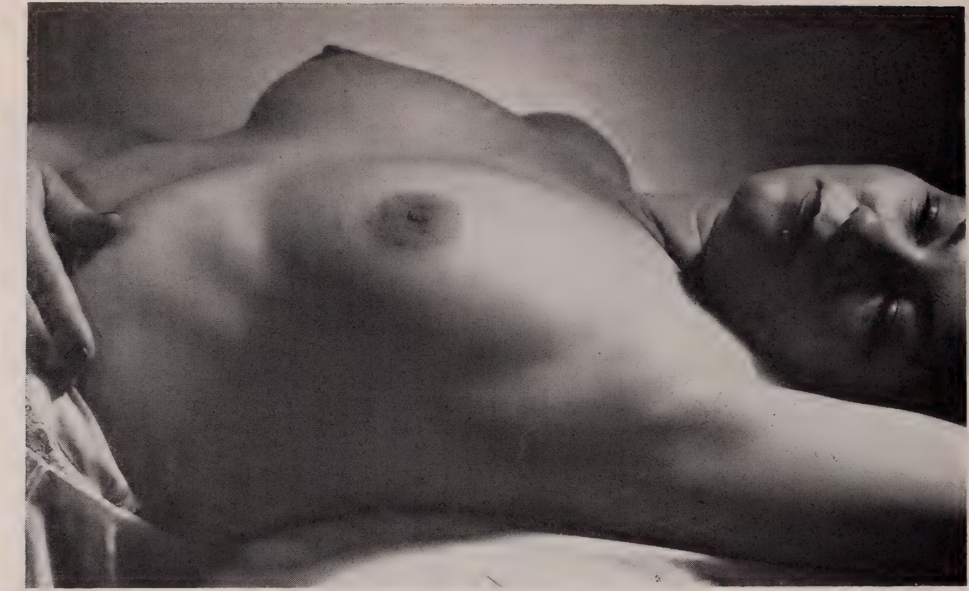
Technic of Breast Self-Examination

Part I

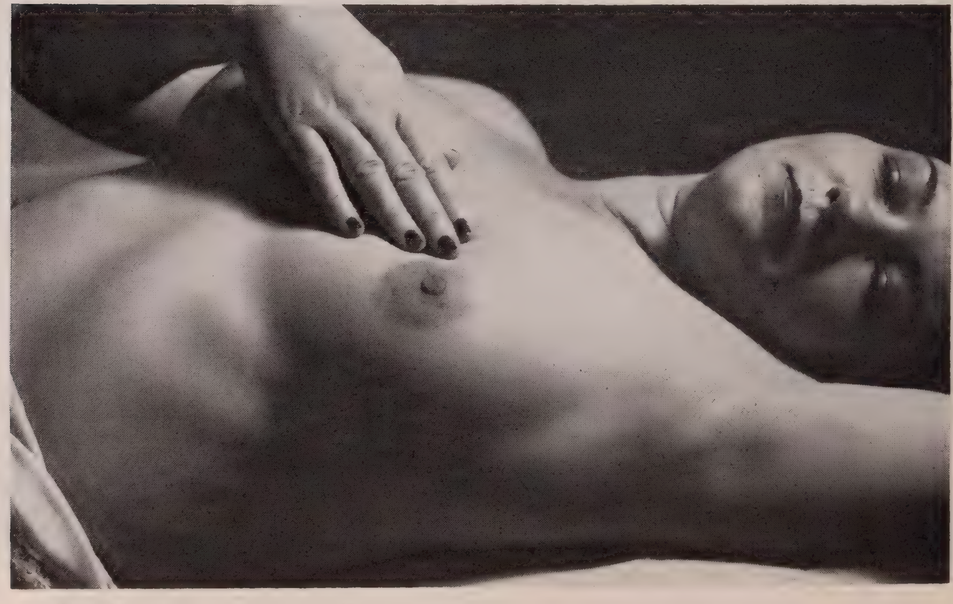


After studying her breast in the mirror for changes in size or shape, for puckering or dimpling of the skin or discharge from the nipples, the woman raises her arms from the relaxed position at her sides and looks for the same signs.

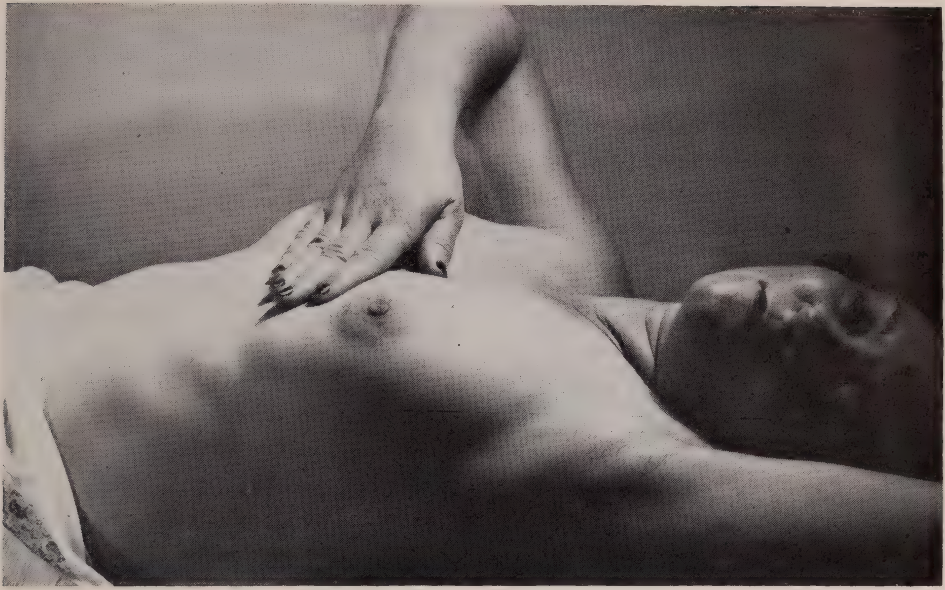
Part II



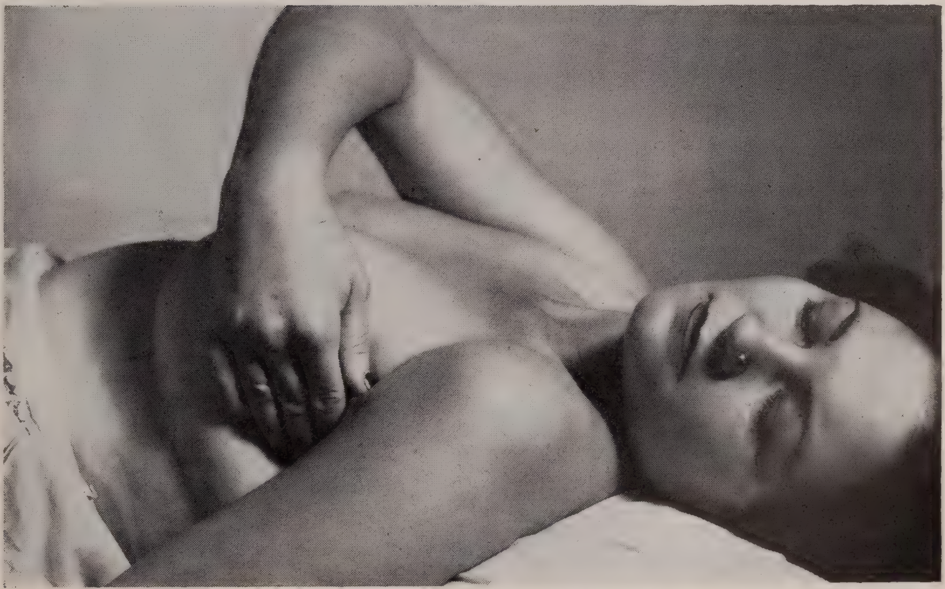
1 *Now, lying on her back, with a pillow or folded towel under her left shoulder and the left arm raised over her head, she commences the examination.*



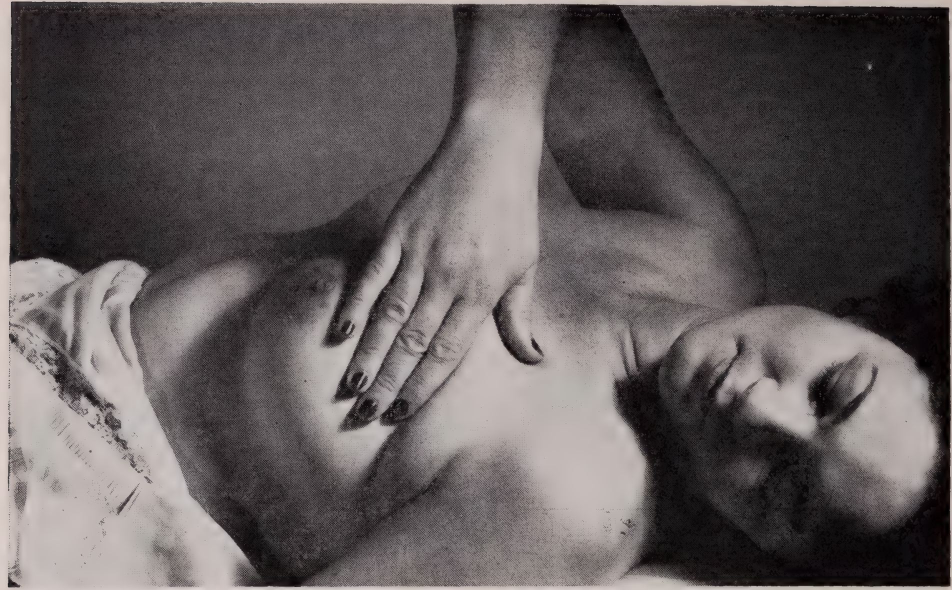
2 *Starting at the breast bone, she presses carefully the inner upper quarter of the breast, continuing toward the nipple and then feeling around that area.*



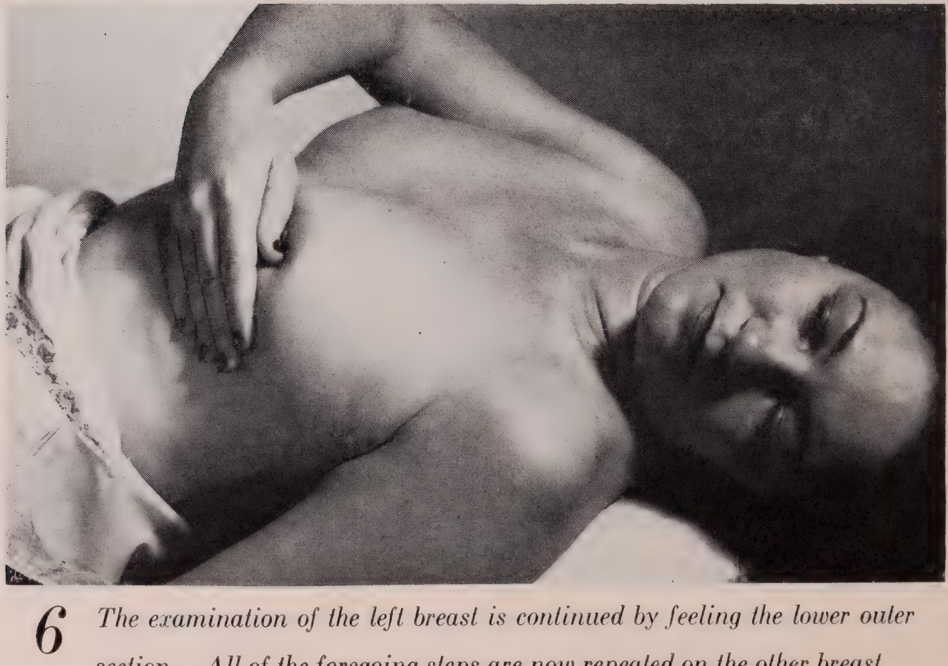
3 *Now she feels the lower inner part of the breast along which section she will find a ridge of firm tissue, which is normal and should not alarm her.*



4 *Now she brings the left arm down to her side and, still using the flat sensitive part of her fingers, carefully feels the tissues in the armpit area.*



5 *Next the woman inspects the upper, outer quadrant of her breast with the sensitive flats of her fingers. She gives this quadrant her particular attention.*



6 *The examination of the left breast is continued by feeling the lower outer section. All of the foregoing steps are now repeated on the other breast.*

Follow-up

Six months after the women had seen the film, they were given a questionnaire to fill out that would help evaluate the success of the program. In this questionnaire, which they were not asked to sign, they were asked the following questions:

1. Did you examine your breasts after taking part in the breast self-examination program?
2. Have you examined your breasts regularly since? If yes,
    (*a*) Regularly each month
    (*b*) Less often
3. Have you discovered any abnormality?
4. If so, did you see your physician?
    (*a*) Immediately
    (*b*) Within three days
    (*c*) Within a week
    (*d*) Within two weeks
    (*e*) Within a month
5. Have you interested other women in practicing breast self-examination?
6. Do you have any suggestions as to how the educational program of breast self-examination can be improved?

Results of Follow-up

In evaluating the results of this program, there are certain findings that were measured and can be considered direct results and others which are more difficult to measure and are called indirect results. Of the 501 participating in the program, 356 or 71 per cent filled out questionnaires. The results were as follows:

A. Direct Results

1. Of this group of 356 replying, 51 or 14 per cent indicated that they are doing breast self-examination regularly each month.

2. Ninety-eight or 27 per cent indicated that they are doing breast self-examination regularly but less often than once a month.

3. Therefore, 149 or 42 per cent are performing this health habit regularly (either once each month or less often) six months after the original program.

4. Two hundred seventy-five or 77 per cent examined their breasts at least once after the program.

5. Five women discovered abnormalities; one woman who had a definite malignancy is now back at work after radical mastectomy. In addition, one of the girls who participated in the program persuaded a family member to do breast self-examination. As a result, a benign lesion was found which was removed surgically.

6. One hundred twelve, or 31 per cent, indicated that they had interested other women in the procedure of breast self-examination.

B. Indirect Results

1. Many women's groups have requested for their members a program similar to that presented for State employees. In order to take care of these requests, the Bureau of Cancer Control repeated the same program before the staffs of several county and city health departments and district health offices. It was felt that after the health officer and public health nurses had seen the program and had become familiar with the material available they could present similar programs. This has been done in many areas. The local response has been gratifying. In many areas the local cancer society has worked closely with the local health department in arranging and presenting programs before women's groups.

2. Because of the interest in the program, eight sets of flannel boards and illustrations on the technic of breast self-examination have been placed in strategic areas throughout the State for use by public health physicians and nurses. The interest created locally in the breast self-examination program has led to the belief that there would be a similar response in other areas of the State.

3. Whether or not the women who participated have become accustomed to doing breast self-examination, it is felt that they have learned something about breast cancer and its danger signals and will be more readily motivated to see their physician should they discover any abnormality at any time.

Summary

In order to take advantage of modern methods of treating breast cancer, it must be recognized that two indispensable factors in the control of breast cancer are an informed patient and an alert and thorough physician.

Every doctor can obtain considerable assistance in the early discovery of breast tumors if he makes sure that his patients are taught to carry out a satisfactory technic of self-examination of the breasts.

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Detection of Mammary Cancer

JOSEPH H. FARROW, M.D., NEW YORK CITY

(*Associate Attending Surgeon, Breast Department, Memorial Hospital*)

No subject in the field of neoplastic diseases has received more attention in lay and professional literature than cancer of the breast. Despite the fact that this condition has been known as long as there is any history of medicine, mammary cancer still presents a major diagnostic and therapeutic problem. Since the time at which a breast cancer will disseminate beyond the limits of radical surgery is not known, early detection as well as treatment is imperative. Although treatment by radical surgery for complete control of breast cancer is more widely known than practiced and hence deserves further consideration, it is proposed to limit this discussion to some thoughts concerning the early detection of mammary cancer.

The argument for early detection is based on two fundamental concepts. First, breast cancer usually arises as a single focus and is initially localized to the breast epithelium which forms the ducts and alveoli. While the subsequent rate of local growth and the spread by metastases are extremely variable and may depend on multiple factors, it is clear that time plays an essential although indeterminate role. Second, with extremely rare exceptions there is little evidence of natural or acquired resistance to the growth and spread of breast cancer. This was ably expressed over a hundred years ago by a famous French surgeon, Valpeau, when he wrote, "Left to the resources of nature cancer never disappears." It is obvious that regardless of the biologic activity of the cancer as a prognostic determinative factor, time is important, and hence failure to cure with radical surgery can be due to duration as well as to our inability to detect preoperatively the full extent of the disease.

The difficulty of detecting breast lesions clinically, especially cancer in its early stage, can be attributed to three factors: lack of symptoms; obscure physical findings and failure to differentiate the nonpathologic alterations which result from development; the menstrual cycle; and postmenopausal involution. In regard to such alterations there are few, if any, structures in the human body which show as much variation in size, shape, and consistency during the lifetime of the individual as the female breast. However difficult to describe a normal breast, it may be said that, in general, nonpathologic variations, while varying widely in different individuals, are more or less fairly uniform and prone to be bilateral in the same individual. Hence, it is most important to compare the findings in one breast with those of the other. Further, it is a common clinical observation that prominences of the breast tissue which are quite obvious in the premenstrual phase may become relatively indistinct following the period. Pathologic lesions as a rule do not show similar cyclic alterations. Therefore, the immediate premenstrual phase is the least favorable time to evaluate completely the physical status of the breast.

It is unfortunate that nature provides so few symptoms for early breast cancer. The most common complaint is a lump in the breast, usually discovered accidentally or found during an examination by the patient or her physician. Pain and a sense of discomfort are relatively mild, if present at all. Occasionally a bloody discharge from the nipple, an enlarged axillary node, or a scaly erosion of the nipple may first have attracted the attention of the patient or the physician.

The clinical detection of mammary cancer involves a systematic inspection and palpation of the breast. The physical findings will vary with the extent of the disease, size of the breast, and location of the lesion in the breast. In early lesions inspection may be negative, and one must rely entirely on palpation. The visible signs of mammary cancer are (1) differences in the size of the two breasts—some cancers may produce an enlargement while others cause a decrease in the size of the involved breast; (2) alterations of the normal contour, particularly a flattening of the skin; (3) dimpling; (4) lymphoedema; (5) localized reddening without heat or tenderness; (6) differences in the horizontal nipple line; (7) retraction or displacement of the nipple; (8) cutaneous or nipple ulceration, and (9) skin nodules.

Palpation of the breast is by far the most important means of detecting mammary cancer at an early stage. With the patient sitting or lying down, the breast tissues can be felt best between the fingers and the chest wall. If the breast is large and pendulous, bimanual palpation may be necessary, the hand beneath the breast acting similarly to the chest wall. Benign tumors are usually encapsulated and exceedingly movable. A hard irregular mass with limited mobility, as evidenced by fixation to the skin or underlying tissues, is with rare exceptions characteristic of cancer. In the early stage, however, one may detect little more than a localized area of increased density with poor marginal definition. Such lesions require prompt biopsy for histologic diagnosis. In general, when cancer is least suspected clinically, the prognosis is all the more favorable.

The author has long been in favor of habitual self-examination of the breast, as evidenced by his article "The Lump in the Breast," published in the *Bulletin of the American Society for the Control of Cancer* in July, 1941. It is believed that public knowledge of cancers, particularly those which are either visible or accessible to self-examination, is a major prerequisite to early detection. The accuracy of self-examination is limited by lack of experience and diagnostic skill. These deficiencies, however, are generally realized, and as a rule women who discover breast abnormalities seek professional advice with decreasing delay. Hence, such programs as proposed elsewhere in this journal should be encouraged and enlarged. It is true that similar programs may have created undue apprehension or even mental agony in a few individuals. On the other hand, through educational programs many women have come to realize that it is wholly unintelligent to indulge in mental discomfort when the lump may not be a cancer and equally unwise not to accept the fact that it is cancer. All physicians agree that it is much easier to control fear than advanced cancer. Further, until the individual biologic behavior of breast cancer can be determined with accurate foresight rather than statistical hindsight, one is forced to accept the favorable prognosis offered by early detection and prompt radical treatment.

The will to do well . . . is the next thing to having the power.—Martin Chuzzlewit, CHARLES DICKENS

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Allergic Factors in Cardiovascular Disease

JOSEPH HARKAVY, M.D., NEW YORK CITY

(*From the Allergy Service, Montefiore Hospital*)

EXPERIMENTAL evidence of specific hypersensitiveness of the cardiovascular system is to be found in the immediate and delayed forms of anaphylaxis in sensitized animals.

In acute anaphylaxis the immediate reactions are characterized by arteriolar spasm and increased capillary permeability involving arteries and veins irrespective of the influence of blood pressure or nerves.[1] Electrocardiograms by means of direct leads of the isolated heart removed from serum-sensitized guinea pigs reveal acceleration of the heart, alteration in the amplitude of contraction, prolonged P-R intervals, and deviations in RST complexes.[2] Other abnormalities, consisting of bradycardia, tachycardia, ventricular extrasystoles, auricular fibrillation, and bundle branch block, have been demonstrated by Miculicich[3] in the rabbit sensitized to egg white and horse serum.

The delayed forms of hypersensitiveness are manifested by fibrinoid degeneration of collagen in the connective tissue and blood vessels, eosinophilia, leukocytic infiltration of the walls of blood vessels, swelling and degeneration of endothelium, thrombosis, and necrosis followed by scar formation. These changes may be elicited in the myocardium, heart valves, arteries, veins, lymphatic tissue, etc., in the systemically sensitized rabbit.[4]

Rats sensitized to tobacco by intraperitoneal injections[5] may develop gangrene of the toes and show anaphylactic reactions to tobacco as demonstrated by the Shultz-Dale technic.

Analogous reactions in the susceptible cardiovascular system in man may take place following sensitization to foreign proteins. The exciting agents responsible for such sensitization may be inhalants, such as pollens, foods, tobacco, drugs, and bacterial agents. These may induce two kinds of reactions, the acute, reversible type and the delayed, which may be reversible but is frequently irreversible. The etiologic factors and the clinical manifestations of the various, reversible forms of cardiovascular reactions may be summarized as shown in Table I.

Diagnosis and Treatment

Before attributing any of these conditions to an allergic mechanism, it is necessary to exclude organic disease of the heart and blood vessels due

TABLE I.—IMMEDIATE REVERSIBLE FORMS OF CARDIOVASCULAR REACTIONS

Reacting Tissues	Clinical Manifestations	Etiology (Exciting Agents)
Capillaries	(*a*) Urticaria (hives) (*b*) Angioedema (*c*) Purpura (*d*) Local hemorrhagic necrosis	Inhalants, foods, pollens, drugs, and bacteria. Psychosomatic factors
Peripheral vessels	(*a*) Migrating phlebitis (*b*) Thomboangiitis* obliterans (Buerger's disease) (*c*) Intermittent claudication	Tobacco, foods, infection, drugs
Heart	Disturbance in rate and rhythm, such as extra beats, tachycardia, auricular fibrillation, angina pectoris, coronary artery disease	Tobacco; foods; drugs, such as salicylates and penicillin; pollen; immune sera; infections; physical agents, such as cold and heat

* Usually irreversible except in the very earliest stages when it may be arrested if smoking is omitted.

to hypertension, rheumatic disease, arteriosclerosis, diabetes, or any other known causes. Once this is done, the diagnosis of allergy is made on the basis of (1) history, (2) physical examination, (3) electrocardiographic findings, and (4) skin tests. The latter must be evaluated clinically before they can be regarded as etiologically related to the presenting symptoms. After the exciting agents are detected, treatment consists of their removal with the prospect that the manifestations will disappear completely. Symptomatic treatment may be employed in cases of urticaria in the forms of antihistamines, cortisone, or ACTH. The latter are more effective in the acute urticaria and purpuras than in the chronic forms. Psychotherapy should be resorted to in urticaria due to psychosomatic factors.

In conditions in which tobacco is the most important allergic excitant, such as peripheral vascular disease, certain cardiac arrhythmias, tobacco angina, and angina pectoris, complete cessation of smoking is imperative. Two categories of individuals may be chiefly affected by tobacco allergy. Those who are constitutionally allergic and those who may become so as a result of excessive smoking.

In a study of 100 cases of coronary artery disease, all heavy smokers, 44 per cent gave positive skin reactions to tobacco.[6] Passive transfers for tobacco were obtained in 11 out of 14 cases studied (71 per cent). The positively reacting patients represented a relatively young group averaging forty-five years of age. Thirty-three per cent of cases with coronary artery disease who reacted to tobacco had a family and personal background of allergy. This is about 17 per cent less than that obtained in patients with asthma. In view of these observations it seems advisable to interdict the use of tobacco in patients with cardiovascular abnormalities, especially young individuals with coronary artery disease *proved* to be due to tobacco allergy. Persons who do not show any symptoms from smoking may smoke in moderation. The clinical course in patients who refuse to stop smoking is chronic progressive cardiovascular disease. This may be characterized in some cases by arteriosclerosis superimposed on allergic inflammatory vascular lesions as noted in thromboangiitis obliterans.

In contrast to the acute reversible cardiovascular symptoms resulting from allergy to various exogenous substances are the delayed reactions in the cardiovascular system due to polyvalent sensitization to intrinsic as well as extrinsic agents, such as bacteria and drugs, especially in the pencillin and sulfonamide groups.

The clinical manifestations depend on the type and number of tissues affected. Patients in whom the connective tissue vascular structures of the lung are the primary points of antigenic impact develop symptoms of bronchial asthma or cough which are superficially indistinguishable from those in the ordinary cases of asthma. The difference between the two, however, is not so much in the exciting agents as in the character of the basic tissues affected in the allergic response. In the ordinary asthmatic the allergic reaction occurs primarily in the bronchi and contiguous elements, such as capillaries, glands, and musculature. In such patients x-rays of the lungs are negative. The eosinophil count averages about 10 per cent. The heart is usually normal but may become involved secondarily in the form of cor pulmonale in those patients who develop chronic emphysema with pulmonary insufficiency.

Asthmatics whose symptoms are associated with reactions in the connective-vascular tissues in the lung may manifest migratory eosinophilic infiltrations in various lobes of the lungs, together with cough and wheezing respirations, fever ranging from 99 to 104 F., and marked eosinophilia. The latter distinguishes asthma due to vascular allergy from the ordinary cases of bronchial asthma. The eosinophils in the former may vary from 20 to 80 per cent with a total white cell blood count from 8,000 to 50,000 or higher. The underlying pulmonary lesions are usually not detected on physical examination but are readily demonstrable roentgenographically. They appear as miliary infiltrations or soft exudative pneumonic patches. Both types may be reversible. Simultaneously with the pulmonary esions there may be an extension of the hyperergic vascular process to other organs, such as the heart, serous membranes, kidney, liver, and nervous and cutaneous structures, giving rise to the picture of generalized vascular disease, i.e., periarteritis nodosa. Eighteen per cent of cases of periarteritis nodosa have asthma as their major presenting symptoms. Other patients in this category who do not develop this widespread vascular disorder but who show reactions limited to two or three organs may therefore be regarded as "formes fruste" of hyperergic vascular disease. On the basis of such variations in tissue response, in a study of 21 cases reported by Harkavy,[6] it was possible to classify the various manifestations into the following clinical syndromes:

1. Bronchial asthma and cough with recurrent pulmonary eosinophilic infiltration (Loeffler type), reversible.
2. Recurrent attacks of bronchial asthma or cough with prolonged pulmonary eosinophilic infiltrations accompanied by electrocardiographic changes indicative of myocardial involvement, reversible in the early stages.
3. Recurrent attacks of bronchial asthma associated with

    (*a*) Electrocardiographic abnormalities characterized by alternations in the deflections and amplitudes of the P waves and QRS complexes.

    (*b*) Electrocardiographic abnormalities plus eosinophilic exudations in (1) pleura and pericardium (reversible) and (2) pleura, pericardium, and peritoneum, giving rise to Pick's syndrome (may or may not be reversible).

    (*c*) Involvement of the kidneys, liver, gastrointestinal tract.

    (*d*) Reactions in the skin, such as urticaria, angioneurotic edema, purpura, subcutaneous nodules suggestive of periarteritis nodosa.

Clinical Course and Treatment

The clinical course in these cases depends on the cause and the extent of involvement. In cases of pulmonary eosinophilia due to food allergy or parasitic infestation (ascaris), elimination of the incriminating food or parasite causes resolution of the process. In cases where acute infection or drugs are responsible for the pulmonary lesions, the condition may subside spontaneously or with treatment by means of hormones, such as ACTH and cortisone. In more chronic cases due to focal infections, where not only the lungs but also the heart, pleura, and other tissues are involved, therapy consists of eradication of infected foci, especially those in the sinuses, temporary use of antibiotics where indicated, supplemented by ACTH or cortisone. The latter are most important. Immunization with specific allergens to prevent recurrences may occasionally also have to be carried out. The prognosis in these cases is usually good. In instances of vascular allergy due to drugs, such as penicillin or sulfonamide, discontinuance of the drug is imperative. In addition, treatment with ACTH or cortisone should be instituted as soon as possible. In cases where the hyperergic vascular disease becomes generalized and the picture of panarteritis supervenes, the sooner treatment with ACTH or cortisone is started the better. Once this disease has progressed, the period of survival depends on the degree of cardiac or renal involvement. Where these organs are not affected, the patient has an excellent chance of recovery. In cases where they are involved, the period of survival varies between one and four years.

Patients who succumb as a result of generalized hyperergic vascular disease despite all forms of treatment present the following anatomic alterations: widespread vascular changes characterized by various degrees of necrotizing arteritis, fibrosing arteritis in longstanding cases, inflammatory changes in the veins, and granulomatous lesions within the vessel walls and in the connective tissue of the lungs and other organs in the body. The lesions in the heart responsible for the abnormal electrocardiographic changes vary in different cases. In some they consist of diffuse eosinophilic infiltration of the myocardium, so-called eosinophilic myocarditis; in others there is fibrosis of the myocardium with a minimum involvement of the coronary vessels, while in still others varying degrees of arteritis in the coronary vessels, including periarteritis nodosa, are seen. Granulomatous nodules simulating the Aschoff body have also been seen occasionally in the connective tissue septa of the myocardium.

Summary

The cardiovascular system in man may be sensitized to foods, pollen, tobacco, drugs, and antibiotics as well as bacterial infection, either alone or in conjunction with other allergens. The ensuing manifestations of hypersensitiveness may appear in the cutaneous vessels in the form of urticaria, angioedema, and purpura and in the peripheral vessels as intermittent claudication, migrating phlebitis, and thromboangiitis obliterans. The allergic reactions in the heart consist of various arrhythmias, angina pectoris, and coronary artery involvement.

Tobacco is one of the most important allergens responsible for the above-mentioned peripheral vascular and cardiac conditions.

Bacterial and drug hypersensitiveness may give rise to reactions in the cardiovascular system characterized by hyperergic vascular disease involving various organs. This is marked by arteritis, phlebitis with and without thrombosis, necrotizing arteritis, periarteritis nodosa, endarteritis obliterans, and fibrosing arteritis. The symptoms depend on the type and number of tissues involved.

1165 Park Avenue

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Medical Society of the State of New York

February 18 to 21, 1957

HOTEL STATLER **NEW YORK CITY**

CLINICAL ANESTHESIA CONFERENCE

A series of conferences on medical emergencies
in the operating room including causes of death
during anesthesia

Prepared by the Anesthesia Study Committee of the
New York State Society of Anesthesiologists

MEREL H. HARMEL, M.D., *Chairman*

Occlusion of Endotracheal Tube by Overinflated Cuff

Since the publication of the conference on "Intubation of the Trachea Does Not Absolutely Insure a Patent Airway," which appeared in the July 1, 1956, Clinical Anesthesia Conference in this Journal, we have received two communications concerning similar accidents. One of these letters follows:

> *To the Editor:*
>
> I have just finished reading with great interest the Clinical Anesthesia Conference in the July 1, 1956, issue of the New York State Journal of Medicine, and since I had a similar experience in the past year, I feel that perhaps you might be interested in a repetition of such a tragedy, which in my instance was a near tragedy only.
>
> In January, 1955, I was in practice in Utica, New York. I was performing a lobectomy on a sixty-two-year-old man with bronchiectasis. The anesthesiologist suddenly stated that he was having difficulty aerating the endotracheal tube. I noted at the same time that the patient's heart rate was gradually slowing. After several further beats the heart completely stopped; at about the same time the anesthesiologist fortunately discovered that the endotracheal cuff was badly overinflated and had completely occcluded the distal end of the endotracheal tube. After deflating the tube, the airway was re-established, and I was able to restart cardiac action by several seconds of manual massage.
>
> After a rather stormy initial postoperative course the man fully recovered.
>
> This occlusion of the endotracheal tube by an overinflated cuff is apparently more common than we had originally realized. Perhaps publication of my experience will serve to further emphasize the importance of great care in inflation of cuffed endotracheal tube.
>
> Wilton A. Doane, M.D.

Santa Barbara Medical Clinic
1421 State Street
Santa Barbara, California

Comment

Dr. Doane's experience is worthy of comment because in Dr. Doane's case the patient's life was saved. It should be noted that once the cuff was deflated, ventilation could then be carried out adequately. It is to the credit of Dr. Doane and his anesthesiologist that the diagnosis was made, treatment was effective, and the patient was restored to life.

It is of interest to illustrate the situation which occurred in the case which was reported in this

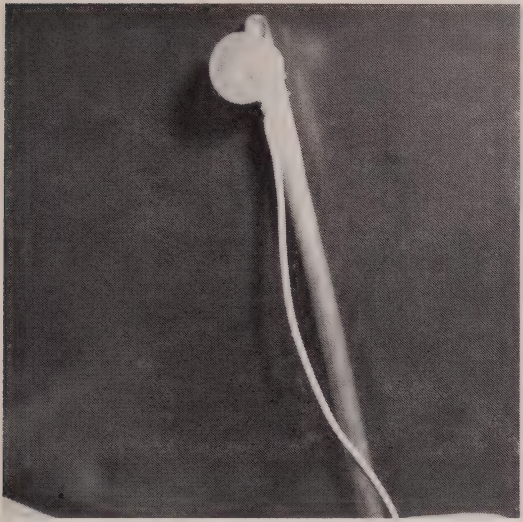

Fig. 1. Bolus of air trapped in distal portion of balloon.

Journal. The accompanying photograph shows dramatically the manner in which the bolus of air was trapped in the distal portion of the balloon (Fig. 1). Deflation of the cuff in this instance did not result in more effective ventilation. The implication of course is obvious, namely, that if difficulty in ventilation continues to persist after deflation of the cuff has been carried out, the endotracheal tube should be removed and another reinserted if this is necessary. The mechanical factors which can cause a cuff to occlude or compress the distal end of an endotracheal tube are many:

1. Dislodgment of the cuff during its passage into the trachea.
2. Trapping of air in a portion of the cuff as is illustrated in the photograph.
3. Overinflation in thin, aged rubber.

All or any of these things may occur as events over which even the most careful anesthetist may at times have no control. However, constant vigilance, acute observation, and an awareness of the potential hazards, together with a plan of action, must be part of the armamentarium of all those who practice the art of anesthesia if catastrophes are to be averted.

(Number twenty-three of a series of Clinical Anesthesia Conferences)

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Postgraduate Radio Programs

NEW YORK ACADEMY OF MEDICINE

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NORTON S. BROWN, M.D., *Chairman* IAGO GALDSTON, M.D., *Secretary*

Childhood Lead Poisoning

HAROLD E. HARRISON, M.D., BALTIMORE, MARYLAND

(*From the Baltimore City Hospital*)

Since 1935 the Baltimore City Health Department has provided a laboratory service for the diagnosis of lead poisoning in children which includes determination of blood lead concentrations. This service has helped to improve the accuracy of the diagnosis of childhood lead poisoning and has also made the reporting of cases of lead poisoning to the health department more reliable. As a result there is statistical evidence over a period of many years of the incidence of diagnosed lead poisoning in Baltimore and the factors contributing to its occurrence. Between 1935 and 1947 the average yearly reported incidence of childhood lead poisoning was 15 cases with an average of five deaths per year. In 1948 the interest in recognition of lead poisoning increased due to development of newer methods of therapy, and there was a sharp rise in the reported morbidity. This was probably not a real rise in incidence but was more likely a reflection of the greater interest in the problem. There have been approximately 40 cases of childhood lead poisoning a year reported in Baltimore since 1948. The deaths have remained fairly uniform at five to six per year despite the various new methods of therapy introduced and despite attempts at prevention of exposure. Other large cities in this country have not had so high an incidence of childhood lead poisoning as has Baltimore if the number of diagnosed cases is used as an index. However, there is some doubt that the number of cases diagnosed in past years represents the true extent of the problem. Recently, Mellins and his coworkers[1] have reported a study of childhood lead poisoning in Chicago which indicated that many cases of childhood lead poisoning in that city were not being diagnosed until special interest in the problem was aroused and diagnostic facilities were improved. This is probably not an isolated experience.

The major age incidence of lead poisoning in children in our experience is between fifteen and thirty-six months, and 84 per cent of our cases have been in this age group. The source of exposure at present is almost always flakes and chips of paint from painted wood surfaces which are peeling or painted plaster from crumbling walls. The cases therefore are concentrated in slum areas of the city where the houses are old and in a bad state of repair. The walls are damp, and the plaster is loose with pieces falling to the floor or easily broken off the wall by hammering with a child's toy or other object. The paint on the window sills and other woodwork peels off in large flakes. Even though recent layers of paint might be low in lead, the peeling paint or falling plaster makes the old layers of lead-containing paint accessible to the child. As soon as the child is able to crawl freely or to walk, he can get at these sources of lead.

The normal habit of children of this age is to mouth and taste all objects which they can pick up. The ingestion of these foreign materials is usually called "pica" with the implication that it is an abnormal manifestation. In reality the mouthing and eating of various foreign materials in the environment is a common practice of children in the second year of life. It is true that the habit of ingestion of foreign material may become more persistent in mentally defective or emotionally disturbed and deprived children, but experience has shown that normal children will nibble on and swallow all types of strange and noxious materials if they are accessible. The high incidence of acute poisonings in children due to kerosene, insecticides, furniture polish, lye, and aspirin or other drugs indicates the propensity of children to eat materials of all kinds on which they can lay their hands, no matter how repulsive they may be in odor and taste.

The prevention of the acute poisonings listed above has been the object of an intensive program directed at warning parents of the dangers of leaving potentially toxic materials accessible to young children. In the case of lead poisoning similar educational programs have been used but with less effect because it is not simple to remove lead contamination from the environment. Drugs and other household chemicals can be locked in cupboards, but in the old houses responsible for childhood lead poisoning, the flaking crumbling paint is everywhere and can only be eliminated by thorough renovation of the living unit. The problem is primarily the availability of a toxic agent in the child's environment rather than an abnormality of the child's reaction. There are other social and behavioral factors, however, which must be considered. The overworked or indifferent or poorly educated mother may not supply the child with the attention, diversions, and play interests necessary for proper emotional development. Boredom and lack of attention are probably important factors in intensifying pica and causing the practice to persist. Slovenly housekeeping is certainly an accessory factor of importance in increasing the availability of paint and plaster fragments.

Unusual sources of exposure to lead are sometimes encountered. One child in our series swallowed a lead weight from a broken toy. This remained in the stomach, and enough lead was dissolved by the gastric juices to produce lead poisoning. Serious outbreaks of lead poisoning have occurred in communities due to the use of lead-saturated wooden storage battery casings for fuel with dissemination of lead in the smoke. The repainting of infant furniture with lead paints by unknowing parents might be a source of lead. These problems, however, are now rare. Almost all paints used for furniture and interiors have minimum amounts of lead and are not important sources of lead contamination. The major problem which remains is the old, dilapidated home in which the high lead-containing paints used several decades ago are flaking off and are available to the inquisitive toddler.

The intensity of exposure to lead under these conditions has been studied by Dr. Chisolm at the Baltimore City Hospital and the Harriet Lane Home of the Johns Hopkins Hospital. The fecal lead excretion of a series of children who developed lead poisoning under such environmental conditions was found to be as high as 100 mg. per day with an average of 44 mg. per day. This is much greater than the fecal lead excretion of industrial workers exposed to lead under conditions leading to lead poisoning. Chisolm has calculated, moreover, that these large amounts of lead may be ingested in a gram or less of dried paint flakes, an amount which mothers might not consider important. The severity of lead poisoning in childhood may be related as much to the intensity of exposure as to susceptiblity of the central nervous system of the child to the toxic effect of lead.

There is also an important seasonal factor in childhood lead poisoning. The peak incidence is during the summer months of July, August, and September. If a child has been ingesting lead-containing materials for several months, the onset of summer may precipitate the severe manifestations of lead poisoning. The reason for this seasonal effect is not clearly understood. One possibility may be increased absorption of lead from the intestinal tract due to the vitamin D effect of exposure to the ultraviolet radiation of summer sun. Fever and dehydration due to excessive heat may play a role since infections are also known to precipitate acute manifestation of lead poisoning. During the summer months the physician should be particularly suspicious of symptoms suggesting lead poisoning in children in the age group of greatest risk, fifteen to thirty-six months. In a study of the households of children with lead poisoning, unrecognized mild lead poisoning was discovered in five of six siblings of this age group. In nine such homes 14 of 15 children between fifteen and thirty-six months of age were found to have evidences of lead intoxication. This indicates that if lead is in the environment, children of this age group will almost certainly get enough of this toxic material to produce some degree of poisoning.

The earliest manifestations of lead poisoning in children are nonspecific. Lassitude, apathy, and anorexia may be noted for many weeks before more severe manifestations appear. Constipation which does not respond readily to laxatives is a common complaint. As the intoxication becomes more severe, recurrent vomiting is a common symptom. Lead colic, which is so prominent a manifestation in adults, is rare in childhood lead poisoning. When the child is seen at this point, the physical examination usually shows very little except for some pallor. If the child with mild lead intoxication is dismissed with symptomatic medication without further investigation, he may suddenly become much worse and show the manifestation of severe lead encephalopathy. As mentioned before, this sudden exacerbation is particularly apt to occur in the summer months. In the child the nervous system manifestations of lead poisoning are primarily those of cerebral cortical injury with occasional cerebellar manifestations. Peripheral nerve injury may be seen in conjunction with encephalopathy but is relatively uncommon. Isolated peripheral neuritis seen in chronic lead poisoning of adults is rare in childhood. The high incidence of encephalopathy as a manifestation of lead poisoning in children has been ascribed to a particular susceptibility of the brain of the young child to this toxic agent. However, Chisolm has pointed out that the exposure to lead is much more intense in the child than in the adult, and the intensity of exposure may be a significant factor in the occurrence of encephalopathy. Lead encephalopathy has been seen in adults who have had unusually great exposure to lead.

The earliest manifestations of encephalopathy are persistent vomiting and lethargy. Generalized motor weakness and ataxia may also occur. Disturbances of the state of consciousness with somnolence and stupor appear as the injury progresses. After the early manifestations have appeared, there may be rapid progression of the encephalopathy with onset of severe convulsions and coma. The convulsions are persistent and difficult to control even with large doses of hypnotics. At this stage there is usually evidence of marked increase of intracranial pressure, and respiratory arrest with sudden death may occur. Ataxia, cranial nerve palsies, and hemiplegias are not infrequently found, and these patients may be admitted to neurosurgical services with the diagnosis of brain tumor.

The importance of diagnosis of lead poisoning before the onset of severe encephalopathy is obvious since specific measures can be taken to prevent further progress of the lead toxicity. Once the process has gone on to the stage of severe encephalopathy, there is not only a considerable mortality, but if the patient survives, he may have severe neurologic sequelae as the result of permanent damage to the brain. The brain lesion consists of tissue edema and necrobiosis of ganglion cells.

The early diagnosis of lead poisoning is possible if clinical and laboratory examinations are properly employed. The story of unexplained episodes of vomiting, persistent constipation, anorexia, hyperirritability, or somnolence in a child between one and three years of age should arouse suspicion of lead poisoning. The nature of the child's environment should be looked into, and if the house is old with painted wood and plaster surfaces in poor condition, the possibility of lead poisoning becomes more likely. A story of chewing on paint and plaster may be helpful, but often the mother fails to give this story. Even if pica is denied on direct questioning, further investigation is warranted since in a number of instances the mother has claimed to be unaware of the fact that the child was chewing on painted material. An x-ray of the abdomen may reveal radiopaque material in the gastrointestinal tract indicating that the child has been eating foreign material which might contain lead. Hematologic study usually reveals a microcytic anemia of moderate to severe degree. Basophilic stippling of red cells is not commonly seen in the peripheral blood smear of children with lead poisoning, although it may be found in bone marrow spreads. X-ray of the long bones may be of diagnostic value since in children with lead poisoning there is a disturbance of the pattern of growth at the ends of the long bones owing to the effect of lead in the bone salt which results in the development of broad dense bands at the metaphyseal ends of the long bones.

A valuable laboratory tool is the determination of urine coproporphyrin, which is increased in lead poisoning. A simple qualitative test can be used, although quantitative methods are more specific. A 5-cc. portion of urine in a test tube is acidified with 3 to 5 drops of glacial acetic acid and shaken with 5 cc. of ether. The shaking is done gently to avoid emulsion formation. The coproporphyrin is extracted by the ether, and if abnormally large amounts of coproporphyrin are present, the ether layer will show a pink fluorescence when exposed to ultraviolet light. A Wood's lamp is a convenient source of ultraviolet radiation for this test. An increased urine excretion of coproporphyrin is not pathognomonic of lead poisoning, but most children with lead poisoning do show an abnormal degree of coproporphyrinuria.

The most specific diagnostic test is the determination of the blood lead concentration. The availability of this test has been an important factor in the efficiency of diagnosis of lead poisoning in Baltimore. Urine lead excretions can also be measured, but in children blood lead determinations are probably just as easily obtained and are more reliable. Most of the blood lead is in the red blood cells so that whole blood is used for the determination. The blood must be collected in lead-free containers and with lead-free needles and syringes. Concentrations up to 0.06 mg. per 100 Gm. of blood may be found in normal children, and values above this indicate exposure to lead. The severity of the lead intoxication is not necessarily related to the blood lead level which indicates the degree of recent exposure rather than the level of damage to the brain or other tissues.

The urine examination frequently shows slight or moderate albuminuria with granular casts in the sediment. A positive Benedict's test may also be present as a result of renal glycosuria due to toxic effects of lead on the renal tubules. In cases of lead encephalopathy the cerebrospinal fluid usually shows an increased concentration of protein; pleocytosis is less often found. In the severe cases elevation of cerebrospinal fluid pressure is usually marked.

The importance of early diagnosis of childhood lead poisoning cannot be overstressed. If the intoxication is discovered in the incipient stage and the child is treated and his environment is also altered so that further exposure is prevented, the end results are good. If, however, the diagnosis is not made until severe encephalopathy has developed, not only is there a mortality rate of about 25 per cent despite any form of treatment, but residual brain damage of incapacitating degree often results. In many of the cases of so-called fulminant lead encephalopathy admitted to the hospital, careful investigation has revealed that warning symptoms had been present for several weeks but had been disregarded. Some of these children were treated symptomatically by physicians during this time without realization of the potential danger of lead encephalopathy.

The current treatment of lead poisoning is based on the use of a compound which forms an un-ionized complex with lead and thus converts the lead to a nontoxic compound. The agent now being used is the calcium complex of ethylene-diamine tetra-acetic acid which is available under the drug name of Edathamil Calcium Disodium. It has also been described in the literature under the name of calcium versenate or EDTA. Edathamil Calcium is not metabolized in the body and forms complexes with lead which replaces the calcium. The lead complex formed is readily excreted in the urine so that the lead in the body fluids and tissue cells is removed by the administration of this compound. During the period of lead ingestion considerable quantities of absorbed lead are deposited in the skeleton. This skeletal lead is only slowly mobilized and, in fact, may never be completely removed. However, the lead which remains fixed in the skeleton is not in a toxic form. The goal of treatment is to reduce the soft tissue lead concentrations and not necessarily to delead the skeleton.

The first rule in the treatment of lead poisoning is to remove the child from any further exposure to lead. The child is then given a course of Edathamil Calcium Disodium. This is given parenterally, and the drug can be administered by intravenous, subcutaneous, or intramuscular injection. The material is available in ampuls as a 20 per cent solution. If given intravenously, it is diluted 1:10 with saline or with 5 per cent glucose in water. When given subcutaneously, it is diluted 1:10 with saline. If given intramuscularly, it need not be diluted, but sufficient procaine is added to make an 0.5 per cent solution of procaine. A course of therapy is 75 mg. per Kg. per day for a period of five days. The total daily dose is divided into two or three injections given at twelve or eight-hour intervals. No serious toxic effects have been noted with this dosage regime.

Symptomatic treatment is also of importance in conjunction with specific antilead therapy, particularly in the handling of patients with severe encephalopathy. Increased intracranial pressure due to cerebral edema is usually present in these children and may result in respiratory failure and death or in severe sequelae, such as blindness, deafness, mental retardation, or epilepsy. We have the impression that rapid administration of intravenous fluids to patients with lead encephalopathy is dangerous, presumably because of further increase in cerebral edema. Fluid administration should be cautious and merely sufficient to keep the patient from becoming dehydrated and anuric. Overhydration with sodium-containing solutions should be avoided. Children with severe lead poisoning may be oliguric for several days, but if their circulation is maintained and specific antilead treatment is is given, improved kidney function and urine output will result without administration of excessive quantities of fluid.

The methods for controlling increased intracranial pressure in lead encephalopathy are unsatisfactory. Operative decompression has been employed but is associated with a considerable mortality risk. We have tried repeated cautious lumbar drainage of spinal fluid. By cautious drainage is meant control of the pressure by a manometer in place on the spinal needle and slow reduction of pressure by intermittent release of small amounts of fluid. This has been done every few hours in patients with spinal fluid pressures above 600 mm. of water without papilledema. This method is not without danger, but the risk of medullary herniation and respiratory arrest may be greater if nothing is done so that this procedure is justifiable. If evidences of medullary compression are already present as indicated by bradycardia or respiratory irregularity emergency surgical decompression must be performed and lumbar puncture is contraindicated.

It may be said in passing that ventricular punctures through burr holes should not be performed since the ventricles are compressed by the edematous brain, and the trauma of ventricular puncture is not compensated by any significant removal of fluid.

The convulsions of severe lead encephalopathy are difficult to control. A combination of intramuscular or subcutanous phenobarbital or pentobarbital plus rectal paraldehyde has been the regimen used in most of our patients. If the intracranial pressure can be controlled, improvement is usually seen within forty-eight hours, and the patient can then be maintained on phenobarbital sedation for prevention of recurrent convulsive seizures.

At the end of the five-day course of therapy the patient must be kept under observation to determine whether further courses of therapy will be required. Several criteria can be used. If blood lead determinations are available, it will be found that the blood concentration decreases sharply during the initial period of treatment. After an interval of ten days or so, however, the blood lead may start to rise again, even though the child has been protected against further exposure to lead. This is an indication for further therapy since it presumably means that the soft tissue lead stores are still abnormally great or that lead is being released from the bone. The urinary coproporphyrin test also becomes positive again when blood lead rises so that this determination can be of value as an index of the need for another course of treatment. Anemia refractory to iron medication may also be a sign of persistent lead toxicity. One or more repeat courses of treatment with Edathamil Calcium Disodium are given until the evidences of lead toxicity cited above disappear.

The use of oral therapy with this complexing agent over a long-term period has been suggested. Calcium versenate is poorly absorbed from the intestinal tract so that its effectiveness is limited when given by mouth. If treatment is given outside of the hospital and sources of lead are still available to the child, the oral administration of versenate may increase lead absorption and thus be potentially harmful. At the present time it would seem best to treat patients with evidences of lead intoxication by one or more courses of calcium versenate given parenterally with hospitalization of the patient during the acute stage.

The end results of treatment of childhood lead poisoning depend not only on early diagnosis and adequate treatment of the acute intoxication but also on careful protection of the child from further exposure to lead. The epidemiologic studies of Chisolm in our clinic have shown clearly that the incidence of such sequelae of lead encephalopathy as epilepsy, mental retardation, and severe behavior disorders can be reduced by meticulous attention to the child's environment after adequate treatment of the acute episode. If the sources of lead can be completely removed, these sequelae can be minimized. If the environment permits recurrent contamination with lead, the child may show chronic lead poisoning, and serious neurologic sequelae may result despite treatment of the acute episodes.

During the last few years in which treatment with Edathamil Calcium Disodium has been employed in Baltimore, careful follow-ups of the patients by physicians and visiting nurses also have been the rule. The children have been hospitalized until the homes could be freed of available sources of lead or new homes found. The improved clinical results which have been observed are due as much to prevention of recurrent exposure to lead as to the drug therapy used. The identification of sources of exposure was tremendously aided by the Baltimore City Health Department through the public health nurses and the laboratory facilities for lead determination. The homes of the patients with lead intoxication were thoroughly checked for available lead sources before the child was returned to the home. In some instances the landlord was persuaded to remove all the old paint and then renovate the home so that no further exposure to lead would be likely. In other instances the family was able to move to a new housing project. This program is a time-consuming one, involving the cooperation of the physican, the health department, and the housing authority. It has been the only successful approach to the protection of children from the hazards of chronic lead poisoning with resultant sequelae of organic epilepsy, behavior disorders, and mental retardation.

Of the total group of 35 children treated with Edathamil Calcium Disodium and protected from further exposure, 14 had severe lead encephalopathy. By this term we mean severe protracted convulsions or coma lasting twenty-four hours or more; 22 had milder forms of lead intoxication but with evidences of encephalopathy. Five of the children with severe encephalopathy died. Of the total of 26 children followed for a period of nine months or more, 18 appear to be normal in their behavior with intelligence scores comparable to their siblings. Four have severe sequelae. Two children have recurrent convulsions and one child severe mental retardation. One child is a behavior problem.

Despite the probable improvement in the end results of treatment of childhood lead poisoning due to a combination of specific antilead therapy, symptomatic treatment, and careful prevention of re-exposure, lead intoxication is still hazardous in young children. Elimination of exposure to lead is the ultimate end to be worked for. Some of the hazards can be reduced by instruction of the parents and supervision of the children in dangerous environments with the aim of preventing children from ingesting lead-containing materials. However, all of us know the difficulty of watching constantly children of the toddler age and the impossibility of keeping them from getting into trouble if noxious substances are present in the environment. The elimination of dangerous environments is a more adequate solution. This means the elimination of the type of dilapidated housing where lead is everywhere available in flaking, peeling paint and plaster and where the child is exposed constantly to hazards from which he can be protected only with great difficulty. In the future, as better housing is available for low-income groups, lead poisoning in children should become a rarity since it is a preventable hazard. At the present time public health groups interested in the reduction of accidental deaths in childhood are studying methods of reducing lead poisoning. One of the steps is to reduce the content of lead in paints which might be used for painting of interiors and woodwork of houses. This might be of value in the future to prevent good housing from being sources of lead exposure. The major problem at present cannot be influenced by this step since it is the lead used in paints twenty and thirty years ago which is the cause of trouble in dilapidated homes in which children are exposed to lead intoxication. Childhood lead poisoning is theoretically a preventable problem, and it is hoped that the increased attention being paid to this problem by many groups will result in its elimination.

Reference

1. Mellins, R. B., and Jenkins, C. D.: J.A.M.A. 158: 15 (1955).

(*Number ten of a series of Postgraduate Radio Programs*)

HISTORY OF MEDICINE in New York State

Editor

JOHN F. ROGERS, M.D.

Venereal Disease Circa 1800 as Recorded in the Medical Repository

HERMAN GOODMAN, M.D., NEW YORK CITY

"In the days when New York was a cross between a Dutch-English trading village and a rising American metropolis—when the water from the DeVoor millstream went splashing beneath the Kissing Bridge while the cornerstone of the first Park Theatre was being laid, three doctors strolled along the leafy lanes of Broadway, discussing a daring project. They were young, unmarried, and idealistic, and they talked about starting the first medical journal in America." Thus wrote the late Victor Robinson in *The Story of Medicine,* a volume every physician should own for his enjoyment.

They felt the time was ripe for such a periodical, for terrifying and highly destructive epidemics, especially of yellow fever, aroused apprehensions of the public and quickened the zeal of the physicians. They decided to devote their journal to the following departments: the diseases of localities; veterinary medicine; insects noxious to men, beasts, plants; the condition of vegetation; the state of the atmosphere, including the direction and force of winds, and the sensible quantity of electricity. Feeling that these topics did not adequately cover the ground, the enthusiasts added other subjects to their prospectus: diseases which formerly prevailed in any part of the United States; useful histories of particular cases; occupational diseases; new methods of curing diseases; new remedies; extracts from rare works or manuscripts dealing with diseases that exist in the United States; interesting information relative to the minerals, plants, and animals of our country; American medical biography; accounts of former American medical pamphlets and books; reviews of new American medical publications; medical news. Above all, their journal was to demonstrate that systems of medicine, whether ancient or contemporaneous, were preposterous and that although conjecture may precede experiment, facts are the only rational basis of therapy.

It was agreed the new publication would be a quarterly. The ardent young men who became the editors were Samuel Latham Mitchell (1764–1831), Edward Miller (1760–1812), and Elihu Hubbard Smith (1771–1798). The *Medical Repository* was not only the first representative of American medical journalism, it was the sole representative during the eighteenth century. Previous to the appearance of the Medical *Repository* in 1800, physicians either kept their observations in their heads, or in manuscript, or sent them abroad for publication. The *Medical Repository* changed this situation.

In volume 1 we find two careful clinical reports which are worthy of full quotation for their accuracy of observation as well as for their theorizing.

Siphilis

> John Clarke was admitted to the New York Hospital September 7, 1796. Six weeks before that date he was seized with veneral running and scalding. After the appearance of the gonorrhea, he had intercourse with other women, and in a fortnight from its breaking out, he had a *chancre* come on the outside of the prepuce; the glands being naturally hooded. About a week after the chancre made its appearance, a bubo formed in the left groin which opened of itself yesterday, and now discharges freely.

This paper forms part of a projected "History of the Public Health Aspects of Social Hygiene in New York City."

> A case of Gonorrhea and Siphilis equally distinct and with equal probability of having originated from separate infection fell under Dr. Rodgers' care the ensuing autumn or winter.
>
> Do these facts go anyway towards the confirmation of Mr. Bell's doctrine that Gonorrhea and Siphilis are different diseases?

The clinicians among the readers will decide whether the diagnosis of chancre of syphilis was warranted. The bubo, said the case report, opened of itself! Did bubo of syphilis do that in 1798? Was it bubo of chancroid? Or lymphogranuloma venereum?

Siphilis and Fever

> In the summer of 1796, a man came into the New York Hospital in a state of salivation. On inquiry, we discovered that he had the venereal disease—chancres, or buboes or both, for which he had taken mercury, so as to produce salivation; which was of some standing. But, beside that he had siphilis and was salivated, he had an *intermitting fever* of some standing also, and which was more than commonly obstinate. He got well, but not by one use of ordinary remedies; but not till he had one or two relapses of the fever.
>
> *Remark.* It is nothing new for an Intermittent to proceed notwithstanding a salivation, and even to arise during it (see Hoffman, debile medicin, etc., p. 29; and Van Swieten's Comment, on Aphorism 757) but that it should exist at the same time and for several weeks with siphilis, has, I believe, never been publicly noticed until now.
>
> *Quere.* Does this fact form objection to Mr. Hunter's theory of the impossibility of different contagions displaying their effects, co-ordinately in the same person? Or, as we are to infer from this that the contagion of fever and siphilis are the same? The nitric acid, according to Mr. Scott and others, cures hepatic swellings; and these are often the consequences of intermittens. It also cures siphilis. Should future trials demonstrate this acid to be equally successful in the cure of intermittent, remittent, and yellow fevers would it be fair to conclude that the immediate cause of these fevers and siphilis are but modifications of one common principle?

On pages 260 and 261, the *Medical Repository* published a letter from Stephen Hammich, Jr., of Royal Hospital, Plymouth, England. The content is on the efficacy of nitrous acid in the cure of syphilis. It is held to be superior to mercury.

On page 579, we find notes of Dr. Swediaur referring to citizen Alyon of the military hospital Val de Grace at Paris. The worthy citizen offered a paper on the "anti venereal and anti venereal and anti psoric powers of oxygene. . . employed externally as the super oxygenated muriate of pot-ash for the cure of chancre and siphilitic ulcers," and he found the good effects from it more expeditious and more certain than those of any mercurial preparation.

From volume 2, on page 218, we extract a few words: "abundance of instances of chancre cured by alkali have since occurred in New York Hospital." This was dated November 10, 1798, and signed with the initials S.L.M.

There is a letter dated February 5, 1800, from the New York Hospital on the "Cure of Gonorrhea Virulente" by soap injection. It is worth while to offer a short abstract: "Four cases of gonorrhea. . .Dr. Rodgers knowing the inefficacy of the common remedies has been induced to make trial of castile soap, two drams in hot water, five ounces, as an injection six to ten times per day."

There were no discussions of venereal diseases in volume 3.

A letter from the late Dr. Girtanner to Dr. Van Mosis was on the cure of syphilis by oxygen. The chemicals utilized were in order from mildness to severe: citric acid, diluted oxalic acid, and oxyd of arsenic. "There is no remedy more efficacious against venereal diseases, diseases of the liver, obstructions of the belly, dropsies etc. . . Lungs must not be affected."

The policy of the editors expressed in their prospectus was followed in the publication in volume 5, page 10, of a report on trial with nitric acid in venereal disorders in which its value is attempted to be ascertained. Dr. R. B. Rodgers wrote to Dr. S. L. Mitchell under date of April 8, 1801: ". . .in many cases of recent syphilis (and several of them occurring last winter) and chiefly young and hearty men, the nitric acid although given in different doses, and persevered in for considerable time, did not produce any good effect, and in the same patients, the use of mercury, with our usual accompanying remedies, readily accomplished a cure."

We depart from this survey of the *Medical Repository* to acquaint the reader with some information regarding the people mentioned.

The New York Hospital is the oldest hospital in New York City. In 1769 Dr. Samuel Bard of King's College (now Columbia University) pleaded for "a hospital for the sick poor of the colony," which incidentally would serve as a medical school. King George III granted the charter in 1771. A series of major accidents, the War of the Revolution, the English occupation, not to mention several devastating fires and the Doctor's Riot of 1788, a protest against dissection, delayed the opening of the hospital for actual treatment of patients to 1791. The original site was in downtown New York, Church Street and Broadway, Thomas to Worth Streets.

Benjamin Bell (1749–1806) claimed that he demonstrated syphilis and gonorrhea were distinct diseases. His text, *Treatise on Gonorrhea Virulenta and Lues Venerea* (two volumes, 1793, 1797), was reprinted at Albany, New York, 1814.

It is difficult to be certain, but it would appear that the reference to Hoffmann is to Friedrich Hoffmann (1660–1742), creator of an influential system of medicine reposing on a mechanistic foundation. The famous Hoffmann's drops and anodyne were introduced by him. He was responsible for use of a number of chemicals in medicine: quinine, iron, and others in chronic cases. The prominence of "tonics" in therapy was a testimonial to the deep impression made by Hoffmann's doctrines.

Gerhard Van Swieten (1700–1772) wrote comments on *Aphorism of Boerhaave, 1754–1755.* The liquor of Van Swieten was proposed in the treatment of syphilis so that mercury could be given to the point of physiologic tolerance rather than to salivation. Castiglioni mentions Van Swieten as the founder, you might say, of the old Vienna school.

John Hunter (1728–1793) denied the duality of syphilis and gonorrhea. He made many other errors. Yet, it must be confessed, John Hunter is regarded as the greatest scientist of his time! In and out of medicine!

Franz Xavier Swediaur (1748–1824) made many good and equally bad guesses on syphilis.

(John) Richardson Bayard Rodgers (Rogers), who died in 1833, was an M.D. Edinburgh (1785); Professor of Midwifery at Columbia College (1792–1808); Professor of Medicine (1796); Trustee of College of Physicians and Surgeons, 1807–1811 and 1820–1822; Professor of Obstetrics and Diseases of Women and Children at College of Physicians and Surgeons, 1811.

Pierre Philippe Alyon (1758–1816) was a tutor to the children of the Duke of Orleans. At the death of his protector he was a prisoner in Nantes. He became a military pharmacist and served as chief pharmacist at Val de Grace and later at Hospital Gros Caillou. Despite failing health he went on field duty with Napoleon but was forced by illness to return to France. He died soon thereafter. Alyon investigated the prophylaxis of syphilis. In 1783 he presented his views before the Paris Society of Medicine. He wrote "Essai sur les Proprietes Medicinales de l'oxygene et sur L'application de ce Principe dans les Maladies Veneriennes, Psoriques et Dartreuses," Paris 1797 and 1799; German, 1798, and others.

Christoph Girtanner (1760–1800) wrote a three-volume treatise on treatment of venereal diseases.

Before closing, it is appropriate to present some biographic data on our three founders of the *Medical Repository.* Elihu Hubbard Smith (1771–1798) died of yellow fever. His last hours have been described in moving terms by Victor Robinson.

Samuel Latham Mitchell (1764–1831) was a physician and a superbly educated man for any period. He was vice-president of the College of Physicians and Surgeons in its first years of existence. He was Senator of the United States, 1804–1809. He held the chairs in chemistry, natural history and botany, and botany and materia medica. Dr. Mitchell was a man of wide reputation as a man of talent and accomplishments. He was a kind of "human dictionary." His opinion was sought by schemers and inventors of every grade. He could be consulted with profit on any question of science, history, or politics. Mitchell was equally distinguished for his learning and originality. He entertained a hospitality for new ideas. He could discourse in turn on a Babylonian brick, meteoric stones, the theory of chemical combination, the construction of a windmill, the fishes of North America, or the geology of Niagara Falls. For twenty years Editor Mitchell was indefatigable in contributing to the success of the *Medical Repository.* Further, Mitchell obtained from Congress the appropriation for the defenses of New York harbor. He aided De Witt Clinton in his project for the Erie Canal. He was the orator of the day at the ceremony of its opening. Mitchell believed in Robert Fulton's idea of steam navigation and went on the trial trip of the first steamboat to Albany.

Mitchell, wrote Victor Robinson, was prolix, bombastic, and dogmatic; his assertion that the Garden of Eden was located in Onondaga Hollow in New York State, his determination to alter the nursery rhymes with verses of his own devising, and his attempt to change the name of America to Fredonia and to call our people Fredes instead of Americans indicate that Samuel Latham Mitchell was a busybody.

Mitchell's pomposity, his credulity—he maintained in court that a white woman gave birth to a black child because her husband accidentally upset a bottle of ink in her shoe—the seriousness with which he took himself, and his complacent belief that he was an oracle made him a conspicuous target for the barbed shafts of ridicule which were aimed at him in the *New York Evening Post.*

Mitchell accumulated honors and had so many diplomas and decorations that a cart was required to remove them. He was called the Nestor of American science, the human dictionary, the Congressional library, and also a chaos of knowledge. His memory was phenomenal and his repertoire encyclopedic.

Mitchell was among the first to investigate the American aborigines and the condition of the deaf and dumb in this country; his finding of the resemblance between symptoms of poisoning by snake venom and infective fever served as the starting point for the later researches of Weir Mitchell, while his work on the fishes of New York entitle him to be considered the father of American ichthyology.

Of vast learning, concluded Victor Robinson, of splendid physique, and of benevolent disposition, we may gratefully remember him as one of the makers of American science and one of our pioneer medical editors, and if we recall that the first time Samuel David Gross saw Samuel Latham Mitchell, the latter was in a horizontal position because he was too drunk to walk, we may interpret the incident as illustrating that Mitchell was incapable of drinking skillfully from any source except the founts of knowledge.

How does the *History of the College of Physicians and Surgeons* close its chapter on Dr. Mitchell? It says: "Disinterested, patriotic, engaging and communicative, he was an influential character in the creation and development of American science." Thus history obscures the real personalities of its heroes.

Dr. Edward Miller (1760–1812), according to the *History of the College of Physicians and Surgeons,* was professor of practice and clinical medicine and represented in his day the best type of learned and skillful practitioner. Of liberal education and classical tastes, he kept pace with the advance of professional knowledge, and his agreeable manners were combined with an integrity of purpose universally acknowledged. His friend, Dr. Mitchell, said of him that "his head was a treasury of information and his heart a mine of benevolence."

Victor Robinson pictured Dr. Miller as an earnest practitioner of medicine, and although he enjoyed a classical education, his writings were exclusively clinical, dealing mainly with the most baffling and formidable American disease of the period—yellow fever.

Dr. Miller was visiting physician and clinical lecturer at the New York Hospital. He possessed to an unusual degree the attachment of his colleagues in his native state, Delaware, New Jersey, and Maryland, as well as in Philadelphia where he graduated and in New York where he practiced. It is said that the concourse at his funeral in 1812 was larger than ever had been seen in New York on a similar occasion except in the single case of Alexander Hamilton.

After one hundred and fifty years we take pleasure and pride in re-emphasizing the tremendous contributions of these great leaders who actually founded New York medicine, struggled to raise professional standards, and had time to participate in all manner of community endeavors.

Medical Society of the State of New York
Sesquicentennial Meeting—February 18 to 21, 1957

SPECIAL ARTICLE

Community Teamwork in Developing a Chronic Diseases Rehabilitation Program

WATSON KLINCEWICZ, NEW YORK CITY

(*Supervisor, Cerebral Palsy Evaluation Center, Institute for the Crippled and Disabled*)

Of the estimated two million disabled persons in this country who could profit from vocational rehabilitation services, some 88 per cent are disabled by chronic diseases. About a half billion dollars of Federal, state, and local funds are being paid out annually to support one million people, which includes 325,000 dependent children because of the prolonged disability of the family breadwinner. The financial loss is indeed staggering, but how can the burden of social distress be estimated?

For the American community it presents a challenge to utilize all of its resources to alleviate the economic expense of the taxpayers and offer services to the chronically disabled which will enable them to share in a fuller life. Mary E. Switzer, director of the Office of Vocational Rehabilitation in Washington, D.C., offers this suggestion: "One means is prevention and another is research into causes. But for a large portion of the disabled, rehabilitation is the only answer."[1]

"Yet only a small fraction of the chronically disabled receive services," states Dr. Howard A. Rusk, "and without proper services, victims of chronic diseases go through a cycle that includes physical neglect, emotional trauma and vocational sterility."

The goal of rehabilitation is to achieve the maximal function and adjustment and to prepare an individual physically, mentally, socially, and vocationally for the fullest possible life compatible with his abilities and disabilities.[2] Thus, medical and surgical correction alone is often inadequate to lead the chronically ill patient back to a self-sufficient and normal life.[3] The modern physician will have to develop technics which will enable him to participate in a team which will utilize other disciplines, including the psychologist, the social worker, the vocational evaluator and counselor, and the placement specialist.

The patient himself must be considered as a member of this team. He must have sufficient intellectual capacity to appreciate the necessity for the training and to retain and apply it as well. Motivation is equally important for his active participation in the entire program, for his improvement and ultimate success. This motivation may be lacking because of nonacceptance of his disability, reactive depression in the face of realistic problems caused by the disability, or neurotic secondary gains. The premorbid personality will govern the type of reaction the patient will have to his present condition.[4]

The commission on chronic illness in November, 1954, after making its various recommendations public, stated that rehabilitation is an innate element of adequate care and properly begins with diagnosis. Not only must formal rehabilitation services be supplied as needed, but programs, institutions, and personnel must be aggressively rehabilitation-minded. If the nature of chronic illness is to be fully understood, the commission urges that any community plan should be designed so that it will allow for a comprehensive plan rather than a unilateral approach by members of single disciplines. It is the "team approach" utilizing the specialists in their own fields which is the most practical and economically efficient manner to set up a community program.

In the building and organizing of new institutions the ever-increasing role of medical rehabilitation can no longer be disregarded. Because rehabilitation is considered the restorative aspect of chronic medicine, its use would materially reduce the number of the disabled who constitute a sizable proportion of the "custodial" in the public hospitals.[5] Aside from the physiologic, pathologic, and clinical aspects of chronic diseases the medical and allied profession will have to learn the problems of the chronically ill patient, his place in society, and its attitude toward him. He cannot merely be considered as a malfunctioning mechanism but as a human being who, in addition to his actual physical illness, suffers from a number of troubles often not immediately recognizable.

The modern chronic diseases facility will have a complete rehabilitation service which will include trained personnel from a diverse number of disciplines who will be capable of handling the complex problems arising during the patients' hospitalization. A rehabilitation center has been described as a facility operated for the primary purpose of assisting in the vocational rehabilitation of disabled persons through a coordinated approach by many disciplines: medical, psychosocial, vocational, and educational. The ideal center is one in which a concentration of these highly skilled professional services is available under one roof and where provisions are made to coordinate all of the community resources, such as hospitals, educational institutions, trade schools, industries, workshops, unions, and placement agencies. In fact, the rehabilitation center is in varying degrees an extension of existing services in the community. It supplements the work of the hospital, the school, and industry, but it is none of these. It contains medical specialists, trained psychologists and social workers, and vocational experts who are available simultaneously to effect an integrative plan for the severely disabled. Although many specialties are represented, the staff operates as a "unit-team" with each member performing his own specialized role but working cooperatively toward a common end.

The disabled client is offered continuous services in a centralized organization, eliminating interagency transportation problems and reducing correspondence as well as the multiplicity of case summaries and record abstracts. Because the rehabilitation center is "client centered," it focuses its whole efforts toward one goal: the most efficient disposition of each individual which is as nearly compatible with his realistic interest together with the findings of the unit-team.

In addition, the rehabilitation center is more efficient and economical, both in terms of time and money, than a number of separate agencies with duplication in plant and staff and overlapping administrative costs. Scheduling appointments for clients can be arranged so as to enable the professional staff to serve more intensively per unit time. Not every person is in need of or wants every service available. Because of the integrated admission committee technics which are utilized in the centers, the professional staff is in an excellent position to diagnose and identify more readily the specific needs of the client. The savings direct and to the community have been documented over and over again in all parts of the country.[6] Authorities in the field of geriatrics and chronic illness recommend that such rehabilitation centers should be established, not only in metropolitan areas but also in small communities predominantly industrial and agricultural in character.[7]

The rehabilitation center serving a chronic disease hospital will consist of four general divisions including all services as required under the present Congressional public laws:

A. Medical and Surgical Division
   1. Physiatrist (chief of medical service)
   2. Consulting specialists
   3. Rehabilitation nursing staff
   4. Physical therapists
   5. Occupational therapists
   6. Dietary department

B. Psychosocial Division
   1. Psychiatrist (chief of division)
   2. Psychologists
   3. Social workers
   4. Domestic relations counselors (housing, legal, compensation, social security)

C. Vocational Rehabilitation Division
   1. Vocational guidance counselors (one chief of division)
   2. Prevocational test staff
      (*a*) "Rehab"-groups
      (*b*) Habilitant groups (brain damaged, aphasia)
   3. Vocational training (based on community needs)
   4. Sheltered workshop service staff
   5. Placement counselors
   6. Home-bound program staff (transportation and coordination)

D. Administrative Division
   1. Director (chief administrator and public relations)
   2. Assistant director (chief of professional services and coordination)
   3. Comptroller
   4. Clerical staff

Earlier the definition of vocational rehabilitation according to the National Council on Rehabilitation was cited. The modern rehabilitation center will incorporate all of the major areas, as recommended by the Council, if it is to encompass all of the needs of its chronically ill clients. There should be no gaps in the rehabilitation process, and the structure of the center must be such that any contingency which arises can be met effectively with properly trained personnel and adequate facilities. With proper foresight the cost which covers these additional services will in the long run negate the losses sustained by but partially rehabilitated cases or ones which might have culminated in successes if only the needed services were readily available.

Whitehouse[8] groups seven major areas which are to be integrated into a total rehabilitation process: (1) economic, (2) medical, (3) social, (4) psychologic, (5) psychiatric, (6) vocational, and (7) teamwork. So many agencies in the past have failed to recognize that vocational services are just as important as the medical restoration phases of rehabilitation. It might be called the end service that helps to complete the program with a "final product" which will then make the client become economically sufficient to sustain himself and in turn contribute directly or indirectly to community needs of others like himself.

In New York City a number of community agencies, including two representatives of New York State and the United Cerebral Palsy Association of New York City and Queens, attacked the problem of developing more efficient and effective methods of training and placement of the cerebral palsied. They set up an interagency committee to screen the backlog of individuals afflicted with cerebral palsy for whom services were previously not deemed feasible. A prevocational evaluation center was established in the Institute for the Crippled and Disabled, and a staff was selected to revise existing measuring technics so that the positive work potential in the cerebral palsied individual could be ascertained. The methods developed here revealed that a sizable portion of those admitted to this program were trainable for productive employment. The Division of Vocational Rehabilitation in New York arranged for training, and the New York State Employment Service assigned special personnel to facilitate placement of these individuals who were found to be good candidates for selective employment. Thus, an integrated team of agencies in the community have proved that a severe problem once thought to be without solution can be met and conquered by intensive and efficient community planning. This same application can be used in other communities attempting to solve the problems of the chronic disease population.[9]

Rehabilitation services must be applied to meet the specific needs of the chronically disabled, and consideration must be given to the development of technics to fit these needs. Rusk and Dasco[10] state that the chronically ill patient is one whose treatment may take a long period of time, who is in need of continuous active care and/or rehabilitation, and who has a good chance to improve or recover. They differentiate a "custodial" patient as one whose needs are primarily in the area of nursing care, infrequent medical supervision, or often only domiciliary care.

Studies have shown that with the use of intelligent criteria those patients who require domiciliary care should be placed in various institutions other than hospitals. If constant nursing care is required with only infrequent medical supervision, then a plausible solution is the establishment of a separate wing in the hospital. The 1954 National Conference on the Long-Term Patient recommended an arrangement with periodic re-evaluation of long-term patients to facilitate their placement in the most suitable environment and their return to the community if improvement reaches a satisfactory level.

A twofold method has been suggested to meet the ever-increasing needs of the chronically ill. These should be (1) a basic evaluation of the fundamental needs of the individual and (2) the classification of facilities available according to their function. If the most practical and satisfactory placement of patients is to be made, then the matching of abilities with facilities seems to be the procedure used. The patient is evaluated for his ability to perform a series of "Activities of Daily Living." Following similar criteria, such as presented by Rusk and Dasco,[10] proper disposition of each patient can be made according to their ADL capacities.

It is apparent that no single program involving the chronically ill can be undertaken until there is a complete survey made of all the existing community resources. The commission in 1952 emphasized the urgent need to look at the chronic illness picture in its entirety, rather than attempt to deal with pieces of the problem individually, and to make comprehensive across-the-board community plans on this basis.

In a survey made by Dr. Dean W. Roberts and Mr. Dean E. Krueger which was published in part in 1955,[11] it was shown that there were about 1,000 chronic disease hospital beds in operation in Maryland in addition to proprietary and nonprofit nursing homes. Data from this study show that 12 per cent of patient-days in the general hospitals of Maryland are devoted to patients who have already been in the hospital thirty days. Long-term patients are increasing greatly with advancing age, and they are utilizing the available hospital beds.

We are told by statisticians that we have 11 million people over sixty-five in the United States today. In another twenty-five years, barring unforeseen events, we will have 17 million. In 1900 one person in forty was over sixty-five years of age. In 1980 the ratio is expected to be one in seven. In 1950 although only 7 per cent of the general population in Maryland was age sixty-five years or older, one sixth (17 per cent) of hospital patients and one third (34 per cent) of long-term patients were sixty-five or older. The antibiotics, control of childhood disease, and other revolutionary medical discoveries have prolonged life so that the average life expectancy has risen from forty-six years in 1900 to 68.4 today.

As a natural consequence there is a tremendous rise in the number of the chronically ill. Arteriosclerosis, diabetes, or arthritis is now the problem where once it was diphtheria, pneumonia, or the complications of measles. Public health in New York State reveals that 70 per cent of all deaths in the State are due to chronic diseases and that chronic disease constitutes the major cause of economic insecurity. In Westchester County physical disability due to chronic disease is a major cause of public dependence. In New York City, together with disability and old age, chronic diseases are responsible for 45 per cent of the general public assistance payments.[12]

Our national economy will begin to feel the full impact of the aging in the near future. About 68 per cent of men over sixty-five were in the labor force in 1890; this number went down to 45 per cent in 1950, and the indication is that this figure will continue to decline. The weakness of the economic structure in this group becomes appalling when one learns that out of the 11 million in the United States sixty-five or older, only about a third have incomes over $500 per year, while the bottom third have no income at all.[13]

The chronic diseases require more prolonged medical and hospital care than a family with a reduced income can afford. The financial pressures often are too great on low or middle income groups, and these must be taken over by the community. At this point hospitalized individuals remain long after they have been given services because there is no other place to go. It is by the mutual collaboration between all professional members together with the citizens of the community that the custodial problem may be remedied. Any attempt at a piecemeal solution is bound to lead to ultimate failure since the greatly increasing number of the aging will begin to overflow into the existing resources of the community for services.

Throughout the whole country the economic benefits of rehabilitation to the disabled individual and to his community have been demonstrated. The Department of Vocational Rehabilitation in New York in 1952 assisted 1,017 disabled persons over the age of forty-five back into employment. Their combined earnings prior to rehabilitation had been estimated at $433,000 annually. Rehabilitation services cost $197,000. The astounding result after a year revealed that this group's combined income totaled $2,336,000. If the totals for the entire country involving the state-Federal rehabilitations are taken, they show that 64,000 persons were placed in employment. They now earn more than 100 million dollars annually and pay over ten million dollars in taxes during the same period. In three years the cost of the rehabilitation services will have been paid. But what are the criteria by which we may measure the social and psychologic gains to these people? They are indeed immeasurable.

The community which is fortunate enough to have a chronic disease facility or which is in the process of building one has been provided with an opportunity to apply for Federal grants-in-aid to set up rehabilitation programs under the 1954 ammendments to the Vocational Rehabilitation Act, known otherwise as Public Law 565 and, a later act, Public Law 482. Incorporated into Public Law 565 is a provision for grants to convert buildings for rehabilitation purposes along with aid in equipping them and securing initial staffing. Of particular interest in the 1954 Medical Facilities Survey and Construction Act is the provision for the construction of new centers on a comprehensive scale, especially for those in connection with hospitals and medical teaching institutions. Public Law 482 was passed by Congress to provide for the Federal sharing in the construction or surveying community needs and for constructing four specific types of facilities: (1) chronic disease hospitals, (2) rehabilitation facilities, (3) nursing homes, and (4) diagnostic or treatment facilities.[1] Equally important, the need was foreseen for the development of research, studies, and demonstrations which could increase the fund of knowledge and broaden the experiences in rehabilitation methods. Thus, the new Vocational Rehabilitation Act issued the authority to promote a program of grants-in-aid for special projects, both public and voluntary.

Proper community planning can establish a rehabilitation center which will provide complete services to meet all of the needs of the chronically ill in its own and surrounding areas. With the Federal assistance which is now available the plant may be set up and personnel provided. Once the facility is functioning, services may be purchased by the State and private agencies as well as by individuals. It is unusual for such centers to make a profit, but it is possible to "balance" expenses through efficient administrative practices which have been successfully utilized by the older rehabilitation centers in most of the large metropolitan areas throughout the country. Special research projects may be conducted, especially in specialized disability groups; teaching programs may be instituted in cooperation with public health and other agencies, together with local colleges and universities, and a great number of other plans may be set up to contribute towards solvent practices.

Financial considerations are of course important, but as it has already been pointed out, the chronically ill population is increasing at an alarming rate with little provision being made for their care. The Federal and state governments have recognized the need for rehabilitation services and centers and are attempting to stimulate community action. Now it is up to the community to act. The physician, being a key member of the team, can do much to spark the community into an active and dynamic rehabilitation program.

400 First Avenue

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Plan to celebrate

One hundred fiftieth birthday

of the

Medical Society of the State of New York

at the

Sesquicentennial Meeting

February 18 to 21, 1957

Hotel Statler, New York City

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GALA BANQUET

at the

HOTEL WALDORF-ASTORIA

February 19, 1957

MINUTES OF THE COUNCIL

The following is a summary of the minutes of the October, 1956, meeting of the Council of the Medical Society of the State of New York, as approved November 8, 1956.

The Council met October 11, 1956, from 9:12 to 11:35 A.M. at the Manhattan Club, New York City. Dr. James Greenough, president of the Society, occupied the chair.

The minutes of the meeting of September 13, 1956, were approved with one correction; a sentence in the report of the Economics Committee was changed by the deletion of the words shown in parenthesis and by the addition of those in italics, as follows: "It was felt by the technical advisers to the Hussey Committee that the A.M.A. establish a permanent liaison committee with the Department of Defense (where matters of policy are to be determined) *to determine matters of policy, subject to ratification by the state medical societies.*"

Secretary's Report

Executive Committee.—Dr. Anderton reported regarding Executive Committee actions: "1. The Executive Committee recommends that the Council recommend to the Board of Trustees an appropriation of $100 as a Christmas gratuity to the employes of the Manhattan Club."

It *was so voted.*

"2. The Executive Committee recommends to the Council that the fee schedule circulated with the agenda for this meeting be presented to the Department of Defense as a temporary fee schedule subject to revision."

After discussion it *was voted* to amend the preamble of the fee schedule to include the statement that the fee schedule shall be reviewed at least annually.

It *was voted* to adopt this fee schedule as temporary as amended and send it to the Department of Defense.

"3. The Executive Committee recommends that Mrs. Renato J. Azzari and Mrs. James Greenough be requested by the Council to act as hostesses in the Hospitality Room for our delegation to the American Medical Association in Seattle next month. I so move."

After discussion the motion *was amended* to invite the ladies who come with the official delegates of the Medical Society of the State of New York, such as wife or an adult daughter, and passed.

It *was voted* to approve the report of the Executive Committee as a whole.

Dues Remissions.—The Council voted to remit 1956 annual State dues of 16 members because of illness, five members because of military service, and one member because of financial hardship. It was also voted to request remission by the American Medical Association of 1956 dues of 15 members.

General.—Dr. Anderton reported: "Labor Day your secretary visited the exhibit of the Woman's Auxiliary at the New York State Fair in Syracuse. It had the same excellent position in the Women's Building as last year. It consisted of several movies of popular appeal on health subjects. Several folders were distributed. All seats were occupied during most of the performances. It is suggested that you instruct me to write a letter of approbation to Mrs. Albert Vander Veer, II, president of the Woman's Auxiliary.

"Your secretary has carried out instructions which he received at the last meeting. He has sent a request for remission of dues to the American Medical Association, referred resolution regarding Second Hoover Commision Report to the Legislation Committee, notified the Joint Commission in New York State for Improvement of the Care of the Patient that Dr. W. Guernsey Frey, Jr. was nominated to its membership, sent proposals to the Board of Regents for members on its Medical Committee on Grievances and the New York State Board of Medical Examiners, and sent to Governor Averell Harriman and county medical societies copies of your resolution regarding the Temporary Health Insurance Board. I am not sending copies to legislators until after election for obvious reasons.

"On September 19 President Greenough and I attended the Sixth District Branch at Norwich, and the following day we went to the Third District Branch at Albany. The Seventh District Branch at Rochester, September 26, and the Eighth District Branch at Olean, September 27, were attended by President-elect Givan and myself. These meetings had excellent programs and were fairly well attended.

"On September 22 your secretary attended a meeting of the Psychologists Advisory Committee of the New York State Education Department, with Drs. Greenough, Prout, Brody, and Curphey, and Mr. John Burns, legal counsel. Dr. Stiles D. Ezell, secretary of the New York State Board of Medical Examiners, was also in attendance. An effort will be made to define the legal sphere of activities in which psychologists will practice.

"On September 24 I attended a meeting to advise the Joint Legislative Committee on Health Insurance. Dr. Thurston L. Keese, vice-chairman of the Rural Medical Service Committee, was also present.

"I attended a meeting of the Rural Medical Service Committee on September 28 in Dr. Leo E. Gibson's office at Syracuse.

"Your secretary, at the time of going to press, plans to attend a luncheon meeting in New York City, called by the American Medical Association's Industrial Medical Council, October 2. The following day he is going to the Ninth District Branch meeting at Monsey, and on October 4 he will attend the sesquicentennial celebration of the Madison County Medical Society in Hamilton. On October 6 there is scheduled a meeting of the Public Relations Committee, Conference of County Public Relations Committee Chairmen, and an Economics Committee meeting. On October 9 I plan to attend the sesquicentennial celebration of Orange County Medical Society at Bear Mountain Inn, and the following day there are listed meetings of the Budget Committee, Publication Committee, Office Administration and Policies Committee, and Executive Committee.

The secretary continued: "I must add a sad comment announcing the death of Dr. James McAskill, Watertown, on October 7. Flowers were sent in the name of the Society. Dr. McAskill was an active member of the House of Delegates for years. He was useful and helpful on State Society committees, and he was vice-president 1949 to 1950. I request the Council to instruct the secretary to send a letter of condolence to his widow."

It *was so voted.*

It *was voted* to approve the secretary's report as a whole.

Dr. Ezra A. Wolff, assistant secretary, reported that he had represented the secretary at the Second District Branch meeting on October 3.

The Treasurer's report was accepted.

Reports of Committees

Blood Banks Commission.—Dr. Thurman B. Givan, chairman, reported: "The Blood Banks Commission did not meet during September. Miss Clarke, the new executive director, is being indoctrinated.

"The Community Blood Program, formerly called the Blood Assurance Program, is proceeding. Work is being actively carried on in Richmond, Kings, New York, and Bronx Counties. We hope that we will be able to work in Westchester soon. A meeting with hospital groups was held on September 27 at Grasslands Hospital for the purpose of describing and explaining our programs. There appeared to be considerable interest, and there will be an adequate follow-up.

"The activation of the Northeast Clearing House has commenced. Plans have been made to hold two meetings this month in New York for blood banks in the district.

"With regard to financial results, the Association sustained a net loss for September of $1,553, making the total loss for the year $8,291. The total deficit as of September 30, 1956, amounts to $91,259.

"Loans to the association amount to $90,000. As reported to this Council at its last meeting, it would seem, from the action taken by the House of Delegates last May, total loans through December 31 of this year should not exceed $100,000. This would leave $10,000 for the Association should it be needed. The best estimate now is that approximately $6,000 will be needed for the rest of this year. The association has sufficient cash for another month; no request for money is now being made."

It *was voted* that the report be accepted.

Budget.—Dr. Maurice J. Dattelbaum, chairman, reported that the Budget Committee was preparing the 1957 budget on a calendar year basis. He gave a résumé of the items reviewed at a meeting held on October 10, 1956. He stated the complete budget would be presented at the next Council meeting for action.

Economics.—Dr. John C. McClintock, chairman, presented the following report: "Mr. George P. Farrell, director of the Bureau of Medical Care Insurance, attended a meeting in Chicago, September 17, 1956, at which the Federal Dependents' Medical Care Program was discussed. Considerable time was spent by Mr. C. Joseph Stetler, legal counsel of the American Medical Association, in drafting a contract between state medical societies and the Department of Defense. Thought was given to items included in the fiscal agent's contract covering classification of expenses which would normally enter into the administration of the program.

"Mr. Farrell attended the Sixth, Third, Seventh, and Eighth District Branch meetings. He spoke regarding Public Law 569, Dependents' Medical Care Act. Progress reports on the New York State Blue Shield Plans for 1955 and the six months ending June 30, 1956, were available.

"Mr. Farrell attended a meeting of the State of New York Joint Legislative Committee on Health Insurance Plans, September 24, 1956, at the School of Public Health and Administrative Medicine, Columbia University. Dr. Ray Trussell, executive officer, opened the meeting, explaining that the committee had requested the University to call together a group to discuss extending health insurance to rural residents. Fourteen persons were present, representing various interests in the health insurance field. Suggestions were made regarding an educational program to help sell health insurance in rural areas.

"The schedule of allowances for proposed medical fees for care of dependents under Public Law 569, Dependents' Medical Care Act, is enclosed with this agenda for members of the Council."

It *was voted* to adopt this portion of the report.

In a supplementary report Dr. McClintock presented the following: "The Council Committee on Economics met at the Biltmore Hotel, New York City, October 6, 1956. The schedule of allowances for dependents of military personnel under the Dependents' Medical Care Act was reviewed and recommendation made that it be submitted to the Council.

"Question was raised whether or not legal opinion from Mr. Martin had been received regarding approval in principle of the State Society entering into a contract with the Department of Defense to implement P.L. 569. Dr. Anderton will discuss this point with Mr. Martin.

"Mr. Farrell attended the Ninth and Fourth District Branch meetings. He also met with the Joint Legislative Committee on Health Insurance Plans at the College of Physicians and Surgeons, October 5, 1956. Dr. Leo E. Gibson, chairman of the Committee on Rural Medical Service, was also present.

"Considerable discussion was given to the feasibility of establishing a program of education for the rural consumer on the need for health insurance. Senator Metcalf asked Mr. Farrell to obtain for the committee information available from New York State Blue Cross and Blue Shield Plans on their approach in disseminating information to people in rural areas through farm organizations, etc.

"Mr. Farrell spoke to the Medical Society of the State of New York's Conference on Public Relations, October 6, 1956, on the new Federal law providing medical care for dependents of military personnel."

Dr. McClintock read the following letter received from the president of the Medical Society of the County of Otsego:

> I am writing you to request authorization to conduct a referendum within the counties covered by the Utica office of Medical and Surgical Care, Inc., this referendum to be directed to the physicians of the area to determine their feelings on the question of a service or indemnity contract that would correspond reasonably with those generally available over the State of New York.
>
> This action by me requested by authority of my comitia minora and because we of this county have no representation on the board of Medical and Surgical Care, Inc.
>
> Very sincerely,
> R. F. Hust, M.D., *President*
> Otsego County Medical Society

Dr. McClintock stated: "This problem has been discussed by your Economics Committee, and it is felt that to clarify the situation a referendum will be required and that it should be conducted by the State Society.

"Your Committee on Economics recommends that the State Society poll the physicians who participate in Medical and Surgical Care, Inc., of Utica, to ascertain whether or not they would participate in a service type of contract if it were offered."

After discussion, it *was voted* to adopt the following substitute motion: "that the chairman of the Economics Committee be empowered to arrange for a poll in the area under consideration with due regard for the prerogatives of the county societies involved."

It *was voted* to adopt the report of the Committee on Economics, as amended, as a whole.

Industrial Health.—Dr. Peter J. Di Natale, chairman, reported: "Your chairman participated in the panel discussion on Industrial Health at the Sixth District Branch.

"On October 2 a special meeting was called by Dr. Shepard, chairman of the Industrial Council of the American Medical Association, which was also attended by Dr. Anderton and Dr. John J. Masterson. The meeting was called to meet Dr. Holland, the new secretary of the Council.

"A good deal of help was obtained from that meeting. Much discussion was devoted to our problem of obtaining a director. We obtained several names to contact about the position of director of the combined bureaus of Industrial Health and Workmen's Compensation.

"The letters have been forwarded to Dr. Anderton. This morning I received this folder (*indicating*) that I intend to look over, and later I hope to consult Dr. Anderton, Dr. Masterson, Dr. Dorman, and Dr. Kaliski."

Legislation.—Dr. Henry I. Fineberg, chairman, presented the following report: "Your chairman attended a meeting of the New York State Education Department Advisory Council in Psychology, in New York City, September 22. In addition to the members of the Council, Commissioner Robert C. Killough, Jr., and Dr. Ezell, there were present at the conference Dr. James Greenough, Dr. W. P. Anderton, Dr. Theodore J. Curphey, Mr. Burns, legal counsel, and Drs. Matthew Brody and Curtis T. Prout, psychiatrists.

"The purpose was to discuss the new law which calls for the certification of psychologists. The deliberations brought forth these facts: that the law was one of certification and not licensure; that where teamwork is involved in analyzing a case in the clinic or in the inpatient service of a hospital, there is practically no conflict between the psychiatrists and the psychologists—each member of the group has his particular job, with the doctor of medicine in charge; that in individual practice quite a number of psychologists, working without medical supervision, persist in making diagnoses and using psychotherapy. We believe that this is contrary to the law, which states that 'the practice of medicine is defined as follows: a person practices medicine within the meaning of this article. . . who holds himself out as being able to diagnose, treat, operate, or prescribe for any human disease, pain, injury, deformity, or physical condition and who shall either offer or undertake, by any means or method, to diagnose, treat, operate, or prescribe for any human disease, pain, injury, deformity, or physical condition.' The psychologists feel that those who have received their training in recognized universities are entitled to diagnose and treat 'psychologic' conditions.

"No decisions were reached. The State Education Department still has a big task. It is Dr. Ezell's opinion that since the main objective of the meeting was to gain expressions of opinion and to explore all angles from an administrative standpoint, the get-together of medicine and psychology was reasonably successful.

"The Council Committee on Legislation met in New York City on the evening of September 24. Three members of the committee, the two advisers, our president-elect, our secretary, our executive officer, and two ophthalmologists, representing the Section of Ophthalmology, attended.

"Drs. Frank D. Carroll and Thomas M. d'Angelo, speaking for the Section on Ophthalmology, reported that their organization is still interested in the legislation concerned with the 'employment of medical technicians under the supervision of duly licensed physicians.'

"At the last session of the Legislature, such a bill was introduced by Senator McCullough and Assemblyman Meighan, at the request of the ophthalmologists. The underlying purpose was to permit qualified technicians to be used for refractions, orthoptics, and the determination of visual fields. Although the proposal was supported by the Medical Society, it was vehemently opposed by optometrists and physiotherapists and failed to pass.

"After considerable discussion it was recommended that the entire problem be carefully discussed with the New York State Interdepartmental Health Resources Board and the State Education Department. Dr. Carroll stated that these two agencies would be consulted but that if no solution was reached, the bill would be introduced.

"The committee decided to postpone action in this matter pending future developments."

The Council *voted* approval.

"Before proceeding with the rest of the agenda, the committee approved the policy that we should concentrate on the bills which have a chance of passing and not waste too much time and energy on those proposals which will in all likelihood fall by the wayside.

"The following items were presented to the committee for consideration:

"1. Recommendations of the House of Delegates and Council:

"A. The injunction bill—It was agreed that we must again introduce an injunction bill and fight vigorously for its passage. Such a bill has been prepared by Dr. Smith and is now in the hands of Mr. Beasley for review. When completed, it will be submitted to the Board of Regents through Dr. Dominick F. Maurillo, the only physician member of that body. It was stressed that 'strong' legislators in both houses should be asked to sponsor our bill.

"The stand taken by the Committee to Combat Cults, at its meeting of September 12, was wholeheartedly endorsed.

"B. The practice of medicine by hospitals—The Iowa decision was discussed. It was finally decided that a bill similar to the Friedman and Pino bills of former years should again be sponsored.

"C. The resolution concerning the taking of blood for alcohol testing, introduced in the House of Delegates by Dr. Burgin of Herkimer County, was considered. Dr. Smith reported that this proposition is under study by the State Police Department. Deputy Superintendent of State Police George M. Searle will consult with the Sheriffs' Association, and they will draw up a bill which will be transmitted to the Medical Society for evaluation and comment before it is introduced in the Legislature. It was, therefore, recommended that we postpone action in this matter until a future date."

The Council *voted* approval.

"D. The reintroduction of three bills pertaining to workmen's compensation was approved: (1) to abolish medical practice committees in counties with a population of one million or more; (2) to make decisions of the Medical Appeals Unit binding on the Workmen's Compensation chairman; (3) to provide that the chairman designate physicians to serve individually or in panels as expert consultants to advise with respect to disputed questions of medical testimony and care.

"E. Amendment to the autopsy law—Your chairman reported that he wrote to the president of the New York Board of Rabbis asking for an opinion of the rabbinate as regards the performance of autopsies (our bill did not pass at the last legislative session because of opposition on a religious basis). Attached to this letter was a brief presenting evidence that autopsies are not contrary to the precepts of Judaism.

"The Rabbi's reply, received a short time ago, was not satisfactory.

"It was suggested that before we take any definitive action, we should arrange a meeting with representatives of the three groups of the Jewish faith—the Orthodox, the Conservative, and the Reformed. Unless we can arrive at some agreement with these people, our efforts are doomed to failure. We have the support of the New York Hospital Association.

"2. A report of the special subcommittee appointed to study the problem of procurement of cadavers for medical schools was discussed. It was the consensus that this is primarily a matter for the medical schools to bring before the proper authorities. The entire situation should be evaluated by the Deans' Council of the State Education Department. The committee recommends that we support the medical colleges at the proper time but that we take no action at present.

"3. The question of amending the Medical Practice Act in such a way as to require an internship before an applicant may be permitted to take the examination for licensure, first brought to our attention by Dr. Stiles D. Ezell, was tabled. Dr. Ezell explained that following a meeting of the Council of Deans, which is opposed to this program, the State Education Department has decided to maintain a status quo."

The Council *voted* approval.

"4. A letter from Dr. Keith B. Preston, president of the Medical Society of the County of Oneida, was read. Dr. Preston refers to the so-called 'Fireman's Heart Bill.' The physicians in his area are anxious to support Senator Fred J. Rath, who is interested in this legislation, because of his warm feelings toward the medical profession. In a resolution the Medical Society of the County of Oneida supports the passage of this bill, which would 'amend the civil service law in relation to presumptions attaching to certain disabilities incurred by members of uniformed forces of paid fire departments." The last bill which was introduced read in part, 'Any condition of impairment of health caused by diseases of the heart resulting in total or partial disability to a uniformed member of a paid fire department, where such paid firemen are drawn from competitive civil service lists, who successfully passed a physical examination on entry into the service of such department, which examination failed to reveal any evidences of such condition, shall be presumptive evidence that it was incurred in line of duty, unless the contrary be proved by competent evidence.'

"The committee was of the opinion that this position is untenable. The proposal was disapproved, and the chairman was asked to write to Dr. Preston and inquire on what medical grounds this type of legislation is based. What justification is there for such a bill? Would it not set a precedent which might be extended to include various other occupations?"

The Council *voted* approval.

"5. The chairman read a letter (personal communication) from Dr. Arthur C. Jones, of Portland, Oregon, addressed to our president. In it the doctor discusses the relationship of our profession toward the specialists in physical medicine.

"Some comment is made of 'a stong trend toward independent "practice" of physical therapy by therapists . . . and an organized opposition to the development of adequate physician supervision of departments of physical medicine.' This, Dr. Jones states, should be fought.

"The committee recommended no action and suggested that our secretary write to Dr. Jones, thanking him for bringing this subject to our attention."

The Council *vcted* approval.

"6. The recommendation of the Council Committee on Workmen's Compensation regarding the introduction of a bill at the coming Legislature to amend the Disability Benefits Law to the effect that 'physicians shall be paid for testimony where, in the opinion of the referee, testimony is necessary to decide the claim for disability benefits' was unanimously approved. This was previously accepted by the Council at its meeting on September 13.

"Other changes in the Disability Benefits Law were recommended:

"A. The chairman can now remove from the list of physicians authorized to render medical care the name of any physician whom he shall find, after reasonable investigation, has submitted a statement of disability that is not truthful and *is incomplete.*

"The committee feels that this power should not lie in the hands of the chairman but should be transferred to the medical practice committee or medical societies which will conduct proper hearings. The Medical Appeals Unit may be called upon.

"B. At present, physicians must have a compensation rating in order to qualify for the rendering of medical care. The committee is of the opinion that this requirement should be eliminated.

"Before taking any definite action in these two matters, the chairman of the Council Committee on Workmen's Compensation and the director of the Bureau will be consulted."

The Council *voted* approval.

"7. Action on the resolution regarding the recommendations of the Second Hoover Commission as they pertain to Federal Medical Services, introduced in the House of Delegates by Dr. Howley of Bronx County, in which we are directed to 'support measures to implement these recommendations and urge enactment into law of the purpose and aims of this report,' was postponed, pending further information about its provisions. The chairman was directed to write to the Washington office of the American Medical Association and ask for copies of the report and to determine whether any of the recommendations have already become law. This has been done."

(It was requested that the Legislation Committee send copies to members of the Council and to Trustees.)

"8. It was agreed that we should again sponsor the 'free choice of medical plan' bill.

"9. The chairman reported that he had received notice from Mr. Frank J. Smith, chief of the Narcotic Control Section of the State Health Department, that the Governor of Louisiana recently vetoed a bill that would have allowed the state's drug stores to sell narcotics by oral prescription. It was Governor Long's feeling that such a law would weaken the state drive for stricter control of narcotic smuggling.

"Since the meeting of the Council Committee on Legislation, your chairman has received a letter from Dr. Maurillo. He informs us that he will transmit our feelings about chiropractic legislation to the Board of Regents. However, we are warned to 'expect trouble.' Dr. Maurillo pledges that he will do everything to help us, but the assignment is not an easy one. Your chairman is scheduled to meet Dr. Maurillo on October 16.

"Dr. Smith and your chairman will make their tour through the State of New York during the next four weeks. The itinerary is still incomplete. Thus far, the following meetings have been arranged: October 10, New York City; October 18, Saratoga Springs; October 22, Ogdensburg; October 23, Cortland; October 24, Geneva; October 25, Buffalo; November 5, Kingston."

Dr. Fineberg gave a résumé of a report by Dr. Richard Stalvey, administrative assistant of the Bureau of Investigation of the American Medical Association, at the Public Relations Conference at the Hotel Biltmore on Saturday afternoon, October 6. Dr. Stalvey spoke on chiropractic throughout the nation.

It *was voted* to approve the report as a whole.

Malpractice Insurance and Defense Board.—Dr. Joseph A. Lane, chairman, reported by invitation:

"We had the first regular meeting of the Board last night since the summer recess. Only routine business was transacted."

Office Administration and Policies.—Dr. John J. Masterson, chairman, reported: "The Office Administration and Policies Committee held its regular monthly meeting yesterday afternoon.

"Various personnel matters were approved.

"It will be recalled that the Council and Board of Trustees some months ago approved the employment of an actuarial firm to review the thoughts we had about an employes' pension plan. The firm of Marsh and McLennan, Inc., was employed. As a result they have suggested a pension plan, as well as a possible outline which could be distributed to the staff. The committee spent much time in going over this matter and approved in principle both the plan and the outline. We recommend that a copy of each of these be sent to each member of the Council and Board of Trustees and to legal counsel. It was felt that we ought to have Mr. Martin's advice before either of these reports is adopted. It is also recommended that the entire subject be discussed at the November meeting of the Council.

"After discussing the annual Christmas party for the staff, the committee approved the expenditure of not more than $250 for this purpose."

It *was voted* to accept the report.

Dr. Masterson stated: "At the next committee meeting we have invited or will invite a representative of Marsh and McLennan, and in the event any of the members of the Council wish to interrogate him about the plan, they may do so. Do you wish to invite him?"

The president requested that he be invited.

Publication Committee.—Dr. Masterson reported: "The Publication Committee held its regular monthly meeting yesterday afternoon in the office of the Society.

"Dr. Redway reported that he had spent almost two weeks in traveling about New York State to obtain material for the JOURNAL. Much was secured, and more has been promised. More than 14 cities were visited, and one of the aims was to show prospective authors that the JOURNAL is a desirable medium for the publishing of scientific and editorial articles.

"The work of compiling and editing the historical material for the sesquicentennial issue of the JOURNAL is progressing. It is believed that we will have many interesting illustrations accompanying the history of the Medical Society of the State of New York.

"During the discussion of the editor's report, some of the progress and improvements which Dr. Redway initiated since he became editor were spoken of. The committee was in agreement that he had done an excellent job and ought to be commended both for the effort he has put into this work and for the results, of which we are all aware.

"Correspondence from the William S. Merrill Company was read. This pharmaceutical manufacturer plans to publish, with our permission, two clinicopathologic conferences. It is the policy of this company to pay $125 for each clinicopathologic conference it publishes. It was decided that the editor should inform the William S. Merrill Company that the check should be drawn to the order of the author of the clinicopathologic conference. It was understood that Dr. Redway would receive these checks and transmit them to the authors, advising them that they might dispose of the money as they see fit.

"The committee reviewed the request of a physician for advertising space in the classified section of the JOURNAL to advertise the sale of stock in a hospital. Because this type of advertising is against the policy of the committee, it was voted not to accept the advertisement.

"The business manager reported for the nine months ended September 20, 1956, regarding the JOURNAL finances. He also reported that the remaining inventory of 1955 *Directories* amounts to 220 copies. The committee was asked whether these should be held for new members of the Society or sold if orders are received. The committee voted to leave this matter to the discretion of the secretary, Dr. W. P. Anderton, and the business manager.

"Some months ago the Publication Committee decided that every effort should be made to exclude from the hospital section of the *Directory* members of ancillary professions who are not doctors of medicine. Subsequent correspondence from Dr. David Tanchester, chairman of the Council on Hospital Dental Service, of the Dental Society of the State of New York, was reviewed. The gist of Dr. Tanchester's letter was that dentists ought to be included in the hospital section of our medical directory. It was felt that the action of the Publication Committee ought to be reviewed, and it was voted to suggest to the Council that this question be referred to the Joint Committee of State Medical and Dental Societies."

After discussion the report *was accepted.*

Public Health and Education.—Dr. Anderton stated that the chairman of the committee, Dr. Theodore J. Curphey, who was absent, had attended three meetings and arranged 17 postgraduate lectures and teaching days in ten counties since his last report to the Council.

He submitted the following report:

"REPORT OF THE CHAIRMAN.—At the meeting of the Subcommittee on Diabetes on September 19 there was considerable discussion of the necessity for better education of the diabetes patient by the hospital. The crux of the problem, not only in this phase but also in the matter of physician education, including medical school teaching, seems to be to locate even one person in each county medical society who is vitally enough interested in diabetes to furnish the necessary impetus. It was recommended that all county diabetes chairmen be invited to a meeting in New York during the American Medical Association meeting next spring.

"The usual letter will be sent to these chairmen urging an active detection drive during Diabetes Week, November 11 to 17, 1956."

Diabetes Subcommittee.—Dr. Anderton added: "I have a supplementary report from Dr. Curphey for his Diabetes Subcommittee. It consists mainly of a letter to the chairmen of diabetes subcommittees in various county medical societies requesting their cooperation in the Ninth Diabetes Detection Drive, which will be during Diabetes Week, November 11 to 17. I move, sir, that this be accepted and spread upon the minutes without reading."

It *was so voted.*

The letter follows:

October 9, 1956

Dear Doctor:

Our records indicate that you are chairman of the Committee on Diabetes of your county medical society. If you are no longer chairman, please give this letter to the present chairman and notify us of the change.

The Ninth Diabetes Detection Drive will be launched this year during Diabetes Week, November 11 to 17.

The Subcommittee on Diabetes of the Council Committee on Public Health and Education of the Medical Society of the State of New York would like to take this opportunity to emphasize that there are two very important benefits to be derived from the Diabetes Detection Drives other than the discovery of new diabetics.

First, the general public is duly appreciative of the fact that the medical profession is doing something for them at no cost to them. The free tests for diabetes have created a great deal of good will for us.

Second, the Diabetes Detection Drives have been a major factor in the education of the public regarding diabetes and the need to be checked at least once a year. As a result we have been able to find new diabetics and to find them early.

In 1955 many county medical societies conducted successful detection drives, with new diabetics being discovered all over the State. Several societies have even extended their diabetes detection drives to a year-round basis.

As you know, the American Diabetes Association, which sponsors the Diabetes Detection Drive nationally, is making available to committees on diabetes of medical societies organizational kits and other materials free of charge. Limited supplies of the Dreypak, a simple testing unit, are offered without cost to newly formed committees on diabetes which plan to participate in the Detection Drive for the first time.

Other aids which are available to participating committees on diabetes through the American Diabetes Association include reagents, a newspaper kit containing localized press releases, radio transcriptions, a one-minute film for television, leaflets, and posters.

There are thousands of unknown diabetics in this State, and we need all the help we can get to find them.

If you haven't already advised the American Diabetes Association that you are participating in the Diabetes Detection Drive during Diabetes Week, November 11 to 17, we hope that you will take the leadership in arranging for such participation by your committee. For complete details and forms for ordering materials, please write to Mr. J. Richard Connelly, Executive Director, American Diabetes Association, 1 East 45 Street, New York 17, New York.

It would be greatly appreciated if you sent us a summary of what is being done in your county, for inclusion in our annual report.

If we can be of any further assistance to you in this matter, please do not hesitate to let us know.

Sincerely yours,
Edwin W. Gates, M.D., *Chairman*
Subcommittee on Diabetes

Hard of Hearing and the Deaf Subcommittee.—Dr. Anderton continued: "I make a similar motion regarding the report of the Subcommittee on the Hard of Hearing and the Deaf. This would be largely helpful in detecting defects in the very young."

It *was so voted.*

The report, consisting of a memorandum and sample release which follows, is given below:

October 1, 1956

TO: Presidents of the County Medical Societies

FROM: Dr. T. J. Curphey, Chairman, Council Committee on Public Health and Education

Again urging that the county medical societies take the lead in their communities in stressing to parents, teachers, and school nurses the importance of early detection of hearing defects in children, the Subcommittee on Hard of Hearing and the Deaf suggests that the enclosed sample release be publicized as widely as possible in your area.

It is hoped that you can secure the cooperation of all health, religious, school, and civic organizations in this effort.

The Subcommittee on the Hard of Hearing and Deaf of the Council Committee on Public Health and Education of the Medical Society of the State of New York at the beginning of every school year believes it is important that parents, especially mothers, are alerted to notice whether or not their children are hearing perfectly. A mother should be the first to suspect a deafness in her little child; she is usually nearer the child than others and is more familiar with his reactions than anyone else.

The mother also is the best able to detect deafness in her baby. If her baby responds less readily to her speech or to familiar sounds than her other babies did at the same age, she will notice it. If sounds associated with baby's feeding are not noticed, deafness should be suspected and the hearing carefully tested. Test sounds should be made out of sight of the baby. Among such simple sounds are clapping of the hands, speaking the baby's name, tapping on the door, tinkling a spoon or anything metallic against the feeding bottle, etc. If the baby continuingly pays no attention to such familiar sounds or to loud sounds, such as the barking of a dog, backfiring of an automobile, childrens' voices in the street, fire, police, or air raid sirens, suspect that something needs investigation, and frequently it is the hearing that is at fault.

If a hearing defect is suspected, see your doctor. He should direct you to a competent ear specialist who will determine whether or not your suspicions are correct and to what extent the child's hearing is affected. Above all, do not put off until tomorrow what you should have done yesterday or sooner.

Edmund Prince Fowler, M.D., *Chairman*
Greydon G. Boyd, M.D.
Karl W. Gruppe, M.D.
Gordon D. Hoople, M.D.

C. Stewart Nash, M.D.
Samuel Zwerling, M.D.
Clarence D. O'Connor, Ph.D., *Consultant*
Mrs. Eleanor C. Ronnei, *Consultant*

Public Relations.—Dr. Floyd S. Winslow, chairman, presented the following: "Among the projects on which your committee and the staff of the Public and Professional Relations Bureau concentrated their efforts during the past month were the district branch meetings, the annual conference of county medical society public relations chairmen, the sesquicentennial celebration, and the guide for cooperation between the medical and legal professions.

"Continuing the custom of recent years, representatives of the Bureau, under the supervision of Dr. W. P. Anderton, assisted in registrations at the district branch meetings. Mr Schuyler worked at the Seventh and Eighth District Branches, Mr. Tracey at the Second and Fourth, and Mr. Walsh at the Third, Sixth, and Ninth districts. Mr. Miebach took care of dealings with the press whenever necessary. Prior to the meetings newspaper releases featuring the programs and copies of speeches scheduled to be delivered by Dr. Greenough and Dr. Givan were distributed to the regional press.

"Much time was devoted to arrangements for the annual conference of county medical society public relations chairmen at the Biltmore, New York City, October 6. The program included an explanation of the new Federal law providing medical care for dependents of military personnel. Another topic was 'What's New in Chiropractic Throughout the Nation.' In addition, there was a report on the guide for cooperation between medicine and law by Dr. John McClintock and discussion by Charles Margett, attorney.

"Other items in preparation for this conference were the 'Public Relations Kit for County Medical Society Public Relations Chairmen.'

"In cooperation with Dr. Samuel Z. Freedman, sesquicentennial chairman, plans progressed regarding printing of seals, publicity, distribution of a poster, and holding of an extraordinary exhibition. This will be a nontechnical demonstration of medicine's progress and will be open to the public free of charge. Letters were mailed over Dr. Freedman's signature inviting various groups to participate. These included the nurses' associations, hospitals over 300-bed capacity, academies of medicine, State specialty groups, State Health Department, New York City Health Department, and county medical societies.

"At the meeting of your committee, October 6, at the Hotel Biltmore, prior to the Public Relations Conference, there are scheduled discussions of plans for the sesquicentennial, selecting the Outstanding General Practitioner, and the guide for cooperation between medical and legal professions.

"In late September the American Medical Association exhibit, 'Health 1956,' jointly sponsored by the State Society and the A.M.A. at Saratoga Springs was returned to Chicago. Spa authorities report that about 100,000 persons visited the Hall of Springs, where the exhibit was displayed, during the summer season. In addition, several thousand pamphlets offered through a display rack were taken by visitors. This is strong evidence of the value of maintaining an exhibit and pamphlet rack at the Spa every summer.

"In news releases the Bureau publicized postgraduate courses to take place in Chemung, Greene, Steuben, and Suffolk counties.

"Writers continued to ask the Bureau for assistance. Among the publications involved were *McCall's*, *Newsweek*, and the *New York Times*. An example of how this service builds better press relations was the instance of a complaint made by an irate writer who felt that an article he had prepared had been given unfair treatment by a physician. After talking to the local county society's executive secretary and a Bureau representative, the author's anger calmed, and he expressed appreciation for the help.

"As a result of the Bureau representative's discussion of the State Society's 1956 antichiropractic campaign at the American Medical Association's recent Public Relations Institute in Chicago, several requests were received for materials on chiropractic from the Canadian Medical Association, Louisiana State Medical Society, and Michigan State Medical Society.

"With the coming of fall, interest in the training courses for assistants in doctors' offices was reawakened. The Bureau assisted Saratoga County Medical Society in making a survey concerning such a course.

"The Bureau continued assisting the Woman's Auxiliary. During the State Fair at Syracuse the Bureau's representative helped to service the Auxiliary's booth. He also assisted in the details of the Health Poster Contest. In addition, discussions were held concerning the Auxiliary's participation in the American Medical Education Foundation's campaign and other American Medical Association programs."

Dr. Winslow stated: "Mr. President, the printed report stands approved, but since that report was made, we have had two important meetings. They were both held on Saturday, October 6, in this city. One was the semiannual meeting of the committee, and the other, in the afternoon, was a meeting of the chairmen of the public relations committees of the county societies.

"I am going to call on Dr. McClintock, chairman of the Subcommittee on Media, to make a report having to do with his subject."

Media of Information, Subcommittee on Cooperation with.—Dr. McClintock stated: "Mr. President, the House of Delegates several years ago approved a subcommittee to draw up resolutions of cooperation with the media of public information. The past two years this subcommittee has been given a green light. At its meeting, which it holds annually with the press, radio, television representatives, it was felt that the Guide for Cooperation has reached a point where after nearly three years it should be reprinted and redistributed. There are minor changes in wording; there is no change in the sense of the document.

"Those of you who have traveled across the State also realize that very few doctors—and I mean very few—have actually seen this Guide, although it was mailed to every physician in the State. That it is doing a great deal of good is attested by the last paragraph on page two of the Public Relations Committee report. It is helping to build better relations with the media of information for the Medical Society of the State of New York.

"My subcommittee, therefore, feels that the time is ripe to redistribute the Guide for Cooperation. Its format will be changed, and it will go out as a part of the sesquicentennial celebration. We would like to mail it about February 1.

"The expense in this mailing and printing is about $2,000; the mailing costs are about $750. I might tell you that the Hospital Association purchases this from us and distributes it to all member hospitals.

"Last May the House of Delegates, because of the success of this Guide for Cooperation, stated that a subcommittee should be appointed to develop a similar document with the Bar Association. This, you recall, was also given to my committee. Last Friday we met the chairman of the Bar Association's committee, Mr. Margett, and one of its members, Judge Croake.

"There is good accord between the Medical Society and the Bar Association. The agreement must, of course, be approved by the House of Delegates of our Society and the governing body of the Bar Association.

"If this 'Standards of Practice,' as it will be called, is to be of value to the medical profession and the Bar Association, it too must be printed and distributed. We figure approximately the same amount for this as for the Guide for Cooperation. Bear in mind that the standards of practice between the Bar Association and the Medical Society cannot be printed until it is approved by the House of Delegates, but we have included an estimated cost for both the Guide for Cooperation and the Standards of Practice in the Public Relations budget."

PUBLIC RELATIONS SESSION.—Dr. McClintock continued: "I also have the privilege of being chairman of the Public Relations Session for the coming sesquicentennial. The officers of this session met President Greenough and Dr. Freedman last Friday. You are aware of the general nature of the program that is planned for next February.

"After considerable discussion we recommended to the Public Relations Committee that a forum be held on medical economic subjects, to include representatives of labor, management, and the medical profession, the idea being that we would explore what labor and management desire in the way of medical protection and what the medical profession is doing and can do about it.

"I am happy to say that the Public Relations Committee agreed with the officers of the session. Therefore, it is my privilege to recommend to this Council that a forum, as indicated, be held on Wednesday evening, February 20, 1957."

This report *was adopted.*

Dr. McClintock's report as a whole *was adopted.*

Dr. Winslow resumed: "There are a few more items that should be taken up. The first is the selection of the General Practitioner of the Year. Four nominations were up for consideration, and after careful deliberation Edward Danforth, of Bainbridge, was selected as our choice. I recommend that the Council present his name as the General Practitioner of the Year."

It *was so voted.*

Dr. Winslow continued: "Dr. Walter Davis, of Orange County, received such favorable consideration by our committee that it was requested his name be presented in 1957 for this same position.

"Second, a request that the president and secretary of each county society accentuate the observance of the sesquicentennial was passed, and it was passed that the secretary and president of each district branch accentuate the sesquicentennial at the 1957 district branch meetings.

"Next was the consideration by the Public Relations Bureau of the publication of a small souvenir pamphlet at the sesquicentennial, the subject to be 'How the Medical Society of the State of New York Serves the Public.' We estimate that 25,000 copies for distribution would cost about $500. We hoped that a part of this expense could be borne by the Sesquicentennial Committee.

"I move that such a pamphlet be published and be distributed to the public in the exhibit section. This pamphlet is to go to the public primarily."

After discussion it *was voted* to publish such a pamphlet.

Dr. Winslow continued: "The Annual Conference of the Chairmen and the Secretaries of the County Public Relations Committees in the afternoon session was very successful. We had 50 in attendance."

It *was voted* to adopt the report.

The report as a whole *was adopted.*

It *was voted* that the secretary be instructed to nominate to the American Medical Association for the outstanding physician of the year, Dr. Edward Danforth, to whom that distinction was awarded in this State.

Rural Medical Service.—Dr. Leo E. Gibson, chairman, stated: "I would like to talk about the activities of your committee and then make a couple of requests of the Council. Apparently there are more organizations at this time that are becoming interested in the rural population, both in reference to furnishing more adequate medical care and also in putting on an educational program to the rural population in regard to health insurance. Commercial insurance companies now are interested in this question. Blue Shield has been interested in it for some time. Another interested organization is the Joint Legislative Committee on Health Insurance Plans, headed by Senator Metcalf. On invitation Dr. Keese attended one meeting of that body, and I attended the other.

"Senator Metcalf is interested in a number of things in regard to the rural population and the distribution of medical care to the farm groups and employed people and old age groups, as well as how to educate them to obtain some type of health insurance. At the present time he is particularly interested in the insurance facet. Mr. Farrell attended both aforesaid meetings, and he volunteered to canvass the Blue Shield plans in New York State and attempt to find out what they have done or what they could do in order to promote this educational program.

"The Senator is posing a question at present as to who should pay for the suggested educational campaign and whether there should be a legislative appropriation to do it.

"The Committee on Rural Health at present is interested in finding out how badly medical care is distributed in the rural areas. In order to learn, it will be necessary to have a study by some organization that knows how.

"We have on our committee Professor Bert Ellenbogen of the College of Agriculture at Cornell, and he has expressed a desire to cooperate. First, he would send a questionnaire, which will determine some facts, and then select several areas for a very comprehensive survey. This is going to take money, and he thinks that we ought to have about $500, which will be expended almost entirely for traveling expenses. Therefore, I would like to ask this body to recommend to the Board of Trustees that they appropriate not more that $500 for this purpose."

It *was voted* that the Council recommend to the Board of Trustees that they appropriate not more than $500 for this purpose.

Dr. Gibson continued: "The second request concerns a meeting at Purdue University, which is a study course in methods of putting on such a survey of rural health. It is being conducted by the Rural Health Council of the American Medical Association, and I would like permission to send some member of the committee to that meeting."

It *was voted* to grant permission.

War Memorial.—Dr. Walter W. Mott, chairman, stated: "Mr. President, in the ten days since our letters were sent asking contributions to the War Memorial Fund from members who had not previously subscribed, we have received $2,994. This is in addition to the $90 received during the summer from members of the Broome County Society as a result of a letter sent out by Dr. McKeeby. So we have a total of over $3,000 already in reply to these letters."

Workmen's Compensation.—Dr. Gerald D. Dorman, chairman, reported: "It is with great regret that I call to the attention of this Council the death of one of my important committee members, Dr. Guy S. Philbrick. He has served for a long time on the Committee on Workmen's Compensation, and he will be missed by the committee and by his colleagues. The secretary, as instructed by President Greenough, has written asking Dr. Bergamini to fill his position. Dr. Bergamini has served with the committee in the past and was one of those that had to be dropped when the committee was reduced to nine in this past year.

"Your director, Dr. Kaliski, attended the district meeting in Schenectady and carried the brunt of some of the panel discussions on workmen's compensation.

"Yesterday Dr. Kaliski and I attended the chambers of Judge Callahan, the present Moreland Commissioner, for two hours at his request to answer questions about the setup of the Workmen's Compensation Law and the responsibilities and position of the medical societies in workmen's compensation. Judge Callahan asked a lot of probing questions as to the responsibilities that are carried on by the county societies and by the State Society, both in recommendations of qualifications and the question of disciplinary measures. He seemed to be interested in the question of panels of experts, which the Society recommended last year.

"He was also interested in the problem of rehabilitation and heard our views on how rehabilitation should be pushed, when cases should be reviewed, how they could best be reviewed yet preserve the free choice of physician and the control of the individual practitioner in taking care of his patients."

After discussion it *was voted* to accept the report.

It *was voted* that a letter of sympathy be sent by the secretary to the family of Dr. Guy Philbrick.

Adjournment

President Greenough stated: "We have two guests for lunch, whom I will introduce when they arrive: Dr. Ray E. Trussell, executive officer, School of Public Health and Administrative Medicine, Columbia University, New York City, and Mr. Edward Meacham, director of Personnel Services, New York State Department of Civil Services, State Office Building, Albany."

Our sympathy is cold to the relation of distant misery.—EDWARD GIBBON

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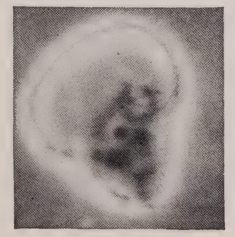

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References: 1. Davis, C. H.: J.A.M.A. 157:126 (Jan. 8) 1955. 2. Davis, C. H.: West. J. Surg. 63:53 (Feb.) 1955.

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NECROLOGY

Harry Alfred Bray, M.D., of Saranac Lake, died on November 16 at the age of seventy-six. Dr. Bray graduated in 1904 from Trinity Medical College, Toronto, and the Royal College of Physicians and Surgeons, Edinburgh, Scotland, in 1905. Dr. Bray was a former medical director of the Ray Brook State Tuberculosis Hospital. He had been a lecturer at the Cornell Medical College, an associate professor of medicine at Albany Medical School, and an associate visiting physician at Bellevue Hospital. Dr. Bray was a member of the American Clinical and Climatological Association, the Franklin County Medical Society, and the Medical Society of the State of New York.

Morris Cinberg, M.D., of Brooklyn, died on August 10 at the age of eighty-one. Dr. Cinberg graduated from the University of the South Medical Department, Sewanee, in 1899. He was an honorary assistant in ophthalmologic surgery at New York Eye and Ear Infirmary. Dr. Cinberg was a member of the Kings County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Susanna Schuyler Haigh, M.D., of New York City, died on November 7 at the age of sixty-four. Dr. Haigh was graduated from Columbia University College of Physicians and Surgeons in 1921. She was a member of the American Psychoanalytic Association, the New York Psychoanalytic Society, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Andrew Reginald Hicks, M.D., of Warwick, died on November 4 at the age of forty-six. Dr. Hicks graduated from New York Medical College in 1939 and interned at St. John's Hospital. He was an assistant in surgery at St. Anthony's Hospital, Warwick. Dr. Hicks was a member of the Orange County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Donald Charles Houghton, M.D., of Rochester, died on November 5 at the age of fifty-six. Dr. Houghton graduated in 1924 from Harvard Medical School. He was surgeon and chief of surgery at Rochester General Hospital and consultant in surgery at Strong Memorial Hospital. Dr. Houghton was a Fellow of the American College of Surgeons and a member of the Rochester Academy of Medicine, the Rochester Pathological Society, the Monroe County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Harry A. Keune, M.D., of New York City, died on November 9. Dr. Keune graduated from Columbia University College of Physicians and Surgeons in 1905.

Nathan Barnert Martin, M.D., of New York City, died on November 8 at the age of seventy-three. Dr. Martin graduated from Columbia University College of Physicians and Surgeons in 1905. He was an assistant physician at the New York Polyclinic Hospital and an attending physician at the New York Polyclinic Hospital Outpatient Department. Dr. Martin was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Israel Mostkowitz, M.D., of Jamaica, died on July 31 at the age of sixty. Dr. Mostkowitz graduated from the Long Island College Hospital in 1919. He was an associate attending physician at Queens General Hospital. Dr. Mostkowitz was a Fellow of the American College of Gastroenterology and a member of the Queens County Medical Society and the Medical Society of the State of New York.

Joseph Francis Pacelli, M.D., of New York City, died on July 7 at the age of fifty-one. Dr. Pacelli graduated in 1932 from the Hahnemann Medical College of Philadelphia. He was an assistant in urology at the Gouverneur Hospital. Dr. Pacelli was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Robert Pollock, M.D., of New York City, died on October 28 at the age of fifty-nine. Dr. Pollock graduated from the New York Homeopathic Medical College and Flower Hospital in 1926. He was an attending urologist at Sea View Hospital, Staten Island, and an assistant in urology at the Harlem Hospital. Dr. Pollock was a Diplomate of the International College of Surgeons, a Fellow of the International College of Surgeons, and a member of the American Urological Association, the New York Society of American Urological Association, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

[Continued on page 3966]

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[Continued from page 3964]

Otto Carl Risch, M.D., of New York City, retired, died on November 11 at the age of sixty-three. Dr. Risch graduated in 1920 from Syracuse University College of Medicine and interned at City Hospital. Dr. Risch was the former director of otolaryngology at French and City Hospitals and a consultant in otolaryngology at Lutheran Hospital and Flushing Hospital and Dispensary. He was a past president of the medical boards of City Hospital and the Municipal Sanitarium, Otisville, secretary of the Section on Otolaryngology of the New York Academy of Medicine and the Workmen's Compensation Board's committee of consultants on occupational loss of hearing. Dr. Risch was a Diplomate of the American Board of Otolaryngology, a Fellow of the American College of Surgeons, a Fellow of the American College of Chest Physicians, and a member of the American Academy of Ophthalmology and Otolaryngology, the American Laryngological, Rhinological and Otological Society, the American Otological Society, Inc., the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Victor Leonard Salvatore, M.D., of New York City, died on July 9 at the age of sixty-six. Dr. Salvatore graduated from Fordham University School of Medicine in 1916.

Benjamin Salzer, M.D., of New York City, died on November 12 at the age of seventy-six. Dr. Salzer graduated in 1909 from Long Island College Hospital Medical School. He was one of the founders, in 1950, and secretary-treasurer of the Lenox Hill Hospital's Wendell L. Willkie Memorial Fund for research in cardiac disorders. Until last year he had been an associate professor of neurology at Columbia University College of Physicians and Surgeons. Dr. Salzer was a member of the New York Academy of Medicine, the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Ciriaco Antonio Sarnelli, M.D., of New York City, died on July 18 at the age of fifty-eight. Dr. Sarnelli received his medical degree from the University of Naples in 1923 and the University of Rome in 1936. Dr. Sarnelli was a member of the New York County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

Frederick Foster Schirck, M.D., of Hempstead, died on October 30 at the age of seventy-four. Dr. Schirck graduated from Albany Medical College in 1905. He was an associate physician at Long Island Hospital and an honorary dermatologist at Nassau Hospital, Mineola. Dr. Schirck was a member of the American Academy of Dermatology and Syphilology, the Nassau County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

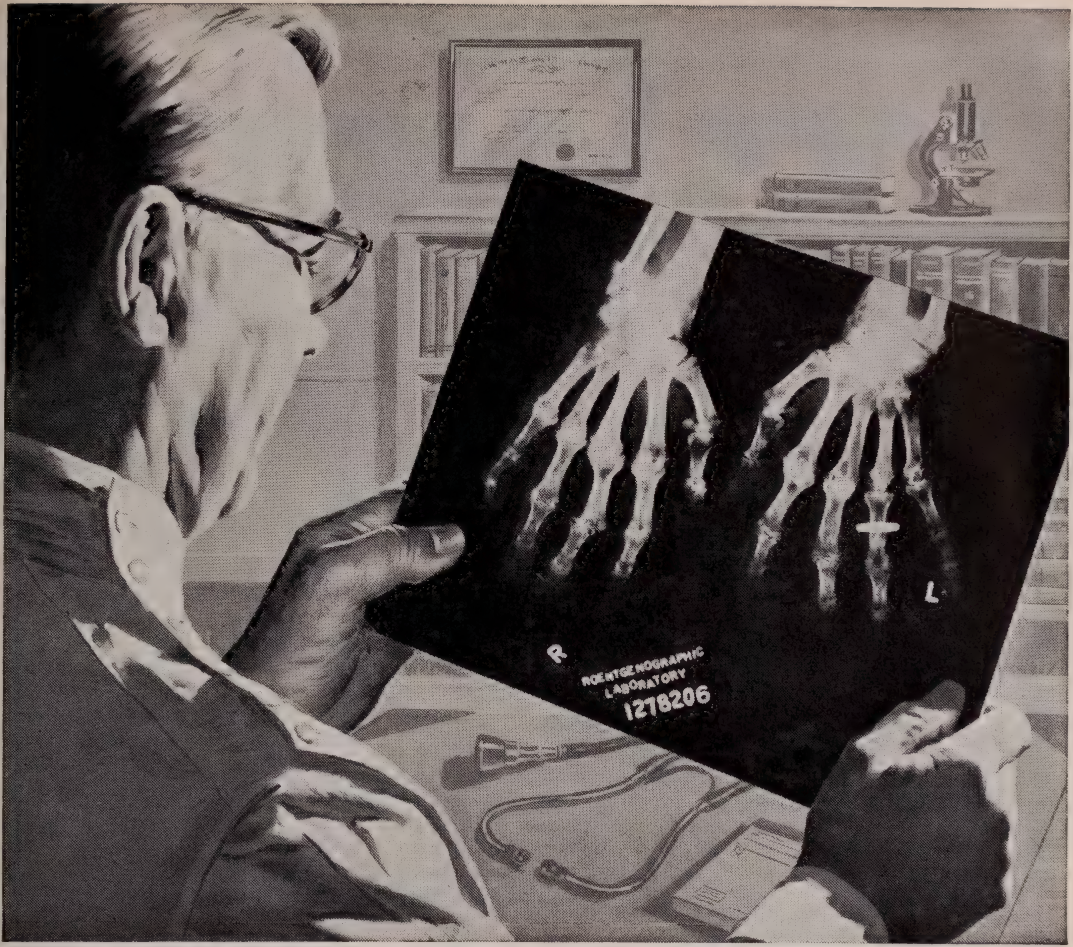
Albert B. Siewers, M.D., of Syracuse, died on November 14 at the age of sixty-three. Dr. Siewers graduated from the Medical College of Virginia, Richmond, in 1918 and interned at New York Neurological Institute and at Johns Hopkins Hospital. He was senior psychiatrist at Syracuse Memorial Hospital, attending neurologist and psychiatrist at St. Joseph's Hospital, and attending psychiatrist at Syracuse Psychopathic Hospital, all in Syracuse. Dr. Siewers was a Diplomate of the American Board of Psychiatry and Neurology, a Fellow of the American College of Physicians, and a member of the American Psychopathological Association, the American Orthopsychiatric Association, the Syracuse Academy of Medicine, the Mohawk Valley Neuropsychiatric Society, the Onondaga County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

John E. V. Smith, M.D., of Bayville, died on July 16 at the age of forty-eight. Dr. Smith graduated in 1934 from New York Homeopathic Medical College and Flower Hospital. He was a member of the Association of Military Surgeons of the United States.

Sigmund L. Smith, M.D., of New York City, died on July 2 at the age of forty-four. Dr. Smith received his medical degree from the University of Berlin in 1925.

Charles William Warren, M.D., of Rochester, died on November 4 at the age of fifty-six. Dr. Warren graduated from Syracuse University College of Medicine in 1924. He was an assistant attending physician at Genesee Hospital and an assistant physician at Strong Memorial Hospital. Dr. Warren was a Diplomate of the American Board of Internal Medicine, a Fellow of the American College of Physicians, and a member of the American Academy of Allergy, the Rochester Academy of Medicine, the Rochester Pathological Society, the Monroe County Medical Society, the Medical Society of the State of New York, and the American Medical Association.

No pleasure is comparable to the standing upon the vantage-ground of truth.—FRANCIS BACON



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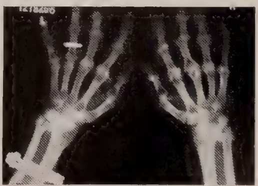

REFERENCES:

1. J.A.M.A. 159:645 (Oct. 15) 1955.
2. J.A.M.A. 158:386 (June 4) 1955.

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MEDICAL NEWS

Mid Hudson Pediatric Society—The Mid Hudson Pediatric Society held its fall meeting on November 2 at Vassar Brothers Hospital, Poughkeepsie, marking the completion of its first year since organization. Dr. Saul Krugman, associate professor of pediatrics, New York University, was the guest speaker and discussed "Infectious Diseases."

Officers of the Society include: Dr. Neal Stone, Poughkeepsie, president; Dr. Oree Carroll, Middletown, vice-president, and Dr. Eleanor Peck, Poughkeepsie, secretary.

All interested physicians are invited to attend the scientific sessions.

Brooklyn Dermatological Society—At the October meeting of the Brooklyn Dermatological Society, the following members were elected to office for the year 1956–1957: Dr. Benjamin D. Erger, president; Dr. Samuel B. Frischberg, vice-president, and Dr. Morris J. Rothstein, secretary-treasurer.

The Society meets on the second Tuesday of each month at 8:30 P.M. from October to May at the Brooklyn Hospital Clinic, Ashland Place and DeKalb Avenue, Brooklyn.

Paraplegia Society Organized—The American Paraplegia Society has recently been organized by a group of physicians interested in the treatment and care of patients with spinal cord injuries, with the aim of stimulating interest and disseminating information regarding the problem of paraplegia and quadriplegia. Dr. Ben A. Joeller, Jr., of 2736 Briar Rose Road, Memphis 11, Tennessee, has been elected secretary.

American Medical Education Foundation—New York State contributors to the American Medical Education Foundation for the month of October were: *Buffalo*—Dr. G. C. Brady; *Cobleskill*—Dr. John Wadsworth; *Cooperstown*—Dr. James Bordley, III; *Hamlin*—Dr. Paul Marx; *Hudson Falls*—Dr. C. V. Latimer, Jr.; *Middleburgh*—Dr. Donald R. Lyon; *Newburgh*—Dr. R. E. Passenger; *New York City*—Drs. David N. Barrows, Bradley L. Coley, Loren P. Guy, Joseph J. Lordi, Peter M. Murray, D. J. Simons, and Charles A. Turtz.

Also: *Niagara Falls*—Dr. Edwin W. Gates; *Norwich*—Dr. H. L. Wilson; *Penfield*—Dr. E. S. Deuel; *Rhinebeck*—Dr. William G. Thompson; *Rochester*—Drs. Elroy J. Avery, M. M. Clark, and A. Fischer; *Rockaway Beach*—Dr. A. W. Victor; *Schenectady*—Dr. C. Zaia; *Spencer*—Dr. Henry Kaine; *Staten Island*—Dr. Dominic R. Elia; *Syracuse*—Drs. Dwight V. Needham and William R. Willard; *Troy*—Drs. Rudolph L. Coletti and Walter A. Gunther; *Waverly*—Dr. Abraham Novinsky; *Whitestone*—Dr. John J. Vasile, and *Woodhaven*—Dr. George J. Goldberg.

Minor Surgery and Office Orthopedics—A postgraduate course in minor surgery and office orthopedics was held at the University of Buffalo School of Medicine on December 12 and 13. Recent developments in these fields were discussed, and case presentations and demonstrations of technics were utilized.

Courses in Clinical Medicine—The Mount Sinai Hospital, New York City, will present postgraduate courses in clinical medicine given in affiliation with Columbia University January through June, 1957.

For application forms and information, address the Registrar for Postgraduate Medical Instruction, The Mount Sinai Hospital, 11 East 100th Street, New York 29, New York.

Hill-Burton Grants—The Department of Health, Education, and Welfare reports the status of all Hill-Burton grants for the State of New York as of October 31.

Approved but not yet under construction are 82 projects at a total cost of $90,259,875, including $23,680,895 Federal contribution and designed to supply 4,674 additional beds.

Under construction are 19 projects at a total cost of $55,901,250, including Federal contribution of $8,841,965 and designed to supply 1,608 additional beds.

Completed and in operation are 12 projects at a total cost of $8,856,857, including Federal contribution of $2,509,369 and supplying 362 additional beds.

Jefferson County Medical Society—The annual meeting of the Jefferson County Medical Society was held on November 20 at the Black River Valley Club in Watertown. Dr. G. Gowing Broad, assistant professor of surgery at the State University Medical College at Syracuse, spoke on "Malignancy and Diverticulitis of Large Intestines."

Neuropsychiatric Society—A joint meeting of the Central New York Psychiatric Society, a district branch of the American Psychiatric Association, and the Finger Lakes Neuropsychiatric Society was held at the Veterans Administration Hospital in Canandaigua on November 8.

The following officers were elected to serve for both organizations: Dr. Charles Greenberg, Son-

[Continued on page 3970]

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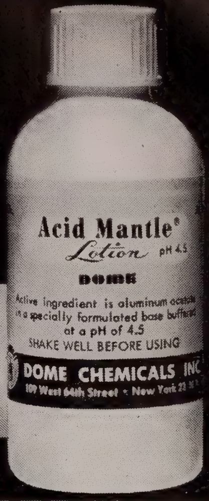
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[Continued from page 3968]

yea, president; Dr. Jacob Schneider, Willard, vice-president; Dr. Murray Bergman, Newark, secretary-treasurer, and Drs. Christopher Terrence and Roy B. Greer, both of Rochester, elected to the Council.

Dr. Wilbur K. Smith, associate professor of anatomy at the University of Rochester, addressed the group on "Newer Concepts of Brain Function."

National Resuscitation Society—The National Resuscitation Society, Inc., formerly the Society for the Prevention of Asphyxial Death, Inc., has been honored by the addition of Leroy E. Burney, Surgeon General of the United States Public Health Service, to its advisory board and Dr. Claude S. Beck of Cleveland to its board of directors.

Courses are presented the first Friday afternoon and Saturday morning of each month at the New York Academy of Sciences, 2 East 63rd Street, New York City.

For further information, address the secretary of the Society, 2 East 63rd Street, New York 21, New York.

Nassau Ophthalmological Society—A meeting of the Nassau County Ophthalmological Society was held on November 26 in Rockville Centre. Dr. A. Edward Maumenee spoke on "Treatment of Conjunctival Corneal Lesions."

Psychotherapy Association—The 144th scientific meeting of the Association for the Advancement of Psychotherapy was held at the New York Academy of Medicine Building, 2 East 103rd Street, New York City, on November 16. Dr. Jerome Schneck, New York City, spoke on "Current Advances in Hypnotherapy."

Fee Schedule Discussed—Negotiations have been carried on between the state medical societies and the Federal government to decide on an appropriate fee schedule to be charged by doctors in the treatment of patients under the Dependents' Medical Care Act passed by Congress in Public Law 569.

Left to right are Drs. George R. Buck and Fredrick Good of Colorado; George P. Farrell, J. Richard Burns, and Dr. W. P. Anderton of New York; Major General Paul I. Robinson, executive director of the program; Dr. John Rumsey and Richard Lyon, California, and John Steen of the state of Washington.

Westchester Clinical Research—The regular meeting of the Westchester Chapter, American Federation for Clinical Research, was held November 15 at the Nurses' Auditorium, White Plains Hospital. Dr. Charles Weller, Larchmont, spoke on "The Oral Antidiabetic Compounds," and Dr. John J. Kneisel, White Plains, and Dr. O. Alan Rose, New York City, discussed "Two Cases of Diencephalic Syndrome, One Treated with Splanchnicectomy and One with Reserpin."

Chest Conference—The regular fall meeting of the Western New York Chest Conference was held in Lockport on November 1, sponsored by the Niagara Sanatorium and the New York Trudeau Society, the New York State Chapter of the American Trudeau Society.

Dr. Theodore Noehren, Buffalo, moderated a diagnostic case conference that included Drs. Marvin L. Amdur, David L. Berens, Francis W. O'Donnell, and Kornel Terplan, all of Buffalo as panel members.

Personalities

Elected

Dr. A. Wilbur Duryee, as president, and Dr. Henry Fearon, medical director of Methodist Hospital, and Dr. Francis R. Dieuaide of the Life Insurance Medical Research Fund, as board members of the New York Heart Association . . . Dr. Herman E. Hilleboe, New York State Commissioner of Health, as vice-president of the Association of State and Territorial Health Officers . . . Dr. Norbert G. Rausch, Buffalo, president; Dr. Frank A. Dolce, Buffalo, vice-president, and Dr. Frank C. Hoak, Buffalo, secretary-treasurer, of the Buffalo-Rochester Dermatological Society.

Speakers

Dr. I. Jay Brightman, executive director, New York State Interdepartmental Health Resources Board; Drs. Howard A. Rusk and D. A. Covalt, associate directors, Institute of Physical Medicine and Rehabilitation, New York City, Dr. Peter J. Di Natale, counselor, Medical Society of the State of New York; Dr. Oscar Greene, medical director, Republic Steel Company; Dr. Henry Kessler, medical director, The Kessler Institute for Rehabilitation; Dr. William Gazely, professor of orthopedic surgery at Albany College; Dr. A. Bernice Clark, associate professor of physical medicine and rehabilitation, New York University College of Medicine, and Dr. Max Kliger, chief of Orthopedics at Welfare Island, at the Conference on Industrial Rehabilitation, sponsored by the New York State Workmen's Compensation Board at the Sheraton-Astor Hotel

[Continued on page 3972]

How vital to their happiness . . . the mother's *health* ≻ With health, she can meet buoyantly and capably the demands of her family and her community. ≻ Upon her health and vitality rests the happiness of her family. She, in turn, depends upon the knowledgeable, experienced judgment of her physician in matters affecting her physical and mental well-being . . . especially on his advice on scientific methods of child-spacing. What more rewarding way for the doctor to expend his skill than in the perpetuation of the happy, healthy family . . . Hence, the significance of his recommending *Koromex*

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[Continued from page 3970]

in New York City on November 16 . . . Dr. Maurice Bruger, associate professor of medicine, New York University Post-Graduate Medical School, before the Sullivan County Medical Society on December 19 in the Liberty-Maimonides Hospital, Liberty, at 8:30 P.M., on "Pre- and Postoperative Water Balance and Electrolyte Requirements" . . . Dr. Rudolph E. Fremont, chief of the cardiovascular section at the Veterans Administration in Brooklyn, before the First Pan American Congress of Gerontology and the National Institute of Cardiology in Mexico City, on "Serious Cardiac Arrhythmias: Particular Aspects of Diagnosis and Medicine" . . . Dr. Irwin Krakoff, New York City, before the Binghamton Academy of Medicine on December 18 at 8:45 P.M. in the Binghamton City Hospital auditorium, on "Chemotherapy in Neoplastic Diseases" . . . Dr. Horace W. Magoun, professor of anatomy, School of Medicine, University of California at Los Angeles, the Israel S. Wechsler Lecture on "Aristotelian Psychology and the Twentieth Century Brain" on December 14, at the Mount Sinai Hospital, New York City . . . Dr. Kenneth B. Olson, associate professor of oncology at Albany Medical College, in a forum on cancer in Plattsburgh on November 28 . . . Dr. Mitchell I. Rubin, professor of pediatrics at Buffalo University School of Medicine, before the Cattaraugus County Medical Society on November 8 in Olean, on "The Evaluation of Health in the Well Child."

Appointed

Dr. Howard A. Eder, New York City, as a member of the State Board of Medical Examiners to succeed Dr. Ade T. Milhorat . . . Dr. Lytt I. Gardner, professor of pediatrics at the State University of New York, College of Medicine, in Syracuse, as professor of pediatrics at the Yale School of Medicine in New Haven, Connecticut . . . Dr. Edmund L. Shlevin, Brooklyn, reappointed governor for the eastern part of New York State, and Dr. George F. Koepf, Buffalo, governor of the western part of the State, on the Board of Governors of the American Diabetes Association . . . Dr. Joseph B. Stiefel, New York City, as assistant vice-president of Associated Hospital Service of New York (Blue Cross).

Honored

Dr. Irving Graef, retiring chairman of the board of directors of the National Committee for Resettlement of Foreign Physicians, Inc., by that organization for his efforts in helping foreign physicians re-establish themselves in their profession in the United States.

MEDICAL MEETINGS

Course on Minor Surgery

Dr. John H. Garlock and staff will give a course on minor surgery for general practitioners January 7 through 9, 1957, at the Mount Sinai Hospital in affiliation with Columbia University.

This is an intensive three-day course designed to familiarize the general practitioner with some of the common minor surgical conditions he may be called on to treat. The subjects covered will include infections, burns and injuries of the hands, management of varicose veins, common proctologic conditions, skin tumors, ambulatory care of draining wounds and colostomies, local and block anesthesia as applied to the above problems, and diagnostic and therapeutic procedures in office gynecology. The instruction will be practical, with appropriate demonstrations, case illustrations, operating room observation and free discussion. The course is limited to ten physicians.

For information, address the Registrar for Postgraduate Medical Instruction, The Mount Sinai Hospital, Fifth Avenue and 100th Street, New York 29, New York.

Cancer Seminar

The annual cancer seminar of 1957 will take place January 10 through 12 at Paradise Inn, Phoenix, Arizona. Credit for attendance at this affair will be given by the Academy of General Practice. Among the speakers will be Dr. Alfred Gelhorn of Francis Delafield Hospital, New York City, who will discuss "Recent Advances in Chemotherapy of Malignant Diseases."

Jefferson County Medical Society

The Jefferson County Medical Society will meet on January 15, 1957, at the Black River Valley Club in Watertown. Dr. Richard H. Lyons, professor of medicine at the State University of New York Col-

[Continued on page 3974]

three-fold action against anxiety, stress and tension states with

NEURO-CENTRINE*

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More than an antispasmodic is needed for relief of spastic conditions of the gastrointestinal tract, associated with underlying anxiety, stress and tension.

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Descriptive literature on request.

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[Continued from page 3972]

lege of Medicine at Syracuse, will speak on "The Use and Abuse of Newer Drugs."

Medical Trends Lecture

The second of a series of lectures entitled "Significant Trends in Medicine," sponsored by the Jewish Hospital of Brooklyn, will be held January 22, 1957, at 8:30 P.M. at the Dr. Leon Louria Auditorium, St. Marks and Classon Avenues, Brooklyn. Dr. Morton M. Kligerman, associate professor of radiology at Columbia University, College of Physicians and Surgeons, will moderate a panel discussion on supervoltage roentgentherapy—its hazards and benefits.

Course in Office Proctology

Dr. Robert Turell and staff will give a course in office proctology February 18 and 19, 1957, at the Mount Sinai Hospital in affiliation with Columbia University. The course, designed to acquaint the clinician with the important proctologic conditions that lend themselves to office diagnosis and treatment, will include demonstration of all diagnostic and various therapeutic procedures.

For information, address the Registrar for Postgraduate Medical Instruction, the Mount Sinai Hospital, Fifth Avenue and 100th Street, New York 29, New York.

School of Alcohol Studies

Yale University will offer a summer school of alcohol studies from July 1 through July 27, 1957. Lectures, seminars, and workshops will be held. For a prospectus describing the course and information concerning admission and academic credit, write to the Registrar, Yale Summer School of Alcohol Studies, 52 Hillhouse Avenue, New Haven, Connecticut.

PHYSICIANS' HOME

BEVERLY C. SMITH, M.D., *President*

ADA CHREE REID, M.D., *Executive Director*

A Christmas Message from Physicians' Home

TO THE doctors of New York: Physicians' Home warmly extends the Greetings of the Season and with these go the heartfelt thanks of all the elderly physicians and widows who have this past year been recipients of aid from Physicians' Home—aid which has been made possible by your contributions.

In preceding months we have described briefly some of the history of Physicians' Home and of its formation in 1919 for the purpose of providing "assistance for aged,. indigent physicians and their wives or widows." We are now currently assisting 37 physicians or their widows.

And who are these beneficiaries? Many of them have held important teaching positions in our medical colleges—one was a professor of pediatrics. Some have held high-ranking appointments on the staffs of our leading hospitals; their names would be well known to countless younger physicians who have been their students and have gained knowledge through the broad experience of these older men. All have been members in good standing of the Medical Society of the State of New York for at least ten consecutive years—this is the minimum requirement—but many have been members for far longer periods.

Of our present 37 beneficiaries 16 are physicians, and 21 are widows. One half are over eighty; our oldest physician is ninety-one, and this is the age also of our oldest widow. The six who are under seventy are receiving assistance because of disability which has terminated or impaired their earning capacity.

They come from all parts of New York State, about one-half from Metropolitan New York and the remainder scattered from Buffalo to the tip of Long Island. Most are still living in the localities where they spent their active professional years and where they are respected members of the community.

We would like to do more and to give more, at least keeping pace with the increasing cost of living. We feel sure that you will agree it is our responsibility to care for our elderly colleagues. We are relying upon you to help us meet this responsibility this next year and the years to come.

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"Pyelonephritis is . . . one of the most common complications of pregnancy."[1]

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"Successful results were obtained in all pregnant patients."[2]

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References: 1. Kass, E. H.: Am. J. Med. **18**:764, 1955. 2. Diggs, E. S., Prevost, E. C., and Valderas, J. G.: Am. J. Obst. **71**:399, 1956.

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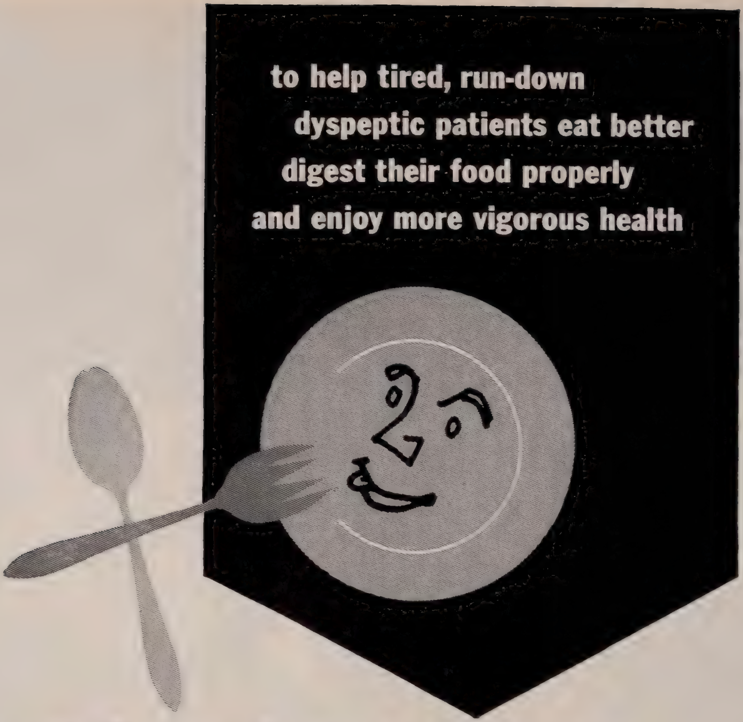
to help tired, run-down
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the delightfully flavored "pick-me-up"
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Each fluid ounce (approx. 2 tablespoonfuls) provides:
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	Digestive Enzymes:	
digestive enzymes . . .	pancreatin	126 mg.
	pepsin	126 mg.
	Betaine HCl	100 mg.
	Betaine Monohydrate	200 mg.
	Liver Concentrate*	220 mg.
lipotropics . . .	Yeast Extract*	220 mg.
	Vitamin B_{12}	4 mcg.
	Inositol	100 mg.
	Thiamine HCl (B_1)	4 mg.
B complex vitamins . . .	Riboflavin (B_2)	2 mg.
	Pyridoxine HCl (B_6)	2 mg.
	Panthenol	2 mg.
	Niacinamide	20 mg.
	Calcium Glycerophosphate	300 mg.
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FAST —begins to induce "peace of mind" within 15 minutes.[1]

EFFECTIVE —approximately 90% clinical response in anxiety and tension states.[1, 2, 3]

WELL-TOLERATED —virtually no side effects are reported. No toxic action on liver, blood or brain.[1, 2, 3]

DOSAGE: Adults, usually one 25 mg. tablet or two tsp. Syrup, t.i.d. Children, usually one 10 mg. tablet or one tsp. Syrup, once or twice daily. Adjust as needed.

SUPPLIED: In tiny 25 mg. (green) tablets, and 10 mg. (orange) tablets, bottles of 100. ATARAX Syrup in pint bottles, containing 2 mg. ATARAX per cc.

References. 1. Farah, Luis: Int. Rec. of Med. & Gen. Prac. Clin. **169**:379 (June) 1956. 2. Shalowitz, M.: Geriatrics, July, 1956. 3. Robinson, H. M. et al: J.A.M.A. **161**:604 (June 16) 1956.

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"Some degree of muscular relaxation [with FLEXIN] was occasionally seen 24 hours or longer after discontinuance of therapy."[1]

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(1) Abrahamsen, E. H., and Baird, H. W., III: J.A.M.A. *160*:749 (Mar. 3) 1956. (2) Rodriguez-Gomez, M.; Valdes-Rodriguez, A., and Drew, A. L.: J.A.M.A. *160*:752 (Mar. 3) 1956. (3) Smith, R. T.; Kron, K. M.; Peak, W. P., and Hermann, I. F.: J.A.M.A. *160*:745 (Mar. 3) 1956.

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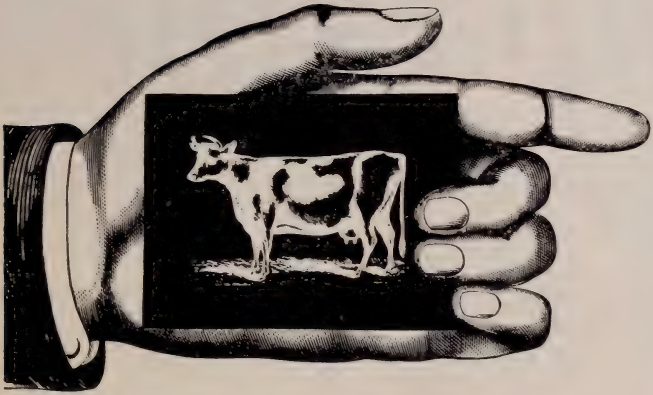

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HI-PRO provides a full quota of calories without danger of fat irritation in cases of fat intolerance or where digestive disturbances are present. Readily digestible, it is ideal in treatment of infant diarrhea, prematures, fat intolerance and normal newborns.

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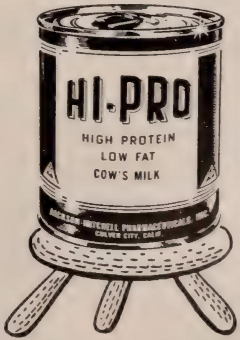

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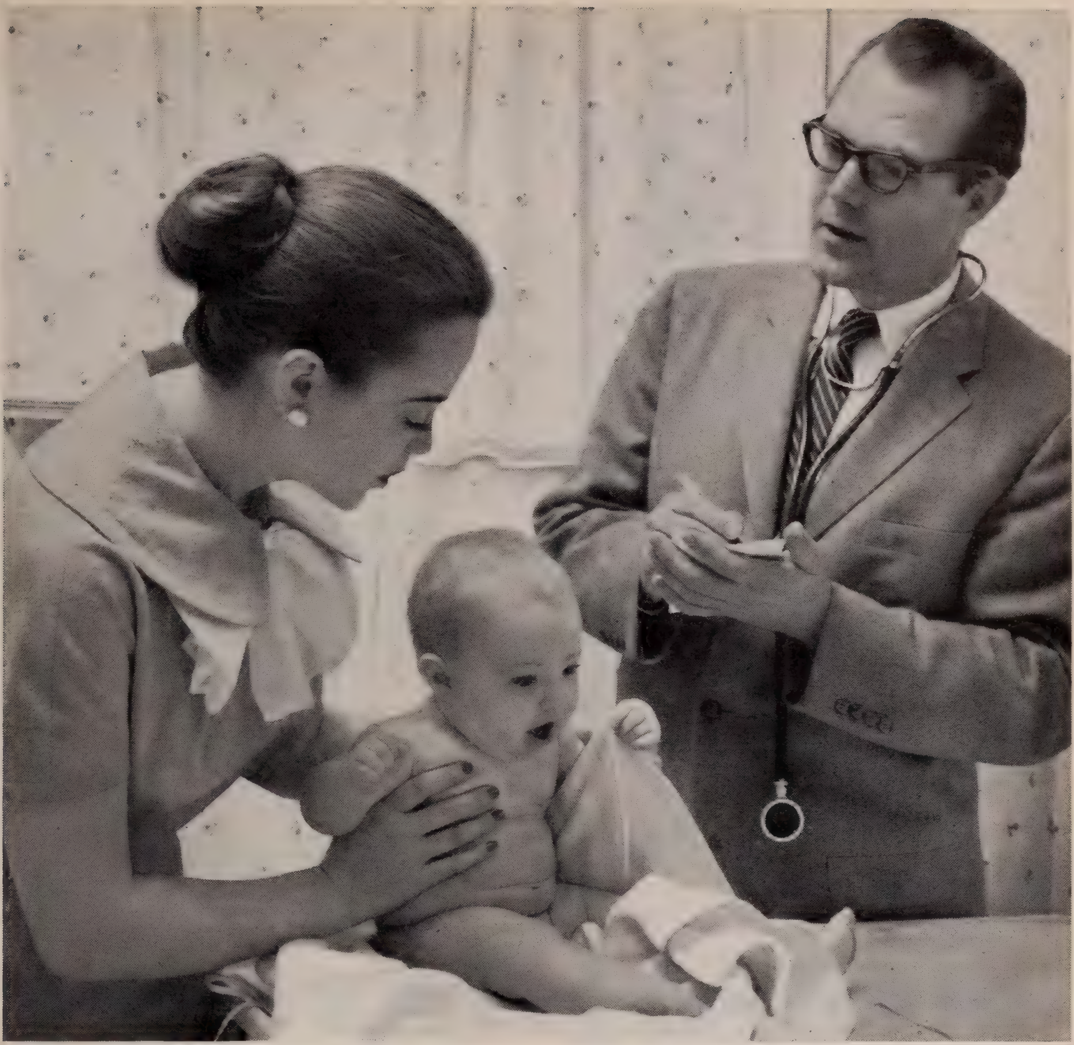

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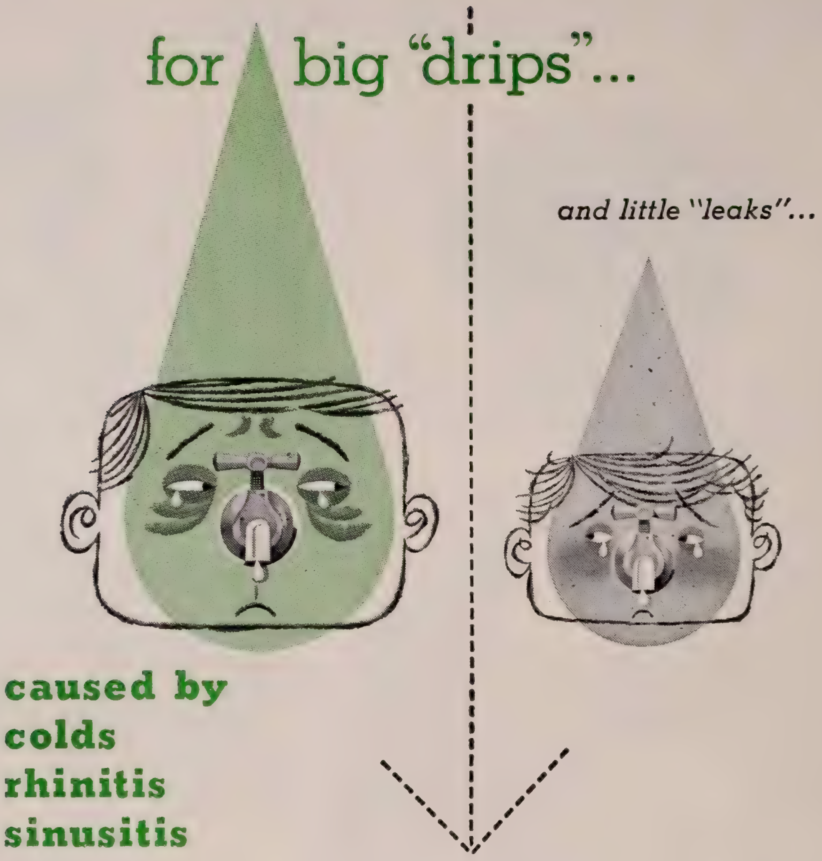

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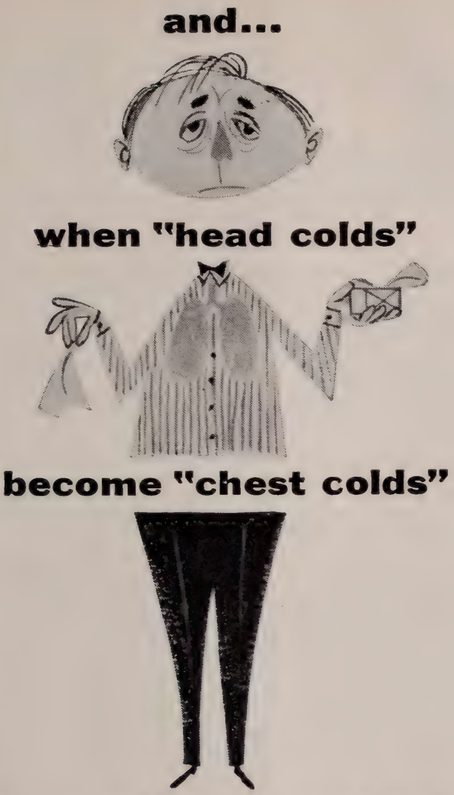
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Phenylephrine hydrochloride	10 mg.
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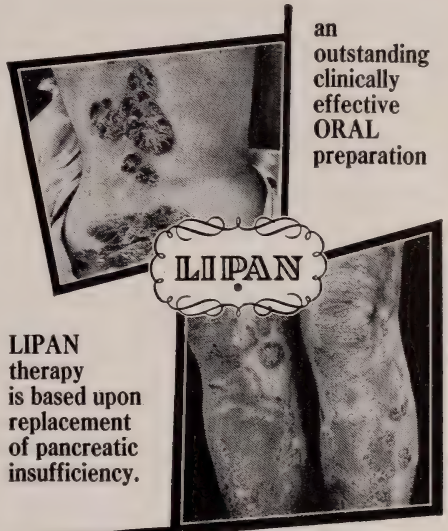
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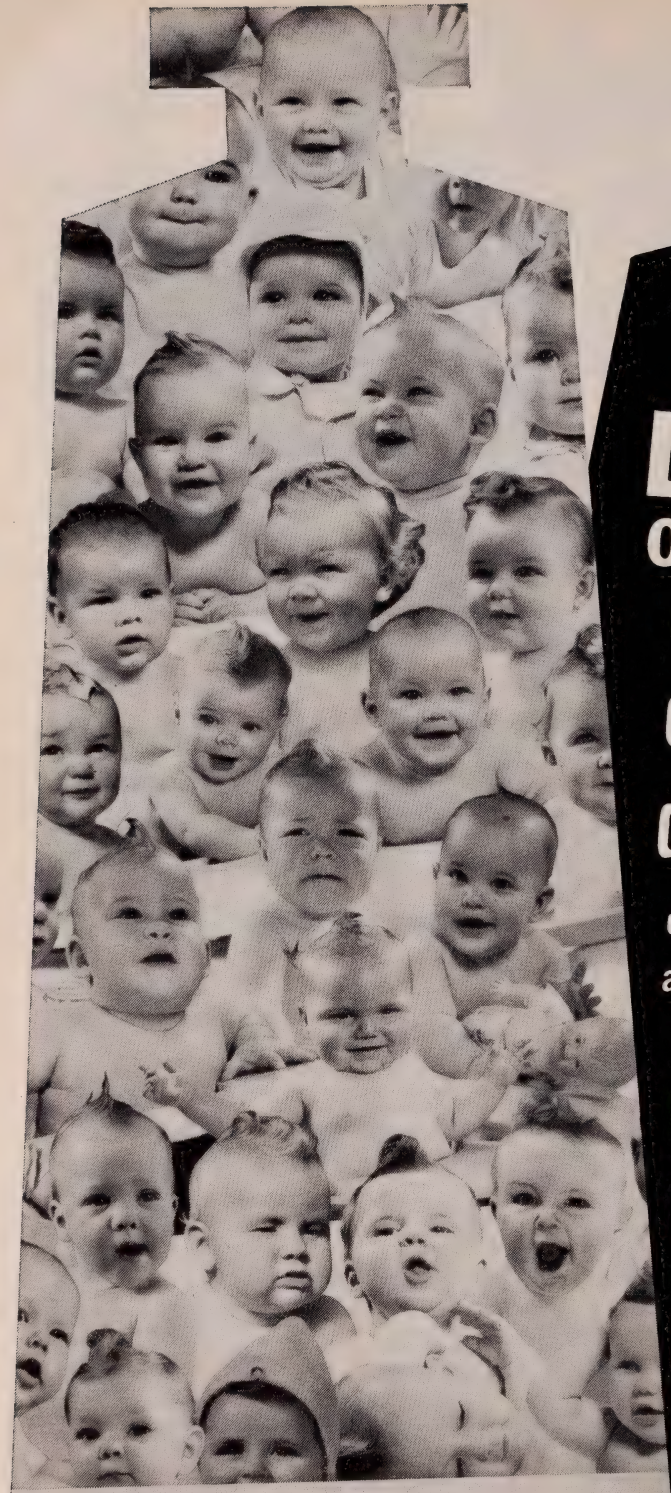

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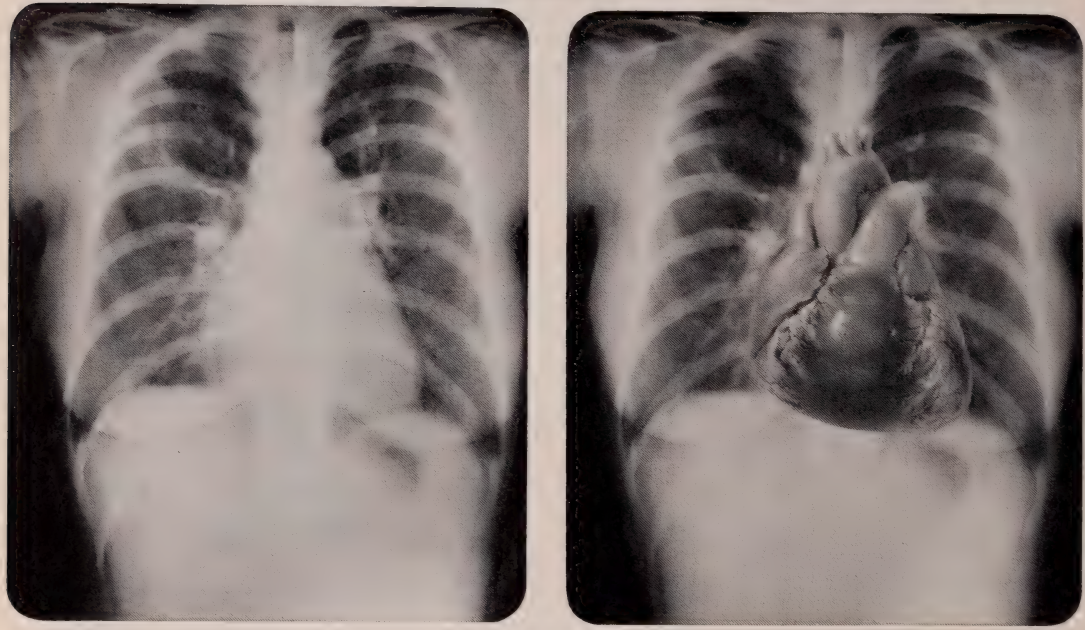

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*EHRLICH, J.C.: ARIZONA MED. 12:239 (JUNE) 1955. BIBLIOGRAPHY FURNISHED ON REQUEST

BOOKS RECEIVED

(The following books were received during the month of October, 1956)

The Truth About Eye Exercises. By Philip Pollack. Duodecimo of 117 pages, illustrated. Philadelphia, Chilton Company, 1956. Cloth.

Life Insurance Medical Research Fund. Eleventh Annual Report, July 1, 1955, to June 30, 1956. Octavo of 94 pages, illustrated. New York, The Fund, [1956].

Clinical Examinations in Neurology. By Members of the Sections of Neurology and Section of Physiology, Mayo Clinic and Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota, Rochester, Minnesota. Sixteen contributors. Octavo of 370 pages, illustrated. Philadelphia, W. B. Saunders Company, 1956. Cloth, $7.50.

Official History of the Canadian Medical Services, 1939–1945. Volume One. Organization and Campaigns. Edited by Lt. Col. W. R. Feasby, R.C.A.-M.C. Illustrated with paintings and photographs by Canadian war artists and photographers. Maps drawn by Capt. C. C. J. Bond. Published by Authority of the Minister of National Defense. Quarto of 568 pages, illustrated. Ottawa, [Canada], Edmond Cloutier, 1956. Cloth, $5.00.

Educating Spastic Children. The Education and Guidance of the Cerebral Palsied. By F. Eleanor Schonell, Ph.D. Octavo of 242 pages, illustrated. New York, Philosophical Library, 1956. Cloth, $6.00.

Essentials of Histology. By Margaret M. Hoskins, Ph.D., and Gerrit Bevelander, Ph.D. Third edition. Octavo of 254 pages, 146 text illustrations and 2 color plates. St. Louis, The C. V. Mosby Company, 1956. Cloth, $4.00.

Clinical Psychology. The Study of Persons. By Richard W. Wallen, Ph.D. Octavo of 388 pages, illustrated. New York, McGraw-Hill Book Company, 1956. Cloth, $6.00.

Cosmetics: Their Principles and Practices. By Ralph G. Harry. Octavo of 786 pages, illustrated. New York, Chemical Publishing Co., 1956. Cloth, $17.

Pelvimetry. By Herbert Thoms, M.D. Octavo of 120 pages, illustrated. New York, Paul B. Hoeber, 1956. Cloth, $5.00. (A Hoeber-Harper Book).

Principles of Clinical Electrocardiography. By Mervin J. Goldman, M.D. Large octavo of 310 pages, illustrated. Los Altos, California, Lange Medical Publications, 1956. Paper, $4.50.

28th Annual Report, January 1, 1955–December 31, 1955, Hillside Hospital, Glen Oaks, Queens, Long octavo. N.p. · Illustrated. Glen Oaks, Queens, N.Y., The Hospital, 1955.

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The Management of Fractures, Dislocations and Sprains. By John Albert Key, M.D., and H. Earle Conwell, M.D. Sixth edition. Quarto of 1,168 pages, illustrated. St. Louis, The C. V. Mosby Company, 1956. Cloth, $20.

Practical Pediatric Dermatology. By Morris Leider, M.D. Octavo of 433 pages. 280 photographs and 13 drawings. St. Louis, The C. V. Mosby Company, 1956. Cloth, $10.50.

Psychologic Aspects in the Care of Infants and Children. Report of the Twenty-first Ross Pediatric Research Conference. Octavo of 96 pages. Columbus, Ross Laboratories, 1956.

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The Stress of Life. By Hans Selye, M.D. Octavo of 324 pages, illustrated. New York, McGraw-Hill Book Company, 1956. Cloth, $5.95.

The Medical Clinics of North America. Mayo Clinic Number. July, 1956. Octavo. Philadelphia, W. B. Saunders Company, 1956. Published Bimonthly (six numbers a year). Cloth, $18 net; paper, $15 net.

Three Voyages. The Story of an Inquiring Soul Exploring His Way Through Life and Living It as He Goes, Being Fragments of an Autobiography. By James Peter Warbasse, M.D. Octavo of 274 pages, illustrated. Chicago, The Cooperative League of the U.S.A., 1956. Cloth, $3.50.

Surgical Procedures, Classification, and Nomenclature. For Use in Connection with Surgical Expense Insurance, 1956. Prepared by The Health Insurance Council. Long octavo of 58 pages. New York, 488 Madison Avenue, Health Insurance Council, 1956. Paper, gratis on request.

Revue Française d'Etudes Cliniques et Biologiques. September, 1956, Vol. I, No. 7. Quarto. pp. 730 to 837, illustrated. Paris, Éditions Médicales Flammarion, 1956. 10 numbers a year. $19 per year.

Dictionary of Poisons. By Ibert Mellan and Eleanor Mellan. Octavo of 150 pages. New York, Philosophical Library, 1956. Cloth, $4.75.

Chronic Illness in the United States. Vol. II. Care of the Long-Term Patient. By the Commission on Chronic Illness. Octavo of 606 pages, illustrated. Cambridge, Massachusetts, published for The Commonwealth Fund by Harvard University Press, 1956. Cloth, $8.50.

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Urology and Industry. By Leonard Paul Wershub, M.D. Octavo of 151 pages. Springfield, Charles C Thomas, 1956. Cloth, $5.00.

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Epidemic and Endemic Diarrheal Diseases of the Infant. Conference Co-Chairmen: James A. Baker, D.V.M., and Erwin Neter, M.D. Consulting Editor: Erwin Neter, M.D Octavo of 230 pages, illustrated. New York, New York Academy of Sciences, 1956. Paper, $3.50. (*Annals of the New York Academy of Sciences*, v. 66, art. 1, pp. 3–230).

Calcium and Phosphorus Metabolism in Man and Animals with Special Reference to Pregnancy and Lactation. Conference Chairman: Franklin C. McLean, M.D. Organizing Chairman and Consulting Editor: Robert R. Marshak. Octavo of 182 pages, illustrated. New York, New York Academy of Sciences, 1956. Paper, $4.00. (*Annals of the New York Academy of Sciences*, v. 64 art. 3, pp. 279–462).

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Some Protozoan Diseases of Man and Animals: Anaplasmosis, Babesiosis, and Toxoplasmosis. Conference Organizing Committee: Clarence R. Cole, D.V.M., Chairman, Hilary Koprowski, M.D., and Ross F. Nigrelli, Ph.D. Octavo of 253 pages, illustrated. New York, New York Academy of Sciences, 1956. Paper, $3.50. (*Annals of the New York Academy of Sciences*, v. 64, art. 2, pp. 25–277).

Group Processes. Transactions of the Second Conference, October 9, 10, 11, and 12, 1955, Princeton, N.J. Edited by Bertram Schaffner, M.D. Octavo of 255 pages, illustrated. New York, Josiah Macy, Jr. Foundation, 1956. Cloth, $3.50.

Nerve Impulse. Transactions of the Fifth Conference, September 20, 21 and 22, 1954, Princeton, N.J. Edited by David Nachmansohn, M.D., and H. Houston Merritt, M.D. Octavo of 256 pages, illustrated. New York, Josiah Macy, Jr. Foundation, 1956. Cloth, $4.50.

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Inside the Hospital. By Helen B. Radler. Drawings by Ginnie Hofmann. Duodecimo. N.p. Illustrated. New York, Society of Memorial Center, 444 E. 68th St., 1955. Paper, $.25.

Books for review should be sent to the Book Review Department at 1313 Bedford Avenue, Brooklyn 16, New York. Acknowledgment of receipt will be made in these columns and deemed sufficient notification. Selections for review will be based on merit and interest to our readers.

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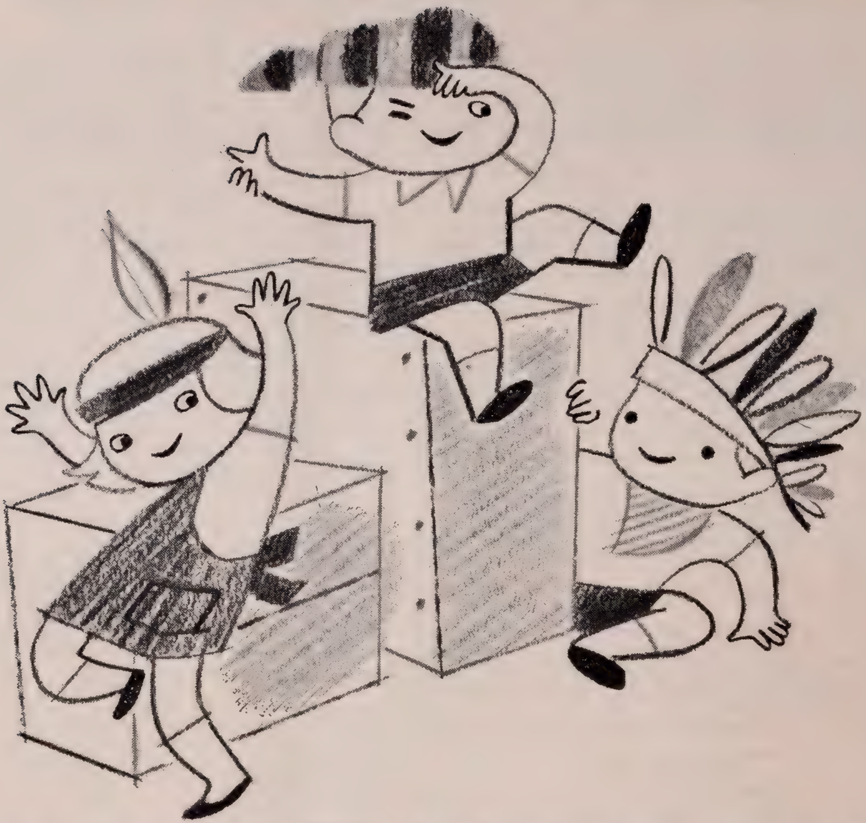

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150th Annual Meeting, May 7 to 9, 1956
New York City

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May 7 to 9, 1956

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EDITORIAL

Minutes of House of Delegates, 1956

Again the Publication Committee presents the minutes of the House of Delegates at its 150th meeting, held at the Hotel Statler, New York City, May 7 to 11, 1956, as Part II of the September 1 issue of the New York State Journal of Medicine.

Although this meeting of the delegates was the 150th such meeting, the Medical Society of the State of New York was not officially organized until February, 1807. Consequently, the formal celebration of the Society's sesquicentennial will not occur until February, 1957.

Yearly the detailed work of transcribing the material, its editing, and verifying commence immediately after the session. This onerous task is accomplished during the summer months by the secretary's office of the Society in conjunction with the editorial staff of the Journal. The systematic processing of such a large volume of material in addition to the ordinary routine business of both staffs is the result of long training and skill. Because of it, the September 1 issue of the Journal, Part II, brings to the membership on time a complete transcript of the proceedings, accurate and well indexed, to be added to those volumes of previous years that form an invaluable historical record and reflect the continuing policy of the Society.

The membership is earnestly requested

to preserve these minutes from year to year. If it becomes necessary, any member can find the origin, the action taken, and the disposition of any resolution. Except by attending the sessions of the House of Delegates, which it is the privilege of any member to do, there is no other way than by studying the proceedings by which a member can follow the fate of a resolution introduced by his own or another county society.

It is the hope of the Publication Committee that the membership will preserve the supplements from year to year for handy reference. Questions constantly arise as to the policy of the Society on many topics. By consulting the index in this volume, the answer may be found readily in the action taken by the House on the particular topic under consideration.

Newer members of the Society, particularly, will, it is hoped, study this volume of official records to familiarize themselves with the methods of procedure as well as the legislative content of this session of the House of Delegates.

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Medical Society of the State of New York

HOUSE OF DELEGATES

MINUTES OF THE ANNUAL MEETING

May 7 to 9, 1956

THE 150th Annual Meeting of the House of Delegates of the Medical Society of the State of New York convened at the Hotel Statler, New York City, on Monday, May 7, 1956, at 10:00 A.M.: Dr. Frederic W. Holcomb, *Speaker;* Dr. Frederick W. Williams, *Vice-Speaker;* Dr. W. P. Anderton, *Secretary;* Dr. Ezra A. Wolff, *Assistant Secretary.*

SPEAKER HOLCOMB: The House will come to order.

I will call on Dr. Charles McCarty, of Kings County, chairman of the Credentials Committee, for his report.

Section 1

Report of Reference Committee on Credentials

DR. CHARLES F. MCCARTY, *Kings:* There are 181 qualified delegates present and registered.

SPEAKER HOLCOMB: That constitutes a quorum.

SECRETARY ANDERTON: Yes.

SPEAKER HOLCOMB: Are there any disputed delegations?

DR. MCCARTY: No, sir.

SPEAKER HOLCOMB: All on the rolls are entitled to vote?

DR. MCCARTY: Yes.

SPEAKER HOLCOMB: We started on time. I will now declare that the 150th Session of the House of Delegates is open for the transaction of any business which may come before it.

Section 2

Memorial Observance

SPEAKER HOLCOMB: At this time we will have a memorial observance. I will now read the names of our deceased members of the House; Dr. Thomas McGoldrick, of Brooklyn, who was past president between 1943 and 1944; Dr. Edward R. Cunniffe, of the Bronx, a past president between 1945 and 1946; Dr. Leo Simpson, of Rochester, a past president, 1948 and 1949, and Dr. Joseph Cornell, who was a former delegate from Schenectady County. I would request that the delegates present all stand for a moment in respect to their memory.

. . . The members arose and stood for one minute with bowed heads in memory of their departed confreres . . .

Section 3

Invocation

SPEAKER HOLCOMB: The next order of business is the invocation. I feel it is appropriate at this time to ask for Divine Guidance during our proceedings.

Dr. Norris Tibbetts, of the Riverside Church, will pronounce the invocation.

REV. NORRIS TIBBETTS: Let us be together in prayer!

Most merciful and gracious God, who bearest on Thy heart the need of all Thy children, grant to those who gather here the certainty that in serving their fellow men they work together with Thee.

Give them knowledge to apprehend the resources of Thy infinite goodness that they may ever be prepared to resist the evil of disease.

While they consider the claims which human bodies make on their professional skills, may they seek with equal diligence to understand that life is more than the body and has its special needs.

Preserve in them humility that they may be capable of keeping open minds, and save them from pride of achievement lest they lose the deeper satisfaction of constant endeavor.

As they look back over the long road that mankind has come, let thanks be given to them for victories of health over disease. At the gateway of the unknown let hope be high that what is hidden will yet be revealed.

Grant this, our prayer, we beseech Thee, that in the affairs of this occasion Thy will may be known and Thy will done in the spirit of Christ. Amen!

Section 4

National Anthem

SPEAKER HOLCOMB: The next order of business is our National Anthem. Will you please arise?

. . . The National Anthem was led by Rev. Norris Tibbetts . . .

SPEAKER HOLCOMB: I don't know what Mr. Petrillo would say at this point. (*Laughter*)

Section 5

Official Greeting of the City of New York

SPEAKER HOLCOMB: Members of the House of

Delegates, it is now my privilege to introduce Dr. John Theobald, Deputy Mayor of the City of New York, who will extend the official greetings of the City to the House of Delegates. Dr. Theobald. (*Applause*)

DR. JOHN THEOBALD: Mr. Chairman, ladies and gentlemen, every time I am introduced as doctor in an audience of physicians, I am reminded of the comment that my young fellow who is now studying medicine made at the age of about six to his granduncle, who is now some sixty-odd years in the practice of medicine. It was just about the time that pop had gotten his Ph.D., and I guess the family made a bit too much of it, and Tommy expected certain things to happen at home after that that did not happen. We went over to visit Uncle Carl, and the young man put it this way. He said, "Uncle Carl, are you a regular doctor, or are you just a fake doctor like my daddy?" (*Laughter*)

I think it is significant, gentlemen, that over the course of the years the terms "doctor" and "physician" have become synonymous. When I look back to the early days of the founding of this nation, back to the 1600's, I think of the early battle between the—let us see, they called them physicks and surgeons, didn't they—the doctors and the barbers on the ships as to who could shave and cut the hair of the people of the City of New York, and then I begin to realize that we really have come a long way in the profession of medicine.

It has been a way that has been marked by a close relationship between government and the profession, between the profession and the individual, and between the individual profession and the development of our modern science and way of life. If we look back at those early days and think of the tools which the doctor had: his eyes, taste, smell, the ears, and the feel; none of the modern developments for diagnostics, almost nothing in the way of treatment, cupping, bleeding, leeching, and the like. Even the stethoscope was unknown. The thermometer was yet to come. Then I think we begin to understand what a long, long way we have come.

As we face the future in today's scientific world, as you look at your profession today, you think in terms of your scientific instruments for recognition as to the effects of your newest drugs and methods of treatment. You think of the problems of prevention rather than merely the problems of cure. But these, gentlemen, have presented some very new and very real problems for the profession of medicine and for the lay people at large. As science has developed, the doctor more and more has become a scientist, and this is important for it is through science that we have learned how to handle many of the problems of health that have belabored society; but in the practice of science, in the development of science, we must have also a new kind of scientist. We cannot be satisfied with the scientist who works over in the laboratory with his test tubes and with his chemicals. We must think in terms of a human being, rich with a richness of understanding, a warmth and an ability to comfort and to counsel and to guide. This new physician really is a new type of man who comes out of a new way of life. He must carry with him a balance between a science and an art, and he must know how to apply the skills, the knowledge, and the technics so as to give to the individual the maximum help and aid.

I think there are other problems that come out of this new development of science. If we compare for just a moment the tremendous increase in the fund of knowledge that the physician of today must have, then we begin, I think, to see that he may never stop his studies. Much of the ability to move ahead has centered around our ability to broadcast information to keep doctors informed of the newest developments, to keep them constantly aware of the potentials just across the horizon. We have moved into a period where our young people are adults before they can start their practice and where we have a major problem of transmitting the fund of new developments and new information to those who are in practice. This I would say is the number two challenge of medicine as I, a layman, see it looking ahead.

The third one, I think, arises out of its own success. The advance of medicine has resulted in an increase in age, a very material increase in age in the population of the nation, and with an increase in age come two things. First, there come new diseases and new illnesses, things that never had a chance to get started before but which now as people get older will strike and will need new treatments and new methods and new understandings. Beyond that, think for a moment what happens when people who formerly died live on—live on in a state of limited capacity—and I am not thinking here just of the invalid; I am thinking of the relatively minor incapacities that sometimes come with our medical cures. It seems to me that the job of counselling and guiding people who are not quite able to handle the job that they did formerly, the whole mental approach, the development of good attitudes in people who might otherwise fall by the wayside, is one of the big challenges that you men face as you move ahead.

I am particularly happy to be here today. I am happy because I think it is most apropos that this sesquicentennial celebration be held in the City of New York. Before 1806, way before, back in the first half of the seventeenth century, we have evidences among our historians of the fact that there were gatherings of physicians in the City of New York, the beginnings of what later became the medical societies of the City and State. So I feel in a sense the Society has its roots here, and it is good to have you home.

It is a privilege for me to extend to you the greetings of Mayor Wagner of the City of New York, who wishes you Godspeed in the job that you are doing and in the days ahead.

Thank you! (*Applause*)

Section 6

Approval of Minutes of the 1955 Session

SPEAKER HOLCOMB: Next on the order of business is the approval of the minutes of the 1955 session that appeared in Part II of the September 1, 1955, issue of the NEW YORK STATE JOURNAL OF MEDIcine. Are there any objections or corrections of these minutes as published? If not, they stand approved as published.

Section 7

Reference Committees

Speaker Holcomb: Members of the House, there have been some last minute changes.

The reference committees follow:

CREDENTIALS

Charles V. McCarty, *Chairman*, Kings
Henry J. Barrow, Bronx
E. Gordon MacKenzie, Dutchess
Bernard J. Hartnett, Cayuga
Eugene F. Galvin, Ulster

PRESIDENT'S REPORT

Philip D. Allen, *Chairman*, New York
Walter Scott Walls, Erie
Francis J. O'Neill, Suffolk
William Benenson, Queens
Olin J. Mowry, Oswego

REPORTS OF SECRETARY, JUDICIAL COUNCIL AND DISTRICT BRANCHES

Joseph G. Zimring, *Chairman*, Nassau
Maxwell Gosse, Dutchess
Charles W. Frank, Bronx
Webster M. Moriarta, Saratoga
C. Stewart Wallace, Tompkins

REPORTS OF TREASURER, TRUSTEES, BUDGET, WAR MEMORIAL, EXPENSE CURTAILMENT

John F. Rogers, *Chairman*, Dutchess
Ben A. Borkow, Kings
Meyeron Coe, Queens
Adelaide Romaine, New York
R. Scott Howland, Chemung

PLANNING COMMITTEE FOR MEDICAL POLICIES

John F. Kelley, *Chairman*, Oneida
Christopher Wood, Westchester
E. Dean Babbage, Erie
Peter M. Murray, New York
Joseph A. Lane, Monroe

MALPRACTICE INSURANCE AND DEFENSE BOARD, LEGAL COUNSEL

Frank LaGattuta, *Chairman*, Bronx
Alfred P. Ingegno, Kings
E. Kenneth Horton, Nassau
Samuel Sanes, Erie
Arthur J. Sullivan, Albany

CONSTITUTION AND BYLAWS COMMITTEE OF COUNCIL, QUESTIONS OF ETHICS, REVIEW OF DR. BEN E. LANDESS CASE

William E. Pelow, *Chairman*, Onondaga
John G. Masterson, Kings
Herbert S. Ogden, New York
Frederick K. Shaw, Tioga
Antonio F. Bellanca, Erie

COUNCIL—PART I

POSTGRADUATE EDUCATION, CIVIL DEFENSE, INHALATION THERAPY

Thomas M. Watkins, *Chairman*, St. Lawrence
James H. Arseneau, Wayne
Samuel Wagreich, Bronx
Anthony A. Mira, Queens
Charles H. Loughran, Kings

COUNCIL—PART II

PUBLIC HEALTH ACTIVITIES A—MATERNAL AND CHILD WELFARE, SCHOOL HEALTH

Joseph E. Corr, *Chairman*, New York
Theodore R. Proper, Orange
Philip M. Standish, Ontario
Waring Willis, Westchester
Thomas S. Cotton, Steuben

COUNCIL—PART III

PUBLIC HEALTH ACTIVITIES B—INDUSTRIAL HEALTH, RURAL MEDICAL SERVICE, GENERAL PRACTICE

Norman C. Lyster, *Chairman*, Chenango
Kenneth F. Bott, Greene
Donald C. Walker, Schenectady
John J. Flynn, Kings
F. L. Armstrong, Livingston

COUNCIL—PART IV

PUBLIC HEALTH ACTIVITIES C—CANCER, BLOOD BANKS, HEART DISEASE, MENTAL HYGIENE, FILM REVIEW

Frederick A. Wurzbach, Jr., *Chairman*, Bronx
Alfred A. Angrist, Queens
Morris Maslon, Warren
Edward F. Shea, Ulster
A. Wilbur Duryee, New York

COUNCIL—PART V

PUBLIC HEALTH ACTIVITIES D—PHYSICAL MEDICINE AND REHABILITATION, GERIATRICS, DIABETES, CEREBRAL PALSY, HARD OF HEARING AND THE DEAF

John L. Sengstack, *Chairman*, Nassau
Elton R. Dickson, Broome
Thomas S. Bumbalo, Erie
George E. Anderson, Kings
Harry Golembe, Section Delegate, Sullivan

COUNCIL—PART VI

MEDICAL LICENSURE AND MEDICAL SERVICE, HOSPITAL AND PROFESSIONAL RELATIONS, DENTAL HEALTH

Sol Axelrad, *Chairman*, Queens
Charles A. Prudhon, Jefferson
Guy S. Philbrick, Niagara
Joseph P. Alvich, Bronx
Arthur F. Gaffney, Oneida

COUNCIL—PART VII

ECONOMICS, MEDICAL CARE INSURANCE, PUBLIC MEDICAL CARE

Leonard J. Schiff, *Chairman*, Clinton
Walter S. Bennett, Washington
Alfred L. George, Genesee
James M. Blake, Schenectady
C. Joseph Delaney, New York

COUNCIL—PART VIII

LIAISON WITH VETERANS ADMINISTRATION, AMERICAN MEDICAL EDUCATION FOUNDATION, WOMAN'S AUXILIARY

Solomon Schussheim, *Chairman*, Kings
Richard P. Doody, Rensselaer
Orin Q. Flint, Delaware
Frank J. Borrelli, Section Delegate, New York
Edward L. Schwabe, Chautauqua

COUNCIL—PART IX

LEGISLATION

Samuel B. Burk, *Chairman*, New York
Charles Sandler, Bronx
Sydney L. McLouth, Eighth District Branch, Genesee
Irving J. Sands, Kings

John L. Edwards, Columbia

COUNCIL—PART X
WORKMEN'S COMPENSATION

John C. Brady, *Chairman*, Erie
Samuel Frant, New York
Harold W. Grosselfinger, Rockland
Samuel Leo, Bronx

COUNCIL—PART XI
PUBLICATION, PUBLIC RELATIONS

Felix Ottaviano, *Chairman*, Franklin
Robert F. Warren, Kings
W. Walter Street, Onondaga
James E. Glavin, Essex
John Edward Lowry, Queens

COUNCIL—PART XII
CONVENTION, SESQUICENTENNIAL, NURSING EDUCATION, OFFICE ADMINISTRATION AND POLICIES, BELATED BILLS

Walter T. Heldmann, *Chairman*, Richmond
Moses H. Krakow, Bronx
G. Gordon Knight, Rockland
George A. Burgin, Herkimer
John M. Galbraith, Nassau

MISCELLANEOUS BUSINESS A

George J. Lawrence, Jr., *Chairman*, Queens
Edward P. Flood, Bronx
Martin F. Geruso, Montgomery
James H. Ewing, New York
John H. Wadsworth, Schoharie

MISCELLANEOUS BUSINESS B

Reid R. Heffner, *Chairman*, Westchester
John W. Latcher, Otsego
Sylvester C. Clemans, Fulton
Louis Berger, Kings
Vincent Collins, Section Delegate, New York

I wish to state if any members of the House have any further resolutions, we have tried very diligently to have all resolutions submitted for mimeographing and distribution before the House was called into session.

I also wish to call to your attention that Miss Lewis will edit your resolutions if there are any further ones to be submitted to the House, and she will also act as a clearinghouse for returning resolutions to the committees and for the signing of reports by committee members.

I wish to call your attention again to the fact that reference committee reports must be signed before being submitted to the chair for presentation to the House.

Section 8

Reference of Reports and Supplementary Reports

Secretary Anderton: Mr. Speaker, I move that reports and supplementary reports of officers, Council, Trustees, legal counsel, and district branches that have been published and distributed to the members of this House be referred to the appropriate reference committees without reading.

Dr. J. Stanley Kenney, *Trustee:* I second that motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 9 (See 156) Report 56–A

Report of the Planning Committee for Medical Policies

To the House of Delegates, Gentlemen:

This is the thirteenth annual report of this committe, the sixth by the present chairman.

The makeup of the Planning Committee for the current Society year, 1955–1956, is as follows:

Peter J. Di Natale, M.D., *Chairman, 8th District Branch* . . . . Genesee
Frederick A. Wurzbach, Jr., M.D., *1st District Branch* . . . . Bronx
Charles C. Murphy, M.D., *2nd District Branch* . . . . Suffolk
Edward F. Shea, M.D., *3rd District Branch* . Ulster
Leonard J. Schiff, M.D., *4th District Branch* . . . . Clinton
Arthur F. Gaffney, M.D., *5th District Branch* . . . . Oneida
William T. Boland, M.D., *6th District Branch* . . . . Chemung
Donovan M. Jenkins, M.D., *7th District Branch* . . . . Monroe
John F. Rogers, M.D., *9th District Branch* . . . . Dutchess
Renato J. Azzari, M.D., *President* . . . . . . Bronx
James Greenough, M.D., *President-Elect* . . Otsego
W. P. Anderton, M.D., *Secretary* . . . . . New York
Frederic W. Holcomb, M.D., *Speaker* . . . . Ulster
Walter W. Mott, M.D., *Trustee* . . . . Westchester
John J. Bourke, M.D., *Adviser* . . . . Albany

The Planning Committee is a special committee of the House of Delegates, and that body sets up the personnel of this committee. One member is selected by each district branch, and the other members are president, president-elect, secretary, speaker, and one trustee.

The Planning Committee was originally set up with the specific purpose of developing long-range policies for our State Society.

The committee was to consider, among other things:

1. The distribution of physicians.
2. Educational requirements for licensure.
3. Voluntary insurance plans for decreasing the cost of medical care.
4. Socializing influences.
5. Relationships of the medical profession with government agencies, commercial laboratories, and vendors concerned with any phase of medicine.
6. The relationship of hospitals and the practice of medicine.
7. Relationship with and the status of the nursing profession.
8. Such other matters as the committee deems important from the standpoint of protecting the public and the medical profession from attempts to bring about inadequate medical care and unwarranted interference by outside agencies, with the practice of medicine.

From the stated eight points, one can readily see that a goodly number of the problems confronting the medical profession are in the forefront in the studies and discussions of your State Society.

We of the Planning Committee earnestly urge that any member of the State Society, through his local county or district society, who has any constructive ideas about long-range medical policies, please forward them (ideas) to secretary, Dr. W. P. Anderton. Suggestions will be given due consideration and study.

Again, let us state that many meetings have been held by the Planning Committee since its formation, many topics have been discussed, and in the State Medical Society's office copies of the minutes of those meetings can be inspected.

The Planning Committee this Society year has held two meetings of the committee as a whole; subcommittees were appointed, and appropriate studies were assigned to these various subcommittees.

This year your Planning Committee has considered the following:

1. Integration of county, State, and A.M.A. dues; also the House of Delegates suggested study regarding "a possibility that all-inclusive dues be established for county, State, and A.M.A. membership of a total sum less than the present separate dues."
2. Increasing percentage of A.M.A. members among our membership.
3. Committee setup in regard to size, functions, expense, etc. "The House of Delegates has cautioned against overemphasizing expense."
4. Method of electing delegates from the Society to the A.M.A.
5. Advisability of changing age of eligibility for retired members' status in the State Society and county society from seventy to sixty-five years.

Topics 1 and 2 were assigned for study to a subcommittee composed of Drs. Frederick A. Wurzbach, Jr., chairman, Walter W. Mott, and John F. Rogers.

1. *Integration of Dues.*—Your Planning Committee wishes to note that throughout the A.M.A. and constituent associations there are listed 32 various names for membership classifications. As can be seen, much difficulty will naturally arise in integrating these various associations; as for membership reclassification, considerable study needs to be done without arbitrarily setting up only several classifications and stating that we wish all to comply with these several classifications.

In the various county societies of our State, there are about 13 types of memberships: active, associate, honorary, junior, life, retired, corresponding, hospital, resident, intern, student, senior, and members. It would seem that right in our own State Society some study needs to be done to get some uniformity in membership classification. We realize the problems involved. For example, in a large county many various designations may be a necessity, but those same designations would not be needed in a small county.

In our State Society, we have four classifications: active, retired, junior, honorary. Some felt that the above four are all that are necessary.

The A.M.A., in attempting to clarify eligibility of A.M.A. memberships, states in pamphlet of November 28, 1953, as follows:

> It is suggested that (1) the term "active member" be adopted by the constituent associations to designate the dues-paying member who has the right to vote and hold office; that (2) the term "emeritus member" be used for the member who pays no dues, or pays reduced dues, but retains the right to vote and hold office; that (3) the term "associate member" then be reserved by the constituent association for dues-paying members who do not have the right to vote and hold office; and (4) possibly the term "affiliate member" be used to designate the remaining nonpaying classifications, such as nonresident members and distinguished out-of-state physicians, who cannot vote and hold office. The physicians in groups 3 and 4 would be eligible only to associate membership in the A.M.A.
>
> Obviously, the foregoing proposal is not so easy to adopt as it sounds. Some of the classifications have been in use for decades and have meaningful connotations to the medical profession in the area. Nevertheless, it is hoped that each constituent association will carefully consider this proposal in the light of providing the greatest good to the greatest number and actively participate in the movement to standardize membership terminology.

The subcommittee reported that in a listing of the county dues, there is a considerable variance in the amount of the dues. They vary from $3.00 per year in Tioga County up to $65 per year in Broome County. Obviously, it is almost impossible to make an over-all fee because of the great variance in county dues and the inflexibility of the State and American Medical Association dues. The subcommittee report on this part of their study was approved by the Planning Committee as a whole.

2. *Increasing A.M.A. Memberships*—The subcommittee reported that there are about 32,000 physicians licensed in New York State. About 23,900 are members of the Medical Society of the State of New York, and only about 17,000, roughly 70 per cent of our State Society members, are members of the American Medical Association. It was thought that nonmembers of the A.M.A. belong to a varied group of physicians, such as those who do not wish to belong to the A.M.A. and feel that the A.M.A. is not important and necessary to them, groups connected with teaching institutions, groups connected with veterans hospitals, and physicians in other full-time salaried positions.

The subcommittee felt that there is value in A.M.A. membership to the individual physician, to the State Society, and for the solidarity of the physicians throughout the county.

The subcommittee feels that this is a matter of continuing and continued education; it could better come from the county level in county bulletins and county society meetings. The A.M.A. should make a more determined effort to increase membership in the A.M.A.

The subcommittee felt that compulsory membership in the A.M.A. should not be recommended at this time. The Planning Committee as a whole approved a suggestion that the State Society House of Delegates recommend to each county society that an active working committee to obtain A.M.A. members be appointed, the decision to appoint such a committee to be the prerogative of each county medical society.

Dr. Frederic W. Holcomb, chairman, reported for his subcommittee composed of Drs. Leonard J. Schiff and Edward F. Shea on topics 4 and 5 of our studies.

4. *Methods of Electing Delegates from Society to A.M.A.:* Much discussion has taken place in regard to the manner of electing delegates to the A.M.A. from our Society. Various ways have been suggested. Among these ways are proportionate representation for upstate and downstate. We of the Planning Committee feel that we do not wish to create in any way or form a definite division of our membership.

It has been previously suggested that delegates be apportioned by district branch representation. While this may have some merit, it is not recommended at this time.

The subcommittee recommends, therefore, that the Nominating Committee, in presenting the names of delegates to be elected to the House of Delegates of the A.M.A., give serious consideration to the various geographic areas of the State, considering also records of service to county, district, and State. Nomination for delegates, of course, can be made from the floor.

5. *On Reducing Age of Retirement from Seventy to Sixty-five Years.*—Noting well the possible decrease in active memberships and income loss to the State Society, the subcommittee, following considerable study, feels that if a physician in active, good standing should desire to retire from the active practice of medicine, he should be privileged to do so, providing that he completely discontinue practice of medicine in any form which shall include any salaried position in any field of medicine.

This will be presented in the form of an amendment to the Constitution and Bylaws and, as such, will lay over for a year to be acted on at the next session of our House of Delegates, 1957. We urge each county society to study it so that their delegates may be prepared to represent their county views.

Dr. James Greenough, chairman, reported for this subcommittee, composed of Drs. Arthur F. Gaffney and William T. Boland.

3. *Committee Setup in Regard to Size, Functions, Expense, etc.*—"The House of Delegates cautioned against overemphasizing expense." The 1955 House of Delegates Reference Committee on report of Board of Trustees under the capable chairmanship of Dr. Alfred P. Ingegno in making their report stated: Part (3) "that a committee of the Trustees and Council review present expenditures and advise the House at its 1956 meeting regarding the possible sharp curtailment of such expenditures."

Your Planning Committee wishes to quote a saying credited to the late Will Rogers, "Let us not spend money we have not got for something we don't need."

For many years past various presidents have spoken about the committee setup and the costs. We seem to accumulate committees from time to time; they get bigger and bigger, and activities and expenses necessarily increase.

The Planning Committee has attempted to obtain information and suggestions from members of our Society. Each president and secretary of each county medical society received a query about committee setup with a hope that some concrete suggestions could be obtained. Each chairman and subcommittee chairman also received a query about committee setup, particularly their own committee.

The subcommittee reviewed extensive minutes of the several meetings of the Planning Committees of 1954–1955 where chairmen and others appeared and were questioned about the Committees on Legislation, Public Relations, Public Health and Education, Workmen's Compensation, Office Management and Policies, particularly in regards to JOURNAL and *Directory*. It is surprising the lack of either interest or knowledge of the affairs of our Society. The responses to various queries we considered poor.

According to the 1955–1956 list of committees of the Medical Society of the State of New York, there are 43 committees of the Council, one committee of the Board of Trustees, and 15 special committees or committees of the House of Delegates.

The subcommittee divided the committees, for purpose of study, into those needing no revision, at least at present, and those for possible revision. Those needing no revision at this time are those that are active, about the right size, had a function to perform, etc.

On page 90 of the January, 1956, issue of *Medical Economics* appears a report on a study by Harvard University's Laboratory of Social Relations on size of committee most likely to get things done. They report that researchers tested any odd size from three to 15 members. They found that committees of three are too small; committees of nine or more are too big; committees of five or seven seem to be the best.

We of the Planning Committee feel that committees of three to five or seven can function best. Usually when a large committee is constituted, just a few of the members usually do the work. We believe too that occasionally a committee of nine or more may be necessary. However, we feel that this is the exception rather than the rule.

The committees needing no revision, at least for the present, are listed as follows:

Constitution and Bylaws Committee
Executive Committee
Malpractice Insurance and Defense Board
Nominating Committee
Permanent Headquarters Committee
Prize Essays Committee
Judicial Council
Sesquicentennial Committee
Inhalation Therapy Committee
War Memorial Committee
Budget Committee
Medical Economics Committee

Medical Ethics Committee
Hospital Relations Committee
Office Administration and Policies Committee
Pharmacy Committee
Publication Committee
Media of Information Committee
Advisory Committee to the Woman's Auxiliary

The committees for possible revision are as follows:

(*a*) *Medical Education Foundation Committee* (House Committee): Subcommittee recommends that this committee be stimulated to more activity to correlate the information received from A.M.A. so that our members may be better informed as to how the money is given, to whom, what amount, etc. Approved by the committee.

(*b*) *Committee on Alcoholism:* This committee was not reappointed. There reportedly have been complaints from former members because they were not reappointed. There have been no reports and no answers to our queries. No meetings for two years.

The subcommittee feels that alcoholism is an important medical problem and recommends that the incoming president reactivate this committee if he deems it necessary and that, if possible, it be made a subcommittee of the Public Health and Education Committee.

(*c*) *Blood Banks Commission:* The subcommittee felt that this committee is too large. It is felt that perhaps too many members of this committee may not represent the interests of the Medical Society but rather outside interests. The subcommittee believes that the commission should be cut in size to the president, president-elect, chairman of the Public Health and Education Committee, chairman of Public Relations Committee, and one, or at the most three, representing other interested groups, with an advisory group to consult with the smaller Blood Banks Commission. This group would have a personnel representing blood banks and hospitals with technical knowledge about the handling of blood. Approved.

(*d*) *Civil Defense Committee:* Subcommittee felt that it is too large and that it be cut to three members with an advisory committee scattered throughout the State as needed, by appointment of the president. It has been suggested that this committee could become the disaster catastrophe committee rather than just civil defense.

(*e*) *Planning Committee:* The subcommittee felt that this committee should be cut in size by counting the officers of the State Society who are members of the Planning Committees as representing their local districts. Some members felt that this could cause confusion because the districts elect their representatives in the fall and the officers are elected in May. It was suggested too that possibly the nine district members be the Planning Committee and that the officer members be made either ex officio or advisory members. It was thought that perhaps this committee could be composed of the nine district members and the Speaker of the House.

There was no agreement on the possible way to cut this committee, and it was finally agreed to leave Planning Committee as is for the present and study various methods suggested for cutting down the size.

(*f*) *Movie and Television Committee:* Reported poor attendance, and subcommittee recommends that this committee be cut to three Approved.

(*g*) *Scientific Exhibit Committee:* The chairman says the committee is too large. Subcommittee on review recommends this committee be cut to three. Approved.

(*h*) *Medical Care Insurance Bureau:* Much discussion has been taking place about the continuance of this bureau. It is thought by some that the expenditure of approximately $20,000 for this bureau is unwarranted at this time. There is a difference of opinion on this matter.

The House of Delegates at the 1955 meeting suggested to the Expense Curtailment Committee "the possibility of reduction of expenses of the Bureau of Medical Care Insurance. Consideration be given as to whether or not expenses of the Bureau of Medical Care Insurance may not be properly contributed to by various Blue Shield Plans."

The subcommittee recommends that the Council thoroughly investigate the possibility of the various Blue Shield plans properly assuming the cost of this bureau. Approved by the Planning Committee as a whole.

(*i*) *Public Medical Care Committee:* Following study the subcommittee recommends that this committee be cut from five to three.

(*j*) *Legislation Committee:* There are 17 members at present. There has been much discussion about our legislative setup at Albany. You will recall that several years ago a resolution was introduced asking for the abolishment of this Albany Bureau. The House of Delegates at that time did not approve of that resolution.

The 1956 budget for Legislation Bureau is $26,894. However, there has been considerable comment regarding this bureau. The bureau and the Legislation Committee are discussed together because they are interrelated. Several past chairmen of the Legislation Committee have stated that the committee is too big and unwieldy, and they believe more could be accomplished if the committee were smaller.

The legislative setup of our Society may more properly be evaluated after the New York State Legislature has adjourned for this year.

The subcommittee recommends at this time that the Legislation Committee should be composed of five members and that an advisory committee be appointed as need may arise or use existing county or district legislation group as advisory. Approved by the Planning Committee as a whole.

(*k*) *Public and Professional Relations Committee and Bureau:* We wish to state at the onset something that has been stated again and again. The best public relations is that practiced every day by the physician in his relations with the patient, the patient's family, the hospital, and the public. The physician who discharges his duties and responsibilities faithfully and honestly to his patient and provides adequate competent medical care at a reasonable fee for the services rendered is practicing the best public relations possible.

Let us assume that a professional and public relations bureau is needed. Some questions that came to us are: How big shall it be? How much shall it cost? The budget for year ending June, 1956, is about $76,000; approximately $45,000 for salaries. A majority of the activities of the Public Relations Bureau are with the county medical societies outside of greater New York. The chairman of the Public Relations Committee and the director of the bureau have so stated. Therefore, perhaps a greater portion of the budget of the bureau is spent on activities outside greater New York.

Some investigation may be done perhaps to correlate activities of existing executive secretaries in various counties or districts and integrate their activities with our State Society activities at a saving of considerable expense. This may not be feasible but should be looked into.

The subcommittee recommends that a study of the Legislation Committee and Bureau and the Public and Professional Relations Committee and Bureau be undertaken in an impartial fact-finding manner. Eventually such a study could conceivably come up with a plan combining these two bureaus at a cost considerably less than the present combined cost of approximately $100,000. Approved by Planning Committee as a whole.

(*l*) *Committee on Medical Licensure and Medical Service:* It was felt that this committee could be abolished. Chairman advised as such. It was felt that medical licensure really was closely related to legislation and its duties should be assumed by the Legislation Committee. It was so recommended and approved.

The medical service portion of original committee had to do with the selection of the General Practitioner of the Year. The subcommittee recommends that this portion of the previous duties of this Committee on Medical Licensure and Medical Service be taken over by the Public Relations Committee. Approved.

(*m*) *Subcommittee on Rural Medical Service:* The subcommittee in reporting on this committee stated it felt that this was an important committee and advised that it felt that it should be made a full Council Committee on Rural Medical Service. Considerable doubt was expressed by a number of those discussing the matters as to the wisdom of elevating a rather inactive committee to one of full Council status. Following considerable discussion, it was voted to approve recommendation of the subcommittee that the Rural Medical Service Committee be made a full Council committee.

(*n*) *Public Health and Education:* The subcommittee reported that more study is needed on this; study in conjunction with Dr. Curphey, chairman, is recommended. The budget for this committee to June, 1956, is $23,215. Let us not forget that among the purposes of our Society the following is listed in our Constitution: "To extend medical knowledge and advance the science and art of medicine; to promote the betterment of public health."

Many feel that the medical schools and various academies of medicine and hospital staffs are providing medical education for the physicians and perhaps some of the work that is done by the Public Health and Education Committee may not be as extensive as formerly. We urge continuing study of the Public Health and Education Committee. Approved.

(*o*) *Liaison with Veterans Administration Committee:* The subcommittee reported that its chairman advised the possible abolition of this committee. There was little work to be done. It was advised that work of this committee could be referred to Economics Committee. Subcommittee felt that the president with the approval of the Council could at any time it was deemed necessary appoint an existing committee or new committee to deal with veterans affairs. Approved.

(*p*) *Workmen's Compensation Committee:* This committee with its bureau has a budget of $25,288, approximately $21,000 for salaries. There was some comment about the need for full-time activities. However, recently the Industrial Health Bureau, nonexistent except in name, has been combined so that eventually one director may do both compensation and industrial health. The subcommittee recommends that this committee of 15 be reduced to nine so that each district could be represented and accomplish purposes.

The subcommittee made the following general points: The chairman of a committee meet with the incoming chairman and give the new chairman the value of his previous experience with that particular committee, give him the files, if available, and help maintain a continuity so not much time is lost. Subcommittee feels that the district branches can and should be strengthened to the benefit of the component county medical societies; also they be more helpful to the State Society.

Comment.—We of the Planning Committee feel that we do not have all the answers to this study of our committee setup. We ask that the recommendations we have made be given the utmost consideration by the reference committee, the House of Delegates, and by the delegates themselves. We ask that our suggestions be received in the same spirit that they have been given.

We are aiming at streamlining our setup. We are hoping to reduce total cost and still maintain services that are asked of our Society. We urge a continuing study of our activities to stay at least abreast of changing times. We realize that any changes suggested shall conform to our Constitution and Bylaws and are subject to any restrictions that may be imposed by our Constitution and Bylaws.

The Planning Committee recommends to the incoming president that only active members of our Society be named when appointing the various committees, boards, or commissions of the Medical Society of the State of New York.

We of the Planning Committee feel that there is a doubt in our minds about the size of the Council. While it may be more democratic and allegedly represents varying geographic areas, could the work of the Council be streamlined by decreasing total membership of same? We know that it was only a few years ago that the Council was enlarged. A study and careful consideration is merited.

Another question comes to mind—do we need seven members of the Board of Trustees? The A.M.A. with about 150,000 members has nine, we with 24,000 members have seven. Again, this merits continued study.

We recommend to the House of Delegates that the Planning Committee be continued.

Sincere thanks to Dr. Anderton and staff, Mrs. Grimm, and all who appeared and helped in any way.

Respectfully submitted,
Peter J. Di Natale, M.D., *Chairman*

Section 10 (See 89) Report 56–B

Supplementary Report of the Council, Part XI: Public Relations

To the House of Delegates, Gentlemen:

The Subcommittee of the Council Committee on Public Relations appointed to cooperate with the media of information herewith submits this supplementary report.

The subcommittee consists of the following:

John C. McClintock, M.D., *Chairman*	Albany
Henry I. Fineberg, M.D.	Queens
John D. Naples, M.D.	Erie

For the second successive year the subcommittee met with representatives of the press, radio, TV, magazine writers, photographers, and other groups to review the Guide for Cooperation as authorized by the House of Delegates. This was in keeping with the statement in the original issue of the Guide that it "will be reviewed and renewed annually or more often if necessary."

Meetings were held on March 8 and March 9 in New York City with a good representation of the various media present as well as representatives of the New York State Hospital Association.

The meetings clearly indicate that the Guide for Cooperation is performing a valuable service in removing difficulties between the various media of information and the medical profession. There was no criticism of any portion of the Guide, but on the contrary great praise for the service it is performing. The most critical comment, if it can be called such, is that too few doctors are aware of the aims and purposes of the Guide and that in spite of the efforts of the subcommittee to publicize it, there are some doctors who evidently are not aware of its existence.

As a means of making the Guide better known, Dr. Laurance D. Redway, editor of the New York State Journal of Medicine, who attended these meetings, volunteered to run a series of editorial comments in the Journal. It was also decided to use the columns of the *Newsletter* for similar publicity.

In the discussion which took place, several minor changes were suggested, one, for example, being that doctors encourage the patient or his family to state the cause of illness when such information is requested by the press.

The representatives of the Hospital Association reported that they had no changes to suggest.

After considerable discussion it was decided to publish a new edition of the Guide. This would contain the minor changes that had been recommended, and it would have a new format. The subcommittee concluded that a new edition of a different size and color furnished to each member of the Society would impress the members with the fact that the Guide is a living document which is meant to assist physicians in all their contacts with the press and other media of information. It is recommended that the Subcommittee on Cooperation with Media of Information be continued to supervise the publication of a new edition of the Guide for Cooperation and that funds be provided for this purpose.

The program of educating the medical profession in maintaining good relations with the public through these various media is of the utmost importance. Over the past two years considerable progress has been made, as is evident when the attitude of the press at the present time is compared to what it was when these meetings were first held. Further progress can only be made by continuance of these efforts.

Respectfully submitted,
Floyd S. Winslow, M.D., *Chairman*
Public Relations Committee

Section 11 (See 134) Report 56-C

Supplementary Report of the Malpractice Insurance and Defense Board

To the House of Delegates, Gentlemen:

When the annual report of this Board to the House of Delegates was prepared, the final audit and recommendations of our actuaries had not been received, although an over-all estimate had been given to us. The final report has not yet been filed by them, but enough of the essential data has been supplied so that the Board can now forward to you its supplementary report.

Last year the House of Delegates directed that a survey be made of malpractice insurance costs at a county level to determine the feasibility of establishing on a sound actuarial basis different and possibly more equitable territory groups for rating purposes. In adopting this directive, it is doubted that the delegates had in mind anything more complicated than 61 separate computations to establish the relative cost level of each county. While this was quickly and easily accomplished, the inferences to be drawn from the results, that is, the grouping of counties having substantially the same loss costs into territorial areas, proved to be a difficult and practically impossible task.

A mass of figures was accumulated and studied by the Board with our indemnity representative and actuaries. Various groupings were rated and abandoned, either because they were inequitable or because the differences in rates between them were too small to warrant the changes indicated. Nevertheless, the costs in each county have been studied and an effort made to comply with the directive of the Society. It is desired, however, to bring to the attention of the delegates some of the facts discovered to illustrate the difficulties encountered.

First, it should be understood that "sound actuarial" computations require a base broad enough to lend credibility to the conclusions drawn. This means that the number of exposures (policy years) in a given county must be large enough so that two or three losses chargeable to it during any one year or the lack of them will not cause a violent change in its rating situation. While several thousand exposures are necessary to lend reasonable stability to rates, 70 per cent of the counties in the State have less than 500 exposures over the last five expired policy years with an average of only 41 exposures per year.

In the following examples all losses have been reduced to a $5,000 basis, amounts in excess thereof being disregarded. Both losses and exposures for the last five expired policy years (1950–1954) have been used. Average loss costs have been computed on the basis of closed and outstanding losses only, with no reserves for incurred but not reported claims or for operating costs.

1. It was found that there were five upstate counties with individual loss costs greater than the average cost of the metropolitan area, but their combined exposures numbered only 1,470 as compared with 39,500 in New York City. Obviously these five counties cannot be rated on the same basis as the metropolitan area.

2. Another upstate county with only 60 exposures during the last five and one-half years had an average cost within $10 of the metropolitan area due to one loss it suffered during the last half of 1949, and it has had no losses since then.

3. There are 12 counties with no losses or with an average cost of less than $1.00.

4. There are two upstate counties each of which had ten losses which cost almost identically the same to dispose of, yet the average cost per insured doctor in one was $180 while that of the other was only $88. This difference was caused entirely by the difference between the number of exposures in each.

These four examples will serve to illustrate the difficulties encountered in attempting to comply with the task assigned to us. But there are other aspects of the situation which must be considered. Mathematically, it would be possible to divide the upstate counties into three or four rating groups based on their average costs as of today, but because of the small number of exposures in each, radical changes would have to be made in these groups in only one year's time. Furthermore, since there are no large sections of the State composed of contiguous counties that could justifiably be put in the same rating group, it would be necessary to spot them about the State without regard to geographic areas. The results of this approach to the problem would be chaotic.

Overshadowing all of these difficulties is the fact that the more the State is divided, the further we depart from the integrity of the group as a whole, and this consideration must weigh heavily in any decisions reached.

The Board has carefully considered the exposures in each county, the number of losses they have had, the number they are likely to have in the future based on what is known of the situation in each, and the average costs in each county in addition to the other factors noted above. As a result we are compelled to recommend that not more than three rating groups be approved for the State as follows:

Territory A: Metropolitan area composed of the five counties of New York City.

Territory B: Intermediate area composed of the counties of Nassau, Suffolk, and Westchester.

Territory C: Upstate area composed of all the other counties of the State.

We are advised that these rating groups will also be recommended by our actuaries in their report to the Society.

Although there has been a slight but nonetheless encouraging reduction in the over-all costs, we are advised by our actuaries that this should be applied to the minor surgical class since the experience of that group has been better than was expected. The rates for the other two classes in territories A and C will continue unchanged, while those in territory B will be reduced for Nassau and Westchester counties but increased for Suffolk County.

Because of an increase in the cost of superficial x-ray therapy it has been necessary to increase the surcharge for that specialty by $10, equaling that of deep x-ray therapy. Although the surcharges for these two specialties will be the same, loss experience for them will be observed separately for any future developments that may occur. The surcharges for the other two excluded specialties, electroshock therapy and cosmetic surgery, will continue as at present.

The present contingent loss factors will be continued except that the charge for Territory B will be $8.00.

After the foregoing changes have been made, rates by classes and territories for $5,000/$15,000 limits, including the contingent loss factors, would be as follows:

	Major Surgery I	Minor Surgery II	Non-surgical III
Territory A (metropolitan)	$226	$113	$76
Territory B (intermediate)	172	86	58
Territory C (upstate)	119	60	40

Specialty surcharges for all territories:	
Superficial x-ray therapy	$20
Deep and superficial x-ray therapy	20
Electroshock therapy	55
Cosmetic surgery	30

Military Service Rates: The reduced rates originally adopted for members practicing as medical officers of the armed forces provided for premiums computed at 30 per cent of the base rates plus the contingent reserve factor. Because insurance was extended to cover a doctor's liability on account of the act of a locum tenens, a continuation of the differential between the two areas of the State was thought to be justified, even though the service practice of doctors from the two areas might be identical. Under present conditions, however, most doctors being called into service do not have established practices to leave in the care of others, and this factor has become of negligible importance. The board believes, therefore, that it would be more equitable if the percentage factor used in determining military service premiums were applied to the base rates for the new intermediate territory as shown above, irrespective of the territorial rate applicable at the time a doctor enters service.

The board recommends that these rates be approved by the House of Delegates for all new and renewal insurance in the Group Plan of the State Society effect on or after September 1, 1956.

Respectfully submitted,
JOSEPH A. LANE, M.D., *Chairman*

Section 12 (See 120) Report 56-D

Supplementary Report of the Council, Part VII: Public Medical Care

To the House of Delegates, Gentlemen:

As explained in our annual report, two matters from the House of Delegates were referred from our committee to the New York State Department of Social Welfare. They have received careful consideration by Dr. I. Jay Brightman, Assistant Commissioner (Health) for Welfare Medical Services. He has written us as follows:

March 15, 1956

Scott Lord Smith, M.D.
113 Academy Street
Poughkeepsie, New York

Dear Dr. Smith:

At the December 16, 1955 meeting of the Public Medical Care Committee of the Medical Society of the State of New York and representatives of the State Department of Social Welfare, you transmitted to me the following resolution which had been introduced to the House of Delegates at the May, 1955, annual conference:

Resolution introduced by Dr. Felix Ottaviano, Madison County Medical Society

Subject: Denial of Free Choice of Physicians to County Welfare Patients

WHEREAS, the Madison County Welfare Department has refused to honor payment for immunization of county patients by private physicians; and

WHEREAS, the Madison County Welfare Department has refused to honor payment for work done for county patients by private physicians wherever State facilities are available in the vicinity, in spite of the fact that the patient chose to go to a private physician; and

WHEREAS, this refusal of payment constitutes abrogation of the right of free choice of physician; and

WHEREAS, the Madison County Welfare Department is subject to direction by the New York State Department of Social Welfare and other State agencies; and

WHEREAS, this resolution has been unanimously adopted by the Medical Societies of the Counties of Madison, Oneida, and Herkimer; therefore be it hereby

Resolved, that the appropriate officials or bodies in the Medical Society of the State of New York be directed to take definite action aimed to secure the elimination of this deplorable situation.

The State Department of Social Welfare has explored the problem raised by the above resolution introduced at the House of Delegates meeting in May, 1955, and referring to the immunization of public assistance recipients in Madison County.

There are two welfare medical care principles which appear to be involved here:

1. All children receiving public assistance or care should receive the same preventive services as afforded to children in other economic or social situations, namely, regular child health supervision and immunizations (*State Manual of Policies and Procedures*, Book 5, Medical Care, Chapter 511, Preventive Service).

2. In the provision of welfare medical care there shall be full and proper use of existing public and private medical and health services (Board Rule, Article 9, Rule 1b).

We regret that there has been a misinterpretation in the application of these principles.

All children should receive the necessary child health supervision consistent with their age group, and immunizations should be provided as part of such service. When a private physician is taking care of a child who is a welfare recipient, he will be expected to include immunizations as part of his child health supervision. Payments for such child health supervision may be upon a visit basis if that is the practice in the community. It would certainly never be expected that under those circumstances these two services would be considered separately and that a child under a physician's regular care would be referred to a clinic for the immunization procedures.

On the other hand, immunization clinics are conducted by health officers for the purpose of procuring immunizations for those children who, for one reason or another, have not procured it from the physician providing child health supervision. These immunization clinics are open to all children in the community. If this is true, it is difficult to see any reason why children who are welfare recipients should not receive their immunizations through these clinics. Tax funds are being used to provide a service in preventive medicine to a group of persons who have not otherwise obtained that service. There can be no discriminatory practice in favor of or against the welfare recipient. For the welfare recipient to pay a private physician for this service when the child is not under the regular medical supervision of that physician and when the services are available to that child through the health department immunization clinic would be inconsistent with the policy of full and proper use of existing public and private medical and health services.

The situation is similar to that which might occur in a community in which a mass chest x-ray project was to be conducted for the purpose of identifying persons with tuberculosis. This program would be supported by either voluntary or tax funds and would be available to all members of the population. If a welfare recipient was under the regular care of a physician and required a chest plate, that plate would be provided as part of regular welfare medical care. However, if the purpose of the chest plate was the routine examination of a well person for possible early tuberculosis, the patient would be referred to the mass chest x-ray program being conducted in the community. To pay for the routine chest plate of a welfare recipient on a private patient basis when other members of the community are expected to go to the mass chest x-ray project for their routine plates would be a discriminatory procedure in favor of the welfare recipients.

The principle of the use of community resources calls for these resources to be available at the time they are needed. Obviously, if a child requires immunization but no immunization clinic is scheduled for the community for the next several months, the community resource cannot be said to be existing at the time the service is required. In such circumstances immunization could be procured from a private physician and paid for on a fee-for-service basis.

We trust that the principles outlined above will prove to be an acceptable explanation of the policies of this Department in relation to welfare medical care. We understand that the relationships between the Madison County Medical Society and the Madison County Department of Welfare are most amiable, and we sincerely regret that there has been a misinterpretation of the State principles which guide reimbursement to Madison County.

Sincerely yours,
I. Jay Brightman, M.D.
Assistant Commissioner (Health)
for Welfare Medical Services

March 15, 1956

Scott Lord Smith, M.D.
113 Academy Street
Poughkeepsie, New York

Dear Doctor Smith:

Under date of July 20, 1955, you forwarded to me a communication referring to the resolution passed by the House of Delegates of the Medical Society of the State of New York urging that the time allowed for notification to the welfare department for authorization to treat welfare cases be extended from its present two days (forty-eight hours) to at least five.

I am pleased to inform you that, effective November 1, 1955, the regulations of this Department concerning the item in question have been revised to read as follows:

"*Chapter 560, Subsection 120. Emergency Care*

"121. For the purposes of this program, the term 'emergency' shall be construed to include the initial medical service for which a physician or dentist is called or visited by a patient for a specific complaint.

"122. *Limitations on emergency care.* Emergency care which may be provided prior to specific authorization of the public welfare official (but subject to post authorization as a condition to incurring public welfare liability) shall be limited to:

"122.1 Initial visit (home, office or elsewhere) of a physician in instances where immediate attention is necessary and subject to notification to the public welfare official, within the shortest time compatible with local circumstances but not to exceed 5 days, and acceptance of liability by him. (See Section 200.)

"122.2 Initial admission to hospital care in instances where immediate admission is essential, and subject to notification to the public welfare official within forty-eight hours (as indicated by postmark) and acceptance of liability by him (Social Welfare Law Section 187.2C); (See Section 200.)

"122.3 Initial treatment by dental practitioner, but only where immediate attention is necessary and subject to notification to the public welfare official within the shortest time compatible with local circumstances but not to exceed five days, and acceptance of liability by him. (See Section 200.)"

Changes in other sections of the State Welfare Medical Care Manual were made to be in accord with the above.

Sincerely yours,
I. Jay Brightman, M.D.
Assistant Commissioner (Health)
for Welfare Medical Services

Your subcommittee is of the opinion that the preceding reports from Assistant Commissioner Brightman resolve and explain both situations.

We believe that the Medical Society of the State of New York owes him a statement of appreciation for his prompt, thorough, and courteous cooperation.

Respectfully submitted,
Scott Lord Smith, M.D., *Chairman*

Section 13 (See 92) Report 56-E

Supplementary Report of the Council, Part XI: Publication

To the House of Delegates, Gentlemen:

The Publication Committee wishes to submit the following supplementary report:

Because the publishing business of the Medical Society of the State of New York with reference to the New York State Journal of Medicine and the *Medical Directory* has recently increased and become more complex and because the Publication Committee membership is largely confined to certain specified officers of the Society, it seems desirable that some member not an officer of the Society now become acquainted with the mechanisms of publication, particularly of the Journal.

We therefore recommend to the House of Delegates that a member-at-large of the Society be added to the composition of the Publication Committee, such member-at-large to be appointed by the president with approval of the Council on the suggestion of the Publication Committee.

Respectfully submitted,
John J. Masterson, M.D., *Chairman*

Section 14 (See 84) Report 56-F

Supplementary Report of the Council, Part III: Public Health Activities B—General Practice

In May, 1951, a resolution was passed by the House of Delegates requesting a survey of the status of the general practitioner in New York State hospitals. The findings of the survey were reported to the House at its 1954 annual meeting, with the result that the House of Delegates urged prompt action toward establishing a General Practice Department in every voluntary hospital in the State and requested that a report be presented at the 150th (1956) annual meeting, with data obtained from a second hospital survey.

A follow-up questionnaire was devised by Dr. Seymour Fiske, a member of the Subcommittee on General Practice, and was mailed to 105 voluntary hospitals at the beginning of March, 1956. Attached is a copy of the questionnaire with the tabulated replies from the 60 hospitals which have answered to date.

In reviewing the explanatory statements offered by these institutions, Dr. Fiske found that there has been an evident increase in the favorable attitude of the hospitals toward the general practitioner. For example:

1. In reply to Question 1 about the establishing of a General Practice Department, the percentage of affirmative replies has risen from approximately 33 per cent two years ago to 43 per cent in 1956.

2. In response to Question 2 regarding General Practice Residencies, the percentage of those having such residencies has doubled (7 to 15 per cent).

Among the hospitals replying which do not have these residencies, some gave rather interesting reasons: "We have no qualified residents"; "No one on the staff is qualified to supervise this residency"; "unable to get residents"; "An excellent three-year program was developed but had to be given up several years ago because Selective Service would not defer the man for more than one year."

3. Is interesting to note that among the hospitals in which a General Practice Department has been established and is functioning, the majority have been set up in accordance with the suggestions of the American Academy of General Practice.

4. In addition, there is complete unanimity among the reporting hospitals that the general practitioners are cooperating fully with the hospital in making the General Practice Departments successful wherever they have been established.

5. In regard to Question 5 about setting up a department in those hospitals which do not already have it, the percentage of favorable replies has gone from 35 to 40 per cent.

6. Among the hospitals which reported that they did not think it was expedient to establish a General Practice Department, here again the large teaching hospitals in the urban centers are still opposed to the inclusion of these departments in their organizational setup. Some of the remarks are as follows:

> "Not consistent with our organization"; "our organization only is interested in specialty training for present residencies"; "the executive committee after due consideration decided it was not feasible for our organization." (New York City)
>
> "In this teaching hospital all nominations originate with the Faculty of the College . . . where all of the aspects of the training of the undergraduate student are represented by departments and these teachers must first be nominated by the medical school before being members of the hospital staff." (New York City)
>
> "The organization of the hospital follows precisely the organization of the medical college with identical staffs. This organization does not include a general practice department." (New York City)

Some were more favorable:

> "Since all general practice physicians have appointments on specific services, a majority of the attending staff can see no reason why a General Practice Department should be set up." (Town within 100 miles of New York City)
>
> "The Board feels that general practitioners are presently well integrated in the medical staff organization and that no further benefits would accrue to this group if they had their special department." (Large town 125 miles from New York City)
>
> ". . . The general men are permitted to care for their patients in the hospital. They are considered to be medical men as distinguished from surgeons, obstetricians, EENT, these latter limiting their practices, whereas the general man has few limitations. We do not feel that a General Practice Department would enable us to give better opportunities than are now possible. The general practice men are just as much a part of the hospital staff as the surgeon or orthopedist. They share in the staff committee work, etc., just as any other physician does. The present status seems satisfactory to all." (City in eastern part of New York)
>
> "This matter has been under consideration of the executive committee for several months. All general practitioners at present have adequate privileges to work in the hospital on a basis of individual qualification, and they likewise have full opportunity to work with attendings in any department or departments of their own choice, in the handling of service patients. We feel there is no great advantage to a separate department, except as it might give them more unity in general organization matters. At present the executive committee has expressed to the local Academy of General Practice a willingness to organize a department if it (the latter) feels there is an advantage to be gained by such." (City in southern tier of New York)
>
> "Our hospital is a large teaching hospital, closely affiliated with a medical school. It is entirely organized on a specialty department basis. General practitioners are on the staff and are thoroughly integrated in the organization. The Medical Board consensus is that a General Practice Section would be of no advantage to the general practitioners, to the patients, or to the hospital at this time." (City in western New York)

In conclusion, a comparison of the two surveys shows that while there is a favorable trend toward the integration of the general practitioner into the hospital staff, in about half of the hospitals the general practitioner has not received the recognition nor the open-handed acceptance of his prerogatives as a practicing physician to which he is entitled. There is an old saying to the effect that "once begun is half done." However, we feel that the present survey points up that a beginning only has been made in (*a*) keeping the general practitioner abreast of the tremendous forward surge in medical knowledge today; (*b*) enabling the general practitioner to render, through hospital integration, more efficient medical care to the community which he serves.

March 5, 1956

Dear Doctor:

A resolution was introduced and passed by the

House of Delegates of the Medical Society of the State of New York in May, 1952, requesting a survey of the status of the general practitioner in all hospitals in the State of New York.

About two years ago the Subcommittee on General Practice of the Council Committee on Public Health and Education instituted a "survey relative to the opportunities available for General Practitioners in hospitals in New York State." A subsequent resolution was passed by the House of Delegates on May 12, 1954, which reaffirmed approval of the establishment of general practice departments in the hospitals.

There are no objections on the part of the American Medical Association, the Advisory Board for Medical Specialties, or the American College of Surgeons to the formation of a General Practice Section in the voluntary hospital. Numerous resolutions have been passed by the A.M.A. urging the establishment of such sections. The most recent statement was formulated at the Interim Session of the A.M.A. in Boston in November, 1955 (*J.A.M.A.*, December 24, 1955, vol. 159, page 1652).

Further, the Joint Hospital Accreditation Board has stated that general practitioners attached to the staff of any hospital, whether in a General Practice Department or integrated in other services, will in no way affect the accreditation of the hospital for specialty training.

It was agreed that hospital integration and continued education for the general practitioner were closely interwoven and must be thought of in the same vein since, as stated so capably by Dr. Norman Moore in his article, "Responsibility of Hospitals to Doctors in the Community" in the NEW YORK STATE JOURNAL OF MEDICINE, vol. 50, July 1, 1950, the modern hospital is the center of education for the physician of today.

Your cooperation and assistance are requested in filling out the enclosed supplemental questionnaire, which is being sent to hospital superintendents, chairmen of hospital boards of directors or trustees, and chairmen or presidents of hospital medical boards of all voluntary hospitals in the State of New York for the purpose of determining the progress made in your institution on this matter since the original questionnaire was sent to you.

Anticipating an early response, and thanking you in advance for your cooperation,

Sincerely,

THEODORE J. CURPHEY, M.D.
Chairman, Council Committee on
Public Health and Education

QUESTIONNAIRE TO ALL VOLUNTARY HOSPITALS IN NEW YORK STATE

RE: GENERAL PRACTICE DEPARTMENTS

About two years ago the Subcommittee on General Practice of the Council Committee on Public Health and Education of the Medical Society of the State of New York instituted a "survey relative to the opportunities available for General Practitioners in hospitals in New York State." The response to the initial questionnaire was excellent.

The subcommittee is now obligated to make a complete report on this subject at the next annual meeting of the Medical Society. With this in mind, we are submitting the following brief questionnaire in order that an up-to-date factual report may be forthcoming.

QUESTIONNAIRE

1. Has your hospital established a General Practice Department, as of January 1, 1956? yes 25 no 35
2. Does your hospital offer a General Practice Residency, as of January 1, 1956? yes 8 no 52

   If you answer the above in the negative, will you please insert here a brief word of explanation:

   Question 1.

   Question 2.
3. If you have established a General Practice Department, has it been integrated in the administrative setup, in accordance with the suggestions of the American Academy of General Practice? yes 23 no 7
4. If you have a General Practice Department, are the general practitioners in your hospital cooperating in every way to make it successful? yes 25 no __
5. Do you contemplate in the near future setting up a General Practice Department, if you do not already have one? yes 25 no __
6. If not, will you explain briefly why the Medical Board of your hospital does not deem it expedient?

Date ____________ ____________________
Hospital

____
President of the Medical Board

For your guidance, the American Academy of General Practice defines a General Practitioner as any properly qualified physician who does not limit his practice to one specific field in medicine or surgery.

Section 15 (*See 158*) Report 56-F (*Continued*)

Supplementary Report of the Council, Part IV: Public Health Activities C—Heart Disease

A meeting of the Subcommittee on Heart Disease was held in Albany on March 15, 1956, at the time of the annual meeting of the New York State Heart Assembly. It preceded a meeting of the executive committee of the Assembly. Present were Dr. Eugene Lippschutz, chairman, and Robert Osborn, executive secretary, New York Heart Assembly; Dr. Wilson G. Smillie, director, State Charities Aid Association; John T. Connolly, heart work consultant, State Charities Aid Association; and Drs. Norman Plummer, chairman of subcommittee, John J. Finigan, David G. Greene, J. G. Fred Hiss, Lee S. Preston, H. A. Ranges, T. J. Curphey, and Charles D. Post.

The occasion marked the first joint meeting of representatives of the two groups. Mr. Osborn outlined the activities and progress of the State Heart Assembly, stressing its efforts in the field of education and research in the fields of tuberculosis and heart disease. He pointed to the efforts of his group in encouraging the establishment of heart associations at the local level. Dr. Lippschutz emphasized the value of consolidating the activities of the State Medical Society and the Heart Assembly, especially through the medium of joint meetings. Dr. Hiss, a member of the executive committee of the American Heart Association, suggested that consideration be given to having the Heart Assembly assume responsibility for the State Medical Society's program in heart disease. Dr. Finigan of Rochester reported on the experience of the work classification unit operating for the past eighteen months. He pointed out that most of the referrals of cases came through industrial nurses and physicians. Dr. Ranges also reported on the experience of a similar clinic at Grasslands Hospital in Westchester and pointed out the difficulties of employe placement in respect to its relations with the State Employment Agency.

A resolution was passed at the meeting whereby the Subcommittee on Heart Disease was requested to prepare an outline relating to the drug prophylaxis in the rheumatic fever program for submission through the parent Public Health and Education Committee to the Council.

Section 16 (*See 160*) Report 56-F (*Continued*)

Supplementary Report of the Council, Part IV: Public Health Activities C—Film Review

Dr. Kenneth B. Olson, chairman of the Subcommittee on Medical Film Review, attended the Golden Reel Film Festival in Chicago from April 23 to 26. He acted as one of the official jurors at the Health and Hygiene Section and reviewed 16 films which have been produced for lay medical education. Many of these proved worthless, but several have been recommended by Dr. Olson for purchase by the State Health Department's Film Library. Dr. Olson reviewed 11 professional films for use in teaching and suggested that eight of them be purchased for the Library.

Following each viewing session there was a roundtable discussion with the film producers. Dr. Olson considered these most valuable since the producers are anxious to have professional opinion and the sessions provided an opportunity to exchange ideas and to offer genuine criticism.

Section 17 (*See 94*) Report 56-F (*Continued*)

Supplementary Report of the Council, Part V: Public Health Activities D—Physical Medicine and Rehabilitation

On February 16, 1956, there was a meeting of local and national representatives of the American Physical Therapists Association and of the American Occupational Therapists Association with Dr. Abramson, chairman of the Subcommittee on Physical Medicine and Rehabilitation, and Drs. Canning and Tobis. The purpose of the meeting was to discuss the personnel shortage:

1. The biggest problem is our inability to fulfill our responsibilities by supplying personnel in the paramedical fields. The physical facilities are greatly increasing without adequate personnel to staff them.

We have recently asked the medical colleges to review their facilities and indicate whether they are willing or able to set up curricula in physical and occupational therapy. Replies from nine of the ten indicate a definite interest in helping to alleviate the situation, although only four have curricula for training physical and occupational therapists at this time.

The recruitment aspect poses another problem. The physicians of the State and the Woman's Auxiliary in particular could be of great assistance in recruitment if they were made fully aware of the need.

2. There still remains the problem of interpretation of the law, particularly with regard to permitting physical therapists to work while waiting to take the licensing examination. The New York State law will recognize graduates of only 14 schools, although 36 are approved by the American Medical Association. Also there is a great discrepancy in the interpretation of the student's preparedness for a physical therapy course. This will require meeting with State Education Department representatives.

3. The expense of running these schools and the acute shortage of teaching personnel were also discussed.

4. The representatives of the A.P.T.A. and A.O.T.A. were asked to submit to the committee (*a*) concrete proposals which could be recommended to the Council with regard to recruitment; (*b*) analysis of weaknesses in the present legislation or the interpretation thereof; (*c*) suggestions on how to improve the economic aspect of the personnel problem.

We take pride in drawing to your attention the honor accorded the chairman of this subcommittee, Dr. Arthur S. Abramson, when he recently received the award for "Handicapped Man of the Year" presented by the President's Committee on Employment of the Physically Handicapped.

Section 18 (*See 95*) Report 56-F (*Continued*)

Supplementary Report of the Council, Part V: Public Health Activities D—Geriatrics

A meeting of the Subcommittee on Geriatrics was held on March 29, 1956. Drs. Zeman, Crampton, Graczyk, Steyaart, Reynolds (State Health Department), Anderton, and your chairman were present.

Drs. Zeman and Reynolds discussed two main topics:

1. The means of promoting cooperation between the county medical societies and community welfare agencies in the interest of older people and sufferers from chronic illness—It was agreed that Dr. Zeman and Dr. Curphey would prepare a statement outlining methods where the physician has been and can continue to be of help and how this has been done in the past, giving examples. This statement will be distributed to the membership throughout the State with recommendations.

2. The plan submitted by Dr. Reynolds and Dr. Zeman for a State-wide program on "Diagnosis and Management of Hemiplegia in the Elderly Patient" to be sponsored jointly by the Medical Society of the State of New York and the State Health Department (copies will be available to the reference committee)—This program is to be aimed at physicians, nurses, social workers, and the lay public. Meetings on the subject are to be set up at the annual meetings of the State Society, the Public Health Officers Association, the New York State Nurses Association, and the State Welfare Conference. Special papers will be prepared for the NEW YORK STATE JOURNAL OF MEDICINE, either all in a special section of one issue or one at a time at intervals. Material is to be prepared for distribution to the physicians of the state.

The subcommittee recommended the program to the Council, which approved it on April 12, 1956.

Section 19 (*See 96*) Report 56-F (*Continued*)

Supplementary Report of the Council, Part V: Public Health Activities D—Diabetes

On March 19, 1956 there was a meeting of a special group of the Subcommittee on Diabetes, comprised of Dr. Leonard J. Schiff, Dr. Edwin W. Gates and your chairman, together with Dr. Frank W. Reynolds, director of the State Health Department's Bureau of Chronic Disease and Geriatrics, and Mr. J. Richard Connelly, executive director of the American Diabetes Association. They reviewed the revised draft of the diabetes program for expanding diabetes detection in New York State, which has already been referred to in the annual report of the Council Committee on Public Health and Education.

A copy of the program will be available to the reference committee for consideration and recommendation.

Section 20 Report 56-F (*Continued*)

Fee Schedules

Under Section 5 of the portion of the Council Committee's annual report outlining the functions of the committee, reference was made to the comparison and codifying of fee schedules for medical services offered by the various State departments: Education, Vocational Rehabilitation; Social Welfare, Welfare Medical Services; Labor, Workmen's Compensation; Health, Rehabilitation.

On March 8, 1956, Drs. Gerald Dorman and David J. Kaliski met with your chairman and Mr. George Farrell preparatory to a meeting with the respective State department heads concerned in the matter. Mr. Farrell brought up several illustrations of differences in fees between those paid by one department and another for the same procedure.

It was agreed that your chairman would write each of the directors of the departments to ask if they were willing to use the same fee for the same procedure and if they would be willing to agree on a uniform definition for the various nomenclatures. If they agreed to these two points, it would be proposed that they accept 75 per cent of the workmen's compensation fees as the basis for their respective schedules. (It was brought out that the Workmen's Compensation Bureau is negotiating with the Board for a new schedule.)

A meeting is to be arranged to bring together the department heads and the interested Medical Society officials.

Section 21 Report 56-F (*Continued*)

Public Health and Education: Meeting of Subcommittee Chairmen

A meeting of the chairmen of certain subcommittees of the Council Committee on Public Health and Education was held on Tuesday, April 3, 1956. Present were Drs. Frederic D. Zeman (Geriatrics); Seymour Fiske (replacing Dr. Bratt, chairman of Subcommittee on General Practice); Norman Plummer (Heart Disease); Curtis T. Prout (Mental Hygiene); Arthur S. Abramson (Physical Medicine and Rehabilitation); Mr. George Farrell for the Council Committee on Economics; Drs. T. J. Curphey; A. H. Aaron; C. D. Post; W. P. Anderton.

This meeting was called as the result of an action taken by the House of Delegates in May, 1955, when they suggested "that the work of the Subcommittee on Geriatrics should be coordinated with the work of the Subcommittees on General Practice, Mental Hygiene, Heart Disease, Physical Medicine and Rehabilitation, and such Council committees as Economics and Medical Care Insurance."

Dr. Zeman informed the meeting of the plans which his subcommittee were considering for a program of education of the profession and ancillary groups, as well as the public, in cooperation with the State Health Department. "The Diagnosis and Management of the Hemiplegic" is the first project.

Emphasis was laid on the importance of the medical profession putting forth greater effort to keep in their own hands the direction of the medical aspects of the various programs sponsored by lay organizations, governors' commissions, etc., and not to relegate themselves to the role of advisers only.

There was discussion of possible programs broad enough to permit coordination of all the subcommittees represented at the meeting. It was suggested that an exhibit might be presented at the 1957 Annual Meeting in which an elderly person is examined for various diseases, with emphasis on simplified tests and on the preventive aspects. It was pointed out that the profession has lagged behind in proffering a plan for periodic health examinations. It is the medical schools that now show evidence of recognizing this lack and the need for a concept of comprehensive care (including the socioeconomic features), of which the periodic examination is only one facet. It is the responsibility of the doctors to take care of the whole person, and it is the responsibility of the Medical Society to re-educate them to this concept.

It was agreed that the subcommittees could cooperate on such a task, using as a pilot project the hemiplegia program proposed by the Subcommittee on Geriatrics. This will be modified to point up the principles of comprehensive care, and other organizations will be encouraged to contribute suggestions and financial help if possible. The importance of enlisting the full cooperation of the Public Relations Bureau was recognized, and Dr. Aaron was asked to assist Mr. Miebach in obtaining television time in the western sector of the State.

A small committee, consisting of Drs. Abramson, Fiske, and Zeman, was appointed to prepare a rough draft of the expanded concept of the program, while Drs. Zeman and Reynolds will refine the details of the hemiplegia project. It was believed that once a blueprint has been drawn up, it will be comparatively easy to procure funds from foundations which are contributing generously to the medical schools in the interest of this comprehensive approach to medical care.

A meeting of the full committee will be held during the annual meeting, the exact time to be arranged with Miss Pesikoff.

Section 22 Report 56-F (*Continued*)

Report of Advisory Committee on Epilepsy

A meeting of the Advisory Committee on Epilepsy was held on April 5, 1956. Present were Drs. S. Bernard Wortis, chairman; A. M. Rabiner; T. J. Curphey (Dr. H. Houston Merritt excused); Henry Brill, Assistant Commissioner, Mental Hygiene; Robert F. Korns, Assistant Commissioner of Health; James Goddard, adviser to Dr. Korns; also Mr. Joseph P. Kelly, Commissioner of Motor Vehicles; Mr. Vincent P. Russell, assistant to Mr. Kelly; Mr. Matthew Fitzgerald, Executive Clerk of Motor Vehicles Bureau, Albany.

Commissioner Kelly reported that a ruling of the Appellate Division rendered a few days previously upheld his right to rule on the applications of epileptic drivers. He quoted, in part, "The right to drive must yield to measures which must be regarded as a safeguard for the public."

1. The committee agreed that it would be advantageous to procure a ruling from the Attorney General as to whether the physician's statement accompanying an epileptic driver's application for a license should merely state how long the patient has been free from attacks (two years) or whether, without rendering himself liable to possible suit, he could commit himself also as to the patient's ability or inability to drive with safety to himself and the public. Drs. Korns and Goddard were to follow through on procuring the ruling, consulting first with Commissioner Hilleboe.

2. The committee arrived at the following conclusions with regard to the mechanism for handling applicants who are epileptics or have had a seizure due to other causes:

A. If the Commissioner requires a physical checkup, the applicant shall be examined by his family physician and a neurologist or neuropsychiatrist of his own choice, and a letter shall be written to the Commissioner incorporating the findings.

B. If the applicant is accepted, the usual three-year license will be issued:

1. With required re-examination by his physician at the end of each six months and a subsequent letter to the Commissioner to the effect that there has been no recurrence of convulsions.

2. If there is a recurrence of seizures within the six months, there must be another review by both the family physician and the specialist after each six months.

3. At the end of the first three-year period (*a*) those who have been free of seizures and are off medication may be granted the regular three-year license without physical review every six months; (*b*) those who have been free of seizures for two years but are on medication must still be checked by their physicians each six months.

C. Alcohol: An epileptic subject to attacks should not drink. A written oath to this effect shall be required when application for license is made.

Barbiturates: These shall be used only under the direction of a physician.

D. Chauffeurs' licenses: Any person driving a public conveyance—omnibus, school bus, taxi, truck, etc.—must be more carefully scrutinized than other epileptic applicants. If the applicant has had convulsions, the following rules apply:

1. If he is on medication he shall not be granted a license.

2. He must continue to be re-examined and to obtain clearance every six months, even though he may not require medication to prevent seizures.

E. In a particular instance, after a person has had seizures, an electroencephalogram may be recommended by the Commissioner. In other words, it may be used selectively to reinforce his opinion in safeguarding the public.

The committee discussed the case of a certain applicant, aged thirty-eight, who began having seizures at age eighteen. He still has about two seizures a year, nocturnally. Electroencephalographic examination is negative. It was decided to *refuse* him an operator's license.

There was discussion of the requirements for eligibility as specialists in neurology or neuropsychiatry. It was pointed out that there are comparatively few Board-certified men in the State. It was agreed to use workmen's compensation lists of these two categories.

The question of financing examinations for the medically indigent was taken up. Dr. Wortis pointed out that the Bellevue and Kings County Hospitals have special clinics for this purpose and that there are other epilepsy clinics throughout the State. He will get a list of them. Dr. Brill suggested applying to the community health boards for assistance.

Dr. Korns described the research project being developed in Albany to study the total subject of accident prevention, for which $80,000 has been appropriated. Dr. Wortis was of the belief that additional money could be obtained from the National Institute of Neurology of the Public Health Service and from the Mental Health Association in Washington.

The meeting was adjourned at 5:45 P.M.

Section 23 (See 125) Report 56-G

Supplementary Report of the Board of Trustees

To the House of Delegates, Gentlemen:

In the annual report of the Board of Trustees, as published in the April 1, 1956, issue of the New York State Journal of Medicine, the Board stated on the subject of pensions, "Over the past few years there has been much discussion of this subject by the House, committees of the Council, and the Board of Trustees. At the present time this discussion has reached the point where the Board of Trustees is in the process of studying pension plans."

At the 1955 meeting of the House of Delegates, in connection with the annual report of the treasurer, the reference committee reported to the House that: "Particular consideration was given in the treasurer's report to the matter of pensions for employes of our Society who retire after long years of faithful and efficient service. Obviously, if such pensions are to be granted, their financial impact on the Society may be expected to increase. Cumulative expenditures of this sort cannot logically be met from current income. Your reference committee, therefore, is in hearty agreement that a fund large enough to cope with this program should be created if possible. The treasurer suggests that this could be done in the form of a single assessment as was done with the War Memorial Fund. A beginning in this direction was made with the setting aside of a special 'Employes Beneficial Fund Reserve.' This could well be augmented to sufficient size by a single assessment of appropriate magnitude. Your reference committee suggests that the House of Delegates instruct the Board of Trustees to prepare an estimate of anticipated annual pension expenditures, of the magnitude of fund necessary to permit such annual expenditures, of the details of any proposed pension plan, and the amount of assessment necessary, if any, to permit its creation, and to present this report in form appropriate for action to the 1956 House of Delegates." The House adopted this report.

Within the past year the Board of Trustees asked the Committee on Office Administration and Policies for its assistance in preparing a pension proposal which could be used as a starting point for this study. After much consultation the Committee on Office Administration and Policies prepared a plan which received both Council and Board of Trustees approval.

The proposal, insofar as pensions to individual employes is concerned, is very modest. Due consideration was given to "what the Society could afford." The plan includes the following provisions:

1. *Eligibility:* Present employes of age thirty and over, having at least five years of service, would become members of the plan at its inception, provided they have not attained age sixty-five at that time. (We have three employes over sixty-five years of age. Further comment will be made regarding this.) Other present employes and all new employes would be covered on the attainment of age thirty or on the completion of five years of service, whichever date is later, provided they have not then attained age sixty-five.

2. *Retirement age:* Pensions commence at retirement, at age sixty-five, and on the completion of at least ten years of service.

3. *Annual benefits:* Annual pensions would be equal to 1 per cent for each year of service multiplied by annual earnings in excess of $1,200 per year on the date of retirement. A minimum benefit of $50 per month and a maximum of 35 per cent of the average earnings of the final five years is also provided for.

Based on these provisions, the following tabulation indicates annual pensions in various salary classes and years of service:

	Years of Service					
Weekly Salary	10 Years	15 Years	20 Years	25 Years	30 Years	35 Years
$ 50	$ 12	$ 18	$ 23	$ 29	$ 35	$ 41
60	16	24	32	40	48	56
70	20	31	41	51	61	71
80	25	37	49	62	74	86
90	29	44	58	73	87	102
100	33	50	67	83	100	117
150	55	83	110	138	165	193
200	77	115	153	192	230	268
250	98	147	197	246	295	344
300	120	180	240	300	360	420

Subsequent to the proposal of the Committee on Office Administration and Policies, the Board of Trustees submitted the plan to an actuary to determine two things: (1) whether something better could be proposed and (2) to find out what assessment would be needed to finance the plan. The actuary made certain recommendations. While not substantially affecting over-all features, these recommendations will in some instances probably make for a better plan. The Board has not yet been able to take any action on these suggestions. With this in mind, it is suggested that if the House approves in principle the matter of pensions for employes, the Board of Trustees be empowered to make such changes as circumstances warrant.

Under the Committee on Office Administration and Policies' plan, our actuary has calculated that a $10 assessment beginning with the year January 1, 1957, would provide the necessary funds until the year 1979.

The question may be asked at this time as to what happens after the present fund is exhausted. It is estimated that if a return of $2^3/_4$ per cent is obtained from pension funds invested, we will have approximately $243,000 remaining at the end of ten years. We assume a special pension fund committee of the Board of Trustees will be formed for administration of the fund. They could recommend to the Board that the fund principal not be allowed to decrease below a certain amount through one of the following means: (1) allocating part of annual dues to the fund, (2) allocating a percentage of our annual surplus to the fund, or (3) by a special assessment from time to time.

As mentioned previously in this report, we have three employes at the present time over age sixty-five. Any pension which might be paid to these employes has not been calculated as coming from the special assessment. For them we could use the monies which have been accumulated in the Employes Beneficial Fund. Surplus in this fund as of April 20, 1956, amounted to $80,073. As to whether this fund would provide sufficient monies to pay these pensions as long as required would depend primarily on the amount paid to each individual.

The Board believes that this is a worth-while project. More and more organizations are providing pensions for long and faithful service. The Committee on Office Administration and Policies has approved this plan, and the Council at its March 8, 1956, meeting voted to approve the report of this committee and to recommend to the Board of Trustees that it be proposed to the House of Delegates that a $10 assessment be approved for the purpose of establishing a pension plan for employes of the State Society on a self-insuring basis. An insured plan, as herein proposed, would require an annual premium of $20,000 for the next eleven years and $15,000 per annum thereafter.

The Board of Trustees, after having studied this matter, believes that this is something which the Society ought to do and, therefore, proposes that a special assessment of $10 be levied on each member of the Society to become due and payable on January 1, 1957, with the regular dues of the Society.

While our estimated costs are based on figures obtained from actuarial experts, it must be considered that many unknown and unpredictable factors are involved. These include the number of employes, their ages, salaries, and purchasing power of the dollar. These factors are involved in all pension plans and necessitate amendment of the plan from time to time.

In the report of the Board of Trustees as published in the April 1, 1956, issue of the JOURNAL, there was a comparison of cost and market value of our investment as of December 31, 1955. The following tabulation has been prepared as of April 30, 1956:

	Cost*	Per Cent of Portfolio	Market Value April 30, 1956	Per Cent of Portfolio
Bonds	$324,737	59	$310,535	35
Preferred stock	29,501	5	30,009	3
Common stock	199,075	36	547,501	62
	$553,313*	100	$888,045	100

* Excludes War Memorial Fund

Respectfully submitted,
JOHN J. MASTERSON, M.D., *Chairman*

Section 24 (See 161) Report 56-H

Supplementary Report of the Council, Part IV: Public Health Activities C—Blood Banks

To the House of Delegates, Gentlemen:

This report is made to bring up to date the annual report, submitted February 1, 1956.

The deficits of the Blood Banks Association for the months of January, February, March, and April, 1956, were, respectively, $622, $557, $361, and $799, a total of $2,339 for the four months. As of May 1, 1956, cash on hand was $4,765, and excess of current assets over current liabilities was $3,085.

The Blood Banks Association is still awaiting the decision of the State Insurance Department on the question of whether the blood assurance program is insurance. No new contracts have been written since January 1, 1956. At the request of the Blood Banks Commission, the Council voted April 12, 1956, to allow the Blood Banks Association to write new contracts if and when a favorable decision was received.

The group which proposed a study of the blood situation in New York City is awaiting the decision of the Public Health Committee of the New York Academy of Medicine as to whether it will undertake this proposed study.

On April 12, 1956, Dr. Azzari, with the approval of the Council, appointed Drs. Theodore J. Curphey, John J. Clemmer, and James Greenough, a committee of three, to confer with representatives of the State Health Department to reach agreement concerning the inspection and approval of intrastate blood banks. Preliminary conferences have been held, and a meeting is scheduled for May 9, 1956, at which, it is hoped, a final plan will be approved.

A proposed budget for the Blood Banks Association for the calendar year 1956 is appended. The foreword is self-explanatory. The employment of an executive director is included since further development of the blood assurance program makes this essential. As can be seen, further support of the Blood Banks Association would require $15,000 to January 1, 1957. It is hoped, and there are indications that the hope will be realized, that the Blood Banks Association would be self-supporting thereafter.

In the annual report of the Commission, published in the April 1 issue of the JOURNAL, a suggestion was made that the personnel of the Commission be reduced. It was also recommended that an advisory committee comprising representatives of laboratories, hospitals, and blood banks be appointed to assist the commission on technical matters of blood banking. The object of this proposal was to expedite the executive work of the commission. The Planning Committee for Medical Policies made a similar suggestion in its annual report.

At the last meeting of the commission, April 11, 1956, this subject was debated. Several members of the commission were opposed to any change in personnel on the grounds that men active in blood banking should be able to present their opinions directly in commission meetings. No action was taken on this subject, but these facts are presented in this supplemental report so that the House of Delegates may understand that the opinion expressed in the annual report is not the unanimous decision of the commission.

Respectfully submitted,
JAMES GREENOUGH, M.D., *Chairman*

Blood Banks Association of New York State

Memorandum

April 5, 1956

To: Dr. J. Stanley Kenney
From: Thos. E. Alexander

The Association has not prepared a budget for the calendar year 1956. In lieu of this, I have prepared my own estimate of income and expenditures for the same period. There are two reasons for my doing this: first, we should be prepared to be able to inform the House of Delegates as to the amount of money which will be needed for the rest of this year, and, second, we ought to have some kind of financial plan for the coming months. It is very probable that you will not agree with me completely in some of my reasoning, but in order to have some idea as to how the future looks, I have made certain estimates. The attached details these estimates.

I believe that if the Association continues to operate as it has during the past two or three months, the figures will prove to be reasonably close to actual.

With regard to income, items 1 to 7, I believe they have all been conservatively stated. Item 7, shipping credits, is of particular interest. For the first two months of 1956 we had a total of $1,062 in income against which we had billed to us shipping expense amounting to $499. The one problem we have here is that our income is set up during the month it arises. We have attempted to estimate the expense item, but not having a substantial period of time to obtain experience, we do not know exactly how our shipping expenses are going to compare with the income item. Many of the actual charges come to us ninety days after shipment.

Item 9 includes an allowance for a replacement for Mr. Messinger. I have estimated that we would pay the replacement on the basis of $6,500 per year and that his employ will begin from June 1 to December 31, 1956. Whether we could obtain someone at this figure is questioned.

Item 14, travel, I have provided $5,000: $1,000 for the directors and $4,000 for Miss Raso's expenses on the road. It is my hope that she will be able to spend most of the summer traveling with the thought of interesting other banks in the blood assurance program and the blood exchange program, as well as contacting county society officers for the purpose of obtaining county society approval in various areas of the State.

In anticipation of the annual meeting, I have worked up an estimate of the amount of cash which the Association would have to borrow, up through December 31, 1956, if it is to continue to operate.

Estimated net loss year ended Dec. 31, 1956	20,000
Loss to Feb. 29, 1956	1,200
Loss Mar., 1956, to Dec., 1956	18,800
Working capital Feb. 29, 1956	1,885
Estimated 10 months loss (above)	18,800
Less working capital Feb. 29, 1956 (estimated)	1,900
Cash needed Mar. through Dec., 1956	16,900
Less cash borrowed in Mar., 1956	3,000
Estimated additional borrowings to Dec. 31, 1956	13,900

Assuming there is no substantial change in the method of operating the Association and based on the above figures, we would need $13,900 for the rest of the year. In presenting this matter to the House of Delegates, I would be very much inclined to say to ask for a minimum of $15,000 and if this latter figure is used, it must be borne in mind that we would have to live very, very closely to the estimate of income and expenditures attached. There are no "cushions" provided for in this figure, and in asking for $15,000, we are very close to our minimum needs.

Our March figures have not been completed as yet. The picture will probably change slightly but not enough to make any substantial change in the estimates.

Blood Banks Association of New York State, Inc.

Estimate of Income and Expenditures

Year Ended December 31, 1956

		Actual 1955	Budget 1956
INCOME			
1. Certificates		$ 6,509	$ 7,500
Certificates obtained in 1955	$2,600		
Certificates obtained to Feb. 28, 1956	1,187		
Estimated Mar., 1956, to Dec., 1956	1,813		
Total estimated certificates for 1956	3,000		
2. Clearing House—Estimate based on 1955		3,077	3,000
3. Membership dues—Estimate based on 1955 dues		2,122	2,100
4. Contributions—No income anticipated		825	0
5. Premium income—Estimate based on renewal of donors which the Association originally assured		32	300
6. Reinsurance Reserve Provision—No estimate because of uncertainty of future status of this portion of program		142	180
7. Shipping credits—Estimate based on results of first two months of 1956 with allowance for possible change in ratio		639	4,000
8. TOTAL INCOME		$13,346	$16,720
EXPENDITURE			
9. Director's salary		$ 8,500	$ 4,900
Expended through Feb. 28, 1956	$1,063		
Allowance for employment of individual to perform function of executive director June to Dec., 1956 at $6,500 per annum	3,800		
	4,863		
Say	4,900		

10.	Field representative's salary		8,767	3,705
11.	Office salaries		10,897	7,700
12.	Pamphlets and bulletins: Printing—There are no specific plans for producing items of this type. This is merely a provision should the Association continue.		375	100
13.	Pamphlets and bulletins: Postage—No appropriation requested at this time		22	0
14.	Travel		5,533	5,000
	Edith Raso—40 weeks at $100; includes allowance for the proposed executive director. Travel not done by Miss Raso would be done by him.	4,000		
	Directors	1,000		
		5,000		
15.	Rent—Based on present rental of $200 per month		5,719	2,400
16.	Electricity—Estimated at $10 per month		204	120
17.	Telephone and telegraph—Estimated at $200 per month	2,400		
	Expenditures for Jan. and Feb., 1956, over monthly estimate	349	3,188	2,749
		2,749		
18.	Postage and express—Estimated at $50 per month		886	600
19.	Stationery and supplies—This can be only an estimate since many factors will determine needs		3,818	1,800
20.	Insurance—For fire, workmen's compensation, and automobile		200	225
21.	Payroll taxes—Based on payroll		1,036	650
22.	Repairs and services—Expenditures covering maintenance of equipment, water cooler rental, floor waxing, etc.		301	250
23.	Dues, subscriptions, books—Estimated requirement		34	25
24.	New equipment—No appropriation requested since sale of some of present equipment will offset any small expenditures which might be made.		918	0
25.	Photos, artwork, engravings, and reprints—No expenditures anticipated at present		161	0
26.	Clippings—Estimated at $35 per month		302	420
27.	Audit—Estimated cost		100	100
28.	Promotion—It is almost impossible to appropriate our needs at the present time because of many factors. Furthermore, most if not all of our promotional material will have to be revised to conform to final determination in negotiations with the State Insurance Department.		7,961	3,000
29.	Radio and television—No expenditure anticipated		111	0
30.	Claims paid—Estimated		174	150
31.	Moving expenses—No appropriation requested		203	0
32.	Shipping expense—estimated at 50% of shipping credits (item 7). Our experience to date covers too short a period of time to be able to forecast with much accuracy.		289	2,000
33.	Provision for doubtful accounts—No losses anticipated		400	0
34.	Sundry—Includes $40 fee paid Medical Society of the State of New York for accounting office services		1,614	800
	TOTAL EXPENDITURES		$61,713	$36,694
	EXCESS OF INCOME OVER EXPENDITURES		−$48,367	−$19,974

This estimate assumes that the Association will continue at least until December 31, 1956. It also assumes that there will be no substantial change in present methods of operations other than the employment of a replacement for the executive director. If this plan is to be fulfilled, strict economy must be observed.

Section 25 (See 98) Report 56-I

Supplementary Report of the Council, Part IX: Legislation

To the House of Delegates, Gentlemen:

The annual report was submitted on January 28 in order that it might appear in the April 1 issue of the JOURNAL. Since the publication of that "progress report," the legislative program has been conducted according to schedule, and there has been considerable activity on the part of the Council Committee and the Legislation Bureau.

A meeting of the executive committee of the Council Committee on Legislation was held on February 16. Drs. Lawrence, Lochner, Anderton, Harold Smith, and your chairman attended. Present, by invitation, were Dr. Matthew Brody, psychiatrist; Dr. Stuart W. Cook, president of the New York State Psychological Association, and Mr. Frank J. Smith, Chief of Narcotic Control of the Department of Health of the State of New York.

A bill to license psychologists was again thoroughly evaluated. In keeping with the advice of the legal counsel of the State Medical Society and in accordance with the opinion expressed by the American Psychiatric Association, it was agreed that we reiterate our stand against the licensing of psychologists because it might lead to encroachment on the practice of medicine. It was also decided that we would not oppose a certification bill.

Mr. Smith discussed in detail the proposal of the New York State Pharmaceutical Association that would permit the filling of oral (telephoned) prescriptions for certain narcotic drugs or compounds of narcotic drugs found to possess relatively little or no addiction liability. It was pointed out by Mr. Smith that this amendment to the State Narcotic Law would allow the prescribing of such medications as codeine to the extent of 1 grain per dose and, furthermore, that the telephoned prescriptions would not necessarily be followed up by ones in writing. Dr. Albert Vander Veer, our representative on the Advisory Board of the Narcotic Control Section, was opposed to this type of legislation. It was agreed that we would not support such a bill should it be introduced. (Because of our opposition, it was not presented to the Legislature.)

All bills in which the Medical Society was interested were reviewed.

As far as amendments to the Motor Vehicle Law were concerned, it was recommended that no action be taken on any bills at this time since the entire matter is being considered by a special committee of the Council.

The *Committee to Combat Cults* consists of the following members: Drs. Floyd S. Winslow, Theodore Curphey, W. P. Anderton, and Harold B. Smith, Mr. Frederick W. Miebach, director of the Public and Professional Relations Bureau, and your chairman. This committee, with the cooperation of the Public and Professional Relations Bureau and the Woman's Auxiliary, developed the antichiropractic campaign in accordance with the procedure outlined and published in the annual report. Field representatives of the Bureau of Public and Professional Relations were on the alert at all times, toured the entire State, and distributed appropriate educational material. Letters and literature were mailed to the presidents and the legislation and public relations committees chairmen of the county medical societies and to the members of the Assembly and Senate.

The Woman's Auxiliary entered into this phase of our work with great zeal. Its president and the chairmen of its legislation and public relations committees should be commended for taking on a difficult task and for doing the great job that we have come to expect of them. We are also very grateful to all the members of our Society and to the many others who entered the fight. During the month of February the New York State Nurses Association and the New York Chapter of the American Physical Therapy Association openly voiced their disapproval of the bills to license chiropractors. Letters containing this sentiment were forwarded to the chairman of the Senate Finance Committee and to the chairman of the Assembly Ways and Means Committee.

It is interesting to note that during the campaign against chiropractic licensure, the Bureau of Public and Professional Relations distributed over 140,000 pieces of literature. The most popular item was the new leaflet "Should Chiropractors be Licensed?," of which 62,000 copies were sent all over the State. Next in demand were "Science vs. Chiropractors" (28,550), "Why Chiropractors Should Not be Licensed" (30,500), and "The Scope of Chiropractic" (20,000).

Despite all this activity only about $2,700 was spent for the antichiropractic project.

The Legislature adjourned during the early evening of March 23. This session established a new record. The number of bills introduced was 7,460. The previous mark was set exactly one year ago when 6,667 bills were presented.

A tabulation reveals that 1,288 bills were approved. This total has been topped only three times in legislative history: in 1946 when 1,327 bills were passed; in 1941 when the figure was 1,355; and in 1935, the last time that both houses were controlled by the Democrats, when the number was 1,329. According to the latest reports, 951 bills were signed by the Governor and thus became part of the laws of the State of New York. Three hundred and thirty-seven were vetoed. During the session the executive officer and the legal counsel of the Legislation Bureau kept in close contact with the members of the Legislature and your chairman. Numerous letters and other informative material were sent to the chairmen of the various committees of the Assembly and the Senate concerned with legislation in which we were interested. Memoranda were also submitted to the Governor.

The following is a résumé of the action taken by the Legislature and the Governor on bills that the Medical Society of the State of New York sponsored, supported, or opposed. We assumed a neutral attitude in the case of a few, which may be interpreted as "tacit approval."

Medical Society-Sponsored Bills

Municipal Intern Indemnity Bill (*SI 597, Pr. 619, McCaffrey*).—This bill indemnifies against malpractice liability physicians rendering medical care to a person in a municipal hospital without receiving compensation from such person. Receiving compensation from the hospital does not result in a loss of indemnity.

The bill was originally intended to protect and render harmless interns and residents in liability suits. However, during the session it was amended to include other professional groups. It received the approval of the Mayor of the City of New York, passed both houses, and was signed by the Governor.

Autopsies (*AI 1524, Pr. 1559, Strong*).—The purpose of this bill, which was also sponsored by the Hospital Association of the State of New York, was to amend the Public Health Law in order to permit a single relative responsible for the burying of the deceased and acting on behalf of all of the next of kin to give authority for autopsy. It was presented to the Assembly on March 6 by Assemblywoman Strong.

Due to opposition from unexpected sources, again on a religious basis, it did not receive a favorable reception. For this reason Mrs. Strong recommitted it, and the return of the bill to committee effectively "killed" it as far as this session of the Legislature was concerned. We have been told that the legislators who opposed the bill have promised to work for a compromise measure next year that would not be objectionable. The Committee on Legislation expects to continue to sponsor this legislation in the future.

Your chairman would like to bring to your attention a very fine article which appeared in the April, 1956, issue of *Reader's Digest*, "The Truth About Autopsies," written by Albert Q. Maisel, a layman. It should be publicized. Reprints will be distributed to members of the Legislature, to the Governor, and to others throughout the State.

Advertising Bill (*AI 1190, Pr. 1213, Brooks*).—The original bill presented was maimed by deletion of the reference to "newspapers" or "any other printed publications or media." This change was effected because of the opposition of a newspaper or newspapers. The bill as finally introduced merely added to the present law, advertising by "television, magazines, telephone directories, classified telephone directories or classified directories or by means of flamboyant or glaring or flickering signs." It did not come out of committee despite all the efforts of our Bureau to get favorable action.

Injunction Bill (*SI 1202, Pr. 1263, Mackell*).—This bill did not leave the committee.

It is interesting to note that an injunction bill introduced by the dentists, which prevents dental mechanics from practicing dentistry, passed both houses and was signed by the Governor on April 6. With this precedent in mind and in view of Attorney General Javits' message to the Legislature and Governor recommending that some action be taken to prevent persons from illegally practicing medicine, it has been decided that we will renew our efforts next year for the passage of an injunction bill (a copy of Mr. Javits' memoranda to the Governor is herewith attached).

WORKMEN'S COMPENSATION BILLS

1. *AI 2493, Pr. 2629, McDonnell.*—Provides that if parties fail to agree as to value of medical aid in a workmen's compensation case, the value shall be decided by the medical practice committee if services were rendered in New York City and in other counties by an arbitration committee of two physicians designated by the president of medical society of the county where services were rendered instead of where claimant resides. Amends workmen's compensation law section 13-g. The chairman of the Workmen's Compensation Board, Miss Angela Parisi, approved this proposal. It was passed by both houses and signed by the Governor.

2. *SI 1195, Pr. 1265, Curry.*—A bill to abolish medical practice committees in counties with a population of over a million failed to come out of committee. It was opposed by the chairman of the Workmen's Compensation Board.

3. *SI 1202, Pr. 1262, Mr. Mackell.*—A bill to make decisions of the Medical Appeals Unit binding on the Workmen's Compensation chairman was not passed.

4. *Workmen's Compensation Expert Medical Consultant Bill* (*SI 3060, Pr. 3329, Mackell; AI 3703, Pr. 3965, Rice*).—This bill would repeal section 13 (d) of the Workmen's Compensation Law and add a new 13 (d) to provide, in part, that the chairman may designate physicians to serve individually or in panels as expert consultants to advise with respect to disputed questions of medical testimony and care under the Workmen's Compensation Law. The members of the panel shall be nominated by the presidents of the State and county medical societies. Dr. Kaliski and representatives of the Commerce and Industry Association collaborated in drafting this bill. However, it was opposed by labor and the chairman of the Workmen's Compensation Board. It was passed by the Assembly but died in the Senate. There is hope, however, that if more time is given to study and evaluate all the contents of this bill, the differences are not too great as to preclude their being worked out during the coming year.

FREE CHOICE BILLS

SI 1102, Condon; AI 1580, Wilson (*calling for free choice of physicians*) *and SI 1103, Pr. 1161, Condon; AI 1579, Pr. 1615, Wilson* (*calling for free choice of plan*).—Not approved. This action was expected. It should be remembered that the Council of the Medical Society of the State of New York decided to sponsor these measures, although it was realized that the problem of free choice concerns the metropolitan area of New York City more than the rest of the State. The battle for this legislation must be fought in the City of New York.

Medical Society-Supported Bills

Health Officer Bill (*SI 1053, Pr. 1596, Metcalf; AI 1097, Pr. 2072, Mrs. Strong*).—Sponsored by the Health Officers Association of New York State. This bill did not pass because it was opposed by the various local government associations.

Hospital Practice of Medicine (*SI 2190, Pr. 2380, Pino*).—This was similar to the bill introduced in past years by Senator Friedman. Senator Pino's proposal would provide that every hospital which is sponsored by public funds or by private subscriptions or receives tax exemption shall be restricted to the employment of physicians and surgeons only for public charge cases. It would prohibit the practice of medicine by hospitals, the vending by hospitals of medical diagnosis and treatment. Opposition to this bill came from hospital associations and individual hospital people throughout the State. It was defeated in committee. It is the opinion of some that this legislation should be reviewed and reevaluated after the Iowa case has been finally settled in the higher courts.

Medical Technician Bill (*SI 2777, Pr. 3033, McCullough; AI 3033, Pr. 3558, Meighan*).—This bill makes an exception to the Medical Licensing Law, "the employment of medical technicians under the supervision of duly licensed physicians." It was introduced by certain ophthalmologists, who hoped that it would block the interference by optometrists with the use of such technicians. It was opposed by physiotherapists and died in committee.

Hermann M. Biggs Memorial Hospital (*SI 505, Pr. 508, Metcalf; also introduced in the Assembly by Mr. Ashbery*).—As explained on previous occasions, there were some rumblings of opposition to this bill by a number of county medical societies. However, inquiry disclosed that this resentment was not completely organized. The Council of the Medical Society of the State of New York, therefore, gave its approval to this legislation. It was passed by both houses and signed by the Governor.

Your chairman is in receipt of a very fine letter from Commissioner Hilleboe thanking us for our support. He informs us that he will follow through and contact the nine county medical societies involved in the Hermann Biggs district and do everything in his power to provide continuing tuberculosis services for the patients of physicians in these counties at the same high level of quality as in the past. Here is a quotation from his note: "I am sure you appreciate that I will have many administrative and fiscal headaches in making this transition. What bothers me the most is that some employes will have to look elsewhere for jobs, and some will have to transfer to other areas. However, this is the price we pay for progress in tuberculosis control. It isn't often a department head can save the taxpayers in the State over two million dollars in one year. The State Health Department is very proud of this accomplishment, even though it was a difficult one to achieve. Again, thank you for your fine cooperation."

Medical Practice by State Employes (*SI 2175*, *Pr. 2365*, *Mr. Metcalf; AI 2621*, *Pr. 2766*, *Mr. Calli*).—Extends to all political subdivisions, provision applying to municipalities that an employe who is a physician in a hospital or institution need not be licensed or have a temporary certificate and permits issuance of temporary certificates to graduates of registered medical schools of Canada who meet certain educational requirements. It amends Education Law, Section 6512. The provision in the original bill which would permit physicians employed by the State to practice medicine outside of hospitals if they have no license but do have a temporary certificate was withdrawn in accordance with the wishes of the Medical Society. The bill passed both houses and was signed by the Governor.

AI 2995, Pr. 4571, Strong.—Permits county tuberculosis hospitals to admit for study and care persons with chronic nontuberculous diseases of the chest, subject to rules of the State Health Commissioner with the advice of an Advisory Committee consisting of five members, including three superintendents of county tuberculosis hospitals and two representatives of the State Medical Society. This is an addition to County Law, Section 391-a. It was passed by both houses and signed by the Governor.

AI 2194, Pr. 2308, Brady; SI 1657, Pr. 1783, Neddo.—Permits the Board of Regents in its discretion to suspend execution of the determination of censure and reprimand or suspension or revocation of license of practitioner of any profession under its supervision, and to place practitioner on probation subject to compliance with conditions which the Board may determine. This bill amends Education Law, Section 211. It was passed and signed by the Governor.

Bills Not Opposed

SI 3239, Pr. 4087, Van Wiggeren.—Establishes in the Education Department a State Board of Examiners of psychologists to regulate use of designation "psychologist" and to certify persons practicing psychology and to fix qualifications and standards for practice. Appropriates $40,000 for this purpose.

This was originally a licensing bill. As a result of protestations of the Medical Society of the State of New York and with the support of the State Mental Hygiene Department and in accordance with the concepts of the American Psychiatric Association, it was changed to a certification bill. This was not opposed by us, passed both houses, and was signed by the Governor.

Proprietary Hospital Bill (*SI 1628*, *Pr. 1730*, *Milmoe; AI 2216*, *Pr. 2330*, *Dwyer*).—Provides that only physicians duly licensed by the State Education Department and partnerships thereof may operate hospitals for profit, except those in operation on this date and licensed or approved by the Social Welfare Department. It permits the practice of medicine of unlicensed physicians employed by proprietary hospitals, if eligible for admission to medical licensing examination with certificate issued by the department therefor and if they are under the supervision of a duly licensed physician employed full time therein. It amends Education Law, Section 6512, and is an addition to the Social Welfare Law, Section 35-b. This bill was evolved after deliberations held by the State Interdepartmental Health Council. It was passed and signed by the Governor.

SI 928, Pr. 4189, Mr. Metcalf.—Authorizes the president of the Civil Service Commission with the approval of the new Health Insurance Board, created in the Civil Service Department, to establish health insurance plan for State officers and employes and their dependents and to contract with insurance companies therefor, with contributions to be made by employes and deducted from salaries or retirement allowances. This is an addition to the Civil Service Law, Article 7. It was passed and signed by the Governor.

Bills Opposed by the Medical Society

Passed by Both Houses

Bill Redefining Practice of Optometry (*SI 2186*, *Pr. 2376*, *Neddo; AI 2695*, *Pr. 2874*, *Composto*).—Section 7101 of the Education Law presently defines the scope of optometry as including "ocular exercises." This amendment states that "ocular exercises" are also termed "orthoptics, visual training or vision training or eye training." The Governor was asked to veto this bill but disregarded our wishes in this matter and signed it.

Workmen's Compensation Medical Reports to Claimant's Licensed Representative or Attorney (*SI 2718*, *Pr. 2974*, *Gilbert; AI 2848*, *Pr. 3027*, *Walmsley*).—Amends the Workmen's Compensation Law. Requires that copies of medical reports of workmen's compensation claimant's attending physician or medical consultant shall be transmitted to claimant's licensed representative or attorney upon request and to provide for removal of physician from list for failure to transmit copies. This is somewhat of an improvement over the original bill which required that reports be sent to claimants. Supported by chairman of Workmen's Compensation Board. This bill was signed by the Governor.

DEFEATED

Chiropractic Licensing.—The Peterson-Noonan Bill and the Zaretzki Bill (SI 3303, Pr. 3572) died in committees.

The Peterson-Noonan Bill was a very "loose" bill. The Zaretzki Bill differed from the Peterson-Noonan Bill in that it provided for a basic science examination for future, but not present, chiropractors and contained certain restrictions as far as the practice of chiropractic is concerned. It was very similar to the bill opposed by the Medical Society in 1953.

Evidently the antichiropractic campaign of our Society was a success.

We have been notified by Dr. Dominick F. Maurillo, a member of our Society and also a member of the Board of Regents of the State of New York, that the Board refused to accept any of the chiropractic licensing bills introduced in the Legislature. Dr. Maurillo is to be congratulated for his great fight in our behalf. It is the opinion of your chairman that despite his earlier pessimism, the visits of your Ad Hoc Committee to the State Board of Regents in Albany on January 26 was not in vain.

However, we felt that we should soon start to blueprint our 1957 antichiropractic campaign. A majority of the members of the Board of Regents still believe that chiropractors must be licensed. A meeting to discuss this matter was held on the afternoon of April 11. Drs. Azzari, Greenough, Anderton, Maurillo, and your chairman were present. The chiropractic situation was again thoroughly discussed, and it was finally determined that the Legislation Committee and the Committee to Combat Cults should promulgate its plans long before the opening of the Legislature in January, 1957.

The chiropractors were only temporarily thwarted. The battle against cultism must be a continuous one.

Bioanalyst Licensing (*SI 2573, Pr. 2802, Hults; AI 3809, Pr. 4064, Burns*).—This bill would provide a system for licensing laboratory technicians in clinical laboratories.

Separate Physiotherapy Examining Board (*SI 2029, Pr. 2190, Brydges; AI 2484, Pr. 2611, Wilson*).—Would establish a separate State Board of Physiotherapy Examiners consisting of eight licensed physiotherapists. At present the State Board of Medical Examiners also acts as a Board of Examiners in physiotherapy.

Separate Physiotherapy Grievance Committee (*SI 2379, Pr. 2596, Brydges; AI 2920, Pr. 3131, Wilson*).—This bill passed the Senate but made no headway in the Assembly.

Dog Law Repeal (*SI 2834, Pr. 3100, Condon; AI 3661, Pr. 3916, McDonnell*).—This was a bill to repeal the Metcalf-Hatch Dog Law.

Autopsies (*SI 2266, Pr. 2464, Gilbert; AI 1795, Pr. 1854, Mohr*).—A bill which would make a hospital or physician liable for punitive damage if they made as a condition precedent to the delivery of a cadaver the performance of an autopsy.

Malpractice Statute of Limitations (*AI 1248, Pr. 1275, Lentol*).—This would extend the statute of limitations of malpractice so that it commences running only when the malpractice is discovered and not when performed.

Workmen's Compensation Rehabilitation Clinics (*SI 515, Pr. 518, Santangelo; AI 344, Pr. 344, Podell*).—This bill would provide for the licensing of rehabilitation clinics to care for workmen's compensation cases.

Summary

The Committee on Legislation sponsored the introduction of ten bills. Two were passed by both houses of the Legislature and signed by the Governor. We supported seven additional bills; of these, four were approved by the Legislature and signed by the Governor. We did not oppose three other bills; they all were passed and signed. The committee opposed ten bills, of which eight were defeated in the Legislature. Two were passed and signed by the Governor.

During the past few weeks, at the request of the American Medical Association, we have been alerting members of the Council Committee on Legislation and the county medical society legislation chairmen with instructions to protest against the disability provisions contained in HR 7225. We have asked the physicians throughout the State to contact certain representatives and our two senators and to impress upon them the fact that we are definitely against the plan.

Respectfully submitted,
HENRY I. FINEBERG, M.D., *Chairman*

Laws of 1956 of Medical Interest

Chapter 23 (*AI 939, Pr. 954, Barrett*).—Repeals Social Welfare Law Section 186(4) which reads, "The department may employ, to serve during its pleasure, competent physicians to attend upon or administer to the needs of the sick and dependent Indians on the reservations. Salaries of such physicians shall be fixed by the department and paid from the funds appropriated for maintenance of state and Indian needy."

Chapter 30 (*AI 218, Pr. 218, Barrett*).—Adds Mental Hygiene Law Article 6-A to enact into law an interstate compact on mental health with other states joining therein. Provides for institutional care of person physically in State irrespective of his residence or citizenship, transfer of any patient and his records to an institution in another state, and apprehension of escapees from other states.

Chapter 72 (*SI 919, Pr. 961, Mackell*).—Amends Mental Hygiene Law Section 72, relating to admission to State hospitals except Matteawan and Dannemora and to licensed private institutions for the mentally ill. Changes reference from "a certified examiner" to "an examining physician." Provides that request for admission based on personal examination by a county commissioner of health, health officer, or the designee of either of them shall be filed with the director or physician in charge of the hospital instead of merely "at the hospital." Eliminates provision relating to twenty-four-hour period during which veteran's facility may detain patient without complying with section. Provides "The county commissioner of health, health officer or the designee of either of them shall be authorized and empowered to take into custody, detain, transport and provide temporary care for any such person (one dangerous to himself or others and who needs immediate care and treatment because of mental derangement other than drug addiction or drunkenness). Upon the written request of a county commissioner of health, health officer or the designee of either of them, it shall be the duty of peace officers of the town, village and city maintaining a police department organized pursuant to the laws of this state to take into custody any such person as requested and directed by such county commissioner of health, health officer or the designee of either of them.'' Provides that county commissioner of health, etc., on the written recommendation of the director or physician in charge that such patient is in need of continued care and treatment in an institution shall cause patient to be examined by one or two examining physicians for consideration of admission pursuant to Section 73 or Section 74 of the Mental Hygiene Law or for determination that the patient is not mentally ill and should be immediately released.

Chapter 73 (*SI 821, Pr. 863, Milmoe*).—Amends Public Health Law Section 1242(2) to strike out provision contained therein for the enforcement of an order of the Water Pollution Control Board.

Chapter 99 (*AI 1899, Pr. 1972, Lentol*).—Amends Public Health Law Section 621 to provide that Commissioner of Health shall fix date and form for submitting information with respect to application for State aid to county or city for laboratory services.

Chapter 109 (*SI 505, Pr. 508, Metcalf*).—Authorizes Commissioner of Health to convey to Tompkins County, without consideration and on such terms and conditions as may be recommended by the director of the budget, for use as a general hospital and other public health purposes, all the land and buildings now owned and operated by the State of New York as the Hermann M. Biggs Memorial Hospital in Tompkins County. (The hospital is a State tuberculosis hospital.)

Chapter 153 (*AI 1713, Pr. 1754, Waters*).—Repeals paragraph of Education Law Section 6506(5) which reads: "The degree of bachelor or doctor of medicine shall not be conferred in this state before the candidate has filed with the institution conferring it the certificate of the department that before beginning the first annual medical course counted toward the degree, he had earned a medical student qualifying certificate in accordance with the rules of the department.''

Chapter 157 (*AI 1922, Pr. 1995, Mrs. Strong*).—Amends Public Health Law Section 320(1) to except from provisions relating to appointment of health officer of a municipality those boards of health within the area of a county or part county health district.

Chapter 184 (*AI 1988, Pr. 2063, Peet*).—Amends Public Health Law Sections 2221, 2222, 2227 relating to tuberculosis control by repealing Section 2221(1) providing "It shall be the duty of every local health officer to cause all reports made pursuant to law concerning persons having tuberculosis, and also all results of examinations, showing the presence of the bacilli of tuberculosis, made in accordance with the provisions of section two thousand two hundred twenty of this chapter, to be recorded in a register, of which he shall be custodian.'' Adds provision that reports of tuberculosis patients made pursuant to law and the sanitary code and also records of examinations of such patients shall not be open to inspection by any person other than the health authorities of the State and of the local health district, and said health authorities shall not permit any such report or record to be divulged so as to disclose the identity of the person to whom it relates, except as may be authorized in the sanitary code. Amends Section 2222 to include State district health officer with local health officer in provisions stating that it shall be their duty, if there be no attending physician, to take precautions with respect to persons exposed to tuberculous persons in the same household. Amends Section 2227 by repealing present subdivisions (1) and (2) relating to the disinfection of premises occupied by tuberculous persons, leaving this subject matter to the sanitary code.

Chapter 191 (*AI 3044, Pr. 3265*).—As declaration of intent states: "In order to make possible joint and mutual planning and action by several state departments and boards in regard to health and mental health problems of the people of this state which are of direct concern to more than one of the departments of state government, there is hereby created a state board to be known as the interdepartmental health resources board.'' It shall consist of the commissioners of correction, education, health, labor, mental hygiene, and social welfare, the chairmen of the division of parole and the workmen's compensation board, and the administrative director of the joint hospital survey and planning commission with chairman to be elected annually by the members. Sets forth power and duties of board and states that the board may employ an executive director and such expert and clerical assistants as it deems necessary and may fix their compensation within the amounts made available by appropriation.

Chapter 225 (*AI 2194, Pr. 2308*).—Education Law Section 211(1) amended to provide: "The regents may in their discretion suspend the execution of a determination of censure and reprimand or suspension or revocation of the license of a practitioner and place such practitioner on probation subject to his compliance with conditions which the regents may determine.''

Chapter 230 (*AI 2507, Pr. 2643*).—Amends Public Health Law Section 3301(22) to remove from the list of "exempt narcotic preparations'' compounds of narcotics which contain not more than one-eighth of heroin or any of its salts.

Chapter 241 (*AI 2149, Pr. 2243, Hatch*).—Adds Optional County Government Law Section 1017-b to provide for the establishment and operation of a department of mental hygiene (in Monroe County).

Chapter 242 (*AI 30, Pr. 3660, Hughes*).—Amends Mental Hygiene Law Section 121 to make it permissive rather than mandatory that commissioner of mental hygiene discontinue Syracuse State school for mental defectives. Provides that existing facilities for the care, training, and custody of children, located at Fairmount, may be continued, expanded, and improved.

Chapter 281 (*AI 1998, Pr. 2073, Suthergreen*).—Amends Public Health Law Section 340(1,2) in relation to establishment of county or part-county health districts to provide for majority consent instead of consent by common council and supervisors representing rest of county.

Chapter 286 (*AI 1096, Pr. 1111, Russo*).—An act authorizing and empowering the interstate sanitation commission to make a study of smoke and air pollution and repealing similar prior acts.

Chapter 288 (*SI 779, Pr. 4042, McCullough*).—Amends Tax Law Section 360(15) relating to personal income tax deduction for medical expenses. Expressly includes as a medical expense amounts paid for transportation primarily for and essential to medical care. Makes allowable deduction amount that expense exceeds 3 per cent of net income which does not exceed $6,000 plus 5 per cent of net income in excess of $6,000 subject to certain maximums. Maximum deduction in case of husband and wife filing joint return or a head of a family filing a separate return is $2,500 and in case of other taxpayers is $1,250. In case individual is sixty-five or older or is blind, maximum deduction applies, but $6,000 limit does not apply.

Chapter 292 (*AI 2881, Pr. 3060, Ingalls*).—Amends General Municipal Law Section 122-b(1) to permit a municipality to contract with another municipality to provide ambulance services.

Chapter 301 (*AI 2216, Pr. 2330, Dwyer*).—Amends Education Law Section 6512(b) to provide in part, "Nothing herein contained shall prevent the practice of medicine by an unlicensed physician employed by a proprietary hospital licensed pursuant to any law or approved by the state department of social welfare, who is in possession of a certificate issued by the department upon payment of a fee of ten dollars certifying that he is eligible for admission to the medical licensing examination, provided he is under the supervision of a duly licensed physician who is employed full time in residence by such hospital." Adds Social Welfare Law Section 35-b to provide: "Operation of private hospitals for profit. Only physicians duly licensed by the state department of education and partnerships of such physicians may operate hospitals for profit, except such hospitals as are in operation on the date this section takes effect which are licensed pursuant to any law or are approved by the state department of social welfare." Makes certain other minor changes in Education Law.

Chapter 343 (*AI 579, Pr. 581, DeSalvio*).—Adds Mental Hygiene Law Section 7(14) to provide that the commissioner may designate employes of the department to act as escape officers with respect to escapees from institutions in New York City.

Chapter 347 (*SI 1667, Pr. 1793, Brydges*).—Amends Education Law Section 4206 to include Lavelle School for the Blind in the City of New York as a place where pupils may be appointed pursuant to this section of law.

Chapter 351 (*AI 561, Pr. 563, Mrs. Strong*).—Amends Mental Hygiene Law Sections 71, 122 with respect to voluntary admission to mental institutions to change the age of consent from twenty-one to eighteen years.

Chapter 352 (*AI 2621, Pr. 4111, Calli*).—Amends Education Law Section 6512(1-b) to provide that a temporary certificate permitting a person to practice as a resident in a hospital may be issued to a graduate of a registered medical school of Canada who has been granted the degree of bachelor or doctor of medicine from such school and who meets all the requirements for admission to the State medical licensing examination except the requirement of declaration of intention to become a citizen.

Chapter 361 (*AI 2848, Pr. 3027, Walmsley*).—Adds Workmen's Compensation Law Section 13(e) to provide: "Copies of medical reports of claimant's attending physician or medical consultant, made pursuant to this chapter, shall be transmitted by the physician or consultant to the claimant's licensed representative or attorney representing the claimant before the board upon his written request therefor accompanied by a notice of his retainer and consent to such transmittal signed by the claimant." Makes failure to supply reports grounds for revoking right to treat compensation cases.

Chapter 383 (*SI 2408, Pr. 3835, Cuite*).—Amends Education Law Section 6508 to reduce number of medical licensing examinations from three to two annually.

Chapter 392 (*SI 633, Pr. 655, Van Lare*).—Amends the Optional County Government Law (applying to Monroe County) by amending Section 1017-a(1) to provide that the health activities of a county or part-county heath district shall be administered by a county or part-county department of health and that the county health director shall be administrative head of county department of health.

Chapter 461 (*SI 928, Pr. 4189, Metcalf*).—Adds Civil Service Law Article 7, entitled health insurance for State and retired State employes. Creates a temporary health insurance board consisting of eight members, four to be appointed by the Governor, two by the Majority Leader of the Senate, and two by the Speaker of the Assembly. The board, subject to the provisions of the article, is empowered to establish regulations relating to eligibility, terms and conditions of the insurance contract or contracts, the purchase of subject contract or contracts, and the administration of the health insurance plan. The president of the Civil Service Commission with the approval of the board is authorized and directed to establish a health insurance plan for State officers and employes and their dependents providing for group hospitalization, surgical and medical insurance against the financial costs of hospitalization, surgery, medical treatment, and care, including prescribed drugs, medicines, prosthetic appliances, hospital inpatient and outpatient service benefits, and medical expense and indemnity benefits. Under the law the insurance contract or contracts may be with any commercial or voluntary insurance company licensed to do business within the State.

Chapter 526 (*SI 1996, Pr. 2917, Hughes*).—Amends Penal Law Section 1751 to increase the minimum sentences for narcotic drug violation and changes provisions relating to presumption arising from possession of certain quantities thereof and fixes indeterminate term for conviction of attempt to commit a violation of the law.

Chapter 644 (AI 2441, Pr. 4561, Miss Marlatt).—Adds Penal Law Section 1747-c in relation to the sale or possession of amphetamine or its derivatives. Of particular interest to practitioners of medicine is the provision that requires persons who obtain amphetamine or any of its derivatives on the prescription of a duly licensed physician must carry such amphetamine in the pharmacist's original or renewed prescription container or the practitioner's dispensing container, which container shall bear a label meeting all the label requirements of the laws relating to the labeling of amphetamine. Violation is treated as a misdemeanor.

Chapter 715 (AI 1712, Pr. 1753, Waters).—Strikes from Education Law Section 6506(4) provision, "The department may accept as the equivalent for any part of the third and fourth requirement, evidence of five or more years' reputable practice, provided that such substitution be specified in the license, and, as the equivalent of the first year of the fourth requirement, evidence of graduation from a registered college course, provided that such college course shall have included not less than the minimum requirements prescribed by the department for such admission to advanced standing."

Chapter 737 (SI 3239, Pr. 4087, Van Wiggeren).—Adds Education Law Article 153 to provide for the certification of psychologists. The law provides in part, "A person represents himself to be a 'psychologist' when he holds himself out to the public by any title or description of services incorporating the words 'psychological,' 'psychologist' or 'psychology,' and under such title or description offers to render or renders services to individuals, corporations, or the public for remuneration. . . . After July first, nineteen hundred fifty-seven no individual shall represent himself as a psychologist within the meaning of this act other than those certified and registered under the provisions of this act."

Chapter 812 (AI 3910, Pr. 4595, Rules Committee).—Authorizes the mental hygiene commission or mental hygiene department to formulate an experimental program in two pilot diagnostic and parent counselling centers for mentally retarded children, one being in New York City and one in the central part of the state. Provides a $90,000 appropriation.

Chapter 821 (SI 3387, Pr. 4167, Rules Committee).—Adds Public Health Law Article 27 which establishes a bureau of chronic disease and geriatrics within the department of health. Purposes and functions of the bureau are as follows: (1) plan public health programs to aid in the prevention, rehabilitation, and control of degenerative diseases and chronic illnesses; (2) develop a program for integrating community and institutional agencies and facilities and for utilization of geriatric technics to provide a comprehensive program of prevention, rehabilitation, and control of degenerative diseases and chronic illnesses; (3) develop a plan for periodic health inventories for the middle-aged and elderly; (4) explore possibilities of reducing cost and improving care of the chronically ill through use of noninstitutional as well as institutional facilities; (5) develop laboratory, clinical, and statistical research on chronic disease and health problems of older people in consultation with the State Medical Society and other agencies, including the State Department of Mental Hygiene and the State University of New York; (6) carry on programs of professional education and training of medical students, physicians, and nurses in the prevention, rehabilitation, medical and nursing care of diseases of older people; (7) plan and carry out programs to stimulate the prevention, rehabilitation, and control of chronic illnesses and the promotion of the health of adult, middle-aged, and older persons through "day hospital" and a "meals on wheels" demonstration projects. Appropriates $100,000.

Chapter 846 (SI 3449, Pr. 4175, Rules Committee).—Adds Mental Hygiene Law Section 3-a to provide for a consultant on services for the aged within the mental hygiene department. The consultant under the direction of the commissioner shall (*a*) develop plans for care of senile psychotics in new-type facilities, such as psychiatric nursing homes, cottage-type facilities, geriatric wards, old age homesteads, and old age homes within and without institutions of the department; (*b*) develop plans for care of aged persons who, while nonpsychotic, may need some measure of psychiatric supervision or assistance in new-type facilities, such as psychiatric nursing homes, cottage-type facilities, geriatric wards, old age homesteads, and old age homes within and without institutions of the department; (*c*) arrange for the conducting of experimental pilot projects in care of harmless aged who need some measure of psychiatric supervision or assistance in nursing homes and old age homes; (*d*) develop plans for admission of harmless aged who need some measure of psychiatric supervision or assistance in public or private institutions and facilities, without need for current certification procedures but with adequate safeguards; (*e*) develop plans for care of aged who need some measure of psychiatric supervision or assistance through outpatient service, day-hospital care, or other new-type facilities under plans that will enable voluntary admissions to be made and payments by the applicant or immediate members of his family covering cost of such care; (*f*) develop plans for establishment of rest homes, psychiatric nursing homes, and other new-type facilities by local municipal corporations; (*g*) plan and supervise research and demonstration projects designed to prevent, retard, cure, or ease mental ailments of senior citizens; (*h*) plan in cooperation with public and private agencies and institutions including the State Health Department and State University of New York improvement in standards of intake, care, release, and placement of aged senile. Appropriates $150,000.

Chapter 862 (AI 2995, Pr. 4571, Mrs. Strong).—Adds County Law Section 391-a to provide "notwithstanding any inconsistent provisions of this article, or of any other general, special or local law, a county tuberculosis hospital may also admit for study and care persons with chronic nontuberculosis diseases of the chest, subject to rules and regulations to be promulgated by the state commissioner of health with the advice and counsel of an advisory committee consisting of five members, after consultation with the boards of managers of county tuberculosis hospitals. Three of the members of such advisory committee shall be superintendents of county tuberculosis hospitals to be chosen by such commissioner, and two of the members thereof shall be representatives of the Medical Society of the State of New York to be designated by such Society."

Chapter 872 (SI 2186, Pr. 2376, Neddo).—Amends Education Law Section 7101 to further define ocular exercises as it now appears in the definition of the scope of optometry as also being termed orthoptics, visual training, or vision training or eye training. (The prescribing, providing, and furnishing of ocular exercises has been within the defined scope of optometry for a number of decades.)

Chapter 897 (SI 597, Pr. 619, McCaffrey).—Amends Section 50-d of the General Municipal Law relating to malpractice indemnity for physicians rendering services in municipal hospitals to make the test of coverage that the physician does not receive compensation from the patient rather than that the physician renders his services gratuitously as it appears in the present law.

Chapter 921 (AI 2493, Pr. 4260, McDonnell).—Amends Workmen's Compensation Law Section 13-d to change the place of arbitration of workmen's compensation medical fees to where the services are rendered instead of where the workman resides.

Chapter 937 (SI 875, Pr. 3600, J. H. Cooke).—Amends Public Health Law Section 304, 341 to provide that appropriation for town board of health shall be charged upon the taxable property of the part of the town outside of a village and that the appropriation shall be collected as other town charges.

From the Office of: News Release
Attorney General Jacob K. Javits
State Capitol
Albany 1, New York For Release: Immediately

Hon. Averell Harriman
Governor of the State of New York
Hon. Walter J. Mahoney
Temporary President of the Senate
Hon. Oswald D. Heck
Speaker of the Assembly

Honorable Sirs:

As the State's law officer charged by the statue with the enforcement of unlawful practices under the Professional Practice Act (Education Law, Title VIII), it is my duty to call to your attention a serious problem which poses a threat to the faith of the people in government. This problem arises from the growth of chiropractic in effect immune from effective application of the existing laws against the illegal practice of medicine or any other law.

In 1944, leading member of the chiropractic profession estimated that there were approximately 1,800 chiropractors then practing in New York. Instead of the 1,800 practicing in New York in 1944, the figure today is estimated at about 3,000.

Our statute law now forbids an unlicensed person to treat human ailments by means or method (Education Law, sections 6501, 6513).

A violation of this law is a misdemeanor, and the penalty prescribed for such violation is punishment by imprisonment for not more than one year or by a fine of not more than $500, or by both such fine and imprisonment for each separate violation. A second offense is punishable by both such fine and imprisonment (Education Law, section 6513).

Jurisdiction to prosecute violators is vested concurrently in the Attorney General and in the local district attorneys of counties having a population of over 500,000 or any county within the City of New York. In all other counties the Attorney General has exclusive responsibility to conduct such prosecutions. But the Attorney General is authorized to act only when requested to do so by the Education Department in a specific case after investigation and determination by that department that a case for prosecution exists.

Our State, proud of its leadership in all fields of public welfare, has become a refuge for many who are unskilled, untrained, uneducated, and at times unscrupulous practitioners of chiropractic who may be unable to qualify under the licensing laws of 44 of our sister states which do control the practice of chiropractic. The untrained practice side by side with a great number of well trained and honorable chiropractors who would be licensed in these other states. So long as he can escape conviction for violations of the medical practice statute—and conviction is now well-nigh impossible in New York—the unscrupulous may indulge in many practices which are forbidden by law to licensed practitioners of other professions.

Whether anyone believes in the healing powers of the chiropractic profession or not, the fact remains that a segment of our population (perhaps numbering in the millions) for reasons of their own patronize the chiropractor.

The report of the Joint Legislative Committee to Investigate the Practice of Chiropractic, rendered on February 2, 1944, called attention to the difficulty experienced in enforcing the law against chiropractors. The then Attorney General in a memorandum submitted to that committee pointed out that courts have shown great reluctance to impose heavy penalties against convicted chiropractors and that leniency is shown regardless of whether the defendant stands trial or pleads guilty, and no distinction seems to be made between the chiropractors who have had extensive schooling and training in chiropractic and those without such training.

Nor has the situation improved since then. During the past five years the records of the Department of Law show that out of some 27 referrals by the Education Department against chiropractors, 21 were accepted for prosecution as being *prima facie* cases; of those, seven pleaded guilty, the grand jury refused to indict two; and of the 12 cases which went to trial, 11 were acquitted and only one convicted. Of course, district attorneys of the counties noted above have concurrent jurisdiction with the Attorney General, but they have, as a practical matter, left prosecutions in such cases to his office, and the Attorney General's law enforcement activities have been frustrated by the seeming reluctance of courts and juries to convict.

While the appellate courts have consistently repeated that the unlicensed person may not treat human ailments by chiropractic, the trial courts acquit defendants after trial, and the remedy of appeal is not open to the People. If we are to prevent a breakdown of law enforcement in the prosecution of persons charged with violations of laws, the enforcement of which are not popular, a firm brake must be applied at once.

One of the objects of governmental concern in professional fields is the protection of the unwary against the unfit. As an enforcement officer, I refrain, as all of my predecessors have done, from expressing a preference as to the method of effectuating such concern. Under the State Constitution, the choice is the exclusive prerogative of the Legislature. Article XVII, Section 3, provides: "The protection and promotion of the health of the inhabitants of this State are matters of public concern and provision therefor shall be made by the State and such of its subdivisions and in such manner, and by such means as the Legislature shall from time to time determine."

Without overstepping the bounds of my proper authority, I must, therefore, only point out that any system of law, which allows the unskilled, the untrained and the uneducated practitioner of a profession to treat any physical condition, whether the practitioner be called a doctor, dentist, osteopath, physiotherapist, podiatrist, or chiropractor, exposes the public health to danger. This is a matter of public concern and a responsibility of the Legislature and of the Executive.

The conclusions drawn by the Joint Committee in 1944 are as appropriate today as they were then, and I quote: "The danger which may result to patients from the ministration of many ignorant and untrained persons, who are now holding themselves out to the public as competent and trained chiropractors in this State, is obvious. In the course of our public hearings many opinions were expressed to the effect that something should be done to abate existing conditions regarding chiropractic, but no definite remedy was suggested."

By leaving the law in its present state, it is possible and profitable both to practice chiropractic and to do so in effect without control or regulation by constituted authority. In this way we are paving the way for a breakdown of law enforcement in this whole field so vital to the public welfare.

I recognize that efforts of legislation have heretofore been frustrated or proved abortive, but I cannot acquiesce in the present situation without feeling it is my duty to submit these facts for your consideration in view of the present acceptance of widespread disregard of the penal laws in this respect.

It is my recommendation that a thorough study be made again of this matter in the ensuing period of adjournment of the Legislature in light of these circumstances and that a way be found either to render application of present statutes against illegal practice of medicine more effective, to establish new remedies to prevent illegal practice of medicine, or otherwise to protect the health of the people of the State.

Very truly yours,
March 8, 1956 JACOB K. JAVITS, *Attorney General*

From the Office of: News Release

Attorney General Jacob K. Javits
For Release: Sunday, March 18, 1956
State Capitol
Albany 1, New York

Honorable Averell Harriman
Governor of New York State
The Capitol
Albany, New York

Dear Governor:

Under date of March 8, 1956, I transmitted a message on the problems of chiropractic in the State of New York. This message ended with the following recommendation: ". . . that a thorough study be made again of this matter in the ensuing period of adjournment of the Legislature in light of these circumstances and that a way be found either to render application of present statutes against illegal practice of medicine more effective, to establish new remedies to prevent illegal practice of medicine more effective, to establish new remedies to prevent illegal practice of medicine or otherwise to protect the health of the people of the State."

This was taken in some quarters to exclude as possible legislative action the establishment of licensure for chiropractors in this State. It was not my intention to foreclose or inhibit any such action on the subject, but rather to submit the problem of the chiropractic practitioner in the existing situation. I wish, therefore, to call your attention that I have written to the presidents of the two chiropractic associations on the subject, as follows: "The Legislature should either strengthen the laws to deal with illegal practice in this respect or pass a chiropractor's licensing statute which many other states have done. As my message stated, it was not my intention to foreclose or inhibit any action on that subject but rather present the Legislature with the problem of the chiropractic practitioner in the existing legal situation."

Very truly yours,
J. K. JAVITS, *Attorney General*

From: Charles A. Betts
Executive Assistant
to the Attorney General
The Capitol, Albany, New York

Section 26 (See *118*) Report 56-J

Supplementary Report of Council, Part VII: Medical Care Insurance

To the House of Delegates, Gentlemen:

The Subcommittee on Medical Expense Insurance submits this supplementary report.

The subcommittee consists of the following:

Carlton E. Wertz, M.D., *Chairman*	Erie
Carl R. Ackerman, M.D.	Bronx
Matthew E. Fairbank, M.D.	Monroe
Arthur F. Gaffney, M.D.	Oneida
Leo E. Gibson, M.D.	Onondaga
C. Otto Lindbeck, M.D.	Chautauqua
Lyle A. Sutton, M.D.	Albany
George P. Farrell, *Adviser*	New York

The subcommittee met April 26, 1956, at Buffalo to discuss Senate Intro. 298, Senator Metcalf's bill to provide health insurance for active and retired State civil service employes.

The chairman referred to the minutes of the April 11, 1956, meeting of Districts II and III of New York State Blue Shield Plans, in which Dr. Merle D. Evans, chairman of District III, pointed out the importance of providing uniform service benefits to the State civil service employes group. Because two areas, Utica and Buffalo, do not offer service benefits, it was decided to appeal to the State Society for help and endorsement.

Dr. Evans pointed out further the necessity of the medical profession presenting a uniform approach in the matter of State-wide service benefits from the professional standpoint and that the responsibility is primarily that of organized medicine as Blue Shield only furnishes the necessary mechanism.

In a letter to the chairman of the subcommittee, Dr. Evans pointed out the following conclusions:

(1) Blue Cross stands a fair chance of getting the hospitalization portion of the State civil service employe program; (2) there is little chance, if any, of Blue Cross-Blue Shield getting any of the major medical portion of the program; and (3) with the present setup of Blue Shield Plans throughout the State in being unable to furnish "service benefits" in all parts of the State, there is little chance of the basic medical care portion of the program being obtained by Blue Shield.

A letter from Dr. Louis H. Bauer, chairman of the Board of United Medical Service, was read in which Dr. Bauer pointed out that different benefits cannot be given to civil service employes in different parts of the State. Therefore, it will be necessary to have a proposition which can be presented on a State-wide basis to cover these people.

Dr. Bauer further stated he believed it in the interest of the medical profession that it reach an agreement on the type of coverage it is willing to offer and support. He strongly urged that this subcommittee make every effort possible to develop some workable arrangement in this special situation pertaining to civil service employes only, which will be acceptable to the medical profession.

Following discussion Drs. C. Otto Lindbeck and Carl R. Ackerman pointed out very definitely that this is not a matter of "service" versus "indemnity" but a proposition for the medical profession to be willing and prepared to give service benefits to this special group of State civil service employes up to an income ceiling of $6,000.

Motion was made and carried to include in this supplementary report to the House a request that the county medical societies cooperate in making available to New York State civil service employes service benefits up to a $6,000 income ceiling level; that it is necessary to have 100 per cent cooperation of the county medical societies for the acceptance of this program, and each county society is urged to cooperate unselfishly in it. This is a challenge to the profession in answer to a specific problem. Rejection by just one county society of this special service coverage for State employes could and probably would prevent the presentation of an acceptable plan. Therefore, each county society is asked to realize the impact of its action in relation to the wishes of the doctors of the entire State and to the public relations of the medical profession in New York State.

The following resolution referred to the subcommittee by the Medical Society of the County of New York was approved:

> Whereas, the House of Delegates of the Medical Society of the State of New York has favored since 1949 the development of a uniform, State-wide Blue Shield contract and has been working toward the development of such a program; and
>
> Whereas, the Blue Cross Plans in New York State have recently developed a uniform, State-wide Blue Cross contract; therefore be it
>
> *Resolved*, that the Medical Society of the County of New York commend the Medical Society of the State of New York for its position and actions in regard to the development of a uniform, State-wide Blue Shield Contract, commend the Blue Cross Plans in New York State for their accomplishment in regard to developing a uniform, State-wide Blue Cross Contract and recommend that the Medical Society of the State of New York also extend such commendation; also recommend that the Medical Society of the State of New York reaffirm its position and urge the early development of a uniform, State-wide Blue Shield contract so that a uniform, State-wide Blue Cross-Blue Shield Program can be available for those companies desiring it.

The above action of the Comitia Minora was ratified at the stated meeting of the Society held on January 23, 1956.

Respectfully submitted,
John C. McClintock, M.D., *Chairman*

Section 27 (See 176) Report 56-K

Supplementary Report of the Council, Part VI: Hospital and Professional Relations

To the House of Delegates, Gentlemen:

At a joint meeting of the Hospital and Professional Relations Committee of the Medical Society of the State of New York and the Medical Relations Committee of the Hospital Association of New York State, held in Albany, April 19, 1956, the Proposed Agreement between the Medical Society of the State of New York and the Hospital Association of New York State was rediscussed at some length.

It was realized that despite the fact that any agreement must contain statements of broad general principles, they must be lucid and sufficiently spelled out to be workable.

After considering certain objections on the part of both groups, it was necessary to reword the first part of the Agreement. In so doing, Appendix A of the old Agreement was eliminated. However, all the principles under it were incorporated in the new draft. Appendix B, totally unchanged, in the new Agreement becomes Appendix A.

This new agreement is heartily endorsed by both committees as a basis for the integration of physicians and hospitals. It leaves the door open for future negotiations and establishment of policy between the two groups.

I might also say that, since this joint meeting, the Agreement has been accepted by the Board of Directors of the Hospital Association of New York State.

Therefore, the Council Committee on Hospital and Professional Relations presents the following Agreement to the House of Delegates of the Medical Society of the State of New York for your action.

Proposed Guiding Principles Hospital-Physician Relationships to be Accepted and Recommended by the Hospital Association of New York State and the Medical Society of the State of New York

The House of Delegates of the Medical Society of the State of New York and the institutional members of the Hospital Association of New York State agree to the following principles and recommend they be followed as a guide in the matter of hospital-physician relationships:

1. The general purpose of hospitals and physicians is to aid each other in the delivery of the best possible medical care to patients. To attain such a purpose requires full cooperation among medical staffs, governing boards, and administrative heads of hospitals. One important method of attaining this objective is that duly designated representatives of the medical staff shall have free and direct access to the governing board with due consideration to the position of the administrator as chief executive officer of the hospital. The various methods by which the medical staff may have access to the hospital governing board follow. These methods are not listed in the order of their desirability, and there may be other acceptable liaison plans developed depending upon local conditions.

(*a*) The executive committee of the medical staff and a committee of the governing board with the hospital administrator can serve as a joint committee.

(*b*) Representatives of the medical staff can serve as members of the medical staff committee of the governing board with the hospital administrator.

(*c*) Representatives elected by the medical staff can attend meetings of the hospital governing board.

(*d*) Members of the medical staff can be members of the hospital governing board.

2. The professional evaluation of chiefs of service and members of the medical staff should be the responsibility of the medical profession. The method of selection of these individuals must be subject to local arrangement and local conditions. In any such arrangement, however, the principle of the freedom of the staff to make recommendations, subject to the approval of the hospital governing board, should be recognized.

3. The medical profession and the hospitals recognize that certain special services, such as anesthesiology, pathology, radiology, and physical medicine, are integral parts of the practice of medicine and of the services necessary for hospital patients. Physicians in these fields should have the professional status of other members of the medical staff. Chiefs in these specialties must assume also the administrative responsibilities and relationships customarily associated with such positions.

4. The financial arrangements, if any, between a hospital and a physician properly may be placed on any mutually satisfactory basis, but a physician shall *not* dispose of his professional services to any hospital, lay body, organization, group, or individual, by whatever name called or however organized, under terms or conditions which cause deterioration in the quality of the medical services rendered. This shall apply in all cases, whatever the purpose of the financial arrangement may be, including the remuneration of a physican for teaching, research, and charitable services.

5. The chief of a hospital department may have access to financial information regarding his department.

6. It is desirable that means should be provided at local, State, and national levels for review of problems of individual hospital-physician relationship by organized medical and hospital groups.

7. There shall be established a permanent joint committee composed of the Committee on Medical Relations of the Hospital Association of New York State and the Hospital and Professional Relations Committee of the Medical Society of the State of New York which will meet at least annually to consider matters of policy and any other matters properly falling within its purview including establishment of mediation committees at the State level if necessary.

8. Appointments and reappointments of hospital medical staffs shall be governed by the Rules and Regulations of the Joint Commission on Accreditation of Hospitals. (*see Appendix A*)

Approval of these recommendations by the Medical Society of the State of New York and by the Hospital Association of New York State will mean that each organization will use its influence to secure their adoption and practice in good faith by all members of the Medical Society of the State of New York and by all hospitals in the Association.

Pending approval of these recommendations by the respective governing bodies of the two organizations, each organization is urged to refrain from any legislative action. The representatives of both groups are of the opinion that the problems concerned cannot be satisfactorily solved by legislation and that to enact any such legislation would jeopardize any agreement between the two bodies.

For the Medical Society of the State of New York

Walter P. Anderton, M.D. (*ex officio*)
Andrew A. Eggston, M.D.
John C. McClintock, M.D.
Raymond S. McKeeby, M.D., *Chairman*

For the Hospital Association of New York State

James A. Bordley, III, M.D.
Lloyd Gaston, M.D., *Chairman*
August Groeschel, M.D.
Thomas Hale, Jr., M.D. (*ex officio*)
Arnold A. Karan, M.D.
William Kelly, M.D.
Christopher Parnall, Jr., M.D.
Charles M. Royle (*ex officio*)
Bernard A. Watson, M.D.

APPENDIX A

Excerpt from Bylaws, Rules, and Regulations Suggested by the Joint Commission of Accreditation of Hospitals

HOSPITAL MEDICAL STAFF TENURE

Section 1. Qualifications

The applicant for membership on the medical staff shall be a graduate of an approved medical school, legally licensed to practice in the State of New York, qualified for membership in the local medical society, and practicing in the community or within a reasonable distance of the hospital.

Section 2. Ethics and Ethical Relationships

The code of ethics as adopted by the American Medical Association and the American College of Surgeons shall govern the professional conduct of the members of the medical staff. Specifically, all members of the medical staff shall pledge themselves that they will not receive from nor pay to another physician, either directly or indirectly any part of a fee received for professional services.

Section 3. Terms of Appointment

Subsection 1. Appointment shall be made by the governing body of the hospital and shall be for the period of one year or until the end of the fiscal year of the hospital. At the end of the fiscal year the governing body of the hospital may reappoint all members of the medical staff for a further period of one year, provided the medical staff has not recommended that any specific appointment shall not be renewed. In such case all other reappointments may be made.

Subsection 2. In no case shall the governing body take action on an application, refuse to renew an appointment, or cancel an appointment previously made without conference with the medical staff.

Subsection 3. Appointment to the medical staff shall confer on the appointee only such privileges as may hereinafter be provided.

Section 4. Procedure for Appointment

Subsection 1. Application for membership on the medical staff shall be presented in writing, on the prescribed form, which shall state the qualifications and references of the applicant and shall also signify his agreement to abide by the bylaws, rules, and regulations of the medical staff. The application for membership on the medical staff shall be presented to the administrator of the hospital who shall transmit it to the secretary of the medical staff.

Subsection 2. At the first regular meeting thereafter the secretary shall present the application to the medical staff, at which time it shall be either recommended for rejection or referred to the credentials committee.

Subsection 3. The credentials committee shall investigate the character, qualifications, and standing of the applicant and shall submit a report of findings at the next regular meeting of the medical staff or as soon thereafter as possible, recommending that the application be accepted, deferred, or rejected. In no case shall this report be delayed for more than three months.

Subsection 4. When determining qualifications, the credentials committee shall also assign privileges in accordance with the following:

1. Classification of Privileges: Privileges granted to physicians who have been appointed to the medical staff shall be recommended by the credentials committee.

2. Determination of Privileges:

(*a*) The determination of initial privileges shall be based on the applicant's training, experience, and demonstrated competence.

(*b*) Determination of extension of further privileges shall be based on the applicant's training, experience, and demonstrated competence which shall be evaluated by review of the applicant's credentials, direct observation by the active medical staff, and review of reports of the medical records and tissue committees.

Subsection 5. On receipt of the report of the credentials committee, the medical staff shall immediately recommend to the governing body that the application be accepted, deferred, or rejected and, if accepted, the privileges to be granted.

Subsection 6. The recommendation of the medical staff shall be transmitted to the governing body of the hospital through the administrator.

Subsection 7. The governing body shall either accept the recommendation of the medical staff or shall refer it back for further consideration stating the reasons for such action.

Subsection 8. When final action has been taken by the governing body, the administrator of the hospital shall be authorized to transmit this decision to the candidate for membership and, if he is accepted, to secure his agreement to be governed by these bylaws, rules, and regulations.

Section 5. Emergency and Temporary Privileges

Subsection 1. In case of emergency the physician attending the patient shall be expected to do all in his power to save the life of the patient, including the calling of such consultation as may be available. For the purposes of this section an emergency is defined as a condition in which the life of the patient is in immediate danger and in which any delay in administering treatment would increase the danger.

Subsection 2. The administrator of the hospital after conference with the chief of staff shall have the authority to grant temporary privileges to a physician who is not a member of the medical staff. The chief of staff shall give an authoritative opinion as to the competence and ethical standing of the physician who desires such temporary privileges, and in the exercise of such privileges he shall be under direct supervision of the chief of staff. Temporary privileges may not be granted to attend more than four patients in any one year after which the physician to whom temporary privileges have been granted shall be required to become a member of the medical staff before being allowed to attend additional patients.

Section 28 (See 128) Report 56-L

Supplementary Report of the Council, Part XII: Belated Bills

In addition to those previously reported, the following bill is submitted to the House of Delegates because it was received more than ninety days after the expenses were incurred.

On April 2, 1956, a bill was received covering expenses of Dr. John M. Sheldon of Ann Arbor, Michigan, for travel to Buffalo in May, 1955, to address the meeting of the Section on Allergy:

Transportation	$39.00
Hotel room	11.33
Meals	5.00
Total	$55.33

Section 29

Introduction of Delegates Who Had Not Previously Served in the House

Speaker Holcomb: At this time we would like to introduce the so-called freshman members of the House of Delegates, those who have not been with us before, and I will ask you to withhold your applause until the new members rise and are recognized, and then at the end I hope you will give them all a very hearty welcome:

Albany
John G. McKeon
James A. Moore

Bronx
George A. Howley

Cayuga
Bernard J. Hartnett

Chautauqua
Robert R. Northrup
Chemung
Ross E. Hobler
Clinton
Edward Siegel
Erie
Virgil H. F. Boeck
Essex
James E. Glavin
Livingston
F. L. Armstrong
Monroe
Gordon M. Hemmett
Lawrence A. Kohn
Montgomery
Martin F. Geruso
Nassau
Paul H. Sullivan
New York
C. Joseph Delaney
George W. Fish
Samuel Frant
Beverly C. Smith
John Sutton
William L. Wheeler, Jr.
Orange
Irving Weiner
Queens
Monroe M. Broad
Richmond
Leif G. Jensen
Schenectady
Raymond J. Byron
Schuyler
Paul F. Willwerth
Suffolk
David J. Wexler
Westchester
John N. Dill
Third District Branch
Edwin G. Mulbury
Fifth District Branch
Donald C. Tulloch
Seventh District Branch
Eldred J. Stevens
Ninth District Branch
Harold S. Heller
Section on
Allergy
Max Harten
Gastroenterology and Proctology
Charles A. Flood
General Practice
Garra L. Lester
Industrial Medicine and Surgery
James H. Sterner
Neurology and Psychiatry
Arthur D. Ecker
Ophthalmology
John F. Gipner
Otolaryngology
Benjamin M. Volk
Physical Medicine
Jerome S. Tobis
Preventive Medicine and Public Health
Joseph H. Kinnaman
Surgery
John Burke
Urology
Dean Makowski

These are the new delegates. Gentlemen, we welcome you. I think the freshmen almost have a voting majority if they will get together. (*Applause*)

Is Dr. Irving Pallin here? Is he present in the House?

. . . There was no response . . .

SPEAKER HOLCOMB: If not, is Dr. Vincent Collins here?

DR. VINCENT J. COLLINS, *Section Delegate:* Yes.

SPEAKER HOLCOMB: The chair wishes to make a statement. Dr. Pallin is not here, and Dr. Collins thought he would be unable to come. He left his appointment somewhat you might say on that thought, that he might not be able to be here, and asked for the appointment of a substitute, but the chair wishes to announce that I am reappointing Dr. Vincent Collins if he will serve on the Reference Committee on Miscellaneous Business B. Will you do so, Dr. Collins?

DR. COLLINS: Yes, I will be glad to do so.

SPEAKER HOLCOMB: Thank you, sir.

Section 30

Remarks By the Speaker:

SPEAKER HOLCOMB: Members of the House, at this time your speaker would like to make a few remarks, again renewing my promise of previous years that the virtue of brevity will be observed very keenly.

I also wish to request that, as before, irrelevant and repetitious debate be avoided as much as possible on the floor of the House. I think you all realize that we have a very short time to be together, and debate of that type is not particularly in the interests of conservation of time.

I urge that we have very free discussion on the floor and also that most of you who are interested in the various resolutions and reports that have been referred to the reference committees appear before those reference committees and bring forth your ideas at that time. We find it is much more fruitful of good reports from the chairmen of those reference committees if it is done in that way.

Another matter that I would like to speak about briefly is the fact that I believe when a man accepts the nomination and election as a delegate from his or her county society he takes that with the understanding that he will fulfill the duties and obligations of the delegateship. Sometimes we do receive several, perhaps, notices to the effect that men cannot come this year. I think we received about five or six from one particular county, which I shall not mention, and I told the president of the county society this morning that the substitutions from his particular county reminded me of the last five minutes in a Notre Dame football game when Notre Dame was ahead 42 to 6, and they rushed the substitutes in at the last moment. Dr. Anderton and I spent a lot of time on the telephone trying to get these substitutions made, since they were already published and the reference committees had been formed. I hope in the future if there is any necessity or any urgent things arising, those can't be helped and perhaps are excusable, but if you have an opportunity to let us know at least ten days in advance it would help our work greatly.

Again, I will remind you that Miss Lewis will edit your resolutions and take care of them. Before presenting their reports, also I would appreciate it if the chairmen of the reference committees would report to her for any help. She is very gracious and most efficient.

At this time I believe we shall change a bit from our order of business, and I would like to introduce some of our distinguished guests.

Section 31 (*See 36, 85, 102*)

Introduction of Representatives From Other State Societies

Speaker Holcomb: I believe Dr. William Costello, who represents the Medical Society of the State of New Jersey, is here, and I will ask Dr. Kenney to escort Dr. Costello to the rostrum so he can extend his greetings to us.

. . . Dr. J. Stanley Kenney escorted Dr. William Costello to the rostrum amid applause . . .

Dr. William Costello: Mr. Speaker, ladies and gentlemen of the House, needless to say that this is a distinct pleasure for me to be able to convey the best wishes and congratulations of New Jersey to your House and to wish you a fruitful and profitable meeting.

I think this program was initiated about twenty years ago and was instituted by your House or your Council. I don't know how much benefit New York has derived from this program but we in New Jersey feel that it has been a source of a great deal of help and benefit to us. Our delegates who have come here have come back to us with ideas and thoughts that you have given them in reference to our mutual problems, and certainly we know that the gentlemen that you have sent to us have been very helpful to us in our discussions. You know, of course, that we have many mutual problems that I am not going to go into, but I am here today to learn something about the solution of those. I hope I can derive some benefit from being here, and I know it won't be your fault if I don't; it will be mine.

There is a thought perhaps you don't realize, and that is that your Society is the largest society in the country, the largest state House I think, and anything that New York decides on problems of medicine, whether it is professional, economic, legal, or what have you, is front page news, and your deliberations, and your decisions, and the policies enunciated are followed with considerable interest by all of the other states in the Union. I know they are in New Jersey, because we watch them very carefully.

Going further, I have had the pleasure of having been in contact with your delegates to the American Medical Association for the past ten years, and the same situation exists there. The calibre of the men that you have sent there has put New York out in front, and your thoughts and expressions at those meetings are given a great deal of attention, so it is only natural that our little State of New Jersey would look to you for advice and guidance, which has always been very freely given.

I am not going to take up a great deal of your time. I know that you have a great deal of business. I want to say again that I am hoping to carry back to New Jersey information and so forth in reference to our problems.

Again, I wish to convey to you the congratulations and very best wishes of New Jersey.

Thank you again! (*Applause*)

Speaker Holcomb: Thank you, Dr. Costello!

We have I believe with us one who is also a visitor, and who is always welcome here. He usually tells us about trout fishing. Is Dr. Dexter Davis, from Vermont, here? If he is, I would like to have Dr. Dattelbaum search him out and bring him up to the platform.

I think the chair must have been misinformed.

Dr. J. Stanley Kenney, *Trustee:* He is here somewhere.

Vice-Speaker Williams: He is probably fishing. (*Laughter*)

Speaker Holcomb: Is Dr. Oliver L. Stringfield, of Stamford, Connecticut, here, or Dr. H. M. Marvin, of New Haven?

. . . There was no response . . .

Speaker Holcomb: From Pennsylvania, possibly either Dr. Robert L. Schaeffer or Dr. Elmer G. Shelley is here, or both. If not, we hope to greet them later.

. . . There was no response . . .

Speaker Holcomb: Is Dr. Dorsett L. Spurgeon here from New Jersey?

. . . There was no response . . .

Speaker Holcomb: If any of the delegates hear of these gentlemen from the neighboring states being present, will they please let the speaker know so they can be welcomed.

Section 32 (*See 86*)

Supplementary Report of the President

Speaker Holcomb: The next order of business is to present our very capable president, Dr. Azzari, who has presided over our Council meetings in the Society for the last year in a tremendously able manner.

Will Dr. Winslow please escort Dr. Azzari to the rostrum?

. . . .The delegates arose and applauded as Dr. Floyd S. Winslow escorted Dr. Renato J. Azzari to the platform . . .

President Azzari: Mr. Speaker, members of the House, distinguished guests, ladies and gentlemen, one year ago this month in Buffalo I had the great honor of coming before this House of Delegates to address you as your new president-elect. On that occasion, I outlined very briefly my personal philosophy about the position I was about to undertake and discussed generally some of the important problems which then faced us. During the twelve months which have since passed, I have dedicated myself to the task of fulfilling the office you conferred upon me to the best of my ability. I hope that the results, which have been achieved only through the able assistance and great sacrifices of numerous members of our Society, are entirely satisfactory to you.

I have no intention of dwelling at length upon the many activities we have carried on and the problems we have faced in the past twelve months. These have been summarized and commented upon in my annual report, published in full in the April 1 issue of our New York State Journal of Medicine, reprints of which, I believe, have been distributed to you. If you have not done so already, I urge each of you to study and analyze this report most carefully. I hope that by reflecting upon what was done during the past year you will be in a better position to plan for the coming year.

Allow me, however, on this May morning in 1956 to thank publicly my very capable successor, Dr. James Greenough, for the assistance he has rendered during my term of office. May I also express my deep appreciation to Dr. Anderton, our energetic secretary; the members of the Council; the Board of Trustees; the members of our numerous Council committees, special committees and subcommittees; the Woman's Auxiliary; the State Health Department officials; our own loyal and hard-working staff personnel, and many others too numerous to single out for specific mentioning. To all my coworkers, I am very deeply grateful.

Permit me, also, to express my gratitude to the members of this House for the opportunity of serving as president of our great medical society. My experience has convinced me that if every member of a medical society could serve as an officer there would be less of a problem about disinterested inactive members who seldom attend meetings. The intimate knowledge of the myriad complexities and numerous difficulties involved in running a society which an officer gains is an invaluable experience, for it demonstrates to him that a medical society's activities in the year 1956 must be manned by as many capable, conscientious, hard-working physicians as possible if the organization is to meet the challenges of this atomic age. My heartfelt thanks to you for an experience I shall long cherish and remember.

All of us who have been active in medical organizations know that in the past a small group has managed the basic activities of medical societies. This has led to the unjust criticism that "cliques" and not the majority of the members control medical society organizations. Were it not for the few individuals who have reluctantly but unselfishly assumed the serious obligations of the many disinterested members, government domination of medicine might well be a harsh reality today! The time has come, however, when small groups of devoted physicians falsely labeled "cliques" can no longer adequately and efficiently handle the complexities of modern medical economic problems which face county medical societies today. More men and women must be induced to shoulder their heavy society duties if medicine is to keep abreast of the latest developments and to function as an integral part of modern society, which it should do.

To achieve this end, we should once again place under the microscope, so to speak, the problem of overcoming membership inertia and stimulating active participation in the Society activities. I know that the immediate response of many to this suggestion will be: "We've tried many times but nothing can be done." If, as men of science, we had followed this philosophy in the practice of medicine and had given up hope in the face of obstacles, the present age of "miracle medicine" would never have come into being. Medical history is filled with countless solved problems which once were considered incapable of solution. Let us, therefore, as Society members, follow our professional philosophy of hope and re-evaluate our thinking about this vital problem of membership activation.

One sound approach to the problem is the educating of new members in the rights and duties associated with county society membership. I am certain that a thorough grounding in the fundamental purposes and activities of a society will do a great deal to convert young members into active participants in Society affairs. I therefore strongly recommend that every county medical society in this State take under advisement the feasibility of establishing indoctrination committees. The sole and principal objective of this committee would be to assimilate properly into a county medical society all new members.

Many societies in this State already have formulated and have put into practice indoctrination programs by means of lectures, social gatherings, and other means. To these societies we owe a debt of gratitude for approaching an old problem in a new, progressive fashion. It is my earnest hope that every other county medical society, no matter how large or small, will follow their example in trying to reduce the number of members whose only society activities are paying dues and carrying membership cards.

Recently I read a description of how a county medical society in Erie, Pennsylvania, handled indoctrination. To my mind it is an excellent format by which new members can be inspired to become active members. Here, briefly, are the highlights of the program: A new member is introduced to the membership personally and a brief summary of his attributes and background with his photo is published in the society bulletin. He is also welcomed socially by direct invitation to the doctor and his wife to attend coming social functions. Introductions are made to men of experience who can advise him as to obligations, fees, facilities and help him with his problems. The general public is made aware of the new doctor by releases to the local papers by the public relations committee. Through the speakers bureau, the new physician becomes interested in community groups when delegated to speak before local service organizations who request speakers, such as P.T.A., volunteer firemen, or similar groups. Finally the physician is urged to accept appointment on a committee where his energy and proportionately greater available time can be put to very good benefit.

Through such means as I have just enumerated, we can do much to strengthen the democratic structure of our Society. By increased attendance at meetings, which should be one of the good results, the actions taken by the majority present will reflect more realistically the thinking of our members. In this connection I wish to emphasize once again as I have many times in the past the necessity for carrying out the will of the majority. If a society is to function effectively, the minority even though in opposition should at least refrain from hindering action. Once a decision has been made, the minority whenever possible should be willing to cooperate actively in carrying out the will of the majority for the purpose of promoting the interests of all the members.

While I am on the subject of participation, may I ask you to bring back to your county societies a cordial invitation to play active roles in our coming State Society's sesquicentennial? Many county societies already have celebrated their 150th anniversary this year and others will do so later in 1956. For this reason there may be some reluctance in engaging in another celebration in 1957 when we commemorate our sesquicentennial February 17 to 22.

Perhaps a reminder that the county medical societies were responsible for the birth of our Society, when representatives of those founded in 1806 met in Albany February 3, 1907, for the purpose of establishing the Medical Society of the State of New York, might inspire them to the active participation which we urgently desire.

As we approach the completion of one hundred fifty years, I commend to this House the sage comment of Mr. Winston Churchill, who said, "The longer you look back, the further you can look forward." By bearing in mind the failures as well as the successes which have marked our long life, I hope that you will consider not only the next twelve months but the next twelve years and more in all your decisions. Such long-range planning will be a great step forward in continuing the progress of the past century and a half.

As I, personally, approach the completion of my one-year term of office and the end of these remarks, all I have left to say is thank you from the bottom of my heart and may Divine Guidance direct you in the vital decisions you will be called upon to make in this historic 1956 session of the House of Delegates. (*Applause*)

Speaker Holcomb: Thank you, Dr. Azzari.

This supplementary report of the President will be referred to the reference committee on the President's Report, of which Dr. Philip D. Allen, of New York, is chairman.

Section 33 (See 86)

Report of the President-Elect

Speaker Holcomb: Next on the order of business is bringing to the platform our president-elect, Dr. James Greenough, whom we have all come to regard so highly during these past few years. I think the speaker has known him for as many years as he has been coming here, and that is so long that my wife says it is too long.

Dr. Greenough, I will ask Dr. Latcher, of Oneonta, Otsego County, to escort you to the rostrum.

. . . The delegates arose and applauded as Dr. John W. Latcher escorted Dr. James Greenough to the platform . . .

President-Elect Greenough: Mr. Speaker, fellow delegates and distinguished guests, you have conferred upon me a great honor and at the same time a great responsibility. In accepting this high honor, I pledge that I will do my utmost to discharge the responsibilities of the office of president during the coming year, so that to some extent you may feel that I have measured up to my predecessor, Dr. Renato Azzari, in maintaining the traditions of this Society.

This year is a milestone in the history of the Medical Society of the State of New York. As you all know, we are planning to celebrate the one hundred and fiftieth anniversary of the founding of our Society. It will be an occasion when we should review the efforts and accomplishments of New York State physicians toward the improvement of health, the easement of pain, and the lengthening of life of our citizens during these one hundred and fifty years. At the same time we should consider what further advances we and our descendants may accomplish in the years to come.

At the zenith of our anniversary celebration next February, I am sure the past activities of our Society will be ably described. This morning I want to present to you a few proposals which, I believe, will enable us to serve our citizens better as the years pass.

I could review, in detail, the foremost problems which face several, if not all, of the committees of this House, of the Council, and of the Board of Trustees. Within the next three days, the House's reference committees will review the past actions of every committee and officer, and, after careful deliberation, will make recommendations for the program to be carried out next year. What detailed suggestions I might make regarding future planning for each committee would be of little value compared to the careful considerations this House will devote to all the multitudinous activities our Society undertakes.

The House of Delegates, representing as it does each component of our Society, must, in three out of the three hundred sixty-five days in the year, formulate its desires in a very brief period of time. Between annual meetings, the House, as you know, delegates to the Council the duty of managing the affairs of the Society and the carrying out of its mandates. In turn, the House of Delegates, the Council, and the Trustees delegate to some sixty-odd committees, comprising about 500 members of the Society, the detail work which is necessary to enable any society as large as ours to function efficiently.

Your committees, in my opinion, constitute the vital force which is responsible for the success or failure of our Society. These committees might be divided into three groups—administrative, economic, and scientific. But in whatever way we classify them, the activities of our Society can be separated into internal and external components. In other words, it is an important principle that our affairs be so managed internally that the Medical Society of the State of New York is a functionally strong, cohesive unit. It is equally vital and important that our united Society provides inspired leadership to help the citizens of our State secure the best medical services to prevent disease and to treat illness. Our Society should be the organization which interprets to the public their health needs; points out how these needs may be satisfied; explains new advances in medicine and shows how these advances may be utilized; works to reduce abuses in medical care, such as cultism and quackery, which harm the public and, finally, tries to clear up people's confusion regarding medical affairs.

Let me quote Article I of the Constitution of the Medical Society of the State of New York: "The purpose of the Society shall be to federate into one organization the medical profession of the State of New York; to extend medical knowledge and advance the science and art of medicine; to promote the betterment to public health; and to enlighten and direct public opinion in regard to the problems of medicine and health for the best interests of the people of the State."

To develop a strong united medical society we must arouse in our members a true interest in their Society. It is a long, devious path from our county medical societies, to the House of Delegates, to the Council and Trustees, and finally to the committees manned by volunteers who work diligently and sacrifice time and money in serving their fellow members. Many times the only reward for a hard-working committeeman is criticism, possibly deserved, but almost always completely unjustified.

How can we bridge the gap and foster understanding between our members and the committees which are working for them? The committee reports are in the JOURNAL, which publishes the minutes of the Council and the annual reports. But let us be realistic and ask, "How many busy doctors read them?" Some information from the central office appears in the *Newsletter* and some in letters to county societies officers. Let's face the facts. These channels do not reach the men who should know what is going on.

The best way to meet criticism is to put the critic on the committee he criticizes. Take the *Directory*, for example. It is chronically the target of suggestions that it be abolished, that its cost be reduced, that it be published at greater intervals, yet each new member of a committee which is related to the production of the *Directory* changes from a critic to a hard-working committeeman. After exploring all methods of satisfying the desires of the members, he realizes that everything possible is being done to produce a satisfactory *Directory* at the lowest cost possible. When the report to the House states that each publication of the *Directory* every two years costs $120,000, or $60,000 a year, it seems high. Do you realize, however, that the cost to each member for the directory is only $4.32 biennially, or $2.16 a year?

If we can demonstrate to our members what their State Society committees are doing, we should be able to change derogatory criticism to informed, constructive suggestions. Our district branch meetings appear ideal for this purpose. I propose that each year at the district branch meetings, two or three of our committees or groups of committees prepare round table discussions of their work. These committees could be rotated each year. The functions and aims of the committee should be carefully explained. The meeting could then be thrown open to general discussion, questions answered and suggestions made. In this way, many more members could learn what their committees are doing and why certain actions have been taken. Many valuable thoughts and new ideas might be presented which would improve committee functioning. Those who took part in round table discussions could return to their county societies with authentic information in regard to State Society committee work.

For the past three years the Legislation Committee has held local informal meetings throughout the State. The work of the committee was brought to the local level with very beneficial results. Last year one district branch meeting presented committee round table discussions which attracted a large attendance, and a marked interest was noted. It should be possible to develop this type of program in most if not all districts.

By improving the contacts between our Society committees and our members, the internal structure of our Society would be greatly strengthened. Much misunderstanding would be resolved. The committees work would be improved and many more members would develop a proprietary interest in their State Society and its functioning.

The Planning Committee for Medical Policies is at present, by direction of this House, studying the committee set-up with the objective of making it more effective. This study should be continued. Present and future suggestions of this committee should be carefully studied and, if found sound, should be adopted.

Our Society needs a home of its own. Funds have already been set aside toward the purchase of a permanent headquarters. Renting is unsatisfactory and expensive. The present space is inadequate. In a building of our own, with ample space, we would not have to hold Council meetings outside of our headquarters. Our loyal, hardworking office staff of about 70 persons would function with greater efficiency. We should press forward to a rapid, successful conclusion of our efforts to purchase a permanent headquarters.

I have mentioned our loyal office staff. Only a few of us who are intimately associated with the activities of the staff realize how much work is quietly and efficiently done in the office. Over half our employes have been with us for more than seven years. We owe these workers security. I hope the House will enact some pension system at this session.

I have outlined a program which I believe will "federate into one organization the medical profession of the State of New York." By following this program I am sure that we can manage our internal affairs so that the Medical Society of the State of New York will become a functionally stronger and more cohesive unit.

With this stronger, more cohesive Society let us consider how we may fulfill, in greater measure, the other definitions and purposes of our Society to "extend medical knowledge and advance the science and art of medicine; promote the betterment of public health; and enlighten and direct public opinion in regard to the problems of medicine and health for the best interest of the people of the State."

We not only have a duty to adhere to these precepts of our Constitution; we have great opportunities to help our fellow citizens. Consider some of these opportunities.

To be sure, organized medicine developed voluntary prepaid medical care insurance. But we have not gone far enough. We should work increasingly toward the unification of our Blue Shield plans so that we can provide State and nationwide coverage. We should also strive to provide total care with our plans. When someone buys insurance against the cost of illness he wants his bills paid when he is sick. If he is charged extra for one item after another, he is naturally disappointed. Blue Shield coverage is aimed at the person with moderate income. Let us work to the end that such an individual receives total care by service benefits. Under this coverage we can provide better medical care. This is one great opportunity which we should grasp.

Consider our relations with labor. Labor wants to derive, from the product it makes, funds to give its members and their families the best of medical care. More and more "fringe" benefits are producing these funds. We should be vitally concerned in the manner in which these funds are spent. We do not believe that the best care will be obtained by employing individual physicians on a panel basis. But, alas, as a Society we have done little if anything to cooperate with labor in its justifiable aim to attain medical care of high quality. For four years we have been floundering in our efforts to establish a Bureau of Industrial Medicine. It is high time that we stopped procrastinating. We should start this bureau at once and begin a cooperative effort with labor to resolve each other's problems, even though it may increase our appropriations. Let us not lose this great opportunity to show thousands of our citizens that the medical profession is primarily interested in the quality of medical care and that the economics of medical practice is a secondary consideration.

Let me point out another of the activities important in our external relations. This is the opportunity to improve medical care through the Blood Banks Association, which is a purely altruistic project in which we have already invested much time and money. Certain local areas of our State appeared to have inadequate blood resources. We have pioneered in providing new methods for procurement of blood. We have demonstrated that adequate blood for treatment of patients could become available where it did not exist at the local level. The Association has the profound gratitude of the citizens and the physicians in the areas where it has functioned. Our Society has no desire to compete with existing agencies but we must strive to provide blood to all communities without adequate blood supplies. Cooperation between all blood procurement programs must be developed. You will see by studying the report of your Blood Banks Commission that the Blood Banks Association is approaching solvency. Let us continue our sponsorship of the Blood Banks Association. It is proof of our interest in promoting better medicine.

Our government wants our cooperation in the care of the dependents of our armed forces. It is prepared to finance this care if we will agree to provide it. Can we in any better way relieve those who are protecting us in military service from anxiety for the health of their families than by providing them with the highest quality of medical care? This is a real opportunity for us to serve our country.

In this State we have an excellent Department of Health, led by a member of this House. For many years there has been close cooperation between our Medical Society and the Department of Health. In the minds of many of our members there appears to be some suspicion of public health as a modified form of socialized medicine. Let us correct this false idea. There is no line of demarcation between public health and private practice. There are broad areas where public health must function. There are areas where the private practitioner must work. Take tuberculosis, for example. Years ago it was treated by the private physicians. Its threat to the health of the community forced its treatment into the Health Department. Decrease in the disease and improvement in its treatment is again gradually returning the tubercular patient to his private physician. Let us strive for continued close cooperation with the Health Department. By united effort we have another opportunity to improve the health of our community.

I have tried to indicate how we may strengthen our Medical Society from within so that we may be in a better position to seize the opportunities which present themselves to give better service to our communities. I have pointed out a few of those opportunities. Will you in your deliberations bear in mind what I have said? Will you remember also that as we improve our community service, we are also building better public relations for our profession by deeds rather than words?

I promise, in the coming year, to carry out your mandates to the best of my ability. I can only hope that a year from now you will feel that I have done my best for the Medical Society of the State of New York. (*Applause*)

SPEAKER HOLCOMB: Members of the House of

Delegates, I think you will all agree that that is a very constructive and challenging report. It will be referred to the reference committee on the President's Report, of which Dr. Philip D. Allen, of New York, is chairman.

Section 34 (See 88)

Presentation of Scroll in Absentia to the Distinguished General Practitioner of the Year

Speaker Holcomb: The next on the order of business is the presentation of a scroll to the outstanding general practitioner of New York State for the year 1955.

This award is made annually by the State Society's governing body, the Council, which considers candidates submitted by county medical societies. When this outstanding practitioner has been selected, his name is presented to the American Medical Association for consideration as the outstanding practitioner of the country. This year the Council voted to extend this award to Dr. James H. Bennett, of Baldwinsville.

Dr. Bennett has had a very interesting career. His mother's ancestors were the first white settlers in the town of Van Buren. He was born in Camillus in 1909. He was valedictorian of the graduating class of 1925, Solvay High School, which was a good start, and after graduating from Syracuse University he entered its College of Medicine in 1929. After a one-year rotating internship at Syracuse Memorial Hospital, he entered practice in Baldwinsville in 1934. He has served on the courtesy staff of Syracuse Memorial Hospital and has been a member of the courtesy staff of Lee Memorial Hospital, Fulton.

In recognition of his untiring efforts in behalf of the general practice movement, Dr. Bennett was awarded a plaque last July by the Onondaga County Chapter of the New York State Academy of General Practice, which he led as president, in 1950–1951. He is now acting as honorary president of the New York State Health Officers Association and is a member of an advisory committee to the Commissioner of Health on local health problems.

Dr. Bennett has always been very active in his community and in its various service clubs. He has served as a director in the bank, and, by the way, it says here he is a good Episcopalian.

During twenty-one years of active practice, Dr. Bennett delivered more than 2,500 babies without a maternal death, which is a very wonderful record. Also, during this time, there were no cases of diphtheria nor were there any deaths from tetanus or other preventable diseases in his community.

Dr. Bennett is at present in retirement, but is still a member of a long-range planning commission for the Village of Baldwinsville, greatly interested in school affairs and in many civic programs in the county.

The chair regrets to report that Dr. Bennett is quite seriously ill at this time and was unable to come to the meeting to receive his award. I have asked Dr. Street, of Onondaga County, to come to the rostrum and receive the citation in his behalf and perhaps carry it to him if he can.

The Medical Society of the State of New York presents this certificate to Dr. James H. Bennett in recognition of his selection by the Council as the outstanding general practitioner of New York State for 1955. This is signed by Dr. Azzari and Dr. Anderton.

Dr. W. Walter Street, *Onondaga:* Mr. Speaker, on the part of the Onondaga County Medical Society and particularly on account of Dr. Bennett, we wish to thank you and accept this award.

Dr. Bennett through the years of a very busy practice has achieved the highest regard among his fellow doctors, among his patients, and among the leaders in the community.

Coming, as this award does, at a time when his active medical career is closing, it represents a crowning event in his professional life.

Again, we thank you. (*Applause*)

Speaker Holcomb: Thank you, Dr. Street, and I hope you will convey our very best wishes and our hopes for a speedy recovery to Dr. Bennett.

Section 35

Presentation of Scroll Citation to Dr. Rufus Baker Crain

Speaker Holcomb: Next in the order of business is the presentation of the Citation for Outstanding Service to the Physically Handicapped. This award by the President's Committee on Employment of the Physically Handicapped has been awarded by the Council of the Medical Society of the State of New York to Dr. Rufus Baker Crain, of 343 State Street, Rochester.

Dr. Crain was a graduate of Albany Medical College in 1913. He served in World War I, receiving a decoration for his bravery in service. During the greater part of his professional career Dr. Crain has devoted himself to the field of industrial medicine and rehabilitation. He worked full-time with the Eastman Kodak Company in Rochester and retired in 1955. For many years he has been active in civic matters, and he is the author of various publications on heart disease. He is chairman of a committee on rehabilitation and occupational guidance of the New York State Heart Assembly and a member and former chairman of the heart committee in Rochester. He has also directed students in industrial medicine and atomic energy research.

I will ask Dr. Azzari if he will escort Dr. Crain to the rostrum and there present this award to Dr. Crain.

. . . President Azzari escorted Dr. Crain to the rostrum amid applause . . .

President Azzari: Dr. Crain, on behalf of the Medical Society of the State of New York and the President's Committee on Employment of the Physically Handicapped, I am very happy to present to you this citation for outstanding service. (*Applause*)

Dr. Rufus Baker Crain: Thank you very much!

I want to thank Dr. Azzari, the Speaker, and the members of the House of Delegates for this signal honor. It is a stimulus for me to go further with this work.

Thank you! (*Applause*)

Section 36 (See 31, 85, 102)

Introduction of Representatives From Other State Societies

Speaker Holcomb: At this time I understand by the underground, namely my vice-speaker, that Dr. Davis has been located. He has been separated from his trout pole, and he is ready to come up and give us a report on the various activities in Vermont. Dr. Dattelbaum, one of his Brooklyn friends, will bring him to the rostrum.

. . . Dr. D. Dexter Davis was escorted to the rostrum by Dr. Maurice J. Dattelbaum amid applause . . .

Dr. D. Dexter Davis: Mr. Speaker, members of the Medical Society of the State of New York, ladies and guests, I bring you greetings from the State of Vermont, from their Medical Society, and we hope you have a very productive meeting.

I can't invite you fishing this year. We have had too darn much snow this winter, and every stream is full to the top so you can't get near them; therefore, you will have to wait until next year.

I was going down on the elevator last night when three of your illustrious delegates got in. I was standing in the back of the elevator with my wife, and one looking over the heads of those in the elevator said, "Hi, Vermont! Well, at least we will hear a story in the morning." (*Laughter*)

That upset me very much, because you know when I was here in your midst I was the chairman of your scientific committee and ran the sections and took care of the papers, and so forth, as Miss Dougherty will testify. She used to have to keep after me all the time. So I thought it all over, and I decided I am not going to tell you a story, but I want to tell you one thing, and that is that Vermont is not very far away. You think of me as coming from a long distance, but I left home in old Bennington yesterday at half past one, and I was registered here at about quarter past five, so you see it is not very far. The mothers in Vermont now, when the circus is in town, all get on the train in the morning in Vermont and bring their children to the circus, and they are back home and the kids are in bed by nine o'clock, and that is by train, so you see we are not too far away.

I wish you the best of success. We are holding our annual meeting this year as a combined meeting with the State of New Hampshire—the State of Vermont and the State of New Hampshire—and we are holding it at Portsmouth-by-the Sea, so if you want a good three-day vacation the last week in September just let me know.

Thank you! (*Applause*)

Speaker Holcomb: I think we might remark that if Dr. Dexter Davis was born in Brooklyn he certainly worked hard at acquiring a New England accent since he has been away.
(*Laughter*)

Section 37

Introduction of Supplementary Reports and Resolutions

Speaker Holcomb: The next order of business is that the floor will now be open for the introduction of supplementary reports and resolutions.

Are there any supplementary reports to be introduced at this time?

. . . There was no response . . .

Speaker Holcomb: You all have your resolutions before you in your folders. Will you open your folders please? We find it will not be necessary for the delegates to present these resolutions from the rostrum since they will be referred to the proper committees, and if you will note on the various resolutions to which reference committees I will refer them I will read them slowly so as to give you plenty of opportunity to make the proper notations:

Section 38 (See 110) Resolution 56-1

Payment for Diagnostic Study by Blue Cross and Blue Shield Plans

Introduced by Medical Society of the County of Richmond

> Whereas, diagnosis is fundamental in the proper management of disease; and
>
> Whereas, there is inadequate provision for such services in the Blue Cross and Blue Shield plans; and
>
> Whereas, in order to receive payment for diagnostic services, Blue Shield physicians must (under pressure from their patients) admit these otherwise ambulatory patients to hospitals, thus occupying beds sorely needed for truly ill people and thereby creating unnecessary overloading in the hospitals, and expense; now therefore be it hereby
>
> *Resolved*, that the Medical Society of the State of New York request the Blue Shield and Blue Cross plans within the State to insure their subscribers against the cost of diagnostic survey in or out of hospitals; and be it further
>
> *Resolved*, that Blue Shield plans be requested to provide proper remuneration to the physician for such essential services.

Referred to reference committee on Report of Council, Part VII, having to do with Economics, Medical Care Insurance, Public Medical Care, of which Dr. Leonard J. Schiff, of Clinton, is chairman.

Section 39 (See 111) Resolution 56-2

Fee to Qualified Medical Specialists by Blue Shield

Introduced by Medical Society of the County of Richmond

> Whereas, general practitioners, on the one hand, and qualified specialists in the fields of internal medicine and its various subspecialties

and pediatrics, on the other, are the same in Blue Shield; and

WHEREAS, this fails to recognize the training and experience of these qualified specialists; and

WHEREAS, this places these specialists in direct competition with the general practitioner, a situation to be decried; now therefore be it hereby

Resolved, that the House of Delegates of the Medical Society of the State of New York recommend to Blue Shield plans that the fee allowed a specialist by them for in-hospital medical services be on an indemnity basis.

Referred also to reference committee on Report of Council, Part VII, of which Dr. Leonard J. Schiff, of Clinton, is chairman.

Section 40 (See 112) Resolution 56-3

Fees for Medical Care of Blue Shield Insurees

Introduced by MEDICAL SOCIETY OF THE COUNTY OF RICHMOND

WHEREAS, the present fees for Blue Shield insurees are $4.00 per day for the first twenty-one days; and

WHEREAS, there is extension of Blue Shield service benefits to higher income groups and to ever more subscribers; and

WHEREAS, the larger part of a physician's income may eventually emanate from such sources; and

WHEREAS, such payments for even the twenty-one day period (a long one for most medical illnesses) are considerably below remuneration to physicians in the surgical specialties and that received by physicians in their private practices; and

WHEREAS, the present small fees tend to widen the gulf between the income of the general practitioner and surgeons, creating ever more friction within our ranks; now therefore be it hereby

Resolved, that the Medical Society of the State of New York urge the Blue Shield plans in the State to insure purely medical payments to physicians to an appropriate figure more commensurate with the value of the service rendered, $10 for the first day and $6.00 per day for twenty-one days.

Also referred to reference committee on report of Council, Part VII, of which Dr. Leonard J. Schiff, of Clinton, is chairman.

Section 41 (See 113) Resolution 56-4

Consultation Fees in Blue Shield

Introduced by MEDICAL SOCIETY OF THE COUNTY OF RICHMOND

SPEAKER HOLCOMB: Am I going too rapidly for you?

CHORUS: No.

SPEAKER HOLCOMB: Number 56-4.

WHEREAS, it is axiomatic in the practice of medicine that consultation between physicians representing various disciplines adds to the sum total of knowledge and directly benefits the patients; and

WHEREAS, such consultations are counted by the Joint Commission on Accreditation of Hospitals as an index of a hospital's efficiency, thereby emphasizing their value; and

WHEREAS, consultants must spend years of study and experience to qualify themselves as experts in their respective fields of medicine; and

WHEREAS, there is extension of Blue Shield benefits to an ever larger portion of our population through increased service benefits and to ever higher income brackets and to ever more subscribers; now therefore be it hereby

Resolved, that the Medical Society of the State of New York actively endorse the following: a fee of $25 for such consultations when they are requested by attending physicians; additional consultations up to a limit of six at a reduced rate or a maximum of three per week at a reduced fee; such fees to be paid by the Blue Shield plan.

Also referred to reference committee on Report of Council, Part VII, Economics, Medical Care Insurance, Public Medical Care, of which Dr. Leonard J. Schiff, of Clinton, is chairman.

Section 42 (See 93) Resolution 56-5

Objection to Certain Advertising in New York State Journal of Medicine

Introduced by DR. B. M. BERNSTEIN, *Kings*, as an individual

WHEREAS, the NEW YORK STATE JOURNAL OF MEDICINE has been selling advertising space to a lay-sponsored, publicly acclaimed product called Bufferin; and

WHEREAS, the *Journal of the American Medical Association* has published an article extolling the superiority of Bufferin (not aspirin plus added ingredients) over aspirin (not acetyl salicylic acid); and

WHEREAS, such use of the pages of our membership-supported state and national medical journals is obviously detrimental to the best interests of accepted medical practice; and

WHEREAS, such sponsorship by our own medical publications increases the tendency to self-medication: and

WHEREAS, such a practice if permitted to continue could conceivably lead to the sponsorship by our medical journals of proprietary products; now therefore be it hereby

Resolved, that this House of Delegates completely disapprove such advertising practices by the NEW YORK STATE JOURNAL OF MEDICINE and such publication by the *Journal of the American Medical Association* and urge immediate discontinuance; and be it further

Resolved, that the delegates to the House of Delegates of the American Medical Association from this House of Delegates of the Medical Society of the State of New York introduce a similar resolution at the next meeting of the American Medical Association conveying such disapproval.

We will refer that resolution to the reference committee on Report of Council, Part XI, Publication and Public Relations, Dr. Felix Ottaviano, of Franklin County, chairman.

Section 43 Resolution 56–6

Representation in House of Delegates

Introduced by Dr. B. M. Bernstein, *Kings*, as an individual

Whereas, representation from the county medical societies to the House of Delegates of the Medical Society of the State of New York should be based on the relation of the membership of the county medical society to the total membership of the State Society; and

Whereas, study of the representation as now constituted shows great disparity in the delegations from counties to the State between "upstate" and "downstate"; and

Whereas, the question of the necessity for representation from the various scientific sections to this House of Delegates is open to discussion; and

Whereas, the matter of representation from the district branches can likewise be considered a subject for study; and

Whereas, we are fully cognizant of the numerous problems involved and believe that order and justice and equity should prevail; now therefore be it hereby

Resolved, that the Speaker of the House, with the advice of the Council, be authorized to appoint a special committee to study this problem, with instructions to report its findings and recommendations at the next meeting of this House of Delegates in 1957.

This will be referred to the special committee, consisting of Dr. Aaron, Dr. Reuling, and Dr. Gamble, with instructions to report to the House of Delegates in 1957; that is a special committee on study of Constitution and Bylaws.

Section 44 (See 150) Resolution 56–7

Medical Staff Bulletin Boards

Introduced by Dr. Samuel Leo, *Bronx*

Whereas, it has been the practice of hospitals to include on their medical staff bulletin boards only the names of duly licensed doctors of medicine and doctors of dentistry; and

Whereas, an attempt is now being made by others than duly licensed doctors of medicine and doctors of dentistry to have their names included on such staff bulletin boards; now therefore be it hereby

Resolved, that those responsible for the administration of all hospitals—voluntary, municipal, and proprietary—be requested by the Medical Society of the State of New York to continue the practice of listing on the medical staff bulletin boards only the names of duly licensed doctors of medicine and doctors of dentistry.

That will be referred to Council Part VI, having to do with Medical Licensure and Medical Service, Hospital and Professional Relations, Dental Health, of which Dr. Sol Axelrad, of Queens County, is chairman.

Section 45 Resolution 56–8

Amendment to Constitution and Bylaws of State Society Providing for "Life Membership"

Introduced by Dr. George Howley, *Bronx*

Whereas, under the Constitution and Bylaws of the Medical Society of the State of New York, a member over seventy years of age, wishing to avail himself of the waiver of dues and assessments, must apply for "retired" membership; and

Whereas, the term "retired" implies a cessation from active practice; and

Whereas, many members over seventy years of age and engaged in active practice feel reluctant to apply for retired membership because of this implication; now therefore be it hereby

Resolved, that Chapter I of the Bylaws of the Medical Society of the State of New York be amended by adding Section 8 which will read: "any physician reaching the age of seventy who has been a member in good standing of the Medical Society of the State of New York for thirty consecutive years may *ipso facto* have the privilege of applying for life membership. All such applications shall be signed by the President and Secretary of the County Society of which the applicant is a member and sent to the secretary of this Society for presentation to the House of Delegates. An active member desiring to become a life member shall apply for such membership to the component County Society of which he is a member. Such applications shall be governed by the constitution and bylaws of the component County Society. Life members shall not be subject to dues or assessments but shall be accorded all the rights and privileges of active membership except holding office"; and be it further

Resolved, that Article II of the Constitution of the Medical Society of the State of New York be amended to provide for a fifth class of membership by adding to it the designation "(e) Life" and shifting its final period to follow the word "Life."

That is referred to Dr. Aaron's Special Committee on Constitution and Bylaws for report in 1957.

I might also remind the House of Delegates that the Planning Committee is making a study on certain phases providing for retirement or life membership.

Section 46 (See 90) Resolution 56-9

Commendation for "Medicine at Midnight" Broadcasts

Introduced by DR. SAMUEL WAGREICH, *Bronx*

WHEREAS, the Monday night broadcasts of Tex and Jinx McCrary over radio station WRCA have presented discussion on medical topics on a high plane of adult intelligence; and

WHEREAS, these broadcasts are a method of diffusion of medical information to the general public which is a distinguished contribution to the common good; and

WHEREAS, in all instances Tex and Jinx have cooperated wholeheartedly with the medical profession in presenting doctors as public-spirited citizens who are a credit to their community, anxious to do all within their power for the general welfare; and

WHEREAS, the Bronx County Medical Society has recorded its appreciation of the distinguished achievements of Tex and Jinx McCrary in radio broadcasts on medical subjects which are of great value in educating the public; now therefore be it hereby

Resolved, that Mr. and Mrs. McCrary be informed by our secretary of the appreciation of the doctors of this State for their important contribution to the general welfare by such broadcasts.

That is referred to reference committee on Report of Council Part XI, Publication and Public Relations, of which Dr. Felix Ottaviano, of Franklin, is chairman. Dr. Warren felt he was unable to carry on as chairman but asked to serve on the committee with someone else assuming the chairmanship, which request we felt should be granted.

Section 47 (See 124) Resolution 56-10

War Memorial Fund

Introduced by DR. THOMAS F. MCCARTHY, *Bronx*

WHEREAS, the War Memorial Fund was established for one purpose only—to provide funds to further the education of children of members of the Medical Society of the State of New York who gave their lives in service during World War II; and

WHEREAS, the amount of money allocated for this purpose by the Fund is obviously inadequate to pay the tuition of a college student in this period of inflation; and

WHEREAS, the committee chairman, in his report on the Fund, invites direction by the House of Delegates in this matter, after calling the attention of the members to an anticipated surplus in 1974 of nearly $96,000; now therefore be it hereby

Resolved, that this House of Delegates of the Medical Society of the State of New York direct the Committee on the War Memorial Fund as follows:

1. To include children of members who died in service during the recent police action in Korea; and
2. To increase the allowance to a maximum of $900 a year or an amount that will as completely exhaust the Fund as advisable at the end of the projected time for its use.

That resolution is referred to the reference committee on Reports of the Treasurer and War Memorial, of which Dr. John F. Rogers of Dutchess County, is chairman.

Am I going too rapidly?

CHORUS: No.

Section 48 (See 99) Resolution 56-11

Second Hoover Commission Report

Introduced by DR. GEORGE HOWLEY, *Bronx*

WHEREAS, the recommendations of the Second Hoover Commission as they pertain to Federal medical services meet with the approval of the medical profession; and

WHEREAS, numerous bills have been introduced to implement the recommendations of the Hoover Commission, but there has been a notable absence of legislative activity on the recommendations of the Commission pertaining to Federal medical services; now therefore be it hereby

Resolved, that the Medical Society of the State of New York support measures to implement these recommendations and urge enactment into law of the purpose and aims of this report of the Hoover Commission as it pertains to Federal medical services.

That is referred to the reference committee on Report of Council, Part IX, Legislation, of which Dr. Samuel B. Burk, of New York, is chairman.

Section 49 (See 70, 101) Resolution 56-12

Taking Blood for Alcoholic Testing

Introduced by DR. GEORGE A. BURGIN, *Herkimer*

WHEREAS, the medical profession is very desirous of cooperating fully in solving the problem of drunken driving; and

WHEREAS, physicians in New York State are constantly being called upon by police officials to take blood from persons unknown to them for the purpose of alcoholic blood tests; and

WHEREAS, the legal counsel of the Medical Society of the State of New York has given an opinion that in many such instances a physician would have little or no protection at law, since his malpractice insurance would not protect him; now therefore be it hereby

Resolved, that this House of Delegates recognize the legal and financial danger that exists; and be it further

Resolved, that this House of Delegates hereby instruct the Council of the Medical Society of the State of New York to take such action as is necessary to secure protection for members of our Society through legislation or other means; and be it further

Resolved, that this House of Delegates recommend that no New York State physician take blood for alcoholic testing purposes until adequate protection against liability is provided for the physician.

That resolution is referred to reference committee on Reports of Malpractice Insurance and Defense Board and Legal Counsel, of which Dr. Frank LaGattuta, of Bronx, is the chairman.

DR. PETER M. MURRAY, *New York:* What number?

SPEAKER HOLCOMB: It has no number.

Section 50 (See 136) Resolution 56–13

Settlements in Malpractice Suits

Introduced by DR. GEORGE A. BURGIN, *Herkimer*

> WHEREAS, the cost of malpractice insurance for the medical profession is continually increasing; and
>
> WHEREAS, it is felt that an appreciable portion of the cost represents settlements made when the physician *is in no way* guilty of malpractice; now therefore be it hereby
>
> *Resolved*, that this House of Delegates condemn this practice; and be it further
>
> *Resolved*, that this House of Delegates instruct the Indemnity Representative, the Counsel, and the Malpractice Insurance and Defense Board that such settlements are henceforth to be eliminated.

That is also referred to the reference committee on Reports of Malpractice Insurance and Defense Board and Legal Counsel, of which Dr. Frank LaGattuta, of Bronx, is the chairman.

Section 51 Resolution 56–14

Election of a Retired Member

SPEAKER HOLCOMB: The next resolution 56–14 I feel it would not be best to refer this. I will ask Dr. Anderton to read it to you, and then request the House to pass it by a voice vote. I believe it can be done that way if you agree.

CHORUS: Right.

SECRETARY ANDERTON: Reading:

Introduced by DR. JOHN F. KELLY, *Oneida*

> WHEREAS, Dr. Frederick T. Owens, 2801 Dunham Road, Utica, formerly a member in good standing of the Medical Society of the County of Oneida, has been permanently disabled since 1954; and
>
> WHEREAS, his disability was not officially communicated to the Medical Society of the County of Oneida until 1956; and
>
> WHEREAS, Dr. Frederick T. Owens on March 13, 1956 was elected to retired membership in the Medical Society of the County of Oneida; and
>
> WHEREAS, Dr. Frederick T. Owens' 1955 county medical society dues have been remitted; now therefore be it hereby
>
> *Resolved*, that Dr. Frederick T. Owens is hereby elected a retired member of the Medical Society of the State of New York as of December 31, 1954.

SPEAKER HOLCOMB: Will someone move the adoption of that resolution by the House?

DR. BEN A. BORKOW, *Kings:* I so move.

DR. ARTHUR F. GAFFNEY, *Oneida:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 52 (See 91) Resolution 56–15

Guide for Cooperation Between the Medical and the Legal Profession

Introduced by DR. LEONARD J. SCHIFF, *Fourth District Branch*

> WHEREAS, medicine and law are two professions that must frequently work together for the best interests of patients and clients; and
>
> WHEREAS, there is a need for greater understanding and cooperation between these two professions; and
>
> WHEREAS, the Guide for Cooperation between the medical profession and the various media of public information, which has been developed by the Committee on Public Relations, has been an outstanding success; and
>
> WHEREAS, several state medical societies have adopted codes of cooperation with the legal profession; now therefore be it hereby
>
> *Resolved*, that the Medical Society of the State of New York develop a guide for cooperation with the legal profession; and be it further
>
> *Resolved*, that the Council be requested to take appropriate action.

I believe this should be referred to the reference committee on Report of the Council, Part XI, having to do with public relations, of which Dr. Felix Ottaviano, of Franklin County, is chairman.

Section 53 (See 140) Resolution 56–16

Interpretation of Definitions of "Unprofessional Conduct"

Introduced by MEDICAL SOCIETY OF THE COUNTY OF QUEENS

> WHEREAS, the medical profession in New York State is directly concerned with a new subdivision added to Section 30 of Article II of the regulations of the Board of Regents of the University of the State of New York, such new subdivision to be subdivision 4, which defines "unprofessional conduct in the practice of medicine"; and
>
> WHEREAS, the practitioners of medicine in New York State must be aware of the definitions in subdivision 4 which have been added to Section 30 of Article II; and
>
> WHEREAS, several of the definitions are worded ambiguously thereby making interpretation by practitioners of medicine extremely difficult; now therefore be it hereby
>
> *Resolved*, that the Medical Society of the State of New York through its Council and House of Delegates strongly recommend to the Board of Regents of the University of the State of New York that changes be effected in definitions a, h,

and j of Section 30, subdivision 4 of the amendment to Article II of the Regulations, as follows:

1. that definition a of Section 30, subdivision 4 which now reads: "The failure or refusal of a physician, without adequate cause, to render, or provide another physician to render, necessary medical attention to any patient under his immediate care," *shall be changed to read:* "The failure or refusal of a physician, without adequate cause, to render, or arrange to have another physician render, necessary medical attention to any patient under his immediate care";
2. that definition h of Section 30, subdivision 4, which now reads: "Performance of a complete or partial autopsy on a deceased person without lawful authority," *shall be changed to read:* "Knowingly or willfully performing a complete or partial autopsy on a deceased person without lawful authority";
3. that definition j of Section 30, sudivision 4, which now reads: "Willful omission to file or record, or willfully impeding or obstructing the filing or recording of required reports, or inducing another medical practitioner or other person to omit to file or record such reports," *shall be changed to read:* "Willful omission to file or record, or willfully impeding or obstructing a filing or recording, or inducing another medical practitioner or other person to omit to file or record, reports required by law to be filed or recorded."

That resolution is referred to the reference committee on Report of Constitution and Bylaws Committee of Council and Questions of Ethics of which Dr. William E. Pelow, of Onondaga, is chairman. That is not the Special Committee on Constitution and Bylaws, but the reference committee on Report of Constitution and Bylaws Committee of the Council, of which Dr. Pelow is chairman.

Section 54 (See 141) Resolution 56–17

Suggested Amendment to Principles of Medical Ethics of American Medical Association

Introduced by MEDICAL SOCIETY OF THE COUNTY OF QUEENS

WHEREAS, the Principles of Medical Ethics of the American Medical Association are stated in more general terms than the *Principles of Professional Conduct* (or ethics) of the component state medical societies; and

WHEREAS, differences in local custom and practice often make it necessary for the *Principles of Professional Conduct* (or ethics) of the component state society to be more specific and stringent than the Principles of Medical Ethics of the American Medical Association; and

WHEREAS, the enforcement of the component state society's *Principles of Professional Conduct* (or ethics) is a function of the state medical society; and

WHEREAS, appeals by members against decisions of the component state society are only subject to review by the Judicial Council of the American Medical Association when questions of law or procedure are involved; now therefore be it hereby

Resolved, that the delegates to the American Medical Association from the Medical Society of the State of New York be instructed to introduce the following resolution at the meeting of the House of Delegates of the American Medical Association in June, 1956:

> "*Resolved*, that the Principles of Medical Ethics of the American Medical Association be amended so as to add to Chapter I which deals with 'General Principles' a section 12 which should read as follows: When the *Principles of Professional Conduct* (or ethics) of a component state medical society are more specific or stringent concerning a matter of ethics than is the Principles of Medical Ethics of the American Medical Association, then the *Principles of Professional Conduct* (or ethics) of the component state medical society shall be binding upon all of its members if it is not inconsistent or in conflict with the constitution and bylaws of the American Medical Association."

That resolution is also referred to the reference committee of which Dr. Pelow is chairman, on the Report of the Constitution and Bylaws Committee of the Council and Questions of Ethics.

Section 55 (See 108) Resolution 56–18

Care of Casualties in Major Disaster

Introduced by MEDICAL SOCIETY OF THE COUNTY OF QUEENS

WHEREAS, in the case of a major disaster, the physicians of New York State will be expected to take a major part in the care of the casualties; and

WHEREAS, the physicians of New York State have not received specific information as to assignments and duties in the event of a major disaster; and

WHEREAS, there have been no instructions forthcoming from the appropriate authorities as to organization, function, and operation of physicians in the event of major disasters; now therefore be it hereby

Resolved, that the Medical Society of the State of New York take positive action to study and remedy the inadequacies of the present program.

That resolution is referred to the reference committee on Report of Council, Part I, Postgraduate Education, Civil Defense, Inhalation Therapy, of which Dr. Thomas M. Watkins, of St. Lawrence County, is chairman.

Section 56 (See 114) Resolution 56–19

Withholding of Approval of Western New York Medical Plan, Inc.

Introduced by DR. IRWIN FELSEN, *Allegany*

WHEREAS, the bylaws of the Western New York Medical Plan, Inc., Article VI, Section 6 and Article VII, Section 6 make no effort to accord the component county medical societies the exclusive right to elect their individual member to its board of trustees; and

Whereas, such procedure is a threat to the democracy of the medical profession at the grass roots level and leads to political spoils maneuvers; and

Whereas, this method of election to the board of trustees is the exact antithesis of the election of delegates to this democratic House of Delegates; now therefore be it hereby

Resolved, that the Medical Society of the State of New York withhold its approval of the Western New York Medical Plan, Inc. until such time that its bylaws are modified and amended to sanction the component county medical societies to elect their own representative members to the board of trustees of the Western New York Medical Plan, Inc.

Referred to the reference committee on Report of Council, Part VII, of which Dr. Leonard J. Schiff, of Clinton County, is chairman.

Section 57 (*See 132*) Resolution 56–20

Change in Date of Annual Dinner

Introduced by Dr. Frederick A. Wurzbach, Jr., *Bronx*, as an individual

Whereas, the annual dinner of the Medical Society of the State of New York is held on Wednesday evening of the convention week; and

Whereas, this dinner is in honor of the outgoing president; and

Whereas, this dinner takes place after the annual meeting of the House of Delegates; and

Whereas, many delegates shall have departed prior to this dinner; now therefore be it hereby

Resolved, that the annual dinner of the Medical Society of the State of New York subsequent to 1957 be hereafter held on Monday evening of the convention week.

That individual resolution will be referred to the reference committee on Report of Council, Part XII, having to do with the Sesquicentennial Committee, of which Dr. Walter T. Heldmann, of Richmond, is chairman.

Section 58 Resolution 56–21

Invitation to American Medical Association for 1961

Speaker Holcomb: Next is a resolution introduced by Dr. Anderton, our secretary, subject "Invitation to American Medical Association for 1961," and which the chair feels could be passed by acclamation. Those in favor will say "Aye"; contrary, "No." It is unanimously carried.

. . . The resolution referred to is as follows:

Introduced by Dr. W. P. Anderton, *Secretary*

Resolved, that the secretary of the Medical Society of the State of New York be hereby requested to invite the American Medical Association to holds its 1961 annual convention in New York City.

Section 59 Resolution 56–22

Election of Retired Members

Speaker Holcomb: The next resolution 56–22, introduced by the Medical Society of the County of Monroe, deals with the election of retired members. I believe I will ask the secretary to read this, and see if you are willing to pass this without a reference.

Secretary Anderton: Reading:

Introduced by Medical Society of the County of Monroe

Whereas, the Constitution and Bylaws of the Medical Society of the State of New York makes provision for retirement status on behalf of its members; and

Whereas, the constitution and bylaws of the component county medical societies are approved by the Medical Society of the State of New York; and

Whereas, the constitution and bylaws of the Medical Society of the County of Monroe makes provision for retirement status on behalf of its members; and

Whereas, Dr. Paul Marx and Dr. Alexander Walker have applied for such retirement consideration, each respectively on the basis of having attained the age of seventy years during the fiscal year of 1955; and

Whereas, such retirement privileges also provide for the remission of the current year's dues if application for such retirement was made prior to May 31 of the current year; and

Whereas, these stipulations were met by proper information in writing to the comitia minora of the Medical Society of the County of Monroe within the time limit designated above; now therefore be it hereby

Resolved, that the House of Delegates of the Medical Society of the State of New York elect Dr. Paul Marx and Dr. Alexander Walker as retired members of the Medical Society of the State of New York; and be it further

Resolved, that in the instance of Dr. Paul Marx, who also maintained an active membership in the American Medical Association, that that organization be petitioned to grant the same retirement privileges retroactive to January 1, 1955.

I move its adoption by the House, without reference.

Dr. Joseph A. Lane, *Monroe:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 60 (*See 107*) Resolution 56–23

Disapproval of Internship "One-quarter Rule" Adopted by American Medical Association

Introduced by Medical Society of the County of Monroe

Whereas, the House of Delegates of the American Medical Association at its meeting in June, 1955, approved the report of the reference committee on medical education and hospitals to the effect that the "one-quarter rule" be established in the case of hospitals approved for internships to the effect that if a hospital does not obtain one quarter of its quota of interns for two years in succession that the internship approval be withdrawn; and

WHEREAS, such a rule is not necessarily related to the quality of the internship program; and

WHEREAS, such a rule could give undue advantage to the larger training hospitals; now therefore be it hereby

Resolved, that this House of Delegates disapprove this action of the house of delegates of the American Medical Association; and be it further

Resolved, that the delegates from the Medical Society of the State of New York to the American Medical Association at its meeting in June, 1956 indicate such disapproval.

This, we feel, is somewhat related to postgraduate education. It will be referred to reference committee on Report of Council, Part I, on Postgraduate Education, of which Dr. Thomas M. Watkins, of St. Lawrence, is chairman.

Section 61 (*See 142*) Resolution 56–24

Use of Term "Executive Committee" in Place of "Comitia Minora"

Introduced by MEDICAL SOCIETY OF THE COUNTY OF MONROE

WHEREAS, the name "comitia minora" indicates to some members of the Medical Society of the State of New York a mystic and secret committee running the Society in the fashion of a medieval organization; and

WHEREAS, this term, "comitia minora," is not modern and readily understood; and

WHEREAS, this term, "comitia minora," is mentioned in Chapter 14, Section 1 of the Bylaws of the Medical Society of the State of New York but nowhere is established definitely as an official title; now therefore be it hereby

Resolved, that the Medical Society of the State of New York cease the use of this term, "comitia minora," and approve a change from this term to the more exact and modern term of "executive committee."

This resolution is referred to the reference committee on Constitution and Bylaws of the Council, of which Dr. William E. Pelow, Onondaga County, is chairman.

Section 62 Resolution 56–25

Revision of Junior Membership Provision in Bylaws

Introduced by MEDICAL SOCIETY OF THE COUNTY OF MONROE

WHEREAS, Chapter 1, Section 7 of the Bylaws of the Medical Society of the State of New York regarding junior membership in the State Society states that the said members shall be not more than five calendar years graduated from medical college; and

WHEREAS, this provision does not give credit for military service during which a doctor is not in active practice; and

WHEREAS, this can work a financial hardship on a young doctor returning from military service and starting active practice; now therefore be it hereby

Resolved, that sentence 1 of Section 7 of Chapter 1 of the Bylaws, referred to above, be changed to read: "Junior members shall be those members who have been graduated from medical college not more than five calendar years *not counting* temporary United States military or United States Public Health service and licensed by the State of New York . . .".

This would necessitate a change in the Bylaws, and it will be referred to Dr. Aaron's Special Committee on Constitution and Bylaws for action next year.

Section 63 (*See 115*) Resolution 56–26

Social Security Benefits for Practicing Physicians

Introduced by MEDICAL SOCIETY OF THE COUNTY OF MONROE

WHEREAS, Federal Social Security provides not only retirement benefits but also a significant amount of family insurance; and

WHEREAS, it is now an established pattern in American life; and

WHEREAS, its benefits are now denied practicing physicians; now therefore be it hereby

Resolved, that the Medical Society of the State of New York express itself in favor of extending these benefits to practicing physicians; and be it further

Resolved, that the delegates of the Medical Society of the State of New York to the American Medical Association introduce a similar resolution at the meeting of the House of Delegates of the American Medical Association in June, 1956.

That will be referred to reference committee on Report of the Council, Part VII, dealing with Economics, Medical Care Insurance and Public Medical Care, of which Dr. Leonard J. Schiff, of Clinton County, is chairman.

Section 64 (*See 151*) Resolution 56–27

Hospital and Medical Care Insurance

Introduced by MEDICAL SOCIETY OF THE COUNTY OF MONROE

WHEREAS, a license to practice medicine is issued only to qualified individuals, and it is axiomatic that hospitals, institutions, and corporations have no legal right to engage in the practice of medicine; and

WHEREAS, the Medical Society of the County of Monroe wishes to go on record as approving, wholeheartedly, any insurance plans which will lighten the financial burden to the patient of both hospital and professional medical care, provided such plans fall within the range of their recognized activity; and

WHEREAS, the medical insurance plan sponsored by the physicians of the Medical Society of the County of Monroe and the Medical Society of the State of New York (known as the Blue Shield Medical Care Plan, locally Genesee Valley Medical Care, Inc.) gives the insured partial to complete coverage of the cost of professional medical care provided by physicians whether such care is given in the hospital or in their offices, the fees for such services being paid directly to the physician; and

WHEREAS, the present hospital insurance plan (known as the Blue Cross, locally Rochester Hospital Service Corporation) was originally established to help defray the cost to the patient of nonprofessional in-hospital care; in place of which, in some areas, payment to the hospital for professional services rendered by physicians has been included in the hospital plan; and

WHEREAS, this and the possible further extension of such coverage is beyond the range of its intended scope, if payment for such service is rendered to the hospital, medical practice is implied; now therefore be it hereby

Resolved, that the Medical Society of the State of New York support the continuance and further development of medical care insurance plans which respect the practice of medicine by the physician, whether in or out of the hospital; and be it further

Resolved, that the Medical Society of the State of New York support hospital insurance plans which confine their coverage to nonphysician hospital services, but it aggressively oppose the inclusion, in any hospital insurance plan, of coverage of services rendered by a licensed physician; and be it further

Resolved, that the Medical Society of the State of New York oppose any and all insurance plans which financially favor in-hospital versus outpatient professional medical care.

That will be referred to the reference committee on Report of the Council, Part VI, dealing with Hospital and Professional Relations, of which Dr. Sol Axelrad, of Queens, is chairman.

Section 65 (*See 100*) Resolution 56–28

Hospital Practice of Medicine

Introduced by DR. MILTON SPIEGEL, *Kings*

WHEREAS, hospitals are engaged in the practice of medicine through the medium of hiring physicians on a salary basis; and

WHEREAS, the fees collected by these physicians for services rendered to patients are transferred to a special fund or to the hospitals that hire these physicians; and

WHEREAS, the Medical Society of the State of New York has caused in the past the introduction of the Friedman and Pino bills in the New York State Legislature to restrain hospitals from illegally practicing medicine; and

WHEREAS, such bills have not been enacted into law by the New York State Legislature; now therefore be it hereby

Resolved, that the Medical Society of the State of New York reintroduce said bills in the 1957 session of the New York State Legislature and actively work for their passage.

That will be referred to the reference committee on Report of Council, Part IX, Legislation, of which Dr. Samuel B. Burk, of New York, is chairman.

Section 66 (*See 152*) Resolution 56–29

Hospital Practice of Medicine and Ethics Involved

Introduced by DR. AARON KOTTLER, *Kings*

WHEREAS, the American Medical Association at its 1950 meeting approved the Hess Report, which is a directive to prohibit the practice of medicine by hospitals in the fields of pathology, radiology, anesthesiology, and physiatry, through licensed physicians; and

WHEREAS, the hospital practice of medicine has spread by the employment of full-time salaried physicians in all other branches of medicine; and

WHEREAS, the American Medical Association and the American Hospital Association have reached an agreement, which is published in the *Journal of the American Medical Association*, volume 152, page 731, June 20, 1953; and

WHEREAS, a special committee appointed by President Eggston, December 10, 1953, to study hospital and professional relationship reported to the House of Delegates of the Medical Society of the State of New York to wit: The committee was of the opinion that both the medical profession and hospitals should adhere to the provisions of the above-mentioned agreement; and

WHEREAS, another resolution was presented to the House of Delegates of the Medical Society of the State of New York at its 1954 session (Section 46, page 50, Proceedings of the House of Delegates, September 1, 1954, Part II, issue of the NEW YORK STATE JOURNAL OF MEDICINE); and

WHEREAS, this resolution was referred by the House of Delegates to the Special Committee To Study Hospital and Professional Relations; and

WHEREAS, this special committee has been unsuccessful in its discussion with the Hospital Association of New York State in solving this problem; and

WHEREAS, recent developments in insurance contracts have made it more essential that hospitals and physicians recognize the confines of their practice; and

WHEREAS, it was stated that a hospital has caused the transference of fees paid by insurance companies to interns, residents, and members of the attending staff for medical and surgical services rendered to their policyholders; and

WHEREAS, said hospital is holding in escrow more than one-half million dollars of such fees, pending a decision as to how to divide this money among the physicians on its staff; and

WHEREAS, such division of fees is in violation of both Section 6514, paragraph 2f of the Education Law and also the *Principles of Professional Conduct* of the Medical Society of the State of New York; now therefore be it hereby

Resolved, that the Medical Society of the State of New York institute legal action to enjoin hospitals from illegally practicing medicine; and be it further

Resolved, that disciplinary action be taken after due process against such members of the Medical Society of the State of New York who violate the *Principles of Professional Conduct* of the Medical Society of the State of New York by transferring fees received to the hospital.

Referred to reference committee on Report of Council, Part VI, of which Dr. Sol Axelrad, of Queens, is chairman.

Section 67 (See 137) Resolution 56–30

Breach of Conduct

Introduced by DR. HARRY MACKLIN, *Kings*

WHEREAS, a communication, "Malpractice Menace," was printed on page 48 of the February, 1956 issue of *Medical Economics* over the printed endorsement of Harry F. Wanvig, as follows:

> "*Malpractice Menace*"
>
> "Sirs: In this article, "How we can lick the Malpractice Menace," the late Dr. Louis J. Regan did a good job of pointing out ways in which doctors can avoid malpractice suits. I must take exception, though, to his suggestion that most malpractice claims have no meritorious foundation.
>
> In New York State, at least, a large majority of suits have a very solid foundation on malpractice error or mistake. Our county advisory committees have found this out when they've reviewed all the facts in cases against their members. As a result, the advisory committees no longer complain that too many malpractice suits are being settled out of court . . .
>
> HARRY F. WANVIG*
> New York, N. Y.
>
> * Mr. Wanvig is indemnity representative of the Medical Society of the State of New York.";

and

WHEREAS, Harry F. Wanvig has published a derogatory criticism of the profession, and in terms to encourage exploitation of the profession through legal actions based upon alleged malpractice; and

WHEREAS, the footnote identifies Mr. Wanvig as officially speaking for the Medical Society of the State of New York; now therefore be it hereby

Resolved, that the Trustees and the Council of the Medical Society of the State of New York be advised and hereby directed to terminate the connection of Harry F. Wanvig as representative and any other association with the Medical Society of the State of New York.

That resolution will be referred to the reference committee on Report of the Malpractice Insurance and Defense Board, of which Dr. Frank LaGattuta, of the Bronx, is the chairman.

Section 68 (See 138) Resolution 56–31

Repudiation of Council Action in Insurance Complaints

Introduced by DR. SOLOMON SCHUSSHEIM, *Kings*

WHEREAS, the Council of the Medical Society of the State of New York on the recommendation of the Malpractice Insurance and Defense Board hired, without pay, the firm of Watters and Donovan to represent the Society in "such investigation and solicitation of malpractice insurance from members of the Society by brokers and excess line brokers of nonlicensed insurance organizations and in such negotiations with the Superintendent of Insurance of New York as the Board deems necessary or desirable"; and

WHEREAS, it was understood and an addendum was added to the above resolution that "there would be a number of interim reports to the Malpractice Insurance and Defense Board, the substance of which would be sent to the Council before any action was taken"; and

WHEREAS, notwithstanding, the Board "considered itself obligated to initiate such steps as might bring to an end the unlawful activities by Lloyd's, their agents and supporters" by filing, through the firm of Watters and Donovan, a brief and a complaint; and

WHEREAS, Mr. Donovan advised, knew, and concurred that a number of members of the Medical Society of the State of New York be sent the following letter:

> "Dear Sir:
>
> A complaint has been received against you from the Medical Society of the State of New York through its attorneys, Watters & Donovan. It is alleged that you violated Sections 112 and 126 of the Insurance Law in your alleged solicitation of malpractice insurance for Lloyd's of London.
>
> (*Signed*) Leffert Holtz
> Superintendent of Insurance"

and

WHEREAS, the Council orally and by telephonic communication on the part of the secretary, on instruction by the Council, advised the members complained against that this action was unauthorized; and

WHEREAS, the Council refused to put this in writing and refused to advise the Superintendent that the action was unauthorized; and

WHEREAS, the president and secretary of the Society, representing the Council, agreed with Deputy Superintendent Lamanda, of the Insurance Department, that the filing of the brief must be considered a complaint against the doctors; and

WHEREAS, these high officers of the Society, when given the opportunity, did not withdraw the complaint; and

Whereas, this action is detrimental to the best interests of the Society and its members; now therefore be it hereby

Resolved, that the House of Delegates disavow the action of the Council in causing a complaint to be filed with the Insurance Department against some of its members.

That will be referred to the reference committee on Report of the Malpractice Insurance and Defense Board also, of which Dr. Frank LaGattuta, of the Bronx, is the chairman.

Speaker Holcomb: There are being passed out to you a number of supplementary reports, and some further resolutions. The speaker and the secretary have sent out frequent requests during the past year, at least three communications, asking that resolutions be forwarded for study. In most instances that request has been complied with, but I feel that since many of these resolutions are studied and formulated long before the deadline, and again since it makes it rather difficult to hurriedly study these and then assign them without proper review of all of the members, it is not an unreasonable request to make, and should be complied with.

Section 69 (*See 143, 176*) 56–M

Supplementary Report of the Joint Committee on Hospital and Professional Relations and the Committee on Questions of Ethics

The Joint Committee on Hospital and Professional Relations and the Committee on the Questions of Ethics met at 5 p.m., Sunday, May 6, 1956, at the Hotel Statler, New York City.

After lengthy discussion during which other men outside the committee gave various opinions on the subject, the committee in executive session, by majority vote, recommends to the House of Delegates that that part of Article 6, Section 3 of the *Principles of Professional Conduct* of the Medical Society of the State of New York which states "Contract practice which allows diversion of fees for professional medical services to a hospital, organization, or political subdivision is unethical," be deleted.

Speaker Holcomb: This supplementary report has just been distributed to you, and we urge the House of Delegates to study this very carefully. The question has been in conference, and I think it may merit your careful study.

Section 70 (*See 49, 101*)

Change of Reference

Speaker Holcomb: Will you please turn to resolution 56–12, which you will find in your kits, which resolution was introduced by Dr. George A. Burgin and has to do with taking blood for alcoholic testing; our legal counsel feels that it would be wiser to refer this to reference committee on Report of Council, Part IX, having to do with legislation, rather than malpractice defense and insurance. I shall so order. This is referred to Part IX, Legislation, of which Dr. Burk, of New York, is chairman, if you will make that change, please.

I believe the distribution of the additional resolutions has now been made.

Section 71 (*See 162*) Resolution 56–32

Narcotic Prohibition

Introduced by Dr. James Blake, *Schenectady*

Whereas, we have now had in the United States more than forty years of experience with the attempt to solve the narcotic problem by the prohibition method; and

Whereas, the readily available facts prove beyond reasonable doubt that prohibition as applied to the narcotic problem has been a disastrous failure; and

Whereas, this failure is fully confirmed by recent official studies such as the Report on Narcotic Addiction in New York State in 1955, by the Attorney General of the State of New York and by official testimony recently given before a committee of Congress; and

Whereas, the outstanding result of the attempt to control the narcotic problem by prohibition has been the transfer of the addict from the status of an unfortunate invalid needing sound medical care and advice to the status of a social outcast and a criminal—a victim of both the law and the underworld—and more often than not compelled to peddle narcotics to an everincreasing circle of users in order that he may earn the amount of the drug required for his own use; and

Whereas, the pre-Harrison Act addict was at worst a rather harmless invalid requiring more or less of his drug to keep him going, but nevertheless for the most part a fairly useful member of society and including among their number highly respected scientists working in research laboratories, faculty members in our medical colleges and others holding top level positions; and

Whereas, the addict, under prohibition, is now almost 100 per cent useless, being forced to become a skid-row type criminal engaged in peddling the drug, or in petty thievery; and

Whereas, history tells us that, except for a few religious taboos, the many attempts in the past to control human conduct by means of prohibitions, including our own recent experience with alcohol prohibition, have practically all of them resulted in failure and that the overall pattern of failure has been practically the same in each case; and

Whereas, readily obtainable facts from Canada, England, and other countries where they have no narcotic prohibition indicate that in these countries there has been no increase in narcotic addiction and that, in sharp contrast to the United States, the problem has remained of minor importance; now, therefore, be it hereby

Resolved, that, after forty years of the quite obvious failure in this country of the prohibition method of controlling narcotic drug addiction, it is time that our State Medical Society, the American Medical Association, and the several State and Federal agencies having to do with this problem undertake a thorough, objective study of the problem in all its phases, keeping in mind the restoring of the addict to his pre-prohibition position in society—namely that of an unfortunate invalid, seldom completely curable, but in most cases with reasonable medical supervision, capable of maintaining himself as a useful member of society. It is furthermore suggested that to accomplish this it may be found best to place the addict under the care of a clinic or in the care of a properly qualified physician of his choice; and be it further

Resolved, that the Medical Society of the State of New York initiate such a study and report action and progress at the next meeting of this House of Delegates.

That will be referred to reference committee on Report of the Council, Part IV, Public Health Activities C, of which Dr. Frederick A. Wurzbach, Jr., of the Bronx, is chairman.

Section 72 (See 116) Resolution 56–33

Preserving the Regional Character of Blue Shield Plans

Introduced by Dr. John C. Brady, *Erie*

Whereas, it is vitally important to the physicians of this State and to the public that the local, regional character of the Blue Shield plans be safeguarded and preserved; and

Whereas, the adoption by the plans of a uniform, State-wide contract, as recommended by the Medical Society of the State of New York, may lead to the consolidation of the several plans into a single State-wide plan, in which the county medical societies would have little or no voice; and

Whereas, a similar movement is going on to bring about uniformity of coverage by the various Blue Shield plans throughout the country, which movement if not checked may in time lead to the formation of a nation-wide Blue Shield plan with nation-wide fixed fees and administration; and

Whereas, the participating physicians of some of the Blue Shield plans have manifested a desire to develop a type of coverage for their Blue Shield plans which is at variance with the type of coverage recommended by the Medical Society of the State of New York; now therefore be it hereby

Resolved, that this House of Delegates declare itself in favor of safeguarding and preserving the local, regional character of the Blue Shield plans as opposed to a single State-wide Blue Shield plan; and be it further

Resolved, that this House of Delegates go on record as approving and recognizing the paramount right of the participating physicians of each of the several plans to determine the type of coverage to be offered by them.

That will be referred to the reference committee on Report of the Council, Part VII, Medical Care Insurance, of which Dr. Leonard J. Schiff, of Clinton, is chairman.

Section 73 (See 117) Resolution 56–34

Review of Fee Schedule for Welfare Cases

Introduced by Dr. Arthur Gaffney, *Oneida*

Whereas, for a number of years there has been no adjustment in the schedule of reimbursement by the New York State Department of Social Welfare to the counties of New York State for medical care to welfare patients; and

Whereas, there have been adjustments in recent years in fee schedules in use by the Department of Workmen's Compensation and by several Blue Shield plans; now therefore be it hereby

Resolved, that this House of Delegates authorize the Council of the Medical Society of the State of New York to review with the State Department of Social Welfare the present schedule of reimbursement to the counties.

That will be referred also to the reference committee on Report of the Council, Part VII, Public Medical Care, of which Dr. Leonard J. Schiff, of Clinton County, is chairman.

Section 74 (See 82) Resolution 56–35

Industrial Health Bureau

Introduced by Dr. Leo Gibson, *Onondaga*

Whereas, the House of Delegates has already authorized the establishment of an Industrial Health Bureau; and

Whereas, as yet there is no functioning bureau; and

Whereas, it is exceedingly important that such a bureau be established as soon as possible because of the activities of other groups, such as the labor unions; and

Whereas, these groups need our guidance; now therefore be it hereby

Resolved, that the Council do all in its power to activate the Industrial Health Bureau as soon as possible.

That is referred to the reference committee on Report of the Council, Part III, Public Health Activities B, of which Dr. Norman C. Lyster, of Chenango County, is chairman.

Are there any further resolutions or reports?

. . . There was no response . . .

Speaker Holcomb: The chair again emphasizes that in the interests of the conservation of time it certainly pays to have our resolutions in as soon as possible.

The supplementary reports 56–K and 56–M are referred to the reference committee on Constitution and Bylaws of the Council Committee and Ethics, of which Dr. William E. Pelow is chairman.

There has been a duplication in the reports. There are apparently two marked "L." One should bear the notation "M" instead. That has to do with Ethics. Do you all have that before you? The supplementary report of the Council on Belated Bills (56–L) will be referred to reference committee on Report of the Council, Part XII, of which Dr. Heldmann is chairman.

The tables for the reference committees are in Penn Top North and the Headquarters Room on the 18th floor. Each report is to have nine copies.

We are asking those who are interested in any of the reference committees to report to those committees while they are in session. I hope that the officers and members of the Council will help out as much as possible in circulating among the various reference committees and giving all of the help they can.

Dr. Wurzbach would like to have the privilege of the floor to make an announcement.

DR. FREDERICK A. WURZBACH, JR., *Bronx:* Mr. Speaker, ladies and gentlemen of the House, I wish to remind you of the annual dinner on Wednesday evening. The committee this year has decided on no more cold, dry turkey. The meal I think will be a bit of a change, and I don't think anyone will object to the change. The time, of course, is 7 o'clock Wednesday evening in this room. Tickets are now available. There has been no change in the charge, which is $10. Escorts, ladies and gentlemen, are invited. There will be four hours, possibly five hours, of dance music, with the dinner. Thank you!

SPEAKER HOLCOMB: The reference committees should meet with their respective chairmen at least between 1:30 and quarter of two.

I will ask the House of Delegates to assemble promptly tomorrow morning at 9 o'clock. We may have some matters that may require a degree of time, and I feel if we assemble promptly and can start our session at 9 we may be able to get through perhaps with a shorter day tomorrow.

Does anyone have any further business at this time? If not, we stand recessed until tomorrow morning at 9 o'clock.

. . . The session adjourned at 12:18 P.M. . . .

Morning Session

Tuesday, May 8, 1956

The session convened at 9:15 A.M.

VICE-SPEAKER WILLIAMS: The House will be in order.

Section 75

Supplementary Report of the Nominating Committee

VICE-SPEAKER WILLIAMS: The first item on the agenda, gentlemen, is the supplementary report of the Nominating Committee, by Dr. Anderton.

SECRETARY ANDERTON: Mr. Speaker, owing to the modesty and deference on the part of the chairman of the Nominating Committee, I have been asked to present his supplementary report:

To the House of Delegates, Gentlemen:

Since the annual report of your Nominating Committee last January, two vacancies have occurred in the nominees for trustees. One is for three years due to the resignation of Dr. James R. Reuling, and the other is for five years due to the demise of Dr. Edward R. Cuniffe. The committee was polled by mail. The votes were as follows:

Three Year Trustee

Dan Mellen	5
Carlton E. Wertz	1
Floyd S. Winslow	1
Renato J. Azzari	1

Five Year Trustee

Dan Mellen	3
Renato J. Azzari	2
Floyd S. Winslow	1
Kenneth M. Lewis	1
Edward T. Wentworth	1

Your Nominating Committee therefore nominates for trustee for three years Dan Mellen, and for trustee for five years Renato J. Azzari.

Respectfully submitted,
WALTER P. ANDERTON, M.D., *Secretary*

VICE-SPEAKER WILLIAMS: This report, of course, does not need to be referred. It is for the information of the delegates at the time of election tomorrow morning.

I have just been prompted to announce that the banquet tickets are on sale.

As to the method of presenting reports by the reference committees, any reference committee chairman who is ready will file a note to that effect with Miss Dougherty and then will be taken in successive order. We would ask the reference committee chairmen to come and sit in what we call "the ready seats" over here so we don't have to waste time for a man to walk down from the back of the hall.

Are there any reference committee chairmen ready to report?

. . . There was no response . . .

Vice-Speaker Williams: If not, are there any additional resolutions that anyone wants to be introduced? The Speaker tells me that there are four more resolutions that are said to be in process of mimeographing, and they will be distributed. Are the men who are to read them here so we can at least have them introduced?

. . . There was no response . . .

Vice-Speaker Williams: Is Dr. Beverly C. Smith in the House?

Dr. Smith, you surely would like to have a few minutes to talk about the Physicians' Home.

Section 76

Statement of Dr. Beverly C. Smith Regarding Physicians' Home

Dr. Beverly C. Smith, *New York:* Mr. Speaker, members of the House of Delegates, and guests, on behalf of the board of directors and trustees of the Physicians' Home, I again thank you for the privilege of reporting to you some of the activities of the Physicians' Home this past year. I am going to try to give you a few more details this year than I did last year.

During our fiscal year from October 1, 1954, through September 30, 1955, we cared for 34 guests, 17 of whom were widows, two were female doctors and 15 were male doctors. The income of the Home from ten dollar annual memberships from members of the State Society was $13,112, from voluntary $2.00 contributions from members of the various county societies $21,793, from the Woman's Auxiliary $1,835, and from interest on investments $9,518. From bequests last year we received $1,148.

In order to augment our income, the necessity for which became acute as greater demands were made upon us, a circular letter requesting each member of the Medical Society of the State of New York to become an annual member of Physicians' Home was sent out in December, 1954, to 23,300 members. The response to that appeal produced $10,404 from 1,087 members, representing 4.66 per cent of the entire membership. This same procedure was followed in December, 1955, and from this we have obtained $14,370.50 from 1,528 members, which represents 5.5 per cent of the membership of the State Society. Whereas we are grateful for this increase this year, we had hoped that more cognizance would have been taken of our activities and the response would be more widespread. The Physicians' Home would be grateful to each of you delegates if, upon your return home and at an appropriate time, either before the comitia minora or at a stated meeting of your county society, you would inform your members of our purpose and function and such facts as you feel they should know about the Physicians' Home. In this manner we ought to disseminate more information amongst the practitioners of the State and members of the State Society.

It has been our policy to spend by far the greater part of our income for guests and use bequests only to increase the endowment fund. We were able during this past year to give away $39,295 to guests and spent $6,678 for administrative purposes. We had two deaths and eight new guests were accepted. We now have in hand nine applications for beneficiary aid. Our funds are inadequate for this purpose. It seems as if we must establish a waiting list. I would like to make you cognizant of a few of our problems:

1. If a doctor, or his widow, is getting county or State old age assistance, and the amount is inadequate for living purposes, and the Physicians' Home wishes to supplement the amount, it cannot be done because the amount we give would be deducted from the amount which the guest is already receiving from the welfare department. Of course if we wish to give him a monthly stipend equal to that of some of our other guests, the welfare aid is withdrawn entirely. The law is so specific that this cannot be legally circumvented.

2. We have frequently encountered abandonment of elderly parents by their children. In a number of instances, a family consisting of a small or large number of children reported that they were unable to contribute toward the support of their parents. We have then accepted these applicants as guests and they have lived with relatives or boarded in a manner of their own choosing and within the limits of their stipends. Subsequently they have become ill and have required nursing home care. The cheapest nursing home care is approximately $50 to $75 a week, and the better ones are $100 to $125 weekly. Several instances have occurred in which relatives, who have said they have been unable to help financially where we were giving the guest a stipend of $150 or $175 monthly, have come forward with added effort, having deprived themselves more and offered to pay the difference between what we give the guest and the cost of nursing home care. Often this is more than we have been giving the guest before he became ill. This has produced embarrassing situations.

3. We feel that there are so many more indigent doctors or widows in New York State than we are caring for, that we must be sure, when accepting a new guest, that he has no other means of support. I am sure there are a great many semi-indigent doctors and widows in the State, and we would like to aid this group but are prevented from doing so because of limited funds. This group has great difficulty in meeting minimum living costs. They deserve better and should have more income, and the Home would like to help them, but we simply do not have enough money to help them as well as the completely indigent group. We hope with greater income that we might be able to do something for this semi-indigent group. It would seem that possibly the Medical Society of the State of New York might interest itself in the investigation of charges in hospitals for doctors who are indigent. It has been our experience that in many such cases there has been no reduction from the regular hospital charges.

Our application blank asks for letters from three physicians who have known the applicant. We have found that these letters, from the social service point of view, are practically worthless. They have stated the merits of the applicant, some have given specific information as to their physical condition, but all have asked that the applicant be helped. In order to get adequate information we have had to employ and pay $15 to $25 to a trained social service worker to interview the applicant and, in many cases, the children or relatives, in order to obtain necessary pertinent facts in each case. What we must know is the amount and source of an applicant's present income, savings, and insurance, value of any property owned or mortgaged, the actual cost of the necessities of living, including rent, heat, light, food, clothing, medication, and the cost of partial custodial care where it is necessary. It is only when these facts are available to the executive committee that it is able to properly evaluate the applicant's situation and make recommendations to the board of directors for beneficiary aid.

The members of the board of directors and executive committee have been faithful in their attendance at eight annual meetings. The executive committee meets whenever sufficient material has been collected for action—usually once a month. The trustees, who are entrusted with the authorization of the spending and investing of funds, have been most conscientious in their responsibility and have utilized the advice of our financial adviser, the Hanover Bank, to whom we pay a small fee, as well as such other sources as they desire to probe in the investment of funds. In April of this year we obtained a legacy of $10,000 from the will of one of our founder members, Dr. Max Einhorn. Price-Waterhouse continues to act as our auditor.

May I read you three of a number of letters we have had from guests:

> My sincere thanks for your kind inquiry regarding my physical and financial welfare. With the exception of a recent cold I am in pretty good health for one eighty-eight years old. I sustained a comminuted fracture of my left knee some twelve years ago, which has given me considerable pain and difficulty of locomotion during the last two years. Other than this I have naught to complain of.
>
> The amount of $125 a month is quite adequate for my basic needs as I make it so. My room costs me $10 a week and this with laundry amounts to $45 a month. I eat one meal a day with an occasional "snack." This is no hardship for me as I was not reared a pet. I put myself thru medical school—four years—earned the money and to meet my dues lived once on 24 cents a week for five weeks, and another time I lived on one meal a day for nine months. I am not a big eater at any time and have, I think, obtained my growth. So that, while a little hungry at times, I am able to stay well and satisfied with what I have. The amount I receive from the Physicians' Home should be sufficient were it not for the fact that I am trying to pay off my wife's funeral expenses by appropriating $25 each month for that purpose. Again may I thank you for your kindly interest and good wishes.

Of course we increased the stipend $25 monthly. That man was eighty-eight years old.

> My misfortune began with the severe accident January 1955.

So many of these things begin with catastrophic illnesses.

> In spite of all efforts to get any position, everything was vain. I also lost most of my practice because everybody can see how I limp and sometimes stagger. I cannot climb stairs and can walk only very slowly. Formerly I could walk five to six hours uninterruptedly.
>
> There suddenly came help from the executive committee of the Physicians' Home, after I already despaired of rescue. What shall I tell you more? It took a long time to write this short letter. I tried it several times, but had to give it up; I was too touched. I cannot tell you more than accept my deep feelings and thanks for the board of directors and the whole Society! I only wish to have the opportunity to show one day my gratitude.

And this last letter from a widow I think you might be interested in.

> I was so surprised and overwhelmed with gratitude when I received the letter of the 23rd that I just sat here and wept. All the words in the dictionary would be insufficient to tell you of my appreciation of your plan to sustain me and to commemorate the memory of my beloved husband, now united to all the noble ones of the past through the love of God and the service of man.
>
> The plan to give me the $125 monthly was a direct answer of God to my prayer for strength to carry on and to find some way out of the unfortunate morass in which I have been placed. For several days I have been repeating the following well known stanza:
>
> "I will not doubt though all my ships at sea
> Come drifting home with broken masts and spars,
> I will not doubt the hand that out of seeming evil,
> Bringeth good to me, and though
> I weep because those sails are altered,
> I trust in Thee."
>
> Now wasn't the favorable action of the executive committee God's direct reply to my prayers?
>
> I would also like to add to my many thanks the following statement made by Dr. C. the last morning of his life, when bending over me paralyzed as I was by the polio, to kiss me goodbye on his way to his office, he said, "Look not mournfully upon the past—go forth to meet the shadowy future with a brave and valiant heart." He passed out that night in his sleep leaving this as a power to sustain me through many disastrous days.
>
> May God bless you all and give to you the divine gift of healing so nobly evidenced in the life of my beloved husband.

In conclusion, gentlemen, may I earnestly request that you delegates acquaint the members of the various county societies with the fact that there is a state of indigency and need among doctors and their widows throughout the State of New York, and this is greater than the county societies realize. We are spending our income for the purpose of alleviating this distress in the greatest number, the funds we have received are conscientiously administered, and we feel there is need for more than we now have to spend. It would be of immeasurable help to many of our confreres if a ten dollar annual membership were subscribed to by a greater percentage of our State Society membership. If 50 per cent would subscribe to this, from that source alone we would have approximately $120,000 to use in alleviating poverty amongst elderly doctors or their widows. This contribution is tax-deductible.

Vice-Speaker Williams: This report of Dr. Smith's is purely for the information of the House. It needs no action.

I would like to announce for the delegates who are serving on reference committees the process is that no report can be accepted until the final typewritten report has been signed by every member of the committee who is present, so will you in the course of this morning please see the chairman of your reference committee to sign the reference committee report, and we can proceed.

Have they competed the distribution of resolution No. 56–38?

Chorus: Yes.

Section 77 Resolution 56–38

Approval of Alaska Mental Health Bill

Introduced by Dr. Edward F. Shea, *Ulster*, as an individual

> Whereas, a bill, HR 6376, otherwise known as the Alaska Mental Health bill, has been passed by the House of Representatives of the United States without dissent; and
>
> Whereas, the bill is now before the Senate Committee on Interior and Insular Affairs; and
>
> Whereas, this bill provides for the construction and maintenance of a public mental hospital and the establishment of mental health facilities in the Territory of Alaska, where none such now exist; and
>
> Whereas, this bill also provides for a change in commitment proceedings, those presently existing in the Territory of Alaska providing only mandatory jury trial for the certification of the mentally ill, an obviously obsolete commitment procedure; and
>
> Whereas, it is highly desirable that the Senate of the United States adopt this bill; now therefore be it hereby
>
> *Resolved*, that the House of Delegates of the Medical Society of the State of New York record its approval of this bill; and be it further
>
> *Resolved*, that the secretary of the Medical Society of the State of New York be directed to communicate such approval at once to the senators from New York State.

Vice-Speaker Williams: This is referred to the reference committee on Report of the Council, Part IV, Public Health Activities C, including Mental Health, of which Dr. Frederick A. Wurzbach, Jr., of the Bronx, is chairman.

Section 78

Report of Reference Committee on Reports of District Branches

Dr. Joseph G. Zimring, *Nassau:* The reports of the various district branches were reviewed.

In the First District Branch, the coordinating council monthly meetings have replaced the branch meetings, with the exception of a yearly meeting held at the time and place of the annual State Society meeting.

The Second District Branch, at their annual meeting, have requested to see if it was possible to discontinue their scientific portion of their branch meeting. This seems to be the general consensus in the Third, Fourth, Fifth, Sixth, and Ninth District Branches. The Seventh and Eighth District Branches, in their reports, stressed the value of their scientific session. The Sixth District Branch, in place of the scientific session, had round table discussion on medical-economic problems.

The question of discontinuing the scientific session of the annual meeting of the district branches is one being continually debated throughout the State by the branches themselves and by various committees interested in this question.

After studying the Bylaws of the State Society, we find that the scientific session of the district branch meeting is not compulsory. It appears, therefore, that the district branch should seek an understanding to the effect that although annual meetings of each district branch are still required, the executive committee of such branches should have the right to determine not merely their time and place, but also their nature.

Mr. Chairman, I ask that this part of the report be approved.

Dr. Webster M. Moriarta, *Saratoga:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 79

Report of Reference Committee on Reports of the Secretary

Dr. Joseph G. Zimring, *Nassau:* The committee on Reports of the Secretary, after reviewing a most comprehensive summary of the Society's activities of the year 1955, wishes to compliment Dr. Anderton for his untiring and zealous efforts as seen through these reports.

His various comments under the headings of trustees, district branches, publication, office, sesquicentennial committee, membership, etc., will be adequately considered in their appropriate committees and, therefore, need no more discussion.

We must, however, make one comment, that as the report is read one notes the help and cooperation Dr. Anderton gives to the various county societies, secretaries, and committees.

Mr. Chairman, I ask that this part of the report be approved, and I so move.

Dr. Maxwell Gosse, *Dutchess:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 80

Report of Reference Committee on Reports of Judicial Council

Dr. Joseph G. Zimring, *Nassau:* The reports of the Judicial Council were reviewed.

The Council met in May, 1955, at its only meeting. Several complaints received by the Council were dispatched with satisfaction.

The reports are approved without further comment.

Mr. Chairman, I ask that this part of the report be approved, and I so move.

Dr. Charles W. Frank, *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Zimring: I move now that the report, as a whole, be accepted.

Dr. Frank: I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Zimring: I now wish to thank the members of my reference committee for their cooperation, Dr. Charles W. Frank, Dr. C. Stewart Wallace, Dr. Maxwell Gosse, and Dr. Webster M. Moriarta.

Vice-Speaker Williams: Thank you, Dr. Zimring.

Are there any other reference committee chairmen ready to report?

Section 81

Report of Reference Committee on Report of Council, Part X: Workmen's Compensation

Dr. John C. Brady, *Erie:* Mr. Speaker and members of the House, this is the Report of the Council, Part X, Workmen's Compensation, that I am now reporting on.

Your reference committee is greatly impressed with the work done by the Council Committee on Workmen's Compensation and the Bureau of Workmen's Compensation during the past year. Dr. Gerald D. Dorman, chairman of the committee, and Dr. David J. Kaliski, director of the Bureau, are to be highly commended for their untiring efforts on behalf of the 26,000 physicians who practice under the Workmen's Compensation Law.

Your committee will not attempt to discuss all of the many items covered in the report. However, there are three subjects dealt with that we would like to mention.

The first of these, of course, is the work done by the committee in securing a revision of the fee schedule. Miss Angela Parisi, the chairman of the State Workmen's Compensation Board, has recognized the need for revision of the fee schedule and has requested the committee to confer with the other interested parties regarding proposed changes and increases. Negotiations for a new fee schedule are definitely in progress and your reference committee believes that an improved fee schedule will result from these conferences and negotiations.

While we believe that the negotiations with the interested groups, as suggested by the chairman of the compensation board, will result in a meeting of the minds on many items with respect to medical care which require clarification, we believe that there is one item which the chairman of the compensation board should clarify without delay because it has given rise to innumerable disputes and caused bad relationships, namely, the clarification of item 9 of the fee schedule, to the effect that a fee should be payable for assistance at operations in all hospitals, which, although they may have interns or residents, do not permit them to assist attending physicians in operations upon compensation claimants. Where this factor is certified by the head of the hospital, the chairman should declare that an assistant provided by the operating surgeon should be paid; namely, the availability of the intern or resident for the operation should be the deciding factor.

Your reference committee is in complete accord with the views expressed in the report on the subject of rehabilitation of injured workmen. We concur with the committee when it states that a rehabilitation program to be successful must preserve the free choice principle and must not operate so as to cause the attending physician to lose control of his patient. Your committee joins with the Council Committee on Workmen's Compensation in urging all physicians to employ all possible methods of modern medical practice that will assist in reducing disability or avoiding permanency. This means that rehabilitative measures should be applied in all suitable cases as early as possible, and the physician recommending such early rehabilitation should not be penalized by having the cost of such special rehabilitation measures deducted from his fee during the fixed after-care treatment, as is frequently the case at present. Physicians should, when necessary, consult with a physiatrist for advice as to the type of rehabilitative treatment necessary.

Your committee also joins with the Council Committee on Workmen's Compensation in urging county society workmen's compensation committees to be more active in performing their duties under the Workmen's Compensation Law. These duties include not only the making of recommendations as to rating to the chairman of the Workmen's Compensation Board, but also the making of advisory recommendations to the chairman with respect to the quality of medical care as well as to professional misconduct of physicians participating under the law.

The duty of policing the medical profession under the Workmen's Compensation Law devolves squarely on the county society workmen's compensation committees, and this is a responsibility which, no matter how unpleasant, they must not shirk or avoid.

In addition, your reference committee wishes to congratulate the Workmen's Compensation Bureau, the Legislation Committee, and others who labored so long and effectively to pass the bill requiring the arbitration of disputed medical bills in the counties in or adjacent to the counties in which the treatment was rendered, rather than in the county where the claimant resides. We also strongly commend the efforts to abolish the medical practice committee and to restore to counties having a population of one million or more those functions which all other counties in the State carry out. We also further recommend that there be strong support of this legislation, in view of the fact that Erie and Nassau

Counties are rapidly approaching the million mark and will automatically surrender all these functions under the compensation law.

We strongly recommend this legislation because we firmly believe that the county societies can carry out these responsibilities or functions more effectively and without any cost to the State.

In conclusion your reference committee would like to urge all physicians to read carefully the report and the supplementary report of the Council Committee and the Workmen's Compensation Bureau. They contain a vast amount of informative material which will conduce to a better understanding of the physician's role under the Workmen's Compensation Law.

Finally, we would again like to thank the chairman and members of the committee, the director of the Bureau, Dr. Kaliski, and his staff for the excellent job they have done for us in this important field.

I move adoption of the report.

Dr. Samuel Leo, *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Brady: I would like to thank the members of my reference committee: Dr. Harold W. Grosselfinger, of Rockland; Dr. Samuel Frant, of New York County; Dr. David Kershner, of Kings County, and Dr. Samuel Leo, of the Bronx.

Vice-Speaker Williams: Thank you very much, Dr. Brady.

Are there any other reference committee chairmen ready to report?

Section 82 (See 74)

Report of Reference Committee on Report of Council, Part III—Public Health Activities B: Industrial Health

Dr. Norman C. Lyster, *Chenango:* The first part of the reference committee report on the Council, Part III, Public Health Activities B, concerns industrial health.

Your committee notes that a committee has been set up to secure a director of industrial health activities. We feel that setting up of this activity is long overdue.

We had one resolution, namely 56–35, introduced by Dr. Leo Gibson, of the Medical Society of the County of Onondaga, dealing with an Industrial Health Bureau, the resolved of which was:

> That the Council do all in its power to activate the Industrial Health Bureau as soon as possible.

We are in accord with this resolution.

Our President-Elect in his address to this House stated he would do all in his power to get this Bureau functioning. For this we commend him.

Our hope is that before this House convenes in 1957, there will be a report by the head of the Industrial Health Bureau.

Mr. Speaker, I move the adoption of this portion of the report.

Dr. Kenneth F. Bott, *Greene:* I second the motion.

. . . There being no discussion, the motion was put to a vote and was unanimously adopted . . .

Section 83

Report of Reference Committee on Report of Council, Part III—Public Health Activities B: Rural Medical Service

Dr. Norman C. Lyster, *Chenango:* The second part of this report deals with rural medical service. It is noted that this subcommittee held no meetings during the year, and this is regrettable.

The list of communities in rural areas desiring physicians points out the need for study and planning to find a solution to this problem. The answer is not easy, but those in charge of medical education and those charged with the administration of hospitals that serve these rural areas must be made aware of this problem and their cooperation enlisted to try to find a solution.

A suggestion has been made that this subcommittee be made a full Council committee and actively study this problem. This committee feels the suggestion is reasonable and urges the Council to do this.

In so doing, close liaison must be maintained with the Subcommittee on General Practice.

It is recommended that hospitals serving rural areas be urged to integrate the general practitioners of these areas into their staffs. In this way they will improve the practice of medicine in rural areas and help solve the problem of medical care in rural areas.

Mr. Speaker, I move the adoption of this portion of the report.

Dr. John J. Flynn, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 84 (See 14)

Report of Reference Committee on Report Council, Part III—Public Health Activities B: General Practice

Dr. Norman C. Lyster, *Chenango:* The third and last part of this committee report deals with general practice. We note that this subcommittee under the chairmanship of Dr. Floyd C. Bratt, of Monroe County, has been very active and is to be commended for its constructive work.

We note that they have carried out the mandate of the 1954 House of Delegates by following up with a second questionnaire to the voluntary hospitals regarding the establishment of general practice departments. Progress is being made along these lines in an increasing number of hospitals. This progress is slow but extenuating circumstances, as outlined by Dr. Fiske's report of the analysis of explanatory notes, is responsible for some of this slowness. We feel that this committee is making progress. They should be highly commended for their activities and urged to continue their good work.

Mr. Speaker, I move the adoption of this portion of the report.

Dr. F. L. Armstrong, *Livingston:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Lyster: I wish to thank the members of my committee, Dr. Kenneth F. Bott, Dr. Donald C. Walker, Dr. John J. Flynn, and Dr. F. L. Armstrong, for their cooperation.

Dr. Donald C. Walker, *Schenectady:* I second it.

Vice-Speaker Williams: There has been a motion, which has been seconded, for the adoption of the report of the reference committee on Report of the Council, Part III, as a whole. Is there any discussion?

Dr. Gerald D. Dorman, *Councillor:* On the report as a whole, the second portion I believe recommends a Council committee. I believe it is a custom of the House usually to have an estimate of the cost of new committees involved. I thought that this might be adopted in the report as a whole.

Vice-Speaker Williams: There is no estimate of the cost in this as you read the resolution, Mr. Chairman. Was there any estimate of cost?

Dr. Lyster: No.

Vice-Speaker Williams: There was no estimate of cost. Is there any motion to amend the report? Is there any discussion of cost?

Dr. Dorman: I believe that this House two or three years ago agreed that where further expenditures were to be involved there would be an estimate of cost or some statement as to the amount that might be expected or a limitation on the amount involved in order to hold down over-all expenditures in an effort to prevent the necessity for raising dues in the future.

Vice-Speaker Williams: Is there any motion to amend? Is there any further discussion as to cost?

Dr. John J. Flynn, *Kings:* My apologies to the chairman of the reference committee, but the committee was informed that the appointment of this other member would not cost any money because it was going to be put over, as we understood it, under the Workmen's Compensation Bureau.

Dr. Lyster: No, I believe that was not the Industrial Health Bureau; we were elevating the Committee on Rural Medical Service.

Dr. Flynn: That was a second thought.

Vice-Speaker Williams: I think we are discussing part two of your report, Dr. Lyster, are we not?

Dr. Lyster: That is right.

Vice-Speaker Williams: And Dr. Dorman has raised the question as to the possible cost involved to elevate the Subcommittee on Rural Medical Service to a full Council committee.

Dr. Lyster: That is right.

Dr. Flynn: I stand corrected; I am sorry to have annoyed you.

Vice-Speaker Williams: You have not annoyed us at all. Is there any further discussion about the costs? We have before us the adoption of the report as a whole. We never discuss costs without the chair hearing from the treasurer, Dr. Dattelbaum.

Dr. Maurice J. Dattelbaum, *Treasurer:* Mr. Speaker, this could very well be a subcommittee under some other committee that is functioning. I don't see why we should set up new committees when Dr. Greenough has tried to cut down as many committees as possible. I would be opposed to any action now to create a new Council committee, the minimum of which would be nearly $20,000. I would be opposed to this action.

Vice-Speaker Williams: The chair would like to point out that Dr. Lyster did report that this was a subcommittee underneath Dr. Gibson, but the reference committee has recommended that this be moved up to a full committee of the Council, and we are discussing costs, so the chair recognizes Dr. Greenough.

Dr. James Greenough, *President-Elect:* Are you now talking about the Rural Health Committee?

Vice-Speaker Williams: Rural medical service it is called.

Dr. Greenough: Rural medical service—at the present time it is a subcommittee of the Committee on Medical Licensure. The Committee on Medical Licensure will probably not be reappointed, but its work will be taken over by the Legislation Committee, so it does not add one committee. It replaces one Council committee with another committee and abolishes one subcommittee. Therefore, it is a reduction rather than an increase.

Vice-Speaker Williams: It will not increase the cost is your discussion. Is that right?

Dr. Greenough: That is correct.

Vice-Speaker Williams: Is there any further discussion in regard to cost? If not, you have before you the adoption of the report as a whole. Is there any further discussion?

. . . There was a call for the question, and the motion was put to a vote and was unanimously carried . . .

Vice-Speaker Williams: The report as a whole stands adopted. Thank you very much, Dr. Lyster.

Section 85 (See 31, 36, 102)

Introduction of Representatives from Other State Societies

Vice-Speaker Williams: At this time I would like to introduce to the House Dr. Robert L. Schaeffer, who is here to represent the Medical Society of the great State of Pennsylvania. Will Dr. Mellen please escort Dr. Schaeffer to the rostrum?

. . . Dr. Dan Mellen escorted Dr. Robert L. Schaeffer to the rostrum amid applause . . .

Dr. Robert L. Schaeffer: Mr. Speaker, members of the House of Delegates, and guests, I am very pleased to bring you the greetings and best wishes of the officers, trustees, and 11,000 members of the Medical Society of the State of Pennsylvania.

It is always a pleasure to have Dr. Anderton or your president attend the sessions of the house of delegates of our State Society.

I have been here for just about an hour or so, and

I visited your exhibits. I was very much impressed by them, especially the scientific exhibits. They are particularly outstanding, and I believe they are comparable to those of the American Medical Association meetings. I am sorry I cannot attend all your deliberations in the House sessions; because of the fact that we are close neighbors it would indicate that you are faced with approximately the same problems that we are in our house of delegates.

By looking at my gray hair you can only conclude that I am one of the members of the "old school." I fear that our profession has lost some of the precious art of medicine and has become too scientific and too mercenary. If time would permit, I would like to tell you what kind of doctors we should educate today. May I say briefly that they should first of all be men of character; should have faith in God; should be good citizens, honest, ethical, and intelligent enough to keep abreast with the rapidly advancing scientific medicine.

There is plenty that we can do in zealously guarding our present system of medicine, so that we can leave to our medical descendants a profession as honored, as trusted, and as beloved as when we were accepted into medicine. (That has been forty-eight years ago for me.)

It has been said we need an old-time revival in which we can reaffirm our faith in the oft-forgotten creed of service. It is true that we need to acknowledge again the priceless heritage that is ours as American doctors and accept the responsibility of upholding the tenets and creeds that are as fundamental to the survival of medicine as the Constitution is to our Union of States, and the Ten Commandments to the Christian religion.

I am sure you will agree with me that today American medicine is at the crossroads of uncertainty. To the left is the socialistic route, with governmental control and the loss of our liberty of thought, of action, of free choice of doctors, and possibly freedom of speech. To the right is this type of free medicine as we know it today—the system that has given to the United States a record of health and medical service that has never before been attained. The route that we travel in the future will not be decided and determined by the labor unions, the CIO, the Socialists, the Communists, by the President, or even by the Congress itself. It will be chosen by the American people, and the people will be governed not by the action of organized medicine per se but by the manner in which the individual doctor, the family physician, if you please, conducts himself in his daily contacts with them as their physician in time of trouble.

In days gone by "My Family Physician" has been a term of endearment, of trust, of confidence, of respect and esteem, and that feeling among the people of this country has done more to defeat the Wagners, the Murrays, and the Dingells than all other actions of organized medicine.

What must American medicine do to survive?

It seems to me that if we are to survive as democratic doctors in a democratic country, we must preserve our place in the hearts and minds of our patients and our people, and that is brought about by the way we practice medicine.

I do want to thank you for the privilege of appearing before you, and I sincerely wish you success in your deliberations.

At the same time, may I extend to all of you a most cordial invitation to attend the annual meeting of the Medical Society of the State of Pennsylvania, which for the first time this year will be held in Atlantic City, New Jersey, in October. Please plan to attend this meeting. Bring your better half to this seaside resort for a few days and enjoy our deliberations.

Thank you for permitting me to appear before you. (*Applause*)

VICE-SPEAKER WILLIAMS: Thank you, Dr. Schaeffer. Be sure and take to Pennsylvania the greetings of the Medical Society of the State of New York.

Section 86 (*See 32, 33*)

Report of Reference Committee on Reports of the President and President-Elect

DR. PHILIP D. ALLEN, *New York:* The report of our president, Dr. Renato J. Azzari, is characterized by a definite clarity, emphasis, and adherence to the Society's purposes and objectives as is evident throughout his report. The statement that the year's work has increased President Azzari's sense of indebtedness to the State Society identifies a year of diligent and faithful stewardship. This report challenges every member that he is responsible for the quality and integrity of the Society's work and function.

Our president's report deals directly with 19 functions of the State Society. Each subject's summary reveals study, understanding, plus close cooperation with the respective committees. The magnitude of the work of the presidency is properly emphasized in Dr. Azzari's digest of the various committees.

In his comment on legislation each member is reminded that effective democratic function of our State Society is dependent upon his voiced participation in the passage of proposed bills or the opposition to undesirable or unfavorable legislation.

We join with Dr. Azzari in commending Dr. Laurance D. Redway and his staff for the high and improved quality of our excellent State JOURNAL.

Attention is properly called not only to the continued friendly and cooperative relationship between the State Health Department and our Society but also to the existence of areas where a more workable understanding is needed. We second the expressed appreciation to Dr. Curphey and his committee.

We agree with the president in commending and emphasizing the important contributions made by the Woman's Auxiliary to the activities of our Society.

In the section relative to workmen's compensation, emphasis is stressed on a new "high" in workable understanding with the Workmen's Compensation Board and credit with appreciation is expressed to the Board and Drs. Kaliski and Dorman.

The significance of the Blood Banks Association is much in evidence when we consider that the National Blood Foundation urges that the clearinghouse function be expanded to cover 11 northeastern states. Dr. Azzari properly states that a study of all facts be thoroughly accomplished prior to any progressive action. The Blood Banks Commission with Dr. James Greenough, our president-elect, as chairman, is highly commended for its wise direction of a vexing problem.

In the public relations section Dr. Azzari gives merited emphasis to this area which interests and involves everyone. Attention is properly given to the conference of medical society public relations chairmen; the Guide for Cooperation between the Medical Profession and the Media of Information, and also the medical assistants' project. Credit for the successful functioning of this program is extended to Dr. Floyd S. Winslow and his committee.

Just as our president expresses his deep and sincere thanks and appreciation to all State Society officers and committees for their invaluable aid, so does the committee say "Thank you" to our retiring president. Dr. Azzari, words of appreciation and gratitude are inadequate to express our admiration for your year of administration and leadership. Through this committee the House of Delegates congratulates you on your report.

As regards to Dr. Greenough's address, we admire his concise remarks on the problems of the day and especially commend his interest in the establishing of an Industrial Health Bureau. It is the opinion of your committee that cooperation with labor unions is a project which has long been neglected.

This is signed by all the members of my reference committee to whom I wish to give appreciation, Drs. Francis J. O'Neill, William Benenson, Olin J. Mowry, and Walter Scott Walls.

VICE-SPEAKER WILLIAMS: Will you move its acceptance?

DR. ALLEN: I move its acceptance.

DR. WILLIAM BENENSON, *Queens:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

VICE-SPEAKER WILLIAMS: Thank you, Dr. Allen.

Section 87

Report of Special Committee on Constitution and Bylaws

VICE-SPEAKER WILLIAMS: The chair has just received word that Dr. Aaron is ill and will not be able to attend this session of the House of Delegates, so in place of Dr. Aaron the chair recognizes the secretary who will present the report of the Special Committee of the House on Constitution and Bylaws of the Medical Society of the State of New York. They will be found in the printed reports on page 1147, if you will turn to that page and give your attention to the secretary.

Are you ready? Has everybody got the page?

CHORUS: Yes.

VICE-SPEAKER WILLIAMS: All right, Mr. Secretary.

SECRETARY ANDERTON: Reading:

To the House of Delegates, Gentlemen:

Your Special Committee on Constitution and Bylaws consists of:

A. H. Aaron, M.D., *Chairman*	Erie
Thomas O. Gamble, M.D.	Albany
James R. Reuling, M.D.	Queens

The committee has considered the material submitted to it and desires to report as follows:

Last year Dr. W. P. Anderton carefully reviewed the Constitution and Bylaws in order to bring the wordage up to date and eliminate material that had become obsolete. It is on his suggestions that your committee recommends the following:

Chapter III, Section 2

The third paragraph should be deleted. It reads:

> "In 1950, four councillors shall be elected for three years, one for two years, and one for one year."

The committee recommends the adoption of this amendment.

I so move.

VICE-SPEAKER WILLIAMS: Do I hear a second?

DR. GERALD D. DORMAN, *Councillor:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

SECRETARY ANDERTON: Continuing:

Chapter III, Section 3

The second and third phrases should be eliminated, leaving a comma after the words, "One trustee shall be elected annually for a term of five years," to be followed by the present second sentence after changing the word "Thereafter" to the word "but." This eliminates division which was necessary in 1950. This is no longer necessary. Deleting the words "but in 1950 one trustee shall be elected for five years, one for four years, and one for three years," the section will then read:

> "One trustee shall be elected annually for a term of five years, but whenever the terms of two trustees expire in the same year, two trustees shall be elected each for five years. In the event of a vacancy, a trustee shall be elected for the unexpired term. A person to be eligible for election as trustee shall have served at least two years as an officer, or at least three years as a member of the Council, or at least five years as a member of the House of Delegates."

The committee recommends the adoption of this amendment.

I so move.

DR. GERALD D. DORMAN, *Councillor:* I second it.

VICE-SPEAKER WILLIAMS: Is there any discussion?

DR. LEO F. SCHIFF, *Trustee:* A point of information, Mr. Vice-Speaker, were these amendments presented at the last annual meeting of the House of Delegates?

VICE-SPEAKER WILLIAMS: No.

DR. LEO F. SCHIFF: Section 2, Chapter XVII of the Bylaws provides, "Notice of the proposed amendment shall be given at a previous annual meeting of the House of Delegates, and before the same can be acted upon it shall be published once before the annual meeting in the official bulletin or journal of the Society."

Speaker Holcomb: These will not be in effect this year then. They will lay over for one year.

Secretary Anderton: We ought to look that up, Miss Dougherty.

Miss Doris K. Dougherty: Notice was given of these last year.

Vice-Speaker Williams: Due notice was given, so I guess I stand corrected. This is the final decision: due notice was given. These are deletions, eliminating these staggered terms of office, and are no longer necessary.

Dr. Leo F. Schiff: As long as notice was given. I was just wondering.

Vice-Speaker Williams: I am quite sure due notice was given because if it were not so Dr. Aaron would not have included under that, "The committee recommends the adoption of this amendment." I have that much confidence in Dr. Aaron. That is why I proceeded, sir. The other confirmation I have is from the secretary. Miss Dougherty says that these were presented last year. I have not the last year's proceedings in the back of my head. Can any member of the House point those out specifically in last year's minutes?

Speaker Holcomb: These are secretarial changes only. They can be adopted now.

Vice-Speaker Williams: I would like to rule that these, being secretarial changes, can be adopted now.

Is there any appeal from the ruling of the chair?

. . . There was no dissent expressed . . .

Vice-Speaker Williams: We will then proceed to adopt the amendment presented to Chapter III, Section 3.

Voices: Call for the question on the appeal.

Vice-Speaker Williams: All those in favor of the ruling of the chair will say "Aye"; opposed "No." The "Ayes" have it.

Now we are up to the adoption of the second one, isn't that so, Dr. Anderton?

Secretary Anderton: Yes, sir, Chapter III, Section 3.

. . . There being no further discussion, the motion was put to a vote and was unanimously carried . . .

Vice-Chairman Williams: Give your attention to the secretary, please.

Secretary Anderton: Continuing:

Chapter III, Section 4

Since part of the first sentence is a repetition of the first sentence in Section 1, we recommend deleting the following: "The first order of business at the last scheduled session of each annual meeting of the House of Delegates shall be the nominations and elections for officers of the Society and other members of the Council, a member or members of the Board of Trustees, delegates to the American Medical Association, and . . ."

We recommend that this section read as follows:

> "After the appointment of a sufficient number of tellers by the speaker, and after all nominations have been made, the secretary shall cause to be displayed in full sight of the delegates a list of nominees for each office arranged in alphabetical order, and shall also cause to be distributed a sufficient number of blank ballots for the use of the House of Delegates. These ballots shall have printed or stamped thereon the appropriate headings for each office with spaces thereunder in which may be written the name of the candidate or candidates to be voted for."

The committee recommends the adoption of this amendment.

I so move.

Dr. Thomas H. McGavack, *New York:* I second the motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Secretary Anderton: Continuing:

Chapter IV, Section 1(b)

The executive committee now meets regularly the afternoon before the Council meeting. It considers correspondence and perhaps other matters. It reports the next day to the Council and thus saves time for the Council. It would seem wise, therefore, to insert before the last sentence in this section a comma followed by the words "and it shall at all times assist the Council." The section would then read:

> "The Council shall establish an executive committee to be composed of the president, the president-elect, the secretary, the treasurer, and three additional members of the Council appointed by the president with the approval of the Council. This committee shall be appointed by the president immediately upon his assumption of the office of president and to serve during his tenure as president only. The executive committee shall have the authority to take action in case of emergency arising in the interim between the meetings of the Council in order to protect the interests and purposes of the Medical Society of the State of New York as set forth in this Constitution and Bylaws. In times of such emergency, the executive committee shall have all the powers and duties which are conferred upon the Council, and it shall at all times assist the Council. Any action taken by the executive committee shall be reported in full to the Council at its next meeting."

The committee recommends the adoption of this amendment.

Vice-Speaker Williams: Do you so move?

Secretary Anderton: I do, yes, sir.

Dr. Gerald D. Dorman, *Councillor:* I second the motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Secretary Anderton: Continuing:

Chapter VII, Section 7

Although allowed by custom to sign checks, no allotment of such power and responsibility to either the assistant secretary or assistant treasurer is made. Mr. Alexander, our accountant and office manager, feels it advisable to have this contingency covered in the Bylaws. Your committee, therefore, recommends that there be inserted in the first sentence of this section after the words, "the secretary" the words "or assistant secretary." That would necessitate a period after the first "Society" and commence the second sentence after that "Society," with the words, "The secretary."

A sentence in this section is obsolete and should be deleted: "He shall supply each county society with the necessary blanks for making its annual report to the Society."

Dr. Thomas F. McCarthy, *Bronx:* Is it necessary for the insertion of one word that the secretary read this whole thing? There are two and one-half pages ahead of us. Is that necessary?

Vice-Speaker Williams: I think it is quite necessary. These are amendments to the Bylaws.

Dr. McCarthy: For the insertion of one word? You just said before these were merely secretarial changes. Can't you do the same thing now, and merely refer to them by title?

Vice-Speaker Williams: It is more than one word. They are deleting a sentence, and then they are changing a word. Isn't that so in this particular one?

Secretary Anderton: Yes.

Speaker Holcomb: You cannot be too careful when you are amending the Constitution and the Bylaws.

Vice-Speaker Williams: We have checked last year's minutes, and these were published last year.

Secretary Anderton: Yes.

Vice-Speaker Williams: If this House wants to adopt amendments to the Bylaws, without reading them, that is up to the House. If you so want to depart from parliamentary procedure to do that, it is entirely up to the House.

Dr. Dorman: Read them.

Vice-Speaker Williams: All right, I will put the issue to the House. The chair decides we shall read them. Is there an appeal from the decision of the chair?

. . . There was no dissent expressed . . .

Vice-Speaker Williams: Hearing no appeal, we will read them.

Secretary Anderton: Continuing:

Section 7 will then read:

> "The secretary or assistant secretary shall countersign all checks issued by the treasurer on funds of the Society. The secretary shall be the custodian of the seal of the Society, and of all books of records and papers belonging to the Society, except such as properly belong to the treasurer, and shall keep an account of and promptly turn over to the treasurer all funds of the Society which come into his hands. He shall provide for the registration of the members at all sessions of the Society. With the aid and cooperation of the secretaries of the county societies, he shall keep a proper register of all the registered physicians of the State by counties. He shall aid the officers of the district branches in the organization and improvement of the county societies and the extension of the power and influence of the Society. He shall conduct the official correspondence, notifying members of meetings; officers, councillors, trustees, and board members of their election, and committees of their appointments and duties. He shall affix the seal of the Society to all credentials issued to members of the Society elected by the House of Delegates and to such other papers and documents as may require the same. He shall make an annual report to the House of Delegates. Acting in cooperation with the Council, he shall prepare and issue all programs. He shall be a member of the Council. He shall be ex officio a member of all boards and committees without vote. He shall record the name and date of admission of each member of the Society. He shall be in complete charge of the administration of the headquarters of the State Society."

The committee recommends the adoption of this amendment.

I so move.

Dr. Thurman B. Givan, *Councillor:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Secretary Anderton: Continuing:

Chapter VII, Section 8

Continuing about the signing of checks in this section, after the first three words, there should be added "may countersign checks drawn by the treasurer on funds of the Society, he"; the section will then read:

> "The assistant secretary may countersign checks drawn by the treasurer on funds of the Society, he shall aid the secretary in the work of his office, and, in the absence or disability of the latter, he shall perform the duties of the office until the secretary resumes the work, or, in the case of a vacancy, until a successor shall be elected."

The committee recommends the adoption of this amendment.

I so move.

Dr. Charles H. Loughran, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Secretary Anderton: Continuing:

Chapter VII, Section 9

In the same vein we advocate that there be inserted in the second phrase of the first sentence the words "or assistant treasurer" after the word "treasurer." Also in that same phrase, following the word "secretary," the words "or assistant secretary" should be inserted. This sentence would then read:

> "The treasurer shall keep accurate books of accounts of all moneys of the State which he may receive and shall disburse the same when duly

authorized, but all checks drawn by the treasurer or assistant treasurer upon the funds of the Society shall be countersigned by the secretary or assistant secretary of the Society. He shall collect, on or before the first day of June in each year, from the treasurer of each component county society the State per capita assessment. He shall at the expense of the Society give a bond for the faithful performance of his duties, which shall be approved by the Council as to amount, form, and surety. He shall make an annual report to the House of Delegates and monthly reports to the Council. He shall be a member of the Council."

The committee recommends the adoption of this amendment.

I so move.

Dr. Arthur Lamb, *Kings:* I second the motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Secretary Anderton: Continuing:

Chapter XI, Section 2

To be up-to-date, we recommend that the second sentence be deleted and that the present first sentence have its period changed to a comma, followed by the words "each for a term of five years." The section would then read:

> "A special committee, to be known as the Malpractice Insurance and Defense Board, consisting of seven members, including a chairman, shall be appointed by the president with approval of the Council, each for a term of five years, annually at expiration of term of office of a member. Vacancies for any other cause shall be filled for the unexpired term by appointment by the president with the approval of the Council. The secretary, treasurer, legal counsel, and indemnity representative shall be ex officio members of the committee with voice but without vote. It shall be the duty of the committee to study and supervise, on behalf of the Society, all matters having to do with malpractice insurance and defense."

The committee recommends the adoption of this amendment.

I so move.

Dr. Thurman B. Givan: I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Secretary Anderton: Continuing:

Chapter XII, Section 1

We advocate the insertion of the words "and vice-chairman" after the word "chairman" in the second sentence. The section would then read:

> "The scientific sections designated by the House of Delegates shall each organize by the election of a chairman, vice-chairman, and secretary. The chairman and vice-chairman shall be elected annually; the secretary for such term as the section may deem fit."

The committee recommends the adoption of this amendment.

I so move.

Dr. Philip D. Allen, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Secretary Anderton: Continuing:

Chapter XII, Section 3

The policy has been established for each section to meet once, instead of twice as formerly at the annual convention. Therefore, the first sentence in Section 3 should be deleted as well as the words "and must have recorded his name and address in the section registry." No particular section registry is kept by a section; rather each member records his section affiliation on the registration card when he registers at the annual convention. Section 3 would then read:

> "To participate in the election of any section a member must be registered with such section."

The committee recommends the adoption of this amendment.

I so move.

Dr. Samuel Wagreich, *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Secretary Anderton: Continuing:

Chapter XIV, Section 1

Paragraph (b) is no longer needed. We therefore recommend that "(a)" after the words "section 1" be eliminated as well as paragraph (b).

The committee recommends the adoption of this amendment.

I so move.

Dr. Moses H. Krakow, *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Secretary Anderton: Continuing:

Chapter XIV, Section 2

It is provided in the last sentence of this section that dues may be remitted on account of illness. This is the only permission in the Bylaws for dues remission. The House of Delegates has instructed the Council that it may remit dues on account of temporary service in the armed forces and financial hardship. The American Medical Association allows remission of dues for age over seventy, financial hardship, and temporary service in the armed forces or U.S. Public Health Service. It is, therefore, recommended that the last paragraph of Chapter XIV be amended to read as follows:

> "The dues of any member of the Medical Society of the State of New York may be remitted for the current year on account of illness, financial hardship, temporary service in the armed forces or in the U.S. Public Health Service, when the request is made by the member's component county medical society."

The committee recommends the adoption of this amendment.

I so move.

Dr. William B. Rawls, *New York:* I second it.

Vice-Speaker Williams: You have heard the motion which has been made and seconded calling for the adoption of the committee's recommended amendment. Is there any discussion?

Dr. Thomas H. McGavack, *New York:* Mr. Vice-Speaker, "Section 2" should be inserted after the words "Chapter XIV," in the reading of that part of the report if it is to be actually correct.

Vice-Speaker Williams: It is so published.

Dr. McGavack: No.

Dr. Rawls: "It is, therefore, recommended that the last paragraph of Chapter XIV," then insert "Section 2."

Dr. McGavack: Right.

Vice-Speaker Williams: Oh, yes. You mean on page 1149?

Dr. McGavack: That is right.

Vice-Speaker Williams: We will accept that amendment.

Secretary Anderton: Yes, sir.

Vice-Speaker Williams: Thank you, Dr. McGavack.

Is there any other discussion?

. . . The question was called, and the motion, as amended, was put to a vote and was unanimously carried . . .

Secretary Anderton: Continuing:

Change of Fiscal Year

A resolution was submitted to the committee by the Board of Trustees. The Board of Trustees in their 1955 annual report proposed that the Bylaws, Chapter V, Section 2, last sentence, which now reads: "The fiscal year shall begin July 1 and end June 30 of each calendar year," be amended to read: "The fiscal year shall begin January 1 and end December 31 of each calendar year."

The committee recommends the adoption of this amendment.

I so move.

Dr. Arthur Lamb, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Secretary Anderton: Continuing:

Amendments on Mandatory A.M.A. Membership and Elimination of District Branches

In considering the next two proposed amendments to the Constitution, your committee desires the indulgence of the House of Delegates to allow it to read these resolutions, each of which is of a different character, but the argument as to the method of handling them is similar, and we would appreciate the opportunity to present the entire story to you, and then individually ask for action on each amendment and the substitute amendment offered by the committee.

Resolution number 55–33, "Membership in American Medical Association," introduced by Dr. David Fertig, Westchester, was as follows:

> Whereas, the American Medical Association is the recognized and established body of the medical profession which speaks for and directs policy of organized medicine at the national level; and
>
> Whereas, many members of the Medical Society of the State of New York are not members of the American Medical Association, for various reasons; and
>
> Whereas, these members are still affected by the activities of the American Medical Association; and
>
> Whereas, these same members receive the benefits of membership in the American Medical Association without belonging to the organization; therefore be it hereby
>
> *Resolved,* that the necessary amendments to the Constitution and/or Bylaws of the Medical Society of the State of New York be made so that all members of county medical societies become members of the American Medical Association.

Also referred to our committee was resolution number 55–29, "Proposed Dissolution of the District Branches," introduced by Dr. Richard Cuthbert, Jr., Fifth District Branch:

> Whereas, in view of the continued and progressive decrease in attendance at the district branch annual meeting and the apparent lack of interest in same; and
>
> Whereas, these meetings are a continued expense to the Medical Society of the State of New York; and
>
> Whereas, the Fifth District Branch at its annual meeting in 1954 voted to request the Medical Society of the State of New York to consider the dissolution of the district branches; therefore be it hereby
>
> *Resolved,* that the Bylaws of the Medical Society of the State of New York be changed so as to eliminate the district branches.

We have carefully studied these two resolutions. They have appeared before this House at previous sessions and have been thoroughly discussed and occupied considerable attention and time of this House.

The Planning Committee for Medical Policies of the Medical Society of the State of New York has carefully studied both of these problems, especially the one related to mandatory membership in the American Medical Association and still has it under consideration and will report to this body. I have communicated with Dr. DiNatale, chairman of that committee, in regard to their report and have informed him of the type and character of our report.

We recommend that the Medical Society poll its membership as provided in Article X of the Constitution as follows:

Do you wish me to read that article from the Constitution?

Vice-Speaker Williams: That is only for information. You can skip that, Mr Secretary.

Secretary Anderton: Continuing:

Your committee recommends the following wording of this proposed referendum to the membership:

"1. I am in favor of compulsory membership of the members of the Medical Society of the State of New York in the American Medical Association. *yes* *no*

"2. I am in favor of elimination of the district branches. *yes* *no*

Signed."

Your committee realizes that the House of Delegates is well acquainted with these problems and may be prepared at this time to vote upon them, and we have prepared all changes in the Constitution and Bylaws that are necessary to present to you at this time if you adopt these two resolutions.

We believe it is unwise for this House to act on these resolutions, but they should be submitted to the entire membership as provided for in the referendum in the Constitution and Bylaws so that each member may express himself on two vital alterations in the character of the fundamentals of the Constitution and Bylaws of this organization.

More and more amendments to constitution and bylaws of legislative bodies, both national and state, are being submitted to the citizens for consideration, and I believe all of us are keenly aware of the thoughtfulness and the type of votes that have been recorded on suggested amendments in the Constitution and Bylaws of the State of New York.

An opportunity on the part of the body membership to vote on these will arouse interest and thought, and the end result shall require a majority vote of the entire membership. Whichever way it goes will be mandatory upon the State Society and the House of Delegates. This will be a democratic accomplishment.

We appreciate your indulgence and we herewith recommend:

1. That resolution 55–33, introduced by Dr. David Fertig, requiring compulsory membership in the American Medical Association, be not adopted.

Vice-Speaker Williams: Will you move it?

Secretary Anderton: I move adoption of this part of the report.

Dr. Irving J. Sands, *Kings:* I second it.

Vice-Speaker Williams: It has been moved and seconded to adopt this portion of the report which carries with it the recommendation of the Special Committee on Constitution and Bylaws not to adopt Dr. Fertig's resolution known as 55–33. Is there any discussion?

Dr. Leo F. Schiff, *Trustee:* This is purely on the point of order. It is my impression that a close reading of the Constitution and Bylaws would show that the intent is that amendments to the Bylaws shall be voted upon as amendments to the Bylaws and not as reports of committees for recommendation for nonadoption, and I suggest to the chair for the purposes of clarity that the question be put to the House on the adoption of a proposed amendment or the nonadoption rather than on the adoption of a report which proposes the nonadoption of the amendment.

Vice-Speaker Williams: For your information, Dr. Schiff, if you turn to page 1147, which is the top of the first page that the secretary read, you will see that we are considering the report of the Special Committee on Constitution and Bylaws. This committee had referred to it some amendments. It reported them last year. It also had referred to it some resolutions which would involve amending the Constitution and Bylaws. This report includes its recommendations to the House as to how they should dispose of the resolutions numbered 55–33 and 55–29, and this one 55–33 is before the House now.

Dr. Leo F. Schiff: I will call your attention to page 6 of the green book and also page 42, which says, "The affirmative vote of two thirds of the House of Delegates present and voting shall be necessary for adoption."

I don't see how we can vote on an amendment to the Bylaws by voting on a committee recommendation that it not be adopted. In other words, if we adopt this committee's report we are still not voting on the amendment, and the amendment will have to be put before the House as such, and if it is to be passed it must receive a two-thirds vote.

I think it would be much simpler, Mr. Vice-Speaker, to hold at this time that we cannot vote on that particular recommendation but must simply receive it, and that in due time the amendment will come up as a vote on an amendment.

Vice-Speaker Williams: It is the recommendation of this committee to have the referendum. We have passed all of the recommended amendments to the Bylaws.

Dr. Leo F. Schiff: Wait a minute, Mr. Speaker! Last year Dr. Fertig presented a resolution 55–33, which was in itself notice of an amendment. Now they are recommending to us that the resolution of last year be not adopted. They are asking that another resolution which states specifically—and this is the second resolution on page 1149, at the very top, and there is no bones about this one at all—it says, "*Resolved,* that the Bylaws of the Medical Society of the State of New York be changed so as to eliminate the district branches"—now that is notice of a specific amendment. Therefore, the amendment is up for discussion, and the report of the committee is not germane to the passage of this amendment, which must be presented as such.

I am going to vote against the amendment, but I object to voting against it by trying to adopt the committee report, which would be adopted by majority rule, when the Constitution and Bylaws which we are trying to live up to, and which we are trying to make understandable by eliminating commas and obsolete sentences, takes a two-thirds affirmative vote.

Vice-Speaker Williams: Your suggestion is well taken.

Dr. Leo F. Schiff: Thank you, sir.

Vice-Speaker Williams: Suppose I ask the secretary and the second to move the adoption of the amendment rather than to move the adoption of this portion of the report?

Secretary Anderton: That is satisfactory. I so move.

Dr. Sands: Yes, but what is the amendment?

Vice-Speaker Williams: It is included at the end of the resolution: "*Resolved,* that the necessary amendments to the Constitution and/or Bylaws of the Medical Society of the State of New York be made so that all members of county medical societies become members of the American Medical Association."

Dr. Leo F. Schiff: May I further speak that it would be necessary to vote on each amendment? There are two amendments. They must be presented clearly. It will serve the purpose if you can state to us that the adoption of this report will not pass the amendment, and that another vote on the amendment can then be taken. The adoption of the report is merely a recommendation. The House can then vote on the amendment separately. I simply want to clear the fact that voting for the report is not rejecting or adopting the amendment, which must be presented separately.

Dr. Herbert S. Ogden, *New York:* Mr. Chairman, if you read the recommendation in resolution 55–33 it provides that the necessary amendments to the Constitution and/or Bylaws be made. If we pass the recommendation of the reference committee on resolution 55–33 that means that we resolve that the necessary amendments will be made, and the necessary amendments will then have to be made, presented to the House, and wait over a year until next year before they can be voted upon because this resolution contains no amendments. It just contains the recommendation that they be prepared and presented to the House, so if this is passed the amendment will then have to be prepared, presented to the House, lay over a year and be voted on next year.

Dr. Sands: But the recommendation of the reference committee is—

Vice-Speaker Williams: It is not a reference committee; it is the Special Committee on Constitution and Bylaws.

Dr. Sands: The recommendation of that committee is that 55–33 be not adopted.

Vice-Speaker Williams: The amendment has not been phrased, Dr. Schiff.

Dr. Leo F. Schiff: I want to agree on that. That refers to the first one, but the second one is definitely an amendment. I am perfectly willing that the report shall include the rejection of the first one, and then we can vote on that.

Vice-Speaker Williams: That is what is before us.

Dr. Leo F. Schiff: No, this report contains the two of them.

Vice-Speaker Williams: But we have not gotten that far. Dr. Anderton has not read part two which refers to resolution 55–29. I interrupted him and asked him if he would not move the first one at that time. Did I not, Dr. Anderton?

Secretary Anderton: Yes.

Dr. Ogden: It says the same thing really.

Dr. Leo F. Schiff: All right, but when you get to the next one watch out.

Vice-Speaker Williams: I have been napping the whole time, Doctor. (*Laughter*)

On the report of the committee that resolution 55–33 introduced by Dr. Fertig requiring compulsory membership in the American Medical Association be not adopted. It has been moved and seconded. Is there any further discussion?

. . . There being no further discussion, the motion was put to a vote and was carried . . .

Vice-Speaker Williams: The recommendation of the committee is upheld, and the resolution of Dr. Fertig's stands defeated. Now, Part 2, Dr. Anderton.

Secretary Anderton: Continuing:

> 2. That resolution 55–29, introduced by Dr. Richard Cuthbert, Jr., requiring elimination of district branches, be not adopted.

I so move.

Dr. Moses H. Krakow, *Bronx:* I second it.

Vice-Speaker Williams: Is there any discussion?

. . . There was no response . . .

Vice-Speaker Williams: Has Dr. Schiff left the House?

Dr. Leo F. Schiff: No, Dr. Schiff is here. (*Laughter*)

I now call your attention to the fact that this particular resolution is an amendment to the Constitution. It is a notice, and this must be voted upon as an amendment. We cannot vote on the recommendation of the committee in this case but we must vote on the amendment. The resolution will have to be placed before the House and defeated, and it requires a two-thirds vote to pass it. We must vote on the amendment and not on the recommendation.

Vice-Speaker Williams: I would like to call your attention, Dr. Schiff, to the fact that this resolution was submitted last year, and the speaker referred it as a resolution to this committee. This committee has not formulated an amendment. This resolution does not carry with it the exact verbiage of an amendment, so I cannot as chairman consider this an amendment to the Bylaws. This is still a resolution.

Dr. Leo F. Schiff: Mr. Vice-Speaker, it has been the custom of this House many times, even on the last day of the last meeting, for someone to get up and say, "I will propose amendments." He does not give the exact wording, but says, "I will give you notice that an amendment abolishing this or doing that will be presented next year." He has all year to present it until just before the meeting, when it can be published. This states unequivocally that the Bylaws be changed, which is equivalent to an amendment. I would consider this a notice for amendment to the Bylaws, and request that you vote on the amendment to the Bylaws. It is a small matter. Why waste a lot of time? Let us vote on the amendment. Let us defeat it. I am for defeating it, but let us vote on the amendment, and no one can say we voted incorrectly.

Vice-Speaker Williams: Will you be good enough to read the amendment, sir—not the resolution; the amendment?

Dr. Leo F. Schiff: This is a notice of an amendment.

Vice-Speaker Williams: How can I read an amendment to the House if I have not got one?

Dr. Leo F. Schiff: Let us pass the whole thing up until next year.

Dr. William B. Rawls, *New York:* Mr. Speaker, "*Resolved,* that the Bylaws of the Medical Society of the State of New York be changed so as to eliminate the district branches," that is the "resolved" in the resolution you are discussing?

Vice-Speaker Williams: That's it.

Dr. Rawls: It is a resolution, isn't it, sir?

Vice-Speaker Williams: So I would hold.

Dr. Gerald D. Dorman, *Councillor:* On the resolution!

Vice-Speaker Williams: On the resolution, is there any further discussion? Is there an appeal from the ruling of the chair that this is a resolution?

. . . There was no response . . .

Vice-Speaker Williams: The recommendation of the committee is that the resolution be not adopted. Are you ready for the question?

. . . There were calls for the question, and the motion was put to a vote and was carried . . .

Vice-Speaker Williams: The recommendation of the committee stands adopted. Proceed, Dr. Anderton.

Secretary Anderton: Continuing:

We recommend the adoption of the following resolution submitted by the Committee on Constitution and Bylaws: That a referendum be conducted as provided for in Chapter X of the Constitution and the type of ballot submitted by the committee be the one utilized in this referendum.

I so move.

Dr. Arthur Lamb, *Kings:* I second it.

Vice-Speaker Williams: Is there any discussion of the referendum?

Dr. Leo F. Schiff: What is the subject of the referendum? It says "a referendum." Why not in the recommendation make a statement that a referendum on thus and so or something else be conducted?

Vice-Speaker Williams: The whole paragraph above spells that right out, sir. It is spelled right out there in the paragraph above. Is there any further discussion?

Dr. Leo F. Schiff: "We recommend the adoption of the following resolution," now there is no resolved on this one. Then it says, "That a referendum be conducted," but it does not say to take care of the matters above discussed; it just says "a referendum."

Vice-Speaker Williams: "As provided for in Chapter X of the Constitution and the type of ballot submitted by the committee be the one utilized in this referendum." Is there any further discussion?

Dr. Herbert S. Ogden, *New York:* Strike out the words "the one," and there won't be any question.

Dr. Leonard J. Schiff, *Clinton:* I regret we seem to be occupying the floor, Mr. Speaker. Could we have discussion of this referendum? It is divided into two parts. It concerns two different subjects. I am in favor of the one and opposed to the other.

Vice-Speaker Williams: Do you want to amend your motion and take it up in two parts?

Secretary Anderton: I think that would be advisable.

Vice-Speaker Williams: Does the seconder accept that?

Dr. Lamb: Yes.

Vice-Speaker Williams: We go then into the discussion of a referendum on Subject No. 1 on page 1149. Do you move the adoption of this, Mr. Secretary?

Secretary Anderton: Yes, sir.

Vice-Speaker Williams: Is there a second?

Dr. Moses H. Krakow, *Bronx:* I second it.

Vice-Speaker Williams: Is there any discussion of this first referendum?

. . . The question was called, and the motion was put to a voice vote, and as there was some question as to the outcome, it was put to another voice vote and was carried . . .

Vice-Speaker Williams: Now will you move the adoption of the second?

Secretary Anderton: I move the adoption of the second.

Dr. Arthur Lamb, *Kings:* I second it.

Vice-Speaker Williams: Is there any discussion of the second?

Dr. Leonard J. Schiff, *Clinton:* I am opposed to the adoption of this referendum at this time for the following reasons: In the first place, with all due respect to Dr. Aaron and his committee, I believe it is a loaded question. It says, "I am in favor of elimination of the district branches." They might just as well have said, "I am in favor of continuing the district branches."

The second reason, several of the district branches, among them my own, are currently in the process of reorganization—a process in which we are changing the type of our meetings. We are doing some experimenting. Many of our members are not aware of this change and will not be aware of it for at least a year or two.

I would like, therefore, to suggest that we do not adopt this referendum at this time, but that it be tabled or no action taken. It seems to me a bad time for this resolution with the district branches in their present state of flux.

Vice-Speaker Williams: Do you move to table it?

Dr. Leonard J. Schiff: I move to table.

Vice-Speaker Williams: Is it seconded?

Dr. Sydney L. McLouth, *District Delegate:* I second the motion to table the second referendum.

. . . The motion was put to a vote and was carried . . .

Vice-Speaker Williams: It is tabled. Continue, Mr. Secretary.

Secretary Anderton: Continuing:

Conclusion.—The chairman of the committee desires to express his sincere appreciation of the unfailing efforts, suggestions, and ideas on the part of Dr. Anderton and his staff; also the keen interest and stimulation that have been accorded him by Drs. Gamble and Reuling.

Respectfully submitted,
A. H. Aaron, M.D., *Chairman*

I move the adoption of this report, as amended.

Dr. Samuel Frant, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Vice-Speaker Williams: Thank you very much, Mr. Secretary.

Section 88 (See 34)

Announcement of Death of Dr. James Bennett

Speaker Holcomb: The speaker has a brief notice to give you. We have just received word that Dr. James Bennett, who received the citation for being the outstanding general practitioner of the year, passed away this morning. The chair will entertain a motion that the secretary send a letter of sympathy to his family on behalf of the House of Delegates.

Dr. Philip D. Allen, *New York:* I so move.

Dr. Samuel Frant, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Speaker Holcomb: The chair will also call a ten-minute recess to stretch and rest yourselves.

. . . Recess . . .

Speaker Holcomb: The House will come to order.

Members of the House, we have made very excellent progress this morning. We are hoping that events will progress smoothly enough so we might be able to avoid a night session or at least a late night session. We hope that everything will continue as smoothly as it has so far.

I will request that all of the members of the House state their name and county when they second any resolution or any motion. Our stenotypist has had considerable difficulty in getting the names of the ones who seconded any motion or resolution. Sometimes certain names have been shouted to her who apparently were not pleased about being the ones who were mentioned as seconding the motion or resolution. Will you kindly follow that instruction?

Section 89 (See 10)

Report of Reference Committee on Report of Council, Part XI: Public Relations

Speaker Holcomb: The first item or the next order of business rather is the report of the reference committee on Report of the Council, Part XI, Publication and Public Relations, of which Dr. Felix Ottaviano is chairman. I believe he will give public relations first, and then publication next, in that order.

Dr. Felix Ottaviano, *Madison:* Mr. Speaker and members of the House, you will note there is a shift in the order of this report, which was done purely for convenience and expediency. We have placed public relations ahead of publication. The reason for that will become apparent soon.

Public Relations: Your committee recommends approval of the report of the Council Committee on Public Relations, as published in the annual reports of the Medical Society of the State of New York. I so move.

Dr. W. Walter Street, *Onondaga:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Ottaviano: 56–B, Supplementary Report of the Public Relations Committee, your committee recommends approval of this report, as published. I so move.

Dr John E. Lowry, *Queens:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 90 (See 46)

Report of Reference Committee on Report of Council, Part XI: Commendation for "Medicine at Midnight" Broadcasts

Dr. Felix Ottaviano, *Madison:* 56–9, Commendation for "Medicine at Midnight" Broadcasts, your committee recommends approval of this resolution, and I so move.

Dr. James E. Glavin, *Essex:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 91 (See 52)

Report of Reference Committee on Report of Council, Part XI: Guide for Cooperation Between the Medical and the Legal Professions

Dr. Felix Ottaviano, *Madison:* 56–15, Guide for Cooperation between the Medical and Legal Professions: Your committee recommends approval of this resolution. I so move.

Dr. Edward Siegel, *Clinton:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Felix Ottaviano, *Madison:* This concludes the report on public relations, Mr. Speaker, and I move adoption of this portion of the report.

Dr. Gerald D. Dorman, *Councillor:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 92 (See 13)

Report of Reference Committee on Report of Council, Part XI: Publication

Dr. Felix Ottaviano, *Madison:* Your committee recommends approval of the report of the Publication Committee, as published in the annual reports of the Medical Society of the State of New York. I so move.

Dr. W. Walter Street, *Onondaga:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Ottaviano: 56–E, supplementary report of the Publication Committee: your committee recommends approval of the supplementary report of the Publication Committee. I so move.

Secretary Anderton: I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 93 (See 42)

Report of Reference Committee on Report of Council, Part XI: Objection to Certain Advertising in New York State Journal of Medicine

Dr. Felix Ottaviano, *Madison:* 56–5, Objection to Certain Advertising in New York State Journal of Medicine, resolution presented by Dr. Bernstein, of the Medical Society of the County of Kings, as an individual: Your committee, after considerable deliberation, in fact, two separate meetings on this particular problem, reversed its original opinion, and I think I should present to you some of the reasons for that reversal.

When the resolution was first read, it appeared that Dr. Bernstein was absolutely right in his criticism, but after hearing both sides of this problem, and after having heard both sides several times, and even other members of the House who offered their help in this matter, the committee decided to reverse its original decision.

The committee's new decision is simply this: While your committee recommends disapproval of this resolution in its present form, it agrees with the principle involved concerning the type of advertising which is to appear in the Journal. Your committee, therefore, recommends that this matter be referred to the Council for further study and clarification, and that a policy on advertising in the Journal be established and reported at the next House of Delegates.

The reason for that is simply this: I am not ready to ask for a motion, Mr. Speaker. I should like to try to clarify this a bit. The particular advertisement referred to in the resolution was Bufferin, and it would seem that if Bufferin were the only advertisement in question that we had a point and should have approved the resolution. However, on perusal and study we find there are many advertisements involved, and the arbitration action of this resolution would automatically cause the Publication Committee to throw out all of its advertisements which, as a matter of fact, are of a proprietary nature—and I defy anyone in this room to give us a definition of "proprietary." We even asked for legal advice on this. That being the case, the committee felt that it would be far better to refer this back to Council, not for some nebulous discussion, but for action and the formulation of a policy on advertising in the Journal. Therefore, Mr. Speaker, I move the adoption of this portion of the report of the reference committee.

Speaker Holcomb: Is there a second?

Dr. Charles Sandler, *Bronx:* I will second it.

Speaker Holcomb: Is there discussion?

Dr. Benjamin M. Bernstein, *Kings:* A very good, and a very new, and a very inexperienced nurse assisting her new employer, who was a well-known allergist, was standing by with a tray of syringes and extracts ready for use, and she listened to the recital of complaints and what ointments this patient had used on her skin. She finally turned to the doctor and said, "Doctor, I didn't hear her mention Sure-Curer."

Well, it is the sure-curers we want to try and stop. We can't stop the sure-curers advertised by the radio, television, and newspapers, because we have no control over those media, but certainly we physicians should be and are in control of the membership-controlled organs of our own and should be able to stop the sure-curers from being sponsored by our own organs and by our own men.

It is rather difficult, as Dr. Ottaviano said—and I agree with him—to determine what is proprietary and what is lay sponsored and what is not. I have all the confidence in the world in the Council, but let me tell you this if I may—and it is not a secret at all—when I first complained about this advertising in the State Journal, the Publication Committee, I assume with the approval of the Council, agreed to stop the advertising when the contract had expired. They then reversed themselves and changed their minds for reasons best known to themselves. I only hope that the Council in deliberating again on the kind of advertising which we should—and incidentally this concerns the American Medical Association as well, which published an article on the same particular substance which we are talking about—when the Council deliberates again it will take into consideration the welfare of the doctor as a whole and what he has to contend with, with so many new doors being opened daily to defeat the practice of medicine as we have known it for so many years. There are times when one lets pecuniary and financial interests enter into the picture, and I hope that won't be the case here. I am sure it won't be; it shouldn't be. But let us keep all of those doors closed. This is a dangerous door to open, even if it is permitted to remain open to the slightest degree. I hope the Council takes that into consideration.

Speaker Holcomb: Thank you, Dr. Bernstein! Apparently Dr. Bernstein approves of the intent of the motion. Is there any further discussion?

. . . There being no further discussion, the motion was put to a vote and was carried . . .

Dr. Ottaviano: Now, Mr. Speaker, I should like to move the adoption of the report as a whole.

Dr. Gerald D. Dorman, *Councillor:* I second that motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Ottaviano: Now, Mr. Speaker, may I take a minute to thank both Dr. Bernstein and the members of the Publication Committee, Dr. Redway and Dr. Masterson, and others, who were kind enough to come to our meeting and cooperated so graciously in getting this thing straightened out; also to thank the members of my committee for their excellent cooperation. Thank you.

Speaker Holcomb: Thank you, Dr. Ottaviano.

Section 94 (See 17)

Report of Reference Commitee on Report of Council, Part V: Public Health Activities D: Physical Medicine and Rehabilitation

Dr. John L. Sengstack, *Suffolk:* Your reference committee has reviewed the work of the subcommittees of the Council, Part V, Public Health Activities D, relating to (1) physical medicine and rehabilitation, (2) geriatrics, (3) diabetes, (4) hard of hearing and the deaf.

In the work of the Subcommittee on Physical Medicine and Rehabilitation we note that important progress was made in removing restrictions of the State Education Department relative to preliminary education for concentrated physiotherapy training.

This, they expect, will reduce the personnel shortage in all areas of rehabilitative work. The medical schools of the State were encouraged to establish courses in physiotherapy and to discuss ways and means for financing such courses. A program for recruiting students is being formulated.

The committee also formally defined a "Rehabilitation Center" as "A Medical Agency which meets the total rehabilitation needs of the patient. It should be under the direction of a physician adequately trained in physical medicine and rehabilitation who devotes sufficient time to insure good supervision.

"The Center should have available all medical specialties for consultation and should include the following ancillary services: Physical therapy, occupational therapy, speech and hearing therapy, vocational counseling, psychologic services and social service."

The question of establishing a fee schedule under Workmen's Compensation for specialists in rehabilitation is being considered.

I move you, sir, the adoption of this part of the report.

Speaker Holcomb: Is there a second?

Dr. Harry Golembe, *Section Delegate:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 95 (See 18)

Report of Reference Committee on Report of Council, Part V—Public Health Activities D: Geriatrics

Dr. John L. Sengstack, *Suffolk:* The Subcommittee on Geratrics has been concerned with interesting the profession in the problems of the aging population. Four major objectives have been outlined as follows:

1. Utilization by county societies of postgraduate educational facilities of the Committee on Public Health and Education;
2. Close examination of legislation affecting the aged;
3. Preparation of a program of cooperation with lay organizations;
4. Cooperation with Bureau of Chronic Disease and Geratrics.

I move the adoption of this portion of the report of the reference committee.

Dr. George E. Anderson, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 96 (See 19)

Report of Reference Committee on Report of Council, Part V—Public Health Activities D: Diabetes

Dr. John L. Sengstack, *Suffolk:* The Subcommittee on Diabetes has carried on its work of encouraging county medical societies to participate in the annual diabetes detection drive which is a yearly, never-ending process originating as a project of the medical profession.

Progress was reported in coordinating the efforts of the various groups concerned with this problem, especially the American Diabetes Association and state and county medical societies. We are appreciative of the cooperation of the State Department of Health.

I move you the adoption of this portion of the report.

Dr. Elton R. Dickson, *Broome:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 97

Report of Reference Committee on Report of Council, Part V: Public Health Activities D: Hard of Hearing and the Deaf

Dr. John L. Sengstack *Suffolk:* The Subcommittee on Hard of Hearing and the Deaf reported on the cooperation of Departments of Health of both City and State of New York in publishing articles and "alerts" submitted by Dr. E. P. Fowler for the committee. The chairman is a member of the Subcommittee on Accident Prevention and is assisting in determining the criteria of physical and mental disability in applicants for motor vehicle operators' licenses. The question of inequities in administration of the State law on hearing aids was discussed with Dr. Hilleboe, who pointed out that under the new program the rate of approvals would accelerate. The committee, however, feels that more work must be done to standardize procedure for State aid.

Your reference committee wishes to commend the members of the subcommittee for their work, and to express the hope that all the recommendations suggested in the reports will be studied and carried out wherever possible.

I move you, sir, the adoption of this portion of the report.

Dr. George E. Anderson, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Sengstack: Now I move the adoption of the report of the reference committee as a whole.

Secretary Anderton: I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Sengstack: May I also thank the members of my committee, Elton R. Dickson, G. E. Anderson, Harry Golembe, and Thomas S. Bumbalo.

Speaker Holcomb: Thank you, Dr. Sengstack.

Section 98 (See 25)

Report of Reference Committee on Report of Council, Part IX: Legislation

Dr. Samuel B. Burk, *New York:* Mr. Speaker, ladies and gentlemen, members of the House, I have a lot of data here relating to legislation, which is really informative, so I don't think you will find very much in it that will bring forth any discussion.

The reference committee on legislation wishes at this time to commend the heroic efforts of the Council chairman of legislation, Dr. Henry I. Fineberg of Queens, and Dr. Harold B. Smith, State executive officer at Albany (*applause*) for their visits to nine areas of the State where they met one or more members of the Council Committee on Legislation. They also met county medical legislation chairmen with whom they discussed the legislation program in detail on an informal basis. In this way they were able to emphasize the importance of local chairmen, members of their committees, and their associates in furthering legislative problems. In one of their visits (in Westchester) they were fortunate to meet with members of the Legislature.

I move the adoption of this part of the report.

Dr. Charles Sandler, *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Burk: The Council Committee succeeded in bringing about a change in the Workmen's Compensation Law so that disputed medical bills would be settled at the place where the treatment was rendered rather than where the patient resided.

I move the adoption of this part of the report.

Dr. Irving J. Sands, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Burk: The Council Committee should be complimented on their success in bringing about a change in the Municipal Indemnity Law (Section 50-d of the General Municipal Law) whereby a municipality will provide any resident physician or any other physician or dentist rendering medical or dental services to a person gratuitously with indemnification for such a physician or dentist for malpractice in a municipal hospital.

I move the adoption of this part of the report.

Dr. Adelaide Romaine, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Burk: The reference committee wishes to reiterate and emphasize the statements of President R. J. Azzari relating to legislation which delegates and members of the Medical Society of the State of New York will find on pages 1064 and 1065 of the April 1 issue of the New York State Journal of Medicine. Fraternizing with members of the Senate and Assembly should be encouraged. Meetings once a year or preferably more often will bring about a closer relationship between physicians and legislators. Doctors should always emphasize that contemplated changes in the law are for the betterment of the legislators' constituents.

I move the adoption of this part of the report.

Dr. Irving J. Sands, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Burk: After much effort by the executive committee of the Council Legislation Committee the status of psychologists remains unchanged.

I move the adoption of this part of the report.

Dr. Irving J. Sands, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Burk: Efforts to have a bill passed emanating from the New York State Pharmaceutical Association relating to filling prescriptions containing certain narcotic drugs or compounds possessing little or no addiction liability were not supported by the New York State Legislation (Medical) Committee; it was not presented to the Legislature.

I move the adoption of this part of the report.

Dr. Charles Sandler, *Bronx:* I second the motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Burk: The reference committee wishes to commend the Committee to Combat Cults, consisting of Dr. Henry I. Fineberg, Dr. Floyd S. Winslow, Dr. Theodore J. Curphey, Dr. W. P. Anderton, Dr. Harold B. Smith, and Mr. Frederick Miebach, director of the Public and Professional Relations Bureau, for the successful development of the antichiropractic campaign. Field representatives of the Bureau of Public and Professional Relations were on the alert at all times, toured the entire State and distributed appropriate educational material. The reference committee wishes to go on record in thanking the Woman's Auxiliary for their entry into the campaign with great zeal.

Letters and literature were mailed to the presidents and to the legislation and public relations chairmen of the county medical societies and to the members of the Senate and Assembly.

The reference committee is very grateful to all members of our Society and to many others who helped. It is noted that the New York State Nurses' Association and the New York Chapter of the Physical Therapy Association openly disapproved the bill to license chiropractors. Letters containing these sentiments were forwarded to the chairman of the Senate finance committee and to the chairman of the Assembly ways and means committee. It is interesting to note that, during the campaign against chiropractic licensure, the Bureau of Public and Professional Relations distributed over 140,000 pieces of literature. The most popular item was the new leaflet "Should Chiropractors Be Licensed?" of which 62,000 copies were sent all over the State. Next in demand were: "Science vs. Chiropractors" (28,550); "Why Chiropractors Should Not Be Licensed" (30,500), and "The Scope of Chiropractic" (20,000). Despite all this activity, only about $2,700 was spent for the antichiropractic project. Your reference committee feels that this money was well spent.

I move the adoption of this part of the report.

Dr. George E. Anderson, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Burk: The next portion of the report relates to autopsies—AI 1524, Pr. 1559, Mrs. Strong—the purpose of this bill, which was also sponsored by the Hospital Association of the State of New York, was to amend the public health law in order to permit a single relative responsible for the burying of a deceased to act on behalf of all of the next-of-kin to give authority for an autopsy. Due to opposition from unexpected sources—again on a religious basis—it did not receive a favorable reception. For this reason, Mrs. Strong recommitted it, and the return of the bill to committee effectively "killed" it as far as this session of the Legislature was concerned.

It is hoped that the Council will instruct the Council Legislation Committee to sponsor this legislation next year.

I move the adoption of this part of the report.

Dr. Irving J. Sands, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Burk: The reference committee wishes to praise the chairman of the Council's Legislation Committee for alerting the community and bringing to their attention a very fine article which appeared in the April, 1956, issue of *Reader's Digest,* "The Truth About Autopsies," written by Albert Q. Maisel, a layman. It should be publicized. Reprints will be distributed to members of the Legislature, to the Governor, and to others throughout the State.

I move the adoption of this part of the report.

Dr. Arthur Lamb, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Burk: The reference committee next studied the report relating to the Advertising Bill, and as expected there was opposition from newspapers. The bill as finally introduced added to the present law prohibiting advertising by "television, magazines, telephone directories, classified telephone directories, or classified directories or by means of flamboyant or glaring or flickering signs." It did not come out of committee despite all the efforts of our bureau to get favorable action.

I move the adoption of this part of the report.

Dr. George E. Anderson, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Burk: The reference committee studied the Injunction Bill, and wish to report the following: This bill did not leave the committee. It is interesting to note that an injunction bill introduced by the dentists, which prevents dental mechanics from practicing dentistry, passed both houses, and was signed by the Governor. With this precedent in mind, and in view of Attorney General Javits' message to the Legislature and Governor recommending that some action be taken to prevent persons from illegally practicing medicine, the reference committee recommends that the Council renew efforts next year for the passage of an injunction bill.

I move the adoption of this part of the report.

Dr. Arthur Lamb, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Burk: Regarding workmen's compensation bills, the reference committee on legislation wishes to record that only one of the four desired changes successfully passed. This amendment to Section 13(d) of the Workmen's Compensation Law has already been noted. The committee hopes that the Council will instruct the new Council Legislation Committee to make other desired changes when the Legislature again convenes. The groundwork must be undertaken in advance of the meetings of the Assembly and Senate.

I move the adoption of this part of the report.

Dr. Ben A. Borkow, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Burk: Free Choice Bills—there are a number of them—SI 1102, Mr. Condon; AI 1580, Mr. Wilson, calling for free choice of physicians; and SI 1103, Pr. 1161, Mr. Condon; AI 1579, Pr. 1615, Mr. Wilson, calling for free choice of plan—were not approved. This action was expected. It should be remembered that the Council of the Medical Society of the State of New York decided to sponsor these measures although it was realized that the problem of free choice concerns the metropolitan area of New York City more than the rest of the State. The battle for this legislation must be fought in the City of New York.

I move the adoption of this part of the report.

Dr. Gerald D. Dorman, *Councillor:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Burk: Health Officer Bill, SI 1053, Pr. 1596, Mr. Metcalf; AI 1097, Pr. 2072, Mrs. Strong: Sponsored by the Health Officers' Association of New York State relating to an increase in salaries, this bill did not pass because it was opposed by the various local government agencies.

I move the adopton of this part of the report.

Dr. Sydney L. McLouth, *District Delegate:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Burk: Hospital Practice of Medicine, SI 2190, Pr. 2380, Mr. Pino—this was similar to the bill introduced in past years by Senator Friedman. Senator Pino's proposal would provide that every hospital which is sponsored by public funds or by private subscriptions or receives tax exemption shall be restricted to the employment of physicians and surgeons only for public charge cases. It would prohibit the practice of medicine by hospitals—the vending by hospitals of medical diagnosis and treatment. Opposition to this bill came from hospital associations and individual hospital people throughout the State. It was defeated in committee. It is the opinion of the reference committee that this legislation should be reviewed and re-evaluated after the Iowa case has been finally settled in the higher courts.

I move the adoption of this part of the report.

Dr. George Himler, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Burk: Medical Technician Bill, SI 2777, Pr.

3033, Mr. McCullough; AI 3033, Pr. 3558, Mr. Meighan—this bill makes an exception to the Medical Licensing Law "the employment of medical technicians under the supervision of duly licensed physicians." It was introduced by certain ophthalmologists, who hoped that it would block the interference by optometrists with the use of such technicians. It was opposed by physiotherapists and remained in committee.

I move the adoption of this part of the report.

Dr. John L. Edwards, *Columbia:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Burk: Hermann M. Biggs Memorial Hospital, SI 505, Pr. 508, Mr. Metcalf; also introduced in the Assembly by Mr. Ashbery: This entails the transference of the Hermann M. Biggs Memorial Hospital from the State of New York to the County of Tompkins. As explained on previous occasions, there were some rumblings of opposition to this bill by a number of county medical societies. However, inquiry disclosed that this resentment was not completely organized. The Council of the Medical Society of the State of New York, therefore, gave its approval to this legislation. It was passed by both houses and signed by the Governor. The chairman of the Council's Legislation Committee received a fine letter from Commissioner Hilleboe thanking the State Society for its support. Commissioner Hilleboe informed the Committee on Legislation that he will follow through and contact the nine county medical societies involved in the Hermann Biggs district and do everything in his power to provide continuing tuberculosis services for the patients of physicians in these counties at the same high level of quality as in the past. The reference committee cites a quotation from the Commissioner's note: "I am sure you appreciate that I will have many administrative and fiscal headaches in making this transition. What bothers me the most is that some employes will have to look elsewhere for jobs and some will have to transfer to other areas. However, this is the price we pay for progress in tuberculosis control. It isn't often a department head can save the taxpayers in the State over two million dollars in one year. The State Health Department is very proud of this accomplishment even though it was a difficult one to achieve. Again, thank you for your fine cooperation."

I move the adoption of this part of the report.

Dr. Philip D. Allen, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Leo F. Schiff, *Trustee:* Since most of this matter is informative and before all of us on the mimeographed sheets, I would like to ask if this could not be streamlined and mostly read by title, and copied in, and action taken by the House on it in that way and get rid of it within a reasonable time.

Speaker Holcomb: I believe the chair will rule that could be done, if Dr. Burk will briefly summarize it.

Would the House agree that this procedure be followed? Those in favor say "Aye"; those opposed "No."

Dr. Burk, you may summarize.

Dr. Burk: Medical Practice by State Employes, SI 2175, Pr. 2365, Mr. Metcalf; AI 2621, Pr. 2766, Mr. Calli: Extends to all political subdivisions, provision applying to municipalities that an employe who is a physician in a hospital or institution need not be licensed or have a temporary certificate, and permits issuance of temporary certificates to graduates of registered medical schools of Canada who meet certain educational requirements. It amends the Education Law, Section 6512. It puts graduates of Canadian medical schools in the same category as those in the United States. This bill was passed and signed by the Governor. The provisions in the original bill which would permit physicians employed by the State to practice medicine outside of hospitals if they have no license but have a temporary certificate were withdrawn, in accordance with the wishes of the Medical Society of the State of New York.

I move the adoption of this part of the report.

Dr. George Himler, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Burk: AI 2995, Pr. 4571, Mrs. Strong: Permits county tuberculosis hospitals to admit for study and care persons with chronic, nontuberculous diseases of the chest, subject to rules of the State Health Commissioner with the advice of an advisory committee consisting of five members, including three superintendents of county tuberculosis hospitals and two representatives of the State Medical Society. This is an addition to the County Law, Section 391-a. It was passed by both houses and signed by the Governor.

I move the adoption of this part of the report.

Dr. James M. Blake, *Schenectady:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Burk: The reference committee next noted an amendment to the Education Law, Section 211—AI 2194, Pr. 2308, Mr. Brady; SI 1657, Pr. 1783, Mr. Neddo: Permits the Board of Regents in its discretion to suspend execution of the determination of censure and reprimand or suspension or revocation of license of practitioner of any profession under its supervision, and to place practitioner on probation subject to compliance with conditions which the Board may determine. It was passed and signed by the Governor.

I move the adoption of this part of the report.

Dr. Charles Sandler, *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Burk: SI 3239, Pr. 4087, Mr. Van Wiggeren: This was originally a licensing bill. As a result of protestations of the Medical Society of the State of New York, and with the support of the State Mental Hygiene Department, and in accordance with the concepts of the American Psychiatric Association, it was changed to a certification bill. This was not opposed. It passed both houses and was signed by the Governor.

I move the adoption of this part of the report.

Dr. Irving J. Sands, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Burk: The reference committee reviewed the change in the Hospital Proprietary Bill. Proprietary Hospital Bill, SI 1628, Pr. 1730, Mr. Milmoe; AI 2216, Pr. 2330, Mr. Dwyer: Provides that only physicans duly licensed by the State Education Department and partnerships thereof may operate hospitals for profit, except those in operation on this date and licensed or approved by the Social Welfare Department. It permits the practice of medicine of unlicensed physicians employed by proprietary hospitals, if eligible for admission to medical licensing examination with certificate issued by the department therefor, and if they are under the supervision of a duly licensed physician employed full-time therein. It amends Education Law, Section 6512, and is an addition to the Social Welfare Law, Section 35-b. This bill was evolved after deliberations held by the State Interdepartmental Health Council. It was passed and signed by the Governor.

I move the adoption of this part of the report.

Dr. William B. Rawls, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Burk: SI 928, Pr. 4189, Mr. Metcalf: The reference committee studied this bill, which authorizes the president of the Civil Service Commission with the approval of the new Health Insurance Board, created in the Civil Service Department, to establish health insurance plans for State officers and employes and their dependents, and to contract with insurance companies therefor, with contributions to be made by employes and deducted from salaries or retirement allowances. This is an addition to the Civil Service Law, Article 7. It was passed and signed by the Governor.

I move the adoption of this part of the report.

Dr. George Himler, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Speaker Holcomb: Read the thought of the bill, not all of the details.

Dr. Burk: We next come to the bills opposed by the Medical Society.

Bill Redefining Practice of Optometry, SI 2186, Pr. 2376, Mr. Neddo; AI 2695, Pr. 2874, Mr. Composto: Section 7101 of the Education Law presently defines the scope of optometry as including "ocular exercises." This amendment states that "ocular exercises" are also termed "orthoptics, visual training, or vision training or eye training." The Governor was asked to veto this bill, but disregarded our wishes in this matter and signed it. Leading ophthalmologists were contacted by your reference committee and the ophthalmologists were not materially interested.

I move the adoption of this part of the report.

Dr. Thomas H. McGavack, *New York:* I second that motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Burk: Workmen's Compensation Medical Reports to Claimant's Licensed Representative or Attorney, SI 2718, Pr. 2974, Mr. Gilbert; AI 2848, Pr. 3027, Mr. Walmsley: Amends the Workmen's Compensation Law. Requires that copies of medical reports of workmen's compensation claimant's attending physician or medical consultant shall be transmitted to claimant's licensed representative or attorney upon attorney's request and claimant's request in writing, and to provide for removal of physician from list for failure to transmit copies. This is somewhat of an improvement over the original bill which required that reports be sent to claimants. This bill was signed by the Governor.

I move the adoption of this part of the report.

Dr. Moses H. Krakow, *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Burk: There is some further data on the campaign against chiropractors, which I think this is an opportune time to mention.

The reference committee wishes to note that Dr. Dominick F. Maurillo, a member of our Society and also a member of the Board of Regents of the State of New York, was very helpful in the antichiropractic campaign. The reference committee agrees with the Council Committee on Legislation that the blueprint of our 1957 antichiropractic campaign should be started very soon. A majority of the members of the Board of Regents still believe that chiropractors must be licensed. A meeting to discuss this matter was held on April 11. Drs. Azzari, Greenough, Anderton, Maurillo, and the Council's chairman of legislation, Dr. Henry I. Fineberg, were present. The chiropractic situation was again thoroughly discussed. It was finally determined that the Legislation Committee and the Committee to Combat Cults should promulgate its plans long before the opening of the Legislature in January, 1957.

I move the adoption of this part of the report.

Dr. William B. Rawls, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Burk: There were a number of bills of interest to physicians which never came out of committee.

Bioanalyst Licensing, SI 2573, Pr. 2802, Mr. Hults; AI. Pr. 4064, Mr. Burns: this Bill would provide a system for licensing laboratory technicians in clinical laboratories.

Separate Physiotherapy Examining Board, SI 2029, Pr. 2190, Mr. Brydges; AI 2484, Pr. 2611, Mr. Wilson: Would establish a separate State Board of Physiotherapy Examiners.

Separate Physiotherapy Grievance Committee, SI 2379, Pr. 2596, Mr. Brydges; AI 2920, Pr. 3131, Mr. Wilson.

Dog Law Repeal, SI 2834, Pr. 3100, Mr. Condon; AI 3661, Pr. 3916, Mr. McDonnell: This was a bill to repeal the Metcalf-Hatch Dog Law.

Autopsies, SI 2266, Pr. 2464, Mr. Gilbert; AI 1795, Pr. 1854, Mr. Mohr: A bill which would make a hospital or physician liable for punitive damage if they made as a condition precedent to the delivery of a cadaver the performance of an autopsy.

Malpractice Statute of Limitations, AI 1248, Pr. 1275, Mr. Lentol: This would extend the statute of limitations of malpractice so that it commences running only when the malpractice is discovered and not when performed.

Workmen's Compensation Rehabilitation Clinics, SI 515, Pr. 518, Mr. Santangelo; AI 344, Pr. 344, Mr. Podell: This bill would provide for the licensing of rehabilitation clinics to care for workmen's compensation cases.

I move the adoption of this part of the report.

Dr. Arthur Lamb, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Burk: The reference committee wishes at this time to summarize the activities of the Council's Legislation Committee. This committee sponsored the introduction of ten bills. Two were passed by both houses of the Legislature and signed by the Governor. We supported seven additional bills. Of these, four were approved by the Legislature and signed by the Governor. We did not oppose three other bills—they all were passed and signed. The committee opposed ten bills, of which eight were defeated in the Legislature, two were passed and signed by the Governor.

I move the adoption of this part of the report.

Dr. Gerald D. Dorman, *Councillor:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Burk: During the past few weeks, at the request of the American Medical Association, the Council's Committee on Legislation was alerted to the "Old Age Survivors Insurance Plan" and advised to inform the county medical societies legislation chairmen and the members of the Legislation Committee with instructions to protect against the provisions contained in HR 7225. All physicians throughout the State were to contact certain representatives and our two Senators to impress upon them that the medical profession was definitely against this plan, from the viewpoint of public policy.

I move the adoption of this part of the report.

Dr. Frederick A. Wurzbach, Jr., *Bronx:* I second the motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Burk: Please be heartened by the fact I have just a few more here.

The reference committee wishes at this time to impress the delegates with the importance of the Legislative Bureau in Albany and finds that it has been materially helpful in connection with obtaining approval of the bills we desired. The amount of work they performed cannot be noted except under close perusal of this report, which has been only part of their activities.

I move the adoption of this part of the report.

Dr. Irving J. Sands, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Burk: I move the adoption and approval of the report as a whole.

Secretary Anderton: I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Burk: The chairman of the reference committee at this time wishes to thank the members of the Bureau for their attendance at the meeting of the reference committee, and also the other members of his own reference committee, Dr. Charles Sandler, of the Bronx; Dr. Sydney L. McLouth, of the Eighth District; Dr. Irving J. Sands, of Kings County, and Dr. John L. Edwards, of Columbia County. Respectfully submitted.

Section 99 (See 48)

Report of the Reference Committee on Report of the Council, Part IX: Second Hoover Commission Report

Dr. Samuel B. Burk, *New York:* We have had a few resolutions referred to us. One was introduced by Dr. Howley relating to the Second Hoover Commission Report.

Chorus: What is the number?

Dr. Burk: Resolution 56–11 referring to the Second Hoover Commission Report: Your reference committee recommends the reference of this resolution to the Council for further action. I so move.

Dr. William B. Rawls, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 100 (See 65)

Report of the Reference Committee on Report of Council, Part IX: Hospital Practice of Medicine

Dr. Samuel B. Burk, *New York:* This is resolution 56–28 entitled "Hospital Practice of Medicine." The reference committee recommends the approval of this resolution, and it is also contained in the review of the Legislation Committee's activities. I so move.

Dr. George Himler, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 101 (See 49, 70)

Report of the Reference Committee on Report of the Council, Part IX: Taking Blood for Alcoholic Testing

Dr. Samuel B. Burk, *New York:* Resolution 56–12 entitled "Taking Blood for Alcoholic Testing"—

Speaker Holcomb: You will have to look at this because the reference committee wishes to amend that resolution.

Dr. Burk: That is right. The reference committee wishes to amend the above resolution by deleting the last resolved therefrom.

Chorus: We can't hear you.

Dr. Burk: I will be glad to repeat it. The reference committee wishes to amend the above resolution by deleting the last resolved.

Speaker Holcomb: Will you read the resolved?

Dr. Burk: Yes, I have it right here:

> *Resolved*, that this House of Delegates recommend that no New York State physician take blood for alcoholic testing purposes until adequate protection against liability is provided for the physician.

And it is preceded by a resolved stating:

Resolved, that this House of Delegates hereby instruct the Council of the Medical Society of the State of New York to take such action as is necessary to secure protection for members of our Society through legislation or other means.

We want to cut out this last resolved recommending that no doctors take any blood under any circumstances until they are sure of what their ground may be. I would like to hear from our counsel on that, if he has any comments to make—our legal counsel.

Speaker Holcomb: Is our legal counsel present? Is there any discussion? If not do you move it?

Dr. Burk: I move the adoption of the resolution as amended.

Speaker Holcomb: Dr. Burk moves the adoption of the resolution as amended.

Dr. Burk: That is right.

Dr. Charles W. Frank, *Bronx:* I second it.

Speaker Holcomb: Is there any further discussion?

Chorus: Mr. Martin is now here.

Speaker Holcomb: Is there anything you can clarify about this particular portion, Mr. Martin?

Mr. Martin: Just a minute! I would like to read it first.

Speaker Holcomb: Is there any other discussion from the floor while Mr. Martin is briefing himself on this?

Dr. George A. Burgin, *Herkimer:* This resolution was introduced by the County of Herkimer, and the reason for it, as we explained to Dr. Burk, was the fact that in asking Dr. Smith of Albany for a clarification on this we received something along this line: That an opinion had been received from Martin, Clearwater & Bell that the group malpractice policy would cover insured physicians with respect to their neglect in withdrawing blood for alcohol determination, but in a later opinion, Martin, Clearwater & Bell also pointed out that the subject's consent to the withdrawal of blood was necessary, and that if the subject was incapable of giving consent the physician might expose himself to liability based on assault.

In our section of the State since receiving this opinion there has been a great deal of reluctance on the part of physicians to lay themselves open to criticism or suit along these lines, and it has been very embarrassing at times when a State trooper, for instance, has asked us to do it, and we have refused on the basis of this, and they were not aware of why we were refusing and felt that we were not cooperating. We are most anxious to cooperate, but we felt that this thing should be clarified so that we had some protection, either legal relief or through our malpractice insurance.

Mr. Martin: I don't have the letters, George, at the moment, but I can get them. However, may I make a suggestion, that this is not something to pass on in a minute or so. We certainly had no thought of discouraging the taking of these blood samples at any time. We might have made some recommendations about trying to get more legislation and more completely protect the doctor who took them. I would like to review the letters from our own office, and I wonder if this matter could not be put over for further discussion, and we could report probably to the Council at its next meeting after reviewing the correspondence. However, if you wish a quick decision before adjournment of the House, I will get the correspondence and try to review it and come up with some kind of a recommendation. Whatever you think, I will do.

Speaker Holcomb: I think we can withhold that. Would you rather have us withhold action on this until you can read it over carefully?

Mr. Martin: If there is any thought that some change in the law might be necessary, I wonder if it would not be better to quietly review this thing, and make some recommendations at the next meeting of the Council about it. There certainly was no general intent to discourage any doctor from participating in this program. However you must issue every warning, even if the warning is a warning of an unlikely event. We will review the correspondence and see what can be done to strengthen the doctor's position and protect him as much as possible.

Dr. Burk: I believe this is entirely a matter relating to a legal situation which would call for study by our legal counsel, and the second resolved indicates that this matter is to go before the Council of the Medical Society of the State of New York to take such action as is necessary to secure protection for our Society through legislation or other means. In other words, Mr. Martin and his associates will make a study of this situation and report it to the Council, who will review it, and then it will come to the notice of the members.

Incidentally, I want to say that Dr. Burgin was very helpful in coming before our committee yesterday, where he explained the situation, which I understood in detail, so I was fully aware of what was going on, but to take a patient and draw blood, of course, lays the doctor open to the charge of assault, or perhaps battery would be a better term, and makes the doctor liable. Of course there are many excuses that could be forthcoming for the taking of the blood, but that would be still confidential data.

Mr. Martin: Could I speak on it as a matter of information? I have just been informed that there is some reason to believe that the new driver's licenses that will be issued will have printed on the license that the issuance of the license is implied consent to the taking of the blood test, the blood alcohol test. There has been some assurance that that will be on the new licenses when they come out. There is nothing on the old licenses about it now.

Dr. Theodore J. Curphey, *Councillor:* Mr. Speaker, may I just comment on this matter of alcohol. It is a part of the general picture of accident prevention that the State Medical Society is now taking a very active interest in. It stems originally from a request that came to us from the Commissioner of Motor Vehicles in respect to some problems that he faced in regard to granting licenses to epileptics.

This matter has been under study for several months. The State Society has set up a broad base committee on accident prevention with the chairmen of certain of the subcommittees on public health and education. It is quite similar in respect to the protection of the physician as far as denying the right for licensing epileptics. The Commissioner of Motor Vehicles has assured the State Society that he will ask for an opinion from the Attorney General in respect to the physician's tag in the matter of these licenses for epileptics. As I see it, it is just the same problem as far as alcohol is concerned where the physician is involved, so I would think that it would be wise to withhold any action on the part of this House until the Commissioner of Motor Vehicles has obtained an opinion from the Attorney General as to what protection physicians have in this whole problem of accident prevention.

Speaker Holcomb: Thank you, Dr. Curphey.

Dr. Burk: May I at this time again ask that this matter be referred to the Council of the Society, then legal counsel and the Council can take this matter up, and let us know what the decision is so that we will all be notified through the State Medical Journal relating to the probabilities and possibilities of what the law is. We cannot rush this thing.

Dr. William B. Rawls, *New York:* We can't solve this thing here. This should not go to the counsel but to the Council for proper action. I so move we refer it to the Council for taking the proper action.

Dr. Philip D. Allen, *New York:* I second it.

Dr. Samuel Wagreich, *Bronx:* I am inclined to agree with the chairman of the reference committee. In that resolved the very question is taken up as has been advanced here, and I would suggest that we vote on this resolved which in effect means that it will be turned over to the proper Council committee for study and action at a later date.

Speaker Holcomb: I think Dr. Rawls' motion will cover that. All in favor of Dr. Rawls' motion will say "Aye"; contrary, "No." The motion is carried, and it is so ordered.

Dr. Burk: May I at this time thank everybody for listening to my long-winded report. I thank you all. (*Applause*)

Speaker Holcomb: The chair feels we have had a very busy morning, with only a short recess. I will call a recess now until 2 o'clock, with the reminder to the House of Delegates that we may possibly with good luck be able to finish without an evening session unless something unforeseen occurs.

Will you please reconvene at 2 o'clock promptly?

. . . The session recessed at 12:15 p.m. . . .

Afternoon Session

Tuesday, May 8, 1956

The session convened at 2:13 p.m.

Speaker Holcomb: The House will come to order.

Will the delegates please take their seats promptly? You know we have the possibility of a session which will not extend into the evening if we proceed smoothly.

Section 102 (See 31, 36, 85)

Introduction of Representatives from Other State Societies

Speaker Holcomb: Ladies and gentlemen, the first order of business this afternoon is a real pleasure. I feel quite privileged in having here our two distinguished guests from Connecticut: Dr. Oliver L. Stringfield, who is the immediate past president of the Connecticut Medical Society, and Dr. H. M. Marvin, who, shall I say, is the past president of the previous year. This I think is a very splendid custom they have. I think it would be a very fine idea if we consider that thought of having the past presidents—recent past presidents, may I say—visit the neighboring states.

I am going to ask Dr. McClintock to escort Dr. Stringfield and Dr. Marvin to the rostrum.

. . . Dr. John C. McClintock escorted Dr. Oliver L. Stringfield and Dr. H. M. Marvin to the rostrum amid applause. . .

Speaker Holcomb: Dr. Marvin will extend the greetings of Connecticut to the State Medical Society.

Dr. H. M. Marvin: Mr. Speaker, members and guests of the House, it is a very happy privilege to attend your one hundred fiftieth annual meeting as one of the representatives of your next door neighbor, the Connecticut State Medical Society.

Just two weeks ago today our house of delegates held its one hundred sixty-fourth annual meeting, and on that occasion we had the pleasure and honor of welcoming your two distinguished and most gracious representatives, Dr Anderton and Dr. Walter Mott. They brought us not only your greetings and good wishes but also the assurance that the relationship between our two societies is a continuing one based on mutual respect, and understanding, and confidence.

Your Society is many times larger than ours. We have only eight counties and three thousand members, and you have certain problems that we do not because of your size and also because of your pre-eminence in many important respects, but there are other problems common to both states, and it is our hope that even though we are relatively diminutive we may at least make a modest contribution toward the ultimate solution of some of them.

We, in Connecticut, find great pride and satisfaction in having New York as our neighbor, and particularly in knowing that we can look to the fine Medical Society of the State of New York for wise and enlightened guidance in trying to meet some of the problems that we face in the changing patterns of medical care and medical insurance.

I bring you the heartfelt congratulations and best wishes of the Connecticut State Medical Society. (*Applause*)

Speaker Holcomb: Dr. Stringfield!

Dr. Oliver L. Stringfield: I can only second the words of Dr. Marvin. I would like to greet some of my friends. I see old Thurman Givan over there. He and I fought many battles in the American Academy of Pediatrics, and I assure you that we are proud to have him among us of the Academy.

I wish you all very much success with your meeting. Greetings to all. (*Applause*)

Speaker Holcomb: Your speaker at this time feels very contrite about his last suggestion that in the future our past presidents visit the neighboring states. You have just heard that Dr. Anderton and Dr. Mott were our representatives, and I certainly did not mean to infer that they were not worthy representatives.

Section 103 (*See 170*) Resolution 56–39

Proposed Admendments to Constitution, Article XIII, and Bylaws, Chapter XVII

Introduced by Dr. Ezra A. Wolff, *Assistant Secretary*

> *Resolved*, that Article XIII of the Constitution of the Medical Society of the State of New York be amended to read as follows:
>
> "Amendments to this Constitution, except such as are obligatory by law, shall be made only at an annual meeting of the House of Delegates, after having been submitted in writing at a previous annual meeting and having been published in the official publication of the Society at least once, and at least one month, before the annual meeting at which action shall be taken.
>
> "A two-thirds vote shall be necessary for adoption.
>
> "Amendments made necessary by law shall be made either by the Council or House of Delegates whenever such necessity exists."
>
> and be it further
>
> *Resolved*, that Chapter XVII of the Bylaws of the Medical Society of the State of New York be amended to read as follows:
>
> "Amendments to these Bylaws, except such as are obligatory by law, shall be made only at an annual meeting of the House of Delegates, after having been submitted in writing at a previous annual meeting and having been published in the official publication of the Society at least once, and at least one month, before the annual meeting at which action shall be taken.
>
> "A two-thirds vote shall be necessary for adoption.
>
> "Amendments made necessary by law shall be made either by the Council or House of Delegates whenever such necessity exists."

Speaker Holcomb: The resolution of Dr. Ezra A. Wolff, just distributed, will be referred to Dr. Heldmann's Committee on Constitution and Bylaws. Dr. Wolff will speak on his resolution.

Dr. Ezra A. Wolff, *Assistant Secretary:* Mr. Speaker and members of the House, this is a resolution which would alter the procedure for amendment of the Constitution and Bylaws. Its purpose is to require that specific wording of a proposed amendment be introduced at one session to be acted upon at a subsequent one. It has been distributed so I shall not read it, but I offer it for introduction.

Vice-Speaker Williams: This is a first reading?

Dr. Wolff: Yes.

Speaker Holcomb: The chair will reverse itself on that decision. Dr. Anderton has just reminded me, and I think this resolution should rightfully be referred to Dr. Aaron's committee.

Dr. Wolff: Correct.

Speaker Holcomb: It is referred to Dr. Aaron's committee for consideration next year.

Section 104

Report of Reference Committee on Report of Council, Part I: Postgraduate Education

Dr. Thomas M. Watkins, *St. Lawrence:* Your reference committee on Report of the Council, Part I, has reviewed the report of the Council Committee on Public Health and Education. The function of this committee, as outlined by the chairman, Dr. Theodore J. Curphey, is twofold: First, the arrangement of postgraduate programs for members of the Society, and, second, to serve as a liaison committee between your Society and the New York State Department of Health.

The report of the committee, as submitted, provides irrefutable testimony as to the fulfillment of this twofold function. Relative to the first function, your committee has arranged postgraduate instructions for 42 separate groups, which programs varied from a single lecture to a lecture series and included teaching days and panel symposia. In all, it required the participation of 182 speakers.

It also represented an increase over last year's figures.

Not only does your committee take the responsibility of providing speakers for a regional teaching day, but arranges for invitations to be sent to all members of the county medical societies in counties adjacent to the host county. Your committee arranges for printing of programs, distribution of the programs, and even for press releases to local newspapers.

In arranging for this annual meeting, the Subcommittee on Heart Disease will present a program of postgraduate lectures. A presentation by Dr. Charles A. R. Connor will emphasize "Prophylaxis of Rheumatic Fever," and your reference committee feels that this is a timely subject that is probably of interest to every practitioner in our Society.

As to the second function, your Council committee has continued regular meetings with the Commissioner of the State Health Department, Dr. Herman Hilleboe. The committee report gives ample evidence of the friendly cooperative relationship between the Society and the Health Department, based on mutual respect, mature enough to allow expression of individual opinion, followed by a joint effort when a decision is reached.

Your reference committee at this time would emphasize its complete agreement with your Council committee in its objective toward emphasis of the public health physician and worker in the field of education in health matters for the public, while the practicing physician takes care of actual problems of disease and the sick citizen. The past actions of the Department have documented its desire to foster the principle of free choice of physician and of preserving the professional relationship between the patient and the physician of his choice.

Mr. Chairman, I move the adoption of this portion of the report.

Dr. Samuel Wagreich, *Bronx:* I second the motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried. . .

Dr. Watkins: During the past year, these joint meetings between your committee and the Health Department have considered and implemented the following:

1. A program of postgraduate instruction in cancer by the staff of the Roswell Park Memorial Hospital, with the cooperation of the hospital director, Dr. George Moore. Details relative to this program have been sent to each of the component societies.

2. In another meeting the Medical Society was asked to cooperate in recruitment of men for the inactive reserve corps. The secretary and general manager of the State Society communicated with each county society, outlining program for professional personnel in national emergencies.

3. The third topic of interest concerned the program of prevention of anterior poliomyelitis and, in particular, the immunization program with Salk vaccine. Your Council committee was kept well-informed about developments in this situation and, in turn, kept each component society informed by special report, letter, and the use of the Society *Newsletter*.

It would be impossible to outline all of the interests and work of your Council committee during the year, but among other matters in which they participated in discussion and formulation of policy was the problem of the Motor Vehicle Bureau relative to renewing the licenses of known epileptics, the extension of the medical rehabilitation program of the Health Department to allow a patient to be sent wherever he could best obtain specialized care, the diabetic control program, prescription of narcotics by telephone, the future of the tuberculosis sanitarium—both county and State—and the Northern New York Rehabilitation Survey.

Actually, it would be impossible for your reference committee to overemphasize the accomplishments of your Council committee headed by Dr. Curphey. The tremendous amount of work involved must have required considerable sacrifice of time by the entire committee and particularly by the chairman. In his report, the chairman emphasizes the assistance given him by his staff, but we are sure that to accomplish what this committee has over the years, and particularly over the past year, required not only administrative ability but the personal sacrifice of time and effort, for which we can only say "Thank you" and "Well done."

Mr. Speaker I move the adoption of this portion of the report.

Dr. James H. Arseneau, *Wayne:* I second it.

. . .There being no discussion, the motion was put to a vote and was unanimously carried. .

Section 105

Report of Reference Committee on Report of Council, Part I: Civil Defense

Dr. Thomas M. Watkins, *St. Lawrence:* Your reference committee on Report of the Council, Part I, offers this review of the report of your Special Committee on Medical Defense.

The Medical Defense Committee held two meetings to consider policy and progress of the civil defense effort in New York State as it concerned our profession.

It is evident from the report that your committee works in close cooperation with the Office of Medical Defense of the State Health Department and as a natural outgrowth of this whole problem the function of the medical defense program has been expanded to include preparation for emergency medical care at the time of any catastrophe whether it be due to natural or atomic origin.

We realize how difficult it must be to maintain interest and active support in civil defense over a long period of time and without the pressure of immediate danger. On the other hand, I am sure we all realize that if unfortunately what the committee is preparing for should happen, it would be of such magnitude as to preclude any organizational effort. If such emergency is to be satisfactorily handled, it can only be done as a result of plans that are fixed and available to every physician in the State. It is only when every physician knows exactly where his station is and what his duties are that we can consider ourselves prepared.

Your Special Committee on Medical Defense is to be congratulated for their interest, but they will only have accomplished their purpose when each member of our Society is fully informed of his duties and station in event of disaster.

Mr. Speaker, I move the adoption of this portion of the report.

Dr. Anthony A. Mira, *Queens:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried. . .

Section 106

Report of the Reference Committee on Report of the Council, Part I: Inhalation Therapy

Dr. Thomas M. Watkins, *St. Lawrence:* The report of the Special Joint Committee on Inhalation Therapy, consisting of three members from your Society and three members from the New York State Society of Anesthesiologists, has been submitted and has been reviewed by your reference committee.

This report is the result of a year's work with three informal meetings and one formal meeting of the entire committee.

They divided their objective into three facets: First, the determination of standards; second, the essentials for a school of inhalation therapy, and, third, recognition of technicians.

This joint committee, considering a resolution previously submitted to your Council, asking for the creation of a course on pneumatology through the A.M.A., suggests that the goal can be achieved through existing machinery in the A.M.A. without the formation of a new council and that, therefore, Dr. Flagg's resolution should be tabled. The committee felt that the objective of any program was the improvement of inhalation therapy practice and that this could only be accomplished at the educational level and by the establishment of a school, or schools, for proper teaching and training and thus provide reliable and efficient technicians. As your Council committee thus believes the establishment of such schools is the only course to improve inhalational therapy, they recommend that the State Society assume some initiative in fostering the establishment within the Council on Medical Education of the A.M.A. of a set of principles entitled "Essentials for Approved Schools of Inhalation Therapy." As a result, your Council committee recommended to this House: First, that minimum standards in the field of inhalation therapy be adopted as outlined in the report of the committee on public health relations of the New York Academy of Medicine; second, outlined essentials of an acceptable school of inhalation therapy to be approved by this House and thus serve as a preliminary working basis for the development of such schools in hospitals of this State and, third, that these essentials be presented to the Council on Medical Education of the A.M.A. as a working basis of requirements for approved schools; and, last, the Council committee suggests that this House adopt a resolution requesting the A.M.A. Council on Medical Education to adopt such essentials.

Mr. Speaker, I move the adoption of this portion of the report.

Speaker Holcomb: Is there a second?

Dr. Harry A. Mackler, *Kings:* I second the motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried. . .

Section 107 (See 60)

Report of Reference Committee on Report of Council, Part I: Disapproval of Internship "One-Quarter Rule" Adopted by American Medical Association

Dr. Thomas M. Watkins, *St. Lawrence:* There were two resolutions referred to this reference committee. One was resolution 56–23, entitled "Disapproval of Internship 'One-Quarter Rule' Adopted by American Medical Association." Your reference committee approves of this resolution.

I move its adoption.

Speaker Holcomb: Have the delegates had an opportunity to check on that resolution? It is 56–23. I will defer for a moment until you have looked it up and seen if you wish to approve the recommendation of the committee, which approves the adoption of the resolution 56–23.

Dr. Charles E. Spratt, *Kings:* I second the motion to approve.

. . . There being no discussion, the motion was put to a vote and was unanimously carried. . .

Section 108 (See 55)

Report of Reference Committee on Report of Council, Part I: Care of Casualties in Major Disaster

Dr. Thomas M. Watkins, *St. Lawrence:* The second resolution is 56–18, entitled "Care of Casualties in Major Disaster." Your reference committee approves of this resolution, and I move its adoption.

Dr. Samuel Wagreich, *Bronx:* I second it.

. . .There being no discussion, the motion was put to a vote and was unanimously carried. . .

Dr. Watkins: I move the adoption of the report as a whole.

Dr. Charles H. Loughran, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried. . .

Dr. Watkins: Mr. Speaker, may I thank the members of my reference committee, Dr. J. Arseneau, Dr. S. Wagreich, Dr. Anthony A. Mira, and Dr. Charles H. Loughran.

Speaker Holcomb: Thank you, Dr. Watkins.

Dr. Freedman has a supplementary report, which he would like to present to the House at this time.

Section 109 (See 133, 166)

Supplementary Report of Convention Committee

Dr. Samuel Z. Freedman, *Assistant Treasurer:*

To the House of Delegates, Gentlemen:

The Council of the Medical Society of the State of New York, on April 12, 1956, approved the recommendation of the Convention Committee that the House of Delegates meet in New York in February, 1957, at the time of the rest of the sesquicentennial celebration.

Respectfully submitted,

Samuel Z. Freedman, M.D., *Chairman*

Speaker Holcomb: This will be referred to Dr. Heldmann's reference committee, Report of Council, Part XII, which has to do with the Sesquicentennial. Some of the delegates will be interested, perhaps, in meeting with this committee to discuss this resolution or report.

Section 110 (See 38)

Report of Reference Committee on Report of Council, Part VII: Payment for Diagnostic Study by Blue Cross and Blue Shield Plans

Dr. Leonard J. Schiff, *Clinton:* Before reading our report, I would like to express the gratitude of the committee to the many members who appeared at our meeting yesterday and gave us the benefit of their opinion and advice. We heard from all of the opponents and proponents of all of the resolutions. We also had the advice and opinion of Dr. Wertz, the chairman of the Subcommittee on Medical Care Insurance; of Dr. McClintock, the chairman of the Committee on Economics; and of Mr. Farrell, the director of the Bureau of Medical Care Insurance. We would like to express our gratitude to these people, our hope that they all had a fair hearing, and that everything that needs to be said about these resolutions has already been said.

Your committee had eight resolutions referred to it, which will be reported on first.

The first one is resolution 56–1, subject, "Payment for Diagnostic Study by Blue Cross and Blue Shield Plans." We recommend approval of this resolution with the following change in the resolved:

> *Resolved,* that the Medical Society of the State of New York request the Blue Shield and Blue Cross Plans within the State to study the possibility of insuring subscribers against the cost of diagnostic survey in or out of hospitals; and be it further
>
> *Resolved,* that the Committee on Medical Care Insurance include the results of this study in their report to the 1957 House of Delegates.

I move the adoption of this resolution as revised.

Dr. Theresa Scanlan, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried. . .

Section 111 (See 39)

Report of Reference Committee on Report of Council, Part VII: Fee to Qualified Medical Specialists by Blue Shield

Dr. Leonard J. Schiff, *Clinton:* Resolution 56–2, "Fee to Qualified Medical Specialists by Blue Shield," we recommend disapproval of this resolution for the following reasons:

1. We believe the resolution in its present form is unworkable.
2. This resolution is opposed to the basic principle of Blue Shield.
3. This seems to be chiefly a local matter, which should be decided on a local basis.

Mr. Speaker, I move the adoption of this portion of the report.

Dr. C. Joseph Delaney, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried. . .

Section 112 (See 40)

Report of Reference Committee on Report of Council, Part VII: Fees for Medical Care of Blue Shield Insurees

Dr. Leonard J. Schiff, *Clinton:* Resolution 56–3—

Speaker Holcomb: I will ask the speaker to wait just a moment until the delegates can pick up the resolution and possibly look at it for a short time. This is resolution 56–3.

Dr. Leonard J. Schiff: "Fees for Medical Care of Blue Shield Insurees," we recommend disapproval of this resolution. We feel that this is a matter for local action within the area of the particular Blue Shield plan involved, and that it cannot be settled on a general State-wide basis. It should be noted that upward revision of Blue Shield fees is at present going on in some areas.

Mr. Speaker, I move the adoption of this portion of the report.

Speaker Holcomb: Is there a second?

Dr. Joseph P. Alvich, *Bronx:* Yes, I will second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried. . .

Section 113 (See 41)

Report of Reference Committee on Report of Council, Part VII: Consultation Fees in Blue Shield

Dr. Leonard J. Schiff, *Clinton:* Resolution 56–4, "Consultation Fees in Blue Shield," your reference committee has revised this resolution to read as follows:

> Whereas, it is axiomatic in the practice of medicine that consultation between physicians representing various disciplines adds to the sum total of knowledge and directly benefits the patients; and
>
> Whereas, there is extension of Blue Shield benefits to an even larger portion of the population through increased service benefits and to even higher income brackets and to even more subscribers; now therefore be it
>
> *Resolved,* that the Medical Society of the State of New York endorse the establishment of an adequate consultation fee; and be it further
>
> *Resolved,* that the Subcommittee on Medical

> Care Insurance be requested to study this matter and report back to the 1957 House of Delegates.

Mr. Speaker, I move the adoption of this revised resolution.

SPEAKER HOLCOMB: Is there a second?

DR. ABRAHAM D. SEGAL, *Kings:* I second it.

SPEAKER HOLCOMB: Is there discussion?

DR. THOMAS M. D'ANGELO, *Queens:* I voted for the previous resolution because the chairman of the reference committee said it was purely a local matter. I would like to know how the thinking has changed, that this is not a local matter. I can envision on the previous resolution where we could have actively enforced the principle that medical benefits should be paid on a good basis. Now we come to another one here, which in my opinion is about the same as far as intent is concerned, and here we are acting on it favorably. I don't see that we ought to act on one favorably and not the other. We should act on both favorably or reject both.

SPEAKER HOLCOMB: Will the chairman of the reference committee answer Dr. d'Angelo on that question?

DR. LEONARD J. SCHIFF: Our feeling, sir, on the previous resolution as it was brought in, was that it referred to specific fees, naming definite amounts, a rate of $4.00 for so many days, which did not apply to the whole State.

Furthermore, there was evidence that fees are being revised upward in other areas.

Whereas, this second resolution is a matter of principle because only one of the Blue Shield plans in New York State now pays any consultation fee. We feel this last resolution introduced is a matter of a general principle whereas number 3, the previous one to this, is a matter of a definite fee in a definite plan.

I hope that answers Dr. d'Angelo.

. . . There being no further discussion, the motion was put to a vote and was unanimously carried. . .

Part 114 (See 56)

Report of Reference Committee on Report of Council, Part VII: Withholding of Approval of Western New York Medical Plan, Inc.

DR. LEONARD J. SCHIFF, *Clinton:* Resolution 56–19, "Withholding of Approval of Western New York Medical Plan, Inc.," I might say there was a great deal of discussion about this resolution. We heard a great many people on this subject. We considered the matter very carefully. We studied the present bylaws of the Western New York Medical Plan, Inc., and we have approved the resolution with the following changes. We have revised them to read as follows:

> WHEREAS, the bylaws of the Western New York Medical Plan, Inc., do not give the component county medical societies the right to elect their individual members to its board of trustees; therefore, be it
>
> *Resolved,* that the Medical Society of the State of New York approve the Western New York Medical Plan, Inc., provided that by September 1, 1956, its bylaws are modified and amended so that the component county medical societies elect their own representative members to the board of trustees of the Western New York Medical Plan, Inc."

Mr. Speaker, I move the adoption of the revised resolution.

DR. HERBERT H. BAUCKUS, *Trustee:* I second it.

SPEAKER HOLCOMB: Is there any discussion?

DR. THOMAS M. D'ANGELO, *Queens:* I would like to know a point of information, whether this State Medical Society is continuing to approve Blue Shield plans in this State. It was my opinion that that had been abrogated and turned back to each county society. I would like some information on that.

SPEAKER HOLCOMB: Is there any representative of the Western New York Medical Plan, Inc., here at this time? I understood we might have some information on that from some representatives. Dr. Bauckus!

DR. BAUCKUS: Relating to approval of Blue Shield plans of the State, Dr. Wertz can give you a much better idea than I. I am a member of the board of trustees of the Western New York Medical Plan, and I understand that there are several plans in the State still approved by the Medical Society of the State of New York, and some are not. I don't know that there has been any change in that. I know there has been a change in the insignia, or I believe something of that nature, but I don't believe there has been any change in the manner of approval. I think Dr. Wertz might tell you more about that.

SPEAKER HOLCOMB: Is Dr. Wertz here?

DR. CARLTON E. WERTZ, *Ex-President:* In the State of New York we have standards for approval of the various medical plans, and each year they are approved or recommended for approval or disapproval by your Subcommittee on Medical Care Insurance.

Does that answer the question?

SPEAKER HOLCOMB: Yes, I think so. I believe Dr. Wertz has appeared before the reference committee, and apparently this resolution was revised along the line of the help he has given this committee. Is there any further discussion? I would like to know if Dr. Schiff has anything to add?

DR. LEONARD J. SCHIFF: I have nothing to add.

SPEAKER HOLCOMB: Dr. Schiff has nothing to add. Is there any further discussion?

DR. IRWIN FELLSEN, *Allegany:* I will answer Dr. d'Angelo's question. It is on page 1115 of the annual reports, specifically in the report of the Subcommittee on Medical Care Insurance, as regards the Council approving the various plans, and Western New York Medical Plan, Inc., is included. It is in the left hand column, the last paragraph.

. . . There being no further discussion, the motion was put to a vote and was carried . . .

Section 115 (*See 63*)

Report of Reference Committee on Report of Council, Part VII: Social Security Benefits for Practicing Physicians

Dr. Leonard J. Schiff, *Clinton:* Resolution 56–26, "Social Security Benefits for Practicing Physicians": Because the early results of a recent poll of all members of the State Society shows a small but definite percentage of members opposed to compulsory social security coverage, we recommend no action on this resolution at this time. Results are available from only approximately one third of our county medical societies, and we do not feel that definite action can be taken until further information is available.

Mr. Speaker, I move the adoption of this portion of our report.

Dr. Walter S. Bennett, *Washington:* I second the motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 116 (*See 72*)

Report of Reference Committee on Report of Council, Part VII: Preserving the Regional Character of Blue Shield Plans

Dr. Leonard J. Schiff, *Clinton:* Resolution 56–33, "Preserving the Regional Character of Blue Shield Plans," we recommend disapproval of this resolution. This House has, on many previous occasions, approved the principle of uniform State-wide Blue Shield coverage. I would like to emphasize the word "coverage." We would like to point out that this does not envision the establishment of a State-wide plan. The reference committee feels very definitely that a distinction has to be made of State-wide coverage, which has been approved by this House, and a State-wide plan, which is feared by the makers of this resolution.

Mr. Speaker, I move the adoption of this portion of the report.

Speaker Holcomb: You will act on that first. In other words, you recommend disapproval?

Dr. Leonard J. Schiff: Right, of Resolution 56–33.

Speaker Holcomb: Is there a second to that?

Dr. Theresa Scanlan, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 117 (*See 73*)

Report of Reference Committee on Report of Council, Part VII: Review of Fee Schedule for Welfare Cases

Dr. Leonard J. Schiff, *Clinton:* Resolution 56–34, "Review of Fee Schedule for Welfare Cases," your reference committee notes in the minutes of last year's House of Delegates and in this year's report of the Subcommittee on Public Medical Care that increases in remuneration have been obtained. If these are not in effect at the county level, this is a matter for local county society action. We, therefore, recommend no action on this resolution, and I so move.

Dr. C. Joseph Delaney, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 118 (*See 26*)

Report of Reference Committee on Report of Council, Part VII: Economics, Medical Care Insurance

Dr. Leonard J. Schiff, *Clinton:* That finishes the resolutions. We will now consider the reports.

Committee on Economics: Your reference committee notes, with pleasure, that the Committee on Economics has taken positive action on two matters of great importance to every practicing physician.

Regarding medical care for dependents of personnel in the armed forces, the committee adopted a resolution approving an insurance plan whereby the serviceman pays a percentage of the premium, the use of civilian facilities whenever possible and the employment of Blue Cross and Blue Shield as agents. This action was approved by the Council and a telegram embodying its provisions was forwarded to the American Medical Association. We applaud and approve this action.

Mr. Speaker, I move the adoption of this portion of the report.

Dr. James M. Blake, *Schenectady:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Leonard J. Schiff: A lengthy resolution regarding Blue Shield was adopted by the Subcommittee on Medical Care Insurance and subsequently by the Committee on Economics. This resolution recommended a $6,000 service ceiling program for all Blue Shield plans. The purpose of this action was to place Blue Shield in a more realistic competitive position. This resolution was also approved by the Council.

Your reference committee is in agreement with this action and recommends its approval by the county medical societies. We further urge all members of this Society to cooperate in making the $6,000 service ceiling effective.

Mr. Speaker, I move the adoption of this portion of the report.

Dr. E. Kenneth Horton, *Nassau:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Leonard J. Schiff: Two pieces of proposed Federal legislation affecting medical economics are reported on. One of these, HR 7994, to provide medical care for dependents of members of the armed forces, has already been discussed.

The second bill, HR 7225, is the much discussed social security amendment to provide disability benefits at age fifty. We do not feel that this House needs a lengthy discussion of this legislation. We endorse the statement that an impartial study of the whole social security system is needed before any further extensions are undertaken.

Mr. Speaker, I move the adoption of this portion of the report.

Secretary Anderton: I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Leonard J. Schiff: Reference is made to the desirability of State-wide coverage for certain groups. Your reference committee suggests that the Subcommittee on Medical Care Insurance continue to investigate ways to achieve this goal.

In the supplementary report, the subcommittee again points out the necessity for some plan of uniform State-wide coverage. They also emphasize the importance of providing coverage for State civil service employes up to an income ceiling of $6,000. Your reference committee is in agreement with this supplementary report. We suggest that the delegates arrange to have this report read at the next meeting of their county societies.

Mr. Speaker, I move the adoption of this portion of the report.

Dr. Samuel Burk, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 119

Report of Reference Committee on Report of Council, Part VII: Medical Care Insurance

Dr. Leonard J. Schiff, *Clinton: Medical Care Insurance:* We commend the subcommittee for its vigilance in dealing with a panel list of doctors distributed by the Hebrew Butchers Union, Local 234.

Progress in a legislative study of health insurance for the people of New York State was noted.

No action was taken on a request by the Podiatry Society for approval of payment of Blue Shield benefits to podiatrists, pending the submission of statistical information.

Mr. Speaker, I move the adoption of this portion of the report.

Dr. Harry A. Mackler, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Leonard J. Schiff: A change in the standards for approval of New York State medical care plans was approved. This changes paragraph 2 under "Claim Payments" to read as follows: "When care has been rendered by a nonparticipating physician and claim filed for such care, payment shall be made, at the option of the plan, either to the subscriber or to the nonparticipating physician upon request of the subscriber." This gives an option to the plan and provides an inducement for doctors to become participating physicians. We do not feel that this action, in any way, is coercion of the physician. Your reference committee approves of this change.

Mr. Speaker, I move the adoption of this portion of the report.

Dr. Philip D. Allen, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was declared by the Speaker to be in doubt as to the outcome; it was put to another voice vote and was carried . . .

Speaker Holcomb: This time there was no doubt. The "ayes" have it, and the committee's recommendation is approved.

Dr. Leonard J. Schiff: We recommend approval for the ensuing Society year—and this is why I read the resolutions first because one of the resolutions has a proviso in it—of the following Blue Shield plans:

United Medical Service, Inc., New York City; Western New York Medical Plan, Inc., Buffalo; Genesee Valley Medical Care, Inc., Rochester; Central New York Medical Plan, Inc., Syracuse; Medical and Surgical Care, Inc., Utica; Northeastern New York Medical Service, Inc., Albany; and Chautauqua Region Medical Service, Inc., Jamestown.

Mr. Speaker, I move the adoption of this portion of our report.

Dr. E. Kenneth Horton, *Nassau:* I second it.

Speaker Holcomb: Any discussion?

Dr. William B. Rawls, *New York:* I believe in your previous resolution here you did make some restrictions as to whether you would recognize Western New York Medical Plan, Inc. I have no particular complaint except I think to keep the record straight that that must be inserted in this particular resolution, approving these very societies. That is all I am making this statement for, so the record may be straight.

Speaker Holcomb: Dr. Schiff, will you include that recommendation of Dr. Rawls?

Dr. Schiff: We have provided for that.

Speaker Holcomb: Provided for it where?

Dr. Schiff: That is why we read the resolutions first, sir.

Speaker Holcomb: Those in favor of the recommendation with the provisio of Dr. Rawls attached to it—just a minute, I see Dr. Bauckus wishes to have the floor.

Dr. Herbert H. Bauckus, *Trustee:* I would just like to say while I am in favor of that, I want to point out that the question of change in our bylaws is entirely dependent upon the board of trustees of the plan, and at the present time as near as I know the physicians of Erie County have not anything to say about it except once a year. They are participating physicians. If anybody can get our board of trustees to do as we recommended in this resolution I would be very happy, but they are a separate body.

Speaker Holcomb: Thank you, Dr. Bauckus. Perhaps, this action of the House of Delegates might help somewhat. Those in favor of the motion with the proviso that Dr. Rawls recommended will say "Aye"; opposed "No." It is carried.

Dr. Leonard J. Schiff: *Bureau of Medical Care Insurance:* Mr. George P. Farrell, director, has spent his usual busy year promoting the causes of medical care insurance. We record our interest in, and appreciation of, his activities.

Section 120 (See 12)

Report of Reference Committee on Report of Council, Part VII: Public Medical Care

Dr. Leonard J. Schiff, *Clinton: Public Medical*

Care: The Subcommittee on Public Medical Care has been active and has dealt with many matters regarding the medical care of welfare recipients. It is pleasing to note that the interval for reporting requests for physicians to care for welfare cases has been lengthened to five days and that certain increases in remuneration have been obtained.

We commend the subcommittee for its excellent work in the handling of a multitude of vexing problems. Some of these are still under active study.

Mr. Speaker, I move the adoption of this portion of our report.

Dr. Adelaide Romaine, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Leonard J. Schiff: In conclusion, I would like to express my very deep thanks to the members of my reference committee, Dr. Walter S. Bennett, Dr. Alfred L. George, Dr. C. Joseph Delaney, and Dr. James M. Blake. They worked hard and long, and I wish to thank the speaker for giving me such an excellent committee.

Mr. Speaker, I move the adoption of the report as a whole as amended.

Dr. Theresa Scanlan, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Speaker Holcomb: Thank you, Dr. Schiff. (*Applause*) The chair would like to commend you on a well-prepared and well-delivered report, also the committee for so ably assisting you.

Dr. Freedman states that the chairman of the reference committee which is now considering the Supplementary Report of the Convention Committee would be glad to hear discussions in the Penn Top North. That, as you recall, is a question about having the House of Delegates meet in New York in 1957, in February. There are probably some who may like to discuss that matter with that committee, of which Dr. Heldmann is the chairman.

We have made very good progress.

Section 121

Report of Reference Committee on Report of Treasurer

Dr. John F. Rogers, *Dutchess:* We note a decrease in expenditures in 1955 compared with 1954 of $15,600, which is stated as due to economies directly effected by various bureaus. The directors of the bureaus are to be congratulated, and also the accounting department.

It is extremely gratifying to see that no borrowing was necessary for the year of 1955 to meet current expenses.
(*Applause*)

The treasurer has certainly done his usual efficient, careful analysis, and we can recommend his report for commendation.

I move the adoption of this portion of the report.

Dr. Adelaide Romaine, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 122

Report of Reference Committee on Report of Budget Committee

Dr. John F. Rogers, *Dutchess:* Great credit must be given to the treasurer and Board of Trustees that for the first time no deficit was necessary to budget.

We note that apparently no result has been obtained in determining that the Bureau of Medical Care Insurance should be carried by Blue Shield.

The pensions are still carried as a charge from current income. This could be disastrous if a number of employes suddenly became aged.

In the report of the reference committee on the Trustees' report a discussion of the proposed pension plan will be given.

The heading date of the Budget Committee is given as June 30, 1956. This may seem to appear irregular, since most individuals consider a budget as anticipated expenditures, whereas this budget has only seven weeks to go. This is done to facilitate any changes that may occur when the Society has a new Council and new committees who will not be able to estimate expenditures for the next year, until they are familiar with a new group.

We feel the Budget Committee did a splendid job, and are to be congratulated.

Mr. Speaker, I move the adoption of this portion of the report.

Speaker Holcomb: Is there a second?

Dr. Adelaide Romaine, *New York:* I second it.

Speaker Holcomb: Is there any discussion of this portion of the report? I might say the speaker has always dreaded a sudden attack of old age. (*Laughter*)

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 123

Report of Reference Committee on Report of Expense Curtailment Committee

Dr. John F. Rogers, *Dutchess:* This committee was appointed as a result of the deliberations at the 1955 annual meeting.

Three of its members made up the composition of the Budget Committee, which may seem strange to the uninitiated as it might appear they are both judge and jury.

However, they are more familiar with the study that they have made in preparing a budget, and in that capacity they might not be in a position to recommend any radical departure, other than their interviews with bureaus.

As a Budget Curtailment Committee they are able with two additional members to offer a suggestion for approval by the reference committee and the House of Delegates.

The thoughts of this committee on the *Directory* were confined to office procedures, where we agree that no particular use of automation could be economically sound, since machines can only be used for one purpose, and unless a *Directory* was in the class of a telephone directory it would certainly not decrease expense, except for an annual basis.

Referring to the paragraph of their report relative to combining the Bureau of Medical Care Insurance with the Bureau of Industrial Medicine and Workmen's Compensation, your committee must refer you to Section 89 of the 1955 report of the House of Delegates: "Regarding the integration of the Bureau of Medical Care Insurance with Workmen's Compensation and Industrial Health, the former has nothing in common with the latter two bureaus and should not be combined with them." This was a recommendation of the Planning Committee in 1955.

Your reference committee does feel the Bureau of Medical Care Insurance should be abolished, for the funds allocated to that Bureau could well be used for more constructive purposes.

We definitely feel that the Expense Curtailment Committee should be continued with certainly the treasurer, the speaker, a trustee, along with two other individuals, perhaps one of these being the chairman of the Planning Committee or his designee.

I move the adoption of this portion of the report, sir.

Dr. Adelaide Romaine, *New York:* I second it.

Speaker Holcomb: Is there any discussion about this portion of the report? You will note that this abolishes the—or rather recommends it—recommends that the Bureau of Medical Care Insurance be abolished. That has been a rather controversial question, and I think that if anyone, any of the delegates, wishes to discuss it now is the time.

Dr. Thomas M. d'Angelo, *Queens:* I would like to know if the Bureau of Medical Care Insurance receives sufficient funds from the Blue Shield plans it will be abolished or whether or not it may continue.

Speaker Holcomb: Can you answer that, Dr. Rogers?

Dr. Rogers: I would like to have Dr. McClintock speak on that.

Dr. John C. McClintock, *Councillor:* Mr. Speaker and members of the House, you have just given approval to the Blue Shield plans in this State, and you must continue so to do. In order to be advised as to whether or not these plans are operating efficiently and correctly, you will have to have a source of information. That source on both Blue Shield and all other forms of insurance has been the Bureau of Medical Care Insurance.

It is also a requirement designated by this House of Delegates that any information on local county insurance plans, health insurance, shall be approved by the Committee on Economics. This works through the subcommittee and through the bureau, so that you must have some way of maintaining this information if your Committee on Economics is to continue to carry out your dictates.

As far as Blue Shield being able to provide funds to support this kind of endeavor, there has been a ruling—not a ruling I beg your pardon—but there has been information obtained from the Insurance Department of the State which indicates that premiums paid by subscribers cannot be used for this type of endeavor.

Speaker Holcomb: Thank you, Dr. McClintock. I will ask Dr. Rogers to, perhaps, amplify the statements or discuss them.

Dr. Rogers: Our thought in this matter was that it hardly seems feasible to spend nearly $20,000 of the Medical Society's money—I almost said the taxpayers' money—for such a statistical summary, which very few people understand. It seems to me if you did continue the Bureau of Medical Care Insurance it ought to be done at least at one quarter of the cost that you now put out. It is nearly $20,000.

Dr. James Greenough, *President-Elect:* I feel at this time it would be a mistake to abolish the Bureau of Medical Care Insurance. One of our greatest problems at present is to form a State-wide Blue Shield plan. The Bureau of Medical Care Insurance would be of tremendous assistance in such a project, and I don't think it should be abolished at present.

Would it be in order at the moment to refer this to the Council for further study? If so, I would make such a motion.

Speaker Holcomb: Is there a second to Dr. Greenough's motion that it be referred to the Council for further study.

Dr. Thomas M. d'Angelo: I second it.

Speaker Holcomb: It has been moved and seconded to refer that portion of the report having to do with abolishing the Bureau of Medical Care Insurance to the Council for further study. Is there any discussion?

Dr. Carlton E. Wertz, *Ex-President:* Can I express my own opinion as to the need for the Bureau?

Speaker Holcomb: You can, yes, sir. That is very pertinent I believe, sir.

Dr. Wertz: The bureau has been in operation for a number of years, and I think it has won the respect and confidence of the medical profession of the State of New York, and not only New York State but the United States. We have a bureau and a director here which are second to none. As far as our director, I don't know anybody who knows more about medical care insurance than he.

The complexities of medical care insurance are growing every day, and it has a bearing on the individual pocketbook of every member of this organization. The few dollars we pay per year for that bureau and its director are repaid one hundred fold to the medical profession of this State. This past year the medical profession of this State received over $40,000,000 in Blue Shield, and probably a like amount from other carriers. This is growing every year in the neighborhood of seven or eight million a year in return to the medical profession.

With the new things that are developing in medical care, we need somebody in the bureau to keep us all informed as to what is going on and what may be going on, and I am very strongly opposed to doing away with the bureau at this time.

Speaker Holcomb: Is there anyone else who would like to speak on the motion? Dr. Curphey is recognized. This has to do with Dr. Greenough's motion that it be referred to the Council for further study.

Dr. Theodore J. Curphey, *Councillor:* I just want to speak in support of that motion, and to call the attention of the House, Mr. Speaker, to the fact that the Bureau of Medical Care Insurance in the last year or so has given one of our subcommittees a great deal of assistance in attempting to bring some order out of the chaotic fee schedule in respect to rehabilitation services rendered by the doctors for the State agencies, the State Department of Health, the Department of Education, the Department of Welfare, and so on. Mr. Farrell, about whom Dr. Wertz speaks, has spent a great deal of his time and given a great deal of expert help in attempting to produce some sort of an equitable distribution of fee schedules for these various jobs. I am told that if the thing goes through it will save or earn rather a million dollars a year for the doctors of the State. I think it would be a great mistake indeed at this time to even consider abolishing the Bureau of Medical Care Insurance.

Dr. Solomon Schussheim, *Kings:* I think at the present time the necessity for such a bureau should be even more apparent to those of us who are thinking seriously of the inroads of many plans in the field. Not only must we think of the survey that this medical bureau takes and makes of the established plans that have the approval of the county and State medical societies, but we must also consider the health and welfare plans of unions, the large groups of people who receive their medical care and pay for it by their own small organizations, who have a great deal of money in their treasuries. I should feel that at the present we should augment rather than destroy this instrument of ours that can protect us in the future. It should be considered very carefully.

Dr. Aaron Kottler, *Kings:* Mr. Speaker and delegates, I, too, am in favor of keeping this bureau in action. You heard Dr. Schiff before give you a report of the activity of the Hebrew Butchers Union, a plan I referred to Mr. Farrell. He found certain inequities in there. He studied them. He brought them to the attention of the Blue Shield or the U.M.S., and certain vital corrections were immediately made. Those were not brought out to you. U.M.S. knows of those corrections that they made.

Besides, the various union plans have to be carefully watched. We cannot watch the number of new plans that are developing. They are as many as Heinz's varieties. There are more than 57 of them, I can tell you that. I have blueprints of about 15 of them, which we have not got time to study, being a general practitioner, and they are being submitted to Mr. Farrell for his guidance.

I received advice from him on other plans in which I am vitally interested, and which I have used (the information received) for the benefit of the medical profession.

I urge you to continue this bureau.

. . . There being no further discussion, the motion to refer was put to a vote and was carried . . .

Dr. Rogers: I move the approval of this report as amended.

Dr. Schussheim: I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 124 (See 47)

Report of Reference Committee on Report of War Memorial Committee

Dr. John F. Rogers, *Dutchess:* The War Memorial Committee represents an activity of the Medical Society of the State of New York that has proved the vision of some of the original members, as a sincere effort to afford a living project. This project was agreed upon by Dr. James Rooney after Dr. and Mrs. Eugene H. Coon, of Hempstead, New York proposed it to him. Dr. Coon drew up the original resolution, which was passed by the House of Delegates in 1948. We think Dr. Coon deserves a too long delayed applause for this humanitarian effort. (*Applause*)

The War Memorial is probably one of the most rewarding activities of this Society, and it certainly has relieved many families in their loss of a loved one to see their son or daughter able to follow in the professional footsteps of the father with little financial worries.

The War Memorial Committee very definitely feels that the families of Korean veterans should be included, and so far have found one with three children in the 54 counties that have replied to the direct questions, and your reference committee agrees.

In conjunction with this, there was a resolution 56–10, introduced by Dr. Thomas F. McCarthy—

Voices: What number?

Dr. Rogers: 56–10, subject, "War Memorial Fund."

Speaker Holcomb: Wait just a minute, until they have a chance to turn to that.

Dr. Rogers: It reads:

> Whereas, the War Memorial Fund was established for one purpose only—to provide funds to further the education of children of members of the Medical Society of the State of New York who gave their lives in service during World War II; and
>
> Whereas, the amount of money allocated for this purpose by the Fund is obviously inadequate to pay the tuition of a college student in this period of inflation; and
>
> Whereas, the committee chairman, in his report on the Fund, invites direction by the House of Delegates in this matter, after calling the attention of the members to an anticipated surplus in 1974 of nearly $96,000; now therefore be it hereby
>
> *Resolved,* that this House of Delegates of the Medical Society of the State of New York direct the Committee on the War Memorial Fund as follows:
>
> 1. To include children of members who died in service during the recent police action in Korea; and
> 2. To increase the allowance to a maximum

> of $900 a year or an amount that will as completely exhaust the Fund as advisable at the end of the projected time for its use.

Your reference committee approves of this resolution, and I move its adoption.

Dr. Solomon Schussheim, *Kings:* I second it.

Speaker Holcomb: Is there discussion?

Dr. Mott is recognized. The chair would like to remind the House at this time that Dr. Mott is now director of this fund, and formerly Dr. Cunniffe and Dr. Rooney were, so I think it is very fitting that Dr. Mott speak on the fund.

Dr. Walter W. Mott, *Trustee:* Mr. Speaker and fellow delegates, when, in my annual report, I called attention to the rising costs of tuition and to the inadequacy of the original stipend of $600 per annum to beneficiaries of the fund, and said that in some future year the House might decide to increase this allowance, I did not expect such a prompt and generous response as that contained in Dr. McCarthy's resolution, and in the favorable report on it by the reference committee.

If you adopt this report, as I hope you will, of course the War Memorial Committee will carry out your directions faithfully, although it might mean the exhaustion of the fund before 1974, when our last beneficiary will be twenty-five years old. However, if my suggestion meets with the favorable response that I believe it merits, namely, that those members who have joined the State Society since 1948 be urged to make a voluntary contribution of $12 apiece, this would help to secure the stability of the fund. I am sure if you adopt this report, you will earn the gratitude of every beneficiary, and anticipating your favorable action I wish to thank you on their behalf.

Thank you very much. (*Applause*)

Speaker Holcomb: Does anyone further wish to discuss that?

Dr. Rogers: We believe that the allowance for tuition should be increased to $900 from $600, the new amount to be allocated as of September, 1956.

Also, your reference committee suggests, as Dr. Mott has spoken to you, that any members of the Medical Society of the State of New York who have joined since the original assessment of $12 in 1948, and those who join in the future, voluntarily contribute in like amount to insure the War Memorial Committee against any unforeseen contingency.

We further recommend that the above paragraph should be brought to the attention of the component county society secretaries.

I move the adoption of this report.

Speaker Holcomb: The chair wishes to call attention to the fact that we are now voting on the resolution of Dr. McCarthy without the further additional request or rather suggestion of Dr. Rogers. Is there any further discussion on the adoption of the resolution?

. . . There being no further discussion, the motion was put to a vote and was unanimously carried . . .

Speaker Holcomb: Now go into the last paragraph. Do you wish to make that now as a recommendation?

Dr. Rogers: This suggests that any members who have joined the Society since the original assessment of $12 in 1948, and those who join in the future, voluntarily contribute in like amount to insure the War Memorial Committee against any unforeseen contingency. It had to be on a voluntary basis, so we can't make it as a recommendation. Since an assessment of this sort is not necessarily obligatory by law, it can't be obligatory as a matter of fact, that is merely a suggestion. I move its adoption.

Speaker Holcomb: In other words, you move the adoption of this portion of the report concerning the report of the War Memorial Committee.

Dr. Rogers: Yes, sir.

Dr. Thurman B. Givan, *Councillor:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Speaker Holcomb: The report of the War Memorial Committee is adopted, and next is the report of the Board of Trustees.

Section 125 (See 23)

Report of Reference Committee on Reports of Board of Trustees

Dr. John F. Rogers, *Dutchess:* Concerning the reports of the Board of Trustees, it is with a sense of deep regret that the Board of Trustees suffered the loss of one of their able members through the death of Dr. Edward R. Cunniffe.

An excess of income of $25,200 over expenditures shows a very able control over the funds during the fiscal year ending June 30, 1955. Likewise on a calendar year basis the net income was $23,964.

This was the first year that the Board of Trustees did not have to borrow funds before the end of the year until dues were received for the following year. They are to be congratulated for their astuteness. (*Applause*)

The subject matter of the cost of the *Medical Directory* evoked considerable discussion and as the report of the Board of Trustees stated, it is a perennial problem. Your reference committee considers the inclusion of this material relative to the *Medical Directory* worth while, and further feels that previous reports should have included such information. When one considers a statistical summary, such as a directory, all the material contained therein must be documented. This means that when all of you send in a card upon which is noted your professional qualifications as well as attainments, the business office of the State Society checks directly with organizations given by you as a proof of veracity. The office force concerned with this confirmation consists of nine employes who are on the payroll the year round. The printing costs and paper cannot play too much a part in the over-all picture regardless of any subject matter that may be rejected or included.

Your reference committee feels that the trustees can do very little to decrease the cost of a directory, and furthermore believes it is an essential part in maintaining a proper survey of its members who stand in such an elevated position in medicine in the United States.

The matter of pensions for employes of the State Society should be considered and finalized by an approval vote of the House of Delegates.

The reference committee at the 1955 meeting of the House of Delegates noted in connection with its summary on the treasurer's report relative to pensions for employes who retire after long years of faithful and efficient service, "Obviously if such pensions are to be granted, their financial impact upon the Society may be expected to increase, and cumulative expenditures of this sort cannot logically be met from current income." It was suggested that a single assessment such as was done with the War Memorial Fund would augment the special amount already set aside of $75,000. The House of Delegates approved the report of this reference committee, which suggested that the Board of Trustees prepare an estimate of anticipated annual pension expenditures, the amount of assessment necessary to permit its creation and present this report for action to the 1956 House of Delegates.

The supplementary report of the Board of Trustees to your reference committee deserves some remarks on our part. Due consideration has been given to "what the Society could afford."

When one considers a pension plan for employes such as the one presented, it is extremely important to understand that this type is one in which the Society contributes the *entire* cost and participants will not be required to contribute. This means that if any one of the employes terminates his employment before the age (sixty-five) of retirement, he is not eligible to withdraw any portion of the amount built up, such as occurs in employe participation plans.

Since the plan proposed is retroactive for ten years previous employment, the members of the Medical Society of the State of New York should appreciate their obligation when they may wish to disapprove an assessment of a sum of $10. This obligation can be estimated to amount to $92,500 if it was put in at the present time as a single sum past service cost. By approving the proposed assessment, it certainly will expedite a resurgence of a spirit of a morale for employes for services rendered.

Your reference committee regrets the word "assessment," for it frequently leads to another at some time when one has forgotten the past one. But the efficiency of a meeting, such as our annual meeting of the House of Delegates, the papers and reports prepared for committees, the Council, and the Trustees, would never be so thorough, if there was not a belief on the part of our employes from the office manager down through the mailroom clerk that we appreciate teamwork and we do have a heart to consider a reasonable security for a job well done.

Your reference committee is in agreement that as large a fund as necessary should be created to cope with the pension program, and we wish to reemphasize our utmost confidence in the Board of Trustees, the treasurer, and our accountant, Mr. Alexander.

I move the adoption of this report.

Dr. Adelaide Romaine, *New York:* I second it.

Speaker Holcomb: Is there discussion?

Dr. Thomas F. McCarthy, *Bronx:* Does that mean you are recommending the assessment for next year, and if this is passed then the House will have voted a $10 assessment for 1957?

Dr. Rogers: Yes.

Dr. McCarthy: Then I would like to discuss that. Having just urged everybody to spend a lot of money, now I come up to talk the other way. As Dr. Rogers knows, I sat with the committee through their entire session yesterday except when they went into executive session, and I enjoy hearing our trustees talk about all of our money. However, you just heard how you had an assessment in 1948 of $12 for another purpose, and I want you to stop and think that in 1957 every member will contribute $10, and that ends it. The man who comes in in 1958 gives nothing. The man who comes in in 1959 gives nothing. In other words, you are setting up a plan which will not really begin to function until about 1965 because the requirement will not be necessary for the use of the fund until then, yet only one group of doctors who are members in 1957 will contribute to set up this $250,000 fund. I think you should think that all over when you go into saying we will vote an assessment for one year of $10 to establish a fund to provide pensions for the employes for the next twenty years.

Secondly, I was not here unfortunately last year, because I think I would have argued about this when you voted approval of this reference committee report last year. Apparently the trustees took it for granted that you did not even ask for any alternative to an assessment. In other words, they took this vote as meaning that they only could consider the amount of an assessment necessary to put it into effect.

I feel there are other alternatives than a straight assessment of $10 in one year to establish such a fund, and I think there is no urgency to have this done this year, so I would suggest that this be referred—and I intend to offer a motion when I get through—back to the trustees with the idea that they present next year several alternatives to a straight assessment in one year. There is now already somewhere between $75,000 and $80,000 in a special employes' beneficiary fund which will take care of the anticipated retirements in the next few years.

Another thing, too, if you have been studying our investment funds, as I have for the last ten years, the Medical Society of the State of New York, despite the reports of your treasurer every year on deficits, is a very well run and organized business, with assets of a million dollars. Can you now go back to your members and say that this organization with assets of one million dollars now required an additional fund of $250,000 from you to set up a pension fund for employes when your income from your investments alone probably could carry the whole thing for any one year?

Possibly I am not saying this accurately, I don't know, but I think you certainly should consider that you would go back and ask for some of these alternatives rather than a straight assessment. In the metropolitan area some of the counties too have employes of their own, and they will have to consider setting up such a thing too for their own employes. This would then be an added burden on top of this one in the State Society in itself, and I think you might also consider that, whether it is possible you could set up some plan that, say, each county society who has employes who might want to retire could participate.

For that reason I want to offer this motion, as a substitute for the motion to approve this, that this matter be referred back to the trustees for further action with a report on alternative plans to the House of Delegates in 1957.

Dr. Charles W. Frank, *Bronx:* I second that.

Speaker Holcomb: Does anyone wish to speak on the motion to refer back to the Board of Trustees for study on alternative plans to be presented in 1957?

Dr. Maurice J. Dattelbaum, *Treasurer:* I am going to request, Mr. Speaker, that after I am through Dr. Masterson, chairman of the Board of Trustees, speak.

We have studied all the alternative plans that were possible. One, we either had to increase dues, which would carry on indefinitely. Number two, we could not take any of our assets, the so-called one million dollar paper value today, of which nearly 50 per cent is earmarked for building, for depreciation, and for the beneficiary fund for those who are over sixty-five years of age and cannot come into this plan. That money is earmarked. Furthermore, that money has been accumulated for one hundred fifty years. It is not all our money. It has come from the members who have been in this organization from the very beginning.

As far as increasing the dues, even if we were to increase the dues only $1.00 or $2.00, which instead of being $25 would be $26 or $27, it would not carry this plan through.

Now here is what we were faced with: The trustees had something to do with bringing in this pension plan, and they studied it from every angle. First, they consulted insurance companies—and I will not mention names—who said they would set up a plan for those up to sixty-five years of age for $20,000 a year for eleven years and $15,000 thereafter for ten or twelve years. If you add up eleven times $20,000, $220,000, and $15,000 times ten, $150,000, it would amount to $370,000. They are making, therefore, a surplus over what we think we can do with $240,000 or $130,000, which we could very well use. We went into all of this stuff. To take this back to the trustees, and say "Give us a plan," or "Tell us how you would do it," would not produce anything more than what has been presented here today. They have given you a plan. They would favor an assessment. I imagine you too would favor an assessment nowadays when money is loose. I am saying this because I know what I am talking about. You don't think very much about spending $10 on almost anything, yet here you are setting up a plan that will be good for twenty years at least, after which those who come after us twenty years from now can see what they should do, or the trustees can augment it with part of our surplus, if we have surpluses every year—not all of it, a certain percentage—oh, maybe 5 per cent, and put it in that fund. But please do not expect any money from the investments because today that is a paper value, and in a few days it may not be what it is now. I would say that if you send this back—and I am against this idea of sending it back to the trustees for another year—we are going to have a sesquicentennial celebration. I do not like flags. I do not like pillars of stone or anything like that. Rather I like something concrete that has a heart in it. There would be nothing better than to say on our one hundred fiftieth anniversary we set up a pension plan for our employes, and not wait another five years to do it. Gentlemen, I leave it to your good discretion. *(Applause)*

Speaker Holcomb: Dr. Masterson, chairman of the Board of Trustees, is now recognized.

Dr. John J. Masterson, *Trustee:* Mr. Speaker and members of the House of Delegates, the Board of Trustees have been talking about a pension plan for our employes for many years. Last year the House of Delegates instructed the Board of Trustees to bring in a plan at this session of the House of Delegates. Complying with their instructions we contacted two insurance companies and two of the larger banks in New York City who have pension plans. We finally concluded that a plan submitted by one of the insurance companies was most suited to our needs. We then got the approval of the Office Management and Policies Committee, to which this matter was referred by the Board of Trustees, to hire an actuarial expert to find out if the plan submitted by this insurance company was actually suited to our needs and the amount of money necessary to set up the plan for a number of years.

We have here the details of their report, which was submitted to the reference committee. The collection of $240,000 with the accumulated interest would probably last for about twenty-odd years, depending upon the number of future employes, the salaries paid, and the cost of living. All pension plans must be amended from time to time to comply with changing conditions.

The Office Management and Policies Committee and the Board of Trustees considered all of the alternatives suggested by our good friend, Dr. McCarthy. If in the wisdom of the House of Delegates they wish to have a plan where the dues will be increased a couple of dollars a year, it is all right with us.

The question may well be asked, as we included in our report, "What are we going to do as the money from this accumulated fund decreases?" We submitted in our supplementary report three different ways as to how that money in that fund could be kept at a certain level, and I feel confident that the House of Delegates from time to time would review our pension plan, if adopted this time, and recommend to the Board of Trustees that the amount of money in the pension fund be kept at a certain level, which we can easily do in three of the ways submitted in our report.

I cannot add any more because Dr. Dattelbaum has well covered many of the things that I would otherwise say.

If there are any questions, I will try to answer them.

Speaker Holcomb: This is on Dr. McCarthy's resolution, which would refer this problem back to the Board of Trustees. Is there any further discussion on the motion?

Dr. Paul H. Sullivan, *Nassau:* I would like to speak in favor of the pension plan. We have already had to set up a plan in our county medical society, and found it is not cheap to start, but as time goes on it improves. The need is immediate. These men who need it now need it this year; they don't need it two years from now in case they retire. I think we should go about it in a way where we will have it a one-shot proposition rather than increasing the dues. Once you increase the dues they are increased for the Lord knows how long, and we may still get another assessment. So I would just like to say as far as Nassau County goes, we would approve of setting the thing up now, and since we already have our plan we can't go along with the State plan.

Speaker Holcomb: Thank you, Dr. Sullivan.

Dr. Thomas M. d'Angelo, *Queens:* I would like to ask several questions. It seems to me that the one-shot plan of mandatory assessment is the proper thing to do at present because we want to set this up as soon as possible, but I believe that the members who are going to join our Society from now on in the next twenty years should be made to pay a certain amount, and that amount should be approximately the same as the $10 assessment that we are going to put in. I know it may be a hardship for some of the new members to come in and face this assessment, but I believe that if the new members coming in were assessed $2.00 per year for the first five years they would also have a stake in this entire project the same as we have. I think it would carry it on much better, and I don't think that the members themselves here would be the only ones to pay for the pension fund.

Speaker Holcomb: Is there any further discussion? You do not offer that as an amendment?

Dr. d'Angelo: I do not offer that as an amendment because I have not had the detailed study available that Dr. Masterson and his committee have had made. Maybe they have considered such a project, but I think this suggestion should be put before the proper committee, and they can evaluate it and probably next year bring back such a report.

Speaker Holcomb: Is the House ready for a vote on Dr. McCarthy's motion, which would refer this back to the Board of Trustees? Are you ready for the question after hearing Dr. Dattelbaum and Dr. Masterson?

. . . The question was called, and the motion was put to a vote and was lost . . .

Speaker Holcomb: Now are you ready for the motion proposed by Dr. Rogers of the reference committee?

Dr. Masterson: Did I understand now from Dr. Rogers' report that the treasurer will be authorized to assess next year all of our members the amount of $10?

Dr. Rogers: Our recommendation is that an assessment of $10 be levied on each member of the Medical Society of the State of New York beginning January 1, 1957, for the purpose of setting up an accumulated fund as a pension fund for employes.

Speaker Holcomb: That is one assessment of $10 in 1957?

Dr. Rogers: That is correct.

Dr. d'Angelo: I would like now to offer an amendment to that particular proposition that all new members coming into the Society beginning in 1958, because I take it that those in 1957 will pay the $10, may be assessed $2.00 a year for five years.

Speaker Holcomb: Is that amendment seconded?

Dr. Ben A. Borkow, *Kings:* I second it.

Dr. Rogers: I understand the House of Delegates can only assess for the one year that they are elected.

Vice-Speaker Williams: It can't provide for future assessments?

Dr. Rogers: That is the legal interpretation I got. You could get a legal opinion on it from Mr. Martin, but that is my impression.

Dr. Ezra A. Wolff, *Assistant Secretary:* You can't project assessments.

Speaker Holcomb: Will you withdraw that motion? I understand that motion is out of order. If it is unconstitutional, of course, it is out of order. Do you withdraw it?

Dr. d'Angelo: Oh, yes.

Speaker Holcomb: Dr. d'Angelo has withdrawn his amendment. Are you ready now for the question which carries the assessment of $10?

Dr. Leo F. Schiff, *Trustee:* There is a little confusion in my mind. The report of the trustees on page 6 of the supplementary report recommends that this assessment become due and payable on January 1, 1957. As I got the report of the reference committee they wanted to make the assessment for the year 1957. I would like to have that cleared up. It makes no particular personal difference to me, but we ought to have it clear as to what they mean by "for the year 1957," and whether that in accordance with your ruling is beyond the scope of this House, which is in session in 1956.

Speaker Holcomb: I believe, Dr. Schiff, that that assessment can be levied on the membership so it will be payable in 1957, with their 1957 dues, although I realize now we cannot assess members in the succeeding years. Is the House ready for the question?

Dr. McCarthy: Has there not been a question raised about the constitutionality?

Speaker Holcomb: Only as to the assessment for the subsequent years, after 1957.

Dr. McCarthy: This is in reference to any assessment. When we made an assessment for the War Memorial Fund—

Chorus: We can't hear.

Speaker Holcomb: I am afraid the members in the back of the room can't hear you. Will you come to the microphone?

Dr. McCarthy: There have been quite a few new members I think since that was done in 1948, but when we voted an assessment for the War Memorial Fund, which was of course very praiseworthy, two years later we were told that we had no right legally to vote an assessment for a War Memorial Fund by this House, but it took us two years to get that information. And the only way we got it was in our county when we tried to suspend a member for not paying his War Memorial Assessment, that is the information we got, that legally we had no right to levy that assessment.

I think too this question has never been raised here, I don't know, and it may not be pertinent. Have we the right to assess our members to establish a pension fund for the employes of the State Society? I would like to raise that question so that now before we vote we will have some decision that this is different from the War Memorial assessment. Have we that right in connection with this pension fund? May I raise that question?

Dr. Rogers: It is my understanding from the insurance company actuary and the other persons with whom we talked yesterday that we have a right to levy such an assessment. Of course, the question of the legal right of the Society to levy an assessment for their employes, I don't think that could be argued too well; I think it is more of a moral obligation. They definitely stated that as far as they could see by other organizations, who are membership corporations like this, it was perfectly legal.

Furthermore, as most of our county societies with reference to the election of delegates don't have them elected until after January 1, 1957, for the following year, I see no reason why we could not have this assessment payable as of January 1, 1957.

Speaker Holcomb: Is Mr. Martin in the room? I wonder if Mr. Martin could give us an interpretation on that, or is there someone else here qualified to do so?

Dr. John C. McClintock, *Councillor:* Mr. Speaker, I merely arose to call the attention of the House to Article IX of the Constitution, which provides, "Funds shall be raised by annual per capita dues or assessment on each component county society at a uniform per capita rate throughout the State, but the dues or assessments of each junior member shall be one third the amount levied on each active member. Funds may also be raised in any other manner approved by the House of Delegates or by the Council when the said House of Delegates shall not be in session."

Dr. Abraham D. Segal, *Kings:* We had a War Memorial Fund, which served a wonderful purpose. It was a contribution of only $12 for the children of our deceased members who served their country. A number of members of the State Society now in good standing did not contribute their assessment to that War Memorial Fund, and nothing was done to force them to pay it. They remained in good standing. At that time when I was secretary of the Kings County Medical Society I tried to contact a number of the men to ask them please to pay their War Memorial assessment. They flatly refused and nothing was done about it. What are you going to do next year if a number of men refuse to pay this assessment?

Speaker Holcomb: That was a voluntary assessment I believe, isn't that true?

Secretary Anderton: Yes.

Dr. Samuel Leo, *Bronx:* I would like to ask a question. Is it legal to increase the dues for a period of five years two dollars each year and in that manner to establish such a fund?

Speaker Holcomb: No, it is not, sir. However, I believe the Constitution and Bylaws state that an assessment can be made.

Dr. David Kershner, *Kings:* If we pass this resolution does that mean that new members coming in in 1957 pay the added $10 assessment?

Speaker Holcomb: Yes.

Dr. Rogers: Yes.

Dr. Kershner: I want the House to consider that.

. . . There being no further discussion, the motion was put to a vote and was carried . . .

Dr. Rogers: I would like to move the report as a whole as amended be approved.

Dr. Adelaide Romaine, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Rogers: I would also like to thank the members of my reference committee who spent many hours yesterday afternoon discussing all of the points that were brought up here today, and many more: Dr. Ben A. Borkow, of Kings; Dr. William C. Rausch, of Albany; Dr. Adelaide Romaine, of New York, and Dr. R. Scott Howland, of Chemung. I would like to thank them very, very much. (*Applause*)

Speaker Holcomb: Thank you for a very good report.

I would like to call the attention of the House to our schedule now. We have about seven more reference committees to hear from. We have been in session two hours, and the speaker will call a five-minute recess. I am hoping to get through the afternoon with a slightly extended session, but I am sure it depends upon the debate that follows.

. . . Recess . . .

Vice-Speaker Williams: Will the House be in order please, gentlemen? The ladies are already in their seats, gentlemen. (*Laughter*)

Section 126

Report of Reference Committee on Report of Council, Part II—Public Health Activities A: Maternal and Child Welfare

Dr. Joseph E. Corr, *New York:* Mr. Speaker, carefully reviewing the report of the Subcommittee on Maternal and Child Welfare under the chairmanship of Dr. Charles A. Gordon of Brooklyn, we agree:

1. With the recommendation of the subcommittee that a standard form be adopted throughout the State for reporting maternal and perinatal deaths.

2. Congratulate the subcommittee on the close cooperation with Dr. Alfred Yankauer, director of the Bureau of Maternal and Child Health of the State Department of Health.

3. Agree that maternity beds be limited to maternity cases only and recommend that a letter be sent to the superintendent of each hospital to this effect.

I move the adoption of this portion of the report.

Dr. Waring Willis, *Westchester:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 127

Report of Reference Committee on Report of Council, Part II—Public Health Activities A: School Health

Dr. Joseph E. Corr, *New York:* Your reference committee has also carefully studied the report of the Subcommittee on School Health under the chairmanship of Dr. William E. Ayling, of Onondaga. We recommend a change in paragraph 4 for clarification: In the opinion of the committee, any health examination or survey of school children be under the supervision of a duly accredited medical practitioner.

I move the adoption of this portion of the report.

Dr. Philip M. Standish, *Ontario:* I second the motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Corr: I move the adoption of the report as a whole.

Dr. Moses H. Krakow, *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Corr: May I thank the members of my reference committee, Drs. Theodore R. Proper, Philip M. Standish, Waring Willis, and Thomas S. Cotton.

Vice-Speaker Williams: The chair thanks you and your committee.

Section 128 (See 28)

Report of Reference Committee on Report of Council, Part XII: Belated Bills

Dr. Walter T. Heldmann, *Richmond:* Mr. Speaker and members of the House, this report deals with belated bills, convention, nursing education, office administration and policies.

The first part of this report has to do with belated bills, and your reference committee recommends the payment of the following bills:

1.	Dr. Jurgens H. Bauer, of the Committee on Legislation	$40.90
2.	Dr. Moses H. Krakow, Treasurer of the First District Branch	280.59
3.	Dr. Philip Hust, of the Committee on Legislation	14.70
4.	Dr. John M. Sheldon, of Ann Arbor, Michigan, for travel to Buffalo, 1955	55.33

Mr. Speaker, I move the adoption of this portion of the report.

Dr. George A. Burgin, *Herkimer:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 129

Report of Reference Committee on Report of Council, Part XII: Convention

Dr. Walter T. Heldmann, *Richmond:* A very comprehensive report of the 149th Convention held in Buffalo from May 9 through May 13 was rendered by Dr. Samuel Freedman. The over-all registration was 2,588, and it was gratifying to note the excellent attendance at the general sessions.

Ophthalmology and otolaryngology held separate meetings for the first time and were well attended, as was the first meeting of the Section on Allergy. A successful innovation of this session was the vidiclinic which was viewed by an audience of approximately 800 on Monday evening.

I move the adoption of this portion of the report.

Dr. Moses H. Krakow, *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 130

Report of the Reference Committee on Report of Council, Part XII: Nursing Education

Dr. Walter T. Heldmann, *Richmond:* The chairman of the Council Committee on Nursing Education, Dr. Raymond S. McKeeby, reported on the "Fourteen Principles for the Promotion of Better Nursing Care," which were approved by the Council after having been presented as revised by the Nursing Committee of the New York State Hospital Association and officially approved by that organization.

These principles outline the three categories of nurses needed in hospitals today, the time which should be devoted to the preparation of each group, and the approximate percentage ratio of each group required to adequately fulfill these needs. They point up the shortage in all three categories and urge recruitment efforts and financial support for all three. They go on to allocate the type of nursing care which should be given by each group in the hospital, and urge proper cooperation between these groups with the idea of more efficient use of personnel involved; using the registered basic degree nurses in teaching and administrative positions only, and the registered diploma nurses as team leaders with practical nurses, student nurses, and nurse attendants in the team concept of nursing care. In the field of nursing education they advocate a program that will emphasize practice and application of theory, rather than theory alone, as a basis of training for all registered diploma nurses and provide for some form of progression so that a nurse wishing to advance from one category to another may receive credit for preparation already obtained without having to start all over again. They emphasize that nursing education does not belong exclusively to the stream of general education and should not be divorced from hospitals, but rather recognize that the bedside of the patient is the best place to learn nursing skills.

Finally, they advise revision at frequent intervals by the Education Department of curriculum requirements to conform to changing medical practice providing that in this period of nursing shortage there is no resultant loss of clinical experience to the student nurse.

Your committee agrees with the opinion of Dr. McKeeby's committee that this is a practical approach to the acute nursing shortage and a step in the right direction to ease that shortage. It also noted that the two-year program is still being evaluated and hopes a report on this may soon be made available.

We commend the committee on its effort to keep the Council advised of Federal legislation regarding the setting up of a commission which would study the needs of nursing services in the United States. We urge them to continue these efforts so that proper action on this legislation may be taken by the Council at the opportune time.

I move the adoption of this portion of the report.

Dr. Frank J. Cerniglia, *Queens:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 131

Report of Reference Committee on Report of Council, Part XII: Office Administration and Policies

Dr. Walter T. Heldmann, *Richmond:* Your reference committee has carefully studied the excellent report submitted by Dr. Masterson's committee, and wishes to join them in commendation of the work of our office staff members. Review of the employment record revealing long terms of service of many of the staff speaks both for the loyalty of the staff and the existence of good employer-employe relationships. We note with satisfaction that the possibility of installing a pension plan for the staff is being studied with the hope of making a report to the Board of Trustees. We trust this may be accomplished by the next annual meeting.

We are concerned to note that the collection of A.M.A. dues continues to be an expense to the Society and strongly urge our delegates to the A.M.A. to take proper steps to rectify this, either by full reimbursement by the A.M.A. to the Society or by direct collection by the A.M.A. of its own dues.

We concur with the opinion of the committee that reduction of the cost of the *Directory* is impractical. Previous studies have all led to the same conclusion, and if we want a *Directory* at all it must continue to be published on a two-year basis and the present contents maintained.

I move the adoption of this portion of the report.

Dr. John M. Galbraith, *Nassau:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Heldmann: We recommend that a committee of similar composition be appointed for the succeeding year.

I move the adoption of this portion of the report.

Secretary Anderton: I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 132 (See 57)

Report of Reference Committee on Report of Council, Part XII: Change in Date of Annual Dinner

Dr. Walter T. Heldmann, *Richmond:* There was one resolution referred to this committee, resolution 56–20, introduced by Dr. Frederick Wurzbach, Jr., a delegate from Bronx County Medical Society, concerning a proposed change in the date of the annual dinner.

The resolved portion of this reads:

> *Resolved*, that the annual dinner of the Medical Society of the State of New York be held on Monday evening of the convention week, after 1957.

Your committee felt that theoretically there might be an advantage in this change because of increased attendance by members of the House of Delegates. We have no evidence, however, to show whether or not this might not be offset by a drop in attendance by other members of the Society. Therefore, we recommend that this be referred to the Council for study before any action is taken.

I move the adoption of this portion of the report.

Dr. Henry J. Barrow, *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Heldmann: I move the adoption of the report as a whole, Mr. Chairman. I am moving this at the present time because this report was made up before we received the supplementary report of the Convention Committee. I have a separate report of the reference committee on the supplementary report of the Convention Committee.

Vice-Speaker Williams: Are you ready to render that report?

Dr. Heldmann: Yes, sir.

Vice-Speaker Williams: Then let us postpone that motion on accepting the report as a whole until we hear the supplemental report.

Section 133 (See 109, 166)

Report of Reference Committee on Report of Council, Part XII, Supplementary Report of Convention Committee

Dr. Walter T. Heldmann, *Richmond:* This report recommends that the House of Delegates of the Medical Society of the State of New York meet in New York in February, 1957, at the time of the rest of the sesquicentennial celebration.

Your reference committee has given careful consideration to this recommendation, and although it would be advantageous from a standpoint of attendance at the sesquicentennial celebration and the convenience of having both events at the same time, your committee recommends disapproval of this report for the following reasons:

1. It would limit to a period of only three or four months the reports of the Council committees to be considered at the annual meeting of the House;
2. It would of necessity limit the tenure of office of all the elected officers of the Society for the 1956–1957 term to a period of nine months.

Your committee recommends that the next annual meeting of the House of Delegates of the Medical Society of the State of New York be held in New York City from May 13 to May 15, 1957.

VICE-SPEAKER WILLIAMS: Do you so move?

DR. HELDMANN: Yes, I move the adoption of this portion of the reference committee's report.

DR. NORMAN S. MOORE, *Councillor:* I second it.

VICE-SPEAKER WILLIAMS: Is there any discussion?

The chair recognizes Dr. Freedman, of New York, who is in charge of the sesquicentennial celebration.

DR. SAMUEL Z. FREEDMAN, *New York:* Mr. Chairman and members of the House, this recommendation of holding the next House of Delegates meeting in February, of 1957, was given to you after very thorough and due consideration by the Council, which on April 12, as you heard, recommended it. There was one dissenting vote. That dissenting vote was a very important one.

It was believed that this celebration of the sesquicentennial year would be of such a character and so extraordinary that, perhaps, it would be advisable for this one time to run everything together. I still believe that, generally speaking, that is so. It occurred to me, however, after the meeting of the Council that the matter of shortening of the term of the elected officers of this House would prevail, and I must say in all fairness to many who disagreed with running the House meeting in February that that did not enter our thoughts at all. The argument was that there would be a shortage of time for giving the reports, that they could not be printed, and so on. All these things have to be weighed.

As chairman of the Sesquicentennial Committee, and having made some plans which I hope will materialize—and they are of a very extraordinary nature—and also because the Council had decided to have the annual dinner at the Waldorf-Astoria, not here at the Statler, and of necessity the guarantee to the Waldorf-Astoria for the main ballroom would have to be much larger than we would have to guarantee here, we believe it would help the attendance if the House of Delegates met at that time, and the dinner was held on Tuesday evening, because there is no doubt that many members of the House leave after the election Wednesday morning. That may account for, in fact I know it does account for, fewer members attending the dinner up in Buffalo, because I think many of us from New York get on the train or plane and we leave right after the election.

As far as I know the Council still feels the way it did on April 12, 1956. I think we are in duty bound to give that a great deal of consideration. I must in all fairness, however, say after listening to the opponents of the change that my feeling, perhaps, is not as strong as it was last month.

I do think it should be discussed a little bit so that the members can kick it around and make a decision based not on anything else but the real pros and cons. Thank you very much!

DR. HELDMANN: For your information, I would like to tell the House that the Penn Top is available for those dates. We looked into that before we made this recommendation. If anyone is wondering about this room on this floor it is available for those days.

VICE-SPEAKER WILLIAMS: For the February days?

DR. HELDMANN: No, for the May date.

VICE-SPEAKER WILLIAMS: Is there any further discussion? When pleasure interferes with business, which do we give up?

DR. JOSEPH A. LANE, *Monroe:* I really want to ask a couple of questions in regard to that. The point has been made as to whether or not these officers would have their term shortened. In quickly scanning the Constitution and Bylaws, it does not seem to indicate that the term is for a specific time, as I anticipated it would be, for one year. Even so, if it was desirable to hold the House of Delegates meeting here in February rather than in April, could not the new officers be elected at that time but to take office at the usual time, so that they would fulfill their full year in office?

DR. HELDMANN: I can answer that. Article V, under "Officers," in the last sentence says—this is referring to the officers—"They shall take office at the termination of the annual meeting at which they are elected." That would be in February if you held your House meeting in February.

VICE-SPEAKER WILLIAMS: What page is that, Dr. Heldmann?

DR. HELDMANN: Page two.

DR. FREEDMAN: May I ask you to ask Mr. Martin if that is the interpretation as he understands it?

VICE-SPEAKER WILLIAMS: Is Mr. Martin in the House? Apparently he is not in the House. The chair recognizes Dr. Moore.

DR. NORMAN S. MOORE, *Councillor:* I would like to add one more argument in support of the recommendation of the reference committee. I know it is true that Dr. Freedman has made great plans for this celebration. If we are going to have two or three days of celebration, why don't we all get in it and celebrate the one hundred fiftieth anniversary of the Society and have the House of Delegates at a separate time so we don't interfere with the celebration? I feel very strongly about this, having been one of the proponents of a "quickie" on the Council, and I don't think it had the thoroughness of consideration by the Council that was indicated. I was for it then; I am against it now. I am against having the House of Delegates meet at the same time for the reasons that have already been stated, plus let us have a scientific session when for once we have science and not so much debate.

VICE-SPEAKER WILLIAMS: The chair recognizes

Mr. Martin. Would Dr. Freedman come up and state his question so Mr. Martin can answer it?

Dr. Freedman: It was a question concerning tenure of office. Are officers elected for a year or are they elected until the next meeting, and what does this mean on page two of the Constitution and Bylaws, which says an officer shall take office at the close of the annual meeting at which he is elected?

Mr. Martin: This thing has worked out for many years so actually the new president has taken office every year at about the same time because our annual meeting is at that time, and it reads "at the termination of the annual meeting at which they are elected." Now what is the proposal to change it?

Vice-Speaker Williams: The proposal is to hold next year's annual meeting in February.

Mr. Martin: I would say that the sense of this–and I would have to write a memorandum and go into all of the details, but the sense of this is that it simply sets the end of a yearly term, and that the annual meeting always corresponded to that date. Nobody intended you would elect one president for fourteen months and the next for ten months, so if you radically changed the date of your annual meeting for some purpose that was important for that particular year, I would say that the incoming president would have twelve months as the president before him had.

Vice-Speaker Williams: Mr. Martin, to enlighten the House further, does it not also say in the Constitution that the date of the annual meeting can be set by the House of Delegates?

Mr. Martin: Yes.

Vice-Speaker Williams: We can set it one week ahead or one week later.

Mr. Martin: If this was set at a time when we would meet at about the same time every year, I would say rhetorically when and if there was a proposal to change the time of the meeting for just one year or many years, it would be my inclination that until the Constitution can be changed to take care of that condition, which might take another year or two, the president should still stay in office for one year even if he had to take office at a time other than the annual meeting, which might be advanced a couple of months. The intent of every organization, every professional organization, is that the term is one full year, or in some organizations for two or three years. With the one turnover it might not be so important for you to read it literally. At the end of the annual meeting would be the time for the changeover. However, I know all of the ceremonies of induction take place at the time of the annual meeting, and that is the time to do it with some ceremony.

Speaker Holcomb: The only question that arose in my mind was the fact that the annual meeting is at the vote of the House of Delegates, and if this House votes to hold our annual meeting and election in February of next year, I should think that that would terminate the incoming president's term.

Mr. Martin: Literally, it might.

Dr. Thomas M. d'angelo, *Queens:* May I call your attention also to the Constitution and Bylaws of the Medical Society of the State of New York on page 14, Chapter III, Section 2: "The president, the president-elect, the vice-president, the secretary, the assistant secretary, the treasurer, and the vice-speaker of the House of Delegates shall be elected for one year or until their successors have been duly chosen."

Vice-Speaker Williams: "Or until" but not before.

Mr. Martin: Since one section, Article V, says they shall take office at the termination of the annual meeting at which they are elected, and the other section says "shall be elected for one year or until their successors have been duly chosen," I would be inclined to go along with Dr. Holcomb's thought, that if you changed the date of your annual meeting you would in effect be changing the tenure of the new administration, and giving the then president of the Society a shorter term of office.

Vice-Speaker Williams: This is the advice of our counsel. Is there any other discussion? Thank you, Mr. Martin.

Dr. Freedman: You did a quicker job at reversing yourself than even Mr. Dulles did here recently.

Mr. Martin: I do not pretend to be a constitutional lawyer, an authority on constitutional law.

Dr. Louis H. Bauer, *Ex-President:* Mr. Speaker will you recognize an old timer? We have a precedent on this already, which was previously ruled on by Mr. Martin, although maybe he has forgotten about it. In 1945 there was a war. If you recall the government forbade travel for any meetings, consequently we could not hold our House of Delegates meeting in the spring, and it was not held until I think it was either October or November. Counsel then ruled that that extended the term of office of the officers of the Society until the House did meet. The man who was then president of the Society felt that that was very unfair to his successor, and he resigned, so that automatically the incoming president, the president-elect, would take office at the time he naturally would. I think the same thing holds true now: if you change the time of your annual meeting you change the tenure of your officers.

Vice-Speaker Williams: I bow to the master of parliamentary law.

Dr. Bauer: I am no master.

Vice-Speaker Williams: I bow to the ruling of my predecessor. I was not here then.

Dr. Leo F. Schiff, *Trustee:* May I speak on the question in general now, sir?

Vice-Speaker Williams: You may.

Dr. Leo F. Schiff: I strongly side with Dr. Moore. I think this 150th anniversary celebration of our Society should be an event outstanding for its social and scientific achievements and not muddled up with the House of Delegates meeting, reports, and a whole lot of this stuff we have to wallow through here. I believe the report recommended that we hold the sesquicentennial celebration in February and the House of Delegates annual meeting in May. Am I correct on that, sir?

Speaker Holcomb: That is right.

Secretary Anderton: Yes.

Dr. Leo F. Schiff: The report of the reference committee recommends the sesquicentennial celebration in February?

Vice-Speaker Williams: And the House of Delegates meeting in May, the business meeting.

Dr. Leo F. Schiff: I am strongly inclined to that view, and I strongly urge the members, even if it takes two meetings, let us have this sesquicentennial, as Norman said, a social and scientific meeting and forget all this business, and squabble, and debate, and reports, and leave those for a special meeting, when the delegates will get down to business again in May at the usual time. (*Applause*)

Vice-Speaker Williams: For the information of the House, the chair does not have it clear in his mind as to whether the scientific exhibits will be held in February or in May. I realize that the recommendation is for the House of Delegates to meet in May, and to have the sesquicentennial celebration in February. Are we to hold exhibits both in February and in May?

Dr. Heldmann: As I understand it, the entire meeting, the scientific meeting, with the technical exhibits and everything else, will be held in February at the sesquicentennial celebration. All this committee is doing is recommending that we have the meeting of the House of Delegates in May instead of along with that celebration and with that the general meetings.

I might add that several members of the Council, after considering this a little more carefully, are also in favor of that and not in favor of their original report.

Vice-Speaker Williams: Are you ready for the question?

Voices: Question!

Vice-Speaker Williams: All those in favor signify by saying "Aye"—

Dr. Vincent J. Collins, *Section Delegate:* Before voting on this question, consideration ought to be given to Section 3, of Chapter II, where it says, "The annual meeting of the House of Delegates"—

Voices: What page?

Vice-Speaker Williams: What page?

Dr. Collins: Page 12, "The annual meeting of the House of Delegates shall be held at the call of the Speaker, at least two, and not more than four days before the annual meeting of the Society." That raises a question, what are you going to call this meeting in February?

Vice-Speaker Williams: The sesquicentennial celebration, sir. Isn't that so, Dr. Heldmann?

Dr. Heldmann: Yes.

Dr. John L. Edwards, *Columbia:* I move the question.

Dr. George A. Burgin, *Herkimer:* I second it.

. . . The motion was put to a vote and was unanimously carried . . .

Vice-Speaker Williams: Now we will vote on the recommendation of the reference committee.

. . . The motion was put to a vote and was unanimously carried . . .

Vice-Speaker Williams: Where are those dissenting votes? I heard none.

Dr. Heldmann: Now I would like to move the adoption of the report as a whole.

Vice-Speaker Williams: As amended.

Dr. Heldmann: As amended.

Dr. Moses H. Krakow, *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Heldmann: I would like at this time to thank the members of my committee for the work they did, Dr. John M. Galbraith, Dr. G. Gordon Knight, Dr. George A. Burgin, and Dr. Moses H. Krakow. (*Applause*)

Vice-Speaker Williams: The House and the speaker thank you, Dr. Heldmann, and your committee.

Section 134 (See 11)

Report of the Reference Committee on Report of the Malpractice Insurance and Defense Board

Dr. Frank LaGattuta, *Bronx:* Mr. Speaker and delegates, I took this chairmanship with an open mind and a prayer for Divine Guidance, but I also had in my pocket a pair of asbestos gloves.

This is the report of the Malpractice Insurance and Defense Board reference committee. Your reference committee appreciates the efforts and sincerity of the Board to maintain the integrity of the Group Plan.

It also notes that the unfavorable increase in premium rates of recent years is leveling off and that a decrease of 2.5 per cent may be anticipated. It also commends the work of surveying all the counties of the State and devising a plan of dividing the State into three premium groups.

It also appreciates the work done on behalf of the doctors in military service regarding their liability ratings.

The Board is to be commended for acquainting the physicians with the various aspects of the Group Plan.

We appreciate the attendance of the members of the Board at its various meetings and their serious and diligent application to their work.

Mr. Speaker, I move the adoption of this part of the report.

Dr. Joseph P. Alvich, *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 135

Report of Reference Committee on Report of Legal Counsel

Dr. Frank LaGattuta, *Bronx:* The reference committee commends the counsel for his complete and informative report. The report is not only an analysis of the past year's duties but also a source of information on new and basic aspects of malpractice.

We recommend that the membership read and study the report.

I move the adoption of this part of the report.

Dr. A. Wilbur Duryee, *New York:* I second it.
. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 136 (see 50)

Report of Reference Committee on Report of Legal Counsel: Settlements in Malpractice Suits

Dr. Frank LaGattuta, *Bronx:* Reporting on resolution 56–13, "Settlements in Malpractice Suits," introduced by Dr. George A. Burgin, of the Medical Society of the County of Herkimer: Every case requires an individual study and every decision should be based on individual circumstances. Many factors go into the decision on any case. We appreciate the views (1) that cases should not be settled when the physician is innocent, and (2) that too easy settlement of cases may cause progressive increase in the number of future claims. The organization of committees in counties will bring out the various factors in any case and will mitigate too easy settlement of cases.

Our legal counsel and staff, with the now actively functioning county committees, may be expected to exercise good judgment in making decisions.

For this reason, your reference committee disapproves the resolution.

I move the adoption of this recommendation of the reference committee.

Dr. Ezra A. Wolff, *Assistant Secretary:* I second the motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 137 (See 67)

Report of Reference Committee on Report of Malpractice Insurance and Defense Board: Breach of Conduct

Dr. Frank LaGattuta, *Bronx:* Resolution 56–30, "Breach of Conduct," introduced by Dr. Mackler, of the Medical Society of the County of Kings: We deplore the fact that Mr. Wanvig placed himself in this unfortunate position. Mr. Wanvig stated that he had no idea that his remarks were to be published and that those remarks which were made apparently were taken out of context. It is recommended that in the future any remarks which are to be published be checked by a responsible person or persons in the State Medical Society.

The action proposed by the resolution seems unduly drastic, and we believe that the councillors and trustees can be trusted to have a proper concern for the interests of our membership.

The resolution is, therefore, disapproved.

Mr. Speaker, I move the adoption of this portion of the report.

Vice-Speaker Williams: Do I hear a second?

Dr. Philip D. Allen, *New York:* I will second it.

Vice-Speaker Williams: Is there any discussion?

Dr. Samuel Wagreich, *Bronx:* Mr. Speaker and members of the House of Delegates, we are deeply disturbed by this letter which was sent to the *Medical Economics* magazine, and which as you well know has a widespread circulation. We are particularly distressed since these observations we feel are a breach of confidence expressed by our representative, Mr. Wanvig, who has been intimately and closely associated with this State Society for these past thirty-five years.

I direct your attention to this resolution which, if you read it, will give you an indication as to this breach of confidence. This philosophy, if it permeates the thinking of Mr. Wanvig, does not serve our very best interests. We are particularly concerned that these unfortunate remarks may at some future date plague us and perhaps encourage others to institute suits against physicians. Although we do not wish to disparage the energies and efforts of the excellent work performed by Dr. LaGattuta and his reference committee, we feel that this House of Delegates should go on record as censuring Mr. Wanvig for these remarks.

If I am not out of order, Mr. Speaker, I would like to amend this report, and ask for censure of Mr. Wanvig for these remarks which were printed in the *Medical Economics* magazine.

Vice-Speaker Williams: Do you so move?

Dr. Wagreich: Yes, I so move.

Dr. Harry A. Mackler, *Kings:* Mr. Chairman and delegates, I was the maker of that particular motion, and I certainly would go along with the gentleman from the Bronx in his alleviating the resolution that I had made, and I will second that motion.

Vice-Speaker Williams: The motion has been made and seconded. Is there any discussion?

. . . Dr. Thomas M. d'Angelo made some remarks at this point, which on motion of Dr. McCarthy, seconded by Dr. Romaine, it was voted unanimously be stricken from the record . . .

Dr. Herbert S. Ogden, *New York:* Point of order, I think this should be in executive session if we are going to speak in such terms.

Secretary Anderton: I second the motion.

Vice-Speaker Williams: Is that a motion from you that we go into executive session?

Dr. Ogden: Yes.

Vice-Speaker Williams: Did you call for a decision?

Dr. Ogden: I call for a decision from the speaker as to whether or not this type of discussion is to be continued in open meeting.

Vice-Speaker Williams: It is a motion of privilege.

Dr. Ogden: I want to make the motion.

Vice-Speaker Williams: And it has been seconded by the secretary?

Secretary Anderton: Yes, sir.

Vice-Speaker Williams: The motion to go into executive session has been moved and seconded. Is there any discussion?

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Vice-Speaker Williams: The speaker has to declare an executive session. I would like to appoint some sergeants-at-arms, the secretary, the assistant secretary, the treasurer, the assistant treasurer, and Dr. McCarthy, and declare a four-minute recess to clear the floor.

Dr. John F. Kelley, *Oneida:* We have made it a point to bring our three alternates with us every year to sit in this House of Delegates. We would like to ask if they could sit in here during this executive session.

Vice-Speaker Williams: I have not recessed the House as yet, or I will take back that recess. Will the delegates be seated? We have to decide whom we are going to leave in and whom we are going to ask to wait outside.

The first is employes of the Society—just a minute, I am presented with this by Miss Dougherty: "Executive session if called: All leave room but members of the House, State Society executive officer, executive assistant to the secretary, executive secretaries of component county societies, counsel, stenotypist, and any other persons the House of Delegates invites to attend." That ought to settle a lot of our questions.

Is there any delegation in the House who has someone they would wish to have invited other than those that are included in this list I have read?

Dr. Kelley: I respectfully request that the alternate delegates of Oneida County be allowed to stay.

Vice-Speaker Williams: Do I hear a motion to approve that?

Dr. Harry A. Mackler, *Kings:* I so move.

Dr. Aaron Kottler, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Vice-Speaker Williams: The alternates of Oneida County are admitted.

Are there any other motions?

Dr. James M. Blake, *Schenectady:* Our president-elect, Ralph Isabella, of the Schenectady County Medical Society, is here, and would like to be allowed to stay.

Vice-Speaker Williams: Is there a motion to admit Dr. Isabella?

Dr. Blake: I so move.

Dr. Donald C. Walker, *Schenectady:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Walter T. Heldmann, *Richmond:* I would like to ask the House if they would allow our president-elect, Dr. Levin, to stay during this executive session.

Vice-Speaker Williams: Do you so move?

Dr. Heldmann: I so move.

Dr. Thurman B. Givan, *Councillor:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Samuel Z. Freedman, *New York:* A question is being raised in the back whether Mr. Wanvig should be allowed to stay.

Chorus: No.

Vice-Speaker Williams: Is there a motion?

Dr. Freedman: I think in all fairness, he should. He may have something to add to this. I move that he be allowed to stay.

Dr. Adelaide Romaine, *New York:* I second it.

Dr. Charles Sandler, *Bronx:* I object to the presence of Mr. Wanvig at this executive session. He is not a member of this House of Delegates. He is a person who is here to be rebuked or rather a motion to rebuke him has been made. If and when this House decides on that rebuke he should be here to hear it at that time, but not while the matter is under adjudication. I object, sir.

Dr. Joseph A. Lane, *Monroe:* I would like to raise the question of whether or not Mr. Wanvig, not being a member of this House, can be censured by this House.

Vice-Speaker Williams: He is an employe, sir, and as vice-speaker I think the deliberations of this House as to whether or not we are going to censure a paid employe or some sort of insurance representative are quite in order, sir.

The question before the House is whether Mr. Wanvig shall be admitted to the executive session.

Dr. Freedman: As the maker of the motion, and in answer to the previous speaker, it is difficult for me to go along with his reasoning. I was always under the impression that before an individual is found guilty—and that is what this amounts to—he is certainly entitled to be in on his own hearing. (*Applause*)

Mr. Martin: Are we now in executive session?

Vice-Speaker Williams: No, we are not yet in executive session.

Mr. Martin: Various members have asked me questions, and I call the content of the questions to your attention. As a matter of fact, Dr. Schussheim said to me, "This is a motion of censure addressed to somebody who is not a member of the Medical Society."

I spoke to Dr. Williams about that, and Dr. Williams said, "But he is an employe of the Society."

He is not an employe of the Society. He is an insurance broker who is a representative of the Society. He is in a different profession. I only say that it is an exceedingly moot question that you can talk about censuring an individual who is an insurance broker that has dealings with you. I had every intention of leaving myself. I was stopped at the door by several members, and as this is a rather important matter I call to your attention those significant points. He is in a different profession. He has a business relationship with this Society, not in the nature of an employment. For thirty-five years he has been the insurance broker and the indemnity representative. That is just for your thought. This thing has all come up rather suddenly, and I am simply expressing what different members are asking me about.

Vice-Speaker Williams: Mr. Martin, I want to call to your attention that you are the counsel, and I distinctly read that you are in this executive session; if we go into executive session, you ought to be here.

The other thing I would like to call to your attention is whatever contract this Society has with the insurance indemnity representative the chair feels that this House of Delegates has the right to consider its relationship with the insurance representative, whether they call it censure, or criticism, or anything else, and that is the ruling of the chair. Is there an appeal from the ruling of the chair?

Dr. Kottler: Isn't the question of the relationship of the hiring and the employment of an employe like Mr. Wanvig within the province of the Board of Trustees and solely within their province?

Vice-Speaker Williams: It is surely within the province of the Committee on Malpractice Insurance and Defense, and we are in the midst of hearing the report of the reference committee on that part.

Dr. d'Angelo: I move to table the motion to censure.

Vice-Speaker Williams: Is there a second?

Dr. Mackler: That is out of order.

Vice-Speaker Williams: When a motion to table is out of order, I would like to know it.

Is there a second to Dr. d'Angelo's motion to table?

Dr. William B. Rawls, *New York:* The motion before this House has nothing to do with the motion to censure. At the present moment the motion before the House is to go into executive session, and whom shall we allow in and not allow in, so the motion before us now is not the motion to censure.

Vice-Speaker Williams: The motion to table is out of order, and the chair recognizes Dr. Wagreich.

Dr. Wagreich: Mr. Speaker and members of the House, I must regret that my motion precipitated this rather unusual reaction. We felt rather deeply about the circumstances here. I was not cognizant when I introduced this motion that this would require an executive session. Would it satisfy the Speaker and the House if I changed the wording—and the seconder of course—and instead of the word "censure" I use the word "rebuke"? Would that necessitate an executive session or would that not facilitate some action by this House in expressing a criticism of Mr. Wanvig? Would the word "rebuke" substituted for "censure" serve without the necessity of an executive session?

Vice-Speaker Williams: In the light of this discussion is the man who made the motion for an executive session willing to withdraw it?

Dr. Ogden: No, sir, I will not. May I speak to it?

Vice-Speaker Williams: You may, sir.

Dr. Ogden: Mr. Chairman, the motion was made to bring a resolution of censure against Mr. Wanvig. That motion it seems to me was perfectly in order, if it is the desire of the House to do so. In the discussion that ensued following this motion I believe statements were made which should only be made in executive session of this House. Until such time as the motion of censure is either withdrawn completely or else is continued for discussion I demand that this, my motion for executive session be retained.

Dr. Mackler: Mr. Chairman, in discussing this question of executive session, I wish to go back to the resolution as it was previously stated. I wish at this time to withdraw my resolution and also the seconding of the Bronx delegate's motion.

Vice-Speaker Williams: You withdraw your second?

Dr. Mackler: And my motion.

Vice-Speaker Williams: Now, then, Dr. Ogden, in the light of this discussion, the motion is withdrawn, do you withdraw?

Dr. Ogden: It seems the guts of it has disappeared, and there is no motion to act upon.

Vice-Speaker Williams: Ladies and gentlemen of the House—

Dr. Thomas F. McCarthy, *Bronx:* I move Dr. d'Angelo's remarks be struck from the record.

Dr. Adelaide Romaine, *New York:* I second that motion.

Vice-Speaker Williams: Is there any discussion of this motion?

Dr. David Kershner, *Kings:* What has Dr. Mackler withdrawn? I think it was a mistake the way it was taken.

Vice-Speaker Williams: He withdrew his second of Dr. Wagreich's motion. Dr. Wagreich's motion was to censure, and then he asked to change it to rebuke, and Dr. Mackler has withdrawn his second of that. That being withdrawn, Dr. Odgen says there is no need of executive session. Now we move back to Dr. McCarthy's motion that says that Dr. d'Angelo's remarks should be stricken from the minutes.

Dr. Rawls: Both the resolution and the second were withdrawn by Dr. Mackler.

. . . There being no further discussion the motion to strike Dr. d'Angelo's remarks from the record was put to a vote and was unanimously carried . . .

Dr. Ogden: Dr. d'Angelo had the floor at the time the privileged motion for executive session came up.

Vice-Speaker Williams: Does Dr. d'Angelo want the privilege of the floor at this time?

Dr. d'Angelo: I have been stricken from the House. (*Laughter*)

Vice-Speaker Williams: We are not in executive session.

Dr. Ogden: And no action was taken on 56–30?

Voices: Withdrawn.

Dr. Ogden: Point of order, number 30 was amended by the reference committee, and we were voting on the amendment of number 30 by the reference committee. The withdrawal of number 30 does not change the statement made by the reference committee.

Chorus: That is correct.

Vice-Speaker Williams: Is there any discussion? Are you ready for the vote?

Chorus: What is the question?

Dr. Frank J. Cerniglia, *Queens:* Did I understand Dr. Mackler to say he withdrew his resolution?

Dr. Kershner: Dr. Mackler did not withdraw his resolution.

Chorus: He did.

Dr. Cerniglia: That is what he said.

Vice-Speaker Williams: Did you withdraw or did you not withdraw your original resolution, sir?

Dr. Mackler: I meant the withdrawal of the seconding of the motion.

Dr. Rawls: He also said he withdrew his resolution.

Vice-Speaker Williams: It is quite needless to say there is a little confusion in the craft here. The stenotypist said to me, Dr. Mackler, that you, to the best of her recollection when you were up here, said you withdrew the resolution and the second. You have every right, sir, to ask the stenotypist if she is able to read the record for us so she can quote what she took on the machine, every word. Do you want that privilege?

Dr. Mackler: If that is on the record, that was not my intention.

Speaker Holcomb: I understood both were withdrawn.

Vice-Speaker Williams: The way I understood you, sir, you were withdrawing your second of Dr. Wagreich's motion.

Dr. Mackler: That was my intention.

Vice-Speaker Williams: It is the ruling of the chair then that Dr. Mackler withdrew at the time he was at the loudspeaker his second of Dr. Wagreich's motion.

Is there an appeal from the ruling of the chair?

Dr. Freedman: Don't encourage more discussion by asking for an appeal.

Vice-Speaker Williams: Any time you want to impeach me, go ahead. (*Laughter*)

Is there a vote on the appeal? Does anybody object to that ruling to clear the air and get going? All in favor say "aye"; those opposed, "no." It is unanimous.

Now, then, in regard to the report of the reference committee on resolution 56–30, this has been moved by the chairman of the reference committee. Would you like it read again so you know what you are voting upon?

Chorus: Yes.

Vice-Speaker Williams: Would you be good enough, Dr. LaGattuta, to read that again?

Dr. LaGattuta: We deplore the fact that Mr. Wanvig placed himself in this unfortunate position. Mr. Wanvig stated that he had no idea that his remarks were to be published and that those remarks which were made apparently were taken out of context. It is recommended that in the future any remarks which are to be published be checked by a responsible person or persons in the State Medical Society.

The action proposed by the resolution seems unduly drastic and we believe that the councillors and trustees can be trusted to have a proper concern for the interests of our membership.

. . .There were calls for the question . . .

Vice-Speaker Williams: It has been seconded.

Dr. LaGattuta: The resolution is, therefore, disapproved.

Vice-Speaker Williams: And he has moved the adoption of this portion of the report, and it has been seconded. Is there any further discussion?

. . .There being no further discussion, the motion was put to a vote and was carried . . .

Vice-Speaker Williams: I thought it would be that way, very few "noes." Continue!

Section 138 (See 68)

Report of Reference Committee on Report of Committee on Malpractice

Insurance and Defense Board: Disavowal of Council Action in Insurance Complaints

Dr. Frank LaGattuta, *Bronx:* Resolution 56–31, "Disavowal of Council Action in Insurance Complaints," introduced by Dr. Solomon Schussheim, Medical Society of the County of Kings: During a discussion of this resolution, many witnesses were heard, among whom were Dr. Renato J. Azzari, president of the Medical Society of the State of New York. Dr. Azzari stated that at no time did any officer of the Council, councillor or the Council itself make any specific complaint against any individual doctor or group of doctors.

At an executive session of the reference committee held this morning, both Dr. Azzari and Dr. Schussheim were called and the statement made by Dr. Azzari was reconsidered; whereupon Dr. Schussheim withdrew his resolution.

The resolution having been withdrawn, the committee has no further report.

Mr. Speaker, I move adoption of this part of the report.

Dr. Thomas F. McCarthy, *Bronx:* I second it.

. . .There being no discussion, the motion was put to a vote and was unanimously carried. . .

Dr. LaGattuta: Mr. Speaker, I move adoption of the report as a whole.

Dr. Gerald D. Dorman, *Councillor:* I second it.

. . .There being no discussion, the motion was put to a vote and was unanimously carried. . .

Dr. LaGattuta: Your chairman wishes to publicly thank the members of the committee for their valuable assistance and sincere cooperation in formulating these reports: Dr. Alfred P. Ingegno, Dr. E. Kenneth Horton, Dr. Samuel Sanes, and Dr. Arthur J. Sullivan. (*Applause*)

Vice-Speaker Williams: I don't have to tell you, Dr. LaGattuta, that the House of Delegates, the speaker and the vice-speaker are appreciative of you and the committee's work. I thank you.

Speaker Holcomb: The House will come to order, please. We are ready for Dr. Pelow's report for the reference committee on Constitution and Bylaws.

Section 139

Report of Reference Committee on Report of Constitution and Bylaws Committee of Council, Ethics, Special Committee on Review of the Case of Dr. Ben E. Landess

Dr. William E. Pelow, *Onondaga:* Mr. Speaker and fellow delegates, the original work assigned to us was to review the report of the Constitution and Bylaws Committee of the Council, Committee on Ethics, and Special Committee on Review of the Case of Dr. Ben E. Landess.

Your committee has reviewed this report, noting the many questions logically answered concerning ethics, and the committee does not take exception to any of these particular problems. Your committee further reviewed the report of the Committee on Review of the Case of Dr. Ben E. Landess, of Queens County, noting the extensive review of reports and sections of constitutions. This committee agrees with the final paragraph of the review. "Although your committee acknowledges its importance, we regretfully report insufficient clairvoyance to be able to answer this item."

At the meeting of your reference committee it was brought to its attention the minutes of the Council published in the NEW YORK STATE JOURNAL OF MEDICINE of April 15, 1956, page 1333, recommending that wherever the term "Doctor" or "Physician" appears, that "Doctor" or "Doctors of Medicine" be substituted in the *Principles of Professional Conduct.*

Your committee moves that this part of the report be approved.

DR. SAMUEL LEO, *Bronx:* I second that motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 140 (See 53)

Report of Reference Committee on Report of Constitution and Bylaws Committee of Council, Ethics: Interpretation of Definitions of Unprofessional Conduct

DR. WILLIAM E. PELOW, *Onondaga:* Resolution 56–16, introduced by the Medical Society of the County of Queens, subject, "Interpretation and Definition of 'Unprofessional Conduct' ": your committee recommends that this be approved without comment. I move the adoption of this part of the report.

DR. HERBERT S. OGDEN, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 141 (See 54)

Report of Reference Committee on Report of Constitution and Bylaws Committee of Council, Ethics: Suggested Amendment to Principles of Medical Ethics of American Medical Association

DR. WILLIAM E. PELOW, *Onondaga:* Resolution 56–17, introduced by the Medical Society of County of Queens, subject, "Suggested Amendment to Principles of Medical Ethics of American Medical Association": Your committee moves that this resolution be approved without comment.

I move the adoption of this portion of the report.

DR. FRANK J. CERNIGLIA, *Queens:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 142 (See 61)

Report of Reference Committee on Report of Constitution and Bylaws Committee of Council, Ethics: Use of Term "Executive Committee" in Place of "Comitia Minora"

DR. WILLIAM E. PELOW, *Onondaga:* Resolution 56–24, introduced by Medical Society of the County of Monroe, subject, "Use of Term 'Executive Committee' in place of 'Comitia Minora'": your committee did not approve this because it felt that this would interfere with the constitution of the component county medical societies and should not properly be acted upon at State Society level.

I move the adoption of this portion of the report.

SPEAKER HOLCOMB: Is there a second?

DR. HERBERT S. OGDEN, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 143 (See 69, 176)

Report of the Reference Committee on Report of Constitution and Bylaws Committee of the Council, Questions of Ethics: Supplementary Report of the Joint Committee on Hospital and Professional Relations and the Committee on Questions of Ethics

DR. WILLIAM E. PELOW, *Onondaga:* Supplementary report 56–M of the Joint Committee on Hospital and Professional Relations and the Committee on Questions of Ethics was referred to this reference committee.

SPEAKER HOLCOMB: I hope the delegates will follow this closely because this required not only meetings of the Constitution and Bylaws Committee but a joint meeting afterwards. I think we should follow this rather carefully.

DR. PELOW: In order to properly evaluate its significance, extensive investigation was made into actions which led up to it.

Chronologically, the first related event was the introduction and passage of a resolution at the 1954 House of Delegates meeting, presented by Dr. Ingegno of Kings, and embodying four so-called clarifications of the *Principles of Professional Conduct.* These clarifications dealt with the subjects of advertising, contract practice, free choice of physician and proration of fees.

Subsequent to the 1954 meeting, a considerable weight of opinion to the effect that the clarifications were ambiguous and unworkable led the Council of the State Society to suggest to the individual county societies that they be not activated pending further study.

At the 1955 meeting of the House of Delegates, resolution 55–8 was introduced by Dr. Ely Lazarus of New York, for the purpose of rescinding the four previously adopted clarifications. In accordance with the present method for amending the *Principles of Professional Conduct,* the speaker ruled that action on the resolution must be delayed until the 1956 annual meeting.

During the year the Council referred the resolution to the Council Committee on Questions of Ethics, which, after study, made recommendations concerning it and reported them back to the Council.

With respect to the clarification concerning Contract Practice (Chapter III, Article VI, Section 3) the Ethics Committee suggested the substitution of the following wording:

> "Contract Practice which allows diversion of fees for professional medical services to a hospital, organization or political subdivision is unethical."

The matter was then referred for opinion to the Council Committee on Hospital and Professional Relations, which reported it back adversely.

Because of the divergent opinions, it was referred to a joint meeting of the Hospital and Professional Relations Committee and the Committee on Questions of Ethics. Again, the members of each committee reaffirmed their previous respective stands and, because of the absence of one member of the Ethics Committee, there was a three-to-two majority in favor of the report of the joint group as presented to this House in Supplementary Report 56–L.

Since the matter was related to the material embodied in report 56–K of the Hospital and Professional Relations Committee, it was decided that our committee would discuss the matter together with the members of the reference committee on Council Part VI, which covers hospital relations.

All who were interested in discussing this subject were heard. Our reference committee then considered the other three clarifications and wish to recommend as follows:

1. With respect to the clarification relating to advertising (Chapter I, Section 4 of the *Principles of Professional Conduct*) and reading as follows:

> "It should be understood that any medical care plan, company or organization which advertises for subscribers and directs such subscribers to a restricted panel of physicians for medical care is advertising for the benefit of the physicians involved."

We recommend the deletion of this sentence since it is untenable in view of the diametrically opposed decision of the American Medical Association's Judicial Council in the Landess case.

Your committee recommends that this portion of the report be approved.

I so move.

Speaker Holcomb: Is there a second?

Dr. Ezra A. Wolff, *Queens:* I second it.

Speaker Holcomb: Is there any discussion?

Do you want to discuss this, Dr. Wolff?

Dr. Wolff: No, sir.

Speaker Holcomb: Are you ready for the vote? All in favor will say "Aye"; opposed "No." The chair is in doubt.

Those in favor of this recommendation of the reference committee will say "Aye"; those opposed "No." I am still in doubt.

I would like a standing vote on this, please.

Members of the House, I call your attention to this fact, "we recommend the deletion of this sentence since it is untenable in view of the diametrically opposed decision of the American Medical Association's Judicial Council in the Landess Case. Your committee recommends that this portion of the report be approved." That is the deletion in view of the Landess case.

Dr. Thomas M. d'Angelo, *Queens:* May I rise to a point of order?

Speaker Holcomb: Yes. State your point of order.

Dr. d'Angelo: I would like to know whether we are voting on a change in the code of ethics, and does that change require a majority or a two-thirds vote?

Speaker Holcomb: It requires a two-thirds vote. Those in favor will stand—

Dr. Leo F. Schiff, *Trustee:* I would like to know what we are voting on. I have before me a small slip of paper on a supplementary report marked 56–L, yet I was told the subject is something different. I have nothing here that corresponds with what is being discussed now, and I arise to inquire if this is the wrong sheet what have we got to look for?

Speaker Holcomb: There are two L's due to a misprinting.

Dr. Leo F. Schiff: There is another "L"?

Speaker Holcomb: Yes. Will you read that?

Dr. Pelow: What?

Speaker Holcomb: The "L" that you are referring to; the "L" that you have in front of you.

Dr. Pelow: Just as a preliminary statement on this, when this was talked over by different committees some of the men thought that it had already been incorporated in the minutes or in the records of the State Society, and this was written up in 56–M with two words at the end "be deleted". It could not be deleted because it had never been part of any record of the Society. Here is 56–M as written:

> "The Joint Committeee on Hospital and Professional Relations and the Committee on the Question of Ethics met at 5 p.m., Sunday, May 6, 1956, at the Hotel Statler, New York City.
>
> "After lengthy discussion during which other men outside the committee have various opinions on the subject, the committee in executive session, by majority vote, recommends to the House of Delegates that that part of Article 6, Section 3 of the *Principles of Professional Conduct* of the Medical Society of the State of New York which states 'Contract practice which allows diversion of fees for professional medical services to a hospital, organization or political subdivision is unethical', be deleted."

That is why we were inserting this clause that I read to you before.

Dr. Leonard J. Schiff, *Clinton:* Point of order, sir.

Speaker Holcomb: State your point of order.

Dr. Leonard J. Schiff: If this is an amendment to the *Principles of Professional Conduct* it follows the same rules as amendments to our Constitution and Bylaws. It must be printed in the Journal and lay over for a year.

Speaker Holcomb: Your point is well taken. I will sustain that, and this will lay over for a year. I will rule that this be held over for another year.

Dr. Wolff: May I talk on this?

Speaker Holcomb: Dr. Wolff has followed this since its inception, and I wish he would clarify it. He has gone over the chronologic order of this thing and helped the committee.

Dr. Wolff: Mr. Speaker and members of the House, I think the injunction of the speaker before this report was given, that you follow carefully, was apparently in order.

If you listened carefully you heard the chairman of the reference committee say that a motion was made, a resolution was introduced last year—it is incorporated in the proceedings of the House in 1955—

to rescind these particular portions of the *Principles of Professional Conduct.* It has laid over from last year.

During the year this matter was studied at the instance of the Council by the Committee on Ethics, of which Dr. Givan is the chairman. It was reported back to the Council, and certain recommendations were made. By inadvertence this report has been somewhat taken apart because parts of it had been referred to other committees, and so it does not appear as a whole in the published reports that you have before you. However, your reference committee chairman has attempted to detail from its inception the entire matter, and he is now bringing to you the results of the reference committee's deliberations on this resolution to rescind.

He will state it in four parts, relating to each of the four so-called clarifications that were passed in 1954, after having been introduced by Dr. Ingegno of Kings. The matter detailed in your supplementary report, 56–M, relates to only one of those four parts that he has not come to as yet.

As far as the committee's determinations are concerned, his first point is concerned with the so-called clarification relating to contract practice. If you recall, it was our position in the Landess' case that this was the controlling clause, the controlling part of the code of ethics, which would have upheld our position. The American Medical Association's Judicial Council ruled in a diametrically opposite manner. They ruled that advertising by a nonprofit plan was not advertising for patients, even with a closed panel plan. Therefore, the American Medical Association has already negated the substance of this material which at present is a part of our *Principles of Professional Conduct,* and it is simply the purpose of the reference committee to delete that from the present printing, from the present status of the *Principles of Professional Conduct.* There is still the prohibition against advertising, not spelled out in that detail, so that in essence this portion will remain in status quo as it was before the clarification was added.

Dr. Herbert S. Ogden, *New York:* We have another point to consider here. The reference committee report says that this should be deleted because in effect the American Medical Association has already negated it. We also have our delegation to the American Medical Association under instruction of about an hour and a half ago to the effect that they will introduce a resolution which will state that the more stringent ethical code shall be binding—if the local code is more stringent than the American Medical Association code, the more stringent code shall be binding. It seems to me that because one particular session of the A.M.A. Judicial Council rejected a plea that was made by the County of Queens in regard to the case of Dr. Landess does not necessarily mean that that changes our position and does not necessarily mean that we should delete anything from our code of ethics.

It seems to me that if we are going to defend our position that the more stringent code should apply, we would be in a perfectly consistent position to leave this within our code of ethics and to let the chips fall where they may the next time such a thing comes up, because it is quite possible that the American Medical Association will adopt the resolution introduced by the Medical Society of the State of New York, so in effect I am speaking against the adoption of the report of the reference committee of which I was a member.

Dr. John J. Flynn, *Kings:* I would like to second the former speaker's remarks, and I would just like to ask would the extension of this permit third party advertising for anybody?

To me, if we passed this, as the gentleman just said a moment ago, we will let down the bars which will permit advertising, and whether it be third party or otherwise I think that we should think about that too. I feel as the former speaker did that the more stringent code should be upheld.

Dr. Leo F. Schiff, *Trustee:* Mr. Speaker, I am still in great doubt and darkness. This 56–M wants to delete a phrase which reads as follows:

> "Contract practice which allows diversion of fees for professional medical services to a hospital, organization, or political subdivision is unethical."

It states that this is in part of Article VI, Chapter III, Section 3, of the *Principles of Professional Conduct.*

Now I have this little orange colored booklet, which was given to the delegates, and it is open at page 16, which is Article VI, Section 3, and I don't even find those words in the darn thing.

Dr. George J. Lawrence, Jr., *Queens:* This clarification of 1954 was passed.

Speaker Holcomb: That is right.

Dr. Lawrence: But the *Principles of Professional Conduct* that were given to all of us at this meeting did not contain those clarifications, although they are officially part of the *Principles of Professional Conduct.* I don't know whose idea it was, but when the Council of the Medical Society of the State of New York last year said those clarifications should not be acted upon by the county societies until further study, that did not mean that they were not part of the *Principles.* However, they have not been published, so it is all very confusing, and I think that explains why the House is so confused. We are amending or trying to amend the *Principles* of 1954, which have since been amended to include the things now some people want to put out. The Publication Committee or whoever is responsible for publishing the *Principles* has never included those changes that took place two years ago, because the Council made a ruling which, to my mind, was contrary to the feelings of this House in 1954.

I think that the secretary or someone should clarify this so the House knows what we are voting on. I can understand why Dr. Schiff is confused. You are going to delete something that is not even in here.

Dr. John C. McClintock, *Councillor:* I believe, sir, we are discussing the resolution introduced by Dr. Lazarus last year to rescind the four clarifications that were passed by the 1954 House of Delegates. I believe, sir, that it would be helpful to this

House to have the resolution introduced last year, which has lain over, and was published, read to the House.

Speaker Holcomb: Dr. Wolff will read that resolution, the purpose of which was to rescind the four previously adopted clarifications.

Dr. Ezra A. Wolff, *Assistant Secretary:* Page 44 of the September 1, 1955 issue of the New York State Journal of Medicine, Part II, on the Proceedings of the House of Delegates, Section 46 concerns resolution 55–8, which was introduced by Dr. Ely Elliott Lazarus, of New York, and it reads:

> "Whereas, a resolution to make four changes in the *Principles of Professional Conduct* was approved by the House of Delegates of the Medical Society of the State of New York on May 12, 1954; and
>
> "Whereas, subsequently the Council of the Medical Society of the State of New York recommended that because these changes 'have given rise to numerous questions by members of the profession in this State and because many members consider them to be ambiguous,' they be considered again at the next meeting of the House of Delegates; therefore be it hereby
>
> "*Resolved*, that last year's approval of these four changes in the *Principles of Professional Conduct* is hereby rescinded; and be it further
>
> "*Resolved*, that the above-mentioned four 1954 changes in the *Principles of Professional Conduct* be submitted to the Judicial Council of the American Medical Association for comment and advice."

I might remind the House that they were introduced into the A.M.A. house and are still residing in a pigeonhole there.

I might say further in clarification that the report you have before you there is a compounding of errors here, which really makes this a little bit humorous. The supplementary report, as Dr. Pelow has told you, contains the statement that the joint committee has voted to delete this statement that he read. Actually that statement cannot be deleted. That statement is the suggested substitute for one of these four clarifications, and this suggested substitute was propounded by the Committee on Ethics.

I can understand, gentlemen, why you are confused. I have been with this thing for a long time, and I think I have it straightened out in my mind, but it takes a lot of explaining to get the facts to you.

Dr. William B. Rawls, *New York:* Will you please ask Dr. Wolff to state to this House just exactly what we are going to vote on?

Dr. Lawrence: This is far too important for this House to vote on this without having it written down in front of us. We had the benefit of every resolution that was brought up here today, every delegate has had a copy of it. I think this is far too important for us to vote on it unless every member of this House has it in writing in front of him. I think we should all receive a copy of those clarifications which it is now proposed to throw out of our *Principles of Professional Conduct.*

I move that we do not take any action on this until every member of this House has a printed copy of the clarifications to read as we go over this.

Dr. Abram D. Segal, *Kings:* I second it.

Dr. Ogden: I would like to amend that, Dr. Lawrence, to say that this be done at this session of the House of Delegates and not be laid over until next year but done at this session.

Dr. Lawrence: I will accept that amendment.

Speaker Holcomb: Before you vote on this amendment—

Dr. Lawrence: I have accepted it as part of the motion.

Speaker Holcomb: Or the motion, I would like to ask for a little forebearance on the part of the House of Delegates. Will you be satisfied if Dr. Wolff who, as I said, is a specialist on this subject after long study, goes over this in chronologic order, so you can understand it? He can put it in language that you do understand it.

Chorus: No.

Dr. Pelow: You will find in the minutes of the annual meeting these four clarifications. They are a matter of record in our minutes. There were about 65 or 70 men around the table yesterday on this. Among them was Dr. Givan, who was mentioned in this clarification. It is all a matter of record, and the record can be read.

Yesterday the question was brought up as to what would happen if the chair should have to make a decision or some such thing, just as is happening now, and we thought that we would go on and read the thing without raising any question of a decision having to be made, but apparently a decision is demanded.

Speaker Holcomb: Just a moment, the question is this: Are you going to discuss the motion as amended by Dr. Lawrence, which will be to delay action until these have been published or printed?

Dr. Lawrence: Mr. Speaker, I have been informed that my motion is out of order because there is a previous motion on the floor. I, therefore, withdraw my motion and make the motion now that we postpone action on the previous motion until this material that I asked for is in the hands of the members of the House.

Speaker Holcomb: Will you move to table?

Dr. Lawrence: No. Table means indefinitely. I mean postpone action until—

Speaker Holcomb: You can postpone it until a certain time.

Dr. Lawrence: But you can't table anything until a certain time.

Speaker Holcomb: If you specify until the next session of the House, I believe the delegates will go along with that?

Dr. Lawrence: Yes, act on it this year.

Speaker Holcomb: It will be acted on during this session of the House.

Dr. Lawrence: Right.

. . . The motion to postpone action was put to a vote and was unanimously carried . . .

Dr. Pelow: Shall I go on with 56–K?

Speaker Holcomb: Wait a minute! This is all part of the same decision.

Dr. Schussheim: It is another clarification, so it should also be postponed.

Speaker Holcomb: This has to do with the same subject?

Dr. Pelow: Yes, it is very similar.

Speaker Holcomb: The chair will rule that all matters concerning the *Principles of Professional Conduct* will be laid over.

Dr. Pelow has one other subject which is not contained in that category.

Section 144

Report of the Reference Committee on Report of Constitution and Bylaws Committee of Council, Questions of Ethics: Advertising of Medical Books Written for the Laity

Dr. William E. Pelow, *Onondaga:* Mr. Speaker, this is informative and does not require any comment. Belatedly it was brought to the attention of your committee the minutes of the evening session of the annual meeting of this Society on Tuesday, May 10, 1955, as published in the New York State Journal of Medicine, September 1, 1955, Part II page 105, "Advertising of Medical Books Written for the Laity." To repeat, for your information, this subject was referred to the New York State Legislature, and your committee has been informed that a law has been passed conforming to the principles of this resolution.

I move that this latter section of my report be approved.

Dr. Leonard J. Schiff, *Clinton:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 145

Report of the Committee on Scientific Awards

Dr. Charles O. Post, *Onondaga:* Mr. Speaker and members of the House, this report has merit in two respects: It is short, and it is not debatable.

The report of the Committee on Scientific Awards is as follows:

Scientific Research

First Award

"Cytodiagnosis of Cutaneous Malignancy"
Frederick Urbach, M.D.—*by invitation*
Eugene M. Burke, B.S.—*by invitation*
Herbert L. Traenkle, M.D.
Roswell Park Memorial Institute, Buffalo

Second Award

"Serum Glutamic Oxalacetic Transaminase: Variations in Heart and Liver Disease"
John S. La Due, M.D.
Felix Wroblewski, M.D.
Memorial Center for Cancer and Allied Diseases, New York City

Honorable Mention

"Diaphragmatic Hernias"
Emil A. Naclerio, M.D.
Andre DeL. Maynard, M.D.
Harlem Hospital, New York City

Clinical Research

First Award

"Every Doctor's Office a Cancer Detection Center"
Theodore J. Curphey, M.D.
Jack W. McElwain, M.D.
Peter Hope-Ross, M.D.—*by invitation*
Meadowbrook Hospital, Hempstead

Second Award

"Diagnosis by Gastroscopy: Hemorrhagic Lesions in the X-ray Negative Stomach"
Emmanuel Deutsch, M.D.—*by invitation*
Daniel L. Shaw, Jr., M.D.—*by invitation*
Tufts College, Medical School, Boston, Massachusetts

Honorable Mention

"Hypertension: Pharmacodynamics of Therapy"
John H. Mayer M.D.—*by invitation*
Ralph Ford, M.D.—*by invitation*
Edward Dennis, M.D.—*by invitation*
Robert McConn, M.D.—*by invitation*
Baylor University, College of Medicine, Houston, Texas

Charles O. Post, *Chairman*
John G. Masterson
Harold F. Brown
Morris Maslon

I wish to state that the scientific numbers and variety were exceptional. We would like to take a little credit for that, but that goes to Dr. Watson, and through his fine selection we were able to make a fairly good evaluation for your benefit.

Those who have exhibits should understand that credits go for the way the work is set up, how it is presented, its lighting. There is one conspicuous exhibit that has great merit, but it was all transparencies, and there was no light so you could not see what was transparent.

In bringing out this report, I wish to give my thanks to the very great support that Dr. Maslon, Dr. Brown, and Dr. Masterson have given me. We have worked all day through.

Speaker Holcomb: Thank you, Dr. Post.

Secretary Anderton: Mr. Speaker, I move adoption of this report, and discharge of the committee with great thanks.

Dr. Gerald D. Dorman, *Councillor:* I second that motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 146

Announcement

Speaker Holcomb: Members of the House of Delegates, I wish to announce that there are several committees to be heard from. We had hoped we would make better progress than this. I had certainly hoped, too, that with the work of the two joint committees the question of the clarification of the *Principles of Professional Conduct* could have been facilitated and passed through, particularly as

I felt that Dr. Wolff had worked so many hours on it that it could be carried through successfully. Apparently the House did not care to consider it that way. I believe I shall call a recess. You have had four hours' work. I will call a recess until 8:30, and remind you that there are still five reports to be heard. One is on blood banks, which will probably cause considerable controversy. You will reconvene at 8:30, please.

. . . The session recessed at 6:22 P.M. . . .

Evening Session

Tuesday, May 8, 1956

The session convened at 8:50 P.M.

SPEAKER HOLCOMB: The secretary has just called my attention to the fact that we need one hundred members here for a quorum.

The meeting will come to order. I assume that there is a quorum present. I am quite sure there are at least one hundred members here.

As the first order of business, we will not be able to take up Dr. Pelow's report at this time, but I will call on Dr. Axelrad, for report of the reference committee on Report of Council, Part VI.

Section 147

Report of Reference Committee on Report of Council, Part VI: Medical Licensure and Medical Service

DR. SOL AXELRAD, *Queens:* Your reference committee has studied the report of the Council Committee on Medical Licensure and Medical Service headed by Dr. Leo E. Gibson, Onondaga. For the purpose of permitting graduates of registered Canadian medical schools to serve residencies without the need of a temporary certificate, which is now required, this committee considered and approved the request of the Assistant Commissioner of Education, Mr. Robert C. Killough, Jr., for an amendment to the education laws of 1953, Chapter 820. The proposed approved amendment which was submitted to the Council reads as follows:

> "Notwithstanding any provision heretofore to the contrary, a temporary certificate may be issued to a graduate of a registered medical school of Canada who has been granted the degree of Bachelor or Doctor of Medicine from said school, providing such school has been approved by the Council on Medical Education and Hospitals of the Medical Association."

Your reference committee approves the foregoing, and I move the adoption of this part of the report.

DR. ANTHONY A. MIRA, *Queens:* I second that motion

SPEAKER HOLCOMB: Is there discussion?

SECRETARY ANDERTON: I believe that should be "American Medical Association" instead of "Medical Association."

DR. AXELRAD: Yes, I accept that correction.

SPEAKER HOLCOMB: It will be made, "approved by the Council on Medical Education and Hospitals of the American Medical Association." With that correction are you ready for the vote?

. . . The question was called, and the motion was put to a vote and was unanimously carried . . .

DR. AXELRAD: The same Council committee also considered the problem concerning the eligibility requirements for graduates of foreign medical schools and the difficulties of the New York State Society of Anesthesiology in obtaining permission from the licensing committee of the Board of Regents to have the specialty of anesthesiology considered in the same plane as other specialties.

At present, applicants for permission to take the examination for medical licensure in the State of New York, among other requirements, are expected to complete two years of rotating internship. In most specialties, one year of American Medical Association approved residency training may be substituted for the second year of this internship. However, applicants have been informed officially that approved American Medical Association residency training in anesthesiology may not be used for such substitution. The result of this ruling has been a diversion of medical people from a specialty during an acute critical shortage.

Since the educational discipline of present-day anesthesiology includes a formidable array of clinical and didactic information, and since anesthesiology has been accorded full medical specialty status by the Council on Hospitals and Medical Education of the American Medical Association, and since information received from the Department of Education was not clear, the Council committee approved the following recommendations:

1. That the Council inform the New York State Society of Anesthesiologists that it is in sympathy with the fact that anesthesiology be recognized to

the same extent as the other specialty services recognized by the hospital training program; and

2. That the Board of Regents reconsider the problem of anesthesiology and extend the same recognition as it has to the other specialty services in the hospital training program.

Your reference committee is in favor of these recommendations, and I move the adoption of this part of the report.

Dr. A. Wilbur Duryee, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Axelrad: Continuing with the same Committee on Medical Licensure and Medical Service, choice of candidates: For the Annual Practitioner's Award of the Medical Society of the State of New York, of the names submitted by the various county societies, the unanimous choice was that of Dr. James Bennett of Onondaga County.

For the President's Award on Employment of the Physically Handicapped, the candidate approved was Dr. Rufus B. Crain of Rochester.

Both of these presentations were made yesterday at the opening session of the House of Delegates.

Your reference committee heartily commends the Council committee for its choice of candidates, and I move approval of this part of the report.

Dr. Frank J. Borrelli, *Section Delegate:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 148

Report of Reference Committee on Report of Council, Part VI: Hospital and Professional Relations

Dr. Sol Axelrad, *Queens: Solicitation of Funds:* Your reference committee has considered the report of the Council Committee on Hospital and Professional Relations, consisting of Dr. Raymond S. McKeeby, chairman, Broome; Dr. Andrew A. Eggston, Westchester, and Dr. John C. McClintock, Albany.

This committee undertook the investigation of solicitation of funds from doctors for hospital building projects, embodied in a resolution which was referred to the Council by the House of Delegates last year.

By means of questionnaires sent to various representative areas throughout the State, it was found that although in a few instances pressure was exerted on staff doctors for substantial contributions, most fund raising was on a voluntary basis and without any thought of any discriminatory action against any doctor who failed to contribute.

Since the practice of coercion was found not to be universal, the committee felt that each local group of doctors should attempt to solve the problem, should it arise, in their own community.

Your reference committee is in accord with this recommendation but is unanimous in condemning such practice (wherever or whenever it should occur) as detrimental to wholesome relations between hospital management and professional staffs.

I move adoption of this part of the report.

Dr. Samuel Z. Freedman, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Axelrad: *Accreditation Clinic:* Your reference committee wishes to emphasize the report of Dr. McKeeby who, along with Dr. Leo Gibson, chairman, represented the State Medical Society at an accreditation clinic held by the Central New York Regional Hospital Council, in Syracuse, October 21 to 22, 1955. Some of the factors impeding full accreditation include the following:

1. Inactivity of required committees.
2. Failure to meet the 75 per cent attendance stipulated at medical staff meetings.
3. Laxity in completing charts in the required time.
4. Failure to report consultations on the chart.
5. Need for more active supervision within the hospital of interns, residents, and nursing service.

For the continuing improvement of medical care in New York State, this committee intends to publicize the importance of correcting these deficiencies.

Your reference committee approves this action, and I move adoption of this part of the report.

Speaker Holcomb: Is there a second?

Dr. Samuel Z. Freedman, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 149

Report of Reference Committee on Report of Council, Part VI: Report of Joint Committee of the Medical Society of the State of New York and the Dental Society of the State of New York

Dr. Sol Axelrad, *Queens:* The committee consists of the following representatives of the Medical Society of the State of New York:

Fred S. Dunn, M.D., D.D.S., *Chairman*, New York
Robert M. McCormack, M.D., Monroe

Representing the Dental Society of the State of New York:

Charles W. Pankow, D.D.S., Erie
Earl M. Crysler, D.D.S., Jefferson
William F. Harrigan, M.D., D.D.S., Nassau

This committee did not meet during the year 1955–1956 because no matters were referred to it and there were no items requiring discussion.

Your reference committee respectfully suggests that this joint committee might review the important, though controversial, subject of fluoridation of water.

I move the adoption of this part of the report.

Dr. Harry A. Mackler, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 150 (See 44)

Report of Reference Committee on Report of Council, Part VI: Medical Staff Bulletin Boards

Dr. Sol Axelrad, *Queens:* There were three resolutions referred to this reference committee.

The first one is 56–7, and it refers to "Medical Staff Bulletin Boards." It was introduced by Dr. Samuel Leo, of Bronx County. Your reference committee approves this resolution, and I move its adoption.

DR. FRANK LAGATTUTA, *Bronx:* I second it.

SPEAKER HOLCOMB: Dr. LaGattuta, would you like to discuss this resolution?

DR. LAGATTUTA: No, I wish to second its adoption.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 151 (See 64)

Report of Reference Committee on Report of Council, Part VI: Hospital and Medical Care Insurance

DR. SOL AXELRAD, *Queens:* The next resolution 56–27, "Hospital Practice of Medicine," was introduced by the Medical Society of the County of Monroe. It is a long one.

SPEAKER HOLCOMB: Will you check this one? It is a long resolution, 56–27. Do you all have it before you?

CHORUS: Yes.

DR. AXELRAD: Your reference committee has studied resolution 56–27 introduced by Monroe County.

Your reference committee approves this resolution embodying the first two resolveds but recommends deletion of the last resolved because it was not clearly understood by the committee.

I move adoption of this resolution as amended.

DR. BEN A. BORKOW, *Kings:* I second it.

DR. AXELRAD: Do you want me to read the last resolved?

SPEAKER HOLCOMB: I would like you to read the resolved you are going to disapprove.

DR. AXELRAD: The three resolveds are as follows:

> *Resolved*, that the Medical Society of the State of New York support the continuance and further development of medical care insurance plans, which respect the practice of medicine by the physician, whether in or out of the hospital; and be it further
>
> *Resolved*, that the Medical Society of the State of New York support hospital insurance plans which confine their coverage to nonphysician hospital services, but it aggressively oppose the inclusion, in any hospital insurance plan, coverage of services rendered by a licensed physician; and be it further

and this is the third one that we wish to delete:

> *Resolved*, that the Medical Society of the State of New York oppose any and all insurance plans which financially favor inhospital versus outpatient professional medical care.

SPEAKER HOLCOMB: You have heard the recommendation of the reference committee which approves the first two parts of the resolution and opposes the third part. Is there any discussion?

DR. SOLOMON SCHUSSHEIM, *Kings:* I cannot understand the subject matter "Hospital Practice of Medicine." The whereases and the resolutions do not entertain that phase of the problem at all.

DR. EZRA A. WOLFF, *Assistant Secretary:* It is a misnomer.

SPEAKER HOLCOMB: I will ask Dr. Axelrad to explain that.

DR. AXELRAD: Actually this belonged to the reference committee of which Dr. Schiff was chairman, but we had considered it, and Dr. Schiff had quite a few resolutions, so Dr. Holcomb thought we might just as well as long as we had considered it report on it.

DR. SCHUSSHEIM: That's not the point.

DR. GERALD D. DORMAN, *Councillor:* He does not like the title of it.

DR. AXELRAD: That is a wrong title.

SPEAKER HOLCOMB: The speaker felt and the vice-speaker felt that this resolution came under the hospital practice of medicine, and we referred it to the Hospital and Professional Relations group.

DR. WILLIAM B. RAWLS, *New York:* May I move that the title of this be changed to "Hospital and Medical Care Insurance," which would cover both angles that are included in this resolution rather than "Hospital Practice of Medicine," which it has nothing to do with.

DR. AXELRAD: I will accept that.

DR. SCHUSSHEIM: I second that.

SPEAKER HOLCOMB: Is there any further discussion? The recommendation of the reference committee approves the resolution in as far as the first two resolveds are concerned but deletes and disapproves of the last one in which it is stated that the Medical Society of the State of New York oppose any and all insurance plans which financially favor inhospital versus outpatient professional medical care.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

DR. RAWLS: With the title changed.

DR. AXELRAD: Yes, I accepted that.

Section 152 (See 66)

Report of Reference Committee on Report of Council, Part VI: Hospital Practice of Medicine and Ethics Involved

DR. SOL AXELRAD, *Queens:* The third resolution is 56–29, subject, "Hospital Practice of Medicine and Ethics Involved," introduced by Dr. Aaron Kottler, of Kings.

Your reference committee had read the resolution introduced by Dr. Kottler of Kings.

The subject matter of the many whereases contains a great many conclusions without sufficient documentation. It is, therefore, respectfully requested that this entire resolution be referred back to the Council for further study.

I move adoption of this recommendation.

DR. MOSES H. KRAKOW, *Bronx:* I second it.

SPEAKER HOLCOMB: Is there discussion? Do you wish to discuss this, Dr. Kottler?

Dr. Aaron Kottler, *Kings:* Mr. Speaker and members of the House, I fail to see how the reference committee could say that this resolution has too many whereases which have not been proved as fact. That is what it amounts to.

I want to call your attention to the fact that in one whereas, hospitals hire doctors on a salary basis, they treat the patients, collect the fees, the money is turned over to the hospital or to some form of a research fund. Is that something that has not been proved and brought out in the open to the medical profession year in and year out?

Only a short time ago, a few weeks ago, I believe it was on the 18th of April, there was a meeting at the Biltmore Hotel, which some of you attended, and you heard statements to the effect that interns and residents were being paid by medical care plans, and that particular money that they collect for services rendered was turned over to the hospital in which they operate, and that the fund had accumulated to the extent of more than half a million dollars, which is being held in escrow by the hospital pending and waiting how that money shall be divided. We would never know about it if they were able to amicably divide the money among themselves, but they didn't come to a satisfactory conclusion how the spoils should be divided, and the thing was brought up at that meeting on April 18.

Is that not conclusive evidence, Mr. Speaker and gentlemen? Do I have to go ahead and say to you that in most of our hospitals in New York City and Brooklyn in every department practically they have full-time men hired at a salary of $25,000, or $35,000, or $40,000 a year? Is that news to you? Is that not known to you? And the moneys collected either go to a research fund, which is nothing more than a subterfuge for fee-splitting to cover matters up, or is divided up.

Two years ago I came in with a resolution before you to start litigation to enjoin the hospitals from practicing medicine. Thirty-eight states in the Union, the attorneys-general, have so stated that the practice of medicine by hospitals is illegal. We referred this matter to a special committee, and that special committee has not brought in a satisfactory report to solve this problem.

In Ohio, you know what happened there? Is that news to you?

Chorus: Iowa.

Dr. Kottler: Iowa, pardon me, Iowa, where the Iowa Medical Society, the State Medical Society, has won a decision. Of course, it is being appealed, but so far they won that decision that the hospitals cannot practice medicine.

Do I have to call your attention to the fact that only very recently in Cleveland, Ohio, the question came up there in court, in litigation, and as a result of that the Hopkins Clinic suit, now pending in the Common Pleas Court, is probably going to be settled outside of court between the hospitals and the medical profession to the satisfaction of the medical profession that they cannot practice medicine and collect the money for it? You have all read that. Does that not go ahead and support these resolutions, these whereases?

I could go down the list for two hours if you want me to—

Chorus: No.

Dr. Kottler: I know you don't want me to go ahead and further prove to you my whereases, and in the State of New York I don't think you are going to go ahead and get any satisfactory conclusion until you start litigation.

You have the Hess report, you have had the Brown report in this very Society, you have had various other reports brought in to you. I don't have to go down the line and enumerate the contents of those reports. The practice of medicine by a hospital has been decided by this Society and by the American Medical Association as unethical, tantamount to fee-splitting and also illegal by the attorneys-general. For your information, there is only one hospital in the State of New York that has the right to practice medicine. They have it incorporated in their charter which they got back in the year 1890 or so, and that is the New York Hospital.

Chorus: 1700.

Dr. Kottler: I stand corrected, but otherwise no other hospital has that right. I ask you, and I beg of you, just let us stop this nonsense of dilly-dallying. Last year you heard the report of the Dawson committee as far as compensation is concerned and the practice of medicine, and you know that they were enjoined and told to stop, and the principles in workmen's compensation as far as the practice of medicine are no different under the Workmen's Compensation Law than under the Education Law. You have the same license which entitles you to practice, and the same code of ethics behind you, and I beg of you pass this resolution. Let us stop our members from violating the code of ethics, and let us stop the hospitals through litigation and enjoin them from practicing medicine. (*Applause*)

Speaker Holcomb: Thank you, Dr. Kottler. Is there any further discussion on this recommendation of the reference committee, which calls for the resolution to be referred to the Council for further study?

Dr. John G. McKeon, *Albany:* As the merest tyro in this assembly, I am somewhat hesitant to speak, but it seems to me that the resolution under consideration is somewhat germane to the supplementary report 56–M, which we tabled earlier in the day. It is my opinion that we should not take any action upon this resolution until we have disposed of that. Therefore, I move to table this resolution at this time until action has been taken on that first.

Speaker Holcomb: Is the motion to table seconded?

Dr. Greenough: I second it.

. . . The motion to table was put to a vote and was lost. . .

Speaker Holcomb: The "noes" have it, and the motion is still on the floor. Does anyone further wish to discuss this motion?

Dr. Gerald D. Dorman, *Councillor:* This question, as the reference committee has recommended, is to have it referred for further study by the Council. That does not mean that it is either going to be summarily thrown out nor does it mean that it is going to be summarily put through.

The resolution, as the request is now, is that you enter into litigation at this time. There are various matters going forward; there are various negotiations being made. Very often when you throw a thing directly into litigation you get somebody's back up, and you can get yourself into some hot water. I would be very much in favor of going along with the recommendation of the reference committee that this matter be taken up a little further.

Dr. Kottler referred to the compensation situation. Gentlemen, in the compensation situation, where we were working with Archie Dawson, we did not enter into litigation. That matter was adjudicated by a Commission ruling. There was no litigation there. I do not feel that the two are completely parallel. Under the Compensation Law it is very definitely stated that the practice of medicine cannot be done by corporations. In the other body of the law of the State of New York, there is very definite difference of opinion, where some parts of the law have different interpretations. In the Education Law there is a definite statement that corporations cannot practice medicine, but there are other portions of the law that tend to throw some question on that. I would be against going into precipitate action by this House at this time. I, therefore, speak strongly in support of the reference committee's recommendation of having this referred to the Council.

Thank you! (*Applause*)

Dr. William B. Rawls, *New York:* Mr. Speaker and members of the House, I would be inclined to go along with Dr. Dorman as far as the litigation is concerned, but are we to continue to dodge the issue and not face the question that we must face when it comes to the problems of the hospitals and the practice of medicine?

We are not going to gain a great deal by referring it back to the Council for further study. What are we going to accomplish? I have had some experience with this problem. I have been into it, as some of you know, for many, many years, and have spent much time on it. I know what has happened in some of the Blue Shield patients where they have been in the hospital, and the money has not been paid. If we as a Society stand by, and do not oppose this, what is going to happen to all of the money that is held in escrow in these hospitals? If we are not going to oppose this, it is going to be taken for granted that silence gives approval.

I would be very much opposed to referring this resolution back to the Council for further study. I would be inclined to go along with Dr. Dorman that we don't insist on litigation immediately on this particular subject. I would like to have this State Society approve the principle that we are opposed to the practice of medicine by the hospitals, we are opposed to the collection of fees for residents and interns in the hospitals, we are opposed to the hospitals collecting this money held in escrow, and that we instruct our counsel to find the best ways and means of preventing this practice of medicine by hospitals. I so move.

...The motion was seconded...

Dr. Solomon Schussheim, *Kings:* Mr. Speaker and members of the House, it has been eight years that I can recall that this discussion has been going on in relation to the hospitals practicing medicine, and the physicians associated with hospitals being requested in a very gentle manner to assign their checks to hospitals and/or hospital research funds. We have heard word from elder statesmen who have since passed away—it is not expedient at the present moment to bring this matter to a head, let us study it, send it back to the Council. Eight years! For eight years it has been going on, and I hope it will not continue to go on.

Speaker Holcomb: The chair would like to ask Dr. Rawls if at the end of his remarks or his recommendations he moved that they be added to the resolution. I did not hear that, Dr. Rawls.

Dr. Rawls: I did say, I so move, Mr. Speaker.

Speaker Holcomb: I am sorry, I did not hear that. The chair will await a second of Dr. Rawls' motion.

Dr. Abraham D. Segal, *Kings:* I seconded it before.

Dr. Harry A. Mackler, *Kings:* I second it.

Speaker Holcomb: Dr. Rawls has moved, and it has been seconded, that his remarks be added as recommendations to the reference committee's recommendation; that this be referred to the Council with his recommendation.

Chorus: No.

Speaker Holcomb: Dr. Rawls, the chair is still questioning you as to whether you moved that your recommendation be added to the recommendation of this reference committee. You said you so moved, and now apparently there is some doubt.

Dr. Rawls: He seconded the motion. Let us hear what he has to say, and then see if I can straighten it out.

Speaker Holcomb: There is a motion, Dr. Rawls has stated he so moved at the end of his recommendation. I will admit I did not hear it.

Dr. Mackler: I did not second Dr. Rawls' motion to refer this matter to the Council. I seconded his motion to delete the legal procedure, but he did not say to refer it to the Council.

Speaker Holcomb: I thought he did.

Dr. Freedman: He did not.

Speaker Holcomb: I will call on Dr. Rawls to restate his recommendation for the House before any further action is taken.

Dr. Rawls: I did say that we delete the reference to litigation, and that this be referred to the Council with instructions to find ways and means to prevent the practice of medicine by hospitals and the taking over of the fees held in escrow by these hospitals.

Dr. Mackler: Under those conditions I will withdraw my second.

Speaker Holcomb: Is Dr. Rawls' motion seconded? Will anybody second Dr. Rawls' motion to delete that portion?

Dr. Leo F. Schiff, *Trustee:* I am not up to second that motion but to point out that—

Speaker Holcomb: The motion has not been seconded, so apparently it cannot be debated.

Dr. Leo F. Schiff: There is a motion as far as I understand it.

Speaker Holcomb: It has not been seconded so far.

Dr. Leo F. Schiff: Just a moment! There is a motion. There is a motion made by the chairman of the reference committee to approve his report.

Dr. Segal: I will second it.

Dr. Leo F. Schiff: There is a motion to receive the report. I am going to make a suggestion. You have the motion to receive the report or rather to refer the report to the Council to study. Now if you want to satisfy these other fellows I would suggest that Dr. Rawls or anybody else simply make an amendment or an addition to this motion since the thought is, as I get it, that he is quite willing that it be referred to the Council but that it not be referred simply for study. If the amendment is made that it be referred to the Council for implementation at such time as they might find it advisable, it will give them leeway to postpone litigation if it seems that the special committee is going to get somewhere and still give them authority to go ahead and litigate if it is necessary. I will make that motion.

Speaker Holcomb: There is a motion on the floor.

Dr. Leo F. Schiff: I will make a motion to amend, which is in order.

Speaker Holcomb: Dr. Rawls has made the motion to delete, and Dr. Segal has seconded that motion.

Dr. Leo F. Schiff: Was that as an amendment?

Speaker Holcomb: No, sir, not at all. Maybe we will finally arrive at a clarification of this matter. I will again repeat that Dr. Rawls' motion calls for a deletion of the litigation part of that resolution, and that his remarks, his recommendations, have been added to that motion of deletion. Now the motion before the House at this time is Dr. Rawls' motion, seconded by Dr. Segal.

Dr. Leo F. Schiff: I hesitate to take issue with you, but I am going to do it. The motion that is before the House is a motion of the chairman of the reference committee to refer that matter or to approve the report, which was that the matter should be referred to the Council. That is the motion. Anything else is an amendment to the motion.

Speaker Holcomb: All right.

Dr. Leo F. Schiff: I am perfectly willing if you wish to accept as an amendment to the original motion of the chairman of the reference committee Dr. Rawls' so-called motion. I tried to give you something which, if Dr. Rawls would accept it, would cover everything in a parliamentary manner and clear up the situation, but certainly I would insist if you rule that the motion that Dr. Rawls made is only before the House that that is not so. I will question that and ask for an opinion from the House as to the ruling of the chair.

Speaker Holcomb: The chair will rule then that Dr. Rawls should offer his as an amendment. Will you offer that as an amendment? The motion is out of order.

Dr. Rawls: I am aware that a motion is before the House, and that mine would have to be in the form of a substitute motion or an amendment. If you wish me to specify amendment, I will do so, or it can be considered as a substitute motion, and accord perfectly to parliamentary procedure either way.

Speaker Holcomb: The chair rules that Dr. Rawls has offered an amendment, and it has been seconded.

Dr. Segal: May I have the floor?

Speaker Holcomb: You may have the floor.

Dr. Segal: Gentlemen of the House, Dr. Rawls' amendment or substitute motion is just a reiteration of what we have already passed before. The only question that arises is the question of litigation, otherwise we have to approve all of the principles that Dr. Kottler made in his original motion. The only thing that Dr. Rawls made as an amendment is that the litigation and the method of handling it be left in the hands of the Council. I think that clears the situation, and I will second that, Dr. Rawls.

Speaker Holcomb: I think that is understood.

Dr. Thomas M. d'Angelo, *Queens:* I speak in favor of the amendment for the simple reason that as the motion stood Dr. Kottler's original motion could not very well be enforced, with the second resolved which said:

> *Resolved*, that disciplinary action be taken after due process against such members of the Medical Society of the State of New York who violate the *Principles of Professional Conduct* of the Medical Society of the State of New York by transferring fees received to the hospital.

The county societies are the only ones to initiate such action, and every county society today has the privilege of initiating such action and can do so; therefore, as far as that can be done the Medical Society of the State of New York cannot initiate any such disciplinary action.

Speaker Holcomb: Thank you, Dr. d'Angelo.

Dr. Kottler: A point of correction, I do mention after the words "disciplinary action" "after due process." That means there is a certain definite procedure which has to be followed, and that means starting in with the grass roots.

Speaker Holcomb: Is the House ready for a vote on Dr. Rawls' amendment?

. . . The question was called, and the amendment was put to a vote and was carried . . .

Speaker Holcomb: Now the vote will be on the reference committee's recommendation to refer this to the Council, with the amendment that has just been adopted. Is there any discussion?

. . . The question was called, and the motion as amended was put to a vote and was carried . . .

Dr. Axelrad: This concludes the report of the reference committee and I move adoption of the report as a whole, as amended.

Dr. Segal: I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Axelrad: I wish to express my appreciation for the valiant cooperative effort of my committee consisting of Drs. Charles A. Prudhon, Guy S.

Philbrick, Joseph P. Alvic, and Arthur F. Gaffney.

Speaker Holcomb: Thank you, Dr. Axelrad.

Section 153

Report of the Reference Committee on Report of Council, Part VIII: Woman's Auxiliary

Dr. Solomon Schussheim, *Kings:* Mr. Speaker, this is the first time I am presenting something to you that is not controversial in which I have been involved. (*Applause*)

Speaker Holcomb: I did not hear that.

Dr. Schussheim: Dr. Holcomb did not hear the remarks I just made. (*Laughter*)

Dr. Holcomb, in the ten years I have been here this is the first time I am speaking on a noncontroversial matter.

Speaker Holcomb: I hope the House can withstand the shock. (*Laughter*)

Dr. Schussheim: I assure you I can.

This is the report of the reference committee on report of the Council, Part VIII, which deals with Woman's Auxiliary, American Medical Education Foundation, and the Liaison Committee with the Veterans Administration.

As to Woman's Auxiliary: The commendations, in the report presented by the Council Advisory Committee to the Woman's Auxiliary, are well deserved and once again underline a valuable supplementary service.

The Auxiliary's efforts have been successfully utilized as an interpretive bridge to the public from such specific fields as legislation, particularly the chiropractic problem which has always required and will continue to warrant intelligent and critical appraisal.

In focusing their attention on the various areas of medicine and by the use of a series of public education devices, including exhibits, meetings, and literature distribution, the Woman's Auxiliary continues to be a most valuable asset to the profession.

Mrs. Isadore Zadek, the president of the Auxiliary, and all the officers and members of the group are to be congratulated for their zeal and imagination in carrying out programs which help in narrowing the gap of misunderstanding between the profession and the public.

Your reference committee can but say, "Ladies, well done indeed!"

Mr. Chairman, I move the approval of this part of the report.

Dr. Abraham D. Segal, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Secretary Anderton: Mr. Speaker, I move that the secretary be instructed to send a copy of this very fine report to the Woman's Auxiliary of the Medical Society of the State of New York.

Dr. Gerald D. Dorman, *Councillor:* I second that.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 154

Report of Reference Committee on Report of Council, Part VIII: American Medical Education Foundation

Dr. Solomon Schussheim, *Kings:* Although no meetings were held by the Special Committee on Medical Education Foundation, it is noted that through its efforts and with the cooperation of committees of many county societies the sum of $42,259.30 was raised for the Foundation.

I move the approval of this portion of the report.

Dr. John J. Flynn, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 155

Report of Reference Committee on Report of Council, Part VIII: Liaison Committee With Veterans Administration

Dr. Solomon Schussheim, *Kings:* It is noted that the Liaison Committee with Veterans Administration has presented informational reports to the Council during the past year. Also as in previous years, a proposal for renewal of contract was presented to the Council, which approved.

I move the approval of this portion of the report, sir.

Dr. A. Wilbur Duryee, *New York:* I second the motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Schussheim: I move the approval of the report as a whole.

Dr. John J. Flynn, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Schussheim: Mr. Chairman, may I give my thanks for this tremendous job to my committee, Dr. Edward L. Schwabe, Dr. Richard P. Doody, Dr. Frank J. Borrelli, and Dr. Philip Hust. (*Applause*)

Speaker Holcomb: Thank you, Dr. Schussheim.

Section 156 (*See 9*)

Report of Reference Committee on Report of Planning Committee for Medical Policies

Dr. John F. Kelley, *Oneida:* Mr. Speaker, the first part of the report of the reference committee on the Planning Committee for Medical Policies is purely informative. The report has been published, and I would like your permission to pass over it. It is quite late now, and it goes over to page 2 in the middle of the page.

Speaker Holcomb: On Dr. Kelley's remark that the report of the Planning Committee is purely informative up to that point, would the House agree that we consider this without reading?

Chorus: Yes.

Speaker Holcomb: How far down on the second page would that go?

Dr. Kelley: The middle of the second page, to the sentence, "Some felt that the above four are all that are necessary."

Speaker Holcomb: The full last paragraph being:

> "In our State Society, we have four classifications:
>
> Active
> Retired
> Junior
> Honorary
>
> "Some felt that the above four are all that are necessary."

Is there a second to this motion that we approve this without reading?

Dr. Samuel Z. Freedman, *Assistant Treasurer:* On page 3?

Speaker Holcomb: On page 2.

Dr. Kelley: On page 2 of this report, but page 3 of theirs.

Dr. Abraham D. Segal, *Kings:* I second that.

Speaker Holcomb: Is there any discussion? If not, those in favor will say "Aye"—

Dr. Benjamin M. Bernstein, *Kings:* Is this the Planning Committee report you are talking about?

Speaker Holcomb: Yes.

Dr. Kelley: It is the report of the Planning Committee as published. It is nothing but what they set out to do.

Dr. Bernstein: And is this to be taken up later in the report?

Dr. Kelley: Yes.

Dr. Bernstein: May I discuss this?

Speaker Holcomb: Dr. Bernstein wishes to discuss a portion of the report.

Dr. Bernstein: At a meeting of psychiatrists some time ago, most of the psychiatrists were walking around quite glumly, very much depressed, except one who was prancing around quite elated. One of his friends said, "What's the matter with you? Don't you become depressed by the things that you hear?"

He said, "Who listens?"

I sometimes wonder how many of us hear and don't listen, and how many of us read without seeing. I don't know how many of you read this report in its entirety. I hope that you have, not that you will. It is a most illuminating report, and should I think take a few minutes time for me to give you just one or two of the highlights, and no more, and then make a recommendation.

On page 6 of this report, which you have—

Dr. Freedman: He is not up to page 6. He is only up to page 3.

Chorus: Who listens? (*Laughter*)

Speaker Holcomb: Those in favor will say "Aye"; opposed "No." This portion of the report is adopted.

. . . The portion of the report referred to is as follows:

> The Planning Committee is a special committee of the House of Delegates and that body sets up the personnel of this committee. One member is selected by each district branch and the other members are president, president-elect, secretary, speaker, and one trustee.
>
> The Planning Committee was originally set up with the specific purpose of developing long range policies for our State Society.
>
> The committee was to consider among other things:
>
> 1. The distribution of physicians.
> 2. Educational requirements for licensure.
> 3. Voluntary insurance plans for decreasing the cost of medical care.
> 4. Socializing influences.
> 5. Relationships of the medical profession with government agencies, commercial laboratories and vendors concerned with any phase of medicine.
> 6. The relationship of hospitals and the practice of medicine.
> 7. Relationship with and the status of the nursing profession.
> 8. Such other matters as the committee deems important from the standpoint of protecting the public and the medical profession from attempts to bring about inadequate medical care and unwarranted interference by outside agencies, with the practice of medicine.
>
> This year your Planning Committee has considered the following:
>
> (*a*) Integration of county, State, and A.M.A. dues, also, the House of Delegates suggested study regarding "a possibility that all-inclusive dues be established for county, State, and A.M.A. membership of a total sum less than the present separate dues."
>
> (*b*) Increasing percentage of A.M.A. members among our membership.
>
> (*c*) Committee setup in regard to size, functions, expense, etc. "The House of Delegates has cautioned against overemphasizing expense."
>
> (*d*) Method of electing delegates from the Society to the A.M.A.
>
> (*e*) Advisability of changing age of eligibility for retired members status in the State Society and county society from seventy to sixty-five years.
>
> Your Planning Committee wishes to note that throughout the A.M.A. and constituent associations there are listed thirty-two various names for membership classifications. As can be seen, much difficulty will naturally arise in integrating these various associations; as far as membership reclassification, considerable study need be done without arbitrarily setting up only several classifications and state that we wish all to comply with these several classifications.
>
> In the various county societies of our State, there are about thirteen types of memberships. They are: active, associate, honorary, junior, life, retired, corresponding, hospital, resident, intern, student, senior, and members. It would seem that right in our own State Society some study need be done to get some uniformity in membership classification. We realize the problems involved. For example: In a large county many various designations may be a necessity, but those same designations would not be needed in a small county.
>
> In our State Society, we have four classifications:
>
> Active
> Retired
> Junior
> Honorary
>
> Some felt that the above four are all that are necessary. . . .

Dr. Kelley: Mr. Speaker, I am sorry I started that.

The subcommittee reported that in a listing of the county dues, there is a considerable variance in the amount of the dues. They vary from $3.00 per year in Tioga County up to $65 per year in Broome County. Obviously, it is almost impossible to make an over-all fee because of the great variance in county dues and the inflexibility of the State and American Medical Association dues. The subcommittee report on this part of their study was approved by the Planning Committee as a whole. Your reference committee feels, although no solution has been found, that a single billing for county, State, and A.M.A. dues is desirable.

Your reference committee asks for approval of this part of the report.

Dr. Leo F. Schiff, *Trustee:* Where is that in this report?

Dr. Freedman: It is 56–A, page 4.

Speaker Holcomb: Will you turn to your report of the Planning Committee?

Dr. Freedman: It is marked 56–A, and this is on page 4.

Dr. Gerald D. Dorman, *Councillor:* I second the motion to approve this portion of the report.

Speaker Holcomb: Will the House please turn to the report of the Planning Committee for Medical Policies? Perhaps you can follow Dr. Kelley's reference committee report then. Naturally, it is not exactly the same.

Give your title, and I think they can follow it.

Dr. Dorman: He moved the adoption of that portion of the report.

Speaker Holcomb: Dr. Kelley moves for the adoption of that portion of the report of the subcommittee having to do with the listing of county dues. Is there a second?

Dr. Dorman: I seconded it.

Speaker Holcomb: That calls for approval of the recommendation of the reference committee, a single billing for county, State, and A.M.A. dues is desirable. Is there any discussion?

Dr. Herbert S. Ogden, *New York:* Billing is done at the county society level. I don't see where this is the concern of the State Society. The State Society dues are billed at the same time that the county dues are billed, but they are billed from the county level. Why do we need a directive at the State level to suggest we bill for the A.M.A. dues at the county level?

Speaker Holcomb: I think it is desirable because there has apparently been some confusion in some of the counties, and this resolution or study was brought in. Dr. Ogden, this is a report of the reference committee on the Planning Committee study.

Dr. Ogden: All county societies bill for the State dues?

Speaker Holcomb: Yes, I believe so, but I am not sure.

Secretary Anderton: They bill for the State dues, that is right.

Dr. Ogden: But A.M.A. membership is not compulsory, or at least we are in process of having a referendum to find out whether that is not so; therefore, it would seem to me it would be entirely optional.

Speaker Holcomb: It would apply to the county in which they are billing for A.M.A. dues, so I think it is perfectly in order.

Dr. Kelley: I will clear that up. The reference committee said in our report here, "it is desirable"; we did not make it mandatory.

Dr. Thomas F. McCarthy, *Bronx:* Isn't this simply expressing a pious wish? I move we approve it without any argument.

Speaker Holcomb: Very pious.

. . . There being no further discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Kelley: This has to do with membership in the A.M.A. The subcommittee felt—

Chorus: What was passed? What subcommittee?

Dr. Peter J. DiNatale, *Councillor:* Mr. Speaker, may I clear this up for a minute?

Speaker Holcomb: It has already been passed.

Dr. DiNatale: I think it needs clarification, I am sorry to say. The Planning Committee on page 2 of 56–A, if you have it before you, studied this integration of county, State, and A.M.A. dues. Also the House of Delegates suggested study regarding the possibility that all-inclusive dues be established for county, State, and A.M.A. membership of a total sum, not less than the present dues. They made a report. The report was this: "The subcommittee reported that in a listing of the county dues, there is a considerable variance in the amount of the dues. They vary from $3.00 per year in Tioga County up to $65 per year in Broome County. Obviously, it is almost impossible to make an over-all fee because of the great variance in county dues and the inflexibility of the State and American Medical Assocation dues." The subcommittee report on this part of their study was approved by the Planning Committee as a whole. There was nothing said about billing at a county level in any way, shape, or manner.

Speaker Holcomb: Dr. Kelley, would you care to elaborate on that? This has already been passed. It was already before the House of Delegates, and it was passed after it was explained it was a question of being desirable and not mandatory.

Dr. Kelley: I have nothing further to add to what has already been said.

Speaker Holcomb: Very well, I will request Dr. Kelley to go on with the next part of the report.

Dr. Kelley: The next part of the report is relative to A.M.A. membership. When I speak of the subcommittee, I mean of the Planning Committee. They have subcommittees, seven or eight of them as I have figured it over a two- or three-day period.

The subcommittee felt that there is value in A.M.A. membership to the individual physician, to the State Society, and for the solidarity of the physicians throughout the county.

The subcommittee feels that this is a matter of continuing and continued education; it could better come from the county level, in county bulletins and county society meetings. The A.M.A. should make a more determined effort to increase membership in the A.M.A.

The subcommittee felt that compulsory membership in the A.M.A. should not be recommended at this time. The Planning Committee, as a whole, approved with a suggestion that the State Society House of Delegates recommend to each county society that an active working committee to obtain A.M.A. members be appointed: The decision to appoint such a committee to be the prerogative of each county medical society.

The reference committee would like to remind the House of Delegates that some members of this House may not be members of the A.M.A. We feel that the House members should be cognizant of this fact, as one must be a member of the A.M.A., in order to be elected a delegate to the A.M.A.

I move approval of this part of the report.

Dr. David Kershner, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Kelley: Methods of electing delegates from the Society to the A.M.A.: The subcommittee recommends that the Nominating Committee in presenting the names of delegates to be elected to the House of Delegates of the A.M.A. give serious consideration to the various geographic areas of the State, considering also records of service to county, district, and State.

Your reference committee approves this part of the report and moves for its adoption.

Dr. Samuel Z. Freedman, *Assistant Treasurer:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Kelley: On the question of reducing the age of retirement from seventy to sixty-five years: Noting well the possible decrease in active memberships and income loss to the State Society, the subcommittee, following considerable study, feels that if a physician in active good standing should desire to retire from the active practice of medicine, he should be privileged to do so providing that he completely discontinue practice of medicine in any form which shall include any salaried position in any field of medicine.

This will be presented in the form of an amendment to the Constitution and Bylaws and, as such, will lay over for a year to be acted upon at the next session of our House of Delegates, 1957. We urge each county society to study this so that their delegates may be prepared to represent their county's views.

The reference committee feels the present retirement age of seventy years should be maintained, and that individual requests for retirement, prior to seventy years, be dealt with on their merits.

The reason for that is this: We found, theoretically at least, that if we dropped it back to sixty-five, the State Society would lose about $101,000 in a period of five years. That is purely theoretical. We don't know how many would retire at sixty-five.

I move the adoption of this portion of the report.

Dr. Philip D. Allen, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Kelley: The next is purely informative, but I think I had better read it after the last one.

The subcommittee deemed it advisable to divide the committees for purpose of study into:

(*a*) Those needing no revision, at least at present;

(*b*) Those for possible revision.

We, of the Planning Committee, feel that committees of three to five, or seven, can function best. Usually, when a large committee is constituted, just a few of the members usually do the work.

(*a*) The committees needing no revision, at least for the present, are listed as follows:

Constitution and Bylaws Committee
Executive Committee
Malpractice Insurance and Defense Board
Nominating Committee
Permanent Headquarters Committee
Prize Essay Committee
Judicial Council
Sesquicentennial Committee
Inhalation Therapy Committee
War Memorial Committee
Medical Economics Committee
Budget Committee
Medical Ethics Committee
Hospital Relations Committee
Office Administration and Policies Committee
Pharmacy Committee
Publication Committee
Media of Information Committee
Committee to the Woman's Auxiliary

I move this part of the report be adopted.

Dr. Abraham D. Segal, *Kings:* I second it.

Speaker Holcomb: This carries on the study that was carried on by the Planning Committee for possible curtailment of the committees of the Medical Society. Does anyone wish to discuss this portion of the report?

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Kelley: (*b*) The committees for possible revision: First is—

Speaker Holcomb: Will you please read this slowly?

Dr. Kelley: 1. *Medical Education Foundation Committee* (this is a House committee): The subcommittee recommends that this committee be stimulated to more activity to correlate the information received from A.M.A. so that our members may be better informed as to how the money is given, to whom, what amount, etc.

This was approved by the Planning Committee. Your reference committee also approves it, and I move its adoption.

Dr. Samuel Frant, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Kelley: 2. *The Committee on Alcoholism:* This committee was not reappointed. There reportedly have been complaints from former members because they were not reappointed. There have been no reports and no answers to our queries; no meeting for two years.

The subcommittee feels that alcoholism is an important medical problem, and recommends that the incoming president reactivate this committee if he deems it necessary, and that, if possible, it be made a subcommittee of the Public Health and Education Committee.

The Planning Committee approved this, and the reference committee also approved it. I move its adoption.

Dr. Adelaide Romaine, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Kelley: 3. *The Blood Banks Commission:* The subcommittee felt that this committee is too large. It is felt that perhaps too many members of this committee may not represent the interests of the Medical Society, but rather outside interests. The subcommittee believes that the Commission should be cut in size, to president-elect, chairman of the Public Health and Education Committee, chairman of Public Relations Committee, and one, or at the most three, representing other interested groups. The president, himself, is also an ex officio member of this committee.

The reference committee moves the approval of this part of the report.

Dr. Adelaide Romaine, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Kelley: As an addendum to that, the Planning Committee also added an advisory group to consult with the smaller blood banks. This group would have a personnel representing blood banks and hospitals with technical knowledge about the handling of blood.

This was approved by the Planning Committee; also approved by the reference committee. I move its adoption.

Dr. Henry T. Randall, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Kelley: 4. *Civil Defense Committee:* The subcommittee of the Planning Committee felt that it is too large and that it should be cut to three members with an advisory committee scattered throughout the State as needed, by appointment of the president. It has been suggested that this committee could become the disaster-catastrophe committee rather than just civil defense.

The reference committee approves this recommendation, and we move its adoption.

Dr. Ely Elliott Lazarus, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Kelley: 5. *Planning Committee:* The subcommittee felt that this committee should be cut in size by counting the officers of the State Society who are members of the Planning Committee as representing their local districts. Some members felt that this could cause quite a confusion because the districts elect their representatives in the fall and the officers are elected in May. It was suggested, too, that possibly the nine district members be the Planning Committee and that the officer members be made either ex officio or advisory members. It was thought that perhaps this committee could be composed of the nine district members and the speaker of the House.

There was no agreement on the possible way to cut this committee, and it was finally agreed to leave the Planning Committee as it is for the present and study various methods suggested for cutting down the size.

The reference committee approves this portion of the report and so moves.

Dr. Ben A. Borkow, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Kelley: 6. *Movie and Television Committee:* Reported poor attendance, and the subcommittee recommends that this committee be cut to three. Your reference committee approves this portion, and I ask for its adoption.

President-Elect Greenough: In view of the fact that we are having a sesquicentennial celebration in February, it would be advisable I believe to appoint a Movie Committee of three and a Television Committee somewhat larger in order that we should have programs centered about and around the sesquicentennial celebration.

Speaker Holcomb: Do you offer that as an amendment, or as a suggestion, or that it be a substitute?

President-Elect Greenough: I move it as a substitute recommendation.

Speaker Holcomb: Is there a second?

Dr. Robert F. Warren, *Kings:* I second it.

Dr. Samuel Z. Freedman, *Assistant-Treasurer:* Might I ask a question?

Speaker Holcomb: Dr. Freedman is recognized. He is the chairman of the Sesquicentennial Committee.

Dr. Freedman: I don't want to ask a question in particular about this, but I am not clear in my own mind whether anything we are passing here is mandatory or just advisory.

Speaker Holcomb: These are all advisory.

Dr. Freedman: These are all advisory, so it really does not make any difference what we approve. If we decide to depart from it though, and decide to have ten, we can have them.

Speaker Holcomb: That is right. You follow recommendations though inasmuch as it is your committee. Dr. Greenough suggests that the Television and Movie Committee be increased to three members of each part. Is there any further discussion?

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Kelley: 7. *Scientific Exhibit Committee:* The chairman says the committee is too large—

Dr. Dorman: What committee?

Dr. Kelley: The chairman of the Planning Committee says that the committee is too large. The subcommittee on review recommends this committee be cut to three. The reference committee approves this, and I so move.

Dr. Arthur Lamb, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Kelley: 8. *Medical Care Insurance Bureau:* Much discussion has taken place about the continuance of this Bureau. It is thought by some that the expenditure of approximately $20,000 for this bureau is unwarranted at this time. There is a difference of opinion on this matter.

The House of Delegates at the 1955 meeting suggested to the Expense Curtailment Committee: "The possibility of reduction of expenses of the Bureau of Medical Care Insurance. Consideration be given as to whether or not expenses of the Bureau of Medical Care Insurance may not be properly contributed to by various Blue Shield plans."

The subcommittee recommends that the Council thoroughly investigate the possibility of the various Blue Shield plans properly assuming the cost of this bureau.

The reference committee feels that this bureau should be discontinued as of January, 1957. The essential information which this bureau has relative to Blue Shield plans could be handled through the Council Committee on Economics.

At this point I would like to explain that the Blue Shield plans are not allowed by the State Insurance Law to take over this function.

I would also at this time, Mr. Speaker, like to say that the reference committee would like to amend their recommendation and state that we go along with the recommendation of the previous committee that reported late this afternoon that this be handled through the Council. Is that right?

Speaker Holcomb: I think that is right.

Will the House agree that this passed this afternoon, that this be referred to the Council?

. . . There was no dissent expressed . . .

Dr. Kelley: I move the adoption of this part of the report.

Dr. Gerald D. Dorman, *Councillor:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Kelley: 9. *Public Medical Care Committee:* Following study, the subcommittee recommends that this committee be cut from five to three.

The reference committee approved this part of the report, and I so move.

Dr. Solomon Schussheim, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Kelley: 10. *Legislation Committee:* There are 17 members at present. There has been much discussion about our legislative setup at Albany. You will recall that several years ago a resolution was introduced asking for the abolishment of this Albany bureau. The House of Delegates at that time did not approve of that resolution.

The 1956 budget for the Legislative Bureau is $26,894. However, there has been considerable comment regarding this bureau. The bureau and the Legislation Committee are discussed together because they are interrelated. Several past chairmen of the Legislation Committee have stated that the Legislation Committee is too big, unwieldy, and believe more could be accomplished if the committee were smaller.

The subcommittee recommends at this time that the Legislation Committee should be composed of five members, and that an advisory committee be appointed as need may arise or use existing county or district legislation groups as advisory.

The reference committee approves this request of the Planning Committee, and I so move.

Speaker Holcomb: Is there a second?

Dr. Monroe M. Broad, *Queens:* I second it.

Speaker Holcomb: This recommendation will make the Legislation Committee composed of five members rather than 17. Is there any discussion?

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Kelley: 11. *Public and Professional Relations Committee and Bureau:* The subcommittee recommends that a study of the Legislation Committee and Bureau and Public and Professional Relations Committee and Bureau be undertaken in an impartial fact-finding manner, which eventually could conceivably come up with a plan combining these two bureaus at a cost considerably less than the present combined cost of approximately $100,000.

Your reference committee feels that there is merit in the proposal to combine these two committees and the possibility of retaining a professional and public relations firm to conduct the program.

I move this portion of the report be adopted.

Dr. Moses H. Krakow, *Bronx:* I second it.

Speaker Holcomb: This is a rather important suggestion. Does anybody wish to discuss it?

Dr. Thomas F. McCarthy, *Bronx:* On a point of information, did it say to combine the Public Relations—

Speaker Holcomb: Will you reread that?

Dr. Kelley: The reference committee feels that there is merit in the proposal to combine these two committees—

Dr. McCarthy: Which two?

Dr. Kelley: Legislation and Public and Professional Relations.

Dr. McCarthy: Is that Public Relations or Professional?

Dr. Kelley: Public and Professional Relations.

Dr. McCarthy: Is that a constitutional committee? Is that affected by your Constitution? Do you know that?

Dr. Freedman: I think it says here to combine the bureaus, which is a little different from combining the committees.

Speaker Holcomb: That is true.

Dr. Freedman: That is a very important matter.

Speaker Holcomb: The speaker will call attention to the fact that as Dr. Freedman has pointed out this subcommittee recommends that a study of the Legislation Committee and Bureau and the Public and Professional Relations Committee and Bureau be undertaken in an impartial fact-finding manner, and eventually could conceivably come up with a plan combining these two bureaus at a cost considerably less than the present combined cost of approximately $100,000. That is simply that a study be undertaken. Dr. McCarthy, it does not mandate the House to combine these two bureaus.

Is there any further question? If not, those in favor of the committee's recommendation that the study be—

Dr. Freedman: I would like to ask for a clarification. Why is it saying here "in an impartial fact-finding manner?" Is it suggested that this investigation be done in a manner different from all other investigations? (*Laughter*) Is it to be implied that all previous investigations were not impartial, or did the committee have in mind something special? Did they want an outside agency to investigate this, and if so this may make some sense?

As a member of the Council, and as interested in this House for many, many years, there has been a good deal of discussion about this matter of combining the bureaus—combining the bureaus, not the committees—and the matter of money is important. I am not going at this time to give you my thinking as to whether I think too much money is spent or whether the bureaus should be combined or not, but the fact is that an investigation in a satisfactory manner is called for, and from the fact that the Planning Committee put in this language they must have had something in mind different from the way previous investigations have taken place. I, therefore, ask of the reference committee if they so considered it, and whether they thought of any particular recommendations along these lines?

Dr. Kelley: No, we did not. We accepted the wording of the subcommittee's recommendation in which they included the Legislation Committee and Bureau and the Public and Professional Relations Committee and Bureau.

Dr. DiNatale: May I recommend that the word "impartial" be deleted?

Dr. George J. Lawrence, Jr., *Queens:* I don't see what the recommendation of the committee is because the whole thing is not even a sentence, and I don't think this House should approve it unless they tell us what they mean, and at least make a sentence out of it.

Speaker Holcomb: Be undertaken—recommends that a study be undertaken.

Dr. Lawrence: That is not in there.

Speaker Holcomb: Yes, it is, that this study be undertaken.

Dr. Ezra A. Wolff, *Assistant Secretary:* Third line.

Speaker Holcomb: I think the sentence will stand scrutiny; I don't know about the committee. (*Laughter*)

Dr. Lawrence: I beg your pardon! (*Laughter*)

Speaker Holcomb: Dr. Freedman, in answer to your query, perhaps the word "impartial" was simply used for emphasis, may we put it that way.

. . . There being no further discussion, the motion was put to a vote and was unanimously carried . . .

Speaker Holcomb: Continue!

Dr. Kelley: 12. *Committee on Medical Licensure and Medical Service:* It was felt that this committee could be abolished. Chairman advised as such. It was felt that medical licensure really was closely related to legislation and its duties could be assumed by the Legislation Committee. It was so recommended and approved.

The medical service portion of original committee had to do with the selection of the General Practitioner of the Year. The subcommittee recommends that this portion of the previous duties of this Committee on Medical License and Medical Service be taken over by the Public Relations Committee.

Your reference committee approves this report and asks its adoption.

Dr. Abraham D. Segal, *Kings:* I second it.

Speaker Holcomb: This portion of the report recommends abolition of the Committee on Medical Licensure and Medical Service. Is there any discussion?

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Kelley: 13. *Subcommittee on Rural Medical Service:* The subcommittee in reporting on this committee stated it felt that this was an important committee and advised that it felt that it should be made a full Council Committee on Rural Medical Service.

Considerable doubt was expressed by a number of those discussing the matter as to the wisdom of elevating a rather inactive committee to one of full Council status.

Following considerable discussion, it was voted to approve the recommendation of subcommittee that the Rural Medical Service Committee be made a full Council committee.

Your reference committee feels that since the Rural Medical Service Committee has been relatively inactive, there has been little work for it to do. Your reference committee feels that the Subcommittee on Rural Medical Service should be made a full Council committee only if there is sufficient work for this committee to warrant this elevation.

I move that portion of the report.

Speaker Holcomb: The chair would like to inquire as to who is to decide whether this rural medical service will be elevated to a full Council committee. Whose study is this to be? Is this to be referred to the Council?

Dr. Kelley: The Council.

Speaker Holcomb: Is that your indication?

Dr. Kelley: Yes, sir.

Speaker Holcomb: Does the House understand that now?

Dr. Freedman: And an impartial study be made.

Speaker Holcomb: And an impartial study be made by the Council. With this understanding is there a second to the motion?

Dr. Gerald D. Dorman, *Councillor:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Kelley: 14. *Public Health and Education:* The subcommittee reported that more study is needed on this; study in conjunction with Dr. Curphey, chairman, is recommended. The budget for this committee to June, 1956, is $23,215. Let us not forget that among the purposes of our Society the following is listed in our Constitution: "To extend medical knowledge and advance the science and art of medicine; to promote the betterment of public health."

Many feel that the medical schools and various academies of medicine and hospital staffs are providing medical education for the physicians, and perhaps some of the work that was done by the Public Health and Education Committee may not be as extensive as formerly. We urge continuing study of the Public Health and Education Committee.

The reference committee approves this part of the report. I so move.

Speaker Holcomb: Is there a second?

Dr. Henry J. Barrow, *Bronx:* I second it.

Speaker Holcomb: Is there any discussion? This simply recommends continuing study of the Public Health and Education Committee.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Kelley: 15. *Liaison with Veterans Administration Committee:* The subcommittee reported that its chairman advised the possible abolition of this committee. There was little work to be done. It was advised that the work of this committee could be referred to the Economics Committee.

The subcommittee felt that the president, with the approval of the Council, could at any time it was deemed necessary appoint an existing committee or new committee to deal with veterans affairs.

Your reference committee approves this portion of the report, and I so move.

Dr. Moses H. Krakow, *Bronx:* I second it.

Speaker Holcomb: Is there any discussion? This portion will do away with the Liaison Committee with the Veterans Administration and refer it to the Economics Committee.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Kelley: 16. *Workmen's Compensation Committee:* This committee with its bureau has a budget of $25,288, approximately $21,000 for salaries.

Some comment about the need for full-time activities. However—

Dr. Freedman: That is not a sentence.

Dr. Kelley: However, recently the Industrial Health Bureau, nonexistent except in name, has been combined so that eventually one director may do both compensation and industrial health. That is the important part of it.

The subcommittee recommends that this committee of 15 be reduced to nine so that each district could be represented and accomplish purposes.

The subcommittee made the following general points: The chairman of a committee meet with the incoming chairman and give the new chairman the value of his previous experience with that particular committee, give him the files, if available, and help maintain a continuity so not much time is lost.

Your reference committee again reiterates the recommendation of the reference committee of last year, that the Industrial Health Bureau and Workmen's Compensation Bureau be combined and headed by a medical man.

I so move this part of the report.

Dr. Gerald D. Dorman, *Councillor:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Kelley: Now I move the report as a whole, as amended, be adopted.

Secretary Anderton: I will second it.

Speaker Holcomb: Is there any discussion of the report as a whole, as amended?

Dr. Benjamin M. Bernstein, *Kings:* I will bring you back to page 6 (*laughter*). Oh, please do read it, and understand it, and get it through your heads as to what this is all about. One of the most important committees of your Society has worked on the budget of $1,258 for the entire year, and has done a remarkable job. Now look on page 6, paragraph 4, "The subcommittee reviewed extensive minutes of the several meetings of the Planning Committee of 1954–1955 where chairmen and others appeared and were questioned about legislation, committees, public relations, public health, education, workmen's compensation, office management and policies, particularly in regards to Journal and *Directory.*" This was surprising to me, and it should be to you too: "It is surprising the lack of either interest or knowledge of the affairs of our Society. The responses to various queries we considered poor."

Now with all the due respects to Dr. Kelley and his committee, I don't know why this matter was not stressed: to think the chairmen of our committees and other members of our governing body are not aware of what is going on, and come before the Planning Committee with insufficient knowledge and understanding of what this is all about. I think it is a shocking thing. It is a remarkable disclosure, and we should take heed of it.

The next one: We just asked that rural medical service be made a standing committee or a full committee rather of the Council. In the next paragraph, according to the 1955–1956 list of committees of the Medical Society of the State of New York, there are 43 committees of the Council, one committee of the Board of Trustees, and 15 special committees or committees of the House of Delegates. Now you are adding another committee to the Council.

Now if you read on further—and I am not going to—you will find that this committee also recommends that the Council be reduced in size. You want to reduce the Council in size, you want to increase the number of committees that the Council has to be responsible for, and then when you look at some of those subcommittees you will find they meet once a year, sometimes not at all during the year, occasionally twice a year. There are things we should take heed of and make note of very carefully. I should like to amend the full committee report by offering this resolution, without being referred to a reference committee—I don't think you want it to go to one but it can be acted on right here and now—and this resolution would read as follows: "Taking cognizance of the excellent report submitted by the Planning Committee for Medical Policies, and taking into consideration the many recommendations made in this report, and taking note of the deficiencies disclosed and discussed in this report, be it resolved that the House of Delegates commend the committee for its fine job, and instruct it to continue to concern itself with a thorough study for streamlining the organizational setup of the State Society in its relationship to the members of our Society as well as the public, to the end that the activities of the Society and their influence on the practice of medicine shall be most effectively and advantageously performed."

I offer this as an amendment to the report of the reference committee.

Speaker Holcomb: Is the amendment seconded? Is there a second to the amendment?

Dr. John J. Flynn, *Kings:* I will second it.

Dr. Kelley: I don't think Dr. Bernstein has any right to pull the rug out from under me like that. I was going to commend that committee, the Planning Committee, and tell them they did a wonderful job, it is a hard job—and if you don't think so the work that they did for a year it took us three days to analyze and put into a report—I wanted to tell the committee that I thought they did a wonderful job, but he has taken the fire right out from under me now.

Speaker Holcomb: Dr. Kelley, I think Dr. Bernstein's amendment simply adds to your comment. It is very complimentary. Being a member of the Planning Committee, of course, I should feel that way. I think the amendment is perfectly in order along with your comments.

The speaker at this time though would like to comment on the work that Dr. Greenough's subcommittee did on the study of all of the committees of the State Society. I don't think the House of Delegates realizes the amount of time and study that was spent by Dr. Greenough's committee as a subcommittee of the Planning Committee, and I think that Dr. Greenough ought to be heartily thanked by this Society.

Dr Frederick A. Wurzbach, Jr., *Bronx:* I would just like to make a correction in what Dr. Bernstein said. There is no recommendation to decrease the size of the Council.

Dr. Bernstein: Sorry, let us read it.

Dr. DiNatale: May I call your attention to who appointed Dr. Greenough?

Speaker Holcomb: Dr. DiNatale, I take it for granted that our very excellent chairman of the Planning Committee makes all of the appointments.

Dr. Bernstein: May I read from the report, Mr. Speaker?

Speaker Holcomb: Yes.

Dr. Bernstein: Page 12, fourth paragraph from the bottom: "We of the Planning Committee feel that there is a doubt in our minds about the size of the Council. While it may be more democratic and allegedly represents varying geographic areas, could the work of the Council be streamlined by decreasing total membership of same? We know that it was only a few years ago that the Council was enlarged." So is there any doubt that something was said about decreasing the size of the Council?

Speaker Holcomb: May I call attention to the fact that the recommendation concludes by saying, "A study and careful consideration is merited." There is no recommendation that it be decreased.

Dr. Bernstein: A suggestion was made.

Speaker Holcomb: It was not a suggestion, only that a study be made. The question on Dr. Bernstein's amendment, which is commendatory, and has been seconded is before the House.

. . . There being no discussion, the amendment was put to a vote and was unanimously carried . . .

Speaker Holcomb: Now the report as amended is before the House.

Dr. Kelley: I move the report as a whole as amended.

Dr. Ben A. Borkow, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Kelley: I wish to thank the members of my committee, Dr. Wood, Dr. Lane, Dr. Murray, and Dr. Babbage, for their untiring work and counsel on this reference committee. (*Applause*)

Speaker Holcomb: Thank you, Dr. Kelley.

The chair wishes to announce that we have Dr. Wurzbach's report, which I am going to ask the House of Delegates to consider tonight. I believe Dr. Pelow is not available at the moment. I think it is just as well that the question of the clarifications of the *Principles of Professional Conduct* be taken to bed with us, perhaps, and think them over after election tomorrow, and then dispose of that report then.

. . . Section 49 of the Minutes of the Annual Meeting of 1954 was distributed to the delegates as follows:

Section 49 (See 143)

Clarification of Principles of Professional Conduct

Dr. Alfred P. Ingegno, *Kings:* This is a resolution for the clarification of the *Principles of Professional Conduct*, and it reads:

> Whereas, on June 30, 1953, the Medical Society of the County of Kings voted by ballot on certain suggested clarifications of the *Principles of Professional Conduct* of the Medical Society of the State of New York and of the code of ethics of the American Medical Association; and
>
> Whereas, these recommended clarifications were approved by the membership by a vote of nearly four to one; therefore be it
>
> *Resolved*, that the Medical Society of the State of New York place in its *Principles of Professional Conduct* the following clarifications; and be it further
>
> *Resolved*, that the delegates from the Medical Society of the State of New York to the American Medical Association request the American Medical Association also to place these clarifications in its code of ethics:

"1. Chapter I, Section 4, of the *Principles of Professional Conduct* reads as follows:

> Advertising
>
> '*Section 4.* Solicitation of patients, directly or indirectly, by a physician, by groups of physicians, or by institutions or organizations is unethical. This principle protects the public from the advertiser and salesman of medical care by establishing an easily discernible and generally recognized dis-

tinction between him and the ethical physician. Among unethical practices are included the not always obvious devices of furnishing or inspiring newspaper or magazine comments concerning cases in which the physician or group or institution has been, or is, concerned. Self-laudations defy the traditions and lower the moral standard of the medical profession; they are an infraction of good taste and are disapproved.'

"It is recommended that the following clarification be added:

> 'It should be understood that any medical care plan, company, or organization which advertises for subscribers and directs such subscribers to a restricted panel of physicians for medical care is advertising for the benefit of the physicians involved.'

"2. Chapter III, Article VI, Section 3, reads as follows:

> CONTRACT PRACTICE
>
> '*Section 3.* Contract practice as applied to medicine means the practice of medicine under an agreement between a physician or a group of physicians, as principles or agents, and a corporation, organization, political subdivision or individual, whereby partial or full medical services are provided for a group or class of individuals on the basis of a fee schedule, or for a salary or for a fixed rate per capita.
>
> 'Contract practice per se is not unethical. Contract practice is unethical if it permits of features or conditions that are declared unethical in these *Principles of Professional Conduct* or if the contract or any of its provisions causes deterioration of the quality of the medical services rendered.'

"It is recommended that in the first paragraph the words 'duly licensed' be inserted before the words 'physician' and 'physicians.'

"It is recommended also that the following sentence be added to the second paragraph:

> 'A contract with a hospital, organization, or political subdivision which is supported in whole or in part by public funds or by solicitation of private subscriptions, to diagnose and treat patients, is ethical only when such diagnosis and treatment is for a patient who is a public charge.'

"3. Chapter III, Article VI, section 4, reads as follows:

> FREE CHOICE OF PHYSICIAN
>
> '*Section 4.* The right of the patient freely to choose his doctor must be preserved and maintained. Nothing in any individual or group method of practice must be permitted to interfere with this right.'

"It is recommended that the following clarification be added:

> 'Free choice of physician is defined as the unrestricted freedom of a patient to choose his own physician. The interjection of a third party who has a valid interest, or who intervenes between the physician and the patient, does not per se cause a contract to be unethical. A third party has a valid interest when, by law or volition, the third party assumes legal responsibility and provides for the cost of medical care and indemnity for occupational disability.
>
> 'If, however, the third party be an organization or corporation which agrees to provide medical and/or surgical services through the medium of individual or group practice, payment to the physicians under contract being either on an indemnity or a per capita basis, a requirement restricting choice of physician to either the individual or group practitioners under contract vitiates the subscriber's right to free choice of physician. This is against the best interests of the public and of the medical profession.'

"4. The following is a proposed additional section to Chapter III, Article VI:

> PRORATION OF FEES
>
> '*Section 7.* It is not unethical for a fee to be prorated between two or more physicians when such physicians actively participate in the rendering of medical and/or surgical care, and the fee therefor be commensurate with the services rendered; and the patient to whom such care shall have been rendered shall be advised of the participation and of the distribution of the fee through an itemized combined statement or separate statements. Such proration would be considered ethical if it was limited to instances where a contracted fee payment for a service has been made by an insurance company.' "

This, incidentally, has already been passed into the law by the State Legislature. I see no particular point in reading it at this time. It is merely a matter of transferring to the code of ethics what has already gone into law.

SPEAKER HOLCOMB: The chair will call on Dr. Wurzbach for his report, and I hope the House will remain in a receptive mood. We can promise that this will be the last report tonight.

Section 157

Report of Reference Committee on Report of Council, Part IV—Public Health Activities C: Cancer

DR. FREDERICK A. WURZBACH, JR., *Bronx:* Mr. Speaker and members of the House, this is the report of the Council, Part IV, Public Health Activities C—Cancer, Blood Banks, Heart Disease, Mental Hygiene, Film Review.

Cancer: Your reference committee is pleased with the close cooperative activity of the Subcommittee on Cancer with the Bureau of Cancer Control of the New York State Department of Health, the Health Department of the City of New York, and the American Cancer Society. The pooling of resources, abilities, and experiences of such a group is invaluable in the fight against cancer. Dr. Paul R. Gerhardt, director of the Bureau of Cancer Control of the New York State Department of Health, has been particularly helpful.

It is worthy of comment that the subcommittee has stressed that the cancer detection and prevention centers are intended to be demonstration centers to serve as a source of education for the physician. The Council has approved the endorsement of the subcommittees for several "open house" programs in the metropolitan area.

The booklet entitled "Cancer Detection in a Physician's Office" was distributed to all physicians in the State by a cooperative effort of the New York

State Division of the American Cancer Society, the State Health Department, the New York City Health Department, and the office of the Medical Society of the State of New York. This same group also distributed the health examination form throughout the State.

The NEW YORK STATE JOURNAL OF MEDICINE has published articles on various phases of cancer, and your reference committee hopes there will be no lessening in this very important part of this educational campaign. The Subcommittee on Cancer has done a good piece of work and should be commended by this House of Delegates.

Mr. Speaker, I move the adoption of this part of the report.

DR. HARRY GOLEMBE, *Section Delegate:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 158 (See 15)

Report of Reference Committee on Report of Council, Part IV—Public Health Activities C: Heart Disease

DR. FREDERICK A. WURZBACH, JR., *Bronx: Heart Disease:* Your reference committee has reviewed the reports of this important subcommittee, and here again we found that close cooperation which means that real results are to be expected. We commend the subcommittee for the stimulation given to the American Heart Association, its three New York State components, the NEW YORK STATE JOURNAL OF MEDICINE, and the county medical societies to work together in complete harmony.

This year the emphasis has been on the prevention of rheumatic fever and rheumatic heart disease, on which topic the annual meeting will be addressed by Dr. Charles A. R. Conner, chairman of the prophylaxis program of the New York Heart Association.

Your reference committee is pleased with the progress made in the study of the cardiac in industry. This problem is apparently being considered in its proper concept; that it is a problem that concerns medicine, industry, the labor unions, and the insurance companies as well as the patient. We can expect a real humanitarian advance in this field.

Mr. Speaker, I move the adoption of this part of the report.

DR. A. WILBUR DURYEE, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 159

Report of Reference Committee on Report of Council, Part IV—Public Health Activities C: Mental Hygiene

DR. FREDERICK A. WURZBACH, JR., *Bronx: Mental Hygiene:* Your reference committee notes that, although there has been no full committee meeting, the individual members have carried out many active assignments. This may be readily explained by the fact that the problem of mental health is best handled at the county level.

We feel that this committee has been active in reducing the existing barrier between the mental hospitals and the community, and between the State mental hospital system and private psychiatry. We commend the attitude as expressed by Dr. C. T. Prout, chairman: "The responsibility of the mental health movement should be turned back to the community where it belongs."

Mr. Speaker, I move the adoption of this part of the report.

DR. SAMUEL Z. FREEDMAN, *Assistant Treasurer:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 160 (See 16)

Report of Reference Committee on Report of Council, Part IV—Public Health Activities C: Medical Film Review

DR. FREDERICK A. WURZBACH, JR., *Bronx: Medical Film Review:* The activities of this subcommittee are little known and therefore receive little credit for a well-done job. Each year the best films are reviewed, and those best adapted for general use are added to the film library. The use of these films for medical education purposes can best be shown by the report that private physicians, medical staffs, and medical schools used 436 films, and pharmaceutical colleges and nursing schools used 507 during 1955.

We commend the work of this subcommittee and request that it be continued as an active committee.

Mr. Speaker, I move the adoption of this part of the report.

DR. BEN A. BORKOW, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 161 (See 24)

Report of Reference Committee on Report of Council, Part IV—Public Health Activities C: Blood Banks

DR. FREDERICK A. WURZBACH, JR., *Bronx: Blood Banks:* Your reference committee has reviewed the happenings in this field since the last meeting of this House of Delegates.

In May, 1955, the House of Delegates adopted the following recommendations regarding Blood Banks Association of New York State, Inc.:

1. That the original Blood Banks Association be continued in its original intent under the supervision of the Blood Banks Commission;
2. That the regional blood clearinghouse program in New York State be under the control of the Blood Banks Association. Many state medical societies are already part of this program;
3. Study and report to the Blood Banks Commission by the blood assurance program of the advisability of raising the $3.00 per pint fee to a proper cost estimate fee;
4. That the blood assurance program be continued with the following controls:

(*a*) Report must show the number of certificates suitable to the Council by January 1, 1956.

(*b*) Economies must be shown to the Blood Banks Commission to have been effected by July 1, 1955.

(*c*) Evidence of reorganization must be shown to the Blood Banks Commission by July 1, 1955.

(*d*) The limit of deficit by January 1, 1956, must not exceed the estimate of $18,000 deficit as described in this report.

These recommendations were referred to the Council, and in turn by the Council to the Blood Banks Commission. Let us examine what has been accomplished:

1. The Blood Banks Association is being continued in its original intent under the supervision of the Blood Banks Commission.

2. The clearinghouse program is continuing under considerable handicap because at present there is no mechanism for inspecting and licensing of local banks in New York State, except in New York City. This problem may be resolved by suitable action on the part of the State Health Department. When this is in effect then further cooperation will be forthcoming from the National Institute of Health and the National Blood Foundation. We recommend that the Blood Banks Association expand and become the Northeastern Blood Exchange Center as soon as feasible.

3. No increase has been made in the $3.00 per pint fee.

4. (*a*) In the eight months May through December, 1955, 2,041 bleeding certificates were issued. In January, 1956, there were 516 certificates. This is not yet a large enough volume to allow a financial profit; still the increase was great enough for the Council to correctly state that this part of the recommendations was met.

(*b*) Economies were very definitely instituted by July 1, 1955.

(*c*) Reorganization was completed before July 1, 1955.

(*d*) The limit of deficit was set by the House not to exceed $18,000 by January 1, 1956. Actually the deficit was about $12,000—$6,000 under the limit.

Your reference committee reports that the action of the House in May, 1955, was received by the Council and that all recommendations have been met. We feel that all concerned, the Council, the Blood Banks Association, the Blood Banks Commission, and most especially, the chairman of the Blood Banks Commission, Dr. James Greenough, should not only be thanked for many hours of work but congratulated for the result obtained.

I move the adoption of this part of the report.

Dr. Samuel Z. Freedman, *Assistant Treasurer:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Wurzbach: We feel that this House should be appraised of the present financial position of the Blood Banks Association. As of December 31, 1955, the Blood Banks Association has been loaned $79,000. Since this time there has been about $2,000 additional, making the total deficit about $81,000.

There is only one basic cost that will continue unchanged, and that is for the blood exchange program. This is estimated at $200 per month. Your committee recommends that this activity be continued and the cost met by proper appropriation by the Council and Board of Trustees.

Mr. Speaker, I move the adoption of this part of the report.

Dr. Gerald D. Dorman, *Councillor:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Wurzbach: In the Council report it was stated that the blood assurance program had decided not to attempt further activity in New York City. This was a proper action inasmuch as the entire subject of "blood" is a sore spot in New York City. A committee under the chairmanship of Dr. A. H. Groeschel met on March 1, 1956. Representatives of the American Federation of Labor, the American Red Cross, Associated Hospital Service of New York, the Blood Banks Association of New York State, the Blood Transfusion Association, the Congress of Industrial Organizations, Coordinating Council, First District Branch, Medical Society of the State of New York, New York City Department of Health, New York City Department of Hospitals, and the Greater New York Hospital Association were present at this meeting. It was decided to request the public health relations committee of the New York Academy of Medicine to supervise this study. At present the subcommittee, Dr. M. J. Goodfriend, has accepted the request and will begin its activities as soon as funds are available, probably from a foundation.

The scope of the study will encompass all matter related to the procurement, distribution, and utilization of blood and blood derivatives in New York City. Specifically it would include an analysis of the demand for blood and blood derivatives, the supply, current method of procurement and distribution, and the problem involved.

Special attention will be given to the following problems:

1. Continuing recruitment of an adequate number of donors;
2. Replacement rates;
3. Maintenance of adequate supplies and reserves of bloods of rare types and subgroups and blood derivatives;
4. Coordination of the operations of blood banks;
5. Plans for meeting local civilian and military disaster needs;
6. Review of standards for blood bank operation;
7. Recommendation for solution of existing problems to be studied.

This is a real "down-to-earth" program and should clarify the entire situation. It is expected that no report can be ready earlier than six months.

I move the adoption of this portion of the report.

Dr. Freedman: I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Wurzbach: At the last meeting of the House of Delegates it was stated that there was a question whether or not the blood assurance program was in fact insurance. The determination of this was placed in the hands of the New York State Insurance Department, and as of December 5, 1955, it was informally intimated by representatives of the Insurance Department that the original individual contract would probably be considered to be insurance, and therefore neither the Blood Banks Association or local blood banks should continue the assurance program until (1) its charter be amended to permit the Blood Banks Association to allow it to engage in the insurance business; (2) a new section of Article IX of the Insurance Law be enacted to cover such a program; (3) the Blood Banks Association should register with the Insurance Department and be subject to its regulation which would probably mean close inspection of its activities and a demand for sufficient cash reserves to protect holders of blood assurance certificates.

On December 6, 1955, the Council recommended that the assurance program be terminated except for contracts already negotiated and appointed a committee to confer with the representatives of the Insurance Department. This committee received permission to continue contracts already negotiated, provided the Medical Society of the State of New York guaranteed that certificate holders would be protected, requested reconsideration of the question and presented new evidence (a group contract).

On January 12, 1956, the Council agreed to make the cessation of the blood assurance program tem porary until the final decision on this question was received from the Insurance Department. Up to the present time there has been no notification to the Society of the position of the Insurance Department.

Mr. Speaker, I ask for the adoption of this part of the report.

Dr. Freedman: I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Wurzbach: The finding of the Insurance Commissioner may be either that the blood assurance program is or is not in fact insurance.

Should the Insurance Department find that the blood assurance program is not in fact insurance, the plan could then continue as it was prior to January 12, 1956. Your reference committee believes that the gentlemen actively in charge of the blood assurance plan and the Blood Banks Commission have amply proved their integrity and their desire to proceed economically, and we recommend that the plan be continued. We further recommend that the limit of further deficit for the year of 1956 not exceed $15,000.

Mr. Speaker, I move the adoption of this part of the report.

Dr. Dorman: I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Wurzbach: Should the Insurance Department find that the blood assurance program is in fact insurance, three courses of action are possible:

1. Have a new section of Article IX of the Insurance Law enacted to cover an amended charter of the Blood Banks Association, Inc.
2. Register with the Insurance Department and be subject to its regulations.
3. Close out the program.

The first and second are actually interrelated because an amended charter is the first step before registering. This in fact means that the Medical Society of the State of New York forms an insurance company and is then subject to the regulations of the Insurance Department, close inspection of its activities, and a demand for sufficient cash reserves to protect holders of blood assurance certificates. It is understood that this amount would not be less than $10,000.

Your reference committee feels that this plan is so important in its professional and public relations implications throughout the State that we recommend that the blood assurance program be continued under the regulations as laid down by the Insurance Department and that the Council and Board of Trustees take the necessary steps to implement this action.

Mr. Speaker, I move the adoption of this part of the report.

Dr. Philip D. Allen, *New York:* I second it.

Vice-Speaker Williams: Is there any discussion?

Dr. Herbert S. Ogden, *New York:* Can the Medical Society go into the insurance business? I thought we were in the medical society business.

Dr. Solomon Schussheim, *Kings:* What kind of business is that?

Dr. Wurzbach: That would have to be answered by counsel, who I don't believe is present.

Dr. Ogden: That is a serious question.

Vice-Speaker Williams: I quite understand, and I am trying to have it answered.

President-Elect Greenough: I don't think it would mean that the Medical Society would have to go into the insurance business. It would mean that the Blood Banks Association would have to go into the insurance business. The Blood Banks Association is not a part of the Medical Society. The only control the Medical Society has is through the Blood Banks Commission. It is included in the report, is it not, about the Board of Trustees and others finding ways and means to make it feasible?

Dr. Wurzbach: The report states "and that the Council and Board of Trustees take the necessary steps to implement this action."

Vice-Speaker Williams: And from Dr. Greenough's remarks this action would be implemented also through a similar commission. Does that answer your question, Dr. Ogden?

Dr. Ogden: Not entirely, Mr. Chairman. The reason I brought this thing up was because we went through something similar to this at the time we set up the bureau of medical payments for the collection of doctors' delinquent accounts in the Medical Society of the County of New York. It was pointed out at that time that the Medical Society of the County of New York could not properly engage in this business on its own as a county society, but this would have to be a separate corporation.

I am questioning now whether or not there is a separate organization, this blood banks program as a separate organization would have to be guaranteed by the State Medical Society. What we are voting on is as to whether or not we shall give approval to the purpose of having the State Medical Society back a corporation which will be the blood banks assurance program. I think that is not at all clear, and if there are implications we might be making ourselves liable—that is the State Medical Society liable—for the dealings of a corporation which would be running the blood banks, because my understanding is that the State Society could not run the blood banks.

VICE-SPEAKER WILLIAMS: Dr. Wurzbach, can you answer that?

DR. WURZBACH: The answer is that the blood assurance program has continued during these last number of years within the structure of the State Society, and I believe that it could continue within the same structure, and certainly no charter would be granted by the Department of Insurance if it were not a proper and legal condition.

DR. OGDEN: I thought that was the point you brought up.

VICE-SPEAKER WILLIAMS: The chair would like to ask a question of Dr. Greenough. Has the blood assurance program been operating within the structure of the State Society?

DR. GREENOUGH: It has not; the Blood Banks Association.

VICE-SPEAKER WILLIAMS: You answer the question for us.

DR. GREENOUGH: The Blood Banks Association is a separate corporation. It is controlled by Blood Banks Commission so long as it runs a deficit because only through the Blood Banks Commission may the Medical Society help to meet the deficit. The Blood Banks Commission, which represents the Medical Society, can cut off the funds to the Blood Banks Association at any time. The Blood Banks Association is a separate corporation, and not within the Medical Society of the State of New York.

DR. WURZBACH: I stand corrected.

VICE-SPEAKER WILLIAMS: Does that answer your question, Dr. Ogden?

DR. OGDEN: Yes.

DR. CHARLES W. FRANK, *Bronx:* I would like to ask a point of information. I cannot understand how an organization can function within the structure of the State Medical Society, be a separate organization, and command $81,000 of our funds. We are coming to our component county medical societies for dues, for assessments, and for such moneys as are necessary to carry on. How can we answer the question of our members that we can spend a sum of $15,000 for the coming year for an organization that is not a part of the State Medical Society? On what basis can we ask them for that money, and on what basis can this Society spend this sum of $15,000 for another corporation this next year? I don't understand it.

VICE-SPEAKER WILLIAMS: Dr. Greenough, will you answer that?

DR. GREENOUGH: What do you want?

VICE-SPEAKER WILLIAMS: I am anxious to have you answer that question for Dr. Frank.

DR. GREENOUGH: Either three or four years ago this House formed a Blood Banks Commission and authorized the incorporation of a Blood Banks Association. It put up the fund to run it because it felt that there were areas in the State that were not getting sufficient supplies of blood. It was done purely on an altruistic basis, and it has been on that basis ever since. If you will read the report of the Blood Banks Commission you will find that the finances of the Blood Banks Association, which was fostered by the Medical Society of the State of New York but is not a part of the Medical Society of the State of New York, are steadily improving. In the last four months the total deficit was $2,300. In the similar four months of 1955 it was $16,000. It is my belief that the Blood Banks Association will become solvent and will pay back the money to the Medical Society which it has borrowed. To cut it off at this time would do the medical profession and the Medical Society of the State of New York great damage in public relations in the areas in which the Blood Banks Association has been working.

VICE-SPEAKER WILLIAMS: Is there any further discussion?

DR. THOMAS F. MCCARTHY, *Bronx:* I don't want to belabor this, but how did the committee, Dr. Wurzbach, word that? I know Dr. Greenough is a little embarrassed maybe, and Dr. Masterson, but actually you cannot appropriate $15,000 to the Blood Banks Association, but I think the trustees could make a loan of the funds of the Society, which I don't know that you could properly include in this report, saying you would recommend that they give $15,000 to something like that. However, I think you worded that whatever they considered necessary as a loan for this. How do you word it?

DR. WURZBACH: It is worded as follows: "We further recommend that the limit of deficit for the year of 1956 not exceed $15,000."

DR. MCCARTHY: You don't stipulate, in other words you would infer, that this is $15,000 that is part of the activities of the Society. Then you are limiting how much you can make. I think if you could amend that—if I could ask an amendment to the effect that the amount be left to the discretion of the Board of Trustees of the Medical Society as a loan—no, I don't think we can say that either unless we are going to say we appropriate $15,000 for something which is not really a part of our organization.

DR. WURZBACH: If you will remember at our last meeting, as I read, it was then stated that the deficit for the next year (1955) should not exceed $18,000, and I have reported that that was met; in fact that less by far was expended, approximately $12,000 only; in other words, only $2,000 of what this House gave as a limit. This is that same form of limiting clause.

DR. SAMUEL LEO, *Bronx:* I would like a point of information. If the Medical Society of the State of New York backs this insurance company, how can we anticipate the size of the loss? If we guarantee part of the insurance to back them, we have to back them to the hilt or not at all. There may be a $1,000 or even a $35,000 loss. Can you explain this point?

Dr. Wurzbach: Cash reserves are to protect those that are assured or insured. In the blood program it is practically the placing with the State Department of Insurance of a sum of money guaranteeing that there will be no loss to the subscriber or the insuree.

Dr. Solomon Schussheim, *Kings:* May I respectfully ask by what shape, manner, or form there is authority for the Medical Society of the State of New York to enter into this type of arrangement with a corporation, take moneys out of its funds, and put them aside for the functioning of a corporation that is not part of the Medical Society of the State of New York? It has always been a question in my mind how this thing has been arranged, and I have an idea that if someone were to question this type of financial arrangement through the courts we would find ourselves in the peculiar position of taking money from our members and utilizing it for a purpose that is not part of our program.

Vice-Speaker Williams: The House has voted this, in other words, this same House that is debating it now.

Dr. Schussheim: You are perfectly correct, so we voted it, but did we have the right to do it? That is the question.

Vice-Speaker Williams: The Blood Banks Commission and the corporation were set up with the aid of our counsel.

Dr. Wurzbach: By vote of this House.

Vice-Speaker Williams: At the direction of the vote of this House is a good amendment.

Dr. Freedman: Over the opposition of many.

Dr. Greenough: May I point out that the reference committee recommends that if the decision from the Insurance Department is favorable further moneys be loaned to the Blood Banks Association up to $15,000. It further recommends, I believe, that if the Insurance Department gives an adverse decision, in other words, that blood assurance is insurance, the matter be left to the Council and Trustees for implementation. It does not require that they go forward with it or cease it. It only requires that it be left to the Council and Board of Trustees to see what is the best method to proceed.

Vice-Speaker Williams: Is that a correct statement of your report, Dr. Wurzbach?

Dr. Wurzbach: It says, "we recommend that the blood assurance program be continued under the regulations as laid down by the Insurance Department and that the Council and Board of Trustees take the necessary step to implement this action."

Dr. Freedman: That is a directive.

Dr. Schussheim: I have been a little bit involved in this business with the blood assurance program and what not, but I still have not received the answer. The State Insurance Department has nothing to do with the Medical Society of the State of New York since four o'clock this afternoon. This is a problem here where we are not discussing entirely the Blood Banks Association and the use of the money that the Blood Banks Association has. We are discussing the money that we, the Medical Society of the State of New York, are handing over to a corporation, Blood Banks Association, Inc. What are we going to answer to our membership? Have we the right to do that under our charter? That has not been as yet decided.

Dr. Freedman: Might I point out that the recommendation of the reference committee and the statement of Dr. Greenough's don't jibe. As I understand the recommendation of the reference committee, it is a directive, a mandamus, that if the State Insurance Department sees in its wisdom that this program can be made an insurance program the Council and the Board of Trustees implement it. Is that right, Dr. Wurzbach?

Dr. Wurzbach: "We recommend that the blood assurance program be continued under the regulations as laid down by the Insurance Department and that the Council and Board of Trustees take the necessary steps to implement this action."

Dr. Freedman: Which means to establish this insurance company. Dr. Greenough, however, if I understood him correctly, gives the opposite impression, that it is only for the Board of Trustees and the Council to discuss this and decide whether or not to proceed. Am I correct in that, Dr. Greenough?

Dr. Greenough: I think you are correct, and I think I am incorrect.

Dr. Freedman: So the question therefore is whether or not this House, if it approves the recommendation of the reference committee is not in fact saying that an insurance company shall be established for the purpose of supplying blood, and so forth, if it can obtain a charter from the State Department of Insurance to do so.

Dr. Gerald D. Dorman, *Councillor:* Amend it to make it permissive.

Dr. Freedman: It is a little difficult at this late hour and at this late date to discuss this matter in detail. I only want to recall that I was one of those individuals who did not agree with the implementation of this thing to begin with, and the record will show that the prediction of mine came true, that the thing would run into a fortune of money, and there is no end. It is correct, as Dr. Greenough says, to stop it at this time would be a piece of very bad public relations, but I think we would be better off dropping it than getting ourselves much more deeply involved where we would find ourselves with an insurance company on our hands. I do not propose to discuss the legality of it because as you noticed this afternoon even attorneys can change their minds in the period of two minutes, so we don't know, but I think we should proceed with great caution to take another step which is possible if we approve this reference committee's report to really get us in with both feet, so I would amend the report to read that the Council and the Board of Trustees shall study this and come back with recommendations at the next House of Delegates meeting.

Vice-Speaker Williams: Is the amendment seconded?

Dr. Aaron Kottler, *Kings:* I second it.

Vice-Speaker Williams: On the amendment, Dr. Wertz.

Dr. Carlton E. Wertz, *Ex-President:* I was just going to ask the question, Dr. Wurzbach, in your report do I understand that you have recommended that the State Society would set up an insurance company if the Insurance Department so stated that this blood program was insurance?

Dr. Wurzbach: Right.

Dr. Wertz: I believe that is wrong. I believe that report should be changed. I don't think the State Medical Society could set up such an insurance company, but I think the Blood Banks Association would have to set it up outside of the State Medical Society. Is that right?

Dr. Wurzbach: It means that.

Vice-Speaker Williams: I don't think this discussion is on the amendment.

Dr. Wertz: But I think it is going to clarify some of the thinking of the House.

Dr. Wurzbach: Form an insurance company, strike out the words "Medical Society of the State of New York."

Dr. Wertz: This in fact means that the Blood Banks Association form an insurance company?

Dr. Wurzbach: Right.

Dr. Freedman: On a point of order!

Vice-Speaker Williams: I think I have to call this out of order. The amendment is before the House, and it has been seconded. Dr. Schiff has been wanting the floor for some time. Is your discussion on the amendment?

Dr. Leo F. Schiff, *Trustee:* I will make it so if the amendment is in order. Was there not another amendment before this?

Vice-Speaker Williams: No.

Dr. Leo F. Schiff: Dr. Freedman's amendment is for the Board of Trustees to study this and report back next year, as I get it, is that correct?

Dr. Freedman: The Council and the Board of Trustees, that is correct.

Dr. Leo F. Schiff: That is just out of the question. Let us defeat the amendment if we cannot get Dr. Freedman to withdraw it because we have to take some kind of action tonight. We cannot let the Blood Banks Association flounder for a whole year. Let us get back to the original motion and discuss that, and if I don't incur the ire of the speaker I would just say this: Page 1 of the Constitution states under "Name and Purpose" of the Medical Society of the State of New York as one of the purposes "to promote the betterment of public health." That is where our right to get mixed up in blood banking comes in, which is certainly for the betterment of public health.

Dr. Freedman: I knew that was going to happen. As is not infrequent, people don't listen because they are so anxious to get up and say something, they have a thought—nothing personal. I did not speak against the $15,000 which shall be loaned to the Blood Banks Association to continue, so I am not for stopping this program. It would be better if people would just listen a little closely and not take it in their heads that others are getting up here with a chip on their shoulder or trying to kill off something. I was only directing my remarks to setting up an insurance company, and I resent the implication and the direct statement that I am trying to stop anything in the way of providing blood. The Lord knows we have provided an awful lot of money for blood, and nobody as far as I am concerned is up here to stop that program. It is just to be sure we don't get involved in an insurance company, and that is all my amendment was directed to, that the matter of the insurance company be studied, not the matter of cutting off that $15,000.

Dr. Wurzbach: I would like to bring out a point. If Dr. Freedman's amendment were followed, the report would have to be held over until next year, and by that time all certificates of insurance would have run out, none could be renewed, and the plan would be deader than two door nails.

Dr. Freedman: That does not make sense.

Dr. Wurzbach: It does.

Vice-Speaker Williams: We are on the amendment. It is the speaker's concept of this thing, if the Medical Society has a component part known as the Blood Banks Commission, the Blood Banks Commission in turn nurtures and takes care of a corporation called the Blood Banks Association, is that right? I offered that to see if I could clear the air.

Dr. Greenough: That is right.

Dr. Ogden: Mr. Chairman, I stirred up this whole hornets' nest in the beginning because it seems to me the statement that Dr. Wurzbach made when he made this alternative plan, if this thinb became an insurance company we would then be in the insurance business. The reason I stirred this whole thing up is as far as I know from following this discussion for over a period of two or three years—and it has been going on that long—this is the first time it has even been suggested that the Medical Society of the State of New York become the sponsor, the owner, the man behind the scenes, or whatever you want to call it, of an insurance company. There has not been any talk of being an insurance company before tonight as far as I recall. Heretofore it has been a committee of the State Society which was going to set up a blood assurance program, which is quite different from saying we are going to be a licensed insurance company under the insurance laws of the State of New York.

Vice-Speaker Williams: I think this feature of it occurred only since our last meeting of the House, and that is why it is being taken up tonight. On the amendment of Dr. Freedman's, is there any further discussion? He wants to refer it to the Board of Trustees for study.

Dr. Dorman: I think he went beyond referring it to the Board of Trustees for study. He also stated to be referred to this House at the next meeting. If anything happens within the next month, which it might, it will mean that the hands of the Trustees and Council are tied until the next meeting of this House a year from now. Is that what your amendment refers to?

Dr. Freedman: As far as setting up an insurance company, yes.

Dr. Dorman: I would, therefore, speak against this amendment, although I feel that the idea should be permissive. I think you will find that if that takes place, it may well be that for eleven months the blood program is completely dead, and you may have to have action before it is referred back to this House a year from now. I would, therefore, speak against this amendment in its present form.

VICE-SPEAKER WILLIAMS: Is there any further discussion on the amendment?

DR. FREEDMAN: May I ask a question? It is apropos to the amendment.

VICE-SPEAKER WILLIAMS: Yes.

DR. FREEDMAN: Maybe I don't understand this whole thing. Is it true that this $15,000 is related to a deficit for the coming twelve months to run the Blood Banks Association?

DR. WURZBACH: You have already passed that.

DR. FREEDMAN: We have passed the $15,000, the money, so that this program can be continued for at least another year?

DR. WURZBACH: If it is assurance.

DR. FREEDMAN: What do you mean by "assurance"? That is what we passed.

DR. WURZBACH: If it is assurance, not insurance.

DR. FREEDMAN: What is the difference?

DR. WURZBACH: You passed this by the way: "Should the Insurance Department find that the blood assurance program is not in fact insurance, the plan could then continue as it was prior to January 12, 1956."

DR. FREEDMAN: We passed that, so that the program will continue.

DR. WURZBACH: If it is assurance.

DR. FREEDMAN: And if it is not assurance?

DR. WURZBACH: Then it becomes insurance.

DR. FREEDMAN: In other words, if the decision of the State Insurance Department is that this is not assurance but insurance, then you cannot continue the plan as it was prior to January 12, 1956?

DR. WURZBACH: That is right.

DR. FREEDMAN: Therefore you can only do it by setting up an insurance plan?

DR. WURZBACH: Right.

DR. FREEDMAN: If that is the understanding, I would then agree with Dr. Dorman not to tie the hands of the Board of Trustees but to make it permissive for them if they have to proceed that way to do so.

VICE-SPEAKER WILLIAMS: In other words, you want to withdraw your previous amendment and offer a new one?

DR. FREEDMAN: I just want to withdraw that part which says to report next year to this House.

DR. EZRA A. WOLFF, *Assistant Secretary:* The committee recommendation is to do just that.

VICE-SPEAKER WILLIAMS: I think Dr. Freedman's reasoning has brought him back to pretty nearly the same as the committee's report. I will ask Dr. Wurzbach to read his recommendations again.

DR. WURZBACH: I will go back, and read the part you have already adopted, and then continue on:

"Should the Insurance Department find that the blood assurance program is not in fact insurance, the plan would then continue as it was prior to January 12, 1956. Your reference committee believes that the gentlemen actively in charge of the blood assurance plan and the Blood Banks Commission have amply proved their integrity and their desire to proceed economically, and we recommend that the plan be continued. We further recommend that the limit of"—and I have put in "further" there to be more specific—"further deficit for the year of 1956 not exceed $15,000."

Continuing: "Should the Insurance Department find that the blood assurance program is in fact insurance, three courses of action are possible:

"1. Have a new section of Article IX of the Insurance Law enacted to cover an amended charter of the Blood Banks Association, Inc.

"2. Register with the Insurance Department and be subject to its regulations.

"3. Close out the program.

"The first and second are actually interrelated because an amended charter is the first step before registering. This in fact means that"—and to meet the objection of Dr. Ogden I have changed this from the Medical Society of the State of New York to Blood Banks Association—"the Blood Banks Association forms an insurance company, and is then subject to the regulations of the Insurance Department, close inspection of its activities and a demand for sufficient cash reserves to protect holders of blood assurance certificates. It is understood that this amount would not be less than $10,000.

"Your reference committee feels that this plan is so important in its professional and public relations implications throughout the State that we recommend that the blood assurance program be continued under the regulations as laid down by the Insurance Department, and that the Council and Board of Trustees take the necessary steps to implement this action."

DR. FREEDMAN: I withdraw my amendment because I don't understand the whole thing.

DR. SCHUSSHEIM: If the gentlemen from upstate will please permit us down here who bear the burden of much of this a little consideration, perhaps they will get what they want. Are we then to understand that we will foster an insurance company? If so, let it be known to all of us.

DR. DORMAN: Since Dr. Freedman has withdrawn his amendment, I would like to make an amendment, which would state that the Board of Trustees may implement this activity. By acting as the reference committee recommends, the reference committee is now recommending that we do this. I would like to make it permissive and make it that they may do this if at the time they decide it is advisable.

DR. GREENOUGH: I will second that.

VICE-SPEAKER WILLIAMS: On the amendment, is there any discussion? The amendment takes out the mandatory aspect of this recommendation and makes it only permissive.

DR. DORMAN: At the end it would be, "if they find it feasible."

VICE-SPEAKER WILLIAMS: You want to offer that as an amendment?

DR. DORMAN: I want to amend it by adding, "if they find it feasible."

Vice-Speaker Williams: Is there a second to the amendment?

Dr. Greenough: I second it.

Vice-Speaker Williams: Is there any discussion on the amendment? Hearing none, are you ready for the question?

Dr. John J. Masterson, *Trustee:* May I suggest to Dr. Dorman that he include in his amendment that any recommendation to the Board of Trustees for any allotment to the blood assurance program come through the Council—a recommendation from the Council to the Board of Trustees—which is the customary way for the Board of Trustees to spend any money?

Dr. Dorman: I understood that had to be.

Dr. Wurzbach: That is what it says, Council and Board of Trustees.

Vice-Speaker Williams: Is there any other discussion? I think that is covered. Is there any other discussion of Dr. Dorman's amendment?

. . . The question was called, and the amendment was put to a vote and was carried . . .

Dr. Schussheim: Record me as voting no.

Vice-Speaker Williams: Now on the original as amended. Would you read it again, as it is now?

Dr. Wurzbach: "Your reference committee feels that this plan is so important in its professional and public relations implications throughout the State that we recommend that the blood assurance program be continued under the regulations as laid down by the Insurance Department, and that the Council and Board of Trustees take the necessary steps to implement this action if they find it feasible."

Vice-Speaker Williams: Is there any further discussion?

. . . There being no further discussion, the motion as thus amended was put to a vote and was carried . . .

Dr. Schussheim: Record me as voting no.

Dr. Wurzbach: The Blood Banks Commission feels that the present commission of thirteen is too large. They feel that inasmuch as many of the members do not attend (50 per cent attendance) a commission of seven would be ample and would increase the efficiency of the commission. Your reference committee recommends that the Blood Banks Commission be composed of seven members: the president-elect (chairman), the chairmen of the Council Committees on Public Relations and Public Health and Education, and one representative each from the Red Cross, the New York State Department of Health, the Blood Banks Association of New York State, Inc., and the New York State Hospital Association.

I move the adoption of this part of the report.

Dr. A. Wilbur Duryee, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Wurzbach: I move the adoption of the report of the reference committee on blood banks as a whole, as amended.

Dr. Samuel Leo, *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was carried . . .

Dr. Schussheim: Record me as voting in the negative on that.

Section 162 (See 71)

Report of Reference Committee on Report of Council, Part IV: Narcotic Prohibition

Dr. Frederick A. Wurzbach, Jr., *Bronx:* Resolution Public Health Activities C—56–32: Your reference committee accepts the intent of this resolution, but has rewritten the resolution and moves it be accepted in the following form:

> Whereas, we have now had in the United States more than forty years of experience with the attempt to solve the narcotic problem by the prohibition method; and
>
> Whereas, it is apparent beyond reasonable doubt that prohibition as applied to the narcotic problem has been a failure; and
>
> Whereas, this failure is fully confirmed by recent official studies such as the Report on Narcotic Addiction in New York State in 1955, by the Attorney General of the State of New York and by official testimony recently given before a committee of Congress; and
>
> Whereas, the outstanding result of the attempt to control the narcotic problem by prohibition has been the transfer of the addict from the status of an unfortunate invalid needing sound medical care and advice to the status of a social outcast and a criminal—a victim of both the law and the underworld—and more often than not compelled to peddle narcotics to an ever-increasing circle of users in order that he may earn the amount of the drug required for his own use; and
>
> Whereas, the pre-Harrison Act addict was a rather harmless individual requiring more or less of the drug to keep him going; and
>
> Whereas, history tells us that, except for certain religious taboos, the many attempts in the past to control human conduct by means of prohibitions, including our own recent experience with alcohol prohibition, have practically all of them resulted in failure and that the over-all pattern of failure has been practically the same in each case; and
>
> Whereas, information from Canada, England, and other countries where they have no narcotic prohibition indicates that in these countries there has been no comparable increase in narcotic addiction; therefore, be it hereby
>
> *Resolved*, that the Medical Society of the State of New York institute a thorough objective study of the whole problem of narcotic addiction; and be it further
>
> *Resolved*, that the American Medical Association be appraised of this action on the part of the Medical Society of the State of New York.

I move the adoption of this resolution as rewritten by the reference committee.

Dr. Samuel Leo, *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 163 (See 77)

Report of Reference Committee on Report of Council, Part IV: Approval of Alaska Mental Health Bill

Dr. Frederick A. Wurzbach, Jr., *Bronx:* Resolution 56–38, "Approval of Alaska Mental Health Bill," introduced by Dr. Shea: Your reference committee accepts the intent of this resolution, but has made certain changes and moves that it be accepted in the following form:

> Whereas, a bill HR 6376, otherwise known as the Alaska Mental Health Bill, has been passed by the House of Representatives of the United States without dissent; and
>
> Whereas, the bill is now before the Senate Committee on Interior and Insular Affairs; and
>
> Whereas, this bill provides for construction and maintenance of a public mental hospital and the establishment of mental health facilities in the Territory of Alaska, where none such now exist; and
>
> Whereas, this bill also provides for a change in commitment proceedings, those presently existing in the Territory of Alaska providing only mandatory jury trial for the certification of the mentally ill, an obviously obsolete commitment procedure; and
>
> Whereas, it is highly desirable that the Senate of the United States adopt this bill if amended to be applicable only to citizens of the Territory of Alaska (amendment presented by Senator Malone of Nevada); therefore, be it hereby
>
> *Resolved*, that the House of Delegates of the Medical Society of the State of New York record its approval of this bill if so amended; and be it further
>
> *Resolved*, that the secretary of the Medical Society of the State of New York be directed to communicate such approval at once to the Senators from New York State.

I move the adoption of this resolution as presented by the reference committee.

Dr. Charles E. Spratt, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Wurzbach: I move the adoption of the entire report, as amended—the report of the whole, as amended.

Dr. Philip D. Allen, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Wurzbach: I would like to especially thank all of those who appeared before the committee to present facts for us to study, and especially wish to thank the members of the committee who worked so long and so hard on this, Alfred A. Angrist, Morris Maslon, Edward F. Shea, and A. Wilbur Duryee. (*Applause*)

Vice-Speaker Williams: Thank you very much, Dr. Wurzbach.

Members of the House, according to the Constitution and Bylaws tomorrow morning at 9 o'clock the piece d'resistance, the election.

We stand recessed, ladies and gentlemen.

. . . The session adjourned at 11:35 P.M. . . .

Morning Session

Wednesday, May 9, 1956

The session convened at 9:20 A.M.

Speaker Holcomb: The House will be in order.

Section 164

Announcements

Speaker Holcomb: The speaker has a few announcements to make.

Immediately after the adjournment of the House, we will have a meeting of the Council at about 2 o'clock in the Headquarters Room on the 18th floor.

Following the Council meeting, there will be a meeting of the Board of Trustees.

I would like now to recognize Dr. Wurzbach, who has some bit of sales talk to give us.

Dr. Frederick A. Wurzbach, Jr., *Bronx:* Mr. Speaker, ladies and gentlemen, the sale of tickets has been going along at a very good pace. I know there will be a very good turnout this evening, but I do wish you would make your arrangements this morning before you leave the House, before the session ends. The most important thing and the most difficult thing for the committee is the seating arrangements. Will you kindly let the young ladies outside or any one of the men from the main office have your preference for seating, because we cannot change it around when you come into dinner this evening. So please get your tickets before the close of this session and make your arrangements for seating.

Speaker Holcomb: Thank you, Dr. Wurzbach.

Section 165 (See 175)

Election: Nominations and Balloting

Speaker Holcomb: Dr. McCarty, is there a quorum present?

Dr. Charles F. McCarty, *Kings:* There were 155 in at 9:15; 100 is a quorum.

Speaker Holcomb: Thank you, Dr. McCarty.

A quorum is present. Our first order of business this morning is the election of officers. The report of the Nominating Committee has been published. It will not be necessary for Dr. Mellen to report on that. Also the supplementary report has been read and accepted by the House.

The chair wishes to announce that for the first time this year we have ballots that have been printed, and those will be distributed.

Nomination for president-elect as offered by the Nominating Committee, Dr. Thurman B. Givan, of Kings. Are there any further nominations for the office of president-elect?

Dr. Samuel Z. Freedman, *Assistant Treasurer:* I move the nominations for that office be closed.

Dr. Samuel B. Burk, *New York:* I second the motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Speaker Holcomb: Dr. Thomas M. Watkins, of St. Lawrence County, is nominated as vice-president. Are there any further nominations?

Dr. Gerald D. Dorman, *Councillor:* I move the nominations for vice-president be closed.

Dr. Philip D. Allen, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Speaker Holcomb: The Nominating Committee has placed in nomination the name of Dr. Walter P. Anderton as secretary. Are there further nominations?

Dr. Adelaide Romaine, *New York:* I move the nominations for secretary be closed.

Dr. Joseph E. Corr, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Speaker Holcomb: For assistant secretary the Nominating Committee has nominated Dr. Ezra A. Wolff, of Queens. Are there further nominations?

Dr. Thomas M. d'Angelo, *Queens:* I move the nominations for assistant secretary be closed.

Dr. Frank J. Cerniglia, *Queens:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Speaker Holcomb: For treasurer, there has been nominated by the Nominating Committee Dr. Maurice J. Dattelbaum, of Kings County. Are there any further nominations?

Dr. Irving J. Sands, *Kings:* I move the nominations for treasurer be closed.

Dr. Abraham D. Segal, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Speaker Holcomb: For assistant treasurer, Dr. Samuel Z. Freedman, of New York County.

Dr. Theresa Scanlan, *New York:* I move the nominations be closed.

Dr. Peter M. Murray, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Vice-Speaker Williams: Dr. Frederic W. Holcomb has been nominated for speaker by the Nominating Committee. Are there any further nominations for speaker?

Dr. Gerald D. Dorman, *Councillor:* I move the nominations for speaker be closed.

Dr. William B. Rawls, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Speaker Holcomb: The Nominating Committee has nominated Dr. Frederick W. Williams for vice-speaker. Are there any further nominations?

Dr. Irving J. Sands, *Kings:* I move the nominations for vice-speaker be closed.

Dr. Edward P. Flood, *Bronx:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Speaker Holcomb: Are there any further nominations for councillors?

Secretary Anderton: That is further down. The next are the two trustees.

Speaker Holcomb: In the supplementary report of the Nominating Committee Dr. Dan Mellen was nominated as trustee for five years. Are there any further nominations?

Secretary Anderton: I am sorry, Dr. Dan Mellen was nominated for three years.

Speaker Holcomb: Maybe there is a mistake in the ballot. That should be corrected in the ballot.

Secretary Anderton: It is blank (*indicating ballot*).

Speaker Holcomb: The chair is in error. For trustee, according to the supplementary report of the Nominating Committee, Dr. Renato J. Azzari is nominated as trustee for five years. Are there any further nominations?

Dr. Moses H. Krakow, *Bronx:* I move the nominations be closed.

Secretary Anderton: I second the motion.

. . .There being no discussion, the motion was put to a vote and was unanimously carried . . .

Speaker Holcomb: Trustee for three years is Dr. Dan Mellen. Are there any other nominations?

Dr. Frederick A. Wurzbach, Jr., *Bronx:* I move the nominations be closed.

Dr. Abraham D. Segal. *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Speaker Holcomb: The Nominating Committee has nominated for councillors four for a period of three years:

Peter J. DiNatale
Henry I. Fineberg
John F. Rogers
Floyd S. Winslow

Are there any further nominations for the office of councillor for a period of three years?

Dr. Frank J. Cerniglia, *Queens:* I move the nominations be closed.

Dr. Freedman: I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Speaker Holcomb: Nomination for councillor for two years, Dr. John C. McClintock of Albany.

Dr. Gerald D. Dorman, *New York:* I move the nominations be closed.

Dr. Peter M. Murray, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Speaker Holcomb: Delegates to the American Medical Association, nominated by the Nominating Committee:

W. P. Anderton, New York
Herbert H. Bauckus, Erie
Thomas M. d'Angelo, Queens

Dr. Thomas M. d'Angelo, *Queens:* Mr. Speaker, I have written a letter having my name withdrawn. I withdraw my name.

Speaker Holcomb: Dr. d'Angelo withdraws his name as delegate to the A.M.A.

Continuing the nominations:

Gerald D. Dorman, New York
Edward P. Flood, Bronx
John M. Galbraith, Nassau
Thurman B. Givan, Kings
Harry Golembe, Sullivan
Joseph A. Lane, Monroe.

Are there any further nominations?

Secretary Anderton: That is not the complete list. There are more on the other side.

Speaker Holcomb: I thought they were alternates.

Speaker Anderton: No.

Speaker Holcomb: Continuing:

John J. Masterson, Kings
William B. Rawls, New York
Leo F. Schiff, Clinton
Earl C. Waterbury, Orange
Carlton E. Wertz, Erie
Floyd S. Winslow, Monroe
Ezra A. Wolff, Queens
Christopher Wood, Westchester
Frederick A. Wurzbach, Jr., Bronx.

Dr. Frederick A. Wurzbach, *Bronx:* Mr. Speaker, I ask that my name be withdrawn from this list.

Speaker Holcomb: Dr. Wurzbach's name has been withdrawn from the list of nominations for American Medical Association delegates.

Are there any further nominations for delegates to the American Medical Association?

Dr. Gerald D. Dorman, *New York:* I move the nominations be closed.

Speaker Holcomb: Is there a second?

Dr. Moses H. Krakow, *Bronx:* I second it.

Speaker Holcomb: Those in favor of closing the nominations will say "Aye"; opposed "No." The nominations are closed.

Dr. Dorman: I move that the secretary cast one ballot where there is no opposition.

Dr. A. Wilbur Duryee: I second that.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Speaker Holcomb: I now declare elected:

President-Elect—Thurman B. Givan
Vice-President—Thomas M. Watkins
Secretary—W. P. Anderton
Assistant Secretary—Ezra A. Wolff
Treasurer—Maurice J. Dattelbaum
Assistant Treasurer—Samuel Z. Freedman
Speaker—Frederic W. Holcomb
Vice-Speaker—Frederick W. Williams
Trustee for Five Years—Renato J. Azzari
Trustee for Three Years—Dan Mellen
Councillors for Three Years—Peter J. DiNatale, Henry I. Fineberg, John F. Rogers, Floyd S. Winslow
Councillor for Two Years—John C. McClintock
(*Applause*)

Dr. Wolff will read the list of tellers.

Dr. Ezra A. Wolff, *Assistant Secretary:* Mr. Speaker, the following have been designated as tellers of election:

Leonard J. Schiff, Clinton, Fourth District
Vincent J. Collins, Anesthesiology
Garra L. Lester, General Practice
Frank J. Borrelli, Radiology
James A. Moore, Albany
Henry J. Barrow, Bronx
Charles Sandler, Bronx
John A. Kalb, Broome
R. Scott Howland, Chemung
Edward Siegel, Clinton
Maxwell Gosse, Dutchess
John C. Brady, Erie
Alfred L. George, Genesee
George A. Burgin, Herkimer
Arthur P. Kane, Kings
Gordon M. Hemmett, Monroe
E. Kenneth Horton, Nassau
Paul H. Sullivan, Nassau
George Himler, New York
Thomas H. McGavack, New York
William L. Wheeler, Jr., New York
Guy S. Philbrick, Niagara
Arthur F. Gaffney, Oneida
William E. Pelow, Onondaga
Philip M. Standish, Ontario
Irving Weiner, Orange
Olin J. Mowry, Oswego
Sol Axelrad, Queens
George J. Lawrence, Jr., Queens
Richard P. Doody, Rensselaer
Walter T. Heldmann, Richmond

Speaker Holcomb: I think we have thirty now. The House will be in order, please.

Speaker Holcomb: Dr. Heyd moves that we reopen the nominations for A.M.A. delegates.

Dr. Charles F. McCarty, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Speaker Holcomb: The chair is now open for two further nominations for the office of delegate to the A.M.A. Do I hear any nominations?

Dr. Felix Ottaviano, *Madison:* I should like to nominate Dr. John F. Kelley, of Oneida.

Speaker Holcomb: Dr. John F. Kelley, of Oneida, has been nominated.

Dr. Charles Gordon Heyd, *Ex-President:* I second Dr. Kelley's nomination.

Speaker Holcomb: The chair wants at least one further nomination for delegate to the A.M.A.

Dr. Arthur J. Bedell, *Ex-President:* I nominate Dr. John L. Edwards, of Hudson, Columbia County.

Dr. Charles Gordon Heyd, *Ex-President:* I second it.

Speaker Holcomb: Dr. John L. Edwards has been nominated.

The chair will now entertain a motion to close nominations.

Dr. Freedman: I so move.

Dr. McCarty: I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Speaker Holcomb: The speaker wishes to announce that Dr. Anderton will write the names of the two additional nominees on the board so that they will be in full view. I think that will cover it.

Dr. Rawls: You don't have to write them on each ballot. They can be put on the board as we have done it in the past.

Dr. Wolff: If they want to vote for them, they will have to put the name on the ballot.

Speaker Holcomb: Naturally it is expected that the delegates will write the name on the ballot if they wish to vote for them. There is a space left for further nominations. You can have a write-in on any ballot. I believe that is perfectly legal.

Speaker Holcomb: The chair wishes to announce that Dr. Pelow's name was called and he was appointed as a teller. I am going to ask Dr. Wolff to read an additional name because I want Dr. Pelow to present his report. Will you read a further name, and I will replace Dr. Pelow?

Assistant Secretary Wolff: George Gordon Knight, of Rockland.

Speaker Holcomb: Dr. Knight, you are appointed a teller in place of Dr. Pelow.

The chair wishes to announce that the tellers will report to Dr. McCarty at Penn Top North (that is the room in back of this) to count the ballots. Will you please come up the center aisle when you vote?

. . . The names of nominees for A.M.A. Delegates in alphabetic order were placed on a blackboard in view of the delegates . . .

Dr. McCarty: Has everybody in the room that is entitled to vote a ballot?

Speaker Holcomb: Has everybody a ballot? Are you ready to vote?

Will the House be in order, so they can hear the roll called? Dr. Wolff, will you please read the roll?

. . . When the assistant secretary read the following list of those entitled to vote their ballots were cast into the ballot box.

Officers, Councillors, Trustees

Renato J. Azzari
James Greenough
Herbert Berger
W. P. Anderton
Ezra A. Wolff
Maurice J. Dattelbaum
Samuel Z. Freedman
Frederic W. Holcomb
Gerald D. Dorman
Leo E. Gibson
Thurman B. Givan
Raymond S. McKeeby
Harold F. Brown
Theodore J. Curphey
Norman S. Moore
John C. McClintock
Frederick W. Williams
Peter J. DiNatale
Henry I. Fineberg
Scott Lord Smith
Floyd S. Winslow
John J. Masterson
J. Stanley Kenney
Leo F. Schiff
Walter W. Mott
Dan Mellen
Herbert H. Backus

Ex-Presidents

Thomas H. Halsted
Orrin Sage Wightman
Chas. Gordon Heyd
Arthur J. Bedell
Louis H. Bauer
Carlton E. Wertz
Edward T. Wentworth
Andrew A. Eggston

Commissioner, New York State Department of Health

Herman E. Hilleboe

District Delegates

Charles W. Mueller
Leo T. Flood
Leonard J. Schiff
Donald C. Tulloch
Gilbert M. Palen
Eldred J. Stevens
Sydney L. McLouth
Harold S. Heller

Section Delegates

Max Harten
Vincent J. Collins
Harry Golembe
George M. Lewis
Charles A. Flood
Garra L. Lester
James H. Sterner
Edward D. Cook
Arthur D. Ecker
Raymond J. Pieri
John F. Gipner
Frederick Lee Liebolt
Benjamin M. Volk
Harry P. Smith
Harold W. Dargeon
Jerome S. Tobis
Joseph H. Kinnaman
Frank J. Borrelli
John Burke
Dean Makowski

Delegates from Component County Societies

Albany (4)
John G. McKeon
James A. Moore
William C. Rausch
Arthur J. Sullivan

Allegany (1)
Irwin Felsen

Bronx (13)
Joseph P. Alvich
Henry J. Barrow
Edward P. Flood
Charles W. Frank
George A. Howley
Moses H. Krakow
Frank LaGattuta
Samuel Leo
Thomas F. McCarthy
Charles Sandler
Abraham B. Tamis
Samuel Wagreich
Frederick A. Wurzbach, Jr.

Broome (3)
Elton R. Dickson
Leonard J. Flanagan
John A. Kalb

Cattaraugus (1)
Joseph A. Wintermantel

Cayuga (1)
Bernard J. Hartnett

Chautauqua (2)
Robert R. Northrup
Edward L. Schwabe

Chemung (2)
Ross E. Hobler
R. Scott Howland

Chenango (1)
Norman C. Lyster

Clinton (1)
Edward Siegel

Columbia (1)
John L. Edwards

Cortland (1)
George F. Nevin

Delaware (1)
Philip Hust

Dutchess (3)
Maxwell Gosse
Frank Starpoli
John F. Rogers

Erie (8)
E. Dean Babbage
Antonio F. Bellanca
Virgil H. F. Boeck
John C. Brady
Thomas S. Bumbalo
Stephen A. Graczyk
Samuel Sanes
Walter Scott Walls

Essex (1)
James E. Glavin

Franklin (1)
Cordt E. Rose

Fulton (1)
Sylvester C. Clemans

Genesee (1)
Alfred L. George

Greene (1)
Kenneth F. Bott

Herkimer (1)
George A. Burgin

Jefferson (1)
Charles A. Prudhon

Kings (24)
Louis Berger
Benjamin M. Bernstein
Ben A. Borkow
Leo S. Drexler
Frederic Elliott
David Farber
John J. Flynn
Alfred P. Ingegno
Arthur P. Kane
David Kershner
Aaron Kottler
Arthur Lamb
Isaac Levine
Charles H. Loughran
Harry A. Mackler
John G. Masterson
Charles F. McCarty
David B. Monheit
Irving J. Sands
Solomon Schussheim
Abraham D. Segal
Milton B. Spiegel
Charles E. Spratt
Robert F. Warren

Lewis (1)
Edgar O. Boggs

Livingston (1)
F. L. Armstrong

Madison (1)
Felix Ottaviano

Monroe (6)
Henry B. Crawford
Gordon M. Hemmett
Donovan M. Jenkins
Lawrence A. Kohn
Joseph A. Lane
Roland E. Stevens, Jr.

Montgomery (1)
Martin F. Geruso

Nassau (7)
Gerard V. Farinola
John M. Galbraith
Stephen F. Gerde
E. Kenneth Horton
Percival A. Robin
Paul H. Sullivan
Joseph G. Zimring

New York (25)
Philip D. Allen
Samuel B. Burk
Joseph E. Corr
C. Joseph Delaney
A. Wilbur Duryee
James H. Ewing
George W. Fish
Samuel Frant
Frances A. Harmatuk
George Himler
John J. H. Keating
Ely Elliott Lazarus
William Hall Lewis, Jr.
John L. Madden
Thomas H. McGavack
Peter M. Murray
Herbert S. Ogden
Henry T. Randall
William B. Rawls
Adelaide Romaine
Theresa Scanlan
William L. Wheeler, Jr.
W. Laurence Whittemore
Beverly C. Smith
John Sutton

Niagara (2)
John C. Kinzly
Guy S. Philbrick

Oneida (3)
John S. Fitzgerald
Arthur F. Gaffney
John F. Kelley

Onondaga (5)
Irving L. Ershler
William J. Michaels, Jr.
Donald E. Moore
William E. Pelow
W. Walter Street

Ontario (2)
Robert E. Doran
Philip M. Standish

Orange (3)
Robert J. Hewson
Theodore R. Proper
Irving Weiner

Orleans (1)
Angelo F. Leone

Oswego (1)
Olin J. Mowry

Otsego (1)
John W. Latcher

Putnam (1)
Robert S. Cleaver

Queens (13)
Alfred A. Angrist
Sol Axelrad
William Benenson
Monroe M. Broad
Frank J. Cerniglia
Meyeron Coe
Thomas M. d'Angelo
Albert H. Douglas
John L. Finnegan
Ferdinand H. Herrman
George J. Lawrence, Jr.
John Edward Lowry
Anthony A. Mira

Rensselaer (2)
Gilbert A. Clark
Richard P. Doody

Richmond (3)
Walter T. Heldmann
Frank Tellefsen
Leif G. Jensen

Rockland (2)
Harold W. Grosselfinger
George Gordon Knight

St. Lawrence (1)
Thomas M. Watkins

Saratoga (1)
Webster M. Moriarta

Schenectady (3)
James M. Blake
Raymond J. Byron
Donald C. Walker

Schoharie (1)
John H. Wadsworth

Schuyler (1)
A. Duncan McCarthy

Seneca (1)
Stanley B. Folts

Steuben (2)
Thomas S. Cotton
Maynard W. Gurnsey

Suffolk (4)
Francis J. O'Neill
John L. Sengstack
Sol Shlimbaum
David J. Wexler

Sullivan (1)
S. Elizabeth Vuornos

Tioga (1)
Frederick K. Shaw

Tompkins (1)
C. Stewart Wallace

Ulster (2)
Eugene F. Galvin
Edward F. Shea

Warren (1)
Morris Maslon

Washington (1)
Walter S. Bennett

Wayne (1)
James H. Arseneau

Westchester (7)
John N. Dill
Reid R. Heffner
Donald R. Reed
William P. Reed
Hollis K. Russell
Waring Willis
Christopher Wood

Wyoming (1)
Willard J. Chapin

Yates (1)
William G. Roberts

SPEAKER HOLCOMB: A final question: Has everyone voted? If so, I declare the polls closed.

The Judicial Council will meet at 5 P.M. in the Headquarters Room.

Section 166 (See 109, 133)

Authorization to Call Meeting of House of Delegates in February, 1957

SPEAKER HOLCOMB: The House will be in order. The chair recognizes Dr. Louis Bauer, who has a motion that he will place before the House.

DR. LOUIS H. BAUER, *Ex-President:* Mr. Speaker and delegates, you all heard of staircase wit, that is a smart reply you should have thought of during the evening and you only think of going upstairs. I had a bit of that last night about this situation for next year's meeting in February and May. Everything we did yesterday is perfectly in order except one thing, and that is it does say— and this was brought out although nothing was done about it—that "the annual meeting of the House shall be held at the call of the Speaker at least two, and not more than four, days before the annual meeting of the Society. The sessions of the House of Delegates may be adjourned from time to time as may be necessary."

I would, therefore, think it would be advisable if this House would instruct the speaker and the secretary to call a meeting of the House for February, but that there be incorporated in the notice that no business will be transacted and the meeting will be adjourned until May. In that way you have covered the provisions of the Bylaws and there can be no question of the legality of the May meeting. So, Mr. Speaker, I would move that this House go on record instructing the speaker and the secretary to call a meeting of this House in February, but that there be incorporated in the notice no business will be transacted thereat and the meeting will be immediately adjourned until May.

DR. A. WILBUR DURYEE, *New York:* I second that motion.

SPEAKER HOLCOMB: The chair and I think all of us owe a vote of thanks to Dr. Bauer for his usual acumen in picking up things of this kind.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 167 Resolution 56–40

Selection of A.M.A. Delegates

Introduced by Dr. George Himler, *New York*

Speaker Holcomb: The chair wishes to recognize Dr. Himler, of New York, who has a resolution to present at this time. The chair did not, as we usually do, stop the introduction of resolutions yesterday afternoon. That was, perhaps, my omission. Therefore, I will now announce that following the introduction of Dr. Himler's resolution the chair will entertain no further resolutions.

Dr. George Himler, *New York:* Mr. Speaker, this is a resolution, the subject of which is "Selection of A.M.A. Delegates." This is a proposed amendment to the Constitution and Bylaws, and it reads as follows:

> Whereas, the principal officers of the Medical Society of the State of New York—the president, the president-elect, and the secretary—are representative of the entire membership and no particular section thereof; and
>
> Whereas, it is desirable that the above-mentioned officers represent the Society at every meeting of the house of delegates of the American Medical Association; now therefore be it hereby
>
> *Resolved*, that the Constitution and Bylaws be amended to provide that these officers be, by virtue of their office, declared delegates from the Medical Society of the State of New York to the house of delegates of the American Medical Association.

Mr. Speaker, I wish to give notice this is a proposed amendment to the Constitution and Bylaws, and I understand it will lay over for one year and be voted on at the next meeting of the House.

Speaker Holcomb: That is true. That is referred to the special committee of which Dr. Aaron is chairman.

Dr. Alfred P. Ingegno, *Kings:* Wasn't there something passed by this House which required that the specific wording of an amendment be proposed, or was that not passed?

Assistant Secretary Wolff: It is in for next year.

Speaker Holcomb: Yes, that is in for next year.

Dr. William B. Rawls, *New York:* In view of the question just raised, I would like to have a ruling from the chair. Do the amendments to the Constitution and Bylaws that have not been printed as yet apply at this meeting? If so, according to the question raised this wording would have to be changed. Will this be accepted to be voted on next year? I would like a ruling of the chair at this time on that.

Speaker Holcomb: This resolution will be turned over to Dr. Aaron's committee, and will then be printed and presented to the House of Delegates. It will not be enforced until the year after next. I believe that is the procedure.

Dr. Louis H. Bauer, *Ex-President:* I think that ruling is in error, Mr. Speaker. All that is necessary is to give notice of intent to amend the Bylaws, and the substance of the amendment as provided. The notice of the proposed amendment shall be given at a previous annual meeting of the House of Delegates, and before the same can be acted upon it shall be published once before the annual meeting in the official bulletin or journal of the Society.

Dr. Himler has now given notice that he wishes to have the Bylaws amended. It, therefore, can be acted on next year at the meeting, and will become effective as soon as it is adopted.

Speaker Holcomb: Thank you, Dr. Bauer. The chair was in error. I will accept that correction.

Dr. Wolff is recognized.

Assistant Secretary Wolff: I am glad that Dr. Bauer brought up that point. The intent of the amendment which I introduced yesterday was to provide that the actual wording of a proposed constitutional amendment be placed before this House one year before it is actually acted upon. This provision about notice is ambiguous.

If I may expound on the philosophy of that particular part of the Constitution, the idea of notice in advance is that everybody shall know and have time for due consideration of any proposed amendment. The Constitution should be a stable document and should not be allowed to be changed on short notice, and for that reason the requirement for previous notice is included.

This has always been interpreted in this House as meaning simply notice of an amendment is sufficient to give you power to introduce an amendment in specific terms at a later date. I have always felt that this was wrong, that the House should know one year in advance exactly the wording or any modification thereof which is deemed proper that will be voted on the following year, and so I trust that when this amendment comes up next year you will bear that in mind, and I think that will resolve the problem at that time. Thank you.

Speaker Holcomb: Thank you, Dr. Wolff.

Dr. Rawls: The question I put has not been answered. The amendment is up for a vote for next year, so we do not have to conform now to Dr. Wolff's correction. The old Constitution and Bylaws still hold, so that is correct.

Speaker Holcomb: That is right.

Section 168

Votes of Thanks

Secretary Anderton: Mr. Speaker, I move thanks to the Committee on Scientific Program:

> *Resolved*, that the Subcommittee on Scientific Program, Dr. Alfred P. Ingegno, chairman, is hereby thanked in the name of the Society.

Vice Speaker Williams: I second that.

. . . .There being no discussion, the motion was put to a vote and was unanimously carried . . .

Secretary Anderton: Mr. Speaker, I move thanks to the Convention Committee:

> *Resolved*, that a vote of thanks is hereby extended to Dr. Samuel Z. Freedman, chairman, his

committee and subcommittees, for their splendid work in connection with this very successful convention.

Dr. Gerald D. Dorman, *Councillor:* I second that.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Secretary Anderton: Mr. Speaker, I move thanks to the office staff:

> *Resolved*, that a vote of thanks is hereby extended to the group from the headquarters who have worked so diligently in preparation for and in the success of this convention.

Vice-Speaker Williams: I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . . (*Applause*)

Secretary Anderton: Mr. Speaker, I move thanks to the Woman's Auxiliary:

> *Resolved*, that the Woman's Auxiliary to the Medical Society of the State of New York is hereby thanked for its wholehearted and cheerful cooperation in helping to bring success to this convention.

Dr. Dorman: I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Secretary Anderton: Mr. Speaker, there is moved thanks to the business manager of the convention:

> *Resolved*, that Mr. Charles L. Baldwin is hereby thanked in the name of the Medical Society of the State of New York for his diligent efforts in behalf of the 1956 convention and for the successful fruition of its endeavors.

Dr. Dorman: I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Secretary Anderton: There is moved thanks to the hotel management:

> *Resolved*, that the management of the Hotel Statler, New York City, is hereby extended a vote of thanks for the way they have taken care of us.

Dr. John J. H. Keating, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Secretary Anderton: Also there is offered a resolution of thanks to the Subcommittee on Scientific Exhibits:

> *Resolved*, that this House gives a vote of thanks to Dr. William Watson, chairman, Dr. Beverly C. Smith, cochairman, and the other members of this committee. The scientific judgment exhibited by these gentlemen in selecting and planning the scientific exhibits has done much to further the success of this convention.

Dr. Dorman: I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Secretary Anderton: And in conclusion, sir, I move a vote of thanks to Mr. Thomas E. Alexander:

> *Resolved*, that this House of Delegates, extend to Mr. Thomas E. Alexander, office manager, our thanks for his valuable and capable assistance at this convention.

Dr. Peter M. Murray, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Vice-Speaker Williams: Mr. Speaker and members of the House, I would like to introduce a resolution of thanks to our genial and able secretary.

Speaker Holcomb: I know that is seconded.

. . . The motion was carried by acclamation amid applause . . .

Recognition of Dr. Arthur J. Bedell

Speaker Holcomb: The chair at this time would like to extend an invitation to one of our former presidents who has the distinction of having served fifty years in this House of Delegates to speak to us. I think his first visit as a delegate from Albany County was in 1906, and that was a long time ago. Dr. Bedell, will you please come up to the rostrum so we can see you. (*Applause*)

Dr. Arthur J. Bedell: Mr. Speaker, I am sure that you are all tired. I am very glad to be here, very glad to have survived, and to tell you that I am still in active practice. You may send your patients to the same address. Many of them may come. (*Laughter*)

I am, however, very happy today to know that you are operating in the black instead of in the red. May you continue!

Thank you!

. . . . The delegates arose and applauded . . .

Speaker Holcomb: Dr. Bedell, I don't think any meeting of the House of Delegates would be complete without seeing you and being able to greet you.

Section 170 (See 103)

Permission Granted to Add to Resolution 56–39

Dr. Ezra A. Wolff, *Assistant Secretary:* Mr. Speaker and members of the House, I should like to ask your permission to correct an oversight in the proposed amendment which I referred to a minute ago. By inadvertence there was a phrase left out, which I should like your permission to incorporate in the second part of the proposed amendment to the Bylaws. I should have included after "amendments to these Bylaws" the phrase "or the *Principles of Professional Conduct.*" May I ask your permission to have that inserted. It is on 56–39.

Speaker Holcomb: That is not Dr. Himler's resolution?

Dr. Wolff: No, resolution 56–39. I move the introduction of that additional phrase if I may.

Dr. Frank J. Cerniglia, *Queens:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 171

Motion to Edit Minutes

Dr. Renato J. Azzari, *President:* I should like to move at this time that the secretary be authorized to edit the minutes of this meeting for publication.

Speaker Holcomb: That is customary I believe. Is there a second?

Dr. Gerald D. Dorman, *Councillor:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Speaker Holcomb: Thank you, Dr. Azzari.

Section 172

Vote of Thanks to Speaker and Vice-Speaker

Secretary Anderton: Mr. Speaker, not infrequently words fail me, and in this resolution I am sure I am speaking for the House that words fail all of us. I move a vote of thanks to the speaker and the vice-speaker for their exceedingly efficient, kind, thoughtful, patient way in which they have conducted this meeting.

Dr. Gerald D. Dorman, *Councillor:* I second it.

. . . The motion was carried by acclamation amid applause . . .

Speaker Holcomb: Thank you, Dr. Anderton.

As I have remarked before, when we practice parliamentary law or try to use the principles of parliamentary law for two and one-half days a year out of the three hundred sixty-five I think it is only in very rare instances you find an extremely able parliamentarian developed along those lines. I admit very humbly that I am not one of those, and I have always been very happy, and willing and eager, to accept help from this House of Delegates. (*Applause*)

The chair will call a recess for about ten minutes. Please don't go too far away. We have one more report to hear from Dr. Pelow, and we hope if we have a few moments' relaxation it can be solved without too great delay.

. . . Recess . . .

Speaker Holcomb: The House will be in order.

We have two matters to be presented to the House before the election returns are in.

Section 173

Election of Retired Members

Speaker Holcomb: First, Dr. Anderton will read the list of retired members, which are in addition to those published. We have an additional list, Dr. Anderton.

Secretary Anderton: I move the election to retired membership of the gentlemen whose names are printed in the program book, with the exception of:

E. Leslie Burwell
Charles C. Lieb
John R. Whisenant

who unfortunately are deceased.

Dr. Arthur J. Bedell, *Ex-President:* I second that motion.

. . . There being no discussion, the motion was put to a vote and was unanimously carried, the names referred to in the motion being:

Samuel M. Allerton, Chenango Bridge
Joseph Louis Ameno, New York City
Harry Apfel, Brooklyn
Earl E. Babcock, Adams Center
Herman Ballen, Bronx
Frank Barber, Lima
Michael H. Barsky, New York City
Anthony Bassler, New York City
Gaetano Beccari, New York City
George Everett Beilby, Slingerlands
Raphael Bellantoni, Tuckahoe
Abraham J. Beller, Philadelphia, Pennsylvania
George M. Bennett, Bronx
Henri I. Berlowe, White Plains
Max Bernstein, New York City
Walter F. Bopp, New York City
William Braunstein, Long Island City
Knox Brittain, Spencerport
Joseph Bruder, New York City
Dever S. Byard, New York City
Walter A. Calihan, Rochester
Arthur S. Calman, New York City
Anthony J. Cetola, Buffalo
Frederick E. Clark, Ogdensburg
William Addison Clay, Rochester
Robert Anderson Cooke, New York City
Burrill Bernard Crohn, New York City
John Homer Cudmore, New York City
Walter Taylor Dannreuther, New York City
Augustus F. Dempewolff, New York City
Benjamin Diamond, Bronx
Louis Dlugasch, New York City
William J. Doerfler, Hastings-on-Hudson
Phebe L. Du Bois, New York City
Benedict J. Duffy, Rochester
Thaddeus K. Dzierzkowski, New York City
Ernest R. Eaton, New York City
Mary Lee Edward, New York City
Carl Eggers, New York City
Adolph Eisenbud, West Hempstead
Abraham Fischer, Rochester
Judson Cook Fisher, Orlando, Florida
Arnold Galambos, New York City
Abraham L. Garbat, New York City
Bennett George Gerzog, Brooklyn
Joseph P. Gimbrone, East Amherst
William Goldstein, Bronx
Thomas Arthur Gonzales, New York City
Henry Flack Graham, Brooklyn
Arthur C. Graves, Brooklyn
John G. Grotz, Buffalo
Isaac Hartshorne, New York City
Barton F. Hauenstein, Orchard Park
William Hall Hawkins, Mount Kisco
Everett M. Hawks, New York City
Ralph A. Hayt, Fishkill
John B. Healy, Babylon
J. Mott Heath, Greenport
Hildegard Heim, New York City
Hyman Hershberg, Bronx
George A. Hicks, Rochester
William Henry Hobbs, Binghamton
William A. Holla, White Plains
John R. Honiss, Rochester
Abraham Hyman, New York City
Charles Hyman, New York City
Gennaro Ippolito, New York City
Isidore Josephson, Bronx
Alfred M. Katzenstein, New York City
Samuel M. Kaufman, New York City
Julius Kaunitz, New York City
William Moore Kelly, Harwichport, Massachusetts
Herbert L. Kennedy, Yonkers
Leila Charlton Knox, New York City
Leo C. Koscianski, Rochester
Arthur A. Landsman, New York City
Arthur Langstadt, Flushing
Anthony J. Lanza, New York City
Charles Pearley Lape, Buffalo

Arthur G. Larkin, Port Chester
Clarence V. Latimer, Deposit
Berton Lattin, Scarsdale
Edith M. Lehnis, Buffalo
Saly Leibowitz, Brooklyn
Israel H. Levin, Brooklyn
I. Jesse Levy, New York City
Louis F. Licht, Old Westbury
Anna Vivian Lubben, New York City
Johanna Z. Maas, New Rochelle
Herbert P. MacGregor, New York City
Nathan H. Markus, New York City
Harry R. Marlatt, Fairport
Edward H. Marsh, Chappaqua
Clinton H. Martin, City Island
Mabel A. Martin, Binghamton
Walter L. Mattick, Buffalo
Lester R. Mellor, Syracuse
Harry P. Mencken, Flushing
Morris Mendalis, Richmond Hill
Albert Derby Mittendorf, New York City
Henry M. Moretsky, New York City
Francis Louis Morhard, Portland, Pennsylvania
Channes H. Mowsessian, New York City
William E. Munroe, Rochester
Lawrence James Nacey, Rochester
Mary S. Newman, Brooklyn
S. John Nilson, New York City
Oscar Nussbaum, New York City
Freeman Stanislaus O'Brien, Wappingers Falls
Helen Letitia Palliser, Poughkeepsie
Charles Edward Panoff, Brooklyn
Harry A. Pattison, Livingston
Eric Peiser, Long Island City
Ettore Perrone, New York City
Edward Wadsworth Peterson, New York City
Arthur E. Pitts, Albany
Maxwell P. Podgur, New York City
Morris L. Pollack, Buffalo
Rudolf Pollak, New York City
Harlow E. Ralph, Belleville
Charles M. Reid, St. Albans
Benjamin Rosenbluth, New York City
Walter B. Rossman, Albany
Eugene F. Russell, Tarrytown
Joseph Coleman Scal, New York City
Bela Schick, New York City
Siegfried Schoenfeld, New York City
Rudolph Schwarz, Phoenix, Arizona
Salvatore R. Scorza, Astoria
Francis Joseph Scott, Waterford
Jesse M. W. Scott, Schenectady
Erich Siegel, New York City
Emanuel Singer, New York City
Harry E. Slatkin, Bronx
Michael Spinrad, Forest Hills
Walter C. A. Steffen, Flushing
Louis Sternberg, New York City
Audley D. Stewart, Rochester
Wilhelm Strauss, Rome
Lyman J. Strong, Buffalo
Charles Clyde Sutter, Honeoye Falls
Kenneth Taylor, New York City
Ralph Emerson Taylor, New York City
Joseph Tenopyr, Cutchogue
Morris J. Tobias, New York City
Maximin DeMouy Touart, Bronxville
John P. Viscardi, New York City
Bert G. Voorhees, Elmira
Max Weiss, Bronx
Samuel Weiss, New York City
Theodore West, Port Chester
Jay D. Whitham, New York City
Jacob Lewis Wollheim, New York City
Archibald C. Worth, Albany
Jacques E. Zipser, New York City

Speaker Holcomb: There is an additional list that has not been published and that has to be acted on?

Secretary Anderton: Yes, Mr. Speaker. I move the following be elected to retired membership in the Medical Society of the State of New York:

J. Lewis Amster, Bronx
James A. Clark, New York City
John Dennis Cooney, New York City
David Corcoran, Babylon
Clarence C. Coryell, New York City
John Joseph Cunningham, Binghamton
Adolphe Dessauer, Flushing
Paul Frank, Ilion
Hiram G. Hotchkiss, Winter Park, Florida
Felix J. Loeb, Peekskill
Wilhelm E. Stern, Brooklyn

Dr. Arthur J. Bedell: I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Section 174

Report of the Prize Essays Committee

Speaker Holcomb: Our next order of business is the report of the Prize Essays Committee. Dr. Anderton will read the report.

Secretary Anderton: Reading:

To the House of Delegates, Gentlemen:

Your Prize Essays Committee consists of:

R. Townley Paton, M.D., *Chairman*. . . . . .New York
David Kimball Miller, M.D. . . . . .Erie

We regret to report that only one essay was submitted for the Lucien Howe Prize, and this was of insufficient caliber to justify an award.

However, there were twelve essays submitted for the Merit H. Cash Prize, several of very meritorious material. After careful study and consideration, your committee has awarded the Merit H. Cash Prize for 1956 to the author designated by the pseudonym "E Pluribus Unum." The subject is "Dupuytren's Contracture." The treatment is in essay style and represents a lifetime of thought and work by the author. The quality of the writing varies somewhat, but the reader's interest is well sustained. There are several simple illustrations.

Your committee believes that honorable mention should be awarded to "A Helluo Librorum," who wrote about "Electromyography in Clinical Medicine." Although this essay contains no original material, it is such a good review, such an orderly presentation in such good style, that your committee believes it worthy of honorable mention.

We wish to express our appreciation to several members of the State Society for their willing cooperation in evaluating the essays.

Respectfully submitted,

David Kimball Miller, M.D.
R. Townley Paton, M.D., *Chairman*

I move the adoption of this report.

Dr. Charles Gordon Heyd, *Ex-President:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Secretary Anderton: The winner of the Merit H. Cash Prize under the pseudonym "E Pluribus Unum" is Dr. John J. Moorhead, Millbrook, New York. (*Applause*)

The honorable mention was awarded to the gentleman whose pseudonym is "A Helluo Librorum." The author is Joseph Goodgold, M.D., Institute of Physical Medicine and Rehabilitation, 400 East 34th Street, New York 16. (*Applause*)

Speaker Holcomb: Thank you, Dr. Anderton.

Section 175 (See 165)

Election: Results

Speaker Holcomb: Dr. McCarty will present his report on the election.

Dr. Charles F. McCarty, *Kings:* Vote for:

Delegates to the A.M.A.

Walter P. Anderton	189
Thurman B. Givan	161
John J. Masterson	158
Christopher Wood	150
Carlton E. Wertz	148
Ezra A. Wolff	147
Gerald D. Dorman	142
Floyd S. Winslow	131
Edward P. Flood	102

Those are the first nine receiving the largest number of votes.

Speaker Holcomb: I declare Drs. Anderton, Givan, Masterson, Wood, Wertz, Wolff, Dorman, Winslow, and Flood elected as delegates to the A.M.A. (*Applause*)

Dr. McCarty: Continuing:

Alternate Delegates to A.M.A.

John M. Galbraith	100
William B. Rawls	98
Leo F. Schiff	86
Harry Golembe	79
John F. Kelley	55
Herbert H. Bauckus	53
Joseph A. Lane	50
John L. Edwards	23
Earl C. Waterbury	22

Speaker Holcomb: The last nine, Drs. Galbraith, Rawls, Schiff, Golembe, Kelley, Bauckus, Lane, Edwards, and Waterbury are alternate delegates to the A.M.A.

Thank you, Dr. McCarty and the tellers for a very prompt report.

Section 176 (See 27, 69, 143)

Report of Reference Committee on Report of Constitution and Bylaws Committee of Council, Ethics, Special Committee on Review of the Case of Dr. Ben E. Landess

Dr. William E. Pelow, *Onondaga:* Mr. Speaker and fellow delegates, I have returned.

I was saying yesterday that these two articles here that we are supposed to vote on are a question of verbiage, semantics, and one of my friends from Syracuse facetiously accused me of being anti-semantic. (*Laughter*)

This is 56–M. Did you all receive one of these mimeographed reviews of what the maze was of what I was reading yesterday. That explains what I was reading, and it is from the Minutes of the Annual Meeting of 1954.

Shall I read this right through from the beginning again?

Vice-Speaker Williams: I think you had better.

Dr. Pelow: Supplementary report 56–M of the Joint Committee on Hospital and Professional Relations and the Committee on Questions of Ethics was referred to this reference committee. In order to properly evaluate its significance, extensive investigation was made into actions which led up to it.

Chronologically, the first related event was the introduction and passage of a resolution at the 1954 House of Delegates meeting, presented by Dr. Ingegno of Kings, and embodying four so-called clarifications of the *Principles of Professional Conduct.* These clarifications dealt with the subjects of advertising, contract practice, free choice of physician, and proration of fees.

Subsequent to the 1954 meeting, a considerable weight of opinion to the effect that the clarifications were ambiguous and unworkable led the Council of the State Society to suggest to the individual county societies that they be not activated pending further study.

At the 1955 meeting of the House of Delegates, resolution 55–8 was introduced by Dr. Ely Lazarus of New York, for the purpose of rescinding the four previously adopted clarifications. In accordance with the present method for amending the *Principles of Professional Conduct*, the speaker ruled that action on the resolution must be delayed until the 1956 annual meeting.

During the year the Council referred the resolution to the Council Committee on Questions of Ethics, which, after study, made recommendations concerning it and reported them back to the Council.

With respect to the clarification concerning contract practice (Chapter III, Article VI, Section 3) the Ethics Committee suggested the substitution of the following wording:

> "Contract practice which allows diversion of fees for professional medical services to a hospital, organization, or political subdivision is unethical."

The matter was then referred for opinion to the Council Committee on Hospital and Professional Relations, which reported it back adversely.

Because of the divergent opinions, it was referred to a joint meeting of the Hospital and Professional Relations Committee and the Committee on Questions of Ethics. Again, the members of each committee reaffirmed their previous respective stands, and, because of the absence of one member of the Ethics Committee, there was a three-to-two majority in favor of the report of the joint group as presented to this House in supplementary report 56–M.

Since the matter was related to the material embodied in report 56–K of the Hospital and Professional Relations Committee, it was decided that our committee would discuss the matter together with the members of the reference committee on Council Part VI, which covers hospital relations.

All who were interested in discussing this subject were heard. Our reference committee then considered the other three clarifications and wish to recommend as follows:

1. With respect to the clarification relating to advertising (Chapter I, Section 4 of the *Principles of Professional Conduct*) and reading as follows:

> "It should be understood that any medical care plan, company, or organization which advertises for subscribers and directs such subscribers to a restricted panel of physicians for medical care is advertising for the benefit of the physicians involved."

We recommend the deletion of this sentence since it is untenable in view of the diametrically opposed decision of the A.M.A. Judicial Council in the Landess Case.

Your committee recommends that this portion of the report be approved.

Vice-Speaker Williams: Do I hear a second?

Dr. Ezra A. Wolff, *Assistant Secretary:* I second it.

Vice-Speaker Williams: Is there any discussion?

Dr. George J. Lawrence, Jr., *Queens:* Mr. Speaker and gentlemen of the House, there is a lot of history that goes into this, but you are all familiar with it. The argument that I would like to present is this: I feel that a state society has the right and the duty to write its own code of ethics, its own principles of professional conduct. I feel that if we definitely state in our code of ethics that it is understood that any medical care plan, company, or organization which advertises for subscribers and directs such subscribers to a restricted panel of physicians for medical care is advertising for the benefit of the physicians involved, we are clarifying our code. That is exactly what this has done. We found a few years ago that our code did not specifically state that this type of advertising is unethical. It is because that is not in the code that the Judicial Council of the American Medical Association had an out.

Yesterday we passed a resolution saying that if the State Society code is more stringent than the A.M.A. code the State Society code should be binding on its members. If the majority of the members of the State Medical Society feel that this type of advertising is wrong, we should stand up on our feet and say so. We will be doing what the majority of the members of our State Society think is right if we continue this principle. I, therefore, disagree with the recommendation of the reference committee.

Dr. Aaron Kottler, *Kings:* I have documents. The basis of the conclusion of the reference committee depends upon the opinion and action of the Judicial Council in the Landess case, which was a case on a question of ethics.

The facts of the case were did Dr. Landess violate the code of ethics? Now your reference committee bases its opinion on that conclusion. It is my contention that the Judicial Council of the American Medical Association has not the power nor the right to decide on matters of ethics, and to bring out my particular point I have here two communications, and I beg, Mr. Speaker, to go over on another tangible matter which led to these conclusions.

Vice-Speaker Williams: Dr. Kottler, this is all pertinent to this portion of the report?

Dr. Kottler: It is pertinent because the opinion of the reference committee is based on a decision of the Judicial Council in the Landess case.

Now I want to give you an opinion of the Judicial Council on another matter of ethics, where they contradict themselves, which is a later decision than that of the Landess case; therefore, we should accept from the higher courts the latest opinions that they give.

Sangamon County, Springfield, Illinois, there was a case where a certain group of doctors were adjudicated by the board of censors of their local county society of being unethical because of certain procedures. They appealed to their state medical society. On the facts submitted to the state medical society, the state medical society upheld the local county medical society, and said, "You are guilty of unethical conduct." Whereupon those doctors appealed to the Judicial Council of the American Medical Association. Those are the same things that happened here in the Landess case.

On April 2 I have here a letter from the American Medical Association from Dr. Edward J. Holmer or Mr. Holman—I don't know what his title is—

Secretary Anderton: Holman.

Dr. Kottler: Who is the executive secretary, in which I asked an interpretation, an opinion. The interpretation and the facts and the ruling of the Judicial Council reads in part as follows:

"It is the unanimous opinion of the Council that no material error of law or procedure was shown to have occurred at any stage of the proceedings against you, and therefore the decision of the Illinois State Medical Society upholding the action of the Sangamon County Medical Society is sustained."

In other words, they ruled not on facts in this particular case but on procedure. This opinion is based on facts, and now they say they don't rule on any facts any more but they rule on procedure; therefore, I say we should stick to procedure and not base our conclusions on facts because of the Landess case.

Vice-Speaker Williams: Thank you, Dr. Kottler.

Dr. Thomas M. d'Angelo, *Queens:* I would like to speak primarily on the point of procedure. We are going to vote on the report of the reference committee?

Vice-Speaker Williams: That's it.

Dr. d'Angelo: And should that report be defeated our code of ethics will remain as it was amended in 1954 I take it?

Vice-Speaker Williams: Right.

Dr. d'Angelo: Will it then be in order to move for the substitution in that code of ethics of the recommended clarification that we have on page 2 under "Advertising" with the underlined words, which was the suggested change—

CHORUS: Page 2 where?

DR. WOLFF: He is looking at the material that we had mimeographed yesterday for this House. This mimeographed sheet contains the original resolution which was introduced in the House and passed at the 1954 session. This is Dr. Ingegno's original resolution, and these portions were all enacted into our code, into our *Principles of Professional Conduct.* The underlined material was the new material that was then approved. This does not appear in your booklet, and that is the reason for the necessity for this mimeographed sheet. This by some inadvertence is not before you in the booklet; however, it is before you in these mimeographed sheets. It has been underlined so you will know that this is the new material that has been added. This, at the present time, is a part of your *Principles of Professional Conduct,* and it is to the underlined material that the reference committee's report now refers.

VICE-SPEAKER WILLIAMS: I hope that clears it up, gentlemen.

DR. MONROE M. BROAD, *Queens:* I am a little bit at a loss to understand on what basis these clarifications passed in 1954 were edited apparently by the publishers of the *Principles of Professional Conduct* whereby clarifications 1, 2, and 3 were not printed in the amended copy of the *Principles of Professional Conduct,* which states it was amended in 1954, yet clarification 4 was printed, and I find it therein. It is the last section on page 17, Section 7, of Article VI, of Chapter III.

On what basis was this one clarification singled out for publication and the other three held back?

VICE-SPEAKER WILLIAMS: I am well aware of what you pointed out, that paragraph 4 does appear in the little yellow handbook on *Principles of Professional Conduct,* and the other three paragraphs do not. That is why we mimeographed them. I, too, have tried to find out since yesterday how that happened. I am unable to understand how it happened. Perhaps the secretary can help clarify it.

SECRETARY ANDERTON: Mr. Speaker, the secretary accepts responsibility for the omission of those three parts from the published *Principles of Professional Conduct.* They had been published in another edition, and after that the Council voted to recommend to the county societies that these parts be not enforced. The new edition for that reason left them out. I took that action in the printing after talking with several other members of the Council. It was partly because the *Principles of Professional Conduct* are supplied to each new member of the Society. They would have had to be published and then they would have had to be marked, not in order, not being enforced.

VICE-SPEAKER WILLIAMS: Not being activated.

SECRETARY ANDERTON: It would have been very confusing. It is confusing as it is. It was a matter of judgment. Perhaps my judgment was wrong; if so, I apologize to the House.

DR. BROAD: Mr. Speaker, if this was an action of the Council, it will appear undoubtedly on their minutes. I would ask the secretary to find out what meeting this particular change of withholding the first three clarifications from publication was decided by the Council.

PRESIDENT-ELECT GREENOUGH: I think I may be able to clarify the reason that number 4 was inserted. During the time that the discussion was being held, number 4 was passed as a law of the State, therefore could not be rescinded. I repeat, number 4 was passed as a law of the State, therefore could not be rescinded, and therefore I believe it was included in the orange booklet.

DR. THEODORE J. CURPHEY, *Councillor:* Mr. Speaker, as I understand this question of the *Principles of Professional Conduct* it runs on the basis of the punishment fitting the crime. What we are being asked to do now literally is to tailor the crime to fit the punishment. I would, therefore, support the other speakers that this be left as it is stated in the clarification and that we vote against the recommendation of the reference committee.

. . . There were calls for the question . . .

VICE-SPEAKER WILLIAMS: I hear calls for the question. We will first vote on the call for the question, which if adopted will stop debate. If you defeat the call for the previous question, why then you can continue the debate. I repeat this is a vote on the call for the question on the last recommendation.

. . . The motion was put to a vote and was carried . . .

VICE-SPEAKER WILLIAMS: The debate is closed. Now the report of the reference committee is before you, this portion, and I would ask Dr. Pelow to read it again so everybody knows what he is voting on at this time.

DR. PELOW: Mr. Speaker, I think even I can clear that up. If you will turn to page 2, if you defeat this recommendation all of this section, the section on advertising, section 4 and the part below that is underlined remains as is.

CHORUS: Right.

. . . The motion was put to a vote and was defeated . . .

VICE-SPEAKER WILLIAMS: The recommendation of the reference committee is defeated. Proceed, Mr. Chairman.

DR. PELOW: 2. With respect to the sentence of Chapter III, Article VI, Section 3, embodying the second clarification which reads as follows:

> "A contract with a hospital organization or political subdivision, which is supported in whole or in part by public funds or by solicitation of private subscriptions, to diagnose and treat patients, is ethical only when such diagnosis and treatment is for a patient who is a public charge."

We agree that this is ambiguous and suggest substitution for it of the simpler phraseology of the Committee on Ethics, to wit:

> "Contract practice which allows diversion of fees for professional medical services to a hospital, organization, or political subdivision, is unethical."

Your committee recommends that this portion of the report be approved.

Dr. Aaron Kottler, *Kings:* I second it.

. . . There being no discussion, the motion was put to a vote and was carried . . .

Dr. Pelow: Mr. Speaker—

Dr. John C. McClintock, *Councillor:* Do I understand that the substitute which was entered is in force as a part of our rules, ethics, and *Principles of Professional Conduct?*

Vice-Chairman Williams: I will say as chairman I considered and decided that a two-thirds vote; therefore, I would like to rule it is.

Dr. McClintock: I would like to call for a division, sir.

Vice-Chairman Williams: A division has been called for. I have to call for a revote, and I will call for a show of hands and a count. It is the report of the reference committee on this last portion that you just heard. There was a large no vote, and I said this portion stood defeated. Now I have had a member of the House call for the question of whether or not it was a two-thirds vote.

Chorus: You are in error.

Vice-Chairman Williams: I beg your pardon. I am in error. They just approved that last portion, and I said that the approval in my opinion was a two-thirds approval. Therefore, I regarded this as adopted immediately, and now I am going to have a show of hands. All in favor of part two—

President-Elect Greenough: Point of order.

Vice-Chairman Williams: Make your point.

President-Elect Greenough: On page 3 of the mimeographed copy, there is the underlined statement beginning "A contract with a hospital," while on 56–M which I believe we are voting on at the moment it states that "Contract practice which allows diversion of fees for professional medical services to a hospital, organization, or political subdivision, is unethical," be deleted. That statement is not on page 3 of the mimeographed copy, so what are we voting on?

Vice-Chairman Williams: Dr. Wolff, can you elucidate?

Dr. Wolff: If I may explain that, that is one of the numerous errors in a series of a comedy of errors that have befuddled this situation. This statement that in 56–M that sentence should be deleted is incorrect. That sentence never was part of the code. What is meant here is that the joint committee disapproved of that language, and the deletion could be made since it was never a part. The present proposal is that the language in 56–M be substituted for the underlined material on page 3 relating to a contract with a hospital.

Vice-Chairman Williams: That is right. That is the question you just voted on. Is that clear to everybody?

Now there has been a call for a division on my decision of a two-thirds vote, so I would ask all of you who voted yes to please raise your hands while you are being counted; now all those who voted no raise your hands. There were 83 on one side and 75 on the other side, all aye votes or 158; there are 3 no votes.

Dr. Lawrence: Is that count going to be recorded in the minutes?

Vice-Chairman Williams: It certainly is part of the proceedings. Therefore, this portion of the report I declare adopted, and I ask you to give your attention to the chairman of the reference committee now for the balance of the report.

Dr. Pelow: 3. Concerning the clarification relating to "Free Choice of Physician," Chapter III, Article VI, Section 4, which reads:

> "Free choice of physician is defined as the unrestricted freedom of a patient to choose his own physician. The interjection of a third party who has a valid interest, or who intervenes between the physician and the patient, does not per se cause a contract to be unethical. A third party has a valid interest when, by law or volition, the third party assumes legal responsibility and provides for the cost of medical care and indemnity for occupational disability.
>
> "If, however, the third party be an organization or corporation which agrees to provide medical and/or surgical services through the medium of individual or group practice, payment to the physicians under contract being either on an indemnity or a per capita basis, a requirement restricting choice of physician to either, the individual or group practitioners under contract vitiates the subscriber's right to free choice of physician. This is against the best interests of the public and of the medical profession."

We are in agreement with the Committee on Ethics that this clarification is redundant, since the original wording in the first paragraph amply covers the subject.

Your committee recommends that this portion of the report be approved.

Vice-Speaker Williams: And you so move?

Dr. Pelow: I so move.

Dr. Adelaide Romaine, *New York:* I second it.

Vice-Speaker Williams: Is there any discussion of this portion of the report?

Dr. Gerald D. Dorman, *Councillor:* Does that mean deletion of this?

Dr. Pelow: Yes.

Dr. Samuel Z. Freedman, *Assistant Treasurer:* When you say the second paragraph are you referring to the second paragraph of the underlined material or the second paragraph—

Dr. Pelow: All of the underlined material.

Dr. Freedman: Of all of the underlined material you are recommending disapproval?

Dr. Pelow: Be deleted.

Chorus: No.

Vice-Speaker Williams: As I understand it, he means that the underlined material be retained and not the clarification be adopted.

Dr. Pelow: No.

Chorus: No.

Dr. Pelow: Here is the recommendation: We are in agreement with the Committee on Ethics that this clarification is redundant, since the original wording in the first paragraph amply covers the subject.

Vice-Speaker Williams: When he says first paragraph he is referring to the first paragraph in the report of the reference committee which we—

Chorus: We have not got that.

Vice-Speaker Williams: Of course you have not got it.

Dr. Wolff: Mr. Speaker and members of the House, the reason I am up here on all of this is that I am a member of the Council Committee on Ethics. I have been into this thing up to my ears since the beginning, so I beg your indulgence to be allowed to explain this particular portion, which I also had to do at the reference committee.

The first paragraph that the chairman of the reference committee refers to is the first paragraph of section 4 under "Free Choice of Physician," which is not underlined, and which reads:

> "The right of the patient freely to choose his doctor must be preserved and maintained. Nothing in any individual or group method of practice must be permitted to interfere with this right."

This is a broad statement as to what constitutes free choice of physician. Any additional detailed language will restrict that definition. It is lengthy, wordy, it is to my mind ambiguous to spell out all of the details that are spelled out in the underlined material. It was, therefore, the opinion of the Committee on Ethics that this was redundant, that you could accomplish the same end by removing it from the *Principles of Professional Conduct* and retaining the simple definition which will give you broad coverage to control free choice of physician.

Vice-Speaker Williams: Which, Dr. Wolff, is the nonunderlined paragraph in the white sheet, page 3, named as section 4.

Dr. Alfred P. Ingegno, *Kings:* I am in hearty agreement that the original provision in the *Principles of Professional Conduct*, would to most of us, be clear enough. There is no question about how most of us would interpret it, but that it has not been clearly interpreted is evident from some events that have transpired particularly in the downstate area. There are organizations and individuals who choose to interpret free choice in a way which I think most of us would find most peculiar, and that was the stimulus for clarifying, and I do believe that the clarification that was adopted by this House two years ago does not restrict what was already provided for but does make it clear that if a particular plan demands that you must go to a restricted panel of physicians you are not allowing free choice.

I cannot for the life of me see how we can disagree with that clarification. We have already adopted it. I believe we should continue to keep it in our rules for professional conduct. It can do no possible harm, and it certainly can make it clear to those who unintentionally or intentionally interpret our rules for professional conduct wrongly just what we mean by free choice of physician in this particular circumstance.

Vice-Speaker Williams: Is there any further discussion?

Dr. d'Angelo: I agree fully with what Dr. Ingegno said, that the first paragraph of the section 4 is a broad principle. What we added in 1954 in no way restricts the broad principle but clarifies some of the peculiar interpretation that might be given to that broad principle.

Gentlemen, we have been dealing in the last few years with a tremendous amount of legal talent, and I don't know how some of these lawyers would interpret section 4, but if we leave in our own clarification I think it will clear the atmosphere especially for the lawyers.

Vice-Speaker Williams: Is there any other discussion? Are you ready for the question? All those in favor of adopting the motion to approve the report of the reference committee, which carries with it the deletion of the clarification, say "aye"; those opposed "no." The "noes" have it, and the recommendation of the reference committee has been lost.

Dr. Pelow: 4. Concerning Chapter III, Article VI, Section 7, which deals with the "Proration of Fees," we agree that, since almost identical wording has been enacted into a State law, no change should be made.

Your reference committee recommends that this portion of the report be approved, and I so move.

Dr. Henry T. Randall, *New York:* I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Samuel Leo, *Bronx:* Mr. Speaker and fellow members, after the statement made by Dr. Anderton to the effect that the House passed certain rules 1, 2, and 3, and these rules were deleted by the Council after the House met and approved them, I am asking for clarification. Maybe I am wrong; I hope so. Did the Council see fit to delete numbers 1, 2, and 3 from this book? I hope I am wrong on that. I would like Dr. Anderton to reply does the Council have the power to overrule any legislation by this House of Delegates?

Vice-Speaker Williams: The Council has no such power. The Council acts for this House between its sessions.

Secretary Anderton: I accepted full responsibility for the possible error in not printing those parts in the booklet. The Council did not vote upon the subject. I took counsel with certain of the other members before I took that action. If the House does not like that action, it was an action based evidently on wrong judgment on my part, and I have already apologized for it, and do so again.

Dr. Ingegno: Mr. Chairman, I think it is completely unfair that either the Council or Dr. Anderton should be brought into question on this matter. I think their action and judgment were entirely proper. The clarifications were adopted by the House. Of course, they were binding on the Council, and no one could possibly deny that, but when a lot of questions arose as to their clarity the Council in its wisdom—and I think properly so—asked the county societies (mind you, asked the county societies) to withhold enforcement. Now because the Council had withheld enforcement, and the matter had been referred to a committee, then Dr. Anderton—and I think again with good judgment—left them out of the new printing because, as he explained, to have put them in he would also have to append the note, "The county societies have been requested to withhold enforcement for the time being." Therefore, I think that any impugning of the intentions of the Council or of the secretary was an error. (*Applause*)

Vice-Speaker Williams: Gentlemen, the chair directs your attention to a continuation of the report of the reference committee. Give your attention to Dr. Pelow.

Dr. Pelow: 56–K, this report was brought to the attention of your committee, and it approved the complete report except for paragraph 3, page 1, reading—and I will identify that paragraph for you; I am not going to read it all the way through because the corrections that we recommend are very small:

> "The medical profession and the hospitals recognize that certain special services, such as anesthesiology, pathology, radiology, and physical medicine are integral parts of the practice of medicine and of the services necessary for hospital patients. Physicians in these fields should have the professional status of other members of the medical staff."

Your committee recommends that the last sentence in this paragraph also include the words "including voice and vote on the executive committee of the medical staff," and paragraph 4 as written be approved except that on line 7, the words "which cause deterioration in the quality of the medical services rendered" should be replaced by the words "under conditions which allow the diversion of fees for professional medical services to a hospital, organization, or political subdivision."

Your committee recommends that this report be approved with these addenda and substitutions, and I so move.

Dr. Abraham D. Segal, *Kings:* I second it.

Dr. Thomas M. d'Angelo, *Queens:* Do I take for granted then that approval of this report at the present time approves Appendix A? Does the approval of the reference committee report now approve Appendix A, that is 56–K, Appendix A?

Dr. Pelow: My consultant says yes.

Dr. d'Angelo: In that case, that is what I want to discuss. I wish you would turn to Appendix A, of 56–K, "Hospital Medical Staff Tenure"—

Chorus: What page?

Dr. d'Angelo: Page 4, under "Qualifications"—and I shall read it, because it is short:

> "The applicant for membership on the medical staff shall be a graduate of an approved medical school, legally licensed to practice in the State of New York, qualified for membership in the local medical society and practicing in the community or within a reasonable distance of the hospital."

What do the words "qualified for membership" mean? Do they mean he has put in his application for membership? Do they mean he has the necessary educational and other requirements? What do those words mean?

Vice-Speaker Williams: Do you want to answer that?

Dr. Pelow: I can answer it from what we consider qualified to mean in central New York. Any man who graduates from a recognized medical school, and who is a citizen and has been licensed by the State of New York is eligible to apply for membership.

Dr. d'Angelo: That would be exactly what would be the qualification here. Then we are approving that the hospital's staff accept members who are not members of their respective county societies. That is what it says here. Is that what we want? You say it says "qualified for membership in the local medical society," but that does not mean to say he has to be a member.

Vice-Speaker Williams: Dr. Pelow, do you care to answer that?

Dr. Pelow: I can only give my own personal opinion. I am a member of this State Society and a county society, but I think that is punishment to make a man have to belong to something to work in a hospital.

Dr. d'Angelo: That has not been our interpretation in Queens anyway, because we have gotten all of the voluntary hospitals to agree not to accept any application from any doctor who is not a member of his local county society.

Vice-Speaker Williams: The hospital may agree to that, but the committee here did not want to write that in as a mandate. The State Medical Society has no control over the hospitals, isn't that so, Dr. Pelow?

Dr. Pelow: They have no control up in Syracuse. I don't know how it is down here.

Vice-Speaker Williams: Is there any other discussion?

Dr. Dorman: I think if we write into this thing that a person has to be a member of his county medical society we come into the question of restraint of trade and coercion. I would be very much in favor of having every person who applied be a member of the county society, and I would be very glad to have the hospitals all insist on that as a condition for membership, but this is a matter which has come up in the Joint Commission for Accreditation of Hospitals, and it is specifically left out of the requirements of hospital membership or tenure because it is a very touchy thing in the manner of restraint of trade. I think I would recommend that we go along with the recommendation of the reference committee that this be qualified for membership.

Dr. d'Angelo: I would—

Vice-Speaker Williams: You will have to await your turn. I recognize the delegate from Chautauqua.

Dr. Robert R. Northrup, *Chautauqua:* The local medical society might very well refer to the local academy of medicine. Should not the word local "county" medical society be inserted there?

Vice-Speaker Williams: I think the verbiage is pretty well selected. Dr. Pelow, do you want to accept that? You didn't make that as a motion did you?

Dr. Northrup: No.

Dr. Arthur J. Bedell, *Ex-President:* We have no control over academies of medicine.

Dr. Pelow: We are into semantics again.

Vice-Speaker Williams: All right, that was not a motion.

Dr. d'Angelo: Section 2, "Ethics and Ethical Relationships," it says, "The code of ethics as adopted by the American Medical Association and the American College of Surgeons shall govern the professional conduct of the members of the medical staff." I would like to know what the code of ethics of the American College of Surgeons has to do with it. The code of ethics of the American Medical Association, certainly we have control over the code of ethics that the American Medical Association may promulgate or our own State Society, but we as an organized body have no control over the ethics of the American College of Surgeons. They can change our ethics tomorrow, and it would be binding according to this particular set of rules. I, therefore, move, Mr. Chairman, that the American College of Surgeons be stricken from section 2.

Dr. John J. Flynn, *Kings:* I second it.

Vice-Speaker Williams: I would like to call to your attention that Dr. d'Angelo is reading from the white sheets you have in your hand, 56–K, Appendix A, which is excerpts suggested on the accreditation of hospitals. This is not part of the thing we are adopting.

Dr. Louis H. Bauer, *Ex-President:* The American College of Surgeons has no code of ethics. They go by the code of ethics of the American Medical Association. They have issued certain interpretations pertaining to surgery, but they have no code of ethics.

Dr. George J. Lawrence, Jr., *Queens:* Might I ask a question of the speaker? A few minutes ago you ruled that acceptance of this committee report means we approve Appendix A, am I correct?

Vice-Speaker Williams: I think I asked Dr. Pelow that, and he said yes.

Dr. Lawrence: The proposal here is "Proposed Guiding Principles Hospital-Physician Relationships to be accepted and recommended by the Hospital Association of New York State and the Medical Society of the State of New York." I think, therefore, if we are going to approve Appendix A we should amend this. I so move to amend this, which is in 56–K, Appendix A, Section 2 under "Ethics, and Ethical Relationships," page 4. I move to amend this paragraph so as to cut out the words in the first line "American Medical Association and the American College of Surgeons," and amend it to read, "the code of ethics as adopted by the Medical Society of the State of New York shall govern," and so on.

Dr. Abraham B. Tamis, *Bronx:* I second it.

Vice-Speaker Williams: Is there any discussion on this amendment now?

Dr. Leonard J. Schiff, *Clinton:* While I am in sympathy with the purpose of this amendment, it does not seem to me that this House has the authority to amend the bylaws, rules, and regulations of another organization.

Vice-Speaker Williams: We are not amending the bylaws. We are amending excerpts from the bylaws which our committee has brought in as a guide for our ethical conduct. Is that not so?

Dr. Pelow: Yes.

Dr. Wolff: The chairman of the reference committee has presented, and you have in your hands, report 56–K, which is the report of the Hospital Relations Committee. That report includes these excerpts from the bylaws and rules of the Joint Commission of Accreditation. The reference committee has suggested the approval of this report with the exception of two changes that are going to be made in paragraphs 3 and 4 of the initial portion. However, I think it is perfectly within the province of this House, since it is considering this report, to say what in these bylaws it will and will not approve. Therefore, I think that any amendments that are made by this House will indicate just which portions of this report we are in accord with. I think it would be perfectly proper to have the House have its say on those things.

Vice-Speaker Williams: Is there any other discussion on the amendment to section 2 deleting—

Dr. Dorman: May I suggest for clarification that the amendment also include amendment of the title of Appendix A so that it does not still read that it is an excerpt from the bylaws.

Vice-Speaker Williams: As an amendment to the amendment would you get the maker of the first amendment to consent?

Dr. Dorman: It is just in the title of Appendix A so it is clear what it is.

Dr. Lawrence: Yes, I agree to that.

Vice-Speaker Williams: This, plus Dr. Dorman's amendment, which has been accepted by Dr. Lawrence, is before you—the amendment proposed by Dr. Lawrence, including Dr. Dorman's?

Chorus: Right.

. . . The amendment was put to a vote and was carried; then the motion as amended was put to a vote and was carried . . .

Vice-Speaker Williams: This portion of the report of the reference committee as amended stands adopted.

Dr. Pelow: I move that this report as a whole be approved.

Vice-Speaker Williams: As amended?

Dr. Pelow: As amended.

Dr. Romaine: I second it.

. . . There being no discussion, the motion was put to a vote and was unanimously carried . . .

Dr. Pelow: Mr. Chairman, I would like to thank the members of my committee, Drs. Bellanca, Ogden, and Masterson; I would like to thank the members of Dr. Axelrad's committee—I can't remember all the names—Beverly Smith, Collins, Curphey were contributory in this, and about 75 other men. You think there was confusion in here, well there was a lot of noise out there. Two different people out there told us to keep quiet. I don't think I can say enough for the help that this committee received from a man who I think does a tremendous job for this Society, and that is Dr. Ezra A. Wolff. I hate to give him more work. (*Applause*)

However, if there are any more freshmen committeemen who come in, and they need some help, see Dr. Wolff. Thank you.

Vice-Speaker Williams: I don't have to tell you how the speaker and the House feel about you and your commiteee. Thank you very much! (*Applause*)

My swan song to the House of Delegates is that you have been very patient with me, gentlemen. (*Applause*)

Speaker Holcomb: Members of the House, before adjourning, I would like again to thank this House of Delegates and express our appreciation to you as well as our thanks for all your patience and your understanding in attempting to work out a solution of our many problems.

I want to extend also my thanks as well as those of Dr. Williams to the reference committees, and particularly the chairmen, for the excellent work that they have done.

The Council will meet at 2 o'clock this afternoon, and the Board of Trustees immediately thereafter.

The House now stands adjourned.

. . . The meeting was adjourned at 12:05 p.m., sine die . . .

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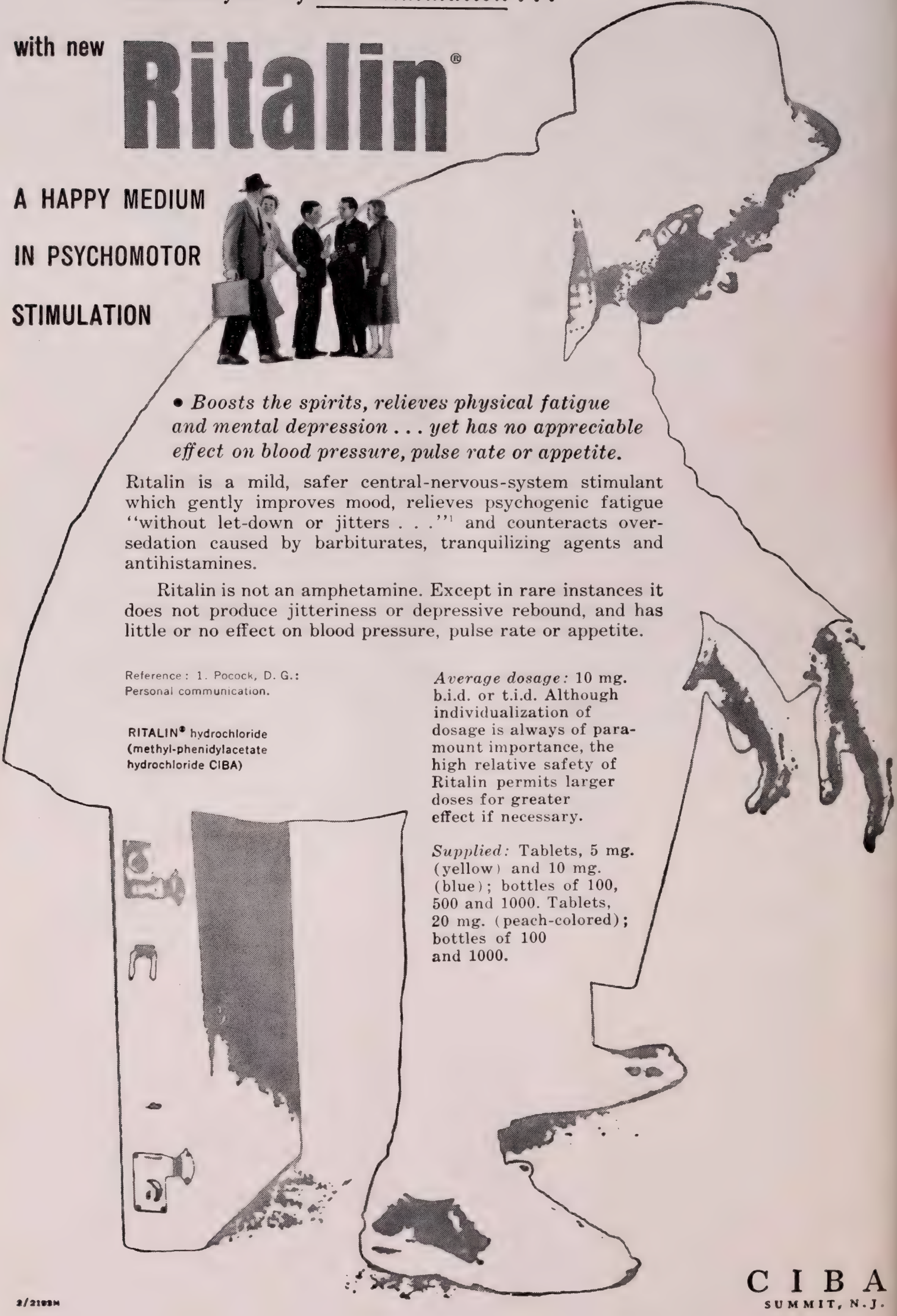

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Reference: 1. Pocock, D. G.: Personal communication.

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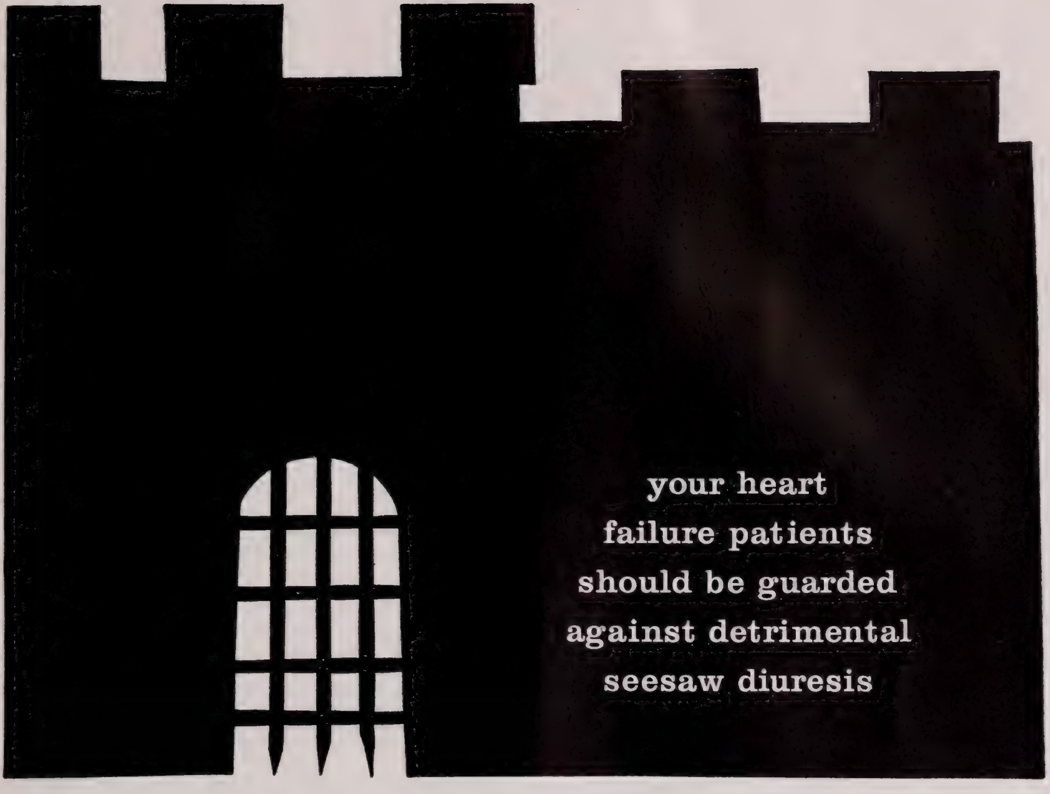
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